

TRAGWERKSPLANUNG

Genehmigungsplanung

BAUVORHABEN:

**Neubau Schulcampus
für Gesundheits- und Pflegeberufe**
Stadtrandstraße 555
13589 Berlin

BAUHERR:

Evangelisches Waldkrankenhaus Spandau
Stadtrandstraße 555
13589 Berlin
Martin-Luther-Krankenhaus
Casper-Theyß-Straße 27-31
14193 Berlin

OBJEKTPLANUNG:

Thoma Architekten
Wilhelmine-Gemberg-Weg 6
10179 Berlin

TRAGWERKSPLANUNG:

KREBS+KIEFER
Ingenieure GmbH
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Aktenzeichen: 20206208
Berlin, 27.10.2025
Unterschrift:



Prof. Peter Stöwhaas

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V

Vorbemerkungen

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1 Vorwort

Die nachfolgende Zusammenstellung enthält für die Baumaßnahme „Neubau Schulcampus für Gesundheits- und Pflegeberufe“, Stadtrandstraße 555 in 13589 Berlin, die Ergebnisse der Genehmigungsplanung Tragwerksplanung (Hochbau).



Modell Stand 26.09.2025 [1]

Auf Grundlage der Entwurfsplanung Tragwerksplanung vom 12.05.2025 erfolgte die hier vorliegende Genehmigungsplanung für das Tragwerk des Gebäudes unter Beachtung der Planung der Objektplanung mit Integration der weiteren Fachplanungen, z. B. TGA, Brandschutz, Bauphysik und weitere, sowie der Prüfvermerke des Bauherrn / Bedarfsträgers.

Das Gebäude umfasst zwei Obergeschosse sowie ein Erdgeschoss mit ca. 32,50 m x 33,50 m Grundfläche und wird als massive Stahlbetonkonstruktion geplant. Es gibt ein 3. Obergeschoss, was sich aber auf die Fläche der innenliegenden Technikräume und des Aufzugs beschränkt.

Im 2. Obergeschoss sind die Verwaltungsräume und die Bibliothek angeordnet, während im 1. Obergeschoss und im Erdgeschoss die Klassenräume und Schulungsräume angeordnet sind. Im Erdgeschoss sind außerdem die Technikzentralen verortet. Im Zentrum des Gebäudes befindet sich ein Atrium, das alle Geschosse miteinander verbindet. Um dieses Atrium verläuft umlaufend der Flur zur Erschließung aller Räume.

Es gibt einen Aufzug am Atrium und zwei Treppenhäuser

Die Eckdaten der vorliegenden Genehmigungsplanung Tragwerksplanung sind in den beiliegenden Positionsplänen mit Angabe der Tragsysteme sowie der Bauteilabmessungen dargestellt. Diese Positionspläne sind nur in Ergänzung und zusammen mit vorliegender Unterlage gültig.

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Alle Angaben erfolgen für den Endzustand des zu erstellenden Rohbaus. Die Angaben zu den Stahlbetonbauteilen erfolgen für Ortbetonausführungen.

Zu Ausbau bzw. technischer Ausrüstung (Fußbodenaufbauten, nicht tragende Ausbauwände, Fundamentierungen von z. B. Technikgeräten o. ä.), zu Infrastruktur- und bauliche Maßnahmen in den Außenanlagen sowie zu Fassadenelementen werden ggf. erforderliche Nachweise und zugehörige system- und produktspezifische Werkplanungen durch die entsprechenden Fachplanungen und die ausführenden Firmen bzw. Lieferfirmen erbracht.

Alle Elemente des Ausbaus sind an der tragenden Stahlbetonkonstruktion mit zugelassenen bzw. typengeprüften Ankersystemen zu befestigen. Erforderliche Toleranzen (z. B. beim Ausweichen vor planmäßiger Bewehrung) sind mittels geeigneter Befestigungskonstruktionen bzw. Anker-/ Fassadentechnik zur Toleranzaufnahme bei der Werkplanung/Werkstattplanung zu berücksichtigen. Gegebenenfalls ist die Maßhaltigkeit des Rohbaus aufzumessen.

Zur Herstellung des Neubaus werden die Freimachung des Grundstücks mit der Errichtung einer Baugrube und der Herrichtung eines tragfähigen Planums erforderlich. Die notwendigen Maßnahmen werden durch den Baugrundgutachter in Abstimmung mit dem Objektplaner und Bauherren festgelegt.

D. h.:

Alle neben der Errichtung des Neubaus (Tragwerk/Rohbau) erforderlichen Aufwendungen sind gesondert zu erfassen. Diese sind kein Bestandteil vorliegender Unterlage.

Inhalt und Toleranzrahmen aller in dieser Unterlage enthaltenen Tragwerkseingaben, Hinweise und Ermittlungen entsprechen der Planungstiefe der hier bearbeiteten Leistungsphase.

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2 Planungsgrundlagen

[1] Architektenpläne – Planungsgrundlage Entwurfsplanung

Stand: 26.09.2025

| | | | |
|---|-----------------------------|---------------------------|------|
| + | SGP_ARC_GR-DG_0030_250926 | Grundriss 3. Obergeschoss | 1:50 |
| + | SGP_ARC_GR-02OG_0029_250926 | Grundriss 2. Obergeschoss | 1:50 |
| + | SGP_ARC_GR-01OG_0028_250926 | Grundriss 1. Obergeschoss | 1:50 |
| + | SGP_ARC_GR-EG_0027_250926 | Grundriss Erdgeschoss | 1:50 |
| + | SGP_ARC_GR-DA_0031_250926 | Grundriss Dachaufsicht | 1:50 |
| + | SGP_ARC_SC-AA_0076_250926 | Schnitt A-A | 1:50 |
| + | SGP_ARC_SC-BB_0077_250926 | Schnitt B-B | 1:50 |
| + | SGP_ARC_SC-CC_0078_250926 | Schnitt C-C | 1:50 |

Stand: 25.04.2024

| | | | |
|---|---------------------------------|-------------------|-------|
| + | 20SGP_AN-Nordost_0202_b_250417 | Ansicht Nord-Ost | 1:100 |
| + | 20SGP_AN-Nordwest_0201_b_250417 | Ansicht Nord-West | 1:100 |
| + | 20SGP_AN-Südost_0203_b_250417 | Ansicht Süd-Ost | 1:100 |
| + | 20SGP_AN-Südwest_0204_a_250417 | Ansicht Süd-West | 1:100 |

angefertigt von:

Thoma Architekten**Freier Architekt vfa bdb**Wilhelmine-Gemberg-Weg 6
10179 Berlin

[2] Geotechnischer Bericht zu den Baugrund- und Gründungsverhältnissen

[Nr. 156/2023/B]

19 Seiten und 4 Anlagen vom 06.11.2023

angefertigt von:

Ingenieurbüro für Baugrunduntersuchungen und Altlastenerkundung**Dipl.-Ing. (FH) Jan Markau, Beratender Ingenieur für Erd- und Grundbau BBIK**Marwitzer Straße 29
14612 Falkensee

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[3a] Tragwerksplanung zur Vorplanung

24 Seiten und 2 Anlagen - mit 8 Plänen vom 25.07.2024

angefertigt von:

KREBS+KIEFER
Ingenieure GmbH
Dovestraße 2-4
10587 Berlin

[3b] Tragwerksplanung zur Entwurfsplanung

44 Seiten und 2 Anlagen - mit 12 Pläne vom 12.05.2025

angefertigt von:

KREBS+KIEFER
Ingenieure GmbH
Dovestraße 2-4
10587 Berlin

[4] Brandschutzkonzept zur Entwurfsplanung

53 Seiten und 7 Pläne vom 14.03.2025

angefertigt von:

Ingenieurbüro Duwe
Falkenbrunnstraße 36
12524 Berlin

[5] Entwurfsplanung Bauakustik - VORABZUG

vom 28.02.2025

angefertigt von:

KREBS+KIEFER
Ingenieure GmbH
Altmarkt 10a
01067 Dresden

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[6] Angaben zu Elektro- und Aufzugsplanung

GNUSE Ingenieurbüro für Krankenhaustechnik

Fredersdorfer Str. 30
15370 Fredersdorf-Vogelsdorf

[7] Angaben zu HKLS-Planung

Potthoff GmbH

Steigerstraße 19
99096 Erfurt

[8] Bauphysik – GEG-Nachweis

149 Seiten und 8 Anlagen vom 16.05.2025

angefertigt von:

KREBS+KIEFER

Ingenieure GmbH

Altmarkt 10a
01067 Dresden

3 Berechnungs- und Ausführungsgrundlagen

Alle statischen Nachweise werden nach den derzeit gültigen Normen geführt (s.u.) oder nach Abstimmung mit dem Prüfsachverständigen für Standsicherheit in sinngemäßer Anwendung der zum Zeitpunkt der Errichtung gültigen Normen.

- + DIN EN 1990 + NA (Ausgabe 2021) Grundlagen der Tragwerksplanung
- + DIN EN 1991 + NA (Ausgabe 2010) Einwirkungen auf Tragwerke
- + DIN EN 1992 + NA (Ausgabe 2011) Stahlbeton und Spannbeton
- +

Die Zusammenstellung wird ggf. durch besondere in der statischen Berechnung aufgeführte Vorschriften, Richtlinien und Normen komplettiert.

Verwendete Programme

Die flächigen Stahlbetonbauteile werden überwiegend mit dem Programm MicroFE von mb Software AG Version 2025.003 nach der Methode der finiten Elemente berechnet.

Weitere verwendete Programme (mb-Statik, HALFEN-HDB etc.) sind den einzelnen Abschnitten der Genehmigungsstatik zu entnehmen.

Bauprodukte

Für die von uns gewählten und bei der statischen Nachweisführung angegebenen Produkte liegen bauaufsichtliche Verwendbarkeitsnachweise und Übereinstimmungsnachweise entsprechend den Bestimmungen nach der Landesbauordnung bzw. der Bauregelliste vor. Sie sind als Planungsleitprodukte zu verstehen. Gleichwertige, d. h. die statischen Randparameter erfüllende, adäquate Produkte mit einem gültigen Verwendbarkeitsnachweis und Übereinstimmungsnachweis können als Alternative in der Ausführung verwendet werden. Somit stellen die gewählten Produkte im Hinblick auf VOB-Konformität keine Einschränkung in den Leistungstexten der Ausschreibung dar. Der Nachweis der Gleichwertigkeit der eingesetzten Produkte mit den Planungsprodukten ist als Bestandteil der technischen Bearbeitung auszuschreiben.

Sonstige Vorschriften (z.B. DBV-Merkblätter, Richtlinien des DAfStb o. ä.) mit Angaben zur Ausführungsplanung und Bauausführung (z. B. betontechnologische Maßnahmen) sind im Zuge der Arbeitsvorbereitung bzw. im Rahmen der „werkplanbegleitenden Nachweise“ seitens der bauausführenden Firma zu beachten und auf Grundlage der Genehmigungsplanung nachzuweisen.

Bewehrung und Betonage

Für das Verlegen der Bewehrung sind Abstandshalter zu verwenden, die den Anforderungen der herzustellenden Betonbauteile entsprechen.

Auf die Beachtung der DBV-Merkblätter bei der Ausführung sei besonders hingewiesen.

Die Planung / Anordnung von z. B. zusätzlichen Bindestellen, Laufbohlen, Montageeisen, um die Bewehrung in ihrer planmäßigen Lage zu halten, ist durch den Ausführenden (AN) festzulegen und Leistungsbestandteil. Das Schneiden von Betonstahl, z.B. an Rändern von Aussparungen, ist ebenfalls Leistungsbestandteil.

Auf die notwendige Planung durch den Ausführenden von Betonierabschnitten nach seinem gewählten Bauablauf mit Angabe der vom AN somit bautechnologisch bedingten Lage und Ausbildung von Arbeitsfugen (auf Grundlage der Genehmigungsplanung), die Planung von Rüttel- und Schüttgassen sowie das Anpassen der entsprechenden Körnungen - unter Berücksichtigung der Ansätze für die Mindestbewehrung - und der Bewehrungsanordnung auf die Betoniergegebenheiten im Zuge der Arbeitsvorbereitung sei hingewiesen. Dies ist ausdrücklich Sache der bauausführenden Firma. Hierzu sind z. B. Betonierpläne (u. a. mit Angabe von Betonrezeptur, Größtkorn, Betoniergeschwindigkeit, Verdichtung, Besonderheiten wie Anschlussmischungen), Nachbehandlungspläne (u. a. mit Angabe der Lage und Ausführung sowie zur Vorbehandlung des "Altbetons") durch die ausführende Firma o. glw. zu erstellen.

Für das Schweißen von Bewehrungsstahl B 500 gilt DIN EN ISO 17660, bei Einsatz von Schraubanschlüssen die entsprechenden Zulassungen. Die Schweißbarkeit der vorhandenen Bewehrung ist durch Prüfung nachzuweisen.

Ggf. mögliche Erschwernisse infolge o.g. Vorgaben sowie infolge von z.B. statisch erforderlicher „konventioneller“ Bewehrungsführung (Ausbildung biegesteifer Ecken, schubstarrer Anschlüsse) sind Leistungsbestandteil des Ausführenden.

Auch bei dichter Bewehrung ist durch den AN durch geeignete Maßnahmen eine gute Einbringung und Verdichtung des Betons sicherzustellen, z. B. durch Anpassung der maximalen Korngröße des Zuschlags an die Bewehrungsabstände, durch Einsatz der Aufgabe angepasster Rüttler und Schalung. Diese Maßnahmen sind von der ausführenden Firma einzuplanen und Leistungsbestandteil des Ausführenden.

Um Engpässe bei der Lieferung von Bewehrung zu vermeiden und die von der Bauleitung und dem Prüfenieur geforderten Zulagen vorrätig zu haben, sind alle gängigen Betonstahldurchmesser vorrätig zu halten.

Die betontechnologischen Maßnahmen sind so festzulegen, dass Rissbildungen infolge abfließender Hydratationswärme und Schwinden weitestgehend vermieden werden. Infolge der erhöhten Neigung zur Rissbildung sind Überfestigkeiten zu vermeiden, d. h. die Druckfestigkeit des Betons ist auch nach oben zu begrenzen.

Generell ist für Massenbauteile sowie bei besonderen Anforderungen der Einsatz eines schwindarmen Betons mit niedriger Wärmeentwicklung nach Wahl des Bauausführenden zu empfehlen.

Die Gewährleistung der geforderten Betoneigenschaften, auch der Anforderungen an Schalbild und Oberfläche entsprechend der Objektplanung, einschließlich der damit verbundenen Baustellenüberwachungen und Betonprüfungen (Überwachungskategorie ÜK2) liegt beim Ausführenden (AN).

Schalung und Rüstung

Die statischen Nachweise für Schalung und Rüstung (auch ggf. weiterer Baubehelfe) sind, sofern erforderlich, von der ausführenden Firma zu erbringen.

Auf das Erfordernis von Traggerüsten der Bemessungsklasse B nach DIN 12812 (z.B. Rüsthöhen größer 3,50 m; Abstützungen wandartiger Träger etc.) sei hingewiesen. Dies ist als besondere Leistung nach VOB Teil C einschließlich der bautechnischen Prüfung entsprechend bei der Kostenermittlung und Ausschreibung als technische Bearbeitung durch den Bauausführenden zu berücksichtigen.

Die Schalung ist maßhaltig entsprechend den Schalplänen unter Beachtung der Objektpläne zu erstellen.

Die einschlägigen Normen (auch Toleranzen im Bauwesen), insbesondere DBV Merkblatt "Betonschalungen", sind einzuhalten. In Bereichen von Stahleinbauteilen, Geländeranschlüssen usw. sind erhöhte Anforderungen an die Maßhaltigkeit der Ausführung einzuplanen.

Die Rüstung und Schalung unter freitragenden Wandscheiben/Wandartigen Trägern, Unter-/Überzügen ist bis zur Erhärtung der oberen Decken vorzuhalten und verformungsarm zu gründen.

Alle erforderlichen Unterstützungen und Sprißungen sind gleichgültig ihrer Höhenlage, auch zur Betonage ggf. notwendige zusätzliche Abfangungen in den darunterliegenden Geschossen, Sache des Auftragnehmers.

Überhöhungen der Schalung sind einzuplanen.

Die Berücksichtigung von Einbauteilen (z. B. Ankerschienen) und Aussparungen sind im Zuge der Arbeitsvorbereitung und Qualitätssicherung der ausführenden Firma von dieser verantwortlich zu prüfen.

Zusätzliche Nachweise und Prüfungen

Im Zuge der Werkplanungen und der Bauausführung mit zugehöriger Arbeitsvorbereitung können nachfolgende auszugsweise dargestellte technische Bearbeitungen sowie ggf. daraus resultierende Prüfgebühren für die bautechnische Prüfung erforderlich werden.

Diese sind verantwortlich von der ausführenden Firma zu erledigen und rechtzeitig vor Bauausführung bzw. Bestellung dem Prüfenieur zur Freigabe vorzulegen.

Vorliegende Angaben sind i.d.R. bei der Ausschreibung und Vergabe entsprechend zu berücksichtigen und kostenmäßig einzukalkulieren.

Anfertigen von Werkstattzeichnungen inklusive werkplanbegleitender statischer Nachweise (z. B. für Herstellung, Transport und Montage sowie ggf. erforderliche Bauzustände) für z. B.:

- + Stahlbau
- + Fassaden und ihre Befestigungsmittel
- + Geländer und ihre Befestigungsmittel
- + Aufzugsbefestigungen
- + Stahlbetonfertigteile bzw. Stahlbetonhalbfertigteile
- + Kranfundamente

Folgende ausführungsspezifische statisch-konstruktive Nachweise inklusive ggf. erforderlicher Werkstattzeichnungen sind im Zuge der Arbeitsvorbereitung zu planen für z. B.:

- + Arbeitsfugen (Ausbildung / Anordnung / Lage)
- + Rüttelgassen
- + Betonrezepturen / Betoneinbringverfahren
- + Umplanungen für Betonierabschnitte (soweit nicht statisch bereits festgelegt und nachgewiesen) z. B. für Schraubanschlüsse, Rückbiegeanschlüsse (unter Berücksichtigung der entsprechend gültigen Zulassungen)
- + Bauzustände

4 Baustoffe

Das Tragwerk wird im Wesentlichen als massive Stahlbetonkonstruktion errichtet. Es ergeben sich die folgenden Materialanforderungen an die Bauteile:

4.1 Regelbetone

- + Dach / oberste Geschossdecke / Attika
C30/37
- + Geschossdecken, Unterzüge / Überzüge, Wandartige Träger *)
C30/37
- + Innenwände Obergeschosse, Erdgeschoss
C25/30
- + Außenwände Obergeschoss, Erdgeschoss
C25/30
- + Zwischenpodeste, Treppenläufe
C30/37
- + Stützen
C30/37
- + Bodenplatte Erdgeschoss, Untergeschoss
C30/37
- + Sauberkeitsschicht
C8/10

*) Vereinzelt (örtlich begrenzt) sind Betongüten bis C50/60 z. B. bei Lastkonzentrationen, an Lastüberleitungspunkten o. ä. nach statischem Erfordernis möglich.

4.2 Betonstahl

B500

Einbauteile, Dübelleisten, Schraubanschlüsse, Sonderbewehrungen

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5 Anforderungen der Stahlbetonbauteile nach DIN EN 1992-1-1/NA (2011)

Betondeckungen, Expositionsklassen und Begrenzung der Rissbreiten der Einzelbauteile

Expositionsklasse / Feuchtigkeitsklasse: gemäß Tabelle 4.1DE (aus EC 2+NA)
Begrenzung der Rissbreite w_k : gemäß Tabelle 7.1DE (aus EC 2+NA)
Mindestbetonfestigkeitsklasse: gemäß Tabelle 4.1DE (aus EC 2+NA)
Betondeckung: gemäß Tabelle 4.3DE - 4.4DE (aus EC2+NA)
Hauptanteil der Gesteinskörnung: Quarz, Quarzit

| Bauteil | | Karbonatisierung | Chloride | Frost m/o Taumittel | Chemischer Angriff | Verschleißbeanspruchung | Feuchtigkeitsklasse | Mindestbetonfestigkeitsklasse | Gewählte Betonfestigkeitsklasse | Besondere Eigenschaften | Begrenzung der Rissbreite | c_{min}^a | Δc_{dev}^b | c_{nom}^c | c_v |
|---------------|--|------------------|----------|---------------------|--------------------|-------------------------|---------------------|-------------------------------|---------------------------------|-------------------------|---------------------------|-------------|--------------------|-------------|-----------|
| | | XC | XD | XF | XA | XM | W... | | | | w_k | | | | |
| | | | | | | | | | | | [mm] | [mm] | | | |
| Innenbauteile | Geschossdecken (Decken ü. UG bis ü. 2.OG) | XC1 | - | - | - | - | W0 | C16/20 | C30/37 | - | 0,4 | 10 | 10 | 20 | 30 |
| | Unterzüge / Überzüge | XC1 | - | - | - | - | W0 | C16/20 | C30/37 | - | 0,4 | 10 | 10 | 20 | 30 |
| | Wände | XC1 | - | - | - | - | W0 | C16/20 | C25/30 | - | 0,4 | 10 | 10 | 20 | 30 |
| | Wandartige Träger | XC1 | - | - | - | - | W0 | C16/20 | C30/37 | - | 0,4 | 10 | 10 | 20 | 30 |
| | Stützen | XC1 | - | - | - | - | W0 | C16/20 | C30/37 | - | 0,4 | 10 | 10 | 20 | 30 |
| | Treppen | XC1 | - | - | - | - | W0 | C16/20 | C30/37 | - | 0,4 | 10 | 10 | 20 | 30 |
| | Treppenpodeste | XC1 | - | - | - | - | W0 | C16/20 | C30/37 | - | 0,4 | 10 | 10 | 20 | 30 |
| Dach-Gründung | Dachflächen / obere Geschossdecken einschl. umlaufend gedämmter Attika | XC3 | - | - | - | - | W0 | C20/25 | C30/37 | - | 0,3 | 20 | 15 | 35 | 35 |
| | Bodenplatte (ohne Frost) ¹⁾ | XC2 | - | - | XA1 | - | WF | C25/30 | C30/37 | - | 0,3 | 20 | 15 | 35 | 35 |
| | Sauberkeitsschicht | - | - | - | - | - | - | - | C8/10 | - | - | - | - | - | - |

^a - Die Mindestbetondeckung darf nicht kleiner als der Stabdurchmesser d_s sein.

^b - Die Werte für das Vorhaltemaß Δc_{dev} dürfen um 5 mm abgemindert werden, wenn dies durch eine entsprechende Qualitätskontrolle bei Planung, Herstellung und Bauausführung gerechtfertigt werden kann. (DBV-Merkblätter "Betondeckung und Bewehrung" und "Abstandhalter", etc.)

^c - Die Betondeckung ist ggf. aufgrund der Brandschutzanforderungen zu erhöhen.

^d - c_{min} ist um 5 mm verringert, da die gewählte Betonfestigkeit um 2 Klassen höher gewählt wurde als erforderlich

^e - Für die Betondeckung c_{nom} wurde die Mindestbetondeckung $c_{min,dir}$ gemäß Tab. 4.3DE um 5 mm abgemindert.

¹⁾ - Ausführung Abdichtung - als sogenannte "Schwarzabdichtung"

Betonrezepturen mit Festlegungen der Betoneigenschaften unter Berücksichtigung aller Randbedingungen auf Grundlage der statischen Festlegungen haben im Zuge der Arbeitsvorbereitung durch die ausführende Firma zu erfolgen. Auf eine sorgfältige Betonage und Verdichtung sowie Nachbehandlung des Betons ist zu achten.

6 Baugrund

Aus dem Baugrundgutachten [2] ergeben sich folgende für die Tragwerksplanung relevante Angaben / Kennwerte:

- + **Geländeoberkante**
Angabe Baunull ist im Baugrundgutachten nicht vorliegend. Aus [1] wird entnommen:
33,87 ü. NHN
- + **Inhomogene, nichttragfähiger Oberboden / Aufschüttungen**
Anthropogene Auffüllung bis in eine Tiefe von ca. 1,05 m u. GOK (i.M.).
- + **Tragfähige Schicht**
[Sande und Geschiebemergel]
unterhalb von ca. 1,05 m u. GOK
- + **Aktueller Grundwasserspiegel**
ab ca. 29,09 m ü. NHN
-> ca. 4,78 bis 5,51 m u. GOK

zeHGW:
ca. 31,7 m ü. NHN
- + **Bemessungswasserstände**
Im Zuge der Genehmigungsplanung ist der Bemessungswasserstand durch den Baugrundgutachter verbindlich anzugeben.
- + **Bettungsziffer für Plattengründung**
Vorschlag des Gutachters:
 $k_{s,min} = 8 \text{ MN/m}^3$
 $k_{s,max} = 16 \text{ MN/m}^3$

Die Bettungsziffer ist für Randbereiche zu verdoppeln.

Die Bettungsziffer ist last- und systemabhängig und ist im Zuge des Planungsfortschritts seitens des Bodengutachters zu konkretisieren.
- + **Bodenaustausch**
Die in der Grundrissfläche des geplanten Bauwerkes vorhandenen Auffüllungen, einschließlich noch vorhandener Rückstände der ehemaligen Altbebauung sind vollständig zu entfernen. Die entstandenen Vertiefungen sind durch ein Gründungspolster zu ersetzen. Die Vorgaben aus dem geotechnischen Bericht für das Gründungspolster sind einzuhalten.
- + **Betonaggressivität**
Im vorliegenden geotechnischen Bericht liegen noch keine Angaben zur Betonaggressivität des Bodens vor. Es wird von einem schwach betonangreifenden Boden ausgegangen.
- + **Frostfreie Gründung**
Ca. 0,8 m u. GOK

7 Abdichtung erd- und wasserberührter Bauteile

Feuchteschutzmaßnahmen wie Abdichtungen werden durch die Objektplanung in Übereinstimmung mit den Angaben im Bodengutachten und der vorgesehenen Nutzung festgelegt und sind der Objektplanung zu entnehmen.

Im Rahmen der Planung wurde festgelegt, dass die Bodenplatte als WU-Konstruktion hergestellt werden soll. Im Folgenden werden die Randbedingungen für eine WU-Planung der Bodenplatte zusammengefasst:

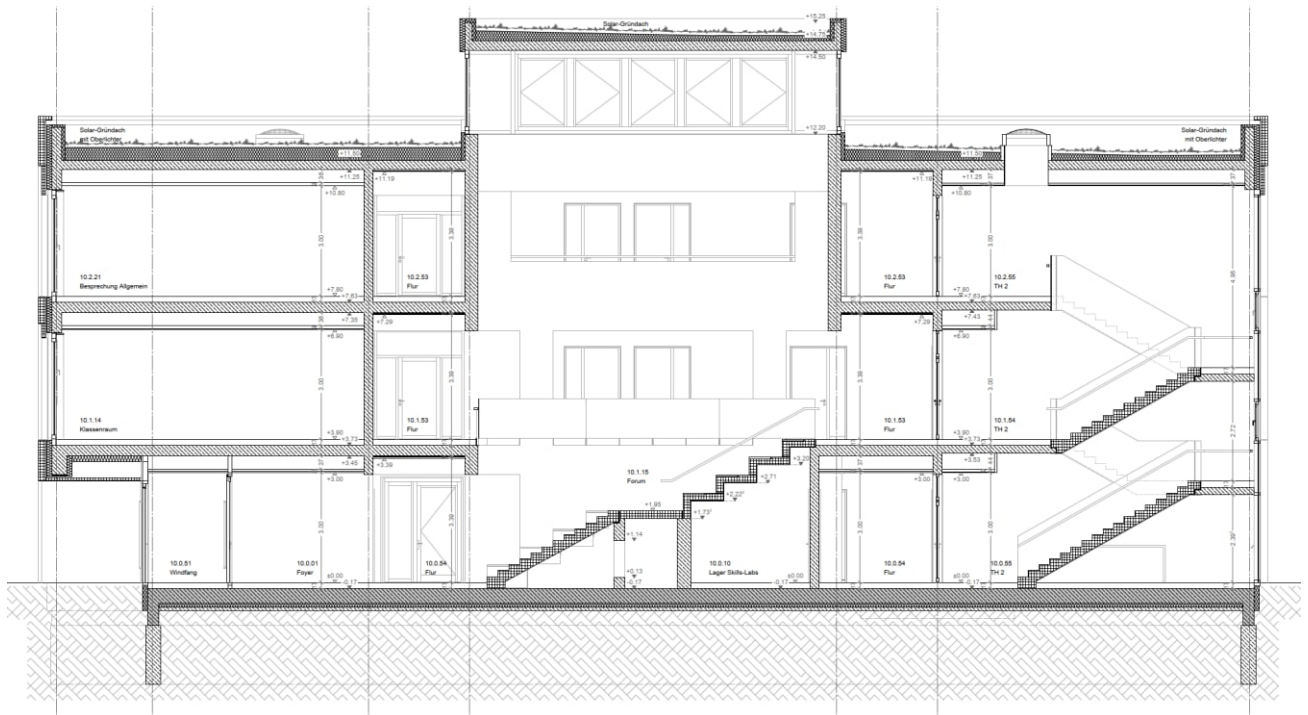
- Beanspruchungsklasse: BKL 2 (kein anstauendes Wasser)
- Nutzungsklasse A (hochwertige Nutzung) mit Zusatzanforderungen je nach Raumnutzung (mit TGA abzustimmen):
 - Technikräume: A0
 - Aufzugsunterfahrt: A0
 - Skilllabs: A***
 - Klassenraum: A**
 - Gruppenraum: A**
- Entwurfsgrundsatz c

Die Rissbreite der Bodenplatte wird entsprechend des Entwurfsgrundsatzes c auf 0,3 mm begrenzt. Diese Risse sind planmäßig nachträglich abzudichten. In Fugen zwischen Aufzugsunterfahrt und Bodenplatte, sind Fugenabdichtungen wie Fugenbleche, Fugenbänder oder Verpressschläuche vorzusehen.

8 Angaben zum Tragwerk, Tragwerksbeschreibung

8.1 Baukörper / Bauweise

Das neu zu errichtende Gebäude besteht insgesamt aus drei Vollgeschossen (EG bis 2.OG) und einer Aufzugsüberfahrt mit angrenzenden Technikräumen auf dem Dach. Das Tragwerk ist als massive Stahlbetonkonstruktion konzipiert und wird in Ortbetonbauweise geplant.



Auszug Schnitt A-A Index B vom 26.09.2025 [1]

Der vertikale Lastabtrag erfolgt über weitestgehend durchgehende Stahlbetonwände und -stützen in die Stahlbetonbodenplatten im EG.

Die nachfolgenden sowie ergänzende Angaben zum Tragwerk sind zeichnerisch in den Positionsplänen, siehe Anlage 1, dargestellt und nur zusammen mit vorliegender Unterlage gültig.

8.2 Deckensysteme

Die Decken sind in allen Geschossen als linien- und punktgelagerte einachsig und zweiachsig gespannte Stahlbetondecken konzipiert. Es sind planmäßige Deckenüberhöhungen vorgesehen, um die großen Spannweiten über den Klassenräumen zu ermöglichen.

Die Decken werden im EG und 1.OG eine Stärke von ca. 28 cm aufweisen, im 2.OG und Technikaufbau eine Stärke von 25 cm und als Flachdecken auf Wänden und Unterzügen ausgeführt. Die Unterzüge im EG, 1.OG und 2.OG werden im Fassadenbereich und an dem großen Luftraum am Forum platziert sowie an Innenwänden, die durch Wandversprünge nicht in einer Linie durchlaufen können. Die Unterzüge werden mit einer Höhe von 50-70 cm (unter UK Decke) konstruiert.

Der Lasteintrag aus den Flachdecken in die Stahlbetonwände und -unterzüge erfolgt bei einspringenden Ecken in der Regel über Sonderbewehrungen (z. B. Dübelleisten nach bauaufsichtlicher Zulassung).

Hinweis:

Zusätzliche Durchbrüche und Aussparungen, ggf. auch Bohrzonen für nachträgliche Kernbohrungen sind vor Erstellung der Ausführungsplanung Tragwerk (Schal- und Bewehrungsplanung) durch die TGA-Fachplanung anzugeben und auf statische Verträglichkeit zu überprüfen.

8.3 Wände

Die tragenden Wände, Wandscheiben und wandartigen Träger werden in Stahlbeton ausgeführt. Für das Tragkonzept wird für die durchlaufenden Innenwände aktuell von 25 cm ausgegangen. Wandartige Träger sind mit einer Bauteildicke von ca. 25 - 30 cm eingeplant.

Hinweise:

Durchbrüche, Installationsöffnungen in Stahlbetonwänden für TGA sowie ggfs. Für die weiteren Ausbaustufen, sind durch die TGA Fachplanung im Zuge der Erstellung der Ausführungsplanung, noch vor Erstellung der Schal- und Bewehrungsplanung anzugeben. Alle Durchbrüche und Aussparungen, ggfs. Auch Bohrzonen für nachträgliche Kernbohrungen, sind statisch verträglich zu planen.

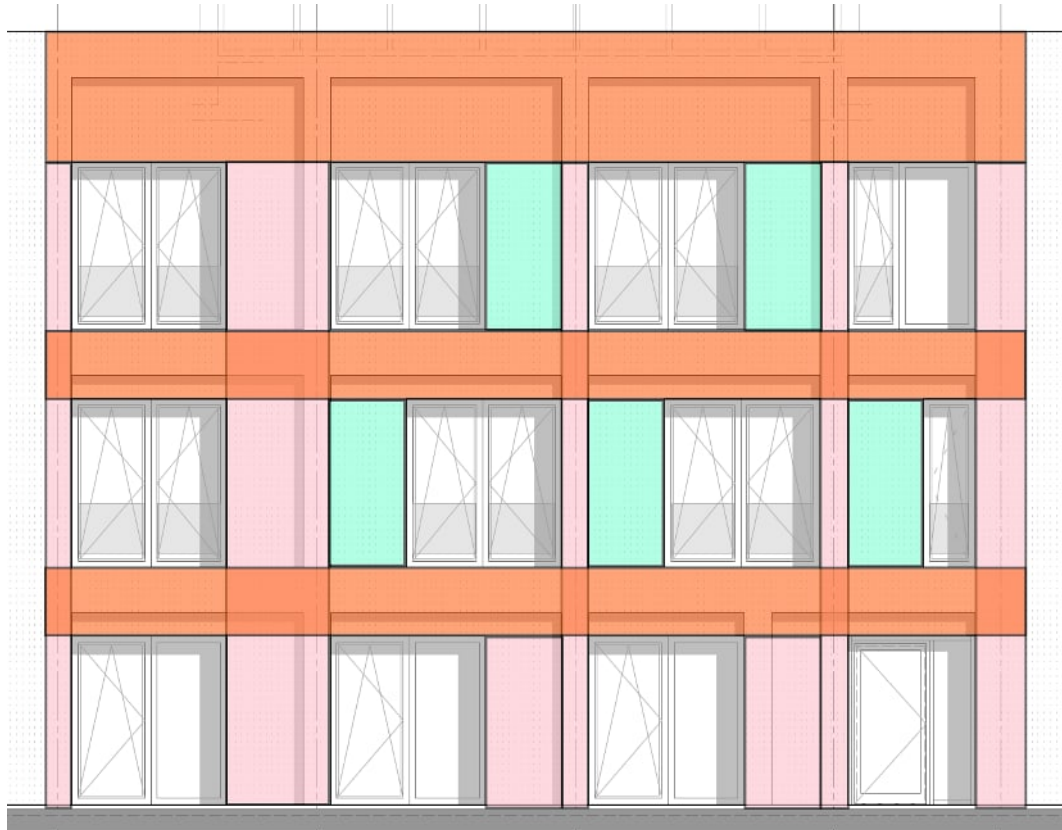
Tragkonzept der Außenwände:

Die Öffnungen in den Außenwänden verspringen von Geschoss zu Geschoss stark. Um zusätzliche Belastungen in den am Rand liegenden Unterzügen zu vermeiden, werden nicht alle Außenwände als tragende Bauteile angesetzt. Im Folgenden ist dargestellt, welche Wände für das Tragwerk angesetzt werden.

Die Flächen in Orange und Rosa stellen außenseitige Wände dar, die als Teil des Tragwerks angesetzt werden. Grüne Flächen sind außenseitige Wände, die nicht als Teil des Tragwerks angesetzt werden. Diese werden von den darunterliegenden Unterzügen abgefugt.

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Genehmigungsplanung Tragwerksplanung



Tragwerksansicht Nordost vom 17.04.2025 [1]



Tragwerksansicht Nordwest vom 17.04.2025 [1]

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung



Tragwerksansicht Südost vom 17.04.2025 [1]



Tragwerksansicht Südwest 17.04.2025 [1]

8.4 Stützen

Die Stützen sind in Stahlbetonbauweise konzipiert.

Die Regelstützenabmessungen werden im Rahmen der Vorplanung wie folgt ermittelt.

- + Stützen 2.OG: Fassadenseitig: ca. 25/25 cm
Atrium: ca. 25/90 cm
- + Stützen 1.OG: Fassadenseitig: ca. 25/25 cm
Atrium: ca. 25/90 cm

8.5 Treppen und Treppenpodeste

Gemäß Objektplanung [1] sind zur Erschließung des Gebäudes zwei Treppenhäuser geplant, die beide in allen Geschossen erreichbar sind und zur Entfluchtung des Gebäudes dienen. Die Treppenläufe und -podeste werden planmäßig in Stahlbeton hergestellt.

Es sind Treppen mit einer Treppenstärke von ca. 20 cm einzuplanen.

Die Treppenläufe in den Treppenhäusern spannen i.d.R. einachsrig und werden über eine Konsolenausbildung mit Schallentkopplung durch ein Elastomerlager auf die Zwischen- und Hauptpodeste aufgelegt. Der unterste Treppenlauf ist durch Schubdorne horizontal zu sichern.

Die Auflagerung der Zwischenpodeste an die umlaufenden tragenden Stahlbetonwände erfolgt mittels Rückbiegeanschlüssen. Die Anforderungen an die Schallentkopplung (Trittschallschutz) sind in Abstimmung mit der bauphysikalischen Fachplanung zu beachten und einzuplanen.

Atriumtreppe:

Es gibt eine Treppenanlage in der Mitte des Gebäudes, die aus einem Treppenlauf besteht und angrenzenden abgetreppten Sitzgelegenheiten. Der Treppenlauf kann mit einer Stärke von 20 cm ausgeführt werden und wird als Fertigteil realisiert. Die angrenzenden Stufen der Sitzgelegenheit werden einzeln als Fertigteilbalken hergestellt und auf darunterliegenden Wänden aufgelagert. Um klaffende Fugen zu vermeiden, werden die Stufen konstruktiv nachträglich miteinander verbunden.

Die Auflagerung der Zwischenpodeste erfolgt für die tragende Platte am Auflagerrand der Treppe mittels Auflagertaschen. Dieser tragende Rand wird für die Hauptlasten aus den Treppen dimensioniert. Die restliche Platte wird mittels Ausklappbewehrung an ihren kurzen Seiten an die angrenzenden tragenden Wände angeschlossen. Die Zwischenpodeste erhalten eine Trittschalldämmung aus schwimmendem Estrich. Die Trittschallentkopplung der Treppe erfolgt über ein Elastomerlager an der Konsole.

8.6 Gründung

Entsprechend der im Baugrundgutachten [2] ausgeführten Gründungsempfehlung und in Abstimmung mit der Objektplanung wird die Gründung des Gebäudes als Flachgründung mit elastisch gebetteter tragender Bodenplatte (Ortbetonausführung) auf tragfähigem Baugrund mit Bodenaustausch konzipiert. Die oberste Bodenschicht ist eine Auffüllung mit Schuttanteilen und organischen Bestandteilen, die eine Mächtigkeit von ca. 1,05 m aufweist und vollständig entfernt und durch tragfähigen Boden ersetzt werden muss.

Die Bodenplattendämmung ist durch die Objektplanung in Abstimmung mit der Fachplanung für Bauphysik anzugeben.

Für das Tragkonzept wird aktuell mit einer mittleren Bodenplattenstärke von 40 cm gerechnet. Es gibt einen Bereich mit einer Bodenplattenverstärkung von 70 cm und eine Aufzugsunterfahrt. Am Eingangsbereich des Gebäudes gibt es einen Bodenplattenversprung von 60 cm. Am Plattenrand wird es eine Frostschrütze aus Beton geben. Diese Frostschrütze hat hier zusätzlich die Funktion, die Lastausbreitung aus der Bodenplatte bis zur Unterkante der Frostschrütze zu verlagern, um den Bodenaustausch seitlich des Gebäudes zu minimieren. Aus diesem Grund hat die Frostschrütze eine Höhe von 1 m (40 cm Bodenplatte + 60 cm Balken) und ist bewehrt auszuführen.

8.7 Aussteifung

Die Aussteifung des Tragwerks erfolgt durch Stahlbetondecken als horizontale Scheiben in monolithischer Verbindung mit den Stahlbetonwänden und -kernen.

Die Aussteifungslasten (Horizontallasten) werden durch die lastabtragende Bodenplatte in den Baugrund abgeleitet.

Wegen der geringen Gebäudehöhe und durch die nutzungsbedingten zahlreichen tragenden Stahlbetonwände, wird die Aussteifung nicht gesondert nachgewiesen.

8.8 Fassade

Für die Berechnungen in der Genehmigungsplanung wird von einer 10 cm Betonvorhangfassade ausgegangen.

Die Fassaden sind an den tragenden Konstruktionen mit zugelassenen bzw. typengeprüften Ankersystemen zu befestigen.

Erforderliche Toleranzen (z.B. beim Abweichen von planmäßiger Bewehrung) sind mittels geeigneter Befestigungskonstruktionen bzw. Fassadentechnik zur Toleranzaufnahmen bei der Werkstattplanung zu berücksichtigen.

Ggf. ist die Maßhaltigkeit des Rohbaus vorab aufzumessen. Eine Verformung des Deckenrandes infolge der Nutzung ist durch den Fassadenhersteller zu berücksichtigen.

Verformungen des Tragwerks sind bei der Konstruktion zu berücksichtigen.

9 Gebrauchstauglichkeit / Dauerhaftigkeit

9.1 Allgemeine Anforderungen

Zur dauerhaften Sicherstellung der Gebrauchstauglichkeit ist die Durchbiegung der Tragkonstruktion zu begrenzen. Die charakteristischen Werte der Durchbiegungen werden für den Lastfall „Volllast“ unter Berücksichtigung der quasi-ständigen Einwirkungskombination ermittelt.

Die DIN EN 1992-1-1 gibt für Stahlbetondecken als Grundwert für die zulässige Deckenendverformung „zul w“ an:

- + zul w = 1/250 der Stützweite in einem Plattenfeld
- + zul w = 1/100 der Stützweite am Ende eines Kragträgers

Der Grenzdurchhang ist bezogen auf die Verbindungslinie der Unterstützungspunkte für Deckenplatten des üblichen Hochbaus ohne höhere Anforderungen. Die Norm geht bei Einhaltung dieses Grenzwertes davon aus, dass das Erscheinungsbild und die Gebrauchstauglichkeit des Tragwerks nicht beeinträchtigt werden. Der o. g. Grundwert wird durch das Tragwerk allgemein eingehalten. Der Nachweis erfolgt gemäß DIN EN 1991-1-1 durch die Begrenzung der Biegeschlankheit bzw. durch Nachweis mit FE-Berechnungen.

Für verformungsempfindliche Bauteile werden gleitende Anschlüsse an den Stellen vorgesehen, wo die Differenzverformung über 1 cm beträgt.

9.2 Überhöhungen

Zur Begrenzung der Verformungen werden Überhöhungen nach DIN EN 1992-1-1 Abs. 7.4.1 (4) eingeplant. Diese werden auf maximal 1/250 der Stützweite begrenzt.

Die Effekte aus Kriechen und Schwinden werden bei der Verformungsberechnung berücksichtigt.

9.3 Nutzungsdauer

Zur Sicherstellung der Dauerhaftigkeit und Nutzungsdauer ist das Gebäude gemäß DIN EN 1990: Abschnitt 2.3 + NA und DIN EN 1992-1-1: Tabelle 4.3N, 4.4, 4.5N + NA in die Nutzungsklasse 4 mit einer Planungsgröße von 50 Jahren Nutzungsdauer einzuordnen.

Bei Stahlbetonbauwerken wird diese Nutzungsdauer über die Wahl einer entsprechenden Betondeckung gewährleistet. Eine weitere Berücksichtigung erfolgt über die Anforderungsklassen (Expositions- und Festigkeitsklassen) an den Beton.

In Deutschland wird Beton der Zusammensetzung nach DIN EN 206-1 und DIN 1045-2 verwendet. Die Festigkeit und Dichtigkeit des Betons im oberflächennahen Bereich wird durch die Nachbehandlung nach DIN 1045-3 bzw. DIN 13670 sichergestellt. Erfahrungsgemäß entspricht die Anforderungsklasse S3 einer Nutzungsdauer von 50 Jahren.

9.4 Mindestbewehrung zur Rissbreitenbegrenzung

Zur Aufnahme von Zwangseinwirkungen und Eigenspannungen ist gemäß DIN EN 1992-1-1, Abschnitt 7.3.2 + NA in Stahlbetonbauteilen eine Mindestbewehrung anzuordnen, welche die Rissbreite begrenzt und die Risse entsprechend verteilt. Seitens des Auftraggebers sind keine höheren Anforderungen für die Tragwerksplanung vorgegeben.

Für die Ermittlung der erforderlichen Mindestbewehrung zur Begrenzung der Rissbreite wird davon ausgegangen, dass die Erstrissbildung unter zentrischem Zwang infolge abfließender Hydrationswärme im frühen Betonalter (3-5 Tage nach Einbringen des Betons) eintritt. Die wirksame Zugfestigkeit des Betons wird für diesen Bemessungsfall nach DIN EN 1992-1-1:2011-01 Absatz 3.1.2.(6) - Betonfestigkeitsentwicklung in Abhängigkeit vom Betonalter - abgemindert, bzw. nach DBV-Merkblatt - Begrenzung der Rissbildung im Stahlbeton- und Spannbetonbau - Fassung Mai 2016:

- + $f_{ct,eff} = 65\% f_{ctm}$ | nach DIN EN 1992-1-1:2011-01 Absatz 3.1.2.(6)
- + $f_{ct,eff} = 65\% f_{ctm}$ | für Bauteildicke $\leq 0,30$ m - nach DBV-Merkblatt
- + $f_{ct,eff} = 75\% f_{ctm}$ | für Bauteildicke $\leq 0,80$ m - nach DBV-Merkblatt
- + $f_{ct,eff} = 85\% f_{ctm}$ | für Bauteildicke $\leq 2,00$ m - nach DBV-Merkblatt
- + $f_{ct,eff} = 95\% f_{ctm}$ | für Bauteildicke $> 2,00$ m - nach DBV-Merkblatt

| Tabelle 7. Empfohlene Anhaltswerte der Betonzugfestigkeit bei Zwang aus Abfließen der Hydrationswärme | | | | | |
|--|---|------------------|---------------|-----------------------------|-----------------------------|
| Table 7. Recommended calculation values of concrete tensile strength due to restraint from loss of the heat of hydration | | | | | |
| S | 1 | 2 | 3 | 4 | 5 |
| Z | Festigkeitsentwicklung des Betons | Bauteildicke h | | | |
| | | $\leq 0,30$ m | $\leq 0,80$ m | $\leq 2,0$ m | $> 2,0$ m |
| 1 | langsam ($r < 0,30$) ^{1) 2)} | — ³⁾ | $0,60f_{ctm}$ | $0,70f_{ctm}$ ⁴⁾ | $0,80f_{ctm}$ ⁴⁾ |
| 2 | mittel ($r < 0,50$) ¹⁾ | $0,65f_{ctm}$ | $0,75f_{ctm}$ | $0,85f_{ctm}$ | $0,95f_{ctm}$ |
| 3 | schnell ($r \geq 0,50$) ¹⁾ | $0,80f_{ctm}$ | $0,90f_{ctm}$ | $1,0f_{ctm}$ | $1,00f_{ctm}$ |

¹⁾ Die Festigkeitsentwicklung des Betons wird durch das Verhältnis $r = f_{cm}(2 \text{ d}) / f_{cm}(28 \text{ d})$ beschrieben, das bei der Eignungsprüfung oder auf der Grundlage eines bekannten Verhältnisses von Beton vergleichbarer Zusammensetzung (d. h. gleicher Zement, gleicher w/z-Wert) ermittelt wurde.

Wird bei besonderen Anwendungen die Druckfestigkeit zu einem späteren Zeitpunkt $t > 28$ Tage bestimmt, ist das Verhältnis der mittleren Druckfestigkeit nach 2 Tagen $f_{cm}(2 \text{ d})$ zur mittleren Druckfestigkeit zum Zeitpunkt der Bestimmung der Druckfestigkeit $f_{cm}(t)$ zu ermitteln oder es ist vom Betonhersteller eine Festigkeitsentwickelungskurve bei 20 °C zwischen 2 Tagen und dem Zeitpunkt der Bestimmung der Druckfestigkeit anzugeben.

²⁾ Bei Festigkeitsklassen $\geq C30/37$ ist es i. d. R. nicht möglich, das Festigkeitsverhältnis $r < 0,30$ bezogen auf 28 Tage zu begrenzen. In diesen Fällen ist es erforderlich, den Zeitpunkt des Nachweises der Festigkeitsklasse auf einen späteren Zeitpunkt (z. B. 56 Tage) zu verschieben.

³⁾ Die Auslegung der Bewehrung bei dünnen Bauteilen auf eine langsame Festigkeitsentwicklung ist nicht sinnvoll. Es sollte grundsätzlich mindestens eine mittlere Festigkeitsentwicklung angenommen werden.

⁴⁾ Der empfohlene Anhaltswert für massive Bauteile ist erst bei der Verwendung von langsam erhärtenden Betonen mit einem Prüfpfader von 91 Tagen zu erwarten.

aus DBV-Merkblatt - Begrenzung der Rissbildung im Stahlbeton- und Spannbetonbau - Fassung Mai 2016

Diese Festlegungen sind bei der Bauausführung zu berücksichtigen und für die Ausschreibung zu beachten.

Neben der Anordnung einer Mindestbewehrung kann die Rissbildung in Stahlbetonbauteilen durch ergänzende Maßnahmen günstig beeinflusst werden. z. B. durch

- + Verwendung schwindarmes Zements mit niedriger Wärmeentwicklung
- + Betonrezeptur mit niedrigem Wasser-Zement-Wert
- + Sorgfältige Nachbehandlung aller betonierten Bauteile

Ein ausgewogenes Verhältnis dieser Maßnahmen in Verbindung mit der Anordnung einer entsprechenden Mindestbewehrung ist zur Erreichung bestmöglicher Ergebnisse durch den Bauausführenden festzulegen und einzuhalten.

9.5 Schwingungsverhalten

Schwingungsuntersuchungen sind bei Ausführung der Tragkonstruktion aus Stahlbeton und der geplanten Nutzung i.d.R. nicht erforderlich.

Ggf. Schwingungen, die aus z. B. haustechnischen Geräten auf das Tragwerk übertragen werden könnten, sind durch geeignete Maßnahmen zur Schwingungsentkopplung seitens der TGA-Fachplanung auszuschließen.

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9.6 Nicht tragende Trennwände

Die Anschlüsse der leichten nichttragenden Trennwände sind im Hinblick auf die oben genannten zulässigen Deckenverformungen (von 1/250 bzw. 1/100) verformungsverträglich auszubilden (gleitende Deckenanschlüsse).

Anlage 1

Positionspläne



Stahlbetonbauteile

Stahlbetonbauteile

Alle Baustoffangaben, sofern nicht anders angegeben, siehe statische Berechnung.

Decken und wandartige Träger sind bauzeitlich zu unterstützen.
Wandartige Träger müssen solange unterstützt bleiben, bis auch die obere Decke über der obersten Wand, die zu dem wandartigen Träger gehört, fertiggestellt und ausreichend tragfähig ist.

Positionsbezeichnung:

S-0.1

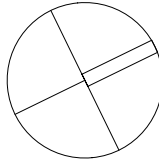
↳ Bauteil

Decken (D), Wände (W), Stützen (S), Unter- / Überzüge (UZ), Bodenplatte (BP)
Treppen / -podeste (T)

↳ **Geschoss**

Erdgeschoss (0/EG), 1. Obergeschoss (1),
2. Obergeschoss (2), 3. Obergeschoss (3)

↳ fortlaufende Nummer



| Index | Änderung |
|-------|----------|
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| | |
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| 0 | Erstellung |
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hys

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Planungsstand

Genehmigungsplanung

- Tragwerksplanung

Datum 27.10.2025

Index

Positionenplan - Gründung

| | |
|--------------|---------|
| Format | Maßstab |
| 841/594 (A1) | 1:100 |

SGP TWP POS-GR 05 0 251027



| Typ | Beschreibung | Abmessung | Bemerkung | Baustoffe |
|--------------------|-----------------------------|---|---|--------------------------------------|
| Stahlbetonbauteile | | | | |
| | Treppelläufe | h ≥ 20 cm | | C 30/37, wenn nicht anders angegeben |
| | Flächengründung | h ≥ 40 cm | Regelbereiche | C 30/37, wenn nicht anders angegeben |
| | Bodenplattenverstärkung | h ≥ 70 cm | hier sind ggf. Bodenplattenverstärkungen, Einzel- / Streifenfundamente, erforderlich. | C 30/37, wenn nicht anders angegeben |
| Sonstiges | | | | |
| | Deckenöffnung / -aussparung | | | |
| | Versprung Rohdecke | | | |
| | Betonstahl | Einbauteile, Dübelleisten, Schraubanschlüsse, Rückbiegeanschlüsse, Sonderbewehrung, ... | | B500 B |
| | Baustahl | | | S235 / S355 |

| Typ | Beschreibung | Abmessung | Bemerkung | Baustoffe |
|--|--------------------|------------|---|--------------------------------------|
| Alle Baustoffangaben, sofern nicht anders angegeben, siehe statische Berechnung. | | | | |
| Stahlbetonbauteile | | | | |
| | Decken | h = 28 cm | | C 30/37, wenn nicht anders angegeben |
| | Wände | d = 25 cm | | C 25/30, wenn nicht anders angegeben |
| | Stützen | siehe Plan | | C 30/37, wenn nicht anders angegeben |
| | Unter- / Überzüge | siehe Plan | Höhenangabe bezieht sich auf Höhe des Unterzugs ab Unterkante Decke | C 30/37, wenn nicht anders angegeben |
| | wandartiger Träger | d = 25 cm | Wand im darüber liegenden Geschoss fungiert als WT | C 30/37, wenn nicht anders angegeben |
| | Zwischenpodeste | h ≥ 20 cm | | C 30/37, wenn nicht anders angegeben |

Decken und wandartige Träger sind bauzeitlich zu unterstützen.
Wandartige Träger müssen solange unterstützt bleiben, bis auch die obere Decke über der obersten Wand, die zu dem wandartigen Träger gehört, fertiggestellt und ausreichend tragfähig ist.

Positionsbezeichnung:

S-0.1

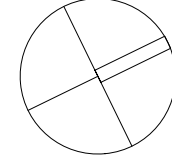
↳ Bauteil

Decken (D), Wände (W), Stützen (S), Unter- / Überzüge (UZ), Bodenplatte (BP), Treppen / -podeste (T)

↳ Geschoss

Erdgeschoss (0/EG), 1. Obergeschoss (1), 2. Obergeschoss (2), 3. Obergeschoss (3)

↳ fortlaufende Nummer



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99096 Erfurt

Technische Gebäudeausrüstung Elektro
GNUSE Ingenieurbüro für Krankenhaustechnik
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15370 Fredersdorf-Vogelsdorf

Planungsstand
Genehmigungsplanung
- Tragwerksplanung







OKFFB EG = +/- 0.00
(+33,87 m ü. NHN)
Datum
27.10.2025

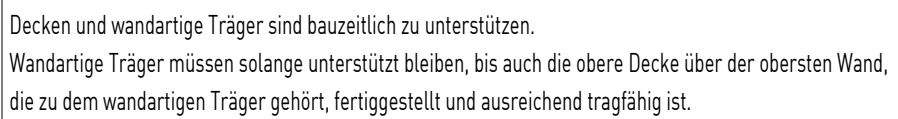
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Plantitel
Positionsplan
- Decke ü. Erdgeschoss

Format
841/594 (A1)
Maßstab
1:100

Plan Nr.
SGP_TWP_POS-EG_04_0_251027

| Type | Beschreibung | Abmessung | Bemerkung | Baustoffe |
|---|-------------------|------------------------|---|--------------------------------------|
| Alle Baustoffangaben, sofern nicht anders angegeben, siehe statische Berechnung. | | | | |
| Stahlbetonbauteile | | | | |
|  | Decken | $h = 28 \text{ cm}$ | | C 30/37, wenn nicht anders angegeben |
|  | Wände | $d = 25 \text{ cm}$ | | C 25/30, wenn nicht anders angegeben |
|  | Stützen | siehe Plan | | C 30/37, wenn nicht anders angegeben |
|  | Unter-/ Überzüge | siehe Plan | Höhenangabe bezieht sich auf Höhe des Unterzugs ab Unterkante Decke | C 30/37, wenn nicht anders angegeben |
|  | wandartige Träger | $d = 25 \text{ cm}$ | Wand im darüber liegenden Geschoss fungiert als WT | C 30/37, wenn nicht anders angegeben |
|  | Zwischenpodeste | $h \geq 20 \text{ cm}$ | | C 30/37, wenn nicht anders angegeben |



S-0.1

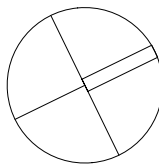
↳ Bauteil

Decken (D), Wände (W), Stützen (S), Unter- / Überzüge (UZ), Bodenplatte (BP)
Treppen / -podeste (T)

↳ **Geschoss**

Erdgeschoss (0/EG), 1. Obergeschoss (1),
2. Obergeschoss (2), 3. Obergeschoss (3)


↳ **fortlaufende Nummer**



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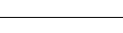
Neubau Schulcampus für Gesundheits- und Pflegeberufe
 Stadtrandstraße 555, 13589 Berlin

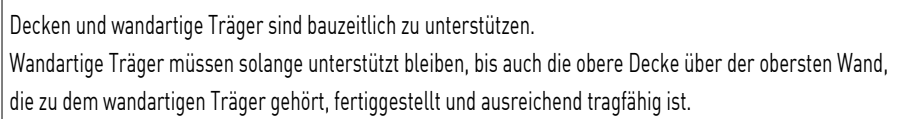
| | |
|---|---|
| <p>Architekt</p> <p>thoma architekten Freier Architekt Hermann Thoma Wilhelmine-Gemberg-Weg 6 10179 Berlin Tel: 030 - 233 266 000 Fax: 030 - 233 266 001</p> <p>Email: sek@thoma-architekten.de</p> | <p>Bauherr</p> <p>Evangelisches Waldkrankenhaus Spandau GmbH Stadtstrandstraße 555 13589 Berlin Tel: 030 / 3702-0</p> <p>Email: waldkrankenhaus@jsd.de</p> |
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| <p>-----  KREBS+KIEFER</p> | <p>Technische Gebäudeausrüstung Elektro GNUSE Ingenieurbüro für Krankenhaustechnik Fredersdorfer Str. 30 15370 Fredersdorf-Vogelsdorf</p> |

| | | | |
|--|--|-------|------------|
| Planungsstand | OKFFB 10G = +3,90 (+37,77 m ü. NHN) | Datum | 27.10.2025 |
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| Planitel | Format | Maßstab |
| Positionsplan - Decke ü. 1. Obergeschoss | 841/594 (A1) | 1:100 |
| | Plan Nr. | SGP_TWP_POS-010G_03_0_251027 |

| Type | Beschreibung | Abmessung | Bemerkung | Baustoffe |
|---|-------------------|------------------------|---|--------------------------------------|
| Alle Baustoffangaben, sofern nicht anders angegeben, siehe statische Berechnung. | | | | |
| Stahlbetonbauteile | | | | |
|  | Decken | $h = 25 \text{ cm}$ | | C 30/37, wenn nicht anders angegeben |
|  | Wände | $d = 25 \text{ cm}$ | | C 25/30, wenn nicht anders angegeben |
|  | Stützen | siehe Plan | | C 30/37, wenn nicht anders angegeben |
|  | Unter-/ Überzüge | siehe Plan | Höhenangabe bezieht sich auf Höhe des Unterzugs ab Unterkante Decke | C 30/37, wenn nicht anders angegeben |
|  | wandartige Träger | $d = 25 \text{ cm}$ | Wand im darüber liegenden Geschoss fungiert als WT | C 30/37, wenn nicht anders angegeben |
|  | Zwischenpodeste | $h \geq 20 \text{ cm}$ | | C 30/37, wenn nicht anders angegeben |



S-0.1

Decken (D), Wände (W), Stützen (S), Unter- / Überzüge (UZ), Bodenplatte (BP)
Treppen / -podeste (T)


Erdgeschoss (0/EG), 1. Obergeschoss (1),
2. Obergeschoss (2), 3. Obergeschoss (3)

↳ fortlaufende Nummer

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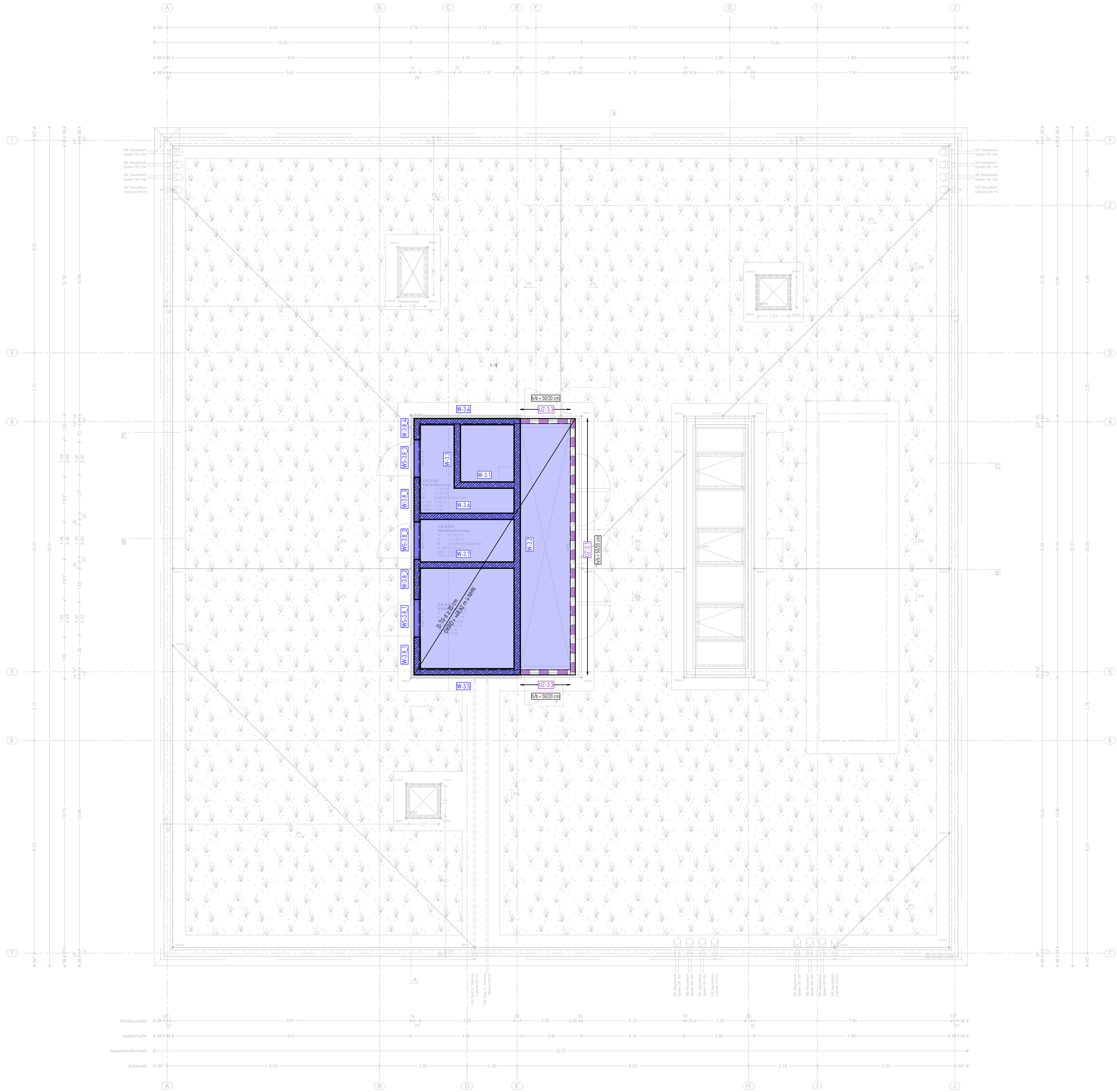
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 Stadtrandstraße 555, 13589 Berlin

| | |
|--|--|
| <p>Architekt</p> <p>thoma architekten</p> <p>Freier Architekt</p> <p>Hermann Thoma</p> <p>Wilhelmine-Gemberg-Weg 6</p> <p>10179 Berlin</p> <p>Tel: 030 - 233 266 000</p> <p>Fax: 030 - 233 266 001</p> <p>Email: sek@thoma-architekten.de</p> | <p>Bauherr</p> <p>Evangelisches Waldkrankenhaus Spandau GmbH</p> <p>Stadtrandstraße 555</p> <p>13589 Berlin</p> <p>Tel: 030 / 3702-0</p> <p>Email: waldkrankenhaus@jsd.de</p> |
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|--|---|
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| <p>Technische Gebäudeausrüstung HTS</p> <p>Pothoff GmbH Steigerstraße 19 99096 Erfurt</p> | <p>Technische Gebäudeausrüstung Elektro</p> <p>GNUSE Ingenieurbüro für Krankenhaustechnik Fredersdorfer Str. 30 15370 Fredersdorf-Vogelsdorf</p> |

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| Planungsstand | OKFFB 20G = +7,80 (+41,67 m ü. NHN) | Datum | 27.10.2025 |
| Genehmigungsplanung - Tragwerksplanung | gezeichnet | Index | 0 |
| | hys | | |

| | | |
|---|--------------|---------|
| Planmittel | Format | Maßstab |
| Positionsplan - Decke ü. 2. Obergeschoss | 841/594 (A1) | 1:100 |
| Plan Nr. SGP_TWP_POS-020G_02_0_251027 | | |



| Typ | Beschreibung | Abmessung | Bemerkung | Baustoffe |
|--------------------|-----------------------------|---|---|--------------------------------------|
| Stahlbetonbauteile | | | | |
| | Treppenhufe | h ≥ 20 cm | | C 30/37, wenn nicht anders angegeben |
| | Flchengrundung | h ≥ 40 cm | Regelbereiche | C 30/37, wenn nicht anders angegeben |
| | Bodenplattenverstrkung | h ≥ 70 cm | hier sind ggf. Bodenplattenverstrkungen, Einzel- / Streifenfundamente, erforderlich. | C 30/37, wenn nicht anders angegeben |
| Sonstiges | | | | |
| | Deckenffnung / -aussparung | | | |
| | Versprung Rohdecke | | | |
| | Betonstahl | Einbauteile, Dbelleisten, Schraubanschlsse, Rckbiegeanschlsse, Sonderbewehrung, ... | | B500 B |
| | Baustahl | | | S235 / S355 |

| Typ | Beschreibung | Abmessung | Bemerkung | Baustoffe |
|--|--------------------|------------|---|--------------------------------------|
| Stahlbetonbauteile | | | | |
| Alle Baustoffangaben, sofern nicht anders angegeben, siehe statische Berechnung. | | | | |
| | Decken | h = 25 cm | | C 30/37, wenn nicht anders angegeben |
| | Wnde | d = 25 cm | | C 25/30, wenn nicht anders angegeben |
| | Sttzen | siehe Plan | | C 30/37, wenn nicht anders angegeben |
| | Unter- / berzge | siehe Plan | Hhenangabe bezieht sich auf Hhe des Unterzugs ab Unterkante Decke | C 30/37, wenn nicht anders angegeben |
| | wandartiger Trger | d = 25 cm | Wand im darber liegenden Geschoss fungiert als WT | C 30/37, wenn nicht anders angegeben |
| | Zwischenpodeste | h ≥ 20 cm | | C 30/37, wenn nicht anders angegeben |

Decken und wandartige Trger sind bauzeitlich zu untersttzen.
Wandartige Trger mssen solange untersttzt bleiben, bis auch die obere Decke ber der obersten Wand, die zu dem wandartigen Trger gehrt, fertiggestellt und ausreichend tragfhig ist.

Positionsbezeichnung:

S-0.1

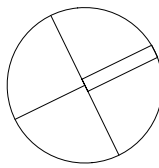
↳ Bauteil

Decken (D), Wnde (W), Sttzen (S), Unter- / berzge (UZ), Bodenplatte (BP), Treppen / -podeste (T)

↳ Geschoss

Erdgeschoss (0/EG), 1. Obergeschoss (1), 2. Obergeschoss (2), 3. Obergeschoss (3)

↳ fortlaufende Nummer



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SGP

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| Tragwerksplanung KREBS+KIEFER Ingenieure GmbH Dovestrae 2-4 10587 Berlin Tel.: 030 / 217342 0 Email: berlin@kuk.de | Brandschutzgutachter Ingenieurbro Duwe Falkenbrunnstrae 36 12524 Berlin |
| Technische Gebudeausrstung HLS Pothoff GmbH Friedersdorfer Str. 30 99096 Erfurt | Technische Gebudeausrstung Elektro GNUSE Ingenieurbro fr Krankenhaustechnik Friedersdorfer Str. 30 15370 Fredersdorf-Vogelsdorf |

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| Planungsstand Genehmigungsplanung - Tragwerksplanung | OKRFB DG = +11,50 (+45,37 m . NHN) gezeichnet hys | Datum 27.10.2025 Index 0 |
| Plankittel Positionsplan - Decke . Dachgeschoss (3. OG / Technikgeschoss) | Format 841/594 (A1) Plan Nr. SGP_TWP_POS-DG_01_0_251027 | Mastab 1:100 |

L

Lastannahmen

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| Anlage 2: Lastübersichten | |
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1 Vorbemerkungen

In den folgenden Abschnitten sind die Ausbau- und Nutzlasten, Windlasten, Schneelasten sowie Angaben zu sonstigen Lasten und Sonderlasten zusammengestellt.

Alle aufgeführten Lastangaben erfolgen als charakteristische Lasten (Gebrauchslasten ohne Sicherheiten)

Nachfolgende Einheiten werden in vorliegender Unterlage zur Kennzeichnung von Lasten verwendet:

| | |
|---------------------|-------------------------|
| 1 kN | = 100 kg |
| 1 kN/m | = 100 kg/m |
| 1 kN/m ² | = 100 kg/m ² |
| 1 kN/m ³ | = 100 kg/m ³ |

Hinweis:

Alle Lastangaben sind Grundlage und gültig für die Bemessung der Tragkonstruktion (Rohbau) und gelten im Weiteren unter Einhaltung vorliegender Lastangaben im Sinne von Maximalwerten auch für den architektonischen und technischen Ausbau.

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

2 Eigenlasten Tragkonstruktion

Die Eigenlasten ergeben sich aus Baustoff und Materialdicke.

Die Wichte der Baustoffe werden wie folgt angesetzt:

| | | | |
|---|------------|------|-------------------|
| + | Stahlbeton | 25,0 | kN/m ³ |
| + | Baustahl | 78,5 | kN/m ³ |

3 Hinweise zu nicht tragenden Trennwänden

- + **Leichte Trennwände**
Das Aufstellen von nicht tragenden, leichten Trennwänden mit einem Maximalgewicht von 500 kg/m Wandlänge ist ohne weiteren Nachweis möglich. Die Lasten leichter Trennwände sind gemäß DIN EN 1991-1-1/NA als gleichmäßiger Zuschlag zur Nutzlast (Trennwandzuschlag) berücksichtigt und normativ bei Nutzlasten von $\geq 5 \text{ kN/m}^2$ ohne weiteren Lastzuschlag enthalten.
- + **Schwere Trennwände**
Es sind keine schweren, nicht tragenden Trennwände geplant. Sofern Ausbauwände in massiver bzw. schwerer Ausführung errichtet werden sollen, ist eine Umplanung der Decken und ggf. angrenzender stützender Bauteile erforderlich.

4 Ausbau- und Nutzlasten

Die Festlegung der Nutzlasten erfolgt entsprechend der vorgesehenen Nutzung auf Grundlage der DIN EN 1991-1-1/NA:2010-12.

Die Ausbaulasten Δg_k und die Nutzlasten q_k sind geschossweise in den Lastübersichten (siehe Anlage 2) mit Angaben der Kategorie nach DIN EN 1991-1-1 dargestellt.

In nachfolgender Tabelle sind die Ausbaulasten Δg_k und die Nutzlasten q_k Typ (1) bis (6) tabellarisch zusammengestellt. Die Ausbaulasten Δg_k und die Nutzlasten q_k sind geschossweise in den Lastübersichten (siehe Anlagen) mit Angaben der Kategorie nach DIN EN 1991-1-1 dargestellt. Die angesetzten Ausbaulasten sind bei der Festlegung der Fußboden- und Dachaufbauten einzuhalten.

| Typ | Beschreibung | Kat. nach DIN EN 1991-1-1 | Ausbaulast Δg_k | Nutzlast (Verkehrslast) q_k |
|-----|---|---------------------------------|---|--|
| (1) | Dachfläche Nicht begehbare Flachdach mit extensiver Begrünung und PV Anlage (betretbar für übliche Erhaltungsmaßnahmen) | wie H | 2,0 kN/m² anteilig enthalten: $\Delta g_{k1} = 0,5 \text{ kN/m}^2$ Abdichtung / Dämmung $\Delta g_{k2} = 1,5 \text{ kN/m}^2$ TGA Installationen / Abhangdecke inkl. PV- Anlage | 4,0 kN/m² anteilig enthalten: $q_{k1} = 2,0 \text{ kN/m}^2$ Schnee / Wartung $q_{k2} = 2,0 \text{ kN/m}^2$ extensive Dachbegrünung ^{*1)} |
| (2) | Büroräume, Nebenräume Umkleide- und Sanitärbereiche, Büroflächen, Aufenthaltsräume | Wie B1 | 2,5 kN/m² anteilig enthalten: $\Delta g_{k1} = 2,0 \text{ kN/m}^2$ Fußbodenaufbau $\Delta g_{k2} = 0,5 \text{ kN/m}^2$ TGA Installationen / Abhangdecke | 5,0 kN/m² einschl. Trennwandzuschlag für nicht tragende leichte Ausbauwände (Wandgewicht $\leq 5,0 \text{ kN/m}$ entspricht 120 kg/m^2 Wandfläche) |
| (3) | Schulungsräume, Gruppenräume, Pflegeräume, Videoräume Frei begehbare Flächen, Ausstellungsräume, Flure | Wie C1 | 2,5 kN/m² anteilig enthalten: $\Delta g_{k1} = 2,0 \text{ kN/m}^2$ Fußbodenaufbau $\Delta g_{k2} = 0,5 \text{ kN/m}^2$ TGA Installationen / Abhangdecke | 5,0 kN/m² einschl. Trennwandzuschlag für nicht tragende leichte Ausbauwände: 120 kg/m^2 |

| | | | | |
|------------|--|------|---|---|
| (4) | Lager, Technikräume, Bibliothek, Archiv Lagerflächen, einschl. Bibliotheken | E1.2 | 3,0 kN/m² anteilig enthalten: $\Delta g_{k1} = 2,5 \text{ kN/m}^2$ Fußbodenaufbau $\Delta g_{k2} = 0,5 \text{ kN/m}^2$ TGA Installationen / Abhangdecke | 6,0 kN/m² einschl. Trennwandzuschlag für nicht tragende leichte Ausbauwände: 120 kg/m ² |
| (5) | Forum mit angrenzenden Fluren Flächen für große Menschenansammlungen | C5 | 3,0 kN/m² anteilig enthalten: $\Delta g_{k1} = 2,5 \text{ kN/m}^2$ Fußbodenaufbau $\Delta g_{k2} = 0,5 \text{ kN/m}^2$ TGA Installationen / Abhangdecke | 5,0 kN/m² einschl. Trennwandzuschlag für nicht tragende leichte Ausbauwände: 120 kg/m ² |
| (6) | Treppen und Treppenpodeste Treppenhäuser | T2 | 2,5 kN/m² Fußbodenaufbau | 5,0 kN/m² |

Die Lastbereiche der Kategorien B1 und C1 wurden erhöht, um im Sinne der Nachhaltigkeit eine spätere Umnutzung der Räume zu ermöglichen.

Hinweis:

*1) zu extensiver Dachbegrünung Dachfläche [1a] und Aufbau Dachterrasse [1b]: Die anzusetzenden Ausbau- und Nutzlasten für extensive Dachbegrünung sind system- und produktabhängig und werden anhand von Erfahrungswerten gewählt. Sofern hier höhere Lasten zu berücksichtigen sind, sind diese durch die Objektplanung im Rahmen der Genehmigungsplanung verbindlich anzugeben.

5 Windlasten

Der Windansatz auf die Gebäudetragkonstruktion erfolgt gemäß DIN EN 1991-1-4/NA:2010-12.

Der Genehmigungsstatik wird die Windlast für nicht schwingungsanfällige Konstruktionen unter Annahme eines allseitig geschlossenen Baukörpers zu Grunde gelegt.

Die Windlasten werden für die Tragkonstruktion (Rohbau) unter Vernachlässigung von Windabschattungen und von Druck- und Sogspitzen in Randbereichen angesetzt. Es wird für alle Anströmrichtungen ein konstanter Verlauf des Geschwindigkeitsdrucks angesetzt.

Standort Berlin/Brandenburg < 800m NHN

Windzone 2 / Binnenland

Geländekategorie II / III (Mischprofil der Geländekategorien II und III)

Bauwerkshöhe $10\text{ m} < z \leq 18\text{ m}$

Basisgeschwindigkeitsdruck: $q_b = 0,39 \frac{\text{kN}}{\text{m}^2}$

Böengeschwindigkeitsdruck: $q_p(z) = 1,7 \cdot q_b \cdot \left(\frac{z}{10}\right)^{0,37} \rightarrow q_p \text{ für } 7\text{ m} < z < 50\text{ m}$

$$q_p(z) = 0,71 \frac{\text{kN}}{\text{m}^2}$$

$$h/d = 12\text{ m} / 34,5\text{ m} = 0,35$$

Außendruckbeiwerte $q_{pe,10} = +0,71$ (Druckfläche D)

$q_{pe,10} = -0,33$ (Sogfläche E)

Winddruck / Windsog $w_D = 0,71 \cdot x \cdot q_p = 0,51 \frac{\text{kN}}{\text{m}^2}$

$$w_S = -0,33 \cdot x \cdot q_p = -0,23 \frac{\text{kN}}{\text{m}^2}$$

Windlast (global) $w = |w_D| + |w_S| = 0,74 \frac{\text{kN}}{\text{m}^2} \leq 1,1 \frac{\text{kN}}{\text{m}^2}$

Da die globale Windlast positiv ist, wird sie für den Nachweis der Dachdecken nicht mit angesetzt.

6 Schneelasten

Die Schneelasten werden gemäß DIN EN 1991-1-3/NA:2019-04 wie folgend berücksichtigt:

| | | |
|-----------------|-----------------------------|------------------------------------|
| Standort | Berlin, Spandau | |
| Schneelastzone | 2 (Norddeutsches Tiefland) | |
| Regelschneelast | $s_k = 0,85 \frac{kN}{m^2}$ | |
| Formbeiwerte | $\mu_1 = 0,8$ | (Flachdach) |
| | $C_{esl} = 2,3$ | (Erhöhungsfaktor für Schneelasten) |

+ normative Schneelast im Regelfall

$$s_{Dach} = \mu_1 \cdot s_k$$

$$s_{Dach} = 0,8 \cdot 0,85 = \mathbf{0,68} \frac{kN}{m^2}$$

+ normative Schneelast im außergewöhnlichen Bemessungslastfall

$$s_{Ad} = C_{esl} \cdot s_k$$

$$s_{Ad} = 2,3 \cdot 0,85 = \mathbf{1,96} \frac{kN}{m^2}$$

$$s_{Dach,B1} = \mu \cdot C_e \cdot C_t \cdot s_{Ad}$$

$$s_{Dach,B1} = 0,8 \cdot 1,0 \cdot 1,0 \cdot 1,96 \frac{kN}{m^2} = \mathbf{1,56} \frac{kN}{m^2}$$

Gemäß DIN EN 1991-1-2; Abs. 6.2 können Schneeverwehungen an jedem Dach mit Aufbauten auftreten. Gemäß Objektplanung ist umlaufend an den Gebäudeaußenkanten eine Attika mit einer Höhe von $h \leq 1,00m$ geplant. Weiterhin ist eine Aufzugsüberfahrt und Technikräume mit einer Höhe von ca. 3,40m vorgesehen, Eine Lüftungsanlage wird aufgestellt und es wird eine PV-Anlage auf dem Dach geben.

Angesetzt wird eine Nutzlast von **$q_k = 2,0 kN/m^2$** . Darin sind die Schneelasten, die Begehung und der Aufenthalt auf dem Dach zu Wartungszwecken enthalten, da die beiden Lastfälle Schneelast und Nutzlast nicht zu überlagern sind.

7 Holmlast Treppengeländer

Unter Zugrundelegung vorgenannter Nutzlasten sind folgende horizontale Nutzlasten im Tragwerk berücksichtigt und verbindliche Vorgabe für die Werkplanung von Geländern.

- + Linienlast in Absturzrichtung $q_k = 1,0 \text{ kN/m}$
- + Linienlast entgegen der Absturzrichtung $q_k = 0,5 \text{ kN/m}$

Für die Bemessung der Treppenläufe und –podeste wird das Eigengewicht der Geländer wie folgend berücksichtigt. Sofern hier höhere Lasten zu berücksichtigen sind, sind diese durch die Objektplanung im Rahmen der Entwurfsplanung verbindlich anzugeben.

- + Eigengewicht Geländer $q_k = 1,0 \text{ kN/m}$

8 Fassaden

Die Ausführungen der Fassaden- und Fensterkonstruktionen werden durch die Objektplanung festgelegt. Für die Berücksichtigung der Fassadenlast wird von einer 10 cm starken Betonvorsatzschale ausgegangen. Diese wird als Linienlast auf außenliegende Unterzüge und Wände angesetzt.

Daraus ergeben sich folgende Lastansätze für die Decken:

Decke ü. 2. Obergeschoss:

Fassadenlast auf durchgehender Außenwand mit Attika:

$$g_k = 0,1 \text{ m} \cdot 4,8 \text{ m} \cdot 25 \frac{\text{kN}}{\text{m}^3} = 12 \frac{\text{kN}}{\text{m}}$$

Fassadenlast auf Unterzug mit Attika:

$$g_k = 0,1 \text{ m} \cdot 1,7 \text{ m} \cdot 25 \frac{\text{kN}}{\text{m}^3} = 4,25 \frac{\text{kN}}{\text{m}}$$

Fassadenlast auf nichttragender Wand:

$$g_k = 0,1 \text{ m} \cdot 3,1 \text{ m} \cdot 25 \frac{\text{kN}}{\text{m}^3} = 7,75 \frac{\text{kN}}{\text{m}}$$

Fensterfläche auf Unterzug (3-fach Verglasung mit 1 cm starken Fensterscheiben):

$$g_k = 0,01 \text{ m} \cdot 3 \cdot 2 \text{ m} \cdot 25 \frac{\text{kN}}{\text{m}^3} = 1,5 \frac{\text{kN}}{\text{m}}$$

Decke ü. 1. Obergeschoss & EG:

Fassadenlast auf durchgehender Außenwand mit Attika:

$$g_k = 0,1 \text{ m} \cdot 3,7 \text{ m} \cdot 25 \frac{\text{kN}}{\text{m}^3} = 9,25 \frac{\text{kN}}{\text{m}}$$

Fassadenlast auf Unterzug mit Attika:

$$g_k = 0,1 \text{ m} \cdot 0,83 \text{ m} \cdot 25 \frac{\text{kN}}{\text{m}^3} = 2,075 \frac{\text{kN}}{\text{m}}$$

Fassadenlast auf nichttragender Wand:

$$g_k = 0,1 \text{ m} \cdot 3,1 \text{ m} \cdot 25 \frac{\text{kN}}{\text{m}^3} = 7,75 \frac{\text{kN}}{\text{m}}$$

Fensterfläche auf Unterzug (3-fach Verglasung mit 1 cm starken Fensterscheiben):

$$g_k = 0,01 \text{ m} \cdot 3 \cdot 3,1 \text{ m} \cdot 25 \frac{\text{kN}}{\text{m}^3} = 2,33 \frac{\text{kN}}{\text{m}}$$

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Genehmigungsplanung Tragwerksplanung

9 Aufzuglasten

Gemäß Aufzugsplanung [6] ist ein Personenaufzug (EG bis 2.OG) vorgesehen.

Last am Schachtkopf auf die Decke über Aufzugsschacht (Technikgeschoss):

Einzellast 35 kN

10 Außergewöhnliche Einwirkungen

Anpralllasten

werden für das Tragwerk nicht berücksichtigt.

Ggf. möglicher Fahrzeuganprall o.ä. sofern erforderlich, ist durch geeignete Maßnahmen der Objektplanung und durch Bauherrn/Nutzer im Betrieb auszuschließen.

Sonstige Lasten

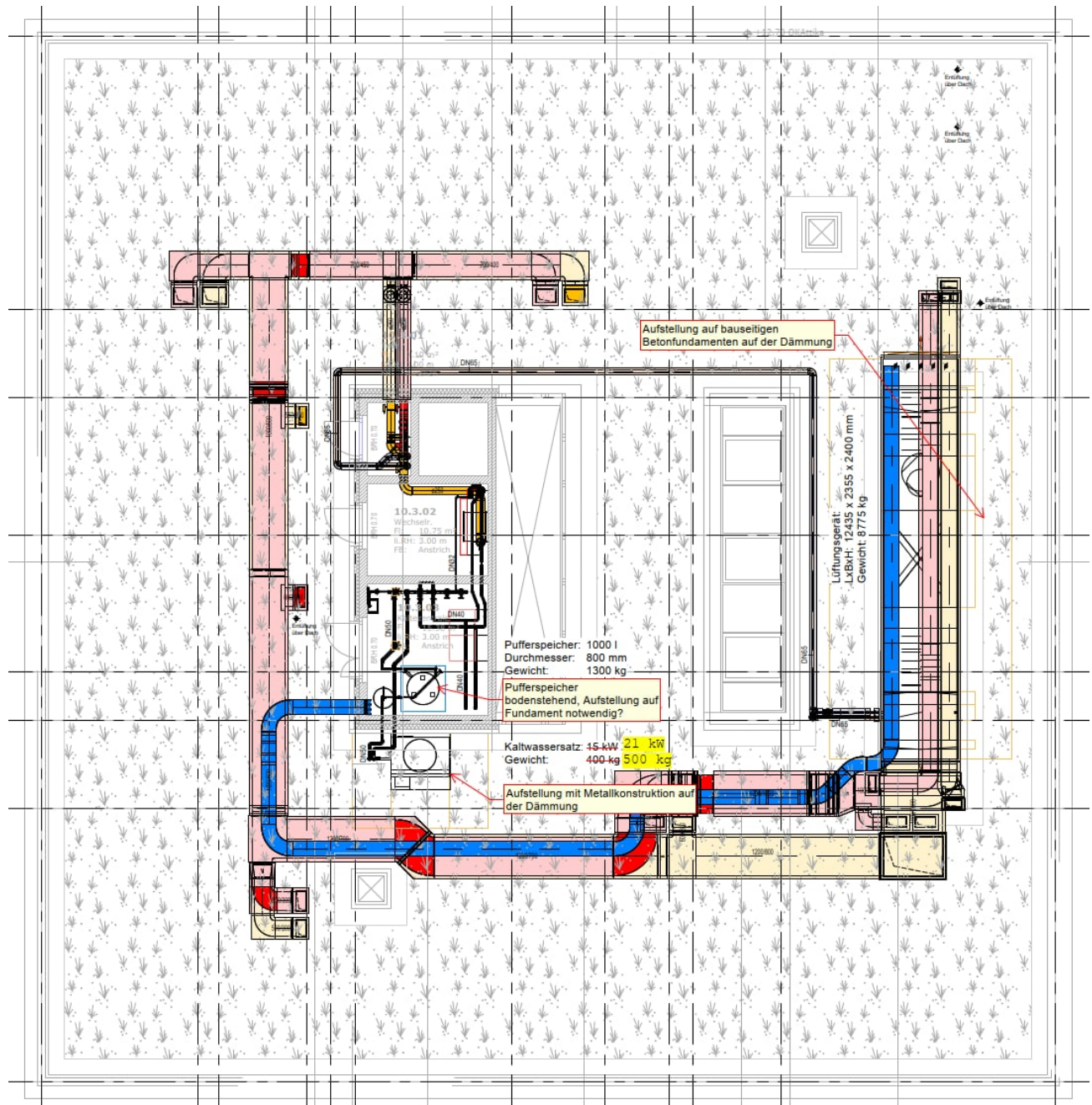
Explosions- und Trümmerlasten, Erdbebenlasten o. ä. sind normativ nicht gefordert und werden bei der Bemessung des Tragwerks nicht angesetzt.

11 Lasten aus Aufstellung TGA

Lasten aus technischen Anlagen:

Für die Nutzlast werden Lasten aus technischen Anlagen [7] berücksichtigt. Im Folgenden werden die anzusetzenden Lasten zusammengestellt.

Dachgeschoss:



Technische Anlagen Dachgeschoss [7]

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Genehmigungsplanung Tragwerksplanung

Lüftungsgerät:

$$q_k = \frac{88 \text{ kN}}{12,4 \text{ m} \cdot 2,3 \text{ m}} = 3,1 \frac{\text{kN}}{\text{m}^2}$$

Angesetzt auf Fläche Lüftungsgerät:

$$q_k = 6 \frac{\text{kN}}{\text{m}^2} \quad (\text{Nutzlast für Technikbereiche nach Norm})$$

Pufferspeicher:

$$Q_k = 13 \text{ kN} \text{ (berücksichtigt als Einzellast)}$$

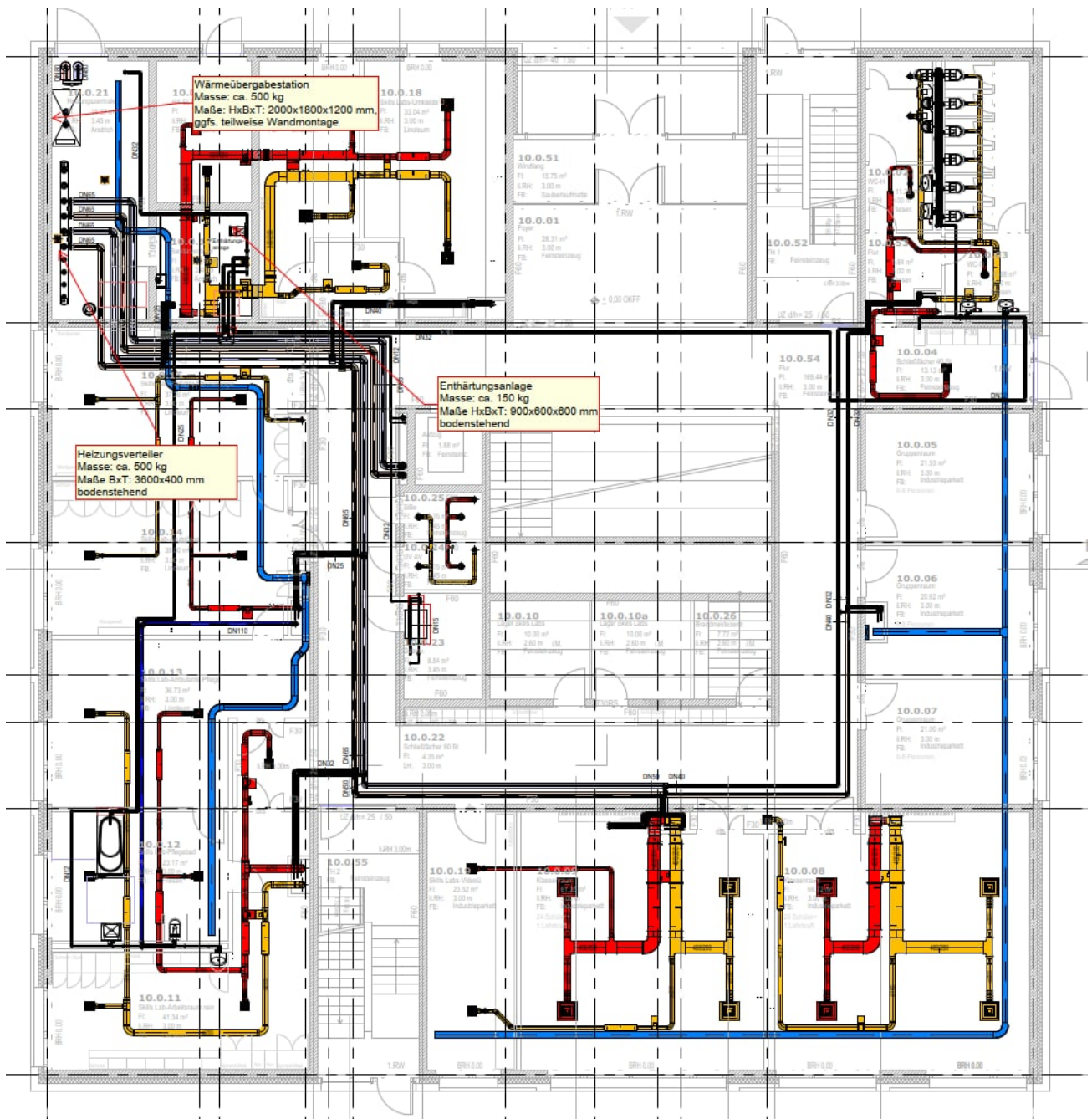
Kaltwasserersatz:

$$Q_k = 5 \text{ kN} \text{ (berücksichtigt als Einzellast)}$$

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Genehmigungsplanung Tragwerksplanung

Erdgeschoss:



Technische Anlagen Erdgeschoss [7]

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Genehmigungsplanung Tragwerksplanung

Wärmeübergabestation:

$Q_k = 5 \text{ kN}$ (berücksichtigt als Einzellast)

Heizungsverteiler:

$Q_k = 5 \text{ kN}$ (berücksichtigt als Einzellast)

Enthärtungsanlage:

$Q_k = 1,5 \text{ kN}$ (berücksichtigt als Einzellast)

Anlage 2

Lastübersichten

- + Übersicht Nutzlast Dachaufsicht
- + Übersicht Nutzlast Technikgeschoss
- + Übersicht Nutzlast 2. Obergeschoss
- + Übersicht Nutzlast 1. Obergeschoss
- + Übersicht Nutzlast Erdgeschoss



| | |
|------------------------------------|-----------|
| Bürräume, Nebenräume | 5,0 kN/m² |
| Schulungsräume, Pflegerräume | 5,0 kN/m² |
| E1.2: Lager, Archiv, Bib., Technik | 6,0 kN/m² |
| Forum mit Freiflächen | 5,0 kN/m² |
| Treppen und Treppenpodeste | 5,0 kN/m² |

Legende

| | | |
|---|--|----------------------------------|
| Brandschutz | Trockenbau | Durchbrüche |
| F30 Feuerhemmende Bauteile (h) | GRB) GK Bauplatte (Imp.) | WD Wanddurchbruch eckig / rund |
| F90 Feuerbeständige Bauteile (h) | GRF) GK Feuerschutzplatte | SD Bodendurchbruch eckig / rund |
| dtz rauchdicht und selbstschließendes Tor | IV Installationswand | SD Deckendurchbruch eckig / rund |
| RS Rauchschutz | RS Rauchschutz | WS Wandische, Wandschütz |
| T30-RS Feuerhemmende Rauchschutztür | MWA Montagewand-Auslast | BS Bodenschütz |
| RA Rauchableitung | VS Vorratschale | DS Deckenschütz |
| RWA Rauch- und Wärmeabzug | SW F90 Schachtwand F90 | RD Trockenbau-Revisionsöffnung |
| NRA Nautischer Rauchabzug | CW50 CW-Profil, Breite 50mm | |
| --- Raumbeschluss ft | CW75 CW-Profil, Breite 75mm | |
| --- Raumbeschluss ft | CS100 CSW-Profil, Breite 100mm | |
| 1.2 Rettungsweg | Alle Trockenbauwände sind mindestens 2-lagig zu beplanken. | |

| | |
|--|-------------------------|
| WU-Beton | Verputzte Rohdecke |
| Stabbeln / Oberton | Vorderkante Bodenplatte |
| Unterwetter Beton | |
| Fertigteil | |
| Trockenbau - Mineralwolle | |
| Wärmedämmung - Mineralwolle | |
| Wärmedämmung - Kunststoff | |
| Wandaufbau VHF mit Dämmung u. Betondeckungselementen | |
| Wandaufbau VDFV | |
| Externe Dachbegrenzung | |
| Kieserschüttung | |

| | |
|-----|-------------------------|
| RVV | Verputzte Rohdecke |
| VB | Vorderkante Bodenplatte |

| | |
|------|----------------------------------|
| OKFF | Oberkante Fertigglüboden |
| OKRD | Oberkante Rohglüboden |
| UKFD | Unterkante Fertigglücke |
| UKRD | Unterkante Rohdecke |
| BRH | Bräunungsbreite bezogen auf OKFF |

| | | | |
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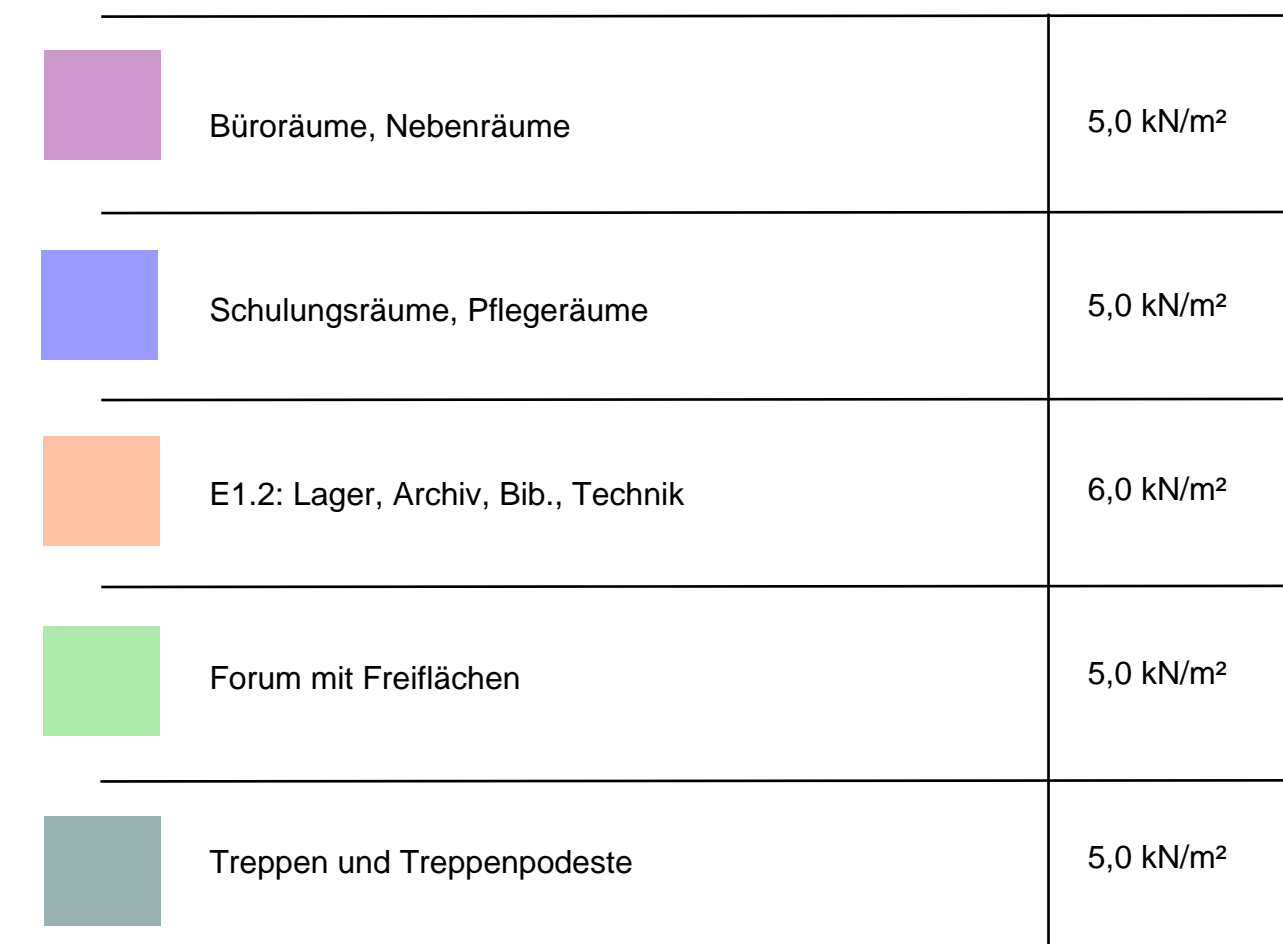
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
















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Legende

| | |
|--|--|
| Bandschicht | Trickerbau |
| F90 Feuerwidernde Baustufe (h) | GRB0 G-Gr-Bauplate (impr.) |
| F90 Feuerbeständige Baustufe (h) | GRK0 G-Gr-Fuerschutzschicht |
| dtz rauchdicht und selbstschließende Tür | IW Intallationswand |
| RS Rauchschiicht | MW Mottgewand |
| T25-R25 Feuerwidernde Rauchschiicht | MWA Mauerwerk-Ausschnitt |
| RA Rauchschiebung | VS Verschalung |
| RWA Rauch- und Wärmeabzug | SW F90 Schwauchwand F90 |
| NRA Natürlicher Rauchabzug | CW50 CW-Profil, Breite 50mm |
| - - - - - Raumschlusss Ie | CW75 CW-Profil, Breite 75mm |
| - - - - - Raumschlusss II | CD100 CD-Profil, Breite 100mm |
| RW 1/2 Rettungsweg | Ale Trickerbaubausand sind mindestens 2-lagig zu beplanen, |

| | | | |
|---|--------------------------------|---|--|
|  | WU-Beton |  | Durchbriche |
|  | Stahlfaser / Orthon |  | WD Wandaubruchschicht / rand |
|  | Unbewehrter Beton |  | RD Deckendruchschicht / rand |
|  | Fertigblei |  | WS Wandische, Wandschicht |
|  | Trickerbau |  | BS Bodeschicht |
|  | Wärmedämmung - Mineralische |  | DS Deckenschicht |
|  | Wärmedämmung - Kunststoff |  | RD Reaktions-Revisionsöffnung |
|  | Wandaubruch VHR mit Dämmung u. | | |
|  | Betortfertigteilelementen | | |
|  | Wandaubruch WDVS | H,L,S,E | Gewen Heizung, Lüftung, Sanitär, Elektro |
|  | Extensive Dachbegrünung | OK | Oberkante |
|  | Kieserschicht | UN | Unterseite |
| | | RA | Lage der Acthe |

| | |
|------|------------------------------|
| | Bespiel Beschäftigung |
| RDV | WD 3010 L |
| VS | OK-UHRD-50 |
| OKFF | |
| OKRD | |
| UNFD | |
| UNRD | |
| BRH | |

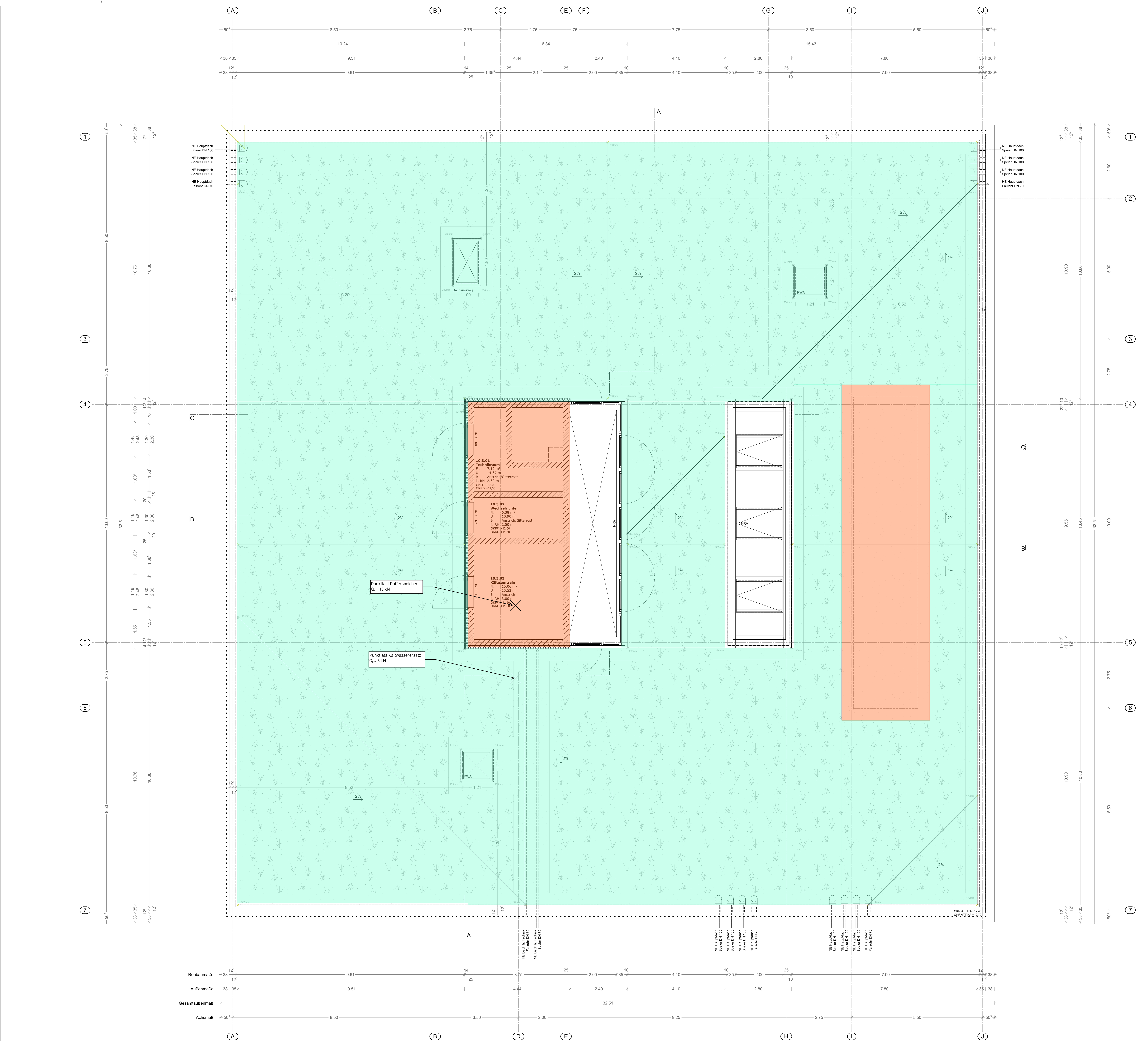
Brautungsheftung auf OKFF

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| Gundriss 2. Obergeschoss | |
|-----------------------------|--|
| Bauherrin: | ZOGSP Neubau Schulcampus für Gesundheits- und Pflegeberufe |
| Bezug: | 13589 Berlin Stadtbrandstraße 555 |
| Datum: | 26.09.2025 /gez. smw/mma |
| Dokumente/Zeichnung: | SGP_ARC_GR-02DG_0029_20250926 |
| Leistungsbefehl: | Ausführungsplanung |
| Format: | H 880 /B 1230 |

Energetisches Wärmekonzept Skizze

Stadtbrandstraße 555
13589 Berlin
030 20202-400
Fax
neubauschulcampus@zpg.de

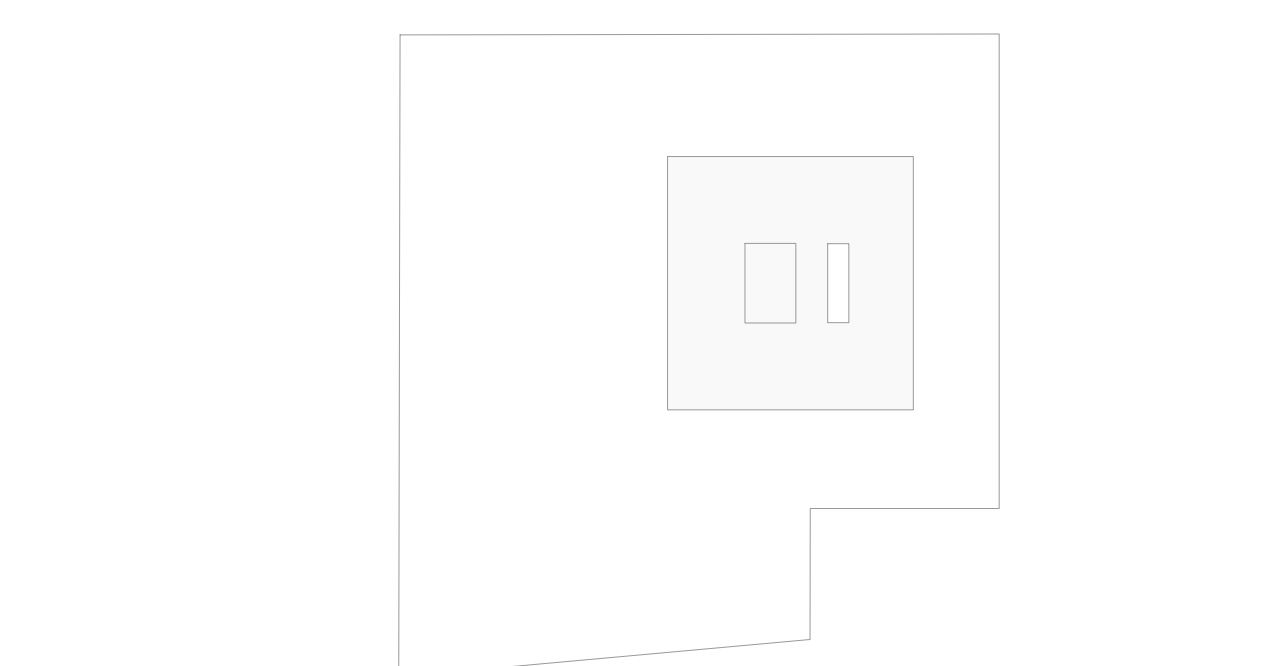


| | |
|------------------------------------|-----------|
| Dachfläche | 4,0 kN/m² |
| E1.2: Lager, Archiv, Bib., Technik | 6,0 kN/m² |

| Legende | |
|--|--|
| Brandschutz | Trockenbau |
| F30 feuerhemmende Bauteile (fh) | OKB) OK-Bauplatte (mpr.) |
| F90 feuerbeständige Bauteile (fb) | OKF) OK-Feuerschutzplatte |
| ds rauchdicht und selbstschließende Tür | IW Installationswand |
| RS Rauchschutztür | MW Montagewand |
| T30-RS feuerhemmende Rauchschutztür | MWA Montagewand-Ausklei |
| RA Rauchableitung | VS Verschalung |
| RWA Rauch- und Wärmeabzug | SW F90 Schachtwand F90 |
| NRA Naurichter Rauchabzug | CW50 CW-Profil, Breite 50mm |
| RA Raumschluss fh | CW75 CW-Profil, Breite 75mm |
| RA Raumschluss fh | CS100 CSW-Profil, Breite 100mm |
| RW 1.2. Rettungsweg | Alle Trockenbauwände sind mindestens 2-lagig zu beplanken. |
| WU-Beton | WU-Beton |
| Stahlbeton / Ortbeton | Stahlbeton / Ortbeton |
| Unbewehrter Beton | Unbewehrter Beton |
| Fertigteil | Fertigteil |
| Trockenbau | Trockenbau |
| Wärmedämmung - Mineralwolle | Wärmedämmung - Mineralwolle |
| Wärmedämmung - Kunststoff | Wärmedämmung - Kunststoff |
| Wandaufbau VHF mit Dämmung u. | Wandaufbau VHF mit Dämmung u. |
| Betonfertigelementen | Betonfertigelementen |
| Wandaufbau WDVS | Wandaufbau WDVS |
| Extensive Dachbegrünung | Extensive Dachbegrünung |
| Kesselschüttung | Kesselschüttung |
| RDV Versprung Rohdecke | RDV Versprung Rohdecke |
| VB Vorderkante Bodenplatte | VB Vorderkante Bodenplatte |
| OKFF Oberkante Fertigfußboden | OKFF Oberkante Fertigfußboden |
| OKRD Oberkante Rohfußboden | OKRD Oberkante Rohfußboden |
| UKRD Unterkante Fertigdecke | UKRD Unterkante Fertigdecke |
| UKRD Unterkante Rohdecke | UKRD Unterkante Rohdecke |
| BRH Brüstungshöhe bezogen auf OKFF | BRH Brüstungshöhe bezogen auf OKFF |
| WD Wanddurchbruch eckig / rund | WD Wanddurchbruch eckig / rund |
| RD Deckendurchbruch eckig / rund | RD Deckendurchbruch eckig / rund |
| WS Wandschneide, Wandschütz | WS Wandschneide, Wandschütz |
| BS Bodenschütz | BS Bodenschütz |
| DS Deckenschütz | DS Deckenschütz |
| RD Trockenbau-Revisionsöffnung | RD Trockenbau-Revisionsöffnung |
| H.L.S.E. Gewerk Heizung, Lüftung, Sanitär, Elektro | H.L.S.E. Gewerk Heizung, Lüftung, Sanitär, Elektro |
| OK Oberkante | OK Oberkante |
| UK Unterkante | UK Unterkante |
| RA Lage der Achse | RA Lage der Achse |
| Besondere Beschriftungen | |
| WD 30x10 L | WD 30x10 L |
| OK-UKRD-50 | OK-UKRD-50 |

17mm @ Angabe bezogen auf Gefälledehnung

| Index | Datum | Änderung |
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Bitte sind grundsätzlich nur zusammen mit dem Stadtbezirk gültig, das Arbeiten im Topographischen werden nach diesen Angaben. Geometrie und alle Fundamente bis zum höchsten Grund zu betonen. Die Bereiche der Tür- und Fensterschwellen (BRH) werden aus einem auf der Fertigfußboden der Höhe der Fensterschwelle bzw. mit dieser abgeglichen. Zeichnungen unterliegen nicht dem Kopierschutzrecht bei Erhalt dieser Zeichnung und Zeichnungen dieser Zeichnung. Alle Maße sind in mm anzugeben.

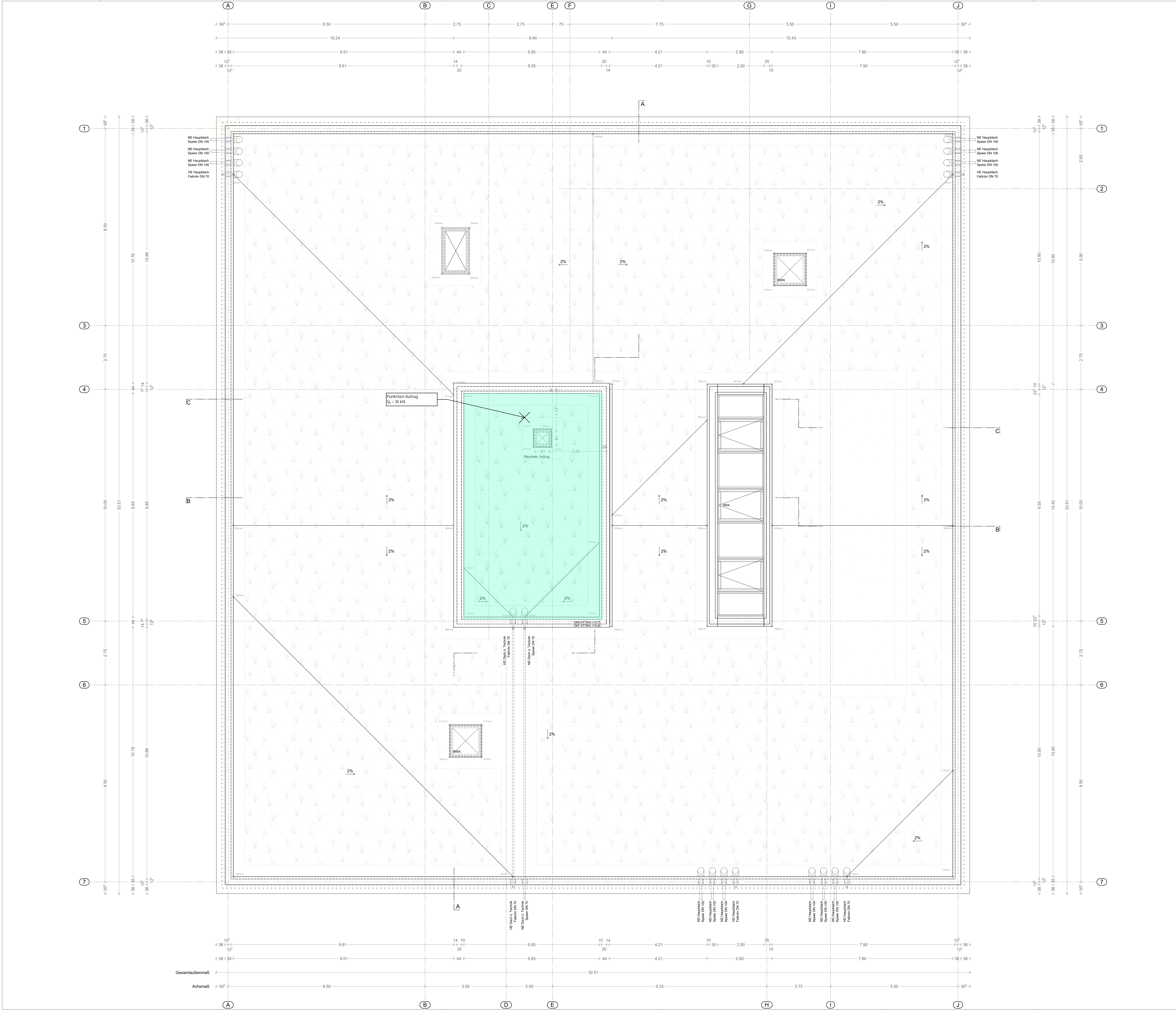
Projektname: Plan nicht zur Bauausführung freigegeben! 40.00 = 33.87 u. N.H.

| | |
|--------------|------|
| Grundriss | 1:50 |
| Dachgeschoss | 1:50 |

| | | | |
|--|-------|--------|----|
| Revisionsnummer | 2050P | Revisi | 30 |
| Neubau Schulcampus für Gesundheits- und Pflegeberufe | | | |
| Revisi | | | |
| 13589 Berlin | | | |
| Stadtbrandstraße 555 | | | |
| Datum: | | | |
| 26.09.2025 /gez. smm/mma | | | |
| Dachgeschoss: | | | |
| SGP_ARC_GR-DG_0030_250926 | | | |
| Unterzeichnung: | | | |
| Ausführungsplanung | | | |
| Format: | | | |
| H 880 / B 1230 | | | |

| | |
|--------------------------------------|--|
| Evangelisches Waldkinderhaus Spandau | |
| Stadtbrandstraße 555 | |
| 13589 Berlin | |
| 030 2700-7 u. | |
| mailto:verwaltung@evk.de | |

| | |
|--|--|
| Übersicht Nutzlasten | |
| Neubau Schulcampus für Gesundheits- und Pflegeberufe | |
| Dachaufsicht und Technikgeschoss | |
| 1:50 | |
| 27.10.2025 | |

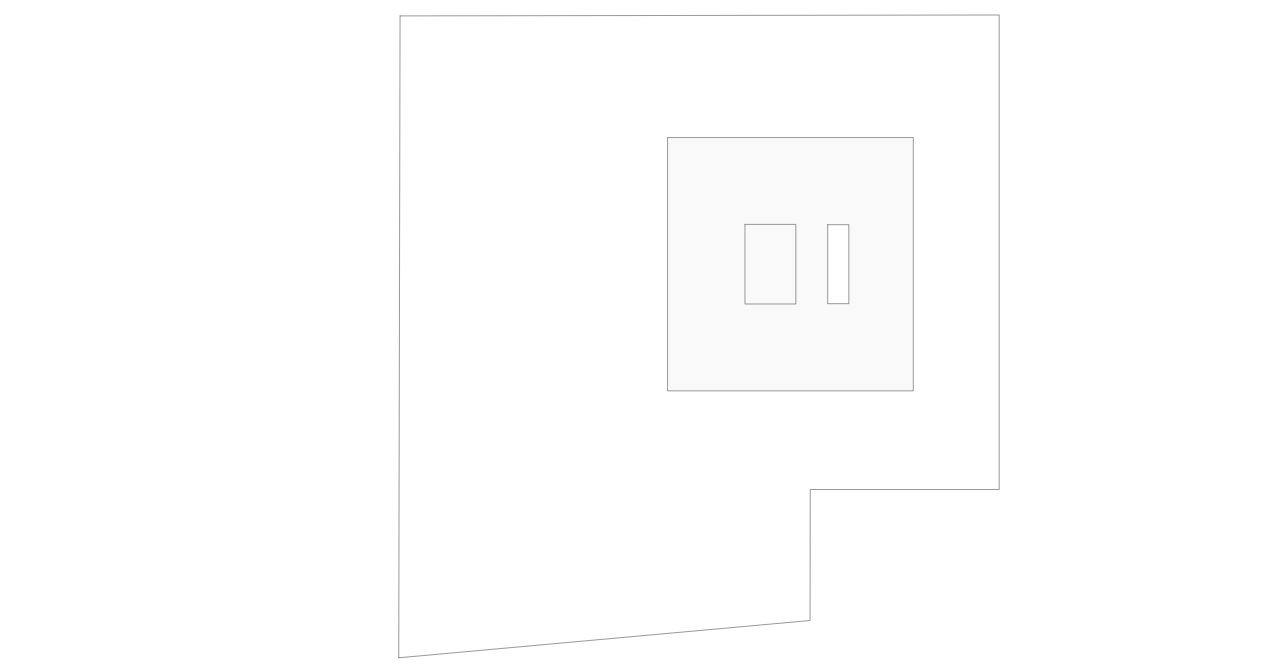


| | |
|------------------------------------|-----------|
| Dachfläche | 4,0 kN/m² |
| E1.2: Lager, Archiv, Bib., Technik | 6,0 kN/m² |

| Legende | |
|--|--|
| Brandschutz | Trockenbau |
| F30 feuerhemmende Bauteile (fh) | OKB) OK-Bauplatte (mpr.) |
| F90 feuerbeständige Bauteile (fb) | OKFD) OK-Feuerschutzplatte |
| ds rauchdicht und selbstschließende Tür | IW Installationswand |
| RS Rauchschutztür | MW Montagewand |
| T30-RS feuerhemmende Rauchschutztür | MWA Montagewand-Ausklei |
| RA Rauchableitung | VS Vorratschale |
| RWA Rauch- und Wärmeabzug | SW F90 Schachtwand F90 |
| NRA Nautischer Rauchabzug | CW50 CW-Profil, Breite 50mm |
| RA-Raumschluss fh | CW75 CW-Profil, Breite 75mm |
| RA-Raumschluss fh | CS100 CSW-Profil, Breite 100mm |
| RW 1.2. Rettungsweg | Alle Trockenbauwände sind mindestens 2-lagig zu beplanken. |
| WU-Beton | WU-Beton |
| Stahlbeton / Ortbeton | Stahlbeton / Ortbeton |
| Unbewehrter Beton | Unbewehrter Beton |
| Fertigteil | Fertigteil |
| Trockenbau | Trockenbau |
| Wärmedämmung - Mineralwolle | Wärmedämmung - Mineralwolle |
| Wärmedämmung - Kunststoff | Wärmedämmung - Kunststoff |
| Wandaufbau VHF mit Dämmung u. | Wandaufbau VHF mit Dämmung u. |
| Betonfertigelementen | Betonfertigelementen |
| Wandaufbau WDV8 | Wandaufbau WDV8 |
| Extensive Dachbegrünung | Extensive Dachbegrünung |
| Kieserschüttung | Kieserschüttung |
| RDV Versprung Rohdecke | RDV Versprung Rohdecke |
| VB Vorderkante Bodenplatte | VB Vorderkante Bodenplatte |
| OKFF Oberkante Fertigglübboden | OKFF Oberkante Fertigglübboden |
| OKRD Oberkante Rohglübboden | OKRD Oberkante Rohglübboden |
| UKFD Unterkante Fertigdecke | UKFD Unterkante Fertigdecke |
| UKRD Unterkante Rohdecke | UKRD Unterkante Rohdecke |
| BRH Brüstungshöhe bezogen auf OKFF | BRH Brüstungshöhe bezogen auf OKFF |
| WD Wanddurchbruch eckig / rund | WD Wanddurchbruch eckig / rund |
| RD Deckendurchbruch eckig / rund | RD Deckendurchbruch eckig / rund |
| WS Wandschne, Wandschütz | WS Wandschne, Wandschütz |
| BS Bodenschütz | BS Bodenschütz |
| DS Deckenschütz | DS Deckenschütz |
| RO Trockenbau-Revisionsöffnung | RO Trockenbau-Revisionsöffnung |
| H.L.S.E. Gewerk Heizung, Lüftung, Sanitär, Elektro | H.L.S.E. Gewerk Heizung, Lüftung, Sanitär, Elektro |
| OK Oberkante | OK Oberkante |
| UK Unterkante | UK Unterkante |
| RA Lage der Achse | RA Lage der Achse |
| Beispiel Beschriftung | |
| WD 30/10 L | WD 30/10 L |
| OK-UKRD-50 | OK-UKRD-50 |

17mm @ Angabe bezogen auf Gefällebedimmung

| Index | Datum | Änderung |
|-------|-------|----------|
|-------|-------|----------|



Plan nicht zur Bauausführung freigegeben! A0.00 = 33.87 u. NH

| Grundriss Dachaufsicht | |
|---|--|
| Revisionsnummer | 2050P |
| Revisionsdatum | 2025 |
| Revisionsautor | Neubau Schulcampus für Gesundheits- und Pflegeberufe |
| Revisionsort | 13589 Berlin |
| Revisionsadresse | Stadtrandstraße 555 |
| Datum | 26.09.2025 /gez. smm/mma |
| Datumsbezeichnung | SGP_ARC_GR_DA_0031_250925 |
| Leistungsbereich | Ausführungplanung |
| Format | H 880 / B 1230 |
| Evangelisches Waldkinderhaus Spandau | |
| Stadtrandstraße 555 13589 Berlin 030 2750-7 u. waldkinderhaus@evk.de | |
| Übersicht Nutzlasten | |
| Neubau Schulcampus für Gesundheits- und Pflegeberufe | |
| Dachaufsicht über Technikgeschoss | |
| 1:50 | |
| 27.10.2025 | |

BS

Konstruktiver Brandschutznachweis

Inhaltsverzeichnis

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1 Vorbemerkungen

In diesem Kapitel werden die wesentlichen, tragenden Bauteile hinsichtlich ihrer Brandschutzanforderungen überprüft und eingeordnet.

Alle tragenden und aussteifenden Bauteile des Rohbaus werden nach den Vorgaben des Brandschutzkonzeptes [4] in die Feuerwiderstandsklasse R90 bzw. F90 (feuerbeständig) eingestuft.

Diese Anforderungen werden durch entsprechende Abmessungen und Betonüberdeckungen der Bewehrung für die Stahlbetonbauteile erfüllt.

Weitere sich aus dem vorbeugenden Brandschutz des Gebäudes ergebende Anforderungen hinsichtlich der Ausführung des architektonischen Ausbaus, z. B. von nicht tragenden Wänden und Fassaden sowie technischen Ausbau, z. B. Einrichtungen, sind nicht Bestandteil des konstruktiven Brandschutzes. Diese weiteren Anforderungen sind auf Grundlage der Verwendbarkeitsnachweise der Hersteller z. B. über eine bauaufsichtliche Zulassung i. d. R. in die Objektplanung des Architekten zu integrieren.

Die Nachweise erfolgen für die Stahlbetonbauteile nach DIN EN 1992-1-2 Ausgabe Dez. 2010.

2 Nachweis des konstruktiven Brandschutzes

Die Nachweise erfolgen für die Stahlbetonbauteile nach DIN EN 1992-1-2, Ausgabe 12/2010.

2.1 Decken

Mindestabmessungen

+ Flachdecken

Nachweis

vorh. min $h_s = 250 \text{ mm}$ \geq $200 \text{ mm} = \text{erf. } h_s$ gem. Tab. 5.9, Spalte 2

+ Statisch bestimmt / unbestimmt gelagerte Platten

Nachweis

vorh. min $h_s = 250 \text{ mm}$ \geq $100 \text{ mm} = \text{erf. } h_s$ gem. Tab. 5.8, Spalte 2

Mindestachsabstände der unteren Bewehrungslage

+ Flachdecken

Betondeckung: **vorh. $c_{nom} \geq 30 \text{ mm}$**

(höhere Betondeckungen in Abhängigkeit der Expositionsklasse: siehe Bauteilnachweise)

Mindestbewehrung der Deckenplatten: **vorh. min $\varnothing_s \geq 10 \text{ mm}$**

Nachweis

vorh. min $a = 30 + 10/2 = 35 \text{ mm}$ \geq $25 \text{ mm} = \text{erf. } a$ gem. Tab. 5.9, Spalte 3

+ Statisch bestimmt / unbestimmt gelagerte Platten

Betondeckung: **vorh. $c_{nom} \geq 30 \text{ mm}$**

(höhere Betondeckungen in Abhängigkeit der Expositionsklasse: siehe Bauteilnachweise)

Mindestbewehrung der Deckenplatten: **vorh. min $\varnothing_s \geq 10 \text{ mm}$**

Nachweis

vorh. min $a = 30 + 10/2 = 35 \text{ mm}$ \geq $30 \text{ mm} = \text{erf. } a$ gem. Tab. 5.8, Spalte 3

s. o. \geq $15 \text{ mm} = \text{erf. } a$ gem. Tab. 5.8, Spalte 4

s. o. \geq $20 \text{ mm} = \text{erf. } a$ gem. Tab. 5.8, Spalte 5

2.2 Treppenläufe / -podeste

Mindestabmessungen

- + Statisch bestimmt / unbestimmt gelagerte Platten

Nachweis

vorh. min $h_s = 200 \text{ mm}$ $\geq 100 \text{ mm} = \text{erf. } h_s$ gem. Tab. 5.8, Spalte 2

Mindestachsabstände der unteren Bewehrungslage,

- + Statisch bestimmt / unbestimmt gelagerte Platten

Betondeckung: **vorh. $c_{nom} \geq 30 \text{ mm}$**

(höhere Betondeckungen in Abhängigkeit der Expositionsklasse: siehe Bauteilnachweise)

Mindestbewehrung der Deckenplatten: **vorh. min $\emptyset_s \geq 10 \text{ mm}$**

Nachweis

| | | |
|---|---------------------------------------|-------------------------|
| vorh. min $a = 30 + 10/2 = 35 \text{ mm}$ | $\geq 30 \text{ mm} = \text{erf. } a$ | gem. Tab. 5.8, Spalte 3 |
| s. o. | $\geq 15 \text{ mm} = \text{erf. } a$ | gem. Tab. 5.8, Spalte 4 |
| s. o. | $\geq 20 \text{ mm} = \text{erf. } a$ | gem. Tab. 5.8, Spalte 5 |

2.3 Unterzüge

Mindestabmessungen und Mindestachsabstand der unteren Bewehrungslage

Betondeckung: **vorh. $c_{nom} \geq 30 \text{ mm}$**

(höhere Betondeckungen in Abhängigkeit der Expositionsklasse: siehe Bauteilnachweise)

Mindestbewehrung der Unterzüge:

vorh. $b \geq 200 \text{ mm}$: **vorh. $\emptyset_s \geq 12 \text{ mm}$**
vorh. $\emptyset_{s,Bü} \geq 8 \text{ mm}$
vorh. $a = \text{vorh. } a_{sd} \geq 30 + 12 + 8/2 = 46 \text{ mm}$

+ Von drei Seiten brandbeansprucht, statisch bestimmt gelagert

Nachweis

| | | | |
|---------------------------------------|--------|------------------------------------|-----------------------------|
| vorh. $b_{min} = 200 \text{ mm}$ | \geq | $200 \text{ mm} = b_{min,erf}$ | gem. Tab. 5.5 |
| $\rightarrow \text{erf. } a_{min}$ | $=$ | $45 \text{ mm} \leq 46 \text{ mm}$ | gem. Tab. 5.5 |
| $\rightarrow \text{erf. } a_{sd,min}$ | $=$ | $45 \text{ mm} \leq 46 \text{ mm}$ | gem. Tab. 5.5 ^{*)} |

^{*)} gem. Tab. 5.5: Die Anordnung der Längsbewehrung erfolgt mindestens in zwei Lagen

+ Von drei Seiten brandbeansprucht, statisch unbestimmt gelagert

Nachweis

| | | | |
|---------------------------------------|--------|------------------------------------|---------------|
| vorh. $b_{min} = 200 \text{ mm}$ | \geq | $150 \text{ mm} = b_{min,erf}$ | gem. Tab. 5.6 |
| $\rightarrow \text{erf. } a_{min}$ | $=$ | $35 \text{ mm} \leq 46 \text{ mm}$ | gem. Tab. 5.6 |
| $\rightarrow \text{erf. } a_{sd,min}$ | $=$ | $45 \text{ mm} \leq 46 \text{ mm}$ | gem. Tab. 5.6 |

2.4 Wände

Mindestabmessungen

- + Tragende Betonwände, Brandbeansprucht auf **einer** Seite, $\mu_{fi} = 0,7$

Nachweis

vorh. $h_{\min} = 250 \text{ mm}$ $\geq 140 \text{ mm} = \text{erf. } h$ gem. Tab. 5.4, Spalte 4

Mindestdicke des verbleibenden Wandquerschnitts bei Wandschlitzten und Aussparungen: **$h = 140 \text{ mm}$**

- + Tragende Betonwände, Brandbeansprucht auf **zwei** Seiten, $\mu_{fi} = 0,7$

Nachweis

vorh. $h_{\min} = 250 \text{ mm}$ $\geq 170 \text{ mm} = \text{erf. } h$ gem. Tab. 5.4, Spalte 5

Mindestdicke des verbleibenden Wandquerschnitts bei Wandschlitzten und Aussparungen: **$h = 170 \text{ mm}$**

- + Brandwände (tragende Wände)

Nachweis

vorh. $h_{\min} = 250 \text{ mm}$ $\geq 140 \text{ mm} = \text{erf. } h$ gem. Abschnitt 5.4.3

Mindestdicke des verbleibenden Wandquerschnitts bei Wandschlitzten und Aussparungen: **$h = 140 \text{ mm}$**

Mindestachsabstände der LängsbewehrungBetondeckung: **vorh. c_{nom}** **≥ 30 mm**

(höhere Betondeckungen in Abhängigkeit der Expositionsklasse: siehe Bauteilnachweise)

Mindestbewehrung der Stahlbetonwände: **vorh. min \varnothing_s** **≥ 8 mm****+** Tragende Betonwände, Brandbeansprucht auf **einer** Seite, $\mu_{fi} = 0,7$ Nachweisvorh. $a_{min} = 30 + 8/2 = 34$ mm ≥ 25 mm = erf. a gem. Tab. 5.4, Spalte 4**+** Tragende Betonwände, Brandbeansprucht auf **zwei** Seiten, $\mu_{fi} = 0,7$ Nachweisvorh. $a_{min} = 30 + 8/2 = 34$ mm ≥ 25 mm = erf. a gem. Tab. 5.4, Spalte 5**+** Brandwände (tragende Wände)Nachweisvorh. $a_{min} = 30 + 8/2 = 34$ mm ≥ 25 mm = erf. a gem. Abschnitt 5.4.3

2.5 Wandartige Träger

Mindestabmessungen

siehe Wände; vorh. $d \geq 250 \text{ mm}$

Mindestabmessungen und Mindestachsabstände der unteren Bewehrungslage

Betondeckung:

vorh. $c_{nom} \geq 30 \text{ mm}$

(höhere Betondeckungen in Abhängigkeit der Expositionsklasse: siehe Bauteilnachweise)

Mindestbewehrung der Wandartigen Träger:

vorh. $b_{min} \geq 250 \text{ mm}$:

vorh. $\emptyset_s \geq 12 \text{ mm}$

vorh. $\emptyset_{s,Bü} \geq 10 \text{ mm}$

Nachweis

| | | | |
|---|--------|-----------------------|------------------------|
| vorh. $b_{min} \geq 250 \text{ mm}$ | \geq | 200 mm = erf. b | gem. Tab. 5.5 Spalte 3 |
| vorh. $a_{min} \geq 30+12+10/2 = 47 \text{ mm}$ | \geq | 45 mm = erf. a | gem. Tab. 5.5 Spalte 3 |
| vorh. $a_{sd} \geq 30+12+10/2 = 47 \text{ mm}$ | \geq | 45 mm = erf. a_{sd} | gem. Tab. 5.5 Spalte 3 |

AZ: 20206208

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Genehmigungsplanung Tragwerksplanung

2.6 Stützen

Der Nachweis des konstruktiven Brandschutzes wird bei den Stützen mit mB Baustatik programmintern erbracht. Es wird hier auf die Nachweise im Kapitel Stützen verwiesen.

3 Anlagen: Tabellen

TABELLE 5.4 AUS DIN EN 1992-1-2, AUSGABE DEZ. 2010, INKL. 5.4.3 – BRANDWÄNDE
Tabelle 5.4 —  Mindestdicke und -achsabstände für tragende Betonwände 

| Feuerwiderstands-kategorie | Mindestmaße (mm) | | | |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| | Wanddicke/Achsabstand für | | | |
| | $\mu_{fi} = 0,35$ | | $\mu_{fi} = 0,7$ | |
| | Brandbean-sprucht auf einer Seite | Brandbean-sprucht auf zwei Seiten | Brandbean-sprucht auf einer Seite | Brandbean-sprucht auf zwei Seiten |
| 1 | 2 | 3 | 4 | 5 |
| REI 30 | 100/10* | 120/10* | 120/10* | 120/10* |
| REI 60 | 110/10* | 120/10* | 130/10* | 140/10* |
| REI 90 | 120/20* | 140/10* | 140/25 | 170/25 |
| REI 120 | 150/25 | 160/25 | 160/35 | 220/35 |
| REI 180 | 180/40 | 200/45 | 210/50 | 270/55 |
| REI 240 | 230/55 | 250/55 | 270/60 | 350/60 |
| * Normalerweise reicht die nach EN 1992-1-1 erforderliche Betondeckung. | | | | |
| ANMERKUNG Für die Definition von μ_{fi} siehe 5.3.2 (3). | | | | |

5.4.3 Brandwände

(1) Sofern eine Brandwand zusätzlich zu 5.4.1 und 5.4.2 die Anforderung an mechanische Widerstandsfähigkeit gegen horizontale Stoßbeanspruchung (Kriterium M, siehe 2.1.2 (6)) erfüllen muss, darf die Mindestdicke bei Ausführung in Normalbeton nicht kleiner sein als:

- 200 mm für eine unbewehrte Wand,
- 140 mm für eine bewehrte, tragende Wand,
- 120 mm für eine bewehrte, nichttragende Wand,

und der Achsabstand einer tragenden Wand darf nicht kleiner als 25 mm sein.

TABELLE 5.5 AUS DIN EN 1992-1-2, AUSGABE DEZ. 2010:

| Tabelle 5.5 — Mindestmaße und -achsabstände für statisch bestimmt gelagerte Balken aus Stahlbeton und Spannbeton | | | | | | | |
|--|---|-----------|------------|------------|-----------------|-----------|-----------|
| Feuerwiderstands-klasse | Mindestmaße (mm) | | | | | | |
| | Mögliche Kombinationen von a und b_{\min} , dabei ist a der mittlere Achsabstand und b_{\min} die Mindestbalkenbreite | | | | Stegdicke b_w | | |
| | | | | | Klasse WA | Klasse WB | Klasse WC |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| R 30 | $b_{\min} = 80$ $a = 25$ | 120 20 | 160 15* | 200 15* | 80 | 80 | 80 |
| R 60 | $b_{\min} = 120$ $a = 40$ | 160 35 | 200 30 | 300 25 | 100 | 80 | 100 |
| R 90 | $b_{\min} = 150$ $a = 55$ | 200 45 | 300 40 | 400 35 | 110 | 100 | 100 |
| R 120 | $b_{\min} = 200$ $a = 65$ | 240 60 | 300 55 | 500 50 | 130 | 120 | 120 |
| R 180 | $b_{\min} = 240$ $a = 80$ | 300 70 | 400 65 | 600 60 | 150 | 150 | 140 |
| R 240 | $b_{\min} = 280$ $a = 90$ | 350 80 | 500 75 | 700 70 | 170 | 170 | 160 |
| $a_{sd} = a + 10\text{mm}$ (siehe Anmerkung unten) | | | | | | | |
| Bei Spannbetonbalken sollte der Achsabstand entsprechend 5.2(5) vergrößert werden. a_{sd} ist der seitliche Achsabstand der Eckstäbe (bzw. des -spannglieds oder -drahts) in Balken mit nur einer Bewehrungslage. Für größere b_{\min} -Werte als die nach Spalte 4 ist eine Vergrößerung von a_{sd} nicht erforderlich. * Normalerweise reicht die nach EN 1992-1-1 erforderliche Betondeckung aus. | | | | | | | |

TABELLE 5.6 AUS DIN EN 1992-1-2, AUSGABE DEZ. 2010:

| Tabelle 5.6 — Mindestmaße und -achsabstände für statisch unbestimmt gelagerte Balken (Durchlaufbalken) aus Stahlbeton und Spannbeton (siehe auch Tabelle 5.7). | | | | | | | |
|---|--|------------|-----------|-----------|-----------------|-----------|-----------|
| Feuerwiderstands-dauer | Mindestmaße (mm) | | | | | | |
| | Mögliche Kombinationen von a und b_{\min} , dabei ist a der mittlere Achsabstand und b_{\min} die Balkenbreite | | | | Stegdicke b_w | | |
| | | | | | Klasse WA | Klasse WB | Klasse WC |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| R 30 | $b_{\min}= 80$ $a = 15^*$ | 160 12* | | | 80 | 80 | 80 |
| R 60 | $b_{\min}= 120$ $a = 25$ | 200 12* | | | 100 | 80 | 100 |
| R 90 | $b_{\min}= 150$ $a = 35$ | 250 25 | | | 110 | 100 | 100 |
| R 120 | $b_{\min}= 200$ $a = 45$ | 300 35 | 450 35 | 500 30 | 130 | 120 | 120 |
| R 180 | $b_{\min}= 240$ $a = 60$ | 400 50 | 550 50 | 600 40 | 150 | 150 | 140 |
| R 240 | $b_{\min}= 280$ $a = 75$ | 500 60 | 650 60 | 700 50 | 170 | 170 | 160 |
| $a_{sd} = a + 10\text{mm}$ (siehe Anmerkung unten) | | | | | | | |
| Für Spannbetonbalken sollte der Achsabstand entsprechend 5.2 (5) vergrößert werden. | | | | | | | |
| a_{sd} ist der seitliche Achsabstand der Eckstäbe (bzw. des -spannglieds oder -drahts) in Balken mit nur einer Bewehrungslage. Für größere b_{\min} -Werte als die nach Spalte 3 ist eine Vergrößerung von a_{sd} nicht erforderlich. | | | | | | | |
| * Normalerweise reicht die nach EN 1992-1-1 erforderliche Betondeckung aus. | | | | | | | |

TABELLE 5.8 AUS DIN EN 1992-1-2, AUSGABE DEZ. 2010:

| Tabelle 5.8 — Mindestmaße und -achsabstände für statisch bestimmt gelagerte, einachsig und zweiachsig gespannte Stahlbeton- und Spannbetonplatten | | | | |
|--|----------------------------|-----------|-------------------------------|------------------------|
| Feuerwiderstandsklasse | Mindestabmessungen (mm) | | | |
| | Plattendicke h_s (mm) | einachsig | Achsabstand a zweiachsig | |
| | | | $l_y/l_x \leq 1,5$ | $1,5 < l_y/l_x \leq 2$ |
| 1 | 2 | 3 | 4 | 5 |
| REI 30 | 60 | 10* | 10* | 10* |
| REI 60 | 80 | 20 | 10* | 15* |
| REI 90 | 100 | 30 | 15* | 20 |
| REI 120 | 120 | 40 | 20 | 25 |
| REI 180 | 150 | 55 | 30 | 40 |
| REI 240 | 175 | 65 | 40 | 50 |

l_x und l_y sind die Spannweiten einer zweiachsig gespannten Platte (beide Richtungen rechtwinklig zueinander), wobei l_y die längere Spannweite ist.
 Bei Spannbetonplatten ist die Vergrößerung des Achsabstandes entsprechend 5.2 (5) zu beachten.
 Der Achsabstand a in den Spalten 4 und 5 gilt für zweiachsig gespannte Platten, die an allen vier Rändern gestützt sind. Trifft das nicht zu, sind die Platten wie einachsig gespannte Platten zu behandeln.
 * Normalerweise reicht die nach EN 1992-1-1 erforderliche Betondeckung aus.

ABELLE 5.9 AUS DIN EN 1992-1-2, AUSGABE DEZ. 2010:
Tabelle 5.9 — Mindestmaße und Achsabstände für Flachdecken aus Stahlbeton und Spannbeton

| Feuerwiderstandsklasse | Mindestmaße (mm) | |
|---|--------------------|-----------------|
| | Plattendicke h_s | Achsabstand a |
| 1 | 2 | 3 |
| REI 30 | 150 | 10* |
| REI 60 | 180 | 15* |
| REI 90 | 200 | 25 |
| REI 120 | 200 | 35 |
| REI 180 | 200 | 45 |
| REI 240 | 200 | 50 |
| * Normalerweise reicht die nach EN 1992-1-1 erforderliche Betondeckung aus. | | |

D

Decken

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| 4. Decke ü. 3. Obergeschoss | D-9 |
| 5. Decke ü. 2. Obergeschoss | D-64 |
| 6. Decke ü. 1. Obergeschoss | D-243 |
| 7. Decke ü. Erdgeschoss | D-506a |

1 Vorbemerkungen

In diesem Kapitel werden die Stahlbetondecken, Geschossdecken

- Decke ü. Erdgeschoss D-EG
- Decke ü. 1.Obergeschoss D-1.OG
- Decke ü. 2.Obergeschoss D-2.OG
- Decke ü. 3.Obergeschoss D-TG

bemessen.

Die Decken werden in MicroFE Version 2025.015 mit Plattenelementen generiert und bemessen (FE-Netzweite Regelbereich 0,375 m x 0,375 m).

Die Eigenlasten der Deckenplatten, der Unter- bzw. Überzüge und der vertikalen Bauteile werden programmintern berücksichtigt. Die Auflagerung der Platten erfolgt auf Linienlagern (Wände bzw. wandartige Träger) und Punktlagern (Stützen). Die Unterzüge werden in der Bemessung der Decke ebenfalls berücksichtigt. Hierbei ist zu erwähnen, dass für die Bemessung der Decke an den Stellen der Unterzüge vom Programm eine Steifigkeit berücksichtigt wird, die aus den Abmessungen des jeweiligen Unterzugs ermittelt wird.

Die Lastweitergabe erfolgt mit dem programminternen mB Modul M161 Lastübergabe / Lastübernahme. Die Lasten werden lastfallgetreu an die darunterliegenden Decken in Form von Punkt- und Linienlasten übergeben.

Die Bemessung der Durchstanzpositionen erfolgt mit dem Programm HDB, Version 13.71, der Firma Halfen, welches sich auf die ETA 12/0454 vom 18. Dezember 2012 bezieht. Die Nachweise werden für eine Ausführung in Ortbeton geführt.

Die Lage der Durchstanzpositionen und die Bemessungslast sind in dem Ergebnisplot „Durchstanzen“ der jeweiligen Decken dargestellt.

2 Hinweise zur Bewehrungsführung

Die nachfolgende Bewehrung ist einzulegen, sofern in der statischen Berechnung nicht anders angegeben.

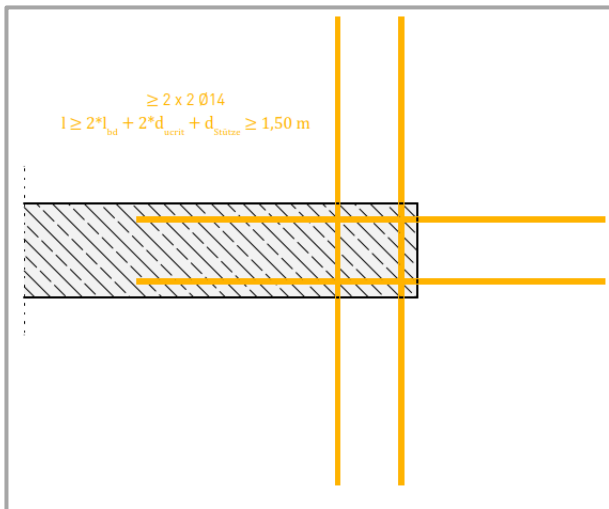
Regeldetail freier Deckenrand:



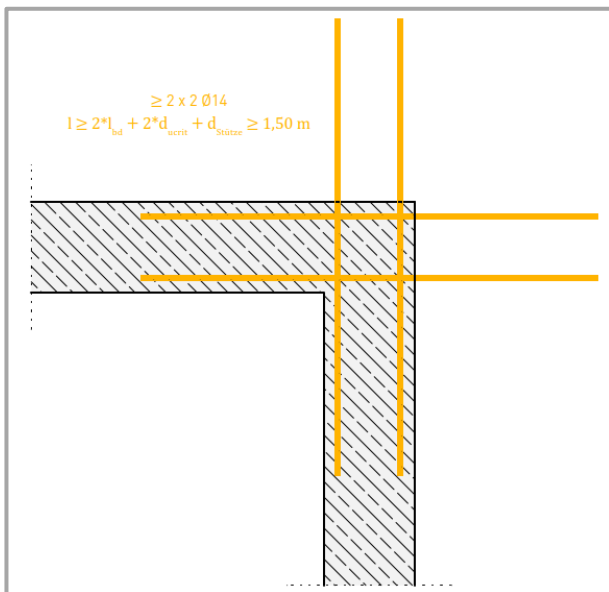
Regeldetail Bewehrungszulagen über Wandenden und Wandecken (Kollapsbewehrung):

Die nachfolgende Bewehrung ist in Durchstanzbereichen in der unteren Bewehrungslage der Deckenbewehrung über dem jeweiligen vertikalen Bauteil einzulegen.

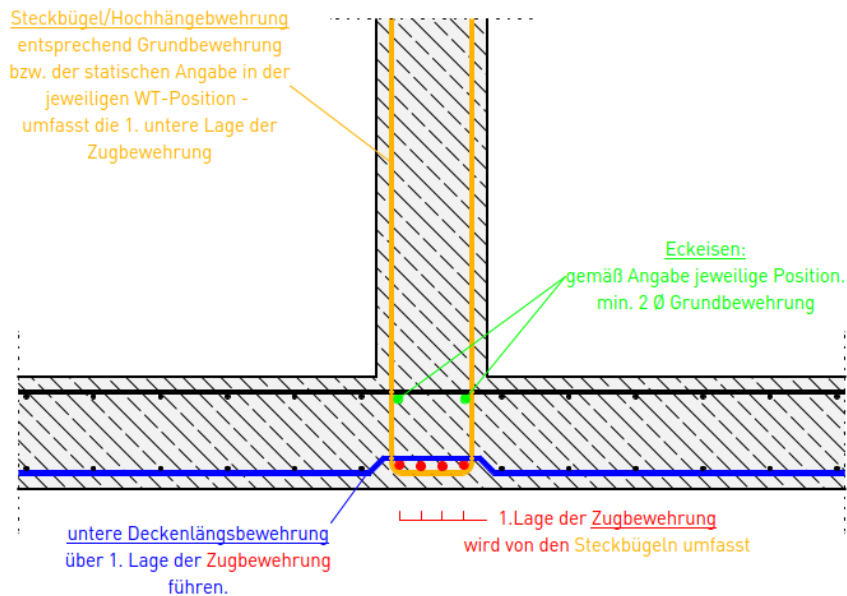
- Wandenden:



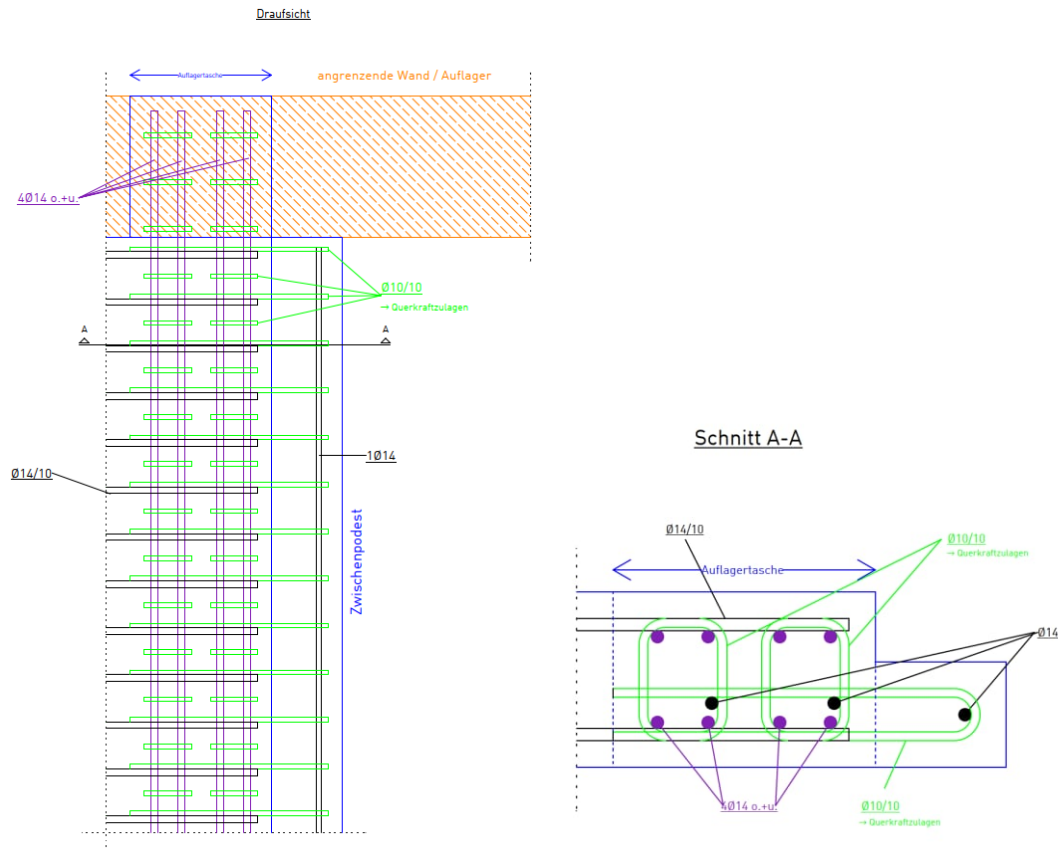
- Wandecken



Regeldetail wandartiger Träger / Überzug:



Regeldetail Auflagerbereich Treppenlauf / Anschluss Treppenpodeste an Wand:



3 Rissbreitennachweise

Zur Aufnahme von Zwangseinwirkungen und Eigenspannungen ist gemäß DIN EN 1992-1-1, Abschnitt 7.3.2 + NA in Stahlbetonbauteilen eine Mindestbewehrung anzuordnen, welche die Rissbreiten begrenzt und die Risse entsprechend verteilt. Seitens des Auftraggebers sind keine höheren Anforderungen für die Tragwerksplanung bzgl. der Decken vorgegeben.

Für die Ermittlung der erforderlichen Mindestbewehrung zur Begrenzung der Rissbreite wird davon ausgegangen, dass die Erstrissbildung unter zentrischem Zwang infolge abfließender Hydratationswärme im frühen Betonalter (3-5 Tage nach Einbringen des Betons) eintritt. Die wirksame Zugfestigkeit des Betons wird für diesen Bemessungsfall nach DIN EN 1992-1-1:2011-01 Absatz 3.1.2(6) – Betonfestigkeitsentwicklung in Abhängigkeit vom Betonalter – abgemindert:

- $f_{ct,eff} = 65 \% \cdot f_{ctm}$ (für Decken mit $h \leq 30$ cm C30/37)

Diese Festlegungen sind bei der Bauausführung zu berücksichtigen und für die Ausschreibung zu beachten. Neben der Anordnung einer Mindestbewehrung kann die Rissbildung in Stahlbetonbauteilen durch ergänzende Maßnahmen günstig beeinflusst werden. Diese Maßnahmen dienen der Sicherung der Gebrauchstauglichkeit und der Dauerhaftigkeit des Gebäudes. Hier sind unter anderem folgende Punkte zu nennen:

- schwindarmer Zement mit niedriger Wärmeentwicklung
- niedriger Wasser-Zement-Wert
- sorgfältige Nachbehandlung aller betonierten Bauteile

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Bei der gewählten Grundbewehrung wird die Bewehrung für Decken kreuzweise (#) oben und unten angegeben. Nachfolgende Rissbreitennachweise sind für alle Decken im Gebäude gültig.

| Dicke h [cm] | Betongüte | w_k [mm] | erf. a_s gem. Rissbreitennachweis | gewählt a_s |
|------------------------|-----------|------------|--|---|
| 25 (Dachdecke) | C30/37 | 0,3 | a_s : 14,47 cm ² /m s. Pos. D-25_wk-03 | 15,70 cm ² /m Ø10/10 # o.+u. |
| 28 (Geschossdecken) | C30/37 | 0,4 | a_s : 12,28 cm ² /m s. Pos. D-28_wk-04 | 15,70 cm ² /m Ø10/10 # o.+u. |

Es können höhere Stahldurchmesser gewählt werden, sofern der Stababstand unverändert bleibt.

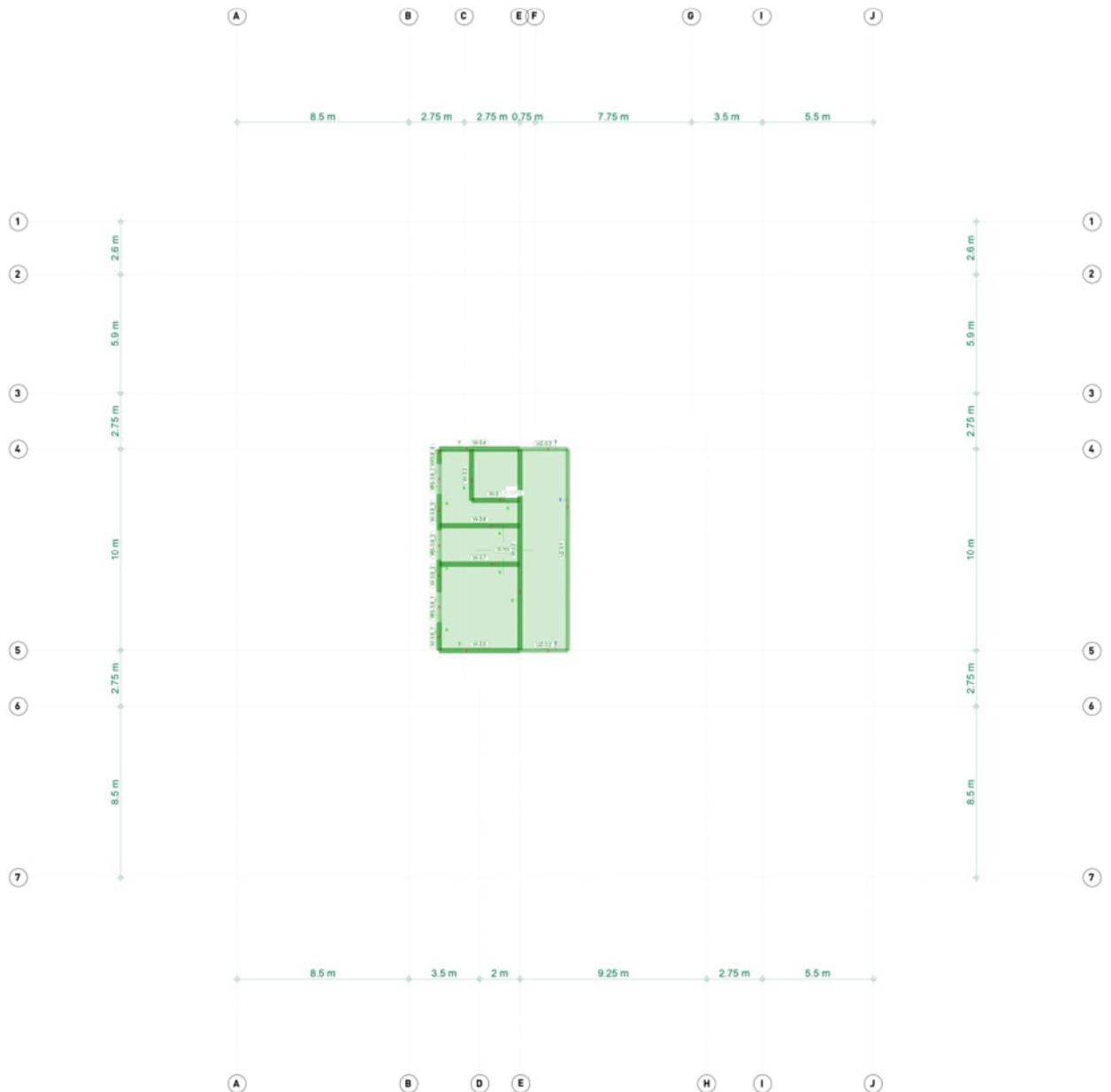
4 **Decke ü. 3. Obergeschoss (Dachdecke)**

| | |
|--|------|
| Decke ü. 3.Obergeschoss (Technikgeschoss) | |
| Ausgangswerte | D-10 |
| Übersicht der Deckenstärken / Positionsplan | D-12 |
| Einwirkungen / Lastfälle / Lastgruppen / Lastkombinationen / Lastpläne | D-18 |
| Statik-Protokoll | D-22 |
| Auswertung | D-24 |
| Verformungen (Zustand II) | D-25 |
| Biegebemessung | D-29 |
| Bemessungsparameter | D-29 |
| Biegebemessung (erf. a_s) | D-32 |
| Biegebemessung (Δa_s) | D-38 |
| Querkraftbemessung | D-42 |
| Bemessungsparameter | D-42 |
| Querkraftausnutzung – $V_{Ed,res}/ V_{Rd,max}$ | D-43 |
| Querkraftbemessung – erf. a_{sw} | D-45 |
| Lastübergabe | D-46 |
| Auflagerreaktionen (Lastfallweise) | D-47 |
| Lastsummen | D-51 |
| Lastabtrag (Einwirkungsweise) | D-53 |
| Lasten auf Detailpositionen (Sturz / Unterzug) | D-58 |

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Genehmigungsplanung Tragwerksplanung

Stat. System:



Material:

Dicke: 25 cm

Betonstahl: B500B

Beton: C30/37

Expositionsklasse: XC1, W0

Betondeckung $C_{nom} = 3$ cm

Grundbewehrung: #Ø10/10

| Dachdecke

| # 7,85 für d = 25 cm

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Belastung:

Eigenlast:

- Wird automatisch, programmintern, generiert:
 - $g_k = 6,25 \text{ kN/m}^2$ $= 0,25 \text{ m} * 25 \text{ kN/m}^3$ | Lastfall 1

Flächenlasten:

- Ausbaulasten
 - $\Delta g_k = 2,0 \text{ kN/m}^2$ | Lastfall 2
- Nutzlasten
 - $q_k = 4,00 \text{ kN/m}^2$ | Lastfall 3 bis 7 (Kat. H)
-
- Hinweis: Die Anordnung der Nutzlasten erfolgt feldweise. Die Lastkombination erfolgt abhängig vom geforderten Nachweis programmintern.

Linienlasten:

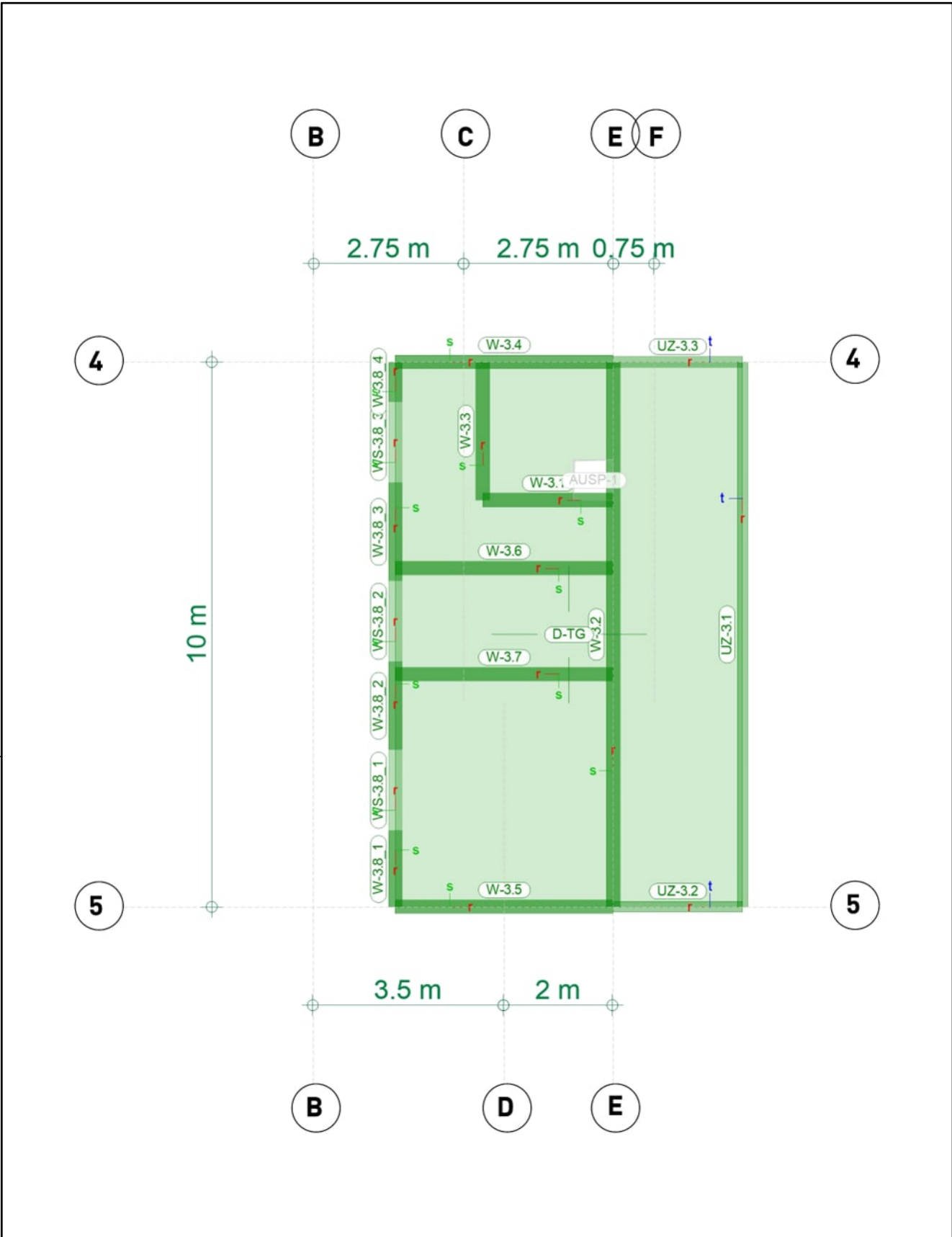
- Eigengewicht | Lastfall 1 (umlaufende Attika)
 - $g_k = 2,5 \text{ kN/m}$ $= 0,2 \text{ m} * 0,5 \text{ m} * 25 \text{ kN/m}^3$

Punktlasten:

- Nutzlast Aufzug | Lastfall 8 (Kat. E1)
 - $Q_k = 35 \text{ kN}$

Bemessung:

Siehe folgende Seiten.



Bauteil-Positionen



Modell TG-LP4 Technikgeschoss
Bauvorhaben Schulcampus EWK
Schwesternschule

KREBS+KIEFER Ingenieure GmbH

Tafel 1/1

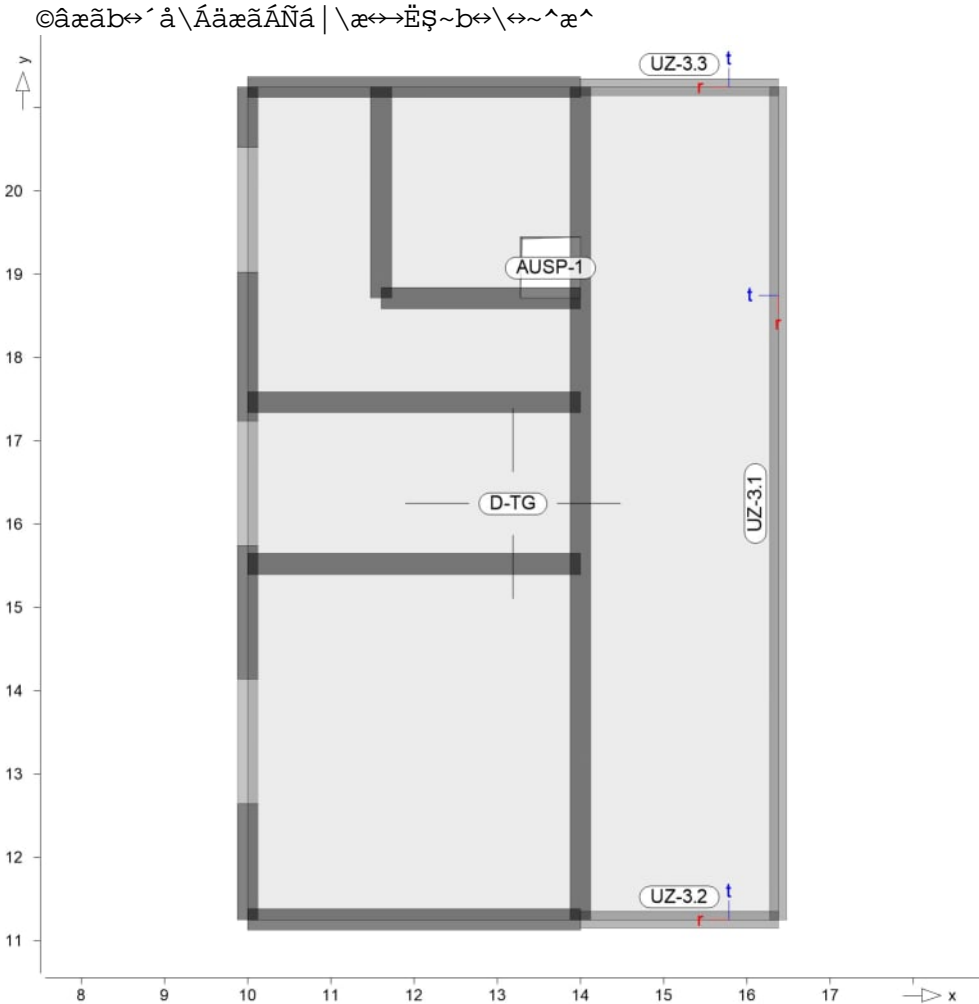
Positionplan

Bauteile

Positionskarte

Positionplan

Bauteil-Positionen



Platten

Stahlbeton

Platten-Positionen

| Position | Winkel YflY | Art | Material Quer | Dicke [cm] |
|----------|----------------|-----|------------------------------|---------------|
| D-TG | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ↔^b←=ã^|^&ÁT|áã~↔\

Expositionskasse

&æ†‡BAEØSÁÓSÁFïIGÊFÊFÊÁÚáâÊÁHÈF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|--|
| D-TG | umlaufend | XC1 | \ã~'←æ^Á~ãæãÁb\†^ä↔&Á nass Weitgehend trockener Beton |
| | | WO | |

Aussparungen

| Position | $\hat{O} \rightarrow \ddot{t} \cdot \ddot{a} \ddot{e}$ [m ²] | x [m] | y [m] |
|----------|---|----------|----------|
| AUSP-1 | 0.53 | 13.28 | 19.45 |
| | | 13.28 | 18.72 |
| | | 14.00 | 18.72 |
| | | 14.00 | 19.45 |

lbhYfn [Y

Unterzug-Positionen

Stahl beton

| Position | $Q \ddot{t} \wedge \& \ddot{a}$ [m] | Betonstahl $Q \ddot{t} \wedge \& \ddot{b}$ Nfi&æ→ | Beton |
|----------------|--|---|-----------|
| UZ-3.1 | 10.00 | B 500SA B 500SA | C 30/37 Q |
| UZ-3.2, UZ-3.3 | 2.38 | B 500SA B 500SA | C 30/37 Q |

Q: Öæb\æ↔^b↔=ä^| ^&ÁT| ää~↔\

Abmi nderung

| Position | F_D | $F_{S,s}$ | $F_{S,t}$ | F_T | $F_{B,s}$ | $F_{B,t}$ |
|----------------|-------|-----------|-----------|-------|-----------|-----------|
| UZ-3.1..UZ-3.3 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |

F_D : Nâ↑↔^äæä | ^&bää↔~äÄäfiäÄ↔æÄæä^b\æ↔ä↔&↔æ↔\
 $F_{S,s}$: Nâ↑↔^äæä | ^&bää↔~äÄäfiäÄ↔æÄU' á | âb\æ↔ä↔&↔æ↔\Ä↔^ÄbËb↔' á | ^&
 $F_{S,t}$: Nâ↑↔^äæä | ^&bää↔~äÄäfiäÄ↔æÄU' á | âb\æ↔ä↔&↔æ↔\Ä↔^Ä\Ëb↔' á | ^&
 F_T : Nâ↑↔^äæä | ^&bää↔~äÄäfiäÄ↔æÄU~äb↔~^bb\æ↔ä↔&↔æ↔\
 $F_{B,s}$: Nâ↑↔^äæä | ^&bää↔~äÄäfiäÄ↔æÄN↔æ&æb\æ↔ä↔&↔æ↔\Ä | ↑ÄbËN' ábæ
 $F_{B,t}$: Nâ↑↔^äæä | ^&bää↔~äÄäfiäÄ↔æÄN↔æ&æb\æ↔ä↔&↔æ↔\Ä | ↑Ä\ËN' ábæ

Querschni tt

| Position | Exz. [cm] | b_{p1} [cm] | h_f [cm] | b_w [cm] | h [cm] |
|----------------|--------------|------------------|---------------|---------------|-----------|
| UZ-3.1..UZ-3.3 | ©Ñ | 20.0 | 20.0 | 20.0 | 70.0 |

©Ñi ©ää~|&

Exposi ti onskl asse

&æ†‡BÁÆØSÁÓSÁFİİĞĖFĖFĖÁÚáâÈÁHÈF

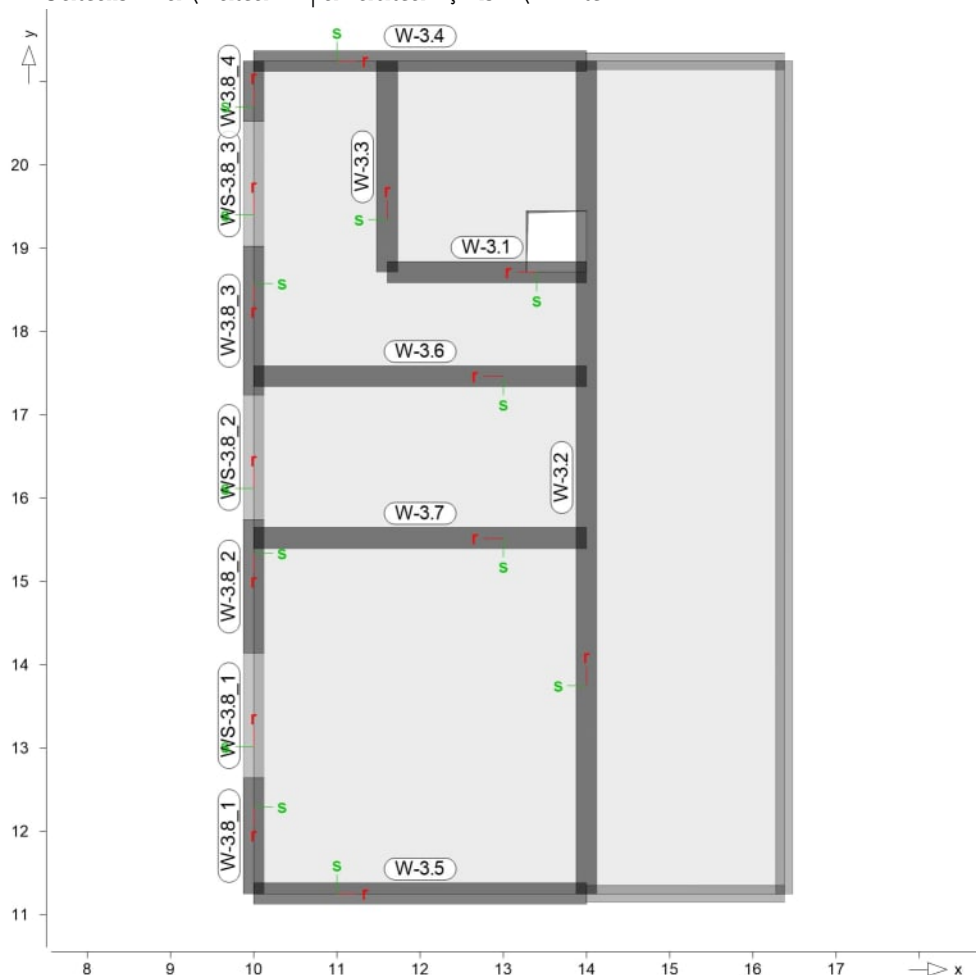
| Position | Seite | Kl | Kommentar |
|----------------|-----------|-----|-------------------------------|
| UZ-3.1..UZ-3.3 | umlaufend | XC1 | \ä~'↔æ^Ä~äæääb\†^ä↔&Ä nass |

Auflager

Auflager-Positionen

Positionsgrafik

© 2025 mb AEC Software GmbH



Wandlager

Wandlager-Positionen

Stahl beton

| Position | Ö=âæ [m] | Q†^&æ [m] | Material | Dicke [cm] |
|--------------|-------------|--------------|----------------------|---------------|
| W-3.1 | 3.00 | 2.40 | C 25/30 Q B 500SA | 25.0 |
| W-3.2 | 3.00 | 10.00 | C 25/30 Q B 500SA | 25.0 |
| W-3.3 | 3.00 | 2.54 | C 25/30 Q B 500SA | 25.0 |
| W-3.4..W-3.7 | 3.00 | 4.00 | C 25/30 Q B 500SA | 25.0 |
| W-3.8_1 | 3.00 | 1.39 | C 25/30 Q B 500SA | 25.0 |
| W-3.8_2 | 3.00 | 1.60 | C 25/30 Q B 500SA | 25.0 |
| W-3.8_3 | 3.00 | 1.79 | C 25/30 Q B 500SA | 25.0 |
| W-3.8_4 | 3.00 | 0.73 | C 25/30 Q B 500SA | 25.0 |

| Position | $\bar{O}=\hat{a}$ [m] | $Q\hat{+}\hat{a}$ [m] | Material | Dicke [cm] |
|--------------------|--------------------------|--------------------------|----------------------|---------------|
| WS-3.8_1..WS-3.8_3 | 3.00 | 1.50 | C 25/30 Q B 500SA | 25.0 |

Q: Öæb\æ↔^b←=ã^ | ^&ÁT | áã~↔\

Expositionsklasse

&æ↑±ßÁÆØŠÁÓŠÁFİİĞĖFĖFÊÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|--|-------|-----|-----------------------|
| W-3.1..W-3.7, W-3.8_1..W-3.8_4, WS-3.8_1..WS-3.8_3 | | | |
| umlaufend | | XC1 | \ä~´←æ^Ä~äääÄB\†^ä↔&Ä |
| | | | nass |

Federstei fi gkei ten

| Position | $K_{R,r}$ [kNm/rad/m] | $K_{R,s}$ [kNm/rad/m] | $K_{T,t}$ [kN/m/m] |
|--|--------------------------|--------------------------|-----------------------|
| W-3.1..W-3.7, W-3.8_1..W-3.8_4, WS-3.8_1..WS-3.8_3 | frei | frei | +/- 2583333 |

Material

Materialkennwerte

Stahl beton

DIN EN 1992-1-1

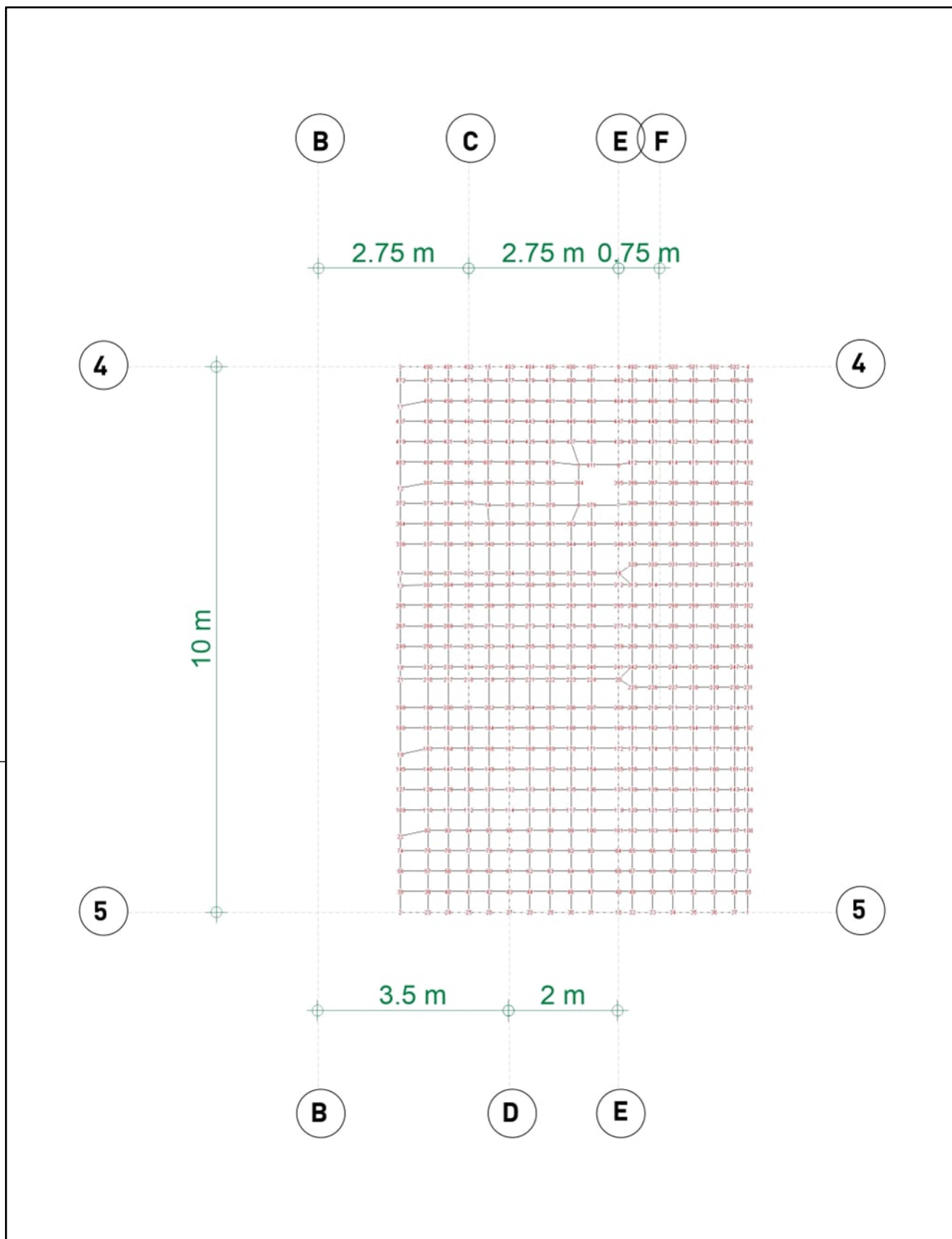
| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|--|-----------|-----------------------------------|--|--|
| | | $\gamma_{SD} \uparrow z \ddot{Y}$ | $\gamma_{SD} \uparrow \uparrow \ddot{Y}$ | $\gamma_{SD} \uparrow \uparrow \ddot{Y}$ |
| W-3.1..W-3.7, W-3.8_1..W-3.8_4, WS-3.8_1..WS-3.8_3 | C 25/30 Q | 25.00 | 31000 12900 | 25.00 2.60 |
| D-TG, UZ-3.1..UZ-3.3 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |


0: Öæb\æ↔^b←=ã^ | ^&ÁT | áã~↔\

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte | E_s | f_{yk} |
|---|----------|------------------------------------|------------------------------------|------------------|
| | | $\gamma_{sD} \uparrow \gamma_{sY}$ | $\gamma_{sD} \uparrow \gamma_{sY}$ | $f_{tk,cal}$ |
| UZ-3.1..UZ-3.3, W-3.1..W-3.7, W-3.8_1..W-3.8_4, WS-3.8_1..WS-3.8_3 | B 500SA | 78.50 | 200000 77000 | 500.00 525.00 |
| D-TG | B 500SB | 78.50 | 200000 77000 | 500.00 525.00 |



| | | |
|---|------------------------------|-------------------------------------|
| Knotennummern | | Anzahl Knoten = 503 |
| | | |
|  | Modell | TG-LP4 Technikgeschoss |
| | Bauvorhaben | Schulcampus EWK Schwesternschule |
| | KREBS+KIEFER Ingenieure GmbH | |
| | | Tafelberg |

Belastungen

Einwirkungen

DIN EN 1990

Einwirkungen nach DIN EN 1990

| Pfiã~æ→ | Beschreibung |
|---------|--|
| Gk | Typisierung |
| Gk | Eigenlasten |
| Ö← | Ausbaulasten |
| Qk.N_E1 | Nutzlast Kategorie E: Lager, Archiv, Bib., Technik |
| Qk.N_DA | Nutzlast Kategorie H: Dach |

@UghZ} ``Y

Qáb\à†→æÁ | ^äÄæææ^ÁX | ~ää^ | ^&Á~ | Áäæ^ÁÓ↔^ } ↔ä← | ^&æ^

Gk
Ö←
Qk.N_E1
Qk.N_DA

LF-1
LF-2
LF-8
LF-3, LF-4, LF-5, LF-6, LF-7

@UghZ} ``Y # Lastgruppen @UghZ} ``Y

©âæãb↔´á\ÄQáb\à†→æÁ | ^äÄQáb\&ã | **æ^

| Lastfall | Typ | Beschreibung |
|-------------------------|-----|-----------------|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbau |
| LF-3 | v | Nutzlast Dach |
| LF-4 | v | Nutzlast Dach |
| LF-5 | v | Nutzlast Dach |
| LF-6 | v | Nutzlast Dach |
| LF-7 | v | Nutzlast Dach |
| LF-8 | v | Nutzlast Aufzug |
| s: b\†^ä↔ææãQáb\ää→ | | |
| v: {æã†^ääæ↔´áæãQáb\ää→ | | |

Lastkombinationen

Qáb\←~↑â↔^á\↔~^æ^ÄfiãÄ↔~^æääæÄÑæää´â^ | ^&

Kombinationen

Manuell vorgegebene Lastkombinationen

| Ew | Einwirkungsname | | | | | | |
|------|-----------------|---------|---------|---------|---------|---------|---------|
| Lg | Lastgruppenname | | | | | | |
| Lf | Lastfallname | | | | | | |
| | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . | . |
| | Lf | LF-1 | LF-2 | LF-8 | LF-3 | LF-4 | LF-5 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | | | | |
| | Lg | . | . | | | | |
| | Lf | LF-6 | LF-7 | | | | |
| LK-1 | | 1.00 | 1.00 | | | | |

Lastplan

Lasten des FE-Modells

Bauteilasten

Bauteilbezogene Lasten

: ` } W\Ybdcg] h] cbYb

Posi ti onsgrafi k

Ô→‡ ´ åæ^â=ã↑↔&æÃÑá | \æ↔→Ë\$~b↔\↔~^æ^

©âæãb↔´ å\ÃäæãÃâ→‡ ´ åæ^â=ã↑↔&æ^ÃÑá | \æ↔→Ë\$~b↔\↔~^æ^



Ei gengewi cht

| Position | EW | Lastfall | Art | g [kN/m²] |
|--|----|----------|-----|--------------|
| D-TG | Gk | LF-1 | PGr | 6.25 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

Streckenpositionen

Q⁺ = $\frac{1}{2} \cdot (q_1 + q_2) \cdot l$ | $\frac{1}{2} \cdot (q_1 + q_2) \cdot l$

Positionsgrafik

© $\frac{1}{2} \cdot (q_1 + q_2) \cdot l$ | $\frac{1}{2} \cdot (q_1 + q_2) \cdot l$ | $\frac{1}{2} \cdot (q_1 + q_2) \cdot l$



Eigengewicht

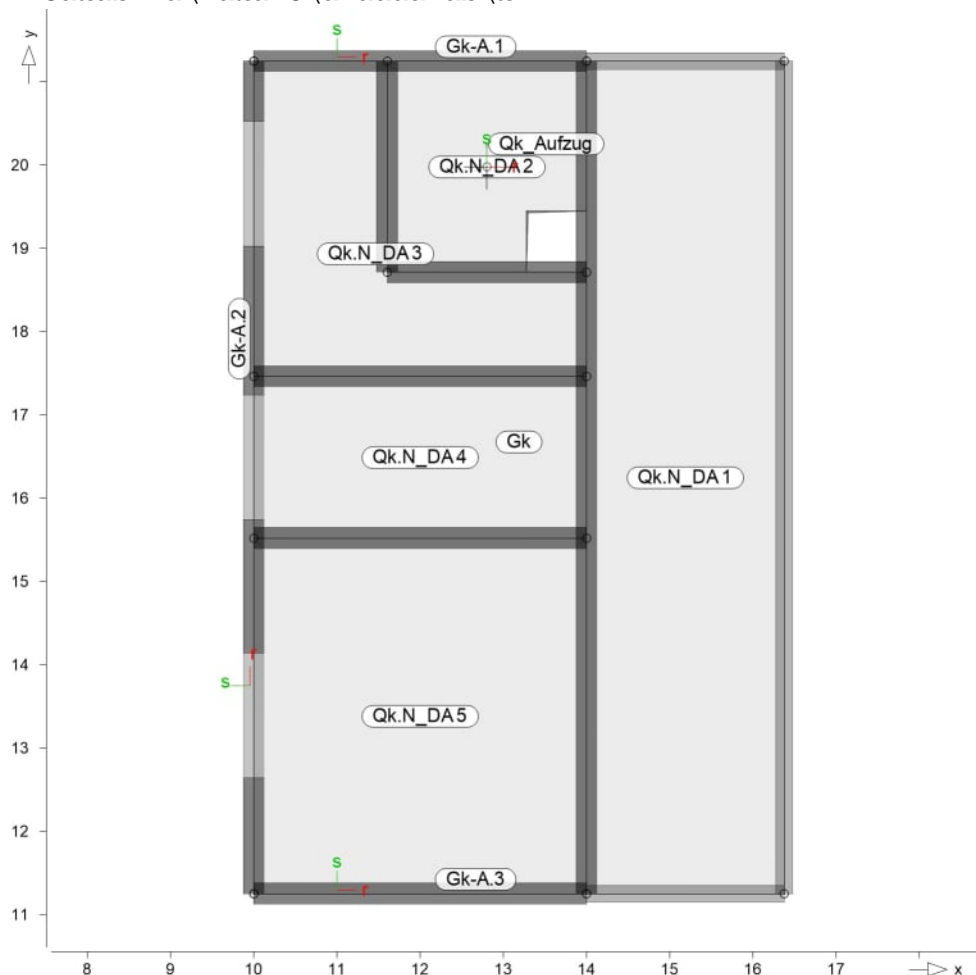
| Position | EW | Lastfall | Art | g [kN/m] |
|--|----|----------|-----|-------------|
| UZ-3.1..UZ-3.3 | Gk | LF-1 | PGr | 2.50 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

Standardlasten

Standardlasten im FE-Modell

Positionsgrafik

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Punktlasten

| Position | EW | Lastfall | Art | P, M [kN], [kNm] |
|-----------|---------|----------|-----|---------------------|
| Qk_Aufzug | Qk.N_E1 | LF-8 | PGr | 35.00 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Winkel

der gedrehten globalen Koordinatensysteme

| Position | Yfl |
|-----------|------|
| Qk_Aufzug | 0.00 |

Linienlasten

| Position | EW | Lastfall | Art | p _A , m _A [kN/m], [kNm/m] | p _E , m _E [kN/m], [kNm/m] |
|------------|--------|----------|-----|--|--|
| Gk-A.1 | Attika | | | | |
| (a) Gk-A.2 | Gk | LF-1 | pGr | 2.50 | 2.50 |
| (a) Gk-A.3 | Gk | LF-1 | pGr | 2.50 | 2.50 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

(a) Eigengewicht Attika 0.2*0.5*25 = 2.50

;\`Y]W\Z` }W\Yb`UghYb

| Position | EW | Lastfall | Art | P [kN/m ²] |
|-----------|---------|----------|-----|---------------------------|
| Gk | Ö← | LF-2 | PGr | 2.00 |
| Qk.N_DA 1 | Qk.N_DA | LF-4 | PGr | 4.00 |
| Qk.N_DA 2 | Qk.N_DA | LF-3 | PGr | 4.00 |
| Qk.N_DA 3 | Qk.N_DA | LF-5 | PGr | 4.00 |
| Qk.N_DA 4 | Qk.N_DA | LF-6 | PGr | 4.00 |
| Qk.N_DA 5 | Qk.N_DA | LF-7 | PGr | 4.00 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Statik-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 605 | 503 | 1509 | 83235 | 650 KB |

Berechnung

Statische Berechnung

| Öä}ËÄŠ*\↔~^æ^ÄfiäÄä↔æÄÑæä´ä^ ^& | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à‡→æÁíÁî

Speicher

Speicherplatzbedarf

| Arbeitsspeicher | âæ^=\↔&\ | vorhanden |
|-------------------|----------|-----------|
| Standardverfahren | 1352 KB | ja |

| Festpl. | âæ^=\↔&\ | vorhanden | Laufwerk:\Pfad |
|---------|----------|-----------|-----------------------|
| Ergebn. | 929 KB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÄäæäÄb\ä\↔b´âæ^ÄN|^ä&ääæ

Berechnungszeit : 0 sec

Belastung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | -476.98 |
| | 0.00 | 0.00 | 476.98 |
| LF-2 | 0.00 | 0.00 | -126.43 |
| | 0.00 | 0.00 | 126.43 |
| LF-3 | 0.00 | 0.00 | -22.15 |
| | 0.00 | 0.00 | 22.15 |
| LF-4 | 0.00 | 0.00 | -95.00 |
| | 0.00 | 0.00 | 95.00 |
| LF-5 | 0.00 | 0.00 | -36.27 |
| | 0.00 | 0.00 | 36.27 |
| LF-6 | 0.00 | 0.00 | -31.12 |
| | 0.00 | 0.00 | 31.12 |
| LF-7 | 0.00 | 0.00 | -68.32 |
| | 0.00 | 0.00 | 68.32 |
| LF-8 | 0.00 | 0.00 | -35.00 |
| | 0.00 | 0.00 | 35.00 |
| Summe | 0.00 | 0.00 | -891.28 |
| | 0.00 | 0.00 | 891.28 |

Aufbau der Ergebnisse : 0 sec

Ende der statischen Analyse

Gesamtdauer : 1 sec

*** Berechnung erfolgreich abgeschlossen ***

Auswertung

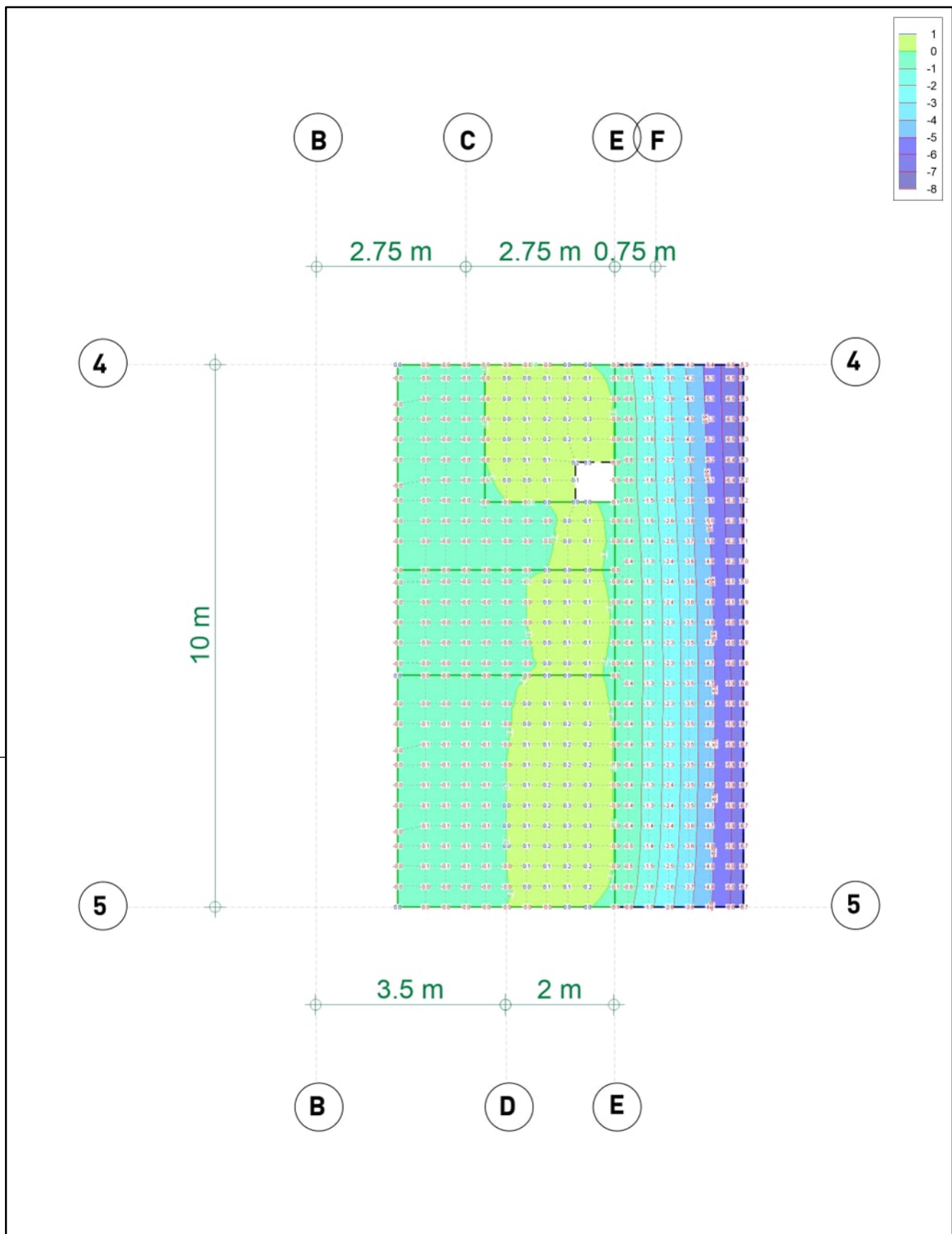
Nachweise (GZG)

Verformungsparameter 1992-1-1

| | | | | | | | | |
|--------|----------------|--|--------|------------------|----------------|------|----------|------------|
| | RH | Relative Luftfeuchte | | | | | | |
| | Zement | Zementtyp | | | | | | |
| | t _s | Betonalter bei Austrocknungsbeginn | | | | | | |
| | t ₀ | Betonalter bei Belastungsbeginn | | | | | | |
| | T | Temperatur bis Belastungsbeginn | | | | | | |
| | t | Betonalter zum betrachteten Zeitpunkt | | | | | | |
| | Trocknung | N b\ä~'←^ ^&bâ→†'ääÇâæ↔äbæ↔\↔&Dæ↔^bæ↔\↔&D | | | | | | |
| | | RH | Zement | t _s | t ₀ | T | t | Trocknung |
| | | [%] | | [d] | [d] | YflȲ | [d] | |
| D-TG | | 50 | N | 0 | 28 | 20 | 25550 | beidseitig |
| UZ-3.1 | | 50 | N | 0 | 28 | 20 | 25550 | |
| UZ-3.2 | | 50 | N | 0 | 28 | 20 | 25550 | |
| UZ-3.3 | | 50 | N | 0 | 28 | 20 | 25550 | |
| | | Endkriechzahl | | | | | | |
| | c _s | Endschwinddehnung | | | | | | |
| | | Lastdauereinflussbeiwert | | | | | | |
| | ĖP~↑â↔^Ė | P~↑â↔^á\↔~^b\]*ÄâfiäÄ ĖÖä↑↔\↔ ^&Ä | | | | | | |
| | | (Nachweiskombination oder seltene Kombination) | | | | | | |
| | min | R↔^ääb\}æä\ÄâfiäÄÜæä\æ↔ ^&bâæ↔}æä\Ä | | | | | | |
| | | vgl. jeweils 7.4.3 | | | | | | |
| | | | | c _s | | | ĖP~↑â↔^Ė | min |
| | | [-] | | Y _ç Ȳ | | | | [-] |
| D-TG | | 2.275 | | -0.433 | Langzeit | | selten | - |
| UZ-3.1 | | 2.420 | | -0.483 | Langzeit | | selten | - |
| UZ-3.2 | | 2.420 | | -0.483 | Langzeit | | selten | - |
| UZ-3.3 | | 2.420 | | -0.483 | Langzeit | | selten | - |

keine Verformungsnachweisbereiche definiert

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Verformungsnachweis Zustand II

Endverformung f_{00} im Zustand II in [mm]

æ • Á à^i|æ^i~) * Áà^i/SSP

Minimum

Max = 0.3 (Kn. 446), Min = -7.3 (Kn. 471), Step = 1



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T æ • æ^i/SSP

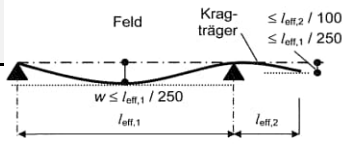
MicroFe 2025.016

Differenzverformung $f_{\infty}-f_0$ im Zustand II in [mm]

Minimum



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| | Begrenzung Durchbiegungen TG | | |
|---|------------------------------|------------------|---|
| | Kragarm | Feld | Hinweise |
| Deckendicke [cm] | 25 | 25 | |
| Maßgebende Spannweite KA [m] | 2,375 | - | |
| Maßgebende Spannweite Feld [m] | 4 | 4 | |
| Grundbewehrung | Ø10/10 | Ø10/10 | |
| Zulagebewehrung maßgebender Bereich | - | - | |
| Max Differenzverformung [mm] $l_{KA}/200$ o. $l_{Feld}/500$ | 8 | 8 | |
| Max Differenzverformung [mm] GA | - | - | GA = gleitender Anschluss Wand |
| Max Endverformung [mm] $l_{KA}/100$ o. $l_{Feld}/250$ | 16 | 16 |  |
| Max Überhöhung [mm] $l/250$ | 16 | 16 | |
| Vorh. Anfangsverformung [mm] | 2 | 0 | |
| Vorh. Differenzverformung ohne Überhöhung [mm] | 5 | 0,1 | |
| Vorh. Endverformung ohne Überhöhung [mm] | 7,3 | 0,1 | |
| Gewählte Überhöhung [mm] | 0 | 0 | |
| Vorh. Differenzverformung [mm] | 5 | 0,1 | |
| Vorh. Endverformung mit Überhöhung [mm] | 7,3 | 0,1 | |
| Anmerkungen | keine Überhöhung | keine Überhöhung | |

Bemessungsparameter Biegung

Biegebemessung der Platten (Stahlbeton) nach DIN EN 1992-1-1

Mat. / Querschnitt

| Position | Winkel YflŸ | Art | Material Quer | Dicke [cm] |
|----------|----------------|-----|------------------------------|---------------|
| D-TG | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ↔^b↔=ã^|^&ÂT|ãã↔↔\

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----------|---|
| D-TG | umlaufend | XC1 WO | \ã~↔æ^Ã~ãããAb\†^ã↔&Ã nass Weitgehend trockener Beton |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro YflŸ | so YflŸ | ru YflŸ | su YflŸ |
|----------|------------|------------|------------|------------|
| D-TG | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

| Position | Cmin [mm] | #'def [mm] | Cnom [mm] | Cv [mm] | d'r [mm] | d's [mm] |
|----------|--------------|---------------|--------------|------------|-------------|-------------|
| D-TG | o 10 | 10 | 20 | - | 35 | 35 |
| | u 10 | 10 | 20 | - | 35 | 35 |

Bemessungsparameter

àfiãÃäæ^ÃÖãæ^~ | b\á^ãÃäããÁÜãã&à†ã↔&æ↔\Ã^á^ãÃÖSÁÓSÁ
1992-1-1

Bi egung

| Position | Mindestbewehrung |
|----------|------------------|
| D-TG | ja |

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

D-TG

Ñæ†æbb|^&ÃàfiãÃ\$→á\æÃÇU\áã→âæ\~^DÃÆËÜÖ

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nationen

Ráß&æâæ^ãæÃP~†ã↔^á\↔~^æ^Ã^á^ãÃÖSÁÓSÁFïï€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

Æ↔æÃÑæ\æ↔↔&|^&Ãæ↔^~æ→æãÃQáb\à†→æÃ↔^æããã→âÃeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh}bX][#]cf~VYf["

Grundkombinationen

| Lkn | Ew | Gk | Ö↔ | Qk.N_E1 | Qk.N_DA |
|---------|----|------|------|-------------|-------------|
| 1 | | 1.00 | 1.00 | 1.50 | . |
| 2-14 | | 1.00 | 1.35 | . | 1.50 |
| 15-30 | | 1.00 | 1.00 | 1.50 | 1.50 |
| 31-49 | | 1.35 | 1.35 | . | 1.50 |
| 50-67 | | 1.00 | 1.00 | . | 1.50 |
| 68-84 | | 1.35 | 1.35 | 1.50 | 1.50 |
| 85-93 | | 1.00 | 1.35 | 1.50 | 1.50 |
| 94-101 | | 1.35 | 1.00 | . | 1.50 |
| 102-106 | | 1.35 | 1.00 | 1.50 | 1.50 |

Alle Nachweise

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,r,u}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,r,u}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|---------------------------|
| 30 | 71 | 2.32 | -0.63 | 1.98 | 4.30 | 3.12 |
| 32 | 51 | -1.77 | -0.43 | 6.65 | 4.88 | 3.12 |
| 107 | 21 | -0.01 | -0.12 | -1.77 | 1.76 | 3.12 |
| 223 | 102 | 0.08 | 14.17 | 1.17 | 1.25 | 3.12 |
| 266 | 34 | 0.07 | 0.67 | -0.37 | 0.44 | 3.12 |
| 270 | 104 | 2.13 | 3.46 | 0.09 | 2.21 | 3.12 |
| 304 | 72 | 0.44 | -0.57 | 0.29 | 0.59 | 3.12 |
| 327 | 29 | 0.00 | 4.32 | 0.11 | 0.11 | 3.12 |
| 379 | 85 | -1.81 | 0.37 | 2.16 | 0.35 | 3.12 |
| 395 | 25 | 13.76 | -13.61 | 1.07 | 13.84 | 3.12 |
| 435 | 69 | 0.44 | 0.09 | 3.51 | 3.95 | 3.12 |
| 497 | 69 | 7.49 | 6.31 | 6.75 | 14.24 | 3.12 |
| 499 | 51 | -1.74 | 0.43 | 1.71 | 0.00 | 3.12 |

as, s, unten

Erforderliche untere Bewehrung $a_{s,s,u}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,s,u}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|---------------------------|
| 7 | 18 | -36.86 | 0.14 | -5.99 | 1.11 | 3.12 |
| 9 | 18 | -54.99 | -0.76 | -20.37 | 6.79 | 3.12 |
| 10 | 70 | -97.91 | -8.55 | 26.48 | -35.03 | 3.12 |
| 21 | 38 | -0.74 | -1.22 | 2.29 | 1.07 | 3.12 |
| 253 | 68 | 2.60 | 3.25 | 0.35 | 3.60 | 3.12 |
| 265 | 26 | -0.72 | 0.29 | -0.06 | 0.30 | 3.12 |
| 328 | 70 | -14.73 | 5.70 | 0.97 | 5.76 | 3.12 |
| 411 | 47 | -29.60 | 3.57 | -7.74 | 5.59 | 3.12 |

as, r, oben

Erforderliche obere Bewehrung $a_{s,r,o}$

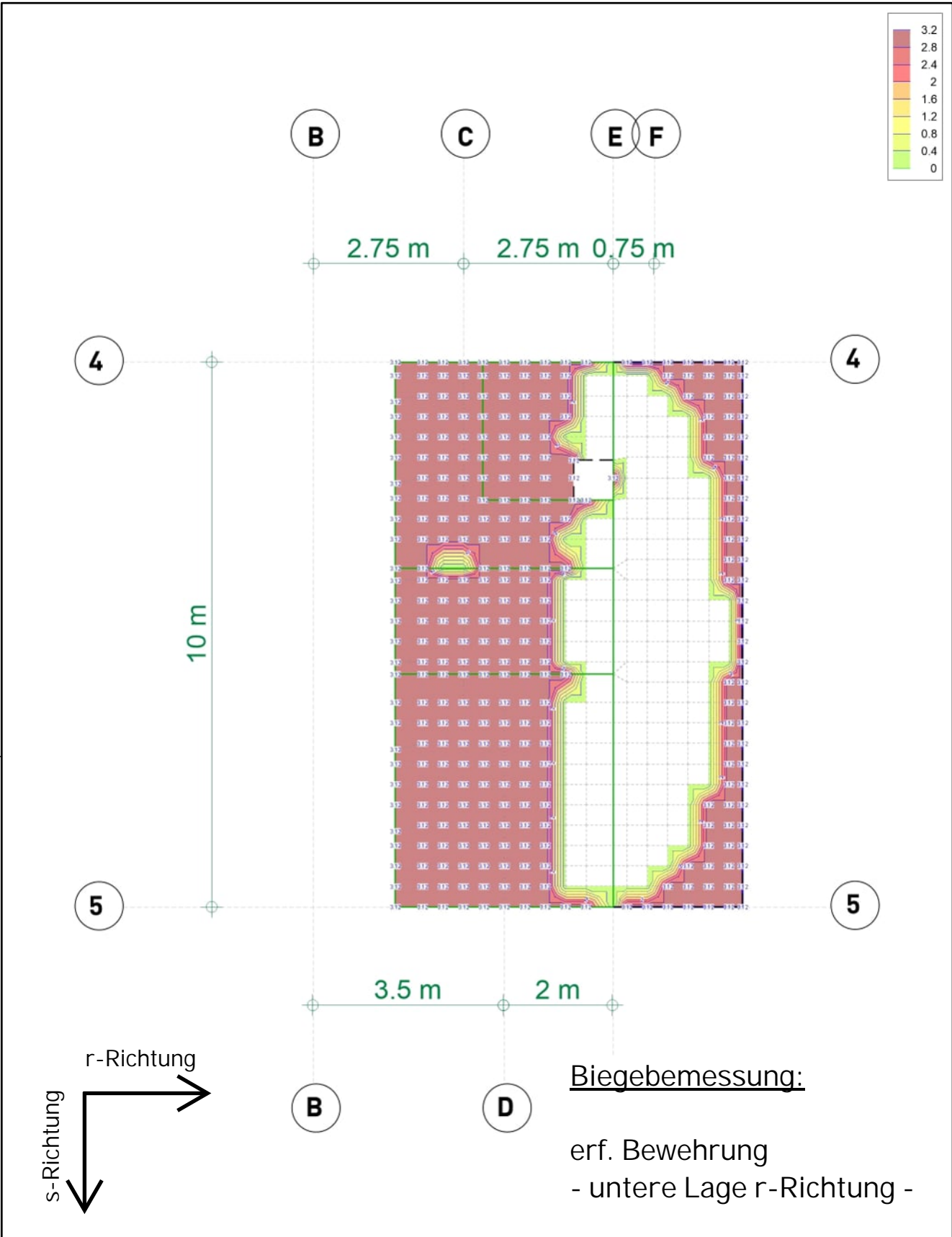
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,r,o}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|---------------------------|
| 2 | 15 | -0.21 | -0.05 | -0.47 | -0.68 | 3.12 |
| 7 | 32 | -75.57 | 0.45 | -13.63 | -89.20 | 9.79 |
| 8 | 69 | -66.99 | -4.62 | 9.62 | -76.61 | 8.26 |
| 9 | 33 | -108.9 | -1.75 | -35.69 | -144.6 | 16.99 |
| 10 | 68 | -101.9 | -9.11 | 25.98 | -127.8 | 14.74 |
| 20 | 36 | -58.68 | -10.08 | 2.22 | -60.90 | 6.48 |
| 24 | 15 | 0.22 | 0.05 | 0.83 | -0.61 | 3.12 |
| 30 | 71 | 2.32 | -0.63 | 1.98 | 4.30 | 3.12 |
| 33 | 51 | -1.71 | 0.18 | -1.15 | -2.86 | 3.12 |
| 109 | 72 | 0.23 | -0.02 | -0.36 | -0.13 | 3.12 |
| 117 | 19 | -6.21 | -0.28 | 0.16 | -6.37 | 3.12 |
| 167 | 22 | 1.66 | -0.81 | -1.71 | -0.05 | 3.12 |
| 223 | 103 | 0.08 | 14.13 | 1.17 | -0.02 | 3.12 |
| 249 | 34 | 0.22 | 0.57 | -0.63 | -0.40 | 3.12 |
| 264 | 16 | -2.63 | -0.30 | -0.15 | -2.78 | 3.12 |
| 275 | 18 | -3.06 | -1.92 | 0.00 | -3.06 | 3.12 |
| 285 | 68 | 0.25 | 0.52 | 0.78 | -0.53 | 3.12 |
| 321 | 19 | -0.05 | -2.11 | -0.09 | -0.14 | 3.12 |
| 324 | 36 | 0.92 | -3.12 | -0.67 | 1.06 | 3.12 |
| 344 | 45 | -1.89 | -2.95 | 0.44 | -2.34 | 3.12 |
| 397 | 25 | -12.99 | -1.26 | -0.16 | -13.15 | 3.12 |
| 403 | 16 | 0.08 | -0.06 | 0.11 | -0.03 | 3.12 |
| 426 | 1 | 13.46 | 9.74 | 0.07 | 13.53 | 3.12 |
| 441 | 31 | 2.21 | -0.04 | -0.83 | 3.04 | 3.12 |
| 499 | 51 | -1.74 | 0.43 | 1.71 | -3.45 | 3.12 |

as, s, oben


Erforderliche obere Bewehrung $a_{s,so}$

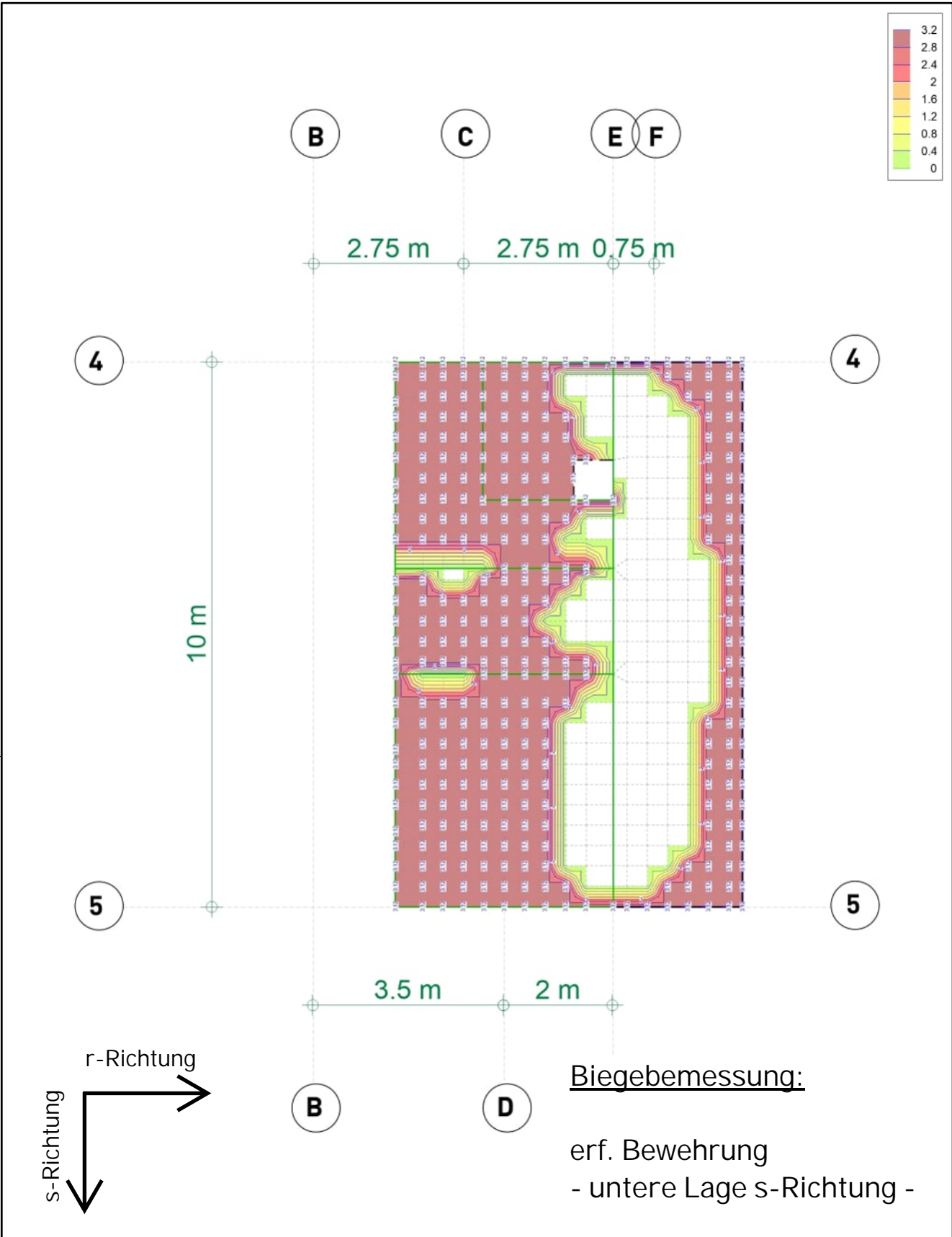
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|------------------------|
| 2 | 15 | -0.21 | -0.05 | -0.47 | -0.52 | 3.12 |
| 9 | 70 | -106.2 | -1.57 | -36.81 | -38.38 | 3.77 |
| 10 | 68 | -101.9 | -9.11 | 25.98 | -35.09 | 3.40 |
| 24 | 15 | 0.22 | 0.05 | 0.83 | -0.78 | 3.12 |
| 109 | 87 | 0.22 | 0.00 | -0.32 | -0.32 | 3.12 |
| 207 | 19 | -10.63 | -3.15 | -0.54 | -3.70 | 3.12 |
| 258 | 31 | -22.07 | -8.08 | -1.12 | -9.19 | 3.12 |
| 285 | 53 | 0.10 | 0.23 | -0.15 | 0.38 | 3.12 |
| 310 | 16 | -1.20 | 0.58 | -0.19 | 0.61 | 3.12 |
| 379 | 80 | -1.83 | 0.20 | 2.17 | -1.97 | 3.12 |
| 419 | 31 | 0.24 | 0.07 | 0.35 | -0.28 | 3.12 |

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Biegebemessung:
erf. Bewehrung
- untere Lage r-Richtung -

| | | | |
|---|------------------------------|-------------------------------------|-------------------|
| : ` } W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf | |
| Max = 3.12 (Kn. 2), Min = 0 (Kn. 46), Step = 0.4 | | | |
| Bew.-Abstand d' = 35 mm | | | |
| Beton C 30/37 | | | |
| Bauteildicke h = 25.00 cm | | | |
| | | aus allen Nachweisen | |
| | | Erforderliche Bewehrung as,erf | |
|  | Modell | TG-LP4-o.Bw. Technikgeschoss | T a • c a K F E E |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | KREBS+KIEFER Ingenieure GmbH | | |



: } W YbVY a Yggi b[

Erforderliche Bewehrung as, erf

Max = 3.12 (Kn. 2), Min = 0 (Kn. 47), Step = 0.4

Bew.-Abstand d' = 35 mm

Beton C 30/37

Bauteildicke h = 25.00 cm

aus allen Nachweisen

• E a c } * Á } c } Á Á E á



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Schwesternschule

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T a i • c a k f e e



: } W YbVYb Yggi b[

Erforderliche Bewehrung as,erf

Max = 16.99 (Kn. 9), Min = 0 (Kn. 40), Step = 2.5

Bew.-Abstand d' = 35 mm

Beton C 30/37

Bauteildicke h = 25.00 cm

aus allen Nachweisen

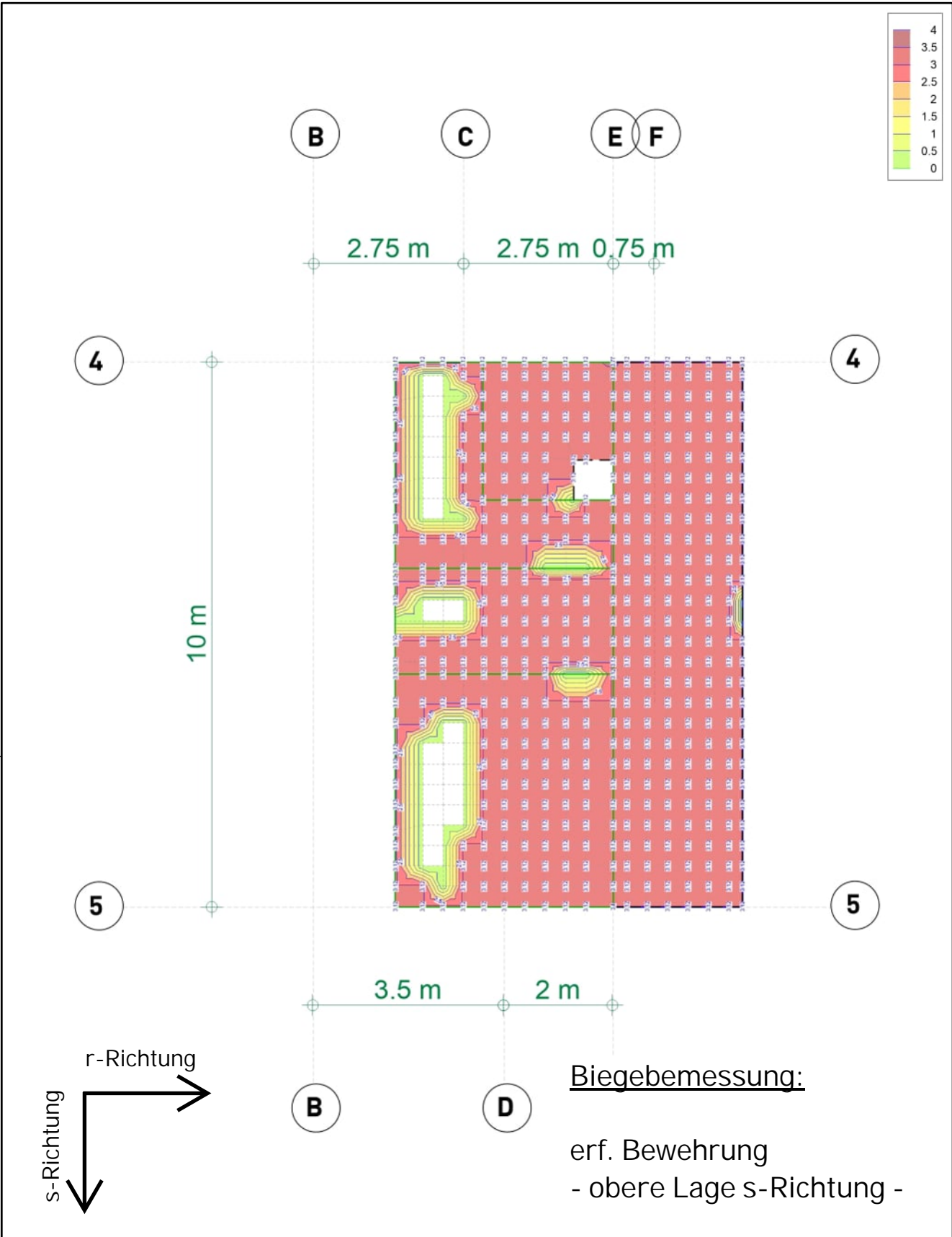
!E@a@ } * A a^) A A A D á



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Schwesternschule

T a i c a K F E E

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: } W YbVY a Yggi b[

Erforderliche Bewehrung as,erf

Max = 3.77 (Kn. 9), Min = 0 (Kn. 40), Step = 0.5
Bew.-Abstand d' = 35 mm
Beton C 30/37
Bauteildicke h = 25.00 cm

aus allen Nachweisen
• U a c) * A à ^) A A a D á



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Schwesternschule

T a i • c a k f e e

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Bemessung (GZT+GZG)

| | |
|--|---|
| Bemessungsparameter <u>Bi egung</u> | Biegebemessung der Platten (Stahlbeton) nach DIN EN 1992-1-1 |
|--|---|

| Mat. / Querschnitt | Position | Winkel Yfl\Y | Art | Material Quer | Dicke [cm] |
|---|----------|-----------------|-----|------------------------------|---------------|
| D-TG | | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 25.0 |
| Winkel: Bewehrungsrichtung r iso: isotropes Material Q: 0.0 | | | | | |

| | | | |
|--------------------|---|--|--|
| Expositi onsklasse | &a↑†BÄEÖSÁÓSÁFiiGëFëFêÁÚáãëÄHëF Position Seite Kl Kommentar D-TG umlaufend XC1 \~´←a^Á~äääÁb\†^ä↔&Á nass WO Weitgehend trockener Beton | | |
|--------------------|---|--|--|

| Bewehrung | Vorgaben zur Bewehrungsdefinition |
|-----------|-----------------------------------|
|-----------|-----------------------------------|

| Bewehrungsrichtung | Orthogonale Bewehrung | | | | |
|--------------------|-----------------------|------------|------------|------------|------------|
| | Position | ro YflY | so YflY | ru YflY | su YflY |
| D-TG | | 0.00 | 90.00 | 0.00 | 90.00 |

| Position | | C_{min} [mm] | $\#_{def}'$ [mm] | C_{nom} [mm] | C_v [mm] | d'_r [mm] | d'_s [mm] |
|----------|---|-------------------|---------------------|-------------------|---------------|----------------|----------------|
| D-TG | o | 10 | 10 | 20 | 30 | 35 | 45 |
| | u | 10 | 10 | 20 | 30 | 35 | 45 |

| Grundbewehrung | | Position | RÄ\\æÊÄU\†âæ ~Y†↑ÿĐbY'†↑ÿ | d' r [mm] | a _{sg,r} [cm ² /m] | d' s [mm] | a _{sg,s} [cm ² /m] |
|----------------|---|----------|------------------------------|--------------|---|--------------|---|
| D-TG | u | r | Ö3213202 | 35 | 7.85 | | |
| | u | s | Ö3213202 | | | 45 | 7.85 |
| | o | r | Ö3213202 | 35 | 7.85 | | |
| | o | s | Ö3213202 | | | 45 | 7.85 |

Bemessungsparameter äfiÄÄä~ÄÖä~ | b\á^äÄääÄÜää&à‡ä↔&←æ↔\Á^á´äÄØSÁÓSÁ
1992-1-1

| Position | Mindestbewehrung |
|---|------------------|
| D-TG | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | |

D-TG Ñæ↑æbb | ^&ÁàfiãÃ\$→á\ \æÁÇU\ áâ→âæ\ ~^DÁÇEÜÖ

| Erf. Bewehrung | Erforderliche Bewehrung |
|----------------|-------------------------|
|----------------|-------------------------|

Kombi nati onen Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á' ãÁEØSÁÓSÁFïï€

| | |
|-----|------------------------|
| Ew | Einwirkungsname |
| Lkn | Lastkombinationsnummer |

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

| Grundkombinationen | | | | | |
|--------------------|----|------|------|---------|-------------|
| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
| 1-17 | | 1.35 | 1.35 | . | 1.50 |
| 18-36 | | 1.35 | 1.35 | 1.50 | 1.50 |

| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|-------|----|------|------|---------|-------------|
| 37-50 | | 1.00 | 1.00 | 1.50 | 1.50 |
| 51-58 | | 1.00 | 1.35 | 1.50 | 1.50 |
| 59-73 | | 1.00 | 1.00 | . | 1.50 |
| 74-83 | | 1.00 | 1.35 | . | 1.50 |
| 84-88 | | 1.35 | 1.00 | 1.50 | 1.50 |
| 89-94 | | 1.35 | 1.00 | . | 1.50 |

Alle Nachweise

Óã~ãäæã→'åæÁQ‡^&bâæ}æää|^&Áá|bÁá→æ^ÁSá'å}æ→bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s, ru}$ (Differenzbew.)

die vorhandene Bewehrung ausreichend ist.

as, s, unten

Erforderliche untere Bewehrung $a_{s, su}$ (Differenzbew.)

ÖbÄ↔b\Ä↔æ↔æÄ~|b†\~↔↗'ääÄÑæ}æää|&Äæää~ääää↔'âÊÄda
die vorhandene Bewehrung ausreichend ist.

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$ (Differenzbew.)

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ $Y \uparrow \Upsilon \Downarrow \Upsilon$ |
|--------|-----|-------------------------|-------------------------|--------------------------|-----------------------|---|
| 7 | 4 | -75.57 | 0.45 | -13.63 | -89.20 | 1.94 |
| 8 | 18 | -66.99 | -4.62 | 9.62 | -76.61 | 0.39 |
| 9 | 1 | -108.9 | -1.75 | -35.69 | -144.6 | 8.93 |
| 10 | 19 | -101.9 | -9.11 | 25.98 | -127.8 | 6.79 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$ (Differenzbew.)

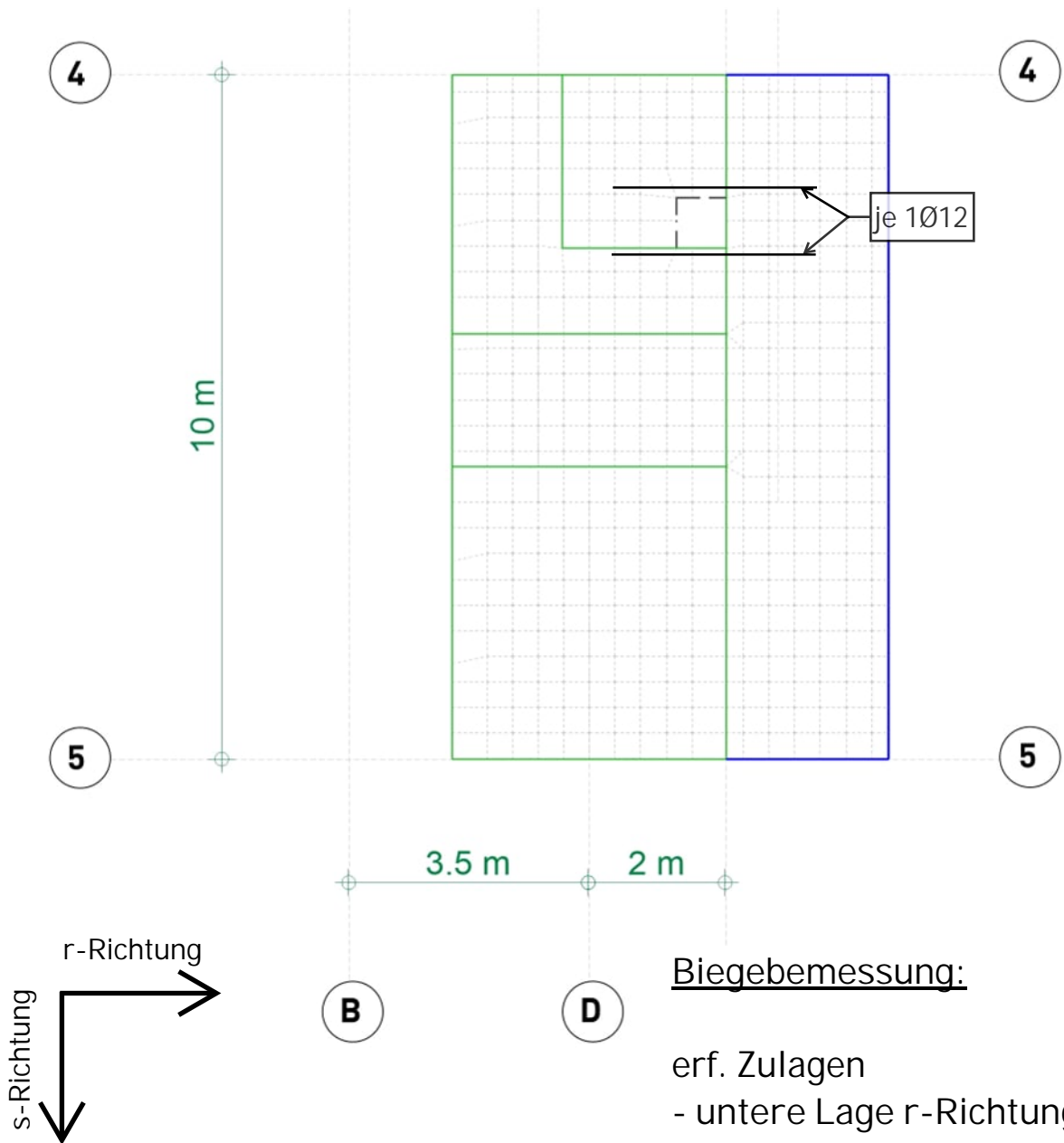
ÖbÄ↔b\Ä↔æ↔æA~|b†\~↔↔'âæÄÑæ}æää|^&Äæää~ääæ↔↔'âÊÄda
die vorhandene Bewehrung ausreichend ist.

Grundbewehrung: Ø10/10 (7,85 cm²/m)

- Die Grundbewehrung wird über das Auflager geführt
- Randstecker von Ø10/10 (7,85 cm²/m) einlegen.
- Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.
- *) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Lasteinleitungen, Plattenversprüngen o.ä. dar.

Hinweise:

- Angaben siehe Abschnitt 02 beachten.
- > Hinweise zur Bewehrungsführung <-



: } W YbVYa Yggi b[

Erforderliche Bewehrung as,erf

Vorhandene Bew. as,vorh = 7.85 (Grund+Zulagen)

Bew.-Abstand d' = 35 mm

Beton C 30/37

Bauteildicke h = 25.00 cm

aus allen Nachweisen (Differenzbew.)

!EJAC } * Á } c } Á Á } D á

Max = 0 (Kn. 2), Min = 0 (Kn. 2), Step = 0.75



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Schwesternschule

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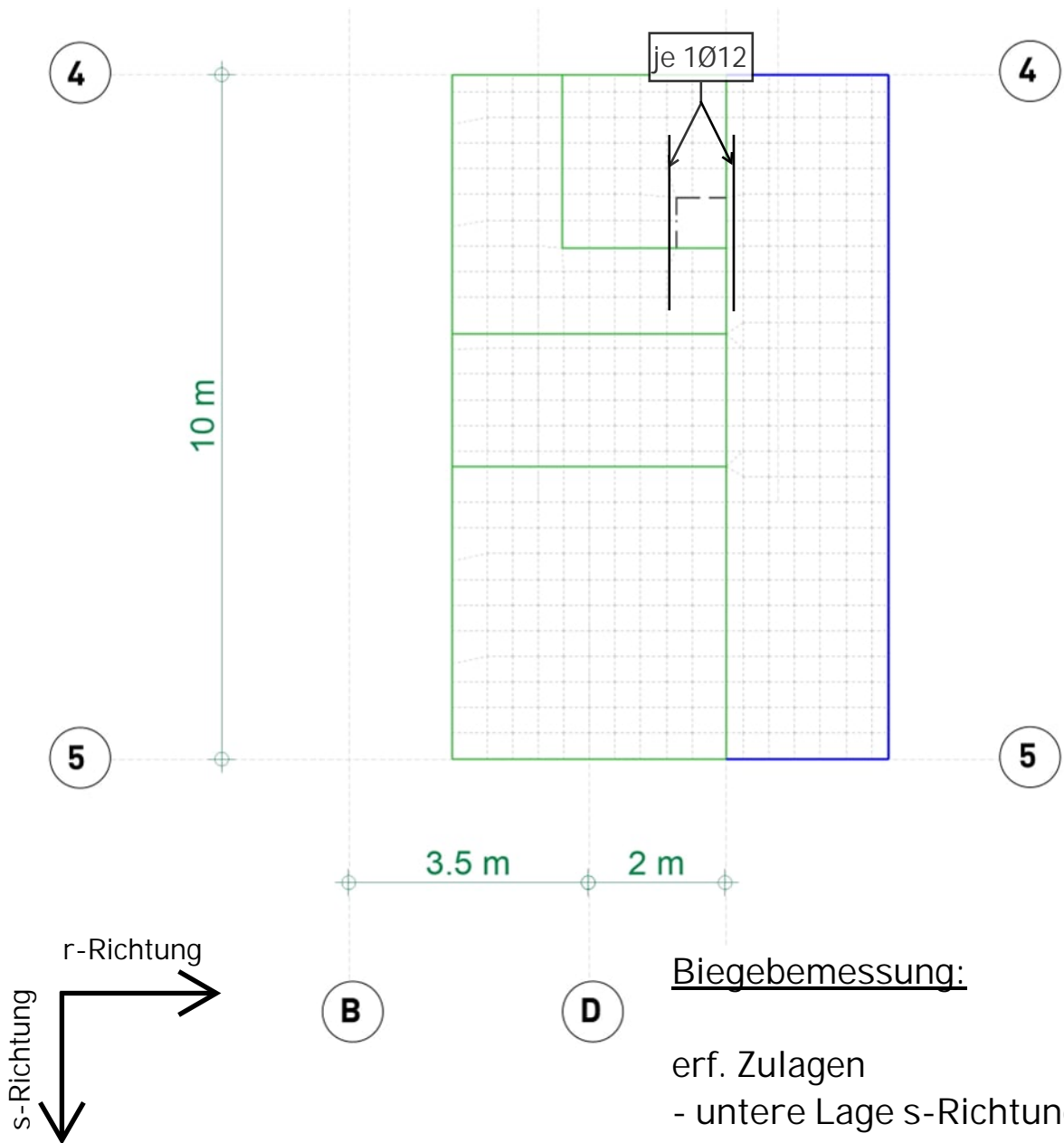
T a • c a k f e e

Grundbewehrung: Ø10/10 (7,85 cm²/m)

- Die Grundbewehrung wird über das Auflager geführt
- Randstecker von Ø10/10 (7,85 cm²/m) einlegen.
- Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.
- *) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Lasteinleitungen, Plattenversprüngen o.ä. dar.

Hinweise:

- Angaben siehe Abschnitt 02 beachten.
- > Hinweise zur Bewehrungsführung <-



: } W YbVYa Yggi b[

Erforderliche Bewehrung as,erf

Vorhandene Bew. as,vorh = 7.85 (Grund+Zulagen)

Bew.-Abstand d' = 45 mm

Beton C 30/37

Bauteildicke h = 25.00 cm

aus allen Nachweisen (Differenzbew.)

• Ua@ } * Á } c } Á Á } D á

Max = 0 (Kn. 2), Min = 0 (Kn. 2), Step = 0.75



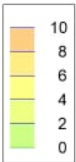
Modell TG-LP4 Technikgeschoss
Bauvorhaben Schulcampus EWK
Schwesternschule

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T a • c a k f e e

MicroFe 2025.016

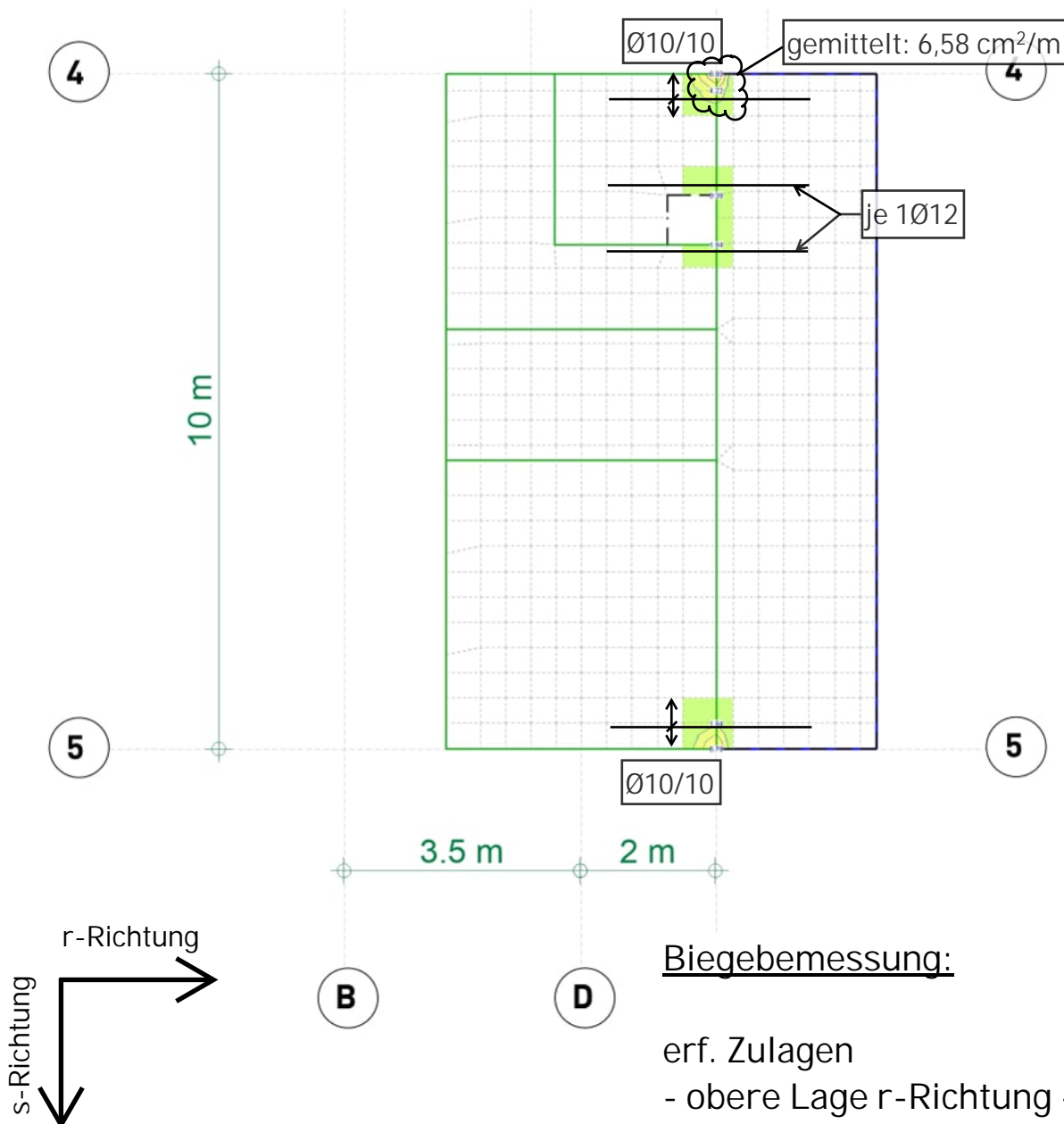
Grundbewehrung: Ø10/10 (7,85 cm²/m)



- Die Grundbewehrung wird über das Auflager geführt
- Randstecker von Ø10/10 (7,85 cm²/m) einlegen.
- Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.
- *) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Lasteinleitungen, Plattenversprüngen o.ä. dar.

Hinweise:

- Angaben siehe Abschnitt 02 beachten.
- > Hinweise zur Bewehrungsführung <-



Biegebemessung:
erf. Zulagen
- obere Lage r-Richtung -

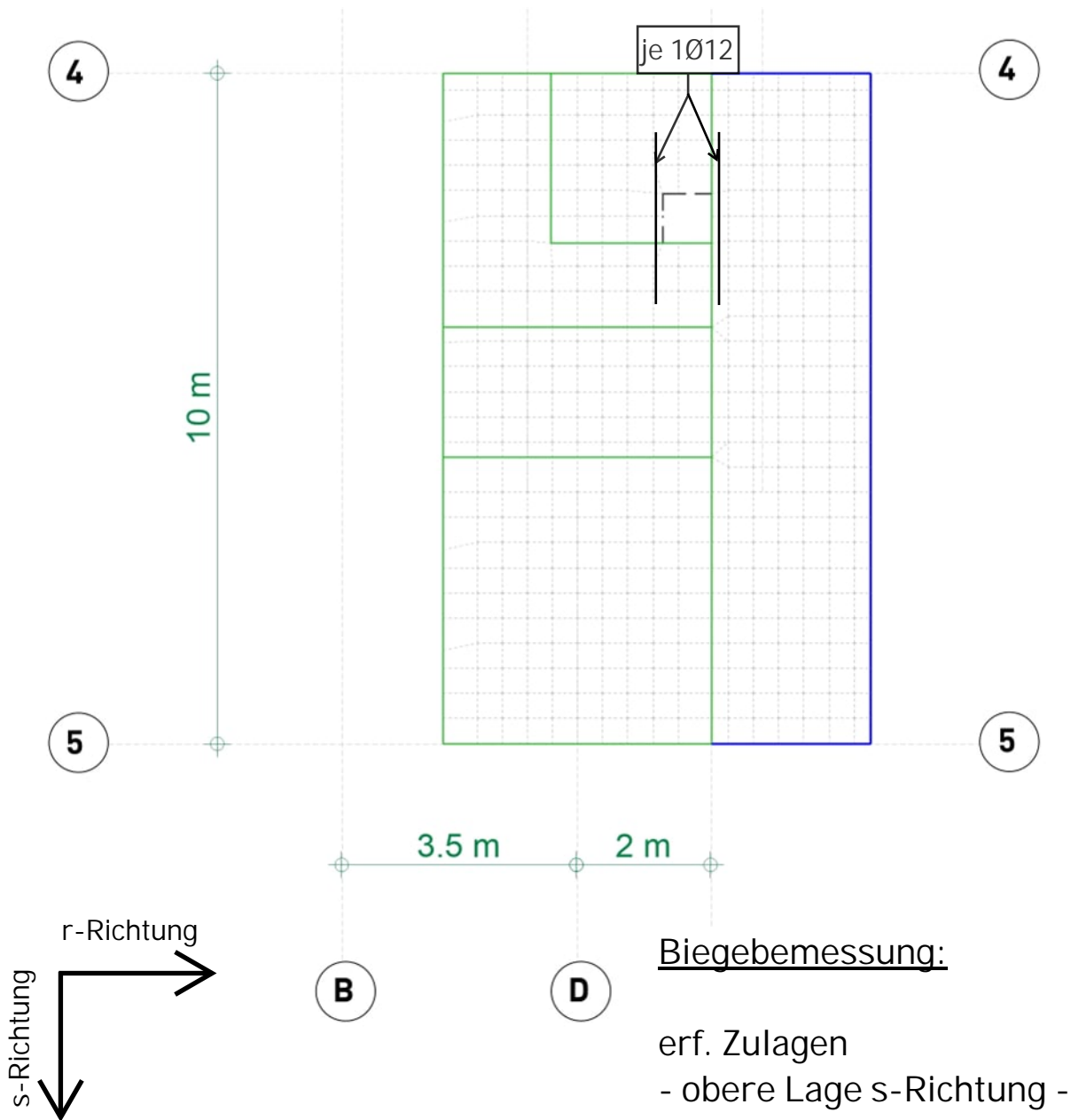
| | | |
|---|-------------|---|
| : } W YbVY a Yggi b[| | Erforderliche Bewehrung as, erf |
| Vorhandene Bew. as, vorh = 7.85 (Grund+Zulagen) | | aus allen Nachweisen (Differenzbew.) |
| Bew.-Abstand d' = 35 mm | | !EJ&@ } * A à^} A A& @ á |
| Beton C 30/37 | | Max = 8.93 (Kn. 9), Min = 0 (Kn. 2), Step = 2 |
| Bauteildicke h = 25.00 cm | | |
| | Modell | TG-LP4 Technikgeschoss |
| | Bauvorhaben | Schulcampus EWK Schwesternschule |
| KREBS+KIEFER Ingenieure GmbH | | T a • ca K FEE |

Grundbewehrung: Ø10/10 (7,85 cm²/m)

- Die Grundbewehrung wird über das Auflager geführt
- Randstecker von Ø10/10 (7,85 cm²/m) einlegen.
- Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.
- *) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Lasteinleitungen, Plattenversprüngen o.ä. dar.

Hinweise:

- Angaben siehe Abschnitt 02 beachten.
- > Hinweise zur Bewehrungsführung <-



: } W YbVY a Yggi b[

Erforderliche Bewehrung as,erf

Vorhandene Bew. as,vorh = 7.85 (Grund+Zulagen)

Bew.-Abstand d' = 45 mm

Beton C 30/37

Bauteildicke h = 25.00 cm

aus allen Nachweisen (Differenzbew.)

• U a c) * A a ^ } A A A Q a

Max = 0 (Kn. 2), Min = 0 (Kn. 2), Step = 2



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Schwesternschule

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T a i c a k f e e

Bemessungsparameter
Querkraft
Bemessungsparameter

Ö→†´äæ^@|æã←ãää\âæ↑æbb|^&Á^á´ääÆØSÁÓSÁFİİĞĖĖĖF
ääfiääÄäæ^ÁÖöæ^~|b\á^ääÄäæääÜää&à†â↔&←æ↔\Á^á´ääÆØSÁÓSÁ
1992-1-1

Querkraft

| Position | Druckstrebenneigung | Mindestbewehrung |
|---|---------------------|------------------|
| D-TG | automatisch | nein |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

D-TG

Ñæ↑æbb|^&ÁääfiääÁŞ→á\æÁÇU\áâ→âæ\~^DÁĖĖÜÖ

Kombi nati onen

Ráß&æâæ^ääÁP~↑â↔^á\↔~^æ^Á^á´ääÆØSÁÓSÁFİİ€
Ew Einwirkungsname
Lkn Lastkombinationsnummer
Ç↔æÁÑæ\æ↔↔↔|^&Áæ↔^~æ→^æääQáb\à†→æÁ↔^~æääâ→âÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

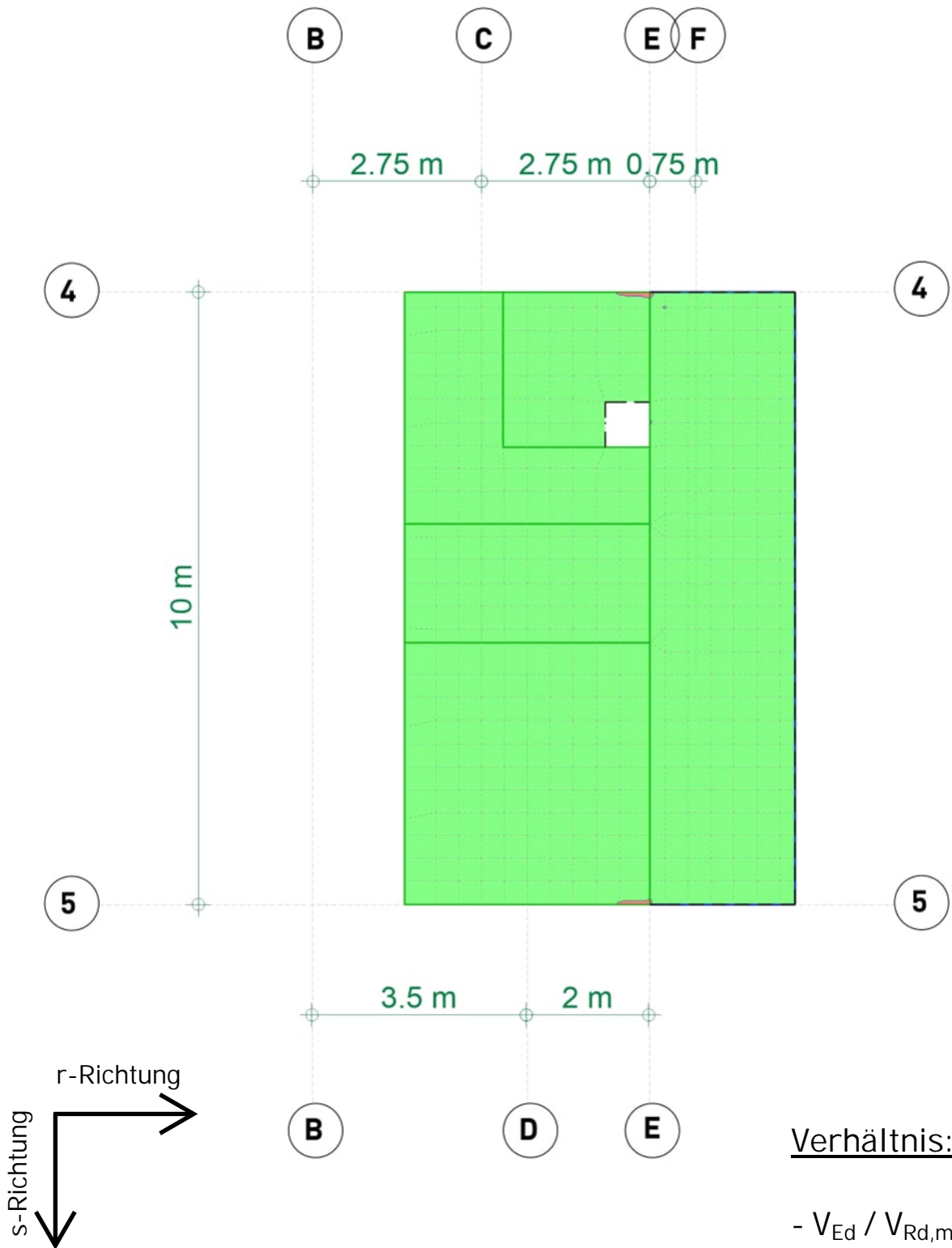
| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|-----|----|------|------|---------|-------------|
| 1-3 | | 1.35 | 1.35 | . | 1.50 |
| 4-5 | | 1.35 | 1.35 | 1.50 | 1.50 |

Hf U[Z} \] [_Y] h

Erforderliche Querkraftbewehrung aus
Üää&à†â↔&←æ↔\b^á^á}æ↔b
Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | V _{Ed,r} V _{Ed,s} [kN/m] | V _{Rd,c} [kN/m] | Z [mm] | Y _{f1} Y ₂ [mm] | V _{Rd,max} [kN/m] | a _{sw,r} a _{sw,s} Y´↑YĐ↑YŸ | a _{sw} Y´↑YĐ↑YŸ |
|--------|-----|--|-----------------------------|------------|--|-------------------------------|--|-----------------------------|
| 9 | 2 | -273.2 35.47 | 120.8 110.1 m | 155 145 | 26 18 | 771.7 554.6 | 19.5 0.00 | 19.49 |
| 10 | 5 | -233.1 -21.29 | 115.5 110.1 m | 155 145 | 23 18 | 705.7 554.6 | 14.5 0.00 | 14.53 |
| 49 | 5 | 164.89 -32.96 | 113.5 m 110.1 m | 155 145 | 18 18 | 592.9 554.6 | 8.16 0.00 | 8.16 |
| 379 | 1 | -130.9 -6.06 | 113.5 m 110.1 m | 155 145 | 18 18 | 592.9 554.6 | 6.47 0.00 | 6.47 |
| 395 | 4 | -195.9 -5.49 | 113.5 m 110.1 m | 155 145 | 19 18 | 604.6 554.6 | 9.93 0.00 | 9.93 |
| 483 | 3 | 184.73 56.56 | 113.5 m 110.1 m | 155 145 | 18 18 | 592.9 554.6 | 9.14 0.00 | 9.14 |

m: R↔^ääb\}æää\Á^á´ääÆØSÁÓSÁFİİĞĖĖĖFĖÁÖ→ÈÇWĖĞĖÄDÁÁ↑áß&æâæ^ä



Verhältnis:

$$- V_{Ed} / V_{Rd,max} -$$

Querkraftbemessung

Übersicht über die Querkraftbemessung der Bauteile

Max = 0.35, Min = 0

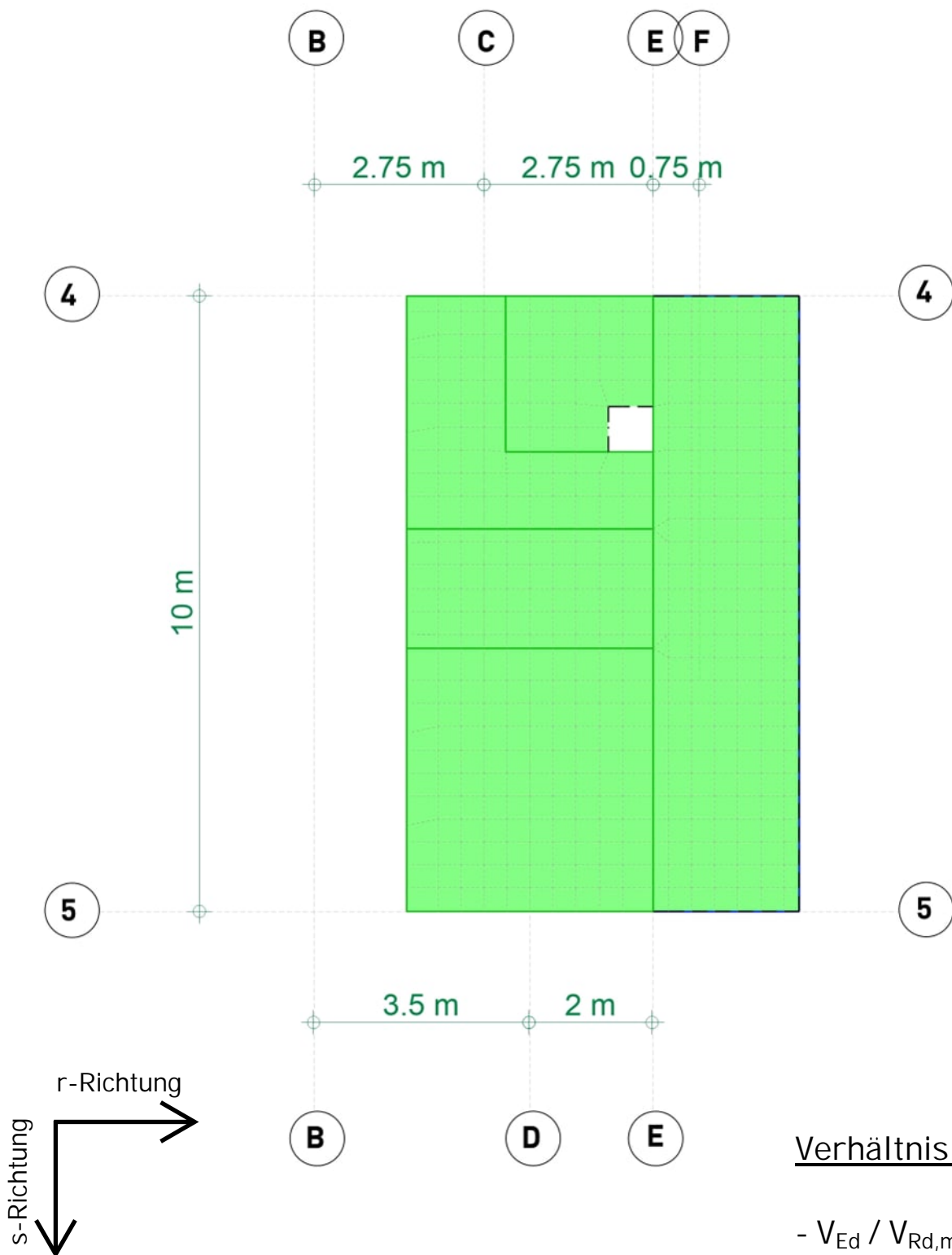


Modell TG-LP4 Technikgeschoss
Bauvorhaben Schulcampus EWK
Schwesternschule

KREBS+KIEFER Ingenieure GmbH

Tafel 1 von 1

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Verhältnis:
 $- V_{Ed} / V_{Rd,max} -$

Querkraftbemessung

Übersicht über die Querkraftbemessung der Bauteile

Max = 0.21, Min = 0



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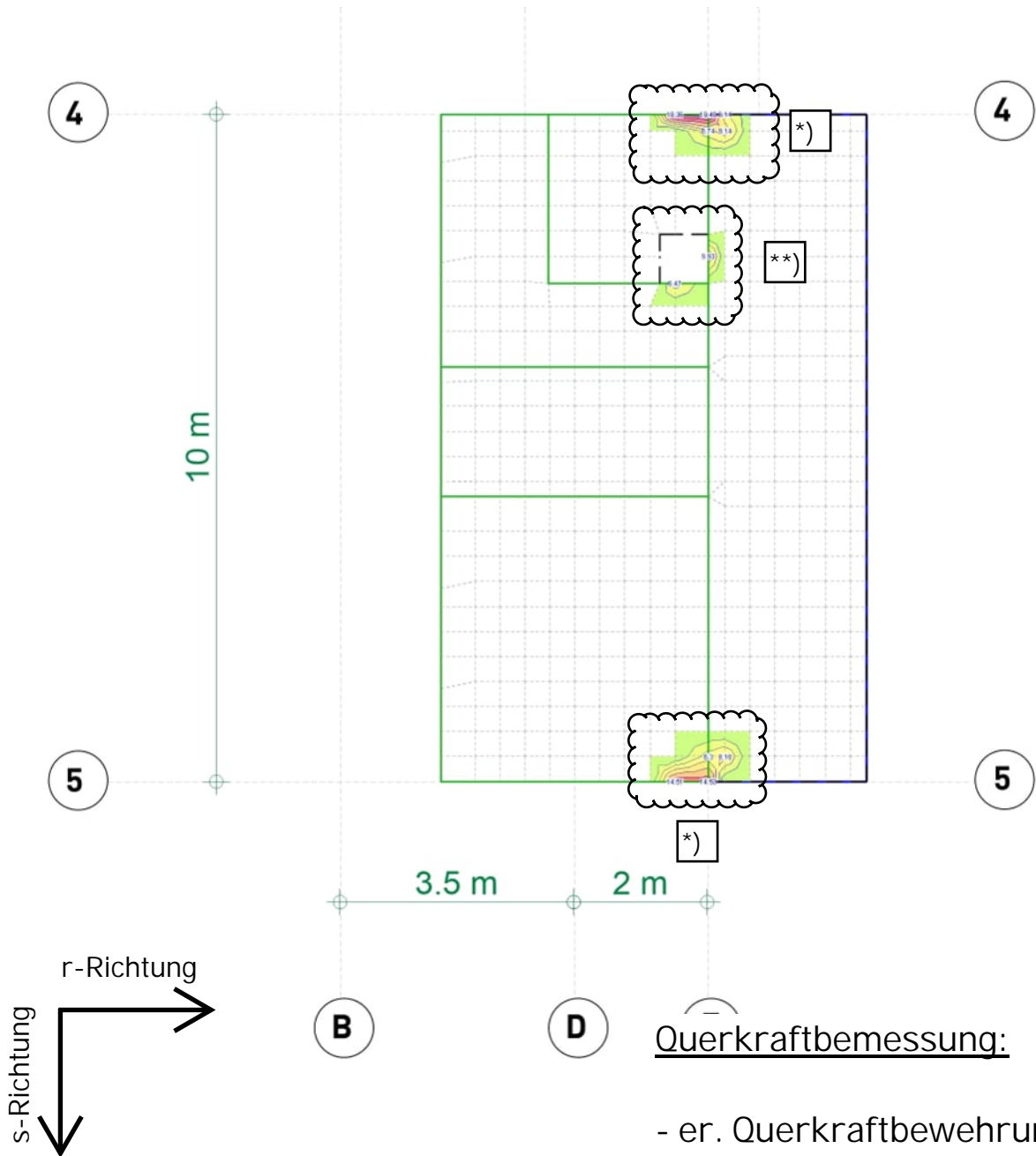
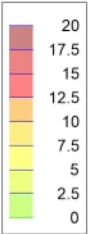
KREBS+KIEFER Ingenieure GmbH

Tafelnummer

Legende:

*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke -> nicht zu berücksichtigen

**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand -> nicht zu berücksichtigen



Querkraftbemessung:

- er. Querkraftbewehrung -

Querkraftbemessung

Übersicht über die Querkraftverläufe im FE-Modell

Max = 19.49, Min = 0, Step = 2.5



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Tafel 10.1

Lastübergabe

Übung 1

Übung 1

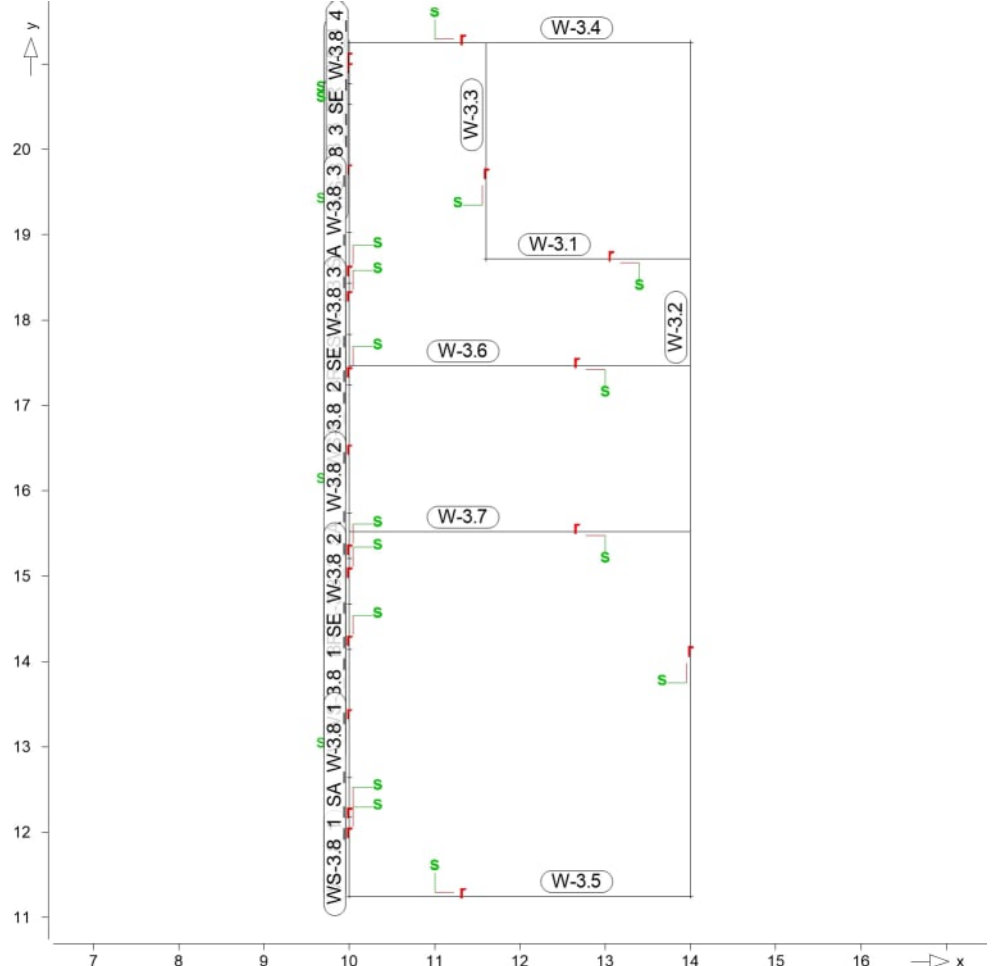
MicroFe

Positionsgrafik

Übung 1

MicroFe

Positionsgrafik



Die vertikalen Auflagerreaktionen werden
→ ab \ ä ä → } x b x Ä | ä Ä Q ä b \ f i ä ä ^ ä ä ^ ä Ä ä ä x \ x b \ x → \ E Ä
Ö ^ b * ä ^ ^ ^ ~ ^ x ^ \ x Ä ä → x ä x ^ Ä | ^ ä ä f i ^ b ^ ä \ x \ E

Kleine Lasten (< 0.01 kN bzw. kN/m) werden nicht
lastfallweise ausgegeben, sondern als Lastsumme
zusammengefasst.

Lasten bis zu einer Summe von 0.01 kN pro Position
} x ä ä x ^ Ä { x ä ^ ä ^ ä ^ b b x \ i Ä ä x Ä N | b } x ä \ | ^ Ä x ä ä ~ x \ Ä
getrennt nach positiver und negativer
Wirkungsrichtung.

Linienlasten

Blocklasten der einzelnen Abschnitte in
Gravitationsrichtung

W-3.1

| Lastfall | Lasten (4 Abschnitte je 0.60m) | [kN/m] |
|---|--------------------------------|-------------------------|
| Gk | LF-1 (g) | -10.7 -11.5 11.76 27.65 |
| Ö← | LF-2 | -6.14 -6.00 -0.67 2.87 |
| Qk.N_E1 | LF-8 | 2.80 9.06 8.60 1.95 |
| Qk.N_DA | LF-3 | 1.13 3.78 4.01 1.84 |
| | LF-4 | -14.9 -18.0 -7.46 -0.02 |
| | LF-5 | 1.20 1.97 2.22 4.26 |
| | LF-6 | -0.09 -0.34 -0.59 -0.87 |
| | LF-7 | 0.44 0.59 0.48 0.53 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | |

W-3.2

| Lastfall | Lasten (14 Abschnitte je 0.71m) | [kN/m] |
|---|---------------------------------|--|
| Gk | LF-1 (g) | 105.62 62.56 49.63 50.86 57.92 68.70 70.10 |
| Ö← | | 65.44 72.40 78.69 59.26 46.45 69.53 108.5 |
| | LF-2 | 17.94 11.18 9.10 9.27 10.34 12.08 12.27 |
| | | 11.51 13.05 14.42 9.90 7.34 12.41 19.32 |
| Qk.N_E1 | LF-8 | 0.31 0.07 -0.01 -0.06 -0.17 -0.33 -0.31 |
| Qk.N_DA | | -0.29 -1.07 -2.33 -1.27 5.41 8.52 -0.85 |
| | LF-3 | 0.09 0.02 0.00 -0.02 -0.05 -0.10 -0.10 |
| | | -0.11 -0.35 -0.72 -0.27 2.37 3.88 1.02 |
| | LF-4 | 39.51 16.36 9.46 10.82 16.66 25.04 26.48 |
| | | 22.94 26.06 29.05 20.07 12.69 21.35 37.52 |
| | LF-5 | -0.03 0.00 0.01 0.02 0.03 0.00 -0.12 |
| | | -0.20 0.45 1.44 0.55 -0.22 -0.27 -0.03 |
| | LF-6 | 0.07 -0.04 -0.15 -0.36 -0.65 -0.30 1.85 |
| | | 2.85 0.90 -0.49 -0.25 -0.01 -0.04 -0.14 |
| | LF-7 | -3.77 6.04 8.89 8.08 4.69 -0.49 -3.57 |
| | | -2.45 -0.95 -0.43 -0.30 -0.15 -0.09 0.25 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | |

W-3.3

| Lastfall | Lasten (4 Abschnitte je 0.63m) | [kN/m] |
|---|--------------------------------|-------------------------|
| Gk | LF-1 (g) | 30.60 25.22 22.88 23.33 |
| Ö← | LF-2 | 3.72 2.71 2.13 1.46 |
| Qk.N_E1 | LF-8 | 1.70 9.06 10.31 3.88 |
| Qk.N_DA | LF-3 | 1.77 4.21 4.61 2.33 |
| | LF-4 | 0.37 -2.79 -3.77 -1.31 |
| | LF-5 | 5.52 4.00 3.37 1.87 |
| | LF-6 | -0.47 0.01 0.07 0.03 |
| | LF-7 | 0.26 -0.01 -0.03 -0.01 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | |

W-3.4

| Lastfall | Lasten (6 Abschnitte je 0.67m) | [kN/m] |
|---|--------------------------------|-------------------------------------|
| Gk | LF-1 (g) | 23.48 25.67 24.16 19.19 -4.98 -10.7 |
| Ö← | LF-2 | 0.66 1.24 0.83 -0.06 -5.14 -6.75 |
| Qk.N_E1 | LF-8 | -0.51 -2.34 -1.32 3.76 6.17 0.48 |
| Qk.N_DA | LF-3 | -0.19 -0.68 0.31 2.64 3.47 1.36 |
| | LF-4 | 0.22 1.12 1.09 -2.33 -13.6 -15.1 |
| | LF-5 | 1.29 2.03 0.28 -0.44 -0.22 0.04 |
| | LF-6 | 0.00 -0.01 -0.01 0.02 0.07 0.07 |
| | LF-7 | 0.00 0.00 0.00 0.00 0.00 0.13 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | |

W-3.5

| Lastfall | Lasten (6 Abschnitte je 0.67m) | [kN/m] |
|---|--------------------------------|-------------------------------------|
| Gk | LF-1 (g) | 23.24 28.26 27.77 20.66 -4.63 -8.87 |
| Ö← | LF-2 | 0.39 2.38 2.43 0.86 -4.68 -6.41 |
| Qk.N_E1 | LF-8 | 0.00 0.00 0.00 -0.01 -0.07 -0.03 |
| Qk.N_DA | LF-3 | 0.00 0.00 0.00 0.00 -0.02 -0.01 |
| | LF-4 | 1.15 -0.68 -1.66 -4.70 -15.2 -14.0 |
| | LF-5 | 0.00 0.00 0.00 0.01 0.01 0.01 |
| | LF-6 | 0.04 -0.04 -0.05 -0.04 -0.02 0.05 |
| | LF-7 | -0.40 5.49 6.57 6.45 5.87 1.08 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | |

W-3.6

| Lastfall | Lasten (6 Abschnitte je 0.67m) | [kN/m] |
|----------|--------------------------------|-------------------------------------|
| Gk | LF-1 (g) | -5.26 -8.65 20.86 31.72 31.70 26.31 |

| | Lastfall | Lasten (6 Abschnitte je 0.67m) | | | | | | [kN/m] |
|---------|---|--------------------------------|-------|-------|-------|-------|-------|--------|
| Ö← | LF-2 | -4.80 | -5.58 | 1.19 | 3.77 | 3.79 | 2.04 | |
| Qk.N_E1 | LF-8 | -0.06 | -0.70 | -1.39 | -1.19 | -0.75 | -0.23 | |
| Qk.N_DA | LF-3 | -0.01 | -0.17 | -0.38 | -0.35 | -0.23 | -0.08 | |
| | LF-4 | -13.5 | -17.1 | -3.11 | 1.84 | 1.62 | 0.48 | |
| | LF-5 | 1.55 | 2.46 | 2.70 | 3.14 | 3.44 | 2.01 | |
| | LF-6 | 2.05 | 4.03 | 4.80 | 4.83 | 4.16 | 2.11 | |
| | LF-7 | 0.35 | -0.40 | -1.62 | -1.92 | -1.41 | -0.45 | |
| | (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | |

| | Lastfall | Lasten (6 Abschnitte je 0.67m) | | | | | | [kN/m] |
|--------------|---|--------------------------------|-------|-------|-------|-------|-------|--------|
| W-3.7 | LF-1 (g) | -8.90 | -16.1 | 16.53 | 33.00 | 34.73 | 27.46 | |
| Gk | LF-2 | -5.41 | -6.38 | 1.46 | 5.30 | 5.31 | 2.49 | |
| Ö← | LF-8 | 0.38 | 0.51 | 0.27 | 0.14 | 0.08 | 0.02 | |
| Qk.N_E1 | LF-3 | 0.12 | 0.15 | 0.07 | 0.03 | 0.02 | 0.01 | |
| Qk.N_DA | LF-4 | -16.4 | -24.9 | -11.3 | -3.58 | -1.07 | 0.06 | |
| | LF-5 | -0.02 | -0.09 | -0.17 | -0.21 | -0.18 | -0.07 | |
| | LF-6 | 1.96 | 3.68 | 4.27 | 4.32 | 3.83 | 2.03 | |
| | LF-7 | 3.52 | 8.39 | 10.01 | 10.03 | 8.01 | 2.96 | |
| | (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.46m) | | | [kN/m] | | |
|----------------|---|--------------------------------|--|--|--------|-------|-------|
| W-3.8_1 | LF-1 (g) | | | | 28.04 | 26.17 | 21.66 |
| Gk | LF-2 | | | | 2.42 | 1.68 | -0.19 |
| Ö← | LF-4 | | | | -1.18 | -0.49 | 1.48 |
| Qk.N_DA | LF-6 | | | | -0.04 | -0.01 | 0.07 |
| | LF-7 | | | | 6.06 | 3.85 | -1.92 |
| | (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.53m) | | | [kN/m] | | |
|----------------|---|--------------------------------|--|--|--------|-------|-------|
| W-3.8_2 | LF-1 (g) | | | | 20.99 | 23.48 | 26.47 |
| Gk | LF-2 | | | | -0.08 | 0.71 | 1.72 |
| Ö← | LF-8 | | | | -0.02 | -0.02 | -0.02 |
| Qk.N_E1 | LF-4 | | | | 0.76 | 0.40 | -0.18 |
| Qk.N_DA | LF-5 | | | | 0.03 | 0.04 | 0.03 |
| | LF-6 | | | | 0.06 | -0.50 | -0.45 |
| | LF-7 | | | | -1.01 | 1.49 | 4.04 |
| | (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.59m) | | | [kN/m] | | |
|----------------|---|--------------------------------|--|--|--------|-------|-------|
| W-3.8_3 | LF-1 (g) | | | | 25.72 | 23.67 | 21.63 |
| Gk | LF-2 | | | | 1.40 | 0.86 | 0.32 |
| Ö← | LF-8 | | | | -0.55 | -0.17 | 0.10 |
| Qk.N_E1 | LF-3 | | | | -0.18 | -0.06 | 0.02 |
| Qk.N_DA | LF-4 | | | | 0.18 | -0.09 | -0.23 |
| | LF-5 | | | | 2.93 | 2.07 | 0.60 |
| | LF-6 | | | | -0.28 | -0.51 | -0.05 |
| | LF-7 | | | | 0.13 | 0.30 | 0.29 |
| | (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.24m) | | | [kN/m] | | |
|----------------|---|--------------------------------|--|--|--------|-------|-------|
| W-3.8_4 | LF-1 (g) | | | | 24.60 | 23.57 | 21.72 |
| Gk | LF-2 | | | | 1.03 | 0.72 | 0.16 |
| Ö← | LF-8 | | | | -0.48 | -0.19 | 0.33 |
| Qk.N_E1 | LF-3 | | | | -0.15 | -0.07 | 0.07 |
| Qk.N_DA | LF-4 | | | | 0.21 | 0.07 | -0.16 |
| | LF-5 | | | | 2.00 | 1.44 | 0.41 |
| | (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | |

| | Lastfall | Lasten (1 Abschnitte je 1.50m) | | | [kN/m] | | |
|--------------------|----------|--------------------------------|--|--|--------|--|------|
| WS-3.8_1_BR | LF-1 | | | | | | 4.38 |
| Gk | | | | | | | |

| | Lastfall | Lasten (1 Abschnitte je 0.46m) | | | [kN/m] | | |
|----------------------------|----------|--------------------------------|--|--|--------|--|--|
| WS-3.8_1_SA_W-3.8_1 | LF-1 | | | | 2.53 | | |
| Gk | | | | | 15.63 | | |
| Ö← | LF-2 | | | | 4.13 | | |

| | | | |
|----------------------------|-------------------------------------|--------------------------------|--------|
| | Lastfall | Lasten (1 Abschnitte je 0.46m) | [kN/m] |
| Qk.N_E1 | LF-8 | | 0.00 |
| Qk.N_DA | LF-3 | | 0.00 |
| | LF-4 | | -2.03 |
| | LF-5 | | 0.01 |
| | LF-6 | | -0.16 |
| | LF-7 | | 10.45 |
| WS-3.8_1_SE_W-3.8_2 | aus WS-3.8_1 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.53m) | [kN/m] |
| Gk | LF-1 | | 2.20 |
| | | | 13.43 |
| Ö← | LF-2 | | 3.47 |
| Qk.N_E1 | LF-8 | | -0.01 |
| Qk.N_DA | LF-3 | | 0.00 |
| | LF-4 | | -1.44 |
| | LF-5 | | 0.02 |
| | LF-6 | | -0.24 |
| | LF-7 | | 8.61 |
| WS-3.8_2_BR | á bÁÛÜĚĞĚÎŽĜÁÓ↔&æ^&æ}↔´â\ÁÑñfib\ ^& | | |
| | Lastfall | Lasten (1 Abschnitte je 1.50m) | [kN/m] |
| Gk | LF-1 | | 4.38 |
| WS-3.8_2_SA_W-3.8_2 | aus WS-3.8_2 Sturzanfang | | |
| | Lastfall | Lasten (1 Abschnitte je 0.53m) | [kN/m] |
| Gk | LF-1 | | 2.20 |
| | | | 5.68 |
| Ö← | LF-2 | | 0.60 |
| Qk.N_E1 | LF-8 | | 0.10 |
| Qk.N_DA | LF-3 | | 0.03 |
| | LF-4 | | 0.94 |
| | LF-5 | | -0.30 |
| | LF-6 | | 3.07 |
| | LF-7 | | -2.53 |
| WS-3.8_2_SE_W-3.8_3 | aus WS-3.8_2 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.59m) | [kN/m] |
| Gk | LF-1 | | 1.97 |
| | | | 5.46 |
| Ö← | LF-2 | | 0.76 |
| Qk.N_E1 | LF-8 | | 0.18 |
| Qk.N_DA | LF-3 | | 0.05 |
| | LF-4 | | 0.36 |
| | LF-5 | | -0.48 |
| | LF-6 | | 2.71 |
| | LF-7 | | -1.13 |
| WS-3.8_3_BR | á bÁÛÜĚĞĚÎŽĜÁÓ↔&æ^&æ}↔´â\ÁÑñfib\ ^& | | |
| | Lastfall | Lasten (1 Abschnitte je 1.50m) | [kN/m] |
| Gk | LF-1 | | 4.38 |
| WS-3.8_3_SA_W-3.8_3 | aus WS-3.8_3 Sturzanfang | | |
| | Lastfall | Lasten (1 Abschnitte je 0.59m) | [kN/m] |
| Gk | LF-1 | | 1.97 |
| | | | 9.54 |
| Ö← | LF-2 | | 1.94 |
| Qk.N_E1 | LF-8 | | -1.22 |
| Qk.N_DA | LF-3 | | -0.37 |
| | LF-4 | | 0.53 |
| | LF-5 | | 3.74 |
| | LF-6 | | -0.03 |
| | LF-7 | | 0.00 |
| WS-3.8_3_SE_W-3.8_4 | aus WS-3.8_3 Sturzende | | |

POSITION

TG-LP4

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Gk | LF-1 | | 4.85 |
| | | | 23.45 |
| Ö← | LF-2 | | 4.75 |
| Qk.N_E1 | LF-8 | | -3.14 |
| Qk.N_DA | LF-3 | | -0.93 |
| | LF-4 | | 1.38 |
| | LF-5 | | 9.07 |
| | LF-6 | | 0.01 |
| | LF-7 | | -0.02 |

Linienlasten

| Position | in Dokumentation | ↔ Q _{ab} \ f _i a _ä & a _ä a _ä | positiv [kN] | negativ [kN] |
|--|------------------|---|-----------------|-----------------|
| W-3.2(2) | -0.00353 | 0.00000 | 0.00000 | 0.00000 |
| W-3.2(3) | 0.00195 | 0.00000 | 0.00000 | 0.00000 |
| W-3.2(6) | 0.00086 | 0.00000 | 0.00000 | 0.00000 |
| W-3.2(12) | -0.00592 | 0.00000 | 0.00000 | 0.00000 |
| W-3.3(4) | -0.00484 | 0.00000 | 0.00000 | 0.00000 |
| W-3.4(1) | -0.00116 | 0.00000 | 0.00000 | 0.00000 |
| W-3.4(2) | -0.00003 | 0.00000 | 0.00000 | 0.00000 |
| W-3.4(3) | -0.00639 | 0.00000 | 0.00000 | 0.00000 |
| W-3.4(4) | -0.00193 | 0.00000 | 0.00000 | 0.00000 |
| W-3.4(5) | -0.00027 | 0.00000 | 0.00000 | 0.00000 |
| W-3.5(1) | -0.00234 | 0.00000 | 0.00000 | 0.00000 |
| W-3.5(2) | 0.00226 | 0.00000 | 0.00000 | 0.00000 |
| W-3.5(3) | 0.00388 | 0.00000 | 0.00000 | 0.00000 |
| W-3.5(4) | -0.00350 | 0.00000 | 0.00000 | 0.00000 |
| W-3.5(6) | 0.00053 | 0.00000 | 0.00000 | 0.00000 |
| W-3.7(6) | 0.00417 | 0.00000 | 0.00000 | 0.00000 |
| W-3.8_1(1) | 0.00000 | 0.00003 | -0.0015 | |
| W-3.8_1(2) | -0.00258 | 0.00000 | -0.0004 | |
| W-3.8_1(3) | 0.00000 | 0.00274 | -0.0002 | |
| W-3.8_2(1) | 0.00000 | 0.00251 | 0.00000 | |
| W-3.8_2(2) | 0.00000 | 0.00323 | 0.00000 | |
| W-3.8_2(3) | 0.00000 | 0.00228 | 0.00000 | |
| W-3.8_4(1) | 0.00000 | 0.00109 | -0.0014 | |
| W-3.8_4(2) | 0.00000 | 0.00079 | -0.0013 | |
| W-3.8_4(3) | 0.00000 | 0.00043 | -0.0013 | |
| WS-3.8_1_SA-W-3.8_1, WS-3.8_1_SE-W-3.8_2 | -0.00637 | 0.00000 | 0.00000 | |
| WS-3.8_3_SA-W-3.8_3 | -0.00268 | 0.00000 | 0.00000 | |

Folgende Linienlastanteile werden wegen ihres
& a_ä ↔ ^ & a_ä ^ Á Ö ↔ ^ â → | b b æ b Á â æ ↔ Á ä æ ä Á Q_{ab} \ f_i a_ä & a_ä a_ä Á
{ æ ä ^ á ^ á → ‡ b b ↔ & \ í

| Lastfall | Pt [kN] |
|----------|------------|
| LF-3 | 0.00799 |
| LF-5 | 0.00089 |
| LF-6 | -0.00397 |
| LF-7 | 0.00232 |
| LF-8 | -0.00024 |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und
Linienlast-Resultierenden, getrennt nach positiven
und negativen Anteilen

Lasten aus Lastgruppen werden nicht ä ä f i ^ ‹ b ↔ ^ á \ ↔ & \ È

| Position | EW | Art | * ~ b ↔ \ ↔ { [kN] | ^ æ & á \ ↔ { [kN] |
|--------------|----|-----|-----------------------|-----------------------|
| Linienlasten | | | | |
| W-3.1 | Gk | PGr | 10.29 | |
| | Ö← | PGr | | -5.95 |

D-51

Schulcampus EWK \

TG-LP4

POSITION

TG-LP4

| Position | EW | Art | *~b↔↔{ [kN] | ^æ&á\↔{ [kN] |
|---------------------|---------|-----|----------------|-----------------|
| | Qk.N_E1 | PGr | 13.42 | 0.00 |
| | Qk.N_DA | PGr | 13.44 | -25.34 |
| W-3.2 | Gk | PGr | 689.79 | |
| | Ö← | PGr | 121.51 | |
| | Qk.N_E1 | PGr | 10.22 | -4.78 |
| | Qk.N_DA | PGr | 255.35 | -12.32 |
| W-3.3 | Gk | PGr | 64.66 | |
| | Ö← | PGr | 6.35 | |
| | Qk.N_E1 | PGr | 15.81 | 0.00 |
| | Qk.N_DA | PGr | 18.01 | -5.31 |
| W-3.4 | Gk | PGr | 51.23 | |
| | Ö← | PGr | | -6.15 |
| | Qk.N_E1 | PGr | 6.94 | -2.78 |
| | Qk.N_DA | PGr | 9.43 | -21.72 |
| W-3.5 | Gk | PGr | 57.62 | |
| | Ö← | PGr | | -3.35 |
| | Qk.N_E1 | PGr | 0.00 | -0.07 |
| | Qk.N_DA | PGr | 17.82 | -24.52 |
| W-3.6 | Gk | PGr | 64.45 | |
| | Ö← | PGr | 0.27 | |
| | Qk.N_E1 | PGr | 0.00 | -2.88 |
| | Qk.N_DA | PGr | 27.70 | -27.16 |
| W-3.7 | Gk | PGr | 57.84 | |
| | Ö← | PGr | 1.85 | |
| | Qk.N_E1 | PGr | 0.93 | 0.00 |
| | Qk.N_DA | PGr | 42.32 | -38.63 |
| W-3.8_1 | Gk | PGr | 35.15 | |
| | Ö← | PGr | 1.81 | |
| | Qk.N_DA | PGr | 5.31 | -1.68 |
| W-3.8_2 | Gk | PGr | 37.84 | |
| | Ö← | PGr | 1.25 | |
| | Qk.N_E1 | PGr | 0.00 | -0.03 |
| | Qk.N_DA | PGr | 3.65 | -1.14 |
| W-3.8_3 | Gk | PGr | 42.26 | |
| | Ö← | PGr | 1.53 | |
| | Qk.N_E1 | PGr | 0.06 | -0.43 |
| | Qk.N_DA | PGr | 3.89 | -0.83 |
| W-3.8_4 | Gk | PGr | 16.89 | |
| | Ö← | PGr | 0.46 | |
| | Qk.N_E1 | PGr | 0.08 | -0.16 |
| | Qk.N_DA | PGr | 1.01 | -0.09 |
| WS-3.8_1_BR | Gk | PGr | 6.56 | |
| WS-3.8_1_SA_W-3.8_1 | Gk | PGr | 8.42 | |
| | Ö← | PGr | 1.92 | |
| | Qk.N_E1 | PGr | 0.00 | 0.00 |
| | Qk.N_DA | PGr | 4.85 | -1.01 |
| WS-3.8_1_SE_W-3.8_2 | Gk | PGr | 8.33 | |
| | Ö← | PGr | 1.85 | |
| | Qk.N_E1 | PGr | 0.00 | 0.00 |
| | Qk.N_DA | PGr | 4.60 | -0.90 |
| WS-3.8_2_BR | Gk | PGr | 6.56 | |
| WS-3.8_2_SA_W-3.8_2 | Gk | PGr | 4.20 | |
| | Ö← | PGr | 0.32 | |
| | Qk.N_E1 | PGr | 0.05 | 0.00 |
| | Qk.N_DA | PGr | 2.15 | -1.51 |
| WS-3.8_2_SE_W-3.8_3 | Gk | PGr | 4.42 | |
| | Ö← | PGr | 0.45 | |
| | Qk.N_E1 | PGr | 0.11 | 0.00 |
| | Qk.N_DA | PGr | 1.86 | -0.96 |
| WS-3.8_3_BR | Gk | PGr | 6.56 | |
| WS-3.8_3_SA_W-3.8_3 | Gk | PGr | 6.85 | |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|-------------------------|---------|-----|-----------------|-----------------|
| | Ö← | PGr | 1.15 | |
| | Qk.N_E1 | PGr | 0.00 | -0.73 |
| | Qk.N_DA | PGr | 2.54 | -0.23 |
| WS-3.8_3_SE_W- 3.8_4 | Gk | PGr | 6.84 | |
| | Ö← | PGr | 1.15 | |
| | Qk.N_E1 | PGr | 0.00 | -0.76 |
| | Qk.N_DA | PGr | 2.53 | -0.23 |

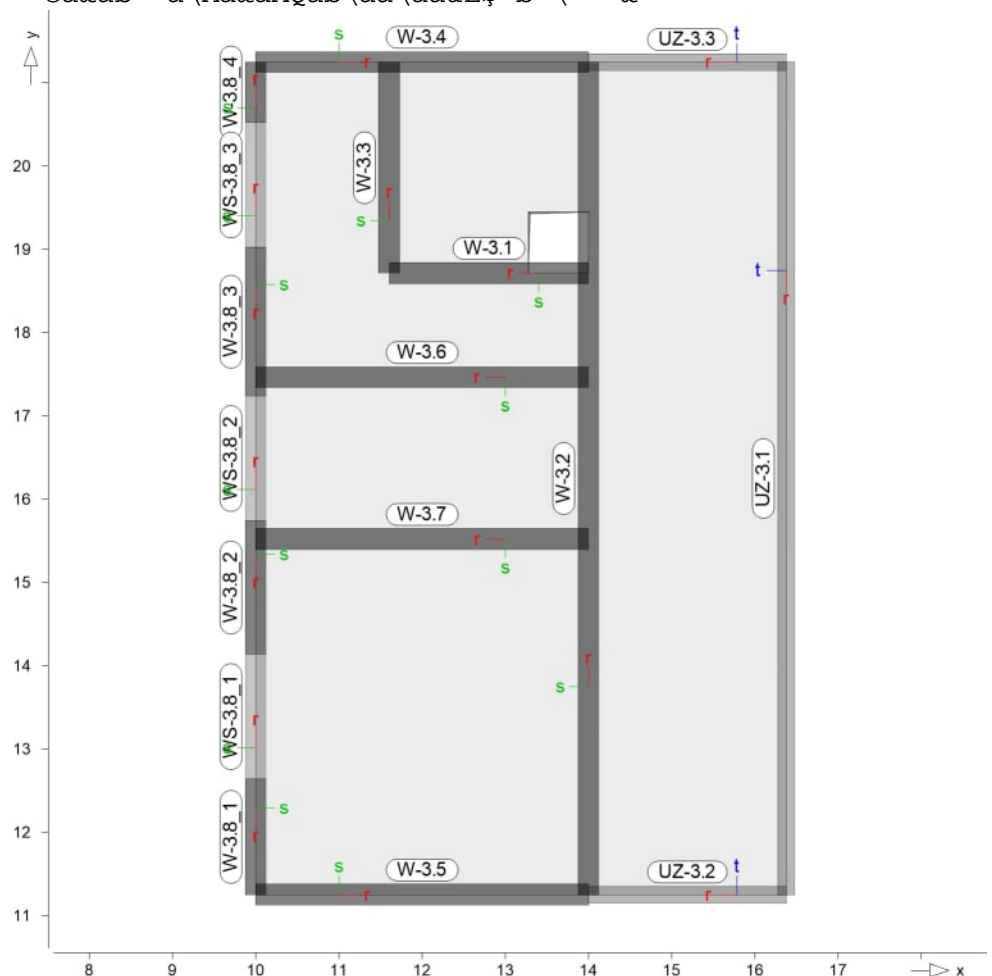
PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Lastabtrag / Einzelwerte

Qáb\fiæã&áâæÁá→bÁQáb\áâ\ãá&Á~äæãÁÓ⇔^~æ→}æã\æÁÀfiãÁ
MicroFe und BauStatik

Posi ti onsgrafi k

©âæãb⇔'â\ÁäæãÁQáb\áâ\ãá&Ë§~b⇔\⇔~^æ^



Wandl ager

Die Auflagerreaktionen entlang einer Wandlagerposition werden in eine Trapezlast fiæã&fiã\Á |^äÁá→bÁXáâ→æ^}æã\æÁÀfiãÁä→æÁ©âæã^áâ↑æÁ⇔^Áder Ñá|U\á\⇔Á~|ãÁÜæãÀfi&|^&Á&æb\æ→\È Æá~|Á}æãæ^ÁÀfiãÁ↓æãæ^ÁQáb\àá→Áä⇔æÁN|à→á&æã←ã‡à\æÁ entlang eines Wandlagers derart in eine Trapezlast umgerechnet, dass deren Resultierende mit ihrer Ó[~æ^\ã⇔~⇔\‡\ÁäæãÁäæbÁ~ã&⇔^á→æ^ÁPã‡à\æ{æã→á|àbÁ entlang des Wandlagers entspricht. Die

Üäá*æ~âæ→áb\|^&Á}↔ääÁfiâæãÄä↔æÁQáb\~ää↔^á\æ^Áá↑ÁAnfang
A und Ende E beschrieben ($M=(A+E)/2$).

Falls die Wandlagerposition aus mehreren Kanten

âæb\æâ\ÊÁ}↔ääÁNÁ|^ääÓÁfiâÄä↔æÁ&æbâ↑\æÁ

Üá^ä→á&æã*~b↔\↔~^Áâæãæ^á^æ\Á|^ää~|b†\~↔↔^áÁNÇ↔DÁund

ÓÇ↔DÁâfiâÄ↓æääÁPá^æÁ↔ÁääãÜá^ä→á&æã*~b↔\↔~^ÊÁ(Die

N|b}æã\|^&ÁâfiâÁNÁ|^ääÓÁfiâæãÄä↔^æÁ&æ↔↔↔\æÁ

Üá^ä→á&æã*~b↔\↔~^Áb~→\æÁ^|ääâfiâÄ^áãæ~|Ágeradlinige

Üá^ä→á&æãÄfiâæã^~↑↑æ^Á}æääæ^ÊD

Abs Lastwert maximaler Lagerabschnitt
e Abstand der Resultierenden zur Mitte des Polygonabschnitts
Res Resultierende Gesamtauflagerkraft

je Ei nwi rkung

charakteristische Trapez-Wandlagerkraft je Einwirkung

g b\†^ä↔æ&ÁÓ↔^}↔ää|^&

Reihenfolge Ausgabe

min Anfang
max Anfang
min Mitte
max Mitte
min Ende
max Ende

W-3.1

Q†^&æÁKÁGÈĞİÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -30.26 | -40.97 | -14.45 | 12.07 | -0.73 | -34.62 |
| Ö← | g | -6.14 | -8.69 | -2.48 | 3.72 | -1.00 | -5.95 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 9.06 | 6.29 | 5.60 | 4.92 | -0.05 | 13.42 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 6.29 | 5.60 | 4.92 | -0.05 | 13.42 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 6.29 | 5.60 | 4.92 | -0.05 | 13.42 |
| Qk.N_DA | min | -18.33 | -20.63 | -10.11 | 0.41 | -0.42 | -24.21 |
| | max | 6.71 | 3.25 | 5.14 | 7.03 | 0.15 | 12.31 |
| | min | | -20.58 | -10.58 | -0.57 | -0.38 | -25.34 |
| | max | | 3.21 | 5.61 | 8.01 | 0.17 | 13.44 |
| | min | | 0.04 | -0.47 | -0.99 | 0.43 | -1.13 |
| | max | | -17.41 | -4.50 | 8.42 | -1.15 | -10.77 |

W-3.2

Q†^&æÁKÁFÈÈÈÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 89.80 | 46.30 | 50.23 | 54.15 | 0.13 | 502.29 |
| Ö← | g | 19.32 | 11.49 | 12.15 | 12.81 | 0.09 | 121.52 |
| Qk.N_E1 | min | 0.00 | -1.04 | 0.55 | 2.13 | 4.86 | 5.45 |
| | max | 8.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.04 | 0.55 | 2.13 | 4.86 | 5.45 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.04 | 0.55 | 2.13 | 4.86 | 5.45 |
| Qk.N_DA | min | 0.00 | -0.66 | 0.41 | 1.47 | 4.39 | 4.05 |
| | max | 38.63 | 23.65 | 23.90 | 24.15 | 0.02 | 238.98 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 22.99 | 24.30 | 25.62 | 0.09 | 243.03 |
| | min | | 3.87 | 1.12 | -1.62 | -4.07 | 11.24 |
| | max | | 19.12 | 23.18 | 27.24 | 0.29 | 231.79 |

W-3.3

Q†^&æÁKÁGÈİHÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 11.85 | 11.57 | 6.76 | 1.94 | -0.30 | 17.13 |
| Ö← | g | 3.72 | 3.99 | 2.50 | 1.02 | -0.25 | 6.35 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 10.31 | 4.76 | 6.24 | 7.72 | 0.10 | 15.81 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 4.76 | 6.24 | 7.72 | 0.10 | 15.81 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 4.76 | 6.24 | 7.72 | 0.10 | 15.81 |
| Qk.N_DA | min | -3.69 | -1.13 | -1.96 | -2.80 | 0.18 | -4.98 |
| | max | 8.20 | 9.11 | 6.97 | 4.84 | -0.13 | 17.67 |
| | min | | -1.13 | -1.96 | -2.80 | 0.18 | -4.98 |
| | max | | 9.11 | 6.97 | 4.84 | -0.13 | 17.67 |
| | min | | -0.50 | -1.82 | -3.14 | 0.31 | -4.62 |
| | max | | 8.48 | 6.83 | 5.18 | -0.10 | 17.31 |

W-3.4

Q₁[^] & a₁ K₁ H₁ E₁ C₁ A₁ ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -29.42 | 16.24 | -5.94 | -28.12 | 2.49 | -23.77 |
| Ö← | g | -6.75 | 3.20 | -1.54 | -6.27 | 2.05 | -6.15 |
| Qk.N_E1 | min | 0.00 | -1.86 | 1.04 | 3.94 | 1.86 | 4.16 |
| | max | 6.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.86 | 1.04 | 3.94 | 1.86 | 4.16 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.86 | 1.04 | 3.94 | 1.86 | 4.16 |
| Qk.N_DA | min | -15.11 | -0.79 | 1.20 | 3.18 | 1.11 | 4.79 |
| | max | 3.31 | 7.18 | -4.27 | -15.72 | 1.79 | -17.08 |
| | min | | 5.54 | -4.77 | -15.07 | 1.44 | -19.06 |
| | max | | 0.86 | 1.69 | 2.53 | 0.33 | 6.77 |
| | min | | 7.18 | -4.27 | -15.72 | 1.79 | -17.08 |
| | max | | -0.79 | 1.20 | 3.18 | 1.11 | 4.79 |

W-3.5

Q₁[^] & a₁ K₁ H₁ E₁ C₁ A₁ ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -27.62 | 17.64 | -4.35 | -26.33 | 3.37 | -17.38 |
| Ö← | g | -6.41 | 3.85 | -0.84 | -5.53 | 3.73 | -3.35 |
| Qk.N_E1 | min | -0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.01 | -0.02 | -0.04 | 1.05 | -0.07 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.01 | -0.02 | -0.04 | 1.05 | -0.07 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -15.24 | -0.03 | -0.01 | 0.01 | -2.21 | -0.02 |
| | max | 6.57 | 7.73 | -1.67 | -11.07 | 3.75 | -6.68 |
| | min | | 4.24 | -5.86 | -15.95 | 1.15 | -23.43 |
| | max | | 3.47 | 4.18 | 4.90 | 0.11 | 16.72 |
| | min | | 4.26 | -5.85 | -15.95 | 1.15 | -23.38 |
| | max | | 3.44 | 4.17 | 4.90 | 0.12 | 16.68 |

W-3.6

Q₁[^] & a₁ K₁ H₁ E₁ C₁ A₁ ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -27.40 | -26.75 | -2.64 | 21.47 | -6.09 | -10.55 |
| Ö← | g | -5.58 | -5.32 | 0.07 | 5.46 | 52.78 | 0.27 |
| Qk.N_E1 | min | -1.39 | -0.66 | -0.72 | -0.78 | 0.06 | -2.88 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.66 | -0.72 | -0.78 | 0.06 | -2.88 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.66 | -0.72 | -0.78 | 0.06 | -2.88 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_DA | min | -17.64 | -16.32 | -6.07 | 4.17 | -1.12 | -24.30 |
| | max | 7.97 | 5.68 | 6.21 | 6.74 | 0.06 | 24.84 |
| | min | | -16.32 | -6.07 | 4.17 | -1.12 | -24.30 |
| | max | | 5.68 | 6.21 | 6.74 | 0.06 | 24.84 |
| | min | | -0.46 | -1.11 | -1.76 | 0.39 | -4.44 |
| | max | | -10.18 | 1.25 | 12.67 | 6.11 | 4.99 |

W-3.7

Q⁺ & AKAHÈEÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -34.81 | -33.50 | -4.29 | 24.93 | -4.54 | -17.16 |
| Ö← | g | -6.38 | -6.06 | 0.46 | 6.99 | 9.42 | 1.85 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.51 | 0.50 | 0.23 | -0.04 | -0.77 | 0.93 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.50 | 0.23 | -0.04 | -0.77 | 0.93 |
| | min | | 0.50 | 0.23 | -0.04 | -0.77 | 0.93 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -24.98 | -23.03 | -9.65 | 3.74 | -0.93 | -38.59 |
| | max | 14.38 | 10.91 | 10.57 | 10.23 | -0.02 | 42.28 |
| | min | | -23.03 | -9.65 | 3.74 | -0.93 | -38.59 |
| | max | | 10.91 | 10.57 | 10.23 | -0.02 | 42.28 |
| | min | | 0.07 | -0.06 | -0.18 | 1.49 | -0.23 |
| | max | | -12.19 | 0.98 | 14.15 | 8.96 | 3.92 |

W-3.8_1

Q⁺ & AKAHÈĜĬÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 9.29 | 11.33 | 6.54 | 1.74 | -0.17 | 9.09 |
| Ö← | g | 2.42 | 3.27 | 1.31 | -0.66 | -0.35 | 1.81 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.54 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.54 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.54 | 0.00 |
| Qk.N_DA | min | -1.18 | -2.14 | -0.05 | 2.04 | -9.19 | -0.07 |
| | max | 6.02 | 8.68 | 2.66 | -3.35 | -0.52 | 3.70 |
| | min | | -2.07 | -0.06 | 1.94 | -7.47 | -0.09 |
| | max | | 8.61 | 2.67 | -3.26 | -0.51 | 3.72 |
| | min | | 8.68 | 2.66 | -3.35 | -0.52 | 3.70 |
| | max | | -2.14 | -0.05 | 2.04 | -9.19 | -0.07 |

W-3.8_2

Q⁺ & AKAHÈĬEÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 7.72 | 0.87 | 4.90 | 8.93 | 0.22 | 7.84 |
| Ö← | g | 1.72 | -0.55 | 0.78 | 2.11 | 0.45 | 1.25 |
| Qk.N_E1 | min | -0.02 | -0.02 | -0.02 | -0.02 | -0.01 | -0.03 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.02 | -0.02 | -0.02 | -0.01 | -0.03 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.02 | -0.02 | -0.02 | -0.01 | -0.03 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -0.51 | -2.25 | 1.50 | 5.25 | 0.67 | 2.40 |
| | max | 3.89 | 1.15 | 0.06 | -1.03 | -4.59 | 0.10 |
| | min | | 0.09 | -0.30 | -0.70 | 0.35 | -0.48 |
| | max | | -1.19 | 1.86 | 4.92 | 0.44 | 2.98 |
| | min | | 1.12 | 0.03 | -1.07 | -11.78 | 0.04 |
| | max | | -2.21 | 1.54 | 5.29 | 0.65 | 2.46 |

W-3.8_3

Q⁺ & AKAHÈĬĬÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 6.97 | 7.94 | 4.92 | 1.91 | -0.18 | 8.79 |
| Ö← | g | 1.40 | 1.66 | 0.86 | 0.06 | -0.28 | 1.53 |
| Qk.N_E1 | min | -0.55 | -0.70 | -0.21 | 0.28 | -0.70 | -0.37 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.70 | -0.21 | 0.28 | -0.70 | -0.37 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.70 | -0.21 | 0.28 | -0.70 | -0.37 |
| Qk.N_DA | min | -0.66 | -0.69 | -0.35 | -0.01 | -0.29 | -0.63 |
| | max | 3.07 | 4.00 | 2.07 | 0.13 | -0.28 | 3.69 |
| | min | | -0.43 | -0.40 | -0.36 | -0.03 | -0.71 |
| | max | | 3.74 | 2.11 | 0.48 | -0.23 | 3.77 |
| | min | | -0.21 | -0.32 | -0.44 | 0.11 | -0.58 |
| | max | | 3.52 | 2.04 | 0.56 | -0.22 | 3.64 |

W-3.8_4
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \in \acute{E} \acute{I} \acute{G} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 5.85 | 6.73 | 4.55 | 2.37 | -0.06 | 3.30 |
| Ö← | g | 1.03 | 1.29 | 0.64 | -0.02 | -0.12 | 0.46 |
| Qk.N_E1 | min | -0.48 | -0.72 | -0.11 | 0.50 | -0.65 | -0.08 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.72 | -0.11 | 0.50 | -0.65 | -0.08 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.72 | -0.11 | 0.50 | -0.65 | -0.08 |
| Qk.N_DA | min | -0.15 | -0.22 | -0.05 | 0.11 | -0.39 | -0.04 |
| | max | 2.21 | 2.81 | 1.33 | -0.15 | -0.13 | 0.96 |
| | min | | -0.22 | -0.05 | 0.11 | -0.39 | -0.04 |
| | max | | 2.81 | 1.33 | -0.15 | -0.13 | 0.96 |
| | min | | 0.31 | 0.04 | -0.24 | -0.91 | 0.03 |
| | max | | 2.27 | 1.24 | 0.21 | -0.10 | 0.90 |

WS-3.8_1
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} F \acute{E} \acute{I} \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 9.68 | 9.77 | 9.60 | 9.44 | 0.00 | 14.41 |
| Ö← | g | 2.57 | 2.64 | 2.51 | 2.38 | -0.01 | 3.77 |
| Qk.N_E1 | min | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | -0.01 | 0.34 | -0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | -0.01 | 0.34 | -0.01 |
| | min | | 0.00 | 0.00 | -0.01 | 0.34 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -1.39 | -1.51 | -1.27 | -1.03 | -0.05 | -1.91 |
| | max | 6.54 | 6.79 | 6.30 | 5.80 | -0.02 | 9.44 |
| | min | | -1.51 | -1.27 | -1.04 | -0.05 | -1.91 |
| | max | | 6.79 | 6.30 | 5.80 | -0.02 | 9.45 |
| | min | | -1.51 | -1.27 | -1.04 | -0.05 | -1.91 |
| | max | | 6.79 | 6.30 | 5.80 | -0.02 | 9.45 |

WS-3.8_2
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} F \acute{E} \acute{I} \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 4.42 | 3.75 | 4.19 | 4.62 | 0.03 | 6.28 |
| Ö← | g | 0.65 | 0.26 | 0.52 | 0.77 | 0.12 | 0.77 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.11 | 0.21 | 0.25 | 0.16 |
| | max | 0.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.11 | 0.21 | 0.25 | 0.16 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.11 | 0.21 | 0.25 | 0.16 |

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|------------|---------------------|
| Qk.N_DA | min | -2.21 | -2.74 | -1.61 | -0.49 | -0.17 | -2.42 |
| | max | 2.97 | 3.26 | 2.64 | 2.03 | -0.06 | 3.97 |
| | min | | -2.74 | -1.64 | -0.54 | -0.17 | -2.46 |
| | max | | 3.26 | 2.67 | 2.09 | -0.05 | 4.01 |
| | min | | 1.01 | 0.18 | -0.64 | -1.12 | 0.28 |
| | max | | -0.49 | 0.85 | 2.18 | 0.39 | 1.27 |

WS-3.8_3Q⁺ & A K A F E I € A ↑Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|------------|---------------------|
| Gk | g | 7.57 | 7.59 | 7.56 | 7.54 | 0.00 | 11.35 |
| Ö← | g | 1.54 | 1.55 | 1.53 | 1.52 | 0.00 | 2.30 |
| Qk.N_E1 | min | -1.03 | -0.92 | -0.99 | -1.06 | 0.02 | -1.49 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.92 | -0.99 | -1.06 | 0.02 | -1.49 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.92 | -0.99 | -1.06 | 0.02 | -1.49 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -0.31 | -0.33 | -0.30 | -0.28 | -0.02 | -0.46 |
| | max | 3.38 | 3.42 | 3.37 | 3.33 | 0.00 | 5.06 |
| | min | | -0.31 | -0.31 | -0.30 | -0.01 | -0.46 |
| | max | | 3.40 | 3.37 | 3.35 | 0.00 | 5.06 |
| | min | | -0.27 | -0.30 | -0.33 | 0.03 | -0.45 |
| | max | | 3.36 | 3.37 | 3.37 | 0.00 | 5.05 |

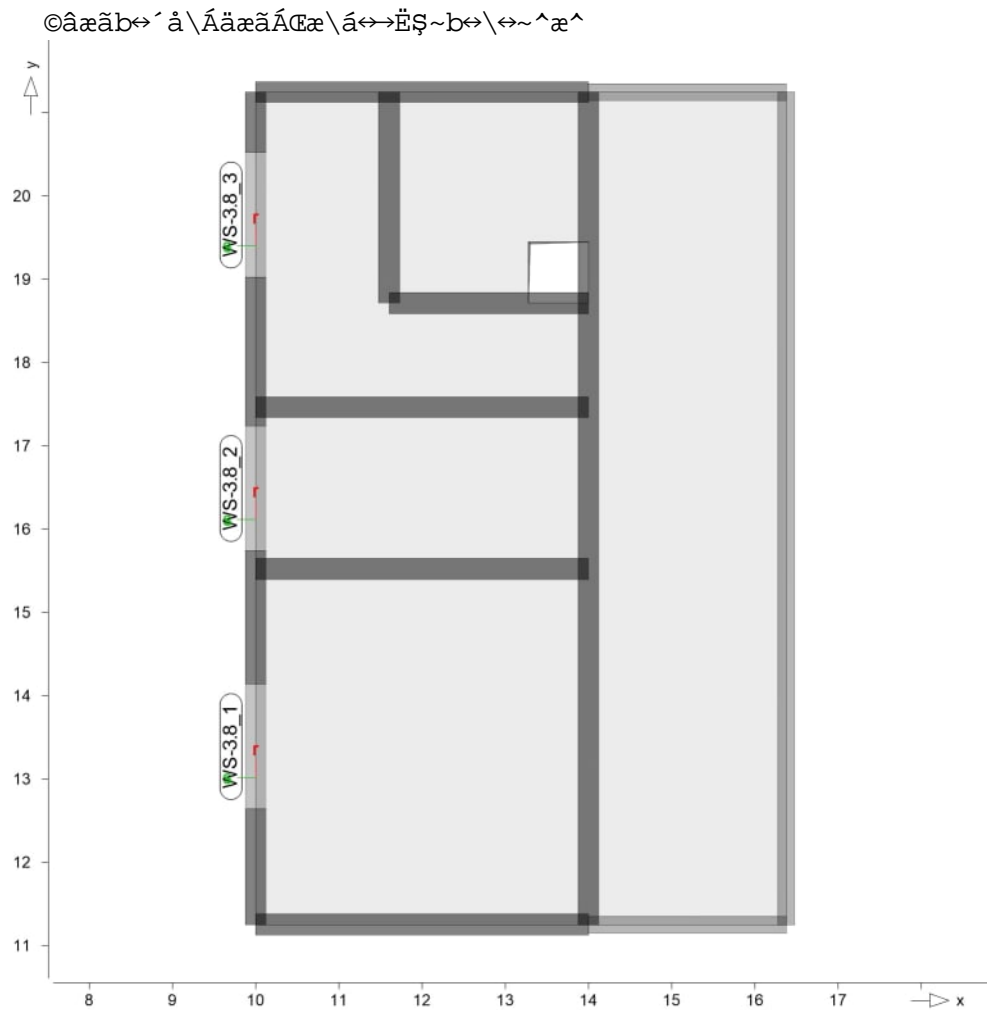
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Details

Details aus Positionen

Positionsgrafik



S310.de

Stahlbeton-Sturz

Kombinationen

Raß&æâæ^äæÄP~↑â↔^á\↔~^æ^Á^á^äÁÆØSÁÓSÁFïï€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

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Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

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Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|-------|----|------|------|---------|-------------|
| 1-3 | | 1.00 | 1.00 | . | 1.50 |
| 4-6 | | 1.35 | 1.35 | 1.50 | 1.50 |
| 7-11 | | 1.00 | 1.00 | 1.50 | 1.50 |
| 12-16 | | 1.35 | 1.35 | . | 1.50 |

Daten

| | Q†^æ [m] | Breite [cm] | Komb | Komm. | Q _{li} [kN/m] | Q _{re} [kN/m] | Lkn |
|----------|-------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-3.8_1 | 1.50 | 25.00 | GK | min A | 11.70 | 11.84 | 1 |
| | | | GK | max A | 29.05 | 26.76 | 4 |
| | | | GK | min M | 11.70 | 11.82 | 7 |
| | | | GK | max M | 29.05 | 26.78 | 12 |
| | | | GK | min E | 11.70 | 11.82 | 7 |
| | | | GK | max E | 29.05 | 26.78 | 12 |
| WS-3.8_2 | 1.50 | 25.00 | GK | min A | 1.46 | 6.55 | 8 |
| | | | GK | max A | 12.41 | 12.44 | 13 |

WS-3.8_3

| Q _z [^] &æ [m] | Breite [cm] | Komb | Komm. | Q _{li} [kN/m] | Q _{re} [kN/m] | Lkn |
|---------------------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| | | GK | min M | 1.46 | 6.14 | 2 |
| | | GK | max M | 12.41 | 12.85 | 5 |
| | | GK | min E | 7.08 | 6.00 | 3 |
| | | GK | max E | 6.79 | 12.99 | 6 |
| 1.50 | 25.00 | GK | min A | 8.82 | 8.61 | 9 |
| | | GK | max A | 19.57 | 19.33 | 14 |
| | | GK | min M | 8.85 | 8.59 | 10 |
| | | GK | max M | 19.55 | 19.36 | 15 |
| | | GK | min E | 8.92 | 8.54 | 11 |
| | | GK | max E | 19.48 | 19.40 | 16 |

Q_{li} Belastung am Sturzanfang (A)
Q_{re} Belastung am Sturzzende (E)

S340. de

U\áâ→âæ\~^Ë|ã´â→á|à\ã†&æã

Kombi nati onen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á´âÁØSÁÓSÁFii€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔æÁÑæ\æ↔↔&|^&Áæ↔^~æ→^æãÁQáb\à†→æÁ↔^æãää→âÁeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

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Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|-------|----|------|------|---------|-------------|
| 1-3 | | 1.00 | 1.00 | . | 1.50 |
| 4-6 | | 1.35 | 1.35 | 1.50 | 1.50 |
| 7-11 | | 1.00 | 1.00 | 1.50 | 1.50 |
| 12-16 | | 1.35 | 1.35 | . | 1.50 |

Brand

P~↑â↔^á\↔~^æ^ÁfiãÁSá´â}æ↔bÁ↔↑ÁÑãá^ääâ→

| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|-----|----|------|------|---------|---------|
| 17 | | 1.00 | 1.00 | . | . |
| 18 | | 1.00 | 1.00 | 0.80 | . |

Daten

WS-3.8_1

| Q _z [^] &æ [m] | Breite [cm] | Komb | Komm. | Q _{li} [kN/m] | Q _{re} [kN/m] | Lkn |
|---------------------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| 1.50 | 25.00 | GK | min A | 11.70 | 11.84 | 1 |
| | | GK | max A | 29.05 | 26.76 | 4 |
| | | GK | min M | 11.70 | 11.82 | 7 |
| | | GK | max M | 29.05 | 26.78 | 12 |
| | | GK | min E | 11.70 | 11.82 | 7 |
| | | GK | max E | 29.05 | 26.78 | 12 |
| | | BR | min A | 13.97 | 13.39 | 17 |
| | | BR | min A | 13.97 | 13.38 | 18 |
| | | BR | min A | 13.97 | 13.38 | 18 |
| | | BR | min A | 13.97 | 13.39 | 17 |
| | | BR | min A | 13.97 | 13.38 | 18 |
| | | BR | min A | 13.97 | 13.39 | 17 |

WS-3.8_2

| | | | | | | |
|------|-------|----|-------|-------|-------|----|
| 1.50 | 25.00 | GK | min A | 1.46 | 6.55 | 8 |
| | | GK | max A | 12.41 | 12.44 | 13 |
| | | GK | min M | 1.46 | 6.14 | 2 |
| | | GK | max M | 12.41 | 12.85 | 5 |
| | | GK | min E | 7.08 | 6.00 | 3 |
| | | GK | max E | 6.79 | 12.99 | 6 |
| | | BR | min A | 5.57 | 7.13 | 18 |
| | | BR | min A | 5.57 | 6.96 | 17 |
| | | BR | min A | 5.57 | 6.96 | 17 |
| | | BR | min A | 5.57 | 7.13 | 18 |
| | | BR | min A | 5.57 | 6.96 | 17 |
| | | BR | min A | 5.57 | 7.13 | 18 |

WS-3.8_3

| | | | | | | |
|------|-------|----|-------|------|------|---|
| 1.50 | 25.00 | GK | min A | 8.82 | 8.61 | 9 |
|------|-------|----|-------|------|------|---|

D-60

Schulcampus EWK \

TG-LP4

| Q_{li} [m] | Breite [cm] | Komb | Komm. | q_{li} [kN/m] | q_{re} [kN/m] | Lkn |
|------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| | | GK | max A | 19.57 | 19.33 | 14 |
| | | GK | min M | 8.85 | 8.59 | 10 |
| | | GK | max M | 19.55 | 19.36 | 15 |
| | | GK | min E | 8.92 | 8.54 | 11 |
| | | GK | max E | 19.48 | 19.40 | 16 |
| | | BR | min A | 9.96 | 9.78 | 18 |
| | | BR | min A | 10.70 | 10.62 | 17 |
| | | BR | min A | 9.96 | 9.78 | 18 |
| | | BR | min A | 10.70 | 10.62 | 17 |
| | | BR | min A | 9.96 | 9.78 | 18 |
| | | BR | min A | 10.70 | 10.62 | 17 |

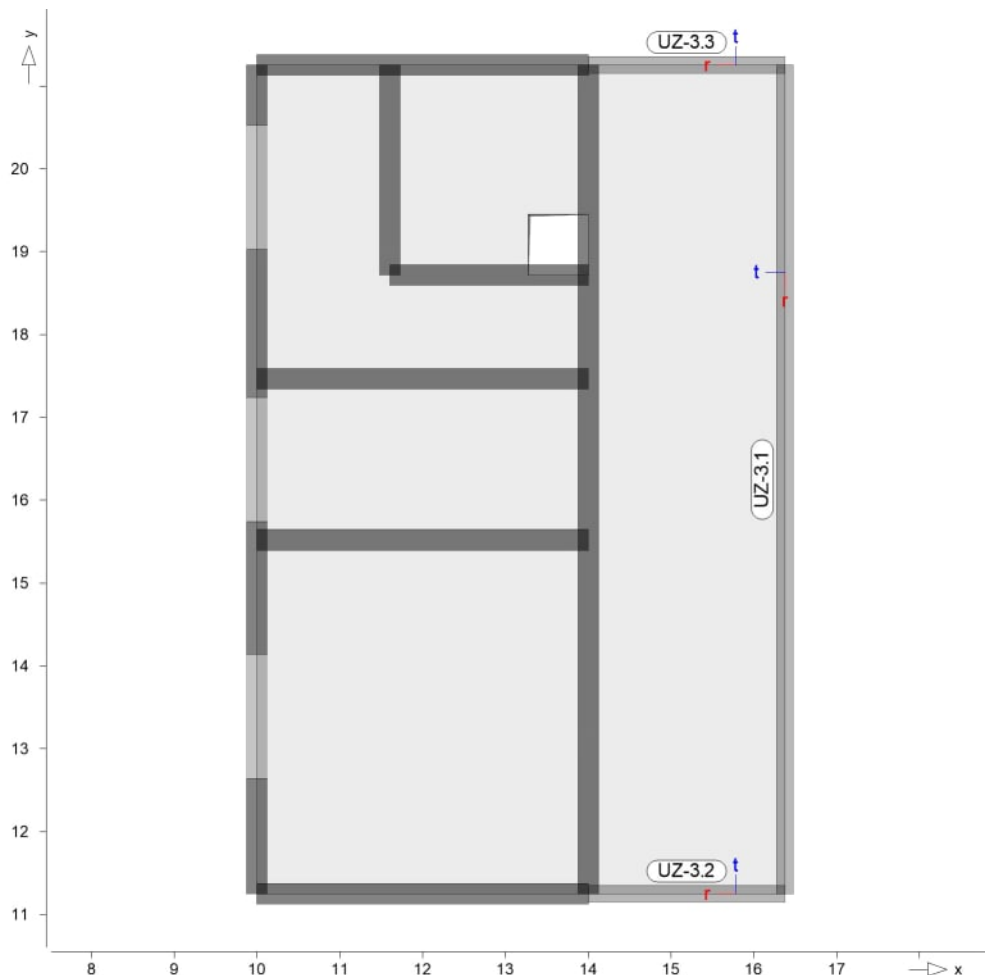
q_{li} $\tilde{N} \rightarrow \tilde{a} b \setminus \mid \wedge \& \tilde{A} \tilde{a} \uparrow \tilde{A} \tilde{U} \tilde{a} \uparrow \& \tilde{a} \tilde{a} \wedge \tilde{a} \tilde{a} \wedge \tilde{A} \tilde{C} \tilde{N} \tilde{D}$
 q_{re} $\tilde{N} \rightarrow \tilde{a} b \setminus \mid \wedge \& \tilde{A} \tilde{a} \uparrow \tilde{A} \tilde{U} \tilde{a} \uparrow \& \tilde{a} \tilde{a} \wedge \tilde{a} \tilde{a} \wedge \tilde{A} \tilde{C} \tilde{O} \tilde{D}$

Lastmodel I Bal ken

$N \rightarrow \setminus \tilde{a} \tilde{a} \wedge \tilde{a} \setminus \Leftrightarrow \{ \wedge \tilde{a} \tilde{a} \} \tilde{a} \Leftrightarrow b \tilde{A} \tilde{a} \tilde{a} \tilde{A} \tilde{C} \mid \tilde{a} \tilde{a} \rightarrow \tilde{a} \mid \tilde{a} \setminus \tilde{a} \uparrow \& \tilde{a} \tilde{a}$

S340. de

$U \setminus \tilde{a} \tilde{a} \rightarrow \tilde{a} \tilde{a} \setminus \sim \wedge \tilde{E} \tilde{C} \mid \tilde{a} \tilde{a} \rightarrow \tilde{a} \mid \tilde{a} \setminus \tilde{a} \uparrow \& \tilde{a} \tilde{a}$



UZ-3.1

Unterzug

• $\tilde{a} \tilde{a} \wedge \tilde{A} \tilde{C} \tilde{C} \setminus$

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr . | a [m] | s [m] | q [kN/m] |
|-----------|------|----------|----------|-------------|
| Gk | 1 | 0.00 | 1.00 | 2.72 |
| | 2 | 1.00 | 1.00 | 6.46 |
| | 3 | 2.00 | 1.00 | 6.61 |
| | 4 | 3.00 | 1.00 | 6.40 |
| | 5 | 4.00 | 1.00 | 6.23 |
| | 6 | 5.00 | 1.00 | 5.99 |
| | 7 | 6.00 | 1.00 | 5.70 |
| | 8 | 7.00 | 1.00 | 5.58 |
| | 9 | 8.00 | 1.00 | 5.53 |
| | 10 | 9.00 | 1.00 | 2.68 |
| Ö← | 1 | 0.00 | 1.00 | 0.87 |
| | 2 | 1.00 | 1.00 | 2.07 |
| | 3 | 2.00 | 1.00 | 2.12 |
| | 4 | 3.00 | 1.00 | 2.05 |
| | 5 | 4.00 | 1.00 | 1.99 |
| | 6 | 5.00 | 1.00 | 1.92 |
| | 7 | 6.00 | 1.00 | 1.82 |
| | 8 | 7.00 | 1.00 | 1.79 |
| | 9 | 8.00 | 1.00 | 1.78 |
| | 10 | 9.00 | 1.00 | 0.86 |
| Qk . N_E1 | 1 | 0.00 | 1.00 | -0.06 |
| | 2 | 1.00 | 1.00 | -0.40 |
| | 3 | 2.00 | 1.00 | -0.28 |
| | 4 | 3.00 | 1.00 | -0.08 |
| | 5 | 5.00 | 1.00 | 0.02 |
| Qk . N_DA | 1 | 0.00 | 1.00 | 1.76 |
| | 2 | 1.00 | 1.00 | 4.26 |
| | 3 | 2.00 | 1.00 | 4.34 |
| | 4 | 3.00 | 1.00 | 4.18 |
| | 5 | 4.00 | 1.00 | 4.11 |
| | 6 | 5.00 | 1.00 | 4.12 |
| | 7 | 6.00 | 1.00 | 4.19 |
| | 8 | 7.00 | 1.00 | 4.32 |
| | 9 | 8.00 | 1.00 | 4.23 |
| | 10 | 9.00 | 1.00 | 1.76 |

a: Nâb\á^ãÄæbÁU\ää*|^←\æbÁ~|↑Ä→^←æ^ÄÜä+&æääá^ä
s: Q†^&æÄæääQáb\

UZ-3. 2

Unterzug

•æ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr . | a [m] | s [m] | q [kN/m] |
|-----------|------|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.79 | 2.11 |
| | 2 | 0.79 | 0.79 | 3.71 |
| | 3 | 1.58 | 0.79 | 0.76 |
| Ö← | 1 | 0.00 | 0.79 | 0.68 |
| | 2 | 0.79 | 0.79 | 1.20 |
| | 3 | 1.58 | 0.79 | 0.15 |
| Qk . N_DA | 1 | 0.00 | 0.79 | 1.47 |
| | 2 | 0.79 | 0.79 | 3.67 |
| | 3 | 1.58 | 0.79 | 1.91 |

a: Nâb\á^ãÄæbÁU\ää*|^←\æbÁ~|↑Ä→^←æ^ÄÜä+&æääá^ä
s: Q†^&æÄæääQáb\

UZ-3. 3

Unterzug

•æ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr . | a [m] | s [m] | q [kN/m] |
|---------|------|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.79 | 2.18 |
| | 2 | 0.79 | 0.79 | 5.09 |
| | 3 | 1.58 | 0.79 | 2.77 |
| Ö← | 1 | 0.00 | 0.79 | 0.70 |
| | 2 | 0.79 | 0.79 | 1.64 |
| | 3 | 1.58 | 0.79 | 0.79 |
| Qk.N_E1 | 1 | 0.00 | 0.79 | -0.15 |
| | 2 | 0.79 | 0.79 | -1.17 |
| | 3 | 1.58 | 0.79 | -1.69 |
| Qk.N_DA | 1 | 0.00 | 0.79 | 1.47 |
| | 2 | 0.79 | 0.79 | 3.63 |
| | 3 | 1.58 | 0.79 | 1.81 |

a: Nâb\á^äääæbÁU\ää* | ^←\æbÁ~ | ↑Á↔↔^←æ^ÁÚä†&æääá^ä

s: Q†^&æÁääääQáb\

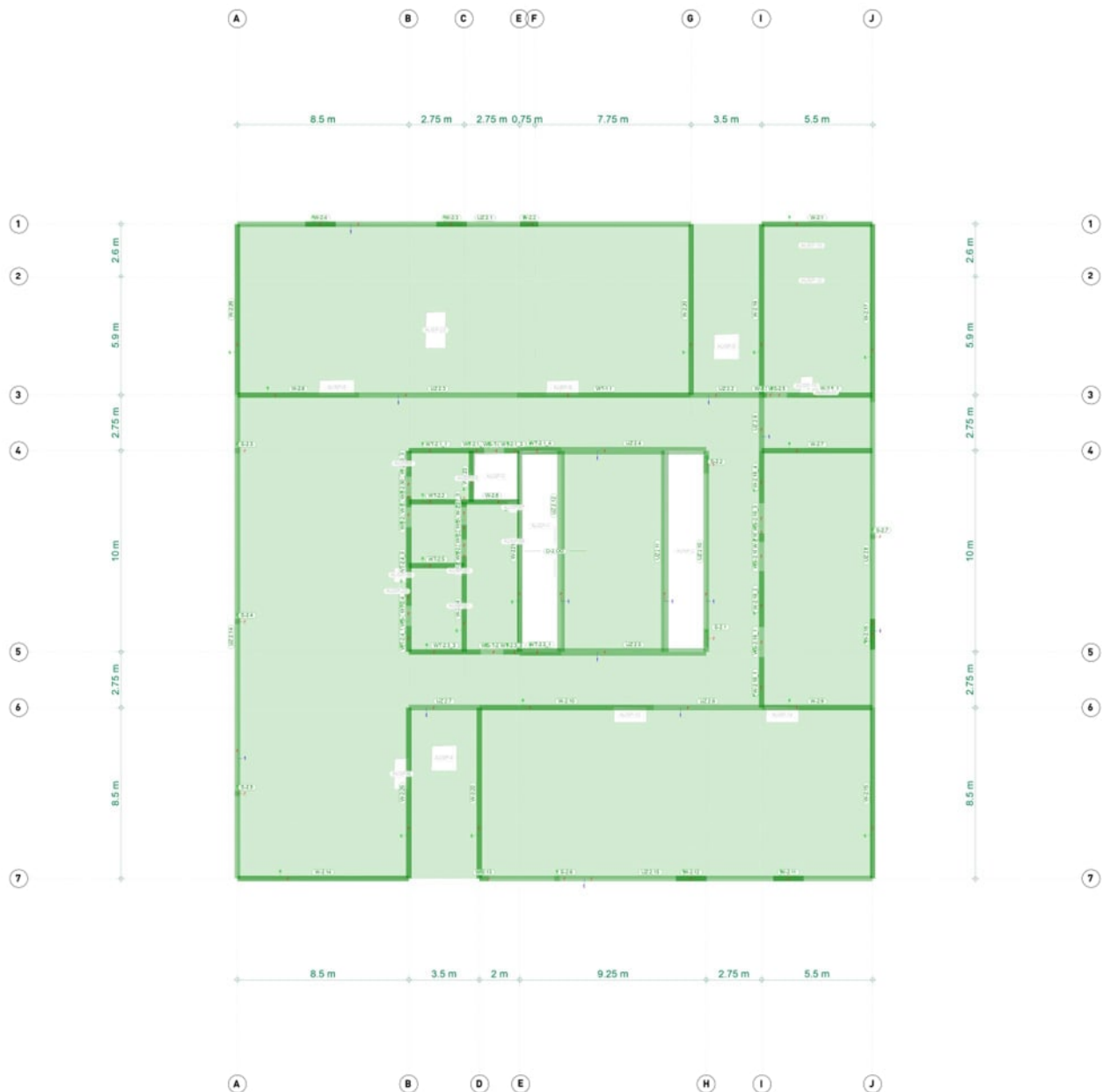
5 **Decke ü. 2.Obergeschoss (Geschossdecke)**

| | |
|--|-------|
| Decke ü. 2.Obergeschoss | |
| Ausgangswerte | D-65 |
| Übersicht der Deckenstärken / Positionsplan | D-68 |
| Einwirkungen / Lastfälle / Lastgruppen / Lastkombinationen / Lastpläne | D-79 |
| Statik-Protokoll | D-94 |
| Auswertung | D-97 |
| Verformungen (Zustand II) | D-98 |
| Biegebemessung | D-102 |
| Bemessungsparameter | D-102 |
| Biegebemessung (erf. a_s) | D-116 |
| Biegebemessung (Δa_s) | D-123 |
| Querkraftbemessung | D-128 |
| Bemessungsparameter | D-128 |
| Querkraftausnutzung – $V_{Ed,res}/ V_{Rd,max}$ | D-131 |
| Querkraftbemessung – erf. a_{sw} | D-133 |
| DS-Nachweise | D-134 |
| V_{Ed} | D-134 |
| DS-Positionen | D-136 |
| Lastübergabe | D-144 |
| Auflagerreaktionen (Lastfallweise) | D-144 |
| Lastsummen | D-192 |
| Lastabtrag (Einwirkungsweise) | D-202 |
| Lasten auf Detailpositionen (Sturz / Unterzug) | D-224 |

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Genehmigungsplanung Tragwerksplanung

Stat. System:



Material:

| | | |
|--------------------|---------------------------|----------------------|
| Dicke: | 25 cm | D-2.0G |
| Betonstahl: | B500B | |
| Beton: | C30/37 | |
| Expositionsklasse: | XC1, W0 | Geschossdecke - Dach |
| Betondeckung | C _{nom} = 3,0 cm | Geschossdecke - Dach |

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Genehmigungsplanung Tragwerksplanung

Grundbewehrung: #Ø16/10

| # 20,11 cm²/m

Belastung:

Eigenlast:

- Wird automatisch, programmintern, generiert:
 - **$g_k = 6,25 \text{ kN/m}^2$** = 0,25 m * 25 kN/m² | Lastfall 1

Flächenlasten:

- Ausbaulasten
 - **$\Delta g_k = 2,00 \text{ kN/m}^2$** | Lastfall 2
- Nutzlasten
 - **$q_k = 4,00 \text{ kN/m}^2$** | Lastfall 3 - 16 (Kat. H)
 - **$q_k = 6,00 \text{ kN/m}^2$** | Lastfall 17 - 18 / 21 - 23 (Kat. E)

Hinweis: Die Anordnung der Nutzlasten erfolgt feldweise. Die Lastkombination erfolgt abhängig vom geforderten Nachweis programmintern.

Linienlasten:

- Fassadenlast
 - **$\Delta g_k = 12 \text{ kN/m}$** | Lastfall 2 (Außenwand tragend)
 - **$\Delta g_k = 7,75 \text{ kN/m}$** | Lastfall 2 (Wand nicht-tragend)
 - **$\Delta g_k = 4,25 \text{ kN/m}$** | Lastfall 2 (Unterzug)
 - **$\Delta g_k = 1,5 \text{ kN/m}$** | Lastfall 2 (Glas, Lichtkuppel)
- Attika
 - **$g_k = 6,125 \text{ kN/m}$** | Lastfall 1 (Lichtkuppel)
 - **$g_k = 5,62 \text{ kN/m}$** | Lastfall 1 (Außenwand)
- Außenwand nicht-tragend
 - **$g_k = 19,38 \text{ kN/m}$** | Lastfall 1

Hinweis: Die nicht-tragenden Außenwände werden von der darunterliegenden Decke abgefugt und als zusätzliche Last auf den darüberliegenden Unterzug eingepreßt.

Punktlasten:

- Technik
 - **$Q_k = 13 \text{ kN}$** | Lastfall 19 (Pufferspeicher)
 - **$Q_k = 5 \text{ kN}$** | Lastfall 20 (Kaltwasserersatz)

Lastenübernahme aus 3. Obergeschoss:

Die Lasten aus dem 3. Obergeschoss werden mit dem mB Modul M161 Lastübergabe / Lastübernahme auf die Decke über 2. Obergeschoss eingepreßt.

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Genehmigungsplanung Tragwerksplanung

Bemessung:

Siehe folgende Seiten.

Positionenplan

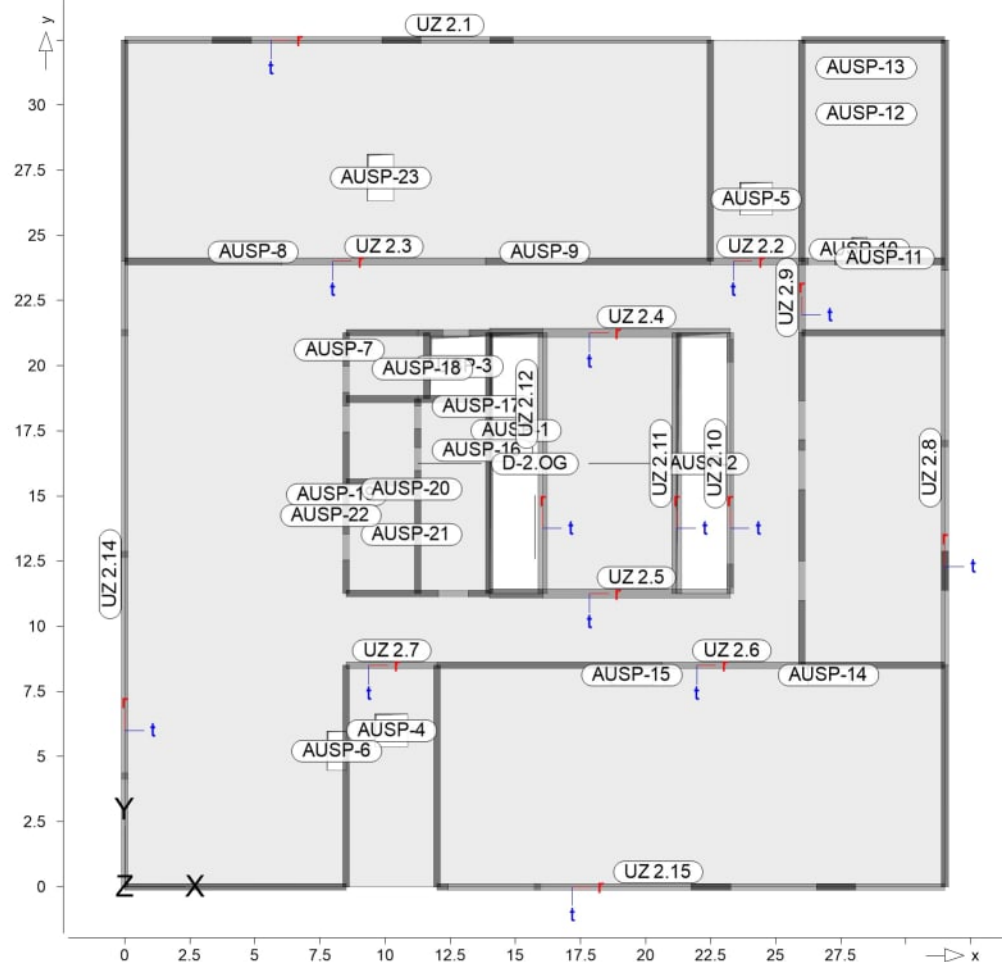
Positionenplan

Bauteile

Bauteil-Positionen

Positionenplan

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Platten

Platten-Positionen

Stahlbeton

| Position | Winkel | Art | Material | Dicke |
|----------|--------|-----|-----------|---------|
| | Yfl | | Quer | [cm] |
| D-2.OG | 0.0 | iso | C 30/37 Q | 25.0 |
| | | | B 500SB | B 500SB |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: 0.0

Expositionsklasse

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|------------------------------|
| D-2.OG | umlaufend | XC1 | trocken oder b\†^ä↔&Á^abb |

Aussparungen

| Position | $\hat{O} \rightarrow \ddagger' \text{äæ}$ [m ²] | x [m] | y [m] |
|----------|--|----------|----------|
| AUSP-1 | 20.50 | 16.05 | 21.25 |
| | | 14.00 | 21.25 |
| | | 14.00 | 11.25 |
| | | 16.05 | 11.25 |
| AUSP-2 | 20.50 | 23.25 | 21.25 |
| | | 21.20 | 21.25 |
| | | 21.20 | 11.25 |
| | | 23.25 | 11.25 |
| AUSP-3 | 4.90 | 13.88 | 21.13 |
| | | 11.73 | 21.13 |
| | | 11.73 | 18.84 |
| | | 13.88 | 18.84 |
| AUSP-4 | 1.57 | 9.62 | 6.63 |
| | | 9.62 | 5.38 |
| | | 10.88 | 5.39 |
| | | 10.88 | 6.63 |
| AUSP-5 | 1.56 | 23.63 | 27.03 |
| | | 23.63 | 25.78 |
| | | 24.88 | 25.78 |
| | | 24.88 | 27.03 |
| AUSP-6 | 1.09 | 7.78 | 4.48 |
| | | 8.50 | 4.48 |
| | | 8.50 | 5.98 |
| | | 7.78 | 5.98 |
| AUSP-7 | 0.42 | 7.98 | 20.22 |
| | | 8.50 | 20.22 |
| | | 8.50 | 21.03 |
| | | 7.98 | 21.03 |
| AUSP-8 | 1.31 | 4.06 | 24.00 |
| | | 5.80 | 24.00 |
| | | 5.80 | 24.75 |
| | | 4.06 | 24.75 |
| AUSP-9 | 1.16 | 15.33 | 24.73 |
| | | 15.33 | 24.00 |
| | | 16.93 | 24.00 |
| | | 16.93 | 24.73 |
| AUSP-10 | 0.56 | 27.92 | 24.92 |
| | | 27.92 | 24.00 |
| | | 28.53 | 24.00 |
| | | 28.53 | 24.92 |
| AUSP-11 | 0.06 | 29.08 | 24.28 |
| | | 29.08 | 24.00 |
| | | 29.29 | 24.00 |
| | | 29.29 | 24.28 |
| AUSP-12 | 0.04 | 28.38 | 29.57 |
| | | 28.58 | 29.57 |
| | | 28.58 | 29.78 |
| | | 28.38 | 29.78 |
| AUSP-13 | 0.04 | 28.37 | 31.35 |
| | | 28.58 | 31.35 |
| | | 28.58 | 31.56 |
| | | 28.37 | 31.56 |
| AUSP-14 | 1.16 | 26.23 | 8.50 |
| | | 26.23 | 7.78 |
| | | | D-70 |

POSITION

20G-LP4

| Position | Fläche [m²] | x [m] | y [m] |
|----------|----------------|----------|----------|
| | | 27.83 | 7.78 |
| | | 27.83 | 8.50 |
| AUSP-15 | 1.16 | 18.68 | 8.50 |
| | | 18.68 | 7.78 |
| | | 20.28 | 7.78 |
| | | 20.28 | 8.50 |
| AUSP-16 | 0.19 | 13.47 | 16.59 |
| | | 14.00 | 16.59 |
| | | 14.00 | 16.95 |
| | | 13.47 | 16.95 |
| AUSP-17 | 0.28 | 13.47 | 18.19 |
| | | 14.00 | 18.19 |
| | | 14.00 | 18.72 |
| | | 13.47 | 18.72 |
| AUSP-18 | 0.18 | 11.25 | 20.15 |
| | | 11.25 | 19.64 |
| | | 11.61 | 19.64 |
| | | 11.61 | 20.15 |
| AUSP-19 | 0.54 | 7.78 | 14.70 |
| | | 8.50 | 14.70 |
| | | 8.50 | 15.44 |
| | | 7.78 | 15.44 |
| AUSP-20 | 0.23 | 11.25 | 15.52 |
| | | 10.78 | 15.52 |
| | | 10.78 | 15.03 |
| | | 11.25 | 15.03 |
| AUSP-21 | 0.23 | 11.25 | 13.77 |
| | | 10.77 | 13.77 |
| | | 10.77 | 13.30 |
| | | 11.25 | 13.30 |
| AUSP-22 | 0.07 | 7.78 | 14.13 |
| | | 8.05 | 14.13 |
| | | 8.05 | 14.40 |
| | | 7.78 | 14.40 |
| AUSP-23 | 1.80 | 9.33 | 28.13 |
| | | 9.33 | 26.33 |
| | | 10.33 | 26.33 |
| | | 10.33 | 28.13 |

Unterzug-Positionen

Stahl beton

| Position | Q _z [m] | Betonstahl | | Beton |
|------------------|-----------------------|----------------|---------|-----------|
| | | Q _z | Fläche | |
| UZ 2.1 | 22.50 | B 500SB | B 500SB | C 30/37 Q |
| UZ 2.2 | 3.50 | B 500SB | B 500SB | C 30/37 Q |
| UZ 2.3 | 7.85 | B 500SB | B 500SB | C 30/37 Q |
| UZ 2.4, UZ 2.5 | 7.20 | B 500SB | B 500SB | C 30/37 Q |
| UZ 2.6 | 5.38 | B 500SB | B 500SB | C 30/37 Q |
| UZ 2.7 | 3.50 | B 500SB | B 500SB | C 30/37 Q |
| UZ 2.8 | 15.18 | B 500SB | B 500SB | C 30/37 Q |
| UZ 2.9 | 2.75 | B 500SB | B 500SB | C 30/37 Q |
| UZ 2.10..UZ 2.12 | | | | |
| | 10.00 | B 500SB | B 500SB | C 30/37 Q |
| UZ 2.14 | 24.00 | B 500SB | B 500SB | C 30/37 Q |

D-71

Schulcampus EWK \ 20G-LP4

| Position | Q _z [m] | Betonstahl Q _z [m] | Beton |
|----------------------------------|--------------------|----------------------------------|-----------|
| UZ 2.15 | 19.08 | B 500SB B 500SB | C 30/37 Q |
| Q: 0.00 0.00 0.00 1.00 0.00 0.00 | | | |

Abminderung

| Position | F _D | F _{S,s} | F _{S,t} | F _T | F _{B,s} | F _{B,t} |
|--|----------------|------------------|------------------|----------------|------------------|------------------|
| UZ 2.1..UZ 2.12, UZ 2.14, UZ 2.15 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| F _D : Nâ↑↔^äæä ^&bâä↔~äÄâfiäÄ↔æÄÇæä^b\æ↔ä↔æ↔ F _{S,s} : Nâ↑↔^äæä ^&bâä↔~äÄâfiäÄ↔æÄU'ä âb\æ↔ä↔æ↔\Ä↔^ÄbËP↔'ä ^& F _{S,t} : Nâ↑↔^äæä ^&bâä↔~äÄâfiäÄ↔æÄU'ä âb\æ↔ä↔æ↔\Ä↔^ÄbËP↔'ä ^& F _T : Nâ↑↔^äæä ^&bâä↔~äÄâfiäÄ↔æÄU'ä~âb↔~^bb\æ↔ä↔æ↔ F _{B,s} : Nâ↑↔^äæä ^&bâä↔~äÄâfiäÄ↔æÄN↔æ&æb\æ↔ä↔æ↔\Ä ↑ÄbËN'äbæ F _{B,t} : Nâ↑↔^äæä ^&bâä↔~äÄâfiäÄ↔æÄN↔æ&æb\æ↔ä↔æ↔\Ä ↑ÄbËN'äbæ | | | | | | |

Querschnitt

| Position | Exz. [cm] | b _{Pl} [cm] | h _f [cm] | b _w [cm] | h [cm] |
|---|-----------|----------------------|---------------------|---------------------|--------|
| UZ 2.1 | 17.5 | - | - | 25.0 | 170.0 |
| UZ 2.2 | UZ 25.0 | 25.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.3 | UZ 200.0 | 25.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.4, UZ 2.5 | UZ 35.0 | 25.0 | 25.0 | 35.0 | 85.0 |
| UZ 2.6 | UZ 200.0 | 25.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.7 | UZ 25.0 | 25.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.8 | 17.5 | - | - | 25.0 | 170.0 |
| UZ 2.9 | UZ 25.0 | 25.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.10 | 20.0 | - | - | 25.0 | 185.0 |
| UZ 2.11, UZ 2.12 | 5.0 | - | - | 35.0 | 155.0 |
| UZ 2.14, UZ 2.15 | 17.5 | - | - | 25.0 | 170.0 |
| UZ: Unterzug Exz.: æ[^æ^ \ä↔b'äÄä^æb'ä→~bbæ^æäÄNä↔æ^Ä↑↔\ÄÓ[^æ^ \ä↔↔\↑\Äæ | | | | | |

Unterzugselenke

| Position | Ort | K _{T,s} | K _{R,r} | K _{R,t} |
|----------|-----|------------------|------------------|------------------|
| UZ 2.11 | A | fest | fest | frei |
| | E | fest | fest | frei |

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|-----------------------------------|-----------|-----|---------------------------|
| UZ 2.1..UZ 2.12, UZ 2.14, UZ 2.15 | umlaufend | XC1 | trocken oder b\↑^ä↔&Ä^äbb |

Wandlager

Wandlager-Positionen

Stahl beton

| Position | läng [m] | Querschnitt [m] | Material | Dicke [cm] |
|----------------|-------------|--------------------|----------------------|---------------|
| W-2.1 | 3.62 | 5.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.2 | 3.62 | 0.90 | C 25/30 Q B 500SB | 25.0 |
| W-2.3, W-2.4 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.5_1 | 3.62 | 4.24 | C 25/30 Q B 500SB | 25.0 |
| W-2.5_2 | 3.62 | 0.25 | C 25/30 Q B 500SB | 25.0 |
| W-2.6 | 3.62 | 6.03 | C 25/30 Q B 500SB | 25.0 |
| W-2.7 | 3.62 | 5.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.8 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |
| W-2.9 | 3.62 | 5.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.10 | 3.62 | 8.63 | C 25/30 Q B 500SB | 25.0 |
| W-2.11 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.12 | 3.62 | 1.53 | C 25/30 Q B 500SB | 25.0 |
| W-2.13 | 3.62 | 0.43 | C 25/30 Q B 500SB | 25.0 |
| W-2.14, W-2.15 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.16 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.17 | 3.62 | 8.83 | C 25/30 Q B 500SB | 25.0 |
| W-2.18_1 | 3.62 | 2.49 | C 25/30 Q B 500SB | 25.0 |
| W-2.18_2 | 3.62 | 2.74 | C 25/30 Q B 500SB | 25.0 |
| W-2.18_3 | 3.62 | 0.40 | C 25/30 Q B 500SB | 25.0 |
| W-2.18_4 | 3.62 | 2.59 | C 25/30 Q B 500SB | 25.0 |
| W-2.19, W-2.20 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.21 | 3.62 | 10.00 | C 25/30 Q B 500SB | 25.0 |
| W-2.22 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.23 | 3.62 | 2.54 | C 25/30 Q B 500SB | 25.0 |
| W-2.24 | 3.62 | 4.27 | C 25/30 Q B 500SB | 25.0 |
| W-2.25, W-2.26 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |

| Position | Ø=â™ [m] | Q†^™ [m] | Material | Dicke [cm] |
|----------------------|-------------------|-------------------|----------------------|---------------|
| W-2.27_1 | 3.62 | 0.46 | C 25/30 Q B 500SB | 25.0 |
| W-2.27_2 | 3.62 | 0.72 | C 25/30 Q B 500SB | 25.0 |
| W-2.27_3 | 3.62 | 0.25 | C 25/30 Q B 500SB | 25.0 |
| W-2.30_2 | 3.62 | 0.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.30_3 | 3.62 | 1.28 | C 25/30 Q B 500SB | 25.0 |
| WS-2.5 | 3.62 | 1.01 | C 25/30 Q B 500SB | 25.0 |
| WS-2.18_1 | 3.62 | 1.52 | C 25/30 Q B 500SB | 25.0 |
| WS-2.18_2, WS-2.18_3 | 3.62 | 1.51 | C 25/30 Q B 500SB | 25.0 |
| WS-2.27_1, WS-2.27_2 | 3.62 | 0.89 | C 25/30 Q B 500SB | 25.0 |
| WS-2.30_1, WS-2.30_2 | 3.62 | 1.01 | C 25/30 Q B 500SB | 25.0 |
| WS-T-2.1 | 3.62 | 1.00 | C 25/30 Q B 500SB | 25.0 |
| WS-T-2.3 | 3.62 | 1.14 | C 25/30 Q B 500SB | 25.0 |
| WS-T-2.4 | 3.62 | 1.01 | C 25/30 Q B 500SB | 25.0 |
| WT-1.1 | 3.62 | 8.63 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_1 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_2 | 3.62 | 0.98 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_3 | 3.62 | 0.78 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_4 | 3.62 | 2.05 | C 25/30 Q B 500SB | 35.0 |
| WT-2.2 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |
| WT-2.3_1 | 3.62 | 2.05 | C 25/30 Q B 500SB | 35.0 |
| WT-2.3_2 | 3.62 | 0.81 | C 25/30 Q B 500SB | 25.0 |
| WT-2.3_3 | 3.62 | 3.56 | C 25/30 Q B 500SB | 25.0 |
| WT-2.4_1 | 3.62 | 1.28 | C 25/30 Q B 500SB | 25.0 |
| WT-2.4_2 | 3.62 | 0.34 | C 25/30 Q B 500SB | 25.0 |
| WT-2.4_3 | 3.62 | 3.58 | C 25/30 Q B 500SB | 25.0 |

| Position | Ö=åæ [m] | Q†^&æ [m] | Material | Dicke [cm] |
|----------|-------------|--------------|----------------------|---------------|
| WT-2.5 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |

Q: Öæb\æ↔^b←=ã^|^&ÁT|áã~↔\

Exposi ti onskl asse

&æ†‡BÁÆØSÁÓSÁFïïGëFëFëFëÁÚáâêÁHèF

| Position | Seite | Kl | Kommentar |
|--|-------|-----|------------------------------|
| W-2.1..W-2.4, W-2.5_1, W-2.5_2, W-2.6..W-2.17, W-2.18_1..W-2.18_4, W-2.19..W-2.26, W-2.27_1..W-2.27_3, W-2.30_2, W-2.30_3, WS-2.5, WS-2.18_1..WS-2.18_3, WS-2.27_1, WS-2.27_2, WS-2.30_1, WS-2.30_2, WS-T-2.1, WS-T-2.3, WS-T-2.4, WT-1.1, WT-2.1_1..WT-2.1_4, WT-2.2, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3, WT-2.5 umlaufend | | XC1 | trocken oder b\†^ã↔&Á^ább |

Federstei fi gkei ten

| Position | $K_{R,r}$ [kNm/rad/m] | $K_{R,s}$ [kNm/rad/m] | $K_{T,t}$ [kN/m/m] |
|--|--------------------------|--------------------------|-----------------------|
| W-2.1..W-2.4, W-2.5_1, W-2.5_2, W-2.6..W-2.17, W-2.18_1..W-2.18_4, W-2.19..W-2.26, W-2.27_1..W-2.27_3, W-2.30_2, W-2.30_3, WS-2.5, WS-2.18_1..WS-2.18_3, WS-2.27_1, WS-2.27_2, WS-2.30_1, WS-2.30_2, WS-T-2.1, WS-T-2.3, WS-T-2.4, WT-1.1, WT-2.1_1..WT-2.1_3 | frei | frei +/- | 2140884 |
| WT-2.1_4 | frei | frei +/- | 2997238 |
| WT-2.2 | frei | frei +/- | 2140884 |
| WT-2.3_1 | frei | frei +/- | 2997238 |
| WT-2.3_2, WT-2.3_3, WT-2.4_1..WT-2.4_3, WT-2.5 | frei | frei +/- | 2140884 |

Material

Materialkennwerte

Stahl beton

DIN EN 1992-1-1

| Position | Material | Wichte | E_{cm} | f_{ck} |
|---|-----------|--------|---|---------------|
| | | | $\frac{G}{Y\leftarrow S\Delta\uparrow z\ddot{Y}} \quad YS\Delta\uparrow\uparrow\ddot{Y} \quad YS\Delta\uparrow\uparrow\ddot{Y}$ | f_{ctm} |
| S-2.1..S-2.7, W-2.1..W-2.4, W-2.5_1, W-2.5_2, W-2.6..W-2.17, W-2.18_1..W-2.18_4, W-2.19..W-2.26, W-2.27_1..W-2.27_3, W-2.30_2, W-2.30_3, WS-2.5, WS-2.18_1..WS-2.18_3, WS-2.27_1, WS-2.27_2, WS-2.30_1, WS-2.30_2, WS-T-2.1, WS-T-2.3, WS-T-2.4, WT-1.1, WT-2.1_1..WT-2.1_4, WT-2.2, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3, WT-2.5 | C 25/30 Q | 25.00 | 31000 12900 | 25.00 2.60 |
| D-2.OG, UZ 2.1..UZ 2.12, UZ 2.14, UZ 2.15 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |

Q: Öæb\æ↔^b←=ã^|^&ÁT|áã~↔\

Betonstahl
DIN EN 1992-1-1

| Position | Material | Wichte | E_s | f_{yk} |
|--|----------|--------|--------------------------------------|----------------------------------|
| | | | G | $f_{tk,cal}$ |
| | | | $Y \leftarrow S \uparrow z \ddot{Y}$ | $Y S \uparrow \uparrow \ddot{Y}$ |
| D-2.OG, S-2.1..S-2.7, UZ 2.1..UZ 2.12, UZ 2.14, UZ 2.15, W-2.1..W-2.4, W-2.5_1, W-2.5_2, W-2.6..W-2.17, W-2.18_1..W-2.18_4, W-2.19..W-2.26, W-2.27_1..W-2.27_3, W-2.30_2, W-2.30_3, WS-2.5, WS-2.18_1..WS-2.18_3, WS-2.27_1, WS-2.27_2, WS-2.30_1, WS-2.30_2, WS-T-2.1, WS-T-2.3, WS-T-2.4, WT-1.1, WT-2.1_1..WT-2.1_4, WT-2.2, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3, WT-2.5 | B 500SB | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |

Belastungen

Einwirkungen

DIN EN 1990

Einwirkungen nach DIN EN 1990

| Pflicht | Beschreibung |
|-------------|--|
| Typisierung | |
| Gk | Eigenlasten |
| Ö | Ausbaulasten |
| Qk.N_E1 | Nutzlast Kategorie E: Lager, Archiv, Bib., Technik |
| Qk.N_DA | Nutzlast Kategorie H: Dach |

@UghZ} ``Y

Qáb\à†→æÁ| ^äÄæææ^AX| ~ää^ | ^&Á | Äææ^ÄÖ↔^} ↔ä← | ^&æ^

| | |
|---------|--|
| Gk | LF-1, #1 LF-1 |
| Ö | LF-2, #1 LF-2 |
| Qk.N_E1 | LF-17, LF-18, LF-19, LF-20, LF-21, LF-22, LF-23, #1 LF-8 |
| Qk.N_DA | LF-3, LF-4, LF-5, LF-6, LF-7, LF-8, LF-9, LF-10, LF-11, LF-12, LF-13, LF-14, LF-15, LF-16, #1 LF-3, #1 LF-4, #1 LF-5, #1 LF-6, #1 LF-7 |

@UghZ} ``Y # Lastgruppen @UghZ} ``Y

©æææb↔' á\ÄQáb\à†→æÁ| ^äÄQáb\&ä | **æ^

| Lastfall | Typ | Beschreibung |
|-----------|-----|--|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbau |
| LF-3 | v | Nutzlast Dach |
| LF-4 | v | Nutzlast Dach |
| LF-5 | v | Nutzlast Dach |
| LF-6 | v | Nutzlast Dach |
| LF-7 | v | Nutzlast Dach |
| LF-8 | v | Nutzlast Dach |
| LF-9 | v | Nutzlast Dach |
| LF-10 | v | Nutzlast Dach |
| LF-11 | v | Nutzlast Dach |
| LF-12 | v | Nutzlast Dach |
| LF-13 | v | Nutzlast Dach |
| LF-14 | v | Nutzlast Dach |
| LF-15 | v | Nutzlast Dach |
| LF-16 | v | Nutzlast Dach |
| LF-17 | v | Nutzlast Technik |
| LF-18 | v | Nutzlast Technik |
| LF-19 | v | Nutzlast Technik |
| LF-20 | v | Nutzlast Technik |
| LF-21 | v | Nutzlast Technik |
| LF-22 | v | Nutzlast Technik |
| LF-23 | v | Nutzlast Technik |
| #1 LF-1 | s | aus 'TG-LP4 - U'á →' á↑* bIQáb\fiâæã&âæC |
| #1 LF-2 | s | Ausbau |

| Lastfall | Typ | Beschreibung |
|-------------------------|-----|-----------------|
| #1 LF-3 | v | Nutzlast Dach |
| #1 LF-4 | v | Nutzlast Dach |
| #1 LF-5 | v | Nutzlast Dach |
| #1 LF-6 | v | Nutzlast Dach |
| #1 LF-7 | v | Nutzlast Dach |
| #1 LF-8 | v | Nutzlast Aufzug |
| s: b\†^ä↔&æãÁQáb\ää→ | | |
| v: {æã†^äæã→´ääÁQáb\ää→ | | |

Lastkombinationen

Qáb\←~↑â↔^á\↔~^æ^ÄâfiãÄ→^æääæÃÑæää´â^|^&

Kombinationen

Manuell vorgegebene Lastkombinationen

| Ew | Einwirkungsname | | | | | |
|------|-----------------|----------------|---|---------|---------|-----------------|
| Lg | Lastgruppenname | | | | | |
| Lf | Lastfallname | | | | | |
| | Ew | Gk | Gk | Ö← | Ö← | Qk.N_E1 Qk.N_E1 |
| | Lg | . | . | . | . | . |
| | Lf | LF-1 #1 LF-1 | LF-2 #1 LF-2 | LF-17 | LF-18 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| | Lg | . | . | . | . | . |
| | Lf | LF-19 | LF-20 | LF-21 | LF-22 | LF-23 #1 LF-8 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | LF-3 | LF-4 | LF-5 | LF-6 | LF-7 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | LF-9 | LF-10 | LF-11 | LF-12 | LF-13 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | LF-15 | LF-16 #1 LF-3 #1 LF-4 #1 LF-5 #1 LF-6 | | | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | | | | |
| | Lg | . | | | | |
| | Lf | #1 LF-7 | | | | |
| LK-1 | 1.00 | | | | | |

Lastplan

Lasten des FE-Modells

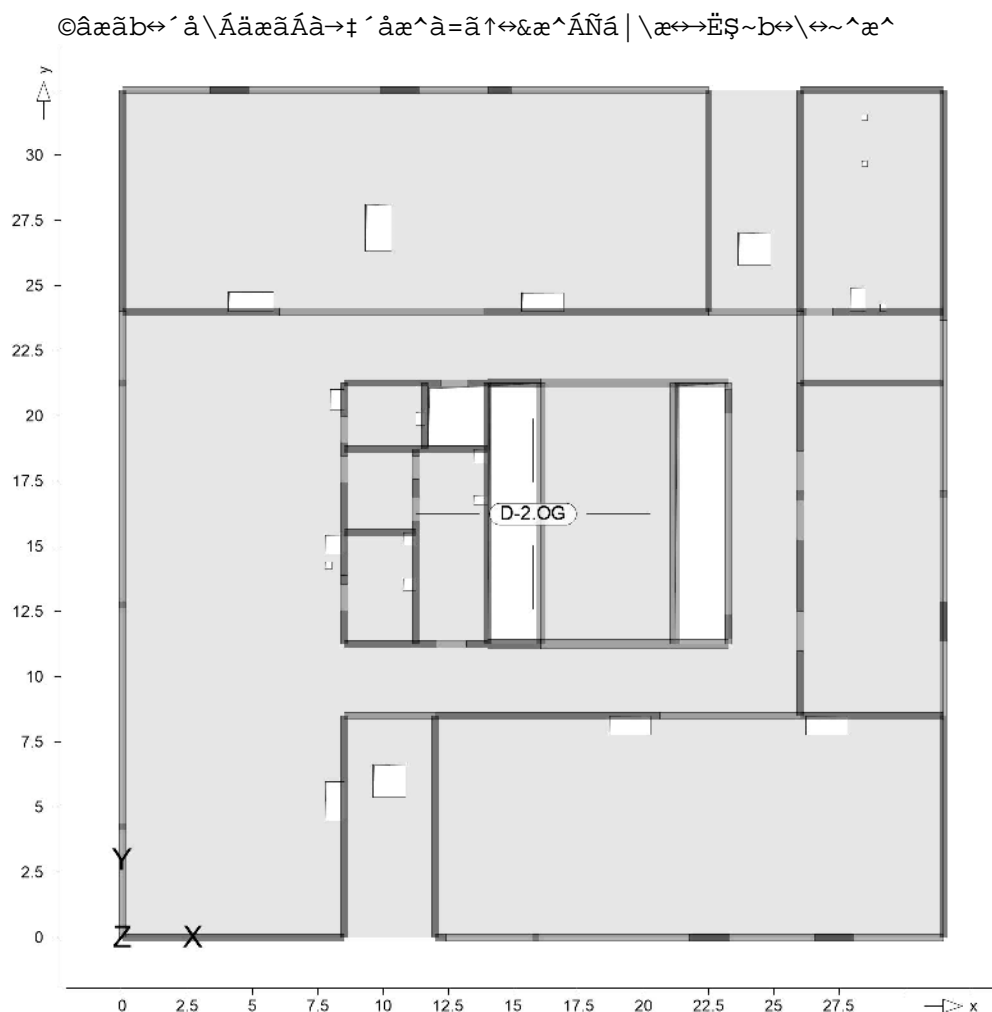
Bauteil lasten

Bauteilbezogene Lasten

:` } W\Ybdcg] h] cbYb

Ö→†´ää^â=ã↑↔&æÃÑá | \æ↔→Ë\$~b↔\↔~^æ^

Positionsgrafik



Eigengewicht

| Position | EW | Lastfall | Art | g [kN/m ²] |
|----------|----|----------|-----|---------------------------|
| D-2.OG | Gk | LF-1 | PGr | 6.25 |

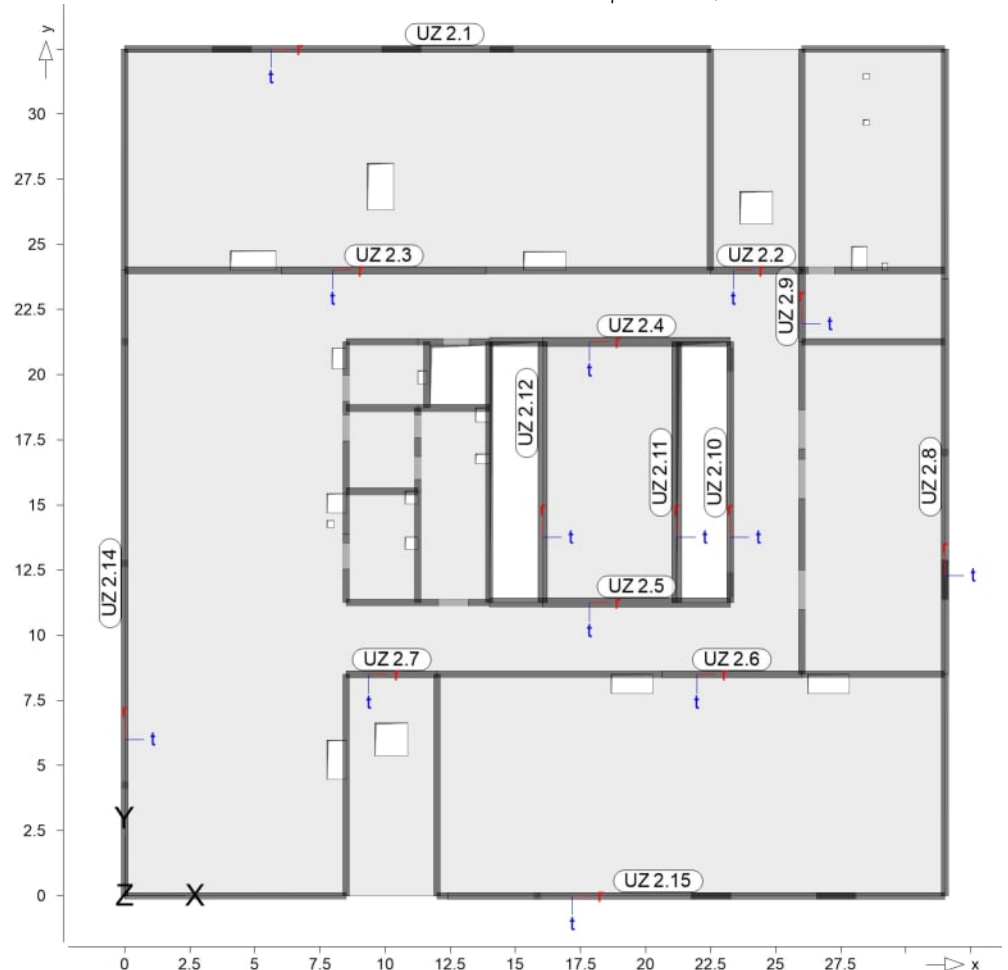
PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Streckenpositionen

Q \leftrightarrow ^ \leftrightarrow æ^â=ã \uparrow \leftrightarrow &æÃÑá | \æ \leftrightarrow Ë\$~b \leftrightarrow \ \leftrightarrow ~^æ^

Positionsgrafik

©âæãb \leftrightarrow ' â\ÃäæãÃ \rightarrow ^ \leftrightarrow æ^â=ã \uparrow \leftrightarrow &æ^ÃÑá | \æ \leftrightarrow Ë\$~b \leftrightarrow \ \leftrightarrow ~^æ^



Eigengewicht

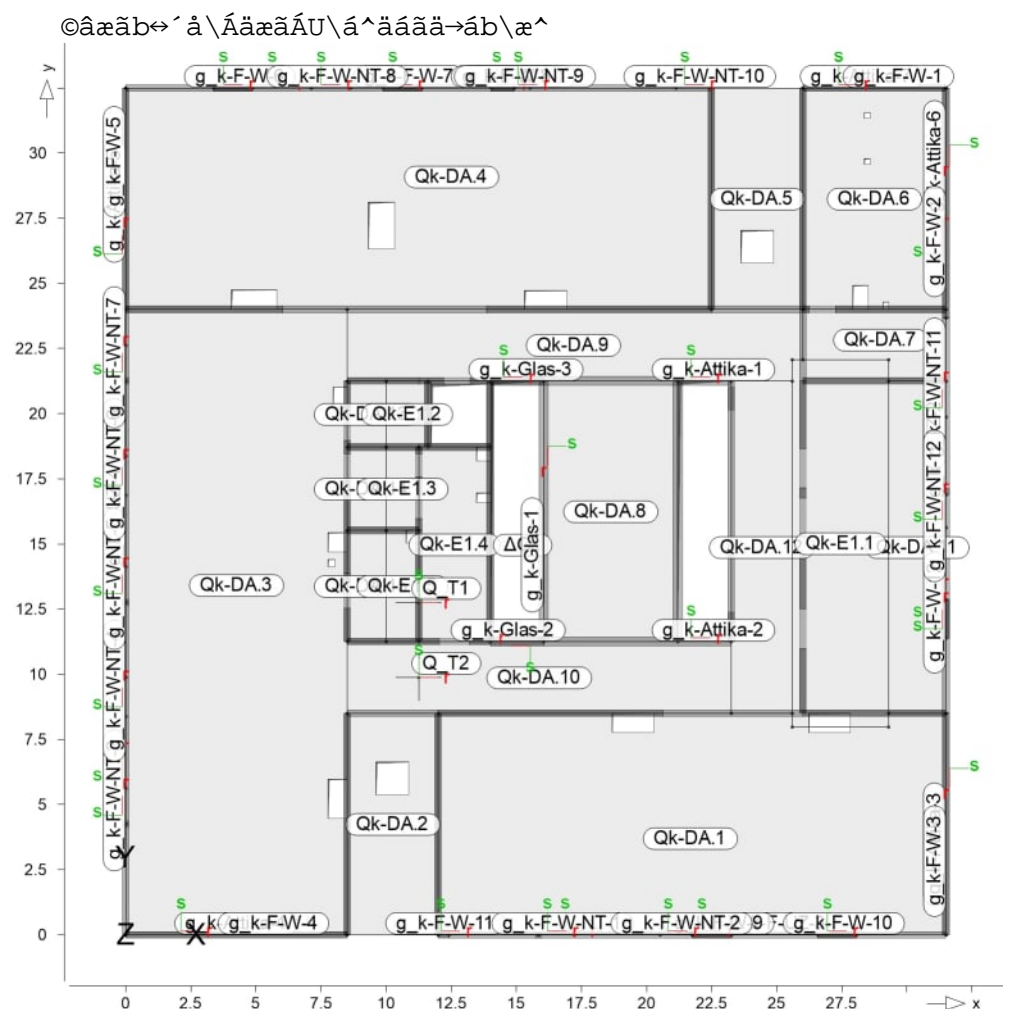
| Position | EW | Lastfall | Art | g [kN/m] |
|------------------|----|----------|-----|-------------|
| UZ 2.1 | Gk | LF-1 | PGr | 10.63 |
| UZ 2.2, UZ 2.3 | Gk | LF-1 | PGr | 4.38 |
| UZ 2.4, UZ 2.5 | Gk | LF-1 | PGr | 5.25 |
| UZ 2.6, UZ 2.7 | Gk | LF-1 | PGr | 4.38 |
| UZ 2.8 | Gk | LF-1 | PGr | 10.63 |
| UZ 2.9 | Gk | LF-1 | PGr | 4.38 |
| UZ 2.10 | Gk | LF-1 | PGr | 11.56 |
| UZ 2.11, UZ 2.12 | Gk | LF-1 | PGr | 13.56 |
| UZ 2.14, UZ 2.15 | Gk | LF-1 | PGr | 10.63 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Standardlasten

Standardlasten im FE-Modell

Positionsgrafik



Punktlasten

| Position | EW | Lastfall | Art | P, M [kN], [kNm] |
|----------|--------------|------------------|-----|---------------------|
| Q_T1 | | Pufferspeicher | | |
| | Qk.N_E LF-19 | | PGr | 13.00 |
| Q_T2 | | Kaltwasserersatz | | |
| | Qk.N_E LF-20 | | PGr | 5.00 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Winkel

der gedrehten globalen Koordinatensysteme

Position

| Position | Winkel |
|------------|--------|
| Q_T1, Q_T2 | 0.00 |

Linienlasten

| Position | EW | Lastfall | Art | p _A , m _A [kN/m], [kNm/m] | p _E , m _E [kN/m], [kNm/m] |
|--------------|----|----------|-----|--|--|
| g_k-Attika-1 | Gk | LF-1 | pGr | 6.13 | 6.13 |
| g_k-Attika-2 | Gk | LF-1 | pGr | 6.13 | 6.13 |
| g_k-Attika-3 | Gk | LF-1 | pGr | 5.63 | 5.63 |
| g_k-Attika-4 | Gk | LF-1 | pGr | 5.63 | 5.63 |
| g_k-Attika-5 | Gk | LF-1 | pGr | 5.63 | 5.63 |

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|--------------|-----------------------------|----------|-----|-------------------------------|-------------------------------|
| g_k-Attika-6 | Gk | LF-1 | pGr | 5.63 | 5.63 |
| g_k-Attika-7 | Gk | LF-1 | pGr | 5.63 | 5.63 |
| g_k-F-UZ-1 | Fassadenlast Unterzug | | | | |
| | Ö← | LF-2 | pGr | 4.25 | 4.25 |
| g_k-F-UZ-2 | Fassadenlast Unterzug | | | | |
| | Ö← | LF-2 | pGr | 4.25 | 4.25 |
| g_k-F-UZ-3 | Fassadenlast Unterzug | | | | |
| | Ö← | LF-2 | pGr | 4.25 | 4.25 |
| g_k-F-UZ-4 | Fassadenlast Unterzug | | | | |
| | Ö← | LF-2 | pGr | 4.25 | 4.25 |
| g_k-F-W-1 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 12.00 | 12.00 |
| g_k-F-W-2 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 12.00 | 12.00 |
| g_k-F-W-3 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 12.00 | 12.00 |
| g_k-F-W-4 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 12.00 | 12.00 |
| g_k-F-W-5 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 12.00 | 12.00 |
| g_k-F-W-6 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-7 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-8 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-9 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-10 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-11 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-12 | Fassadenlast Wand | | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-1 | Fassadenlast + Eigengewicht | | | | |
| | pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-2 | Fassadenlast + Eigengewicht | | | | |
| | pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-3 | Fassadenlast + Eigengewicht | | | | |
| | pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-4 | Fassadenlast + Eigengewicht | | | | |
| | pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-5 | Fassadenlast + Eigengewicht | | | | |
| | pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E |
|---------------|--|----------|-----|-------------------------------|------------|
| g_k-F-W-NT-6 | <i>Fassadenlast + Eigengewicht</i> <i>pkejvvtcigpfg"Y@pfg</i> | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-7 | <i>Fassadenlast + Eigengewicht</i> <i>pkejvvtcigpfg"Y@pfg</i> | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-8 | <i>Fassadenlast + Eigengewicht</i> <i>pkejvvtcigpfg"Y@pfg</i> | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-9 | <i>Fassadenlast + Eigengewicht</i> <i>pkejvvtcigpfg"Y@pfg</i> | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-10 | <i>Fassadenlast + Eigengewicht</i> <i>pkejvvtcigpfg"Y@pfg</i> | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-11 | <i>Fassadenlast + Eigengewicht</i> <i>pkejvvtcigpfg"Y@pfg</i> | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-12 | <i>Fassadenlast + Eigengewicht</i> <i>pkejvvtcigpfg"Y@pfg</i> | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-Glas-1 | Ö← | LF-2 | pGr | 1.50 | 1.50 |
| g_k-Glas-2 | Ö← | LF-2 | pGr | 1.50 | 1.50 |
| g_k-Glas-3 | Ö← | LF-2 | pGr | 1.50 | 1.50 |

pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

;`Y] W\Z` } W\Yb` UghYb

| Position | EW | Lastfall | Art | p [kN/m²] |
|----------|----------|----------|-----|--------------|
| Qk-DA.1 | Qk.N_D A | LF-3 | PGr | 4.00 |
| Qk-DA.2 | Qk.N_D A | LF-4 | PGr | 4.00 |
| Qk-DA.3 | Qk.N_D A | LF-5 | PGr | 4.00 |
| Qk-DA.4 | Qk.N_D A | LF-6 | PGr | 4.00 |
| Qk-DA.5 | Qk.N_D A | LF-7 | PGr | 4.00 |
| Qk-DA.6 | Qk.N_D A | LF-8 | PGr | 4.00 |
| Qk-DA.7 | Qk.N_D A | LF-9 | PGr | 4.00 |
| Qk-DA.8 | Qk.N_D A | LF-10 | PGr | 4.00 |
| Qk-DA.9 | Qk.N_D A | LF-11 | PGr | 4.00 |
| Qk-DA.10 | Qk.N_D A | LF-12 | PGr | 4.00 |

| Position | EW | Lastfall | Art | p [kN/m ²] |
|----------|--------------|----------|-----|----------------------------|
| | A | | | |
| Qk-DA.11 | Qk.N_D LF-13 | | PGr | 4.00 |
| | A | | | |
| Qk-DA.12 | Qk.N_D LF-13 | | PGr | 4.00 |
| | A | | | |
| Qk-DA.13 | Qk.N_D LF-14 | | PGr | 4.00 |
| | A | | | |
| Qk-DA.14 | Qk.N_D LF-15 | | PGr | 4.00 |
| | A | | | |
| Qk-DA.15 | Qk.N_D LF-16 | | PGr | 4.00 |
| | A | | | |
| Qk-E1.1 | Qk.N_E LF-17 | | PGr | 6.00 |
| | 1 | | | |
| Qk-E1.2 | Qk.N_E LF-18 | | PGr | 6.00 |
| | 1 | | | |
| Qk-E1.3 | Qk.N_E LF-21 | | PGr | 6.00 |
| | 1 | | | |
| Qk-E1.4 | Qk.N_E LF-22 | | PGr | 6.00 |
| | 1 | | | |
| Qk-E1.5 | Qk.N_E LF-23 | | PGr | 6.00 |
| | 1 | | | |
| Ö← | Ö← LF-2 | | PGr | 2.00 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

@Ugh~ VYf bU\ aYb

Posi ti onsgrafi k

Qáb\fiâæã^áâ↑æÁá | bÁR↔'ã~ÔæËR~äæ→→æ^

©âæãb↔'â\ÁäæãÁQáb\fiâæã^áâ↑æ^

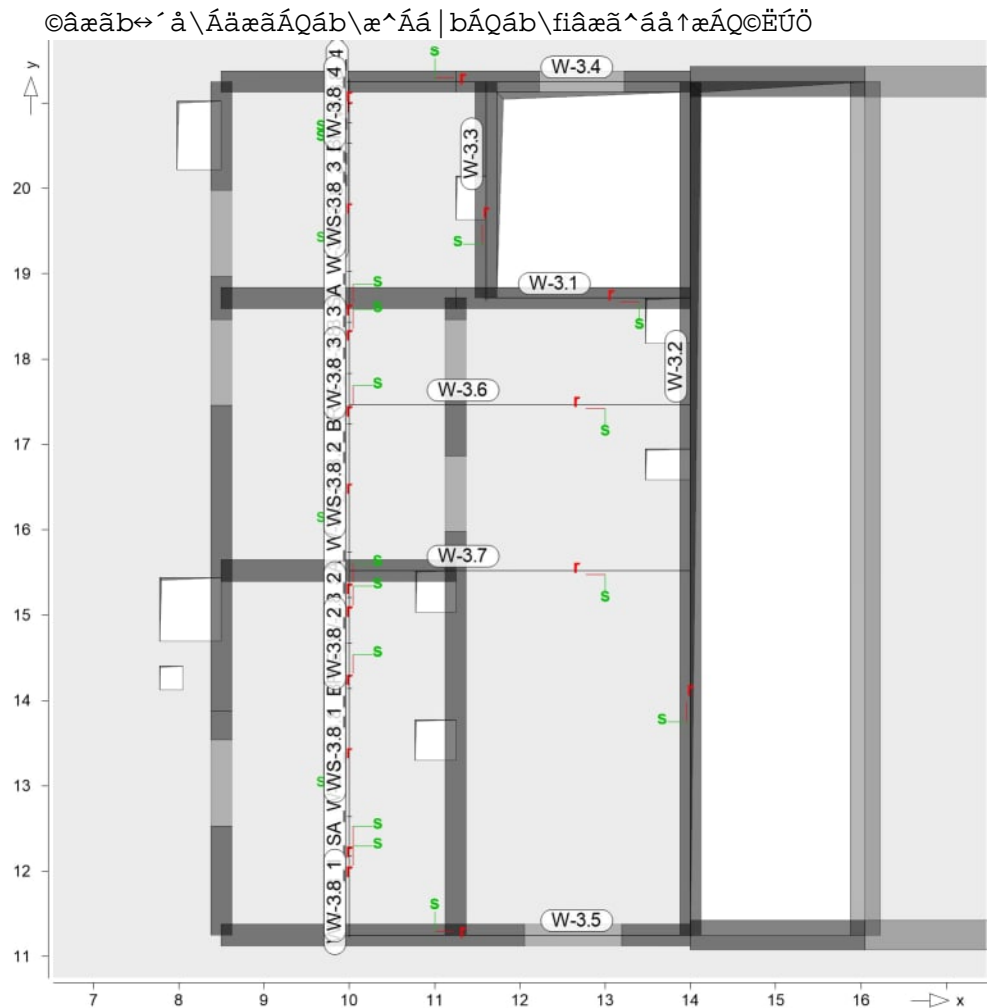


@y! H;

Qáb\fiâæã^áâ↑æÁCU'â | →'á↑* | bİQáb\fiâæã&áâæCÁá | bÁR~äæ→→Á
'TG-LP4'

↔æÁQáb\fiâæã^áâ↑æÁæãà~&\Á→áb\àá→→\ãæ | È
↔æÁQáb\á^\æ→→æÁá | bÁb\†^ä↔&æ^ÁQáb\æ^ÁäæãÁU\fi\~æ^ËÁund
Ûá^ä→á&æãÁ}æãäæ^Áâæãfi'←b↔'â\↔&\È

Positionsgrafik



Linienlasten

Blocklasten der einzelnen Abschnitte in
Gravitationsrichtung

W-3.1

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten (4 Abschnitte je 0.60m) | [kN/m] |
|---------------|--------------------------------|--------|
| #1 LF-1 (g) | -10.7 -11.5 11.76 27.65 | |
| #1 LF-2 (g) | -6.14 -6.00 -0.67 2.87 | |
| #1 LF-8 | 2.80 9.06 8.60 1.95 | |
| #1 LF-3 | 1.13 3.78 4.01 1.84 | |
| #1 LF-4 | -14.9 -18.0 -7.46 -0.02 | |
| #1 LF-5 | 1.20 1.97 2.22 4.26 | |
| #1 LF-6 | -0.09 -0.34 -0.59 -0.87 | |
| #1 LF-7 | 0.44 0.59 0.48 0.53 | |

(g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand

W-3.2

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten (14 Abschnitte je 0.71m) | [kN/m] |
|---------------|--|--------|
| #1 LF-1 (g) | 105.62 62.56 49.63 50.86 57.92 68.70 70.10 | |
| #1 LF-2 (g) | 65.44 72.40 78.69 59.26 46.45 69.53 108.5 | |
| #1 LF-3 | 17.94 11.18 9.10 9.27 10.34 12.08 12.27 | |
| #1 LF-4 | 11.51 13.05 14.42 9.90 7.34 12.41 19.32 | |
| #1 LF-8 | 0.31 0.07 -0.01 -0.06 -0.17 -0.33 -0.31 | |
| #1 LF-3 | -0.29 -1.07 -2.33 -1.27 5.41 8.52 -0.85 | |
| #1 LF-3 | 0.09 0.02 0.00 -0.02 -0.05 -0.10 -0.10 | |
| #1 LF-3 | -0.11 -0.35 -0.72 -0.27 2.37 3.88 1.02 | |

D-88

| Lastfall | | Lasten (14 Abschnitte je 0.71m) | | | | | | | [kN/m] |
|---|------|---------------------------------|-------|-------|-------|-------|-------|-------|--------|
| #1 | LF-4 | 39.51 | 16.36 | 9.46 | 10.82 | 16.66 | 25.04 | 26.48 | |
| | | 22.94 | 26.06 | 29.05 | 20.07 | 12.69 | 21.35 | 37.52 | |
| #1 | LF-5 | -0.03 | 0.00 | 0.01 | 0.02 | 0.03 | 0.00 | -0.12 | |
| | | -0.20 | 0.45 | 1.44 | 0.55 | -0.22 | -0.27 | -0.03 | |
| #1 | LF-6 | 0.07 | -0.04 | -0.15 | -0.36 | -0.65 | -0.30 | 1.85 | |
| | | 2.85 | 0.90 | -0.49 | -0.25 | -0.01 | -0.04 | -0.14 | |
| #1 | LF-7 | -3.77 | 6.04 | 8.89 | 8.08 | 4.69 | -0.49 | -3.57 | |
| | | -2.45 | -0.95 | -0.43 | -0.30 | -0.15 | -0.09 | 0.25 | |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | | |

W-3.3

Gk
Ö←
Qk.N_E1
Qk.N_DA

| Lastfall | | Lasten (4 Abschnitte je 0.63m) | | | | | | | [kN/m] |
|---|----------|--------------------------------|--|--|-------|-------|-------|-------|--------|
| #1 | LF-1 (g) | | | | 30.60 | 25.22 | 22.88 | 23.33 | |
| #1 | LF-2 (g) | | | | 3.72 | 2.71 | 2.13 | 1.46 | |
| #1 | LF-8 | | | | 1.70 | 9.06 | 10.31 | 3.88 | |
| #1 | LF-3 | | | | 1.77 | 4.21 | 4.61 | 2.33 | |
| #1 | LF-4 | | | | 0.37 | -2.79 | -3.77 | -1.31 | |
| #1 | LF-5 | | | | 5.52 | 4.00 | 3.37 | 1.87 | |
| #1 | LF-6 | | | | -0.47 | 0.01 | 0.07 | 0.03 | |
| #1 | LF-7 | | | | 0.26 | -0.01 | -0.03 | -0.01 | |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | | |

W-3.4

Gk
Ö←
Qk.N_E1
Qk.N_DA

| Lastfall | | Lasten (6 Abschnitte je 0.67m) | | | | | | | [kN/m] |
|---|----------|--------------------------------|--|--|-------|-------|-------|-------|--------|
| #1 | LF-1 (g) | | | | 23.48 | 25.67 | 24.16 | 19.19 | -4.98 |
| #1 | LF-2 (g) | | | | 0.66 | 1.24 | 0.83 | -0.06 | -5.14 |
| #1 | LF-8 | | | | -0.51 | -2.34 | -1.32 | 3.76 | 6.17 |
| #1 | LF-3 | | | | -0.19 | -0.68 | 0.31 | 2.64 | 3.47 |
| #1 | LF-4 | | | | 0.22 | 1.12 | 1.09 | -2.33 | -13.6 |
| #1 | LF-5 | | | | 1.29 | 2.03 | 0.28 | -0.44 | -0.22 |
| #1 | LF-6 | | | | 0.00 | -0.01 | -0.01 | 0.02 | 0.07 |
| #1 | LF-7 | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | | |

W-3.5

Gk
Ö←
Qk.N_E1
Qk.N_DA

| Lastfall | | Lasten (6 Abschnitte je 0.67m) | | | | | | | [kN/m] |
|---|----------|--------------------------------|--|--|-------|-------|-------|-------|--------|
| #1 | LF-1 (g) | | | | 23.24 | 28.26 | 27.77 | 20.66 | -4.63 |
| #1 | LF-2 (g) | | | | 0.39 | 2.38 | 2.43 | 0.86 | -4.68 |
| #1 | LF-8 | | | | 0.00 | 0.00 | 0.00 | -0.01 | -0.07 |
| #1 | LF-3 | | | | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 |
| #1 | LF-4 | | | | 1.15 | -0.68 | -1.66 | -4.70 | -15.2 |
| #1 | LF-5 | | | | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| #1 | LF-6 | | | | 0.04 | -0.04 | -0.05 | -0.04 | -0.02 |
| #1 | LF-7 | | | | -0.40 | 5.49 | 6.57 | 6.45 | 5.87 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | | |

W-3.6

Gk
Ö←
Qk.N_E1
Qk.N_DA

| Lastfall | | Lasten (6 Abschnitte je 0.67m) | | | | | | | [kN/m] |
|---|----------|--------------------------------|--|--|-------|-------|-------|-------|--------|
| #1 | LF-1 (g) | | | | -5.26 | -8.65 | 20.86 | 31.72 | 31.70 |
| #1 | LF-2 (g) | | | | -4.80 | -5.58 | 1.19 | 3.77 | 3.79 |
| #1 | LF-8 | | | | -0.06 | -0.70 | -1.39 | -1.19 | -0.75 |
| #1 | LF-3 | | | | -0.01 | -0.17 | -0.38 | -0.35 | -0.23 |
| #1 | LF-4 | | | | -13.5 | -17.1 | -3.11 | 1.84 | 1.62 |
| #1 | LF-5 | | | | 1.55 | 2.46 | 2.70 | 3.14 | 3.44 |
| #1 | LF-6 | | | | 2.05 | 4.03 | 4.80 | 4.83 | 4.16 |
| #1 | LF-7 | | | | 0.35 | -0.40 | -1.62 | -1.92 | -1.41 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | | |

W-3.7

Gk
Ö←

| Lastfall | | Lasten (6 Abschnitte je 0.67m) | | | | | | | [kN/m] |
|----------|----------|--------------------------------|--|--|-------|-------|-------|-------|--------|
| #1 | LF-1 (g) | | | | -8.90 | -16.1 | 16.53 | 33.00 | 34.73 |
| #1 | LF-2 (g) | | | | -5.41 | -6.38 | 1.46 | 5.30 | 5.31 |

| | Lastfall Lasten (6 Abschnitte je 0.67m) | | | | | | | [kN/m] |
|---|---|------|-------|-------|-------|-------|-------|--------|
| Qk.N_E1 | #1 | LF-8 | 0.38 | 0.51 | 0.27 | 0.14 | 0.08 | 0.02 |
| Qk.N_DA | #1 | LF-3 | 0.12 | 0.15 | 0.07 | 0.03 | 0.02 | 0.01 |
| | #1 | LF-4 | -16.4 | -24.9 | -11.3 | -3.58 | -1.07 | 0.06 |
| | #1 | LF-5 | -0.02 | -0.09 | -0.17 | -0.21 | -0.18 | -0.07 |
| | #1 | LF-6 | 1.96 | 3.68 | 4.27 | 4.32 | 3.83 | 2.03 |
| | #1 | LF-7 | 3.52 | 8.39 | 10.01 | 10.03 | 8.01 | 2.96 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | |

| | Lastfall Lasten (3 Abschnitte je 0.46m) | | | | | | | [kN/m] |
|---|---|----------|--|--|--|-------|-------|--------|
| Gk | #1 | LF-1 (g) | | | | 28.04 | 26.17 | 21.66 |
| Ö← | #1 | LF-2 (g) | | | | 2.42 | 1.68 | -0.19 |
| Qk.N_DA | #1 | LF-4 | | | | -1.18 | -0.49 | 1.48 |
| | #1 | LF-6 | | | | -0.04 | -0.01 | 0.07 |
| | #1 | LF-7 | | | | 6.06 | 3.85 | -1.92 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | |

| | Lastfall Lasten (3 Abschnitte je 0.53m) | | | | | | | [kN/m] |
|---|---|----------|--|--|--|-------|-------|--------|
| Gk | #1 | LF-1 (g) | | | | 20.99 | 23.48 | 26.47 |
| Ö← | #1 | LF-2 (g) | | | | -0.08 | 0.71 | 1.72 |
| Qk.N_E1 | #1 | LF-8 | | | | -0.02 | -0.02 | -0.02 |
| Qk.N_DA | #1 | LF-4 | | | | 0.76 | 0.40 | -0.18 |
| | #1 | LF-5 | | | | 0.03 | 0.04 | 0.03 |
| | #1 | LF-6 | | | | 0.06 | -0.50 | -0.45 |
| | #1 | LF-7 | | | | -1.01 | 1.49 | 4.04 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | |

| | Lastfall Lasten (3 Abschnitte je 0.60m) | | | | | | | [kN/m] |
|---|---|----------|--|--|--|-------|-------|--------|
| Gk | #1 | LF-1 (g) | | | | 25.72 | 23.67 | 21.63 |
| Ö← | #1 | LF-2 (g) | | | | 1.40 | 0.86 | 0.32 |
| Qk.N_E1 | #1 | LF-8 | | | | -0.55 | -0.17 | 0.10 |
| Qk.N_DA | #1 | LF-3 | | | | -0.18 | -0.06 | 0.02 |
| | #1 | LF-4 | | | | 0.18 | -0.09 | -0.23 |
| | #1 | LF-5 | | | | 2.93 | 2.07 | 0.60 |
| | #1 | LF-6 | | | | -0.28 | -0.51 | -0.05 |
| | #1 | LF-7 | | | | 0.13 | 0.30 | 0.29 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | |

| | Lastfall Lasten (3 Abschnitte je 0.24m) | | | | | | | [kN/m] |
|---|---|----------|--|--|--|-------|-------|--------|
| Gk | #1 | LF-1 (g) | | | | 24.60 | 23.57 | 21.72 |
| Ö← | #1 | LF-2 (g) | | | | 1.03 | 0.72 | 0.16 |
| Qk.N_E1 | #1 | LF-8 | | | | -0.48 | -0.19 | 0.33 |
| Qk.N_DA | #1 | LF-3 | | | | -0.15 | -0.07 | 0.07 |
| | #1 | LF-4 | | | | 0.21 | 0.07 | -0.16 |
| | #1 | LF-5 | | | | 2.00 | 1.44 | 0.41 |
| (g): Lastfall beinhaltet Eigengewicht (18.75 kN/m) der Wand | | | | | | | | |

| | | | | | | | | |
|--------------------|---|------|--|--|--|--|--|--------|
| WS-3.8_1_BR | á bÁÛÜĚĞĚÎŽFÁÓ↔&æ^&æ}↔´â\ÃÑãfib\ ^& | | | | | | | |
| | Lastfall Lasten (1 Abschnitte je 1.50m) | | | | | | | [kN/m] |
| Gk | #1 | LF-1 | | | | | | 4.38 |

| | | | | | | | | |
|----------------------------|---|------|--|--|--|--|--|--------|
| WS-3.8_1_SA_W-3.8_1 | aus WS-3.8_1 Sturzanfang | | | | | | | |
| | Lastfall Lasten (1 Abschnitte je 0.46m) | | | | | | | [kN/m] |
| Gk | #1 | LF-1 | | | | | | 2.53 |
| | | | | | | | | 15.63 |
| Ö← | #1 | LF-2 | | | | | | 4.13 |
| Qk.N_E1 | #1 | LF-8 | | | | | | 0.00 |
| Qk.N_DA | #1 | LF-3 | | | | | | 0.00 |

| | | Lastfall Lasten (1 Abschnitte je 0.46m) | [kN/m] |
|--|--|---|--------|
| | | #1 LF-4 | -2.03 |
| | | #1 LF-5 | 0.01 |
| | | #1 LF-6 | -0.16 |
| | | #1 LF-7 | 10.45 |
| WS-3.8_1_SE_W-3.8_2 aus WS-3.8_1 Sturzende | | | |
| | | Lastfall Lasten (1 Abschnitte je 0.53m) | [kN/m] |
| Gk | | #1 LF-1 | 2.20 |
| | | | 13.43 |
| Ö← | | #1 LF-2 | 3.47 |
| Qk.N_E1 | | #1 LF-8 | -0.01 |
| Qk.N_DA | | #1 LF-3 | 0.00 |
| | | #1 LF-4 | -1.44 |
| | | #1 LF-5 | 0.02 |
| | | #1 LF-6 | -0.24 |
| | | #1 LF-7 | 8.61 |
| WS-3.8_2_BR á bÁÛÜĚĞĚÎŽĜÁÓ↔&æ^&æ}↔´â\ÁÑăfib\ ^& | | | |
| | | Lastfall Lasten (1 Abschnitte je 1.50m) | [kN/m] |
| Gk | | #1 LF-1 | 4.38 |
| WS-3.8_2_SA_W-3.8_2 aus WS-3.8_2 Sturzanfang | | | |
| | | Lastfall Lasten (1 Abschnitte je 0.53m) | [kN/m] |
| Gk | | #1 LF-1 | 2.20 |
| | | | 5.68 |
| Ö← | | #1 LF-2 | 0.60 |
| Qk.N_E1 | | #1 LF-8 | 0.10 |
| Qk.N_DA | | #1 LF-3 | 0.03 |
| | | #1 LF-4 | 0.94 |
| | | #1 LF-5 | -0.30 |
| | | #1 LF-6 | 3.07 |
| | | #1 LF-7 | -2.53 |
| WS-3.8_2_SE_W-3.8_3 aus WS-3.8_2 Sturzende | | | |
| | | Lastfall Lasten (1 Abschnitte je 0.60m) | [kN/m] |
| Gk | | #1 LF-1 | 1.97 |
| | | | 5.46 |
| Ö← | | #1 LF-2 | 0.76 |
| Qk.N_E1 | | #1 LF-8 | 0.18 |
| Qk.N_DA | | #1 LF-3 | 0.05 |
| | | #1 LF-4 | 0.36 |
| | | #1 LF-5 | -0.48 |
| | | #1 LF-6 | 2.71 |
| | | #1 LF-7 | -1.13 |
| WS-3.8_3_BR á bÁÛÜĚĞĚÎŽĜÁÓ↔&æ^&æ}↔´â\ÁÑăfib\ ^& | | | |
| | | Lastfall Lasten (1 Abschnitte je 1.50m) | [kN/m] |
| Gk | | #1 LF-1 | 4.38 |
| WS-3.8_3_SA_W-3.8_3 aus WS-3.8_3 Sturzanfang | | | |
| | | Lastfall Lasten (1 Abschnitte je 0.59m) | [kN/m] |
| Gk | | #1 LF-1 | 1.97 |
| | | | 9.54 |
| Ö← | | #1 LF-2 | 1.94 |
| Qk.N_E1 | | #1 LF-8 | -1.22 |

| | Lastfall | Lasten (1 Abschnitte je 0.59m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Qk.N_DA | #1 | LF-3 | -0.37 |
| | #1 | LF-4 | 0.53 |
| | #1 | LF-5 | 3.74 |
| | #1 | LF-6 | -0.03 |
| | #1 | LF-7 | 0.00 |

| WS-3.8_3_SE_W-3.8_4 | aus WS-3.8_3 Sturzende | | |
|----------------------------|------------------------|--------------------------------|--------|
| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| Gk | #1 | LF-1 | 4.85 |
| | | | 23.45 |
| Ö← | #1 | LF-2 | 4.75 |
| Qk.N_E1 | #1 | LF-8 | -3.14 |
| Qk.N_DA | #1 | LF-3 | -0.93 |
| | #1 | LF-4 | 1.38 |
| | #1 | LF-5 | 9.07 |
| | #1 | LF-6 | 0.01 |
| | #1 | LF-7 | -0.02 |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und Linienlast-Resultierenden, getrennt nach positiven und negativen Anteilen

Lasten aus Lastgruppen werden nicht

| | Position | EW | Art | *~b↔↔{ [kN] | ^æ&ā\↔{ [kN] |
|--------------|----------|---------|-----|-------------|--------------|
| Linienlasten | W-3.1 | Gk | PGr | 10.29 | |
| | | Ö← | PGr | | -5.95 |
| | | Qk.N_E1 | PGr | 13.42 | 0.00 |
| | | Qk.N_DA | PGr | 13.44 | -25.34 |
| | | A | | | |
| | W-3.2 | Gk | PGr | 689.79 | |
| | | Ö← | PGr | 121.51 | |
| | | Qk.N_E1 | PGr | 10.22 | -4.78 |
| | | Qk.N_DA | PGr | 255.35 | -12.32 |
| | | A | | | |
| | W-3.3 | Gk | PGr | 64.66 | |
| | | Ö← | PGr | 6.35 | |
| | | Qk.N_E1 | PGr | 15.81 | 0.00 |
| | | Qk.N_DA | PGr | 18.01 | -5.31 |
| | | A | | | |
| | W-3.4 | Gk | PGr | 51.23 | |
| | | Ö← | PGr | | -6.15 |
| | | Qk.N_E1 | PGr | 6.94 | -2.78 |
| | | Qk.N_DA | PGr | 9.43 | -21.72 |
| | | A | | | |
| | W-3.5 | Gk | PGr | 57.62 | |
| | | Ö← | PGr | | -3.35 |
| | | Qk.N_E1 | PGr | 0.00 | -0.07 |
| | | 1 | | | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|---------------------|-------------|-----|-----------------|-----------------|
| | Qk.N_D A | PGr | 17.82 | -24.52 |
| W-3.6 | Gk | PGr | 64.45 | |
| | Ö← | PGr | 0.27 | |
| | Qk.N_E 1 | PGr | 0.00 | -2.88 |
| | Qk.N_D A | PGr | 27.70 | -27.16 |
| W-3.7 | Gk | PGr | 57.84 | |
| | Ö← | PGr | 1.85 | |
| | Qk.N_E 1 | PGr | 0.93 | 0.00 |
| | Qk.N_D A | PGr | 42.32 | -38.63 |
| W-3.8_1 | Gk | PGr | 35.15 | |
| | Ö← | PGr | 1.81 | |
| | Qk.N_D A | PGr | 5.31 | -1.68 |
| W-3.8_2 | Gk | PGr | 37.84 | |
| | Ö← | PGr | 1.25 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.03 |
| | Qk.N_D A | PGr | 3.65 | -1.14 |
| W-3.8_3 | Gk | PGr | 42.26 | |
| | Ö← | PGr | 1.53 | |
| | Qk.N_E 1 | PGr | 0.06 | -0.43 |
| | Qk.N_D A | PGr | 3.89 | -0.83 |
| W-3.8_4 | Gk | PGr | 16.89 | |
| | Ö← | PGr | 0.46 | |
| | Qk.N_E 1 | PGr | 0.08 | -0.16 |
| | Qk.N_D A | PGr | 1.01 | -0.09 |
| WS-3.8_1_BR | Gk | PGr | 6.56 | |
| WS-3.8_1_SA_W-3.8_1 | Gk | PGr | 8.42 | |
| | Ö← | PGr | 1.92 | |
| | Qk.N_E 1 | PGr | 0.00 | 0.00 |
| | Qk.N_D A | PGr | 4.85 | -1.01 |
| WS-3.8_1_SE_W-3.8_2 | Gk | PGr | 8.33 | |
| | Ö← | PGr | 1.85 | |
| | Qk.N_E 1 | PGr | 0.00 | 0.00 |
| | Qk.N_D A | PGr | 4.60 | -0.90 |
| WS-3.8_2_BR | Gk | PGr | 6.56 | |

| Position | EW | Art | *~b⇒\⇒{ [kN] | ^æ&á\⇒{ [kN] |
|-----------------------------|-------------|-----|------------------|------------------|
| WS- 3.8_2_SA_W- 3.8_2 | Gk | PGr | 4.20 | |
| | Ö← | PGr | 0.32 | |
| | Qk.N_E 1 | PGr | 0.05 | 0.00 |
| | Qk.N_D A | PGr | 2.15 | -1.51 |
| WS- 3.8_2_SE_W- 3.8_3 | Gk | PGr | 4.42 | |
| | Ö← | PGr | 0.45 | |
| | Qk.N_E 1 | PGr | 0.11 | 0.00 |
| | Qk.N_D A | PGr | 1.86 | -0.96 |
| WS-3.8_3_BR | Gk | PGr | 6.56 | |
| WS- 3.8_3_SA_W- 3.8_3 | Gk | PGr | 6.85 | |
| | Ö← | PGr | 1.15 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.73 |
| | Qk.N_D A | PGr | 2.54 | -0.23 |
| WS- 3.8_3_SE_W- 3.8_4 | Gk | PGr | 6.84 | |
| | Ö← | PGr | 1.15 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.76 |
| | Qk.N_D A | PGr | 2.53 | -0.23 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Statik-Protokoll

Systemwerte

Protokoll der statischen Analyse

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 7885 | 7237 | 21717 | 1902899 | 14 MB |

Berechnung

Statische Berechnung

| Öã}ÈÁŠ*\⇒~^æ^ÁâfiãÄä⇒æÃÑæãæ'â^ ^& | Einst. |
|-----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à‡→æÁíÁǦF

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|-----------|------------------|------------------|------------------|
| LF-21 | 0.00 | 0.00 | -23.96 |
| | 0.00 | 0.00 | 23.96 |
| LF-22 | 0.00 | 0.00 | -120.34 |
| | 0.00 | 0.00 | 120.34 |
| LF-23 | 0.00 | 0.00 | -29.28 |
| | 0.00 | 0.00 | 29.28 |
| #1 LF-1 | 0.00 | 0.00 | -1127.76 |
| | 0.00 | 0.00 | 1127.76 |
| #1 LF-2 | 0.00 | 0.00 | -116.10 |
| | 0.00 | 0.00 | 116.10 |
| #1 LF-3 | 0.00 | 0.00 | -22.44 |
| | 0.00 | 0.00 | 22.44 |
| #1 LF-4 | 0.00 | 0.00 | -74.24 |
| | 0.00 | 0.00 | 74.24 |
| #1 LF-5 | 0.00 | 0.00 | -35.87 |
| | 0.00 | 0.00 | 35.87 |
| #1 LF-6 | 0.00 | 0.00 | -30.27 |
| | 0.00 | 0.00 | 30.27 |
| #1 LF-7 | 0.00 | 0.00 | -69.39 |
| | 0.00 | 0.00 | 69.39 |
| #1 LF-8 | 0.00 | 0.00 | -36.00 |
| | 0.00 | 0.00 | 36.00 |
| Summe | | | |
| | 0.00 | 0.00 | -16515.53 |
| | 0.00 | 0.00 | 16515.53 |

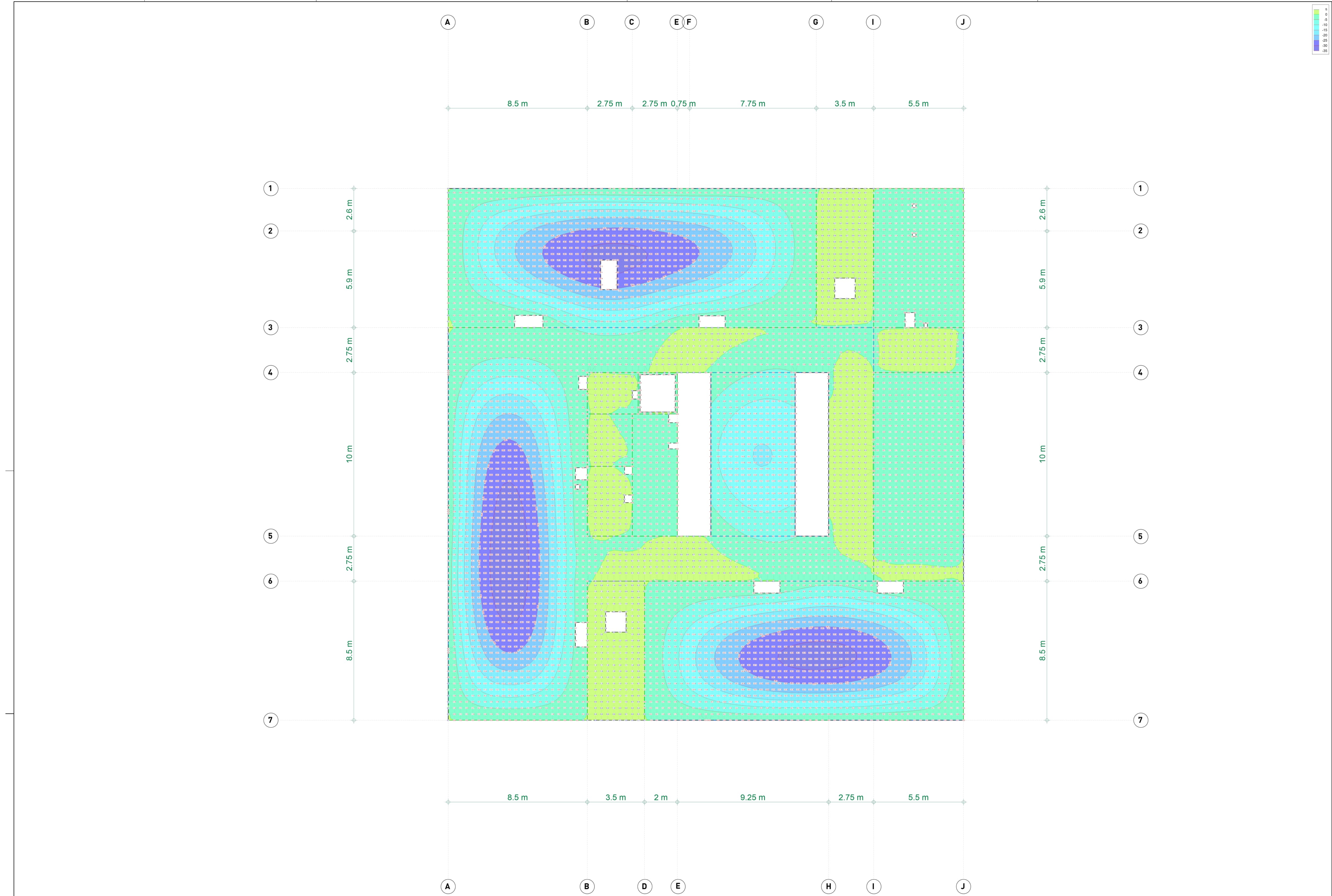
Aufbau der Ergebnisse : 1 sec

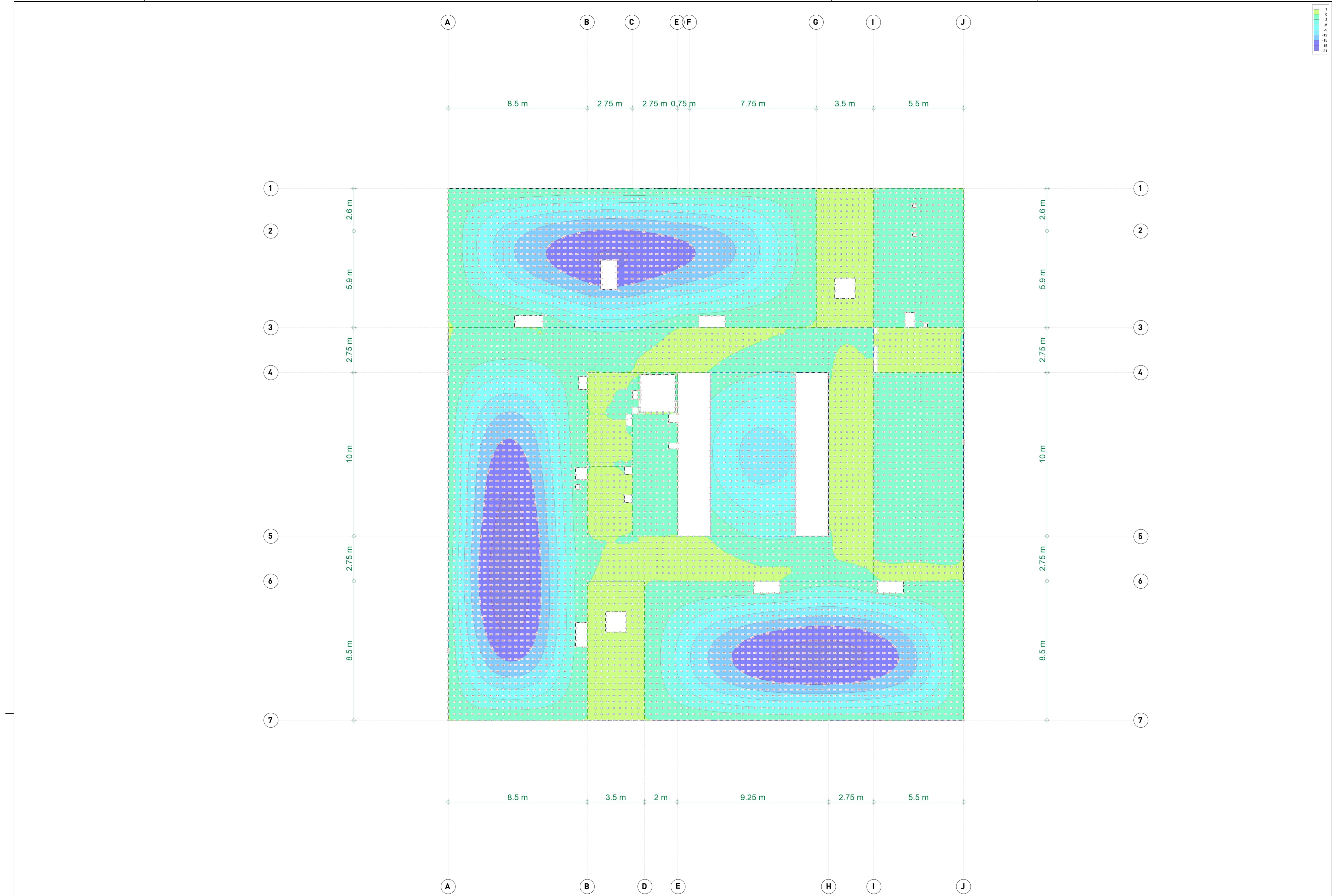
Ende der statischen Analyse

Gesamtdauer : 2 sec

*** Berechnung erfolgreich abgeschlossen ***

Auswertung





| | Begrenzung Durchbiegungen 2.OG | | | |
|--|--|--|----------------------|---------------------------------------|
| | Feld1-2/A-H | Feld 2-8/A-B | Feld 7-8/D-L | Hinweise |
| Deckendicke [cm] | 25 | 25 | 25 | s-Richtung liegt außen |
| Maßgebende Spannweite [m] | 8,5 | 8,5 | 8,5 | |
| Grundbewehrung | 16/10 | 16/10 | 16/10 | |
| Zulagebewehrung maßgebender Bereich | unten: 1.+2. Lage 16/20; 1. Lage 16/10 zwischen Aussparungen; oben: 1.+2. Lage 16/20 | unten: 1.+2. Lage 16/20; oben: 2. Lage 16/20 | unten: 1. Lage 14/20 | |
| Max Differenzverformung [mm] GA | 20 | 30 | 30 | GA = gleitender Anschluss Wand |
| Max Endverformung [mm] l/250 | 34 | 34 | 34 | |
| Max Überhöhung [mm] l/250 | 34 | 34 | 34 | |
| Vorh. Differenzverformung ohne Überhöhung [mm] | 17,8 | 20,2 | 19,1 | |
| Vorh. Endverformung ohne Überhöhung [mm] | 32,1 | 33,7 | 31,8 | |
| Gewählte Überhöhung [mm] | 0 | 0 | 0 | |
| Vorh. Differenzverformung [mm] | 18,6 | 20,2 | 19,1 | |
| Vorh. Endverformung mit Überhöhung [mm] | 32,1 | 33,7 | 31,8 | |
| Anmerkungen | keine Überhöhung | keine Überhöhung | keine Überhöhung | |

Bemessungsparameter Biegung

Biegebemessung der Platten (Stahlbeton) nach DIN EN 1992-1-1

Positionsgrafik

© 2025 by KREBS + KIEFER



Mat./Querschnitt

| Position | Winkel | Art | Material | Dicke |
|----------|--------|-----|------------------------------|-------|
| | Yfl | | Quer | [cm] |
| D-2.OG | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: 0.0

Expositionsklasse

& 2025 by KREBS + KIEFER

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|----------------------------------|
| D-2.OG | umlaufend | XC1 | trocken oder b\ + ^ä & Á ^abb |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro Yfl | so Yfl | ru Yfl | su Yfl |
|----------|-----------|-----------|-----------|-----------|
| D-2.OG | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

| Position | | C_{min} [mm] | $\#_{def}$ [mm] | C_{nom} [mm] | C_v [mm] | d'_r [mm] | d'_s [mm] |
|----------|---|-------------------|--------------------|-------------------|---------------|----------------|----------------|
| D-2.OG | o | 10 | 10 | 20 | - | 38 | 38 |
| | u | 10 | 10 | 20 | - | 38 | 38 |

Bemessungsparameter

1992-1-1

Belegung

| Position | Mindestbewehrung |
|----------|------------------|
| D-2.OG | ja |

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

D-2. OG

Erf. Bewehrung

Erforderliche Bewehrung

Kombinationen

Ew Einwirkungsname
Lkn Lastkombinationsnummer

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö | Qk.N_E1 | Qk.N_DA |
|-----------|----|------|------|---------|-------------|
| 1-3716 | | 1.35 | 1.35 | 1.50 | 1.50 |
| 3717-6957 | | 1.00 | 1.00 | 1.50 | 1.50 |
| 6958-7155 | | 1.00 | 1.35 | 1.50 | 1.50 |
| 7156-7390 | | 1.35 | 1.00 | 1.50 | 1.50 |
| 7391-7394 | | 1.00 | 1.00 | . | 1.50 |

Alle Nachweise

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ¥ Ð ↑ Y |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|----------------------------|
| 5 | 6 | 15.89 | 13.34 | 2.73 | 18.62 | 3.17 |
| 10 | 6 | 34.59 | 20.95 | 3.46 | 38.05 | 4.05 |
| 12 | 6 | 31.73 | 21.00 | 5.56 | 37.29 | 3.96 |
| 13 | 14 | 46.23 | 121.31 | 43.38 | 89.61 | 10.02 |
| 15 | 20 | 65.20 | 64.58 | 66.64 | 131.84 | 15.55 |
| 16 | 16 | 47.37 | 46.50 | -25.45 | 72.82 | 7.94 |
| 20 | 3727 | 0.32 | -5.47 | 1.02 | 0.51 | 3.17 |
| 26 | 26 | 2.60 | -29.07 | -2.58 | 2.83 | 3.17 |
| 33 | 37 | -4.48 | -182.8 | 36.36 | 2.75 | 3.17 |
| 77 | 102 | 69.21 | 0.62 | 10.62 | 79.83 | 8.80 |
| 80 | 110 | 78.13 | -1.82 | -10.12 | 88.25 | 9.85 |
| 102 | 139 | 34.10 | 5.95 | 28.08 | 62.19 | 6.72 |
| 107 | 141 | 2.60 | -7.08 | 1.46 | 2.90 | 3.17 |
| 110 | 142 | 37.04 | 6.72 | -20.91 | 57.95 | 6.06 |
| 118 | 6 | 37.89 | -7.85 | -22.39 | 60.28 | 6.51 |
| 121 | 151 | 60.08 | -176.3 | -55.58 | 77.60 | 8.52 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 126 | 158 | 52.32 | -120.9 | 26.58 | 58.16 | 6.27 |
| 127 | 160 | 31.36 | -128.4 | -37.24 | 42.16 | 4.50 |
| 130 | 165 | 29.06 | 1.67 | -32.05 | 61.11 | 6.45 |
| 152 | 182 | 1.43 | -3.70 | 1.44 | 2.00 | 3.17 |
| 184 | 2 | 11.46 | -0.06 | -47.13 | 58.59 | 6.32 |
| 191 | 212 | 0.13 | 0.15 | -14.78 | 14.91 | 3.17 |
| 193 | 215 | 0.13 | 0.15 | -1.46 | 1.59 | 3.17 |
| 196 | 217 | 0.15 | 0.15 | 16.59 | 16.74 | 3.17 |
| 205 | 205 | 18.72 | -0.59 | 27.90 | 46.62 | 4.99 |
| 209 | 229 | -9.55 | 0.17 | 0.19 | -9.74 | 3.17 |
| 213 | 3959 | -5.68 | 0.10 | -3.27 | 0.00 | 3.17 |
| 216 | 232 | 0.92 | 0.21 | -36.66 | 37.58 | 4.00 |
| 223 | 238 | 2.55 | 0.25 | -21.71 | 24.25 | 3.17 |
| 247 | 256 | -0.45 | 0.05 | 20.91 | 20.46 | 3.17 |
| 282 | 3975 | -2.77 | 2.39 | 4.51 | 1.74 | 3.17 |
| 353 | 217 | 18.69 | 17.67 | -1.37 | 20.07 | 3.17 |
| 366 | 3994 | -3.68 | 1.14 | 10.03 | 6.35 | 3.17 |
| 375 | 3945 | -15.80 | -2.42 | -6.56 | 0.00 | 3.17 |
| 382 | 232 | 9.06 | 19.85 | -32.16 | 41.22 | 4.39 |
| 425 | 1 | 7.24 | 9.90 | 45.26 | 52.50 | 5.64 |
| 449 | 205 | -8.31 | 4.16 | 31.56 | -39.86 | 3.17 |
| 488 | 249 | 13.25 | 53.07 | -0.51 | 13.76 | 3.17 |
| 509 | 1 | 12.70 | 17.55 | 40.23 | 52.93 | 5.69 |
| 553 | 254 | 17.09 | 36.39 | -25.73 | 42.82 | 4.57 |
| 619 | 223 | -19.15 | 0.63 | 26.97 | -46.12 | 3.17 |
| 914 | 4089 | 23.55 | 79.23 | 0.12 | 23.66 | 3.17 |
| 937 | 425 | 0.15 | 0.14 | 15.26 | 15.42 | 3.17 |
| 958 | 3822 | -5.93 | 1.85 | 10.10 | 4.17 | 3.17 |
| 1106 | 493 | 9.61 | 9.92 | 2.10 | 11.71 | 3.17 |
| 1167 | 288 | 29.56 | 94.40 | -1.09 | 30.65 | 3.25 |
| 1296 | 131 | 20.02 | -16.19 | -14.73 | 33.43 | 3.55 |
| 1357 | 576 | 0.15 | 0.18 | -17.35 | 17.50 | 3.17 |
| 1378 | 550 | 0.10 | 17.66 | 8.00 | 8.10 | 3.17 |
| 1462 | 617 | 20.98 | -16.38 | 23.43 | 44.41 | 4.74 |
| 1465 | 453 | 6.84 | -16.41 | 12.08 | 15.73 | 3.17 |
| 1466 | 4202 | 2.11 | -8.03 | -2.68 | 3.01 | 3.17 |
| 1478 | 629 | 19.29 | 36.96 | 18.54 | 37.84 | 4.02 |
| 1516 | 156 | 21.55 | 31.02 | -22.67 | 44.22 | 4.72 |
| 1541 | 653 | -2.56 | 8.57 | 7.70 | 5.14 | 3.17 |
| 1557 | 363 | 13.80 | 23.77 | 23.23 | 37.03 | 3.94 |
| 1598 | 156 | 17.03 | 21.02 | -28.11 | 45.14 | 4.53 |
| 1629 | 700 | 13.52 | -38.76 | -27.88 | 33.58 | 3.56 |
| 1659 | 285 | 14.33 | 33.41 | -2.83 | 17.16 | 3.17 |
| 1682 | 692 | 12.53 | 11.85 | -32.58 | 45.11 | 4.82 |
| 1894 | 4306 | 0.23 | -9.70 | 9.97 | 10.19 | 3.17 |
| 1988 | 4343 | -2.64 | -41.61 | 10.55 | 0.03 | 3.17 |
| 1992 | 4344 | -0.74 | -42.20 | -8.23 | 0.87 | 3.17 |
| 2014 | 4143 | -2.99 | -18.31 | -11.86 | 4.68 | 3.17 |
| 2038 | 4354 | -0.31 | -4.39 | -1.38 | 0.13 | 3.17 |
| 2051 | 4362 | -1.59 | 1.81 | 9.32 | 7.73 | 3.17 |
| 2069 | 930 | 18.10 | -137.0 | 14.90 | 19.72 | 3.17 |
| 2070 | 931 | 33.76 | -147.9 | -19.78 | 36.41 | 3.87 |
| 2086 | 938 | 23.09 | -116.4 | 12.22 | 24.37 | 3.17 |
| 2087 | 443 | 16.72 | -116.7 | -22.56 | 21.08 | 3.17 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ¥ ↑ Y'' |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|----------------------------|
| 2097 | 4324 | 0.38 | -0.50 | -4.92 | 5.31 | 3.17 |
| 2098 | 940 | 0.15 | 4.61 | -3.08 | 3.23 | 3.17 |
| 2146 | 4408 | -10.46 | 15.27 | -15.31 | 4.86 | 3.17 |
| 2164 | 4419 | -10.17 | 12.85 | 4.83 | 0.00 | 3.17 |
| 2198 | 993 | -16.57 | -2.56 | 18.58 | 2.01 | 3.17 |
| 2328 | 3942 | 3.86 | -18.41 | -10.05 | 9.35 | 3.17 |
| 2523 | 742 | 95.69 | 22.51 | -0.15 | 95.84 | 10.81 |
| 2641 | 4795 | -3.80 | 7.58 | -11.79 | 7.99 | 3.17 |
| 2717 | 4853 | -1.30 | -0.26 | 1.33 | 0.03 | 3.17 |
| 2843 | 742 | 95.78 | 21.63 | 0.20 | 95.98 | 10.83 |
| 3158 | 1635 | -0.40 | -9.08 | 3.58 | 1.01 | 3.17 |
| 3296 | 5110 | 3.29 | 3.65 | -3.05 | 6.34 | 3.17 |
| 3353 | 984 | 0.15 | 0.50 | 8.17 | 8.32 | 3.17 |
| 3448 | 494 | 28.69 | -11.13 | -1.39 | 28.87 | 3.17 |
| 3449 | 1804 | 42.52 | -33.92 | -21.24 | 55.82 | 6.01 |
| 3493 | 1521 | 41.78 | 13.90 | -0.50 | 42.28 | 4.51 |
| 3498 | 1794 | 12.52 | 4.94 | -0.41 | 12.94 | 3.17 |
| 3600 | 5274 | 0.89 | 1.17 | 0.61 | 1.50 | 3.17 |
| 3696 | 1956 | 18.53 | 14.45 | 0.35 | 18.88 | 3.17 |
| 3765 | 1956 | 44.81 | 23.82 | -0.22 | 45.03 | 4.81 |
| 4183 | 5552 | -8.31 | 0.30 | -7.66 | 0.00 | 3.17 |
| 4279 | 5608 | 3.09 | 4.12 | -3.62 | 6.71 | 3.17 |
| 4392 | 5629 | -5.19 | 1.31 | -11.16 | 5.97 | 3.17 |
| 4402 | 5685 | -0.14 | 2.94 | -0.25 | 0.11 | 3.17 |
| 4404 | 5687 | -0.19 | -1.12 | -0.31 | 0.00 | 3.17 |
| 4528 | 2365 | -4.40 | 1.31 | -22.31 | 17.91 | 3.17 |
| 4530 | 178 | 15.47 | -11.46 | -15.69 | 31.17 | 3.30 |
| 4531 | 2477 | 21.90 | -29.77 | -6.61 | 23.37 | 3.17 |
| 4647 | 2551 | 3.13 | 0.58 | -18.93 | 22.06 | 3.17 |
| 4663 | 1671 | 14.08 | 6.00 | -23.81 | 37.89 | 4.03 |
| 4673 | 5884 | -0.17 | -13.61 | 2.37 | 0.24 | 3.17 |
| 4680 | 7102 | 0.29 | 1.19 | 0.08 | 0.36 | 3.17 |
| 4701 | 2593 | -6.90 | -14.31 | 7.12 | 0.00 | 3.17 |
| 4763 | 5962 | -2.74 | 2.44 | 8.65 | 5.91 | 3.17 |
| 4805 | 2551 | 5.11 | 0.72 | 6.29 | 11.40 | 3.17 |
| 4905 | 6089 | 7.31 | -7.03 | -14.37 | 21.68 | 3.17 |
| 4981 | 136 | 3.06 | -21.93 | 18.15 | 18.08 | 3.17 |
| 5061 | 167 | 0.58 | -0.52 | 16.72 | 17.30 | 3.17 |
| 5064 | 6223 | -0.18 | -19.09 | 16.78 | 14.57 | 3.17 |
| 5161 | 6309 | -28.40 | -22.11 | -23.61 | 0.00 | 3.17 |
| 5221 | 6372 | 0.61 | -5.84 | -0.25 | 0.62 | 3.17 |
| 5230 | 7365 | 2.45 | -31.38 | -8.02 | 4.50 | 3.17 |
| 5240 | 5704 | -11.26 | 16.74 | 11.79 | 0.52 | 3.17 |
| 5304 | 6452 | -5.60 | -28.21 | -7.65 | 0.00 | 3.17 |
| 5312 | 2925 | 41.99 | -90.23 | 38.04 | 58.03 | 6.26 |
| 5338 | 3051 | 15.92 | -130.4 | 6.52 | 16.25 | 3.17 |
| 5339 | 3052 | 9.38 | -95.54 | 19.22 | 13.25 | 3.17 |
| 5419 | 6416 | -2.68 | -30.36 | 13.25 | 3.11 | 3.17 |
| 5679 | 3217 | 5.14 | 7.28 | 25.73 | 30.87 | 3.27 |
| 5688 | 8 | -13.91 | -4.59 | 10.17 | 0.00 | 3.17 |
| 5712 | 3178 | 11.04 | 11.88 | -32.58 | 43.62 | 4.36 |
| 5762 | 3217 | 5.61 | 13.62 | 25.28 | 30.89 | 3.17 |
| 5771 | 8 | 3.21 | -13.02 | 10.18 | 11.16 | 3.17 |
| 5795 | 3178 | 15.09 | 21.30 | -28.13 | 43.22 | 4.31 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 5864 | 6 | 27.42 | 15.67 | -0.11 | 27.53 | 3.17 |
| 5874 | 3178 | 12.28 | 14.13 | -26.33 | 38.62 | 4.11 |
| 5877 | 3178 | 19.05 | 31.71 | -22.61 | 41.67 | 4.44 |
| 5921 | 3264 | 17.29 | 37.63 | 17.29 | 34.58 | 3.67 |
| 5953 | 2315 | 0.15 | 0.21 | -22.92 | 23.07 | 3.17 |
| 5979 | 16 | 2.40 | 100.22 | 1.27 | 3.67 | 3.17 |
| 6050 | 3325 | 26.92 | 79.55 | -1.47 | 28.40 | 3.17 |
| 6145 | 2872 | 69.41 | -7.86 | -42.20 | 111.62 | 12.85 |
| 6160 | 3382 | 26.90 | 82.24 | 1.15 | 28.05 | 3.17 |
| 6195 | 8 | 34.17 | 17.36 | 0.48 | 34.64 | 3.68 |
| 6203 | 3178 | 8.99 | 9.94 | -3.25 | 12.23 | 3.17 |
| 6205 | 3178 | 20.79 | 27.97 | -2.82 | 23.61 | 3.17 |
| 6253 | 2808 | 24.88 | 52.97 | 1.82 | 26.70 | 3.17 |
| 6276 | 6 | 24.89 | 13.44 | -0.13 | 25.02 | 3.17 |
| 6279 | 3496 | 34.44 | 17.59 | 0.12 | 34.56 | 3.67 |
| 6284 | 3422 | 18.95 | 8.64 | 0.16 | 19.11 | 3.17 |
| 6457 | 6447 | 0.06 | 0.06 | 6.02 | 6.08 | 3.17 |
| 6513 | 6846 | -0.92 | 15.53 | -9.35 | 8.43 | 3.17 |
| 6703 | 6 | 27.41 | 17.63 | -0.14 | 27.55 | 3.17 |
| 6800 | 4 | 15.88 | 26.00 | 36.18 | 52.06 | 5.59 |
| 6846 | 2919 | 19.23 | 39.41 | -25.20 | 44.43 | 4.75 |
| 6933 | 3607 | 14.02 | 25.58 | -30.39 | 44.41 | 4.45 |
| 6939 | 6708 | -4.96 | -3.01 | -11.89 | 6.93 | 3.17 |
| 6994 | 3031 | 7.36 | 32.44 | -0.90 | 8.26 | 3.17 |
| 7020 | 3461 | 6.18 | 9.96 | -35.41 | 41.60 | 4.43 |
| 7024 | 3726 | -10.27 | -10.83 | -8.90 | 0.00 | 3.17 |
| 7143 | 6930 | -0.82 | 0.03 | 13.13 | 12.30 | 3.17 |
| 7175 | 3259 | 3.53 | 0.07 | -25.50 | 29.03 | 3.17 |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 5 | 7 | 15.87 | 13.37 | 2.71 | 16.08 | 3.17 |
| 9 | 7 | 31.00 | 21.01 | -0.34 | 21.35 | 3.17 |
| 13 | 15 | 45.38 | 122.81 | 43.17 | 165.98 | 20.40 |
| 14 | 17 | 44.58 | 142.12 | -43.88 | 186.00 | 23.43 |
| 15 | 19 | 65.17 | 64.63 | 66.64 | 131.27 | 15.43 |
| 34 | 38 | -95.11 | -284.9 | -104.8 | -389.7 | 14.01 |
| 45 | 56 | 5.35 | 44.25 | -8.42 | 52.67 | 5.66 |
| 59 | 77 | 0.04 | 0.62 | 5.86 | -5.25 | 3.17 |
| 75 | 99 | 16.09 | 28.28 | 5.71 | 33.99 | 3.61 |
| 77 | 104 | 48.06 | 37.33 | 5.52 | 42.85 | 4.27 |
| 80 | 111 | 51.35 | 34.29 | -7.77 | 42.06 | 4.49 |
| 102 | 139 | 34.10 | 5.95 | 28.08 | 34.03 | 3.61 |
| 135 | 3871 | -0.76 | -0.73 | 1.43 | 0.70 | 3.17 |
| 140 | 169 | -0.41 | -4.82 | 9.58 | 4.76 | 3.17 |
| 142 | 170 | -16.15 | -3.36 | -3.89 | 0.00 | 3.17 |
| 190 | 212 | 0.12 | 0.15 | -21.02 | 21.17 | 3.17 |
| 196 | 3833 | 0.05 | 0.06 | 7.68 | 7.74 | 3.17 |
| 237 | 3964 | -2.86 | 0.14 | 0.07 | 0.14 | 3.17 |
| 268 | 262 | 9.72 | 10.14 | -2.04 | 12.18 | 3.17 |
| 370 | 3998 | -5.31 | 1.79 | 0.48 | 1.83 | 3.17 |
| 431 | 331 | 18.09 | 12.57 | -38.78 | 51.36 | 5.51 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 517 | 334 | 26.43 | 18.30 | -32.90 | 51.20 | 5.49 |
| 530 | 207 | 17.22 | 18.69 | 30.62 | 49.31 | 5.28 |
| 614 | 208 | 26.36 | 23.24 | 26.10 | 49.34 | 5.29 |
| 631 | 223 | -28.97 | -2.25 | -18.70 | 9.81 | 3.17 |
| 789 | 207 | -28.84 | -2.19 | 22.35 | 15.13 | 3.17 |
| 801 | 3984 | -18.41 | -1.98 | -5.31 | 0.00 | 3.17 |
| 802 | 3984 | -10.29 | 1.80 | -6.08 | 5.39 | 3.17 |
| 937 | 443 | 0.15 | 0.14 | 14.83 | 14.96 | 3.17 |
| 995 | 255 | 29.19 | 97.06 | -2.07 | 99.13 | 11.23 |
| 1023 | 3844 | 0.12 | -0.86 | -11.00 | 10.14 | 3.17 |
| 1059 | 416 | 2.72 | 21.01 | -0.38 | 21.39 | 3.17 |
| 1107 | 249 | 0.15 | 0.14 | 2.09 | 2.23 | 3.17 |
| 1212 | 395 | -97.13 | 9.77 | 12.69 | 11.42 | 3.17 |
| 1294 | 550 | -4.31 | 13.97 | 10.27 | 24.24 | 3.17 |
| 1357 | 405 | 0.15 | 0.18 | -17.35 | 17.52 | 3.17 |
| 1382 | 3815 | -28.38 | 1.30 | 6.57 | 2.82 | 3.17 |
| 1384 | 584 | -38.01 | 2.89 | -6.06 | 3.85 | 3.17 |
| 1463 | 556 | -40.08 | 0.35 | 6.02 | 1.25 | 3.17 |
| 1465 | 619 | 6.32 | -14.21 | 13.26 | 0.00 | 3.17 |
| 1543 | 656 | -113.4 | 7.89 | -4.26 | 8.05 | 3.17 |
| 1712 | 126 | -30.63 | 6.56 | -0.56 | 6.57 | 3.17 |
| 1767 | 688 | 5.15 | 2.66 | -36.28 | 38.95 | 4.15 |
| 1814 | 4275 | -0.12 | -6.05 | 8.71 | 2.66 | 3.17 |
| 1824 | 4281 | -1.21 | 0.76 | -2.66 | 3.42 | 3.17 |
| 1838 | 793 | 1.08 | 3.09 | -3.96 | 7.05 | 3.17 |
| 1853 | 799 | 0.15 | 0.60 | -36.75 | 37.35 | 3.97 |
| 1893 | 790 | 0.26 | -15.28 | 23.65 | 8.37 | 3.17 |
| 1906 | 248 | 7.55 | 0.96 | 6.81 | 7.77 | 3.17 |
| 1925 | 249 | 4.87 | -1.71 | -11.70 | 9.99 | 3.17 |
| 1929 | 3807 | -4.36 | -11.16 | -13.47 | 2.30 | 3.17 |
| 1932 | 3807 | -1.29 | -11.43 | -13.29 | 1.86 | 3.17 |
| 1934 | 4323 | 2.07 | -10.56 | -25.94 | 15.38 | 3.17 |
| 1966 | 865 | -5.05 | 2.21 | 10.18 | 12.38 | 3.17 |
| 2009 | 443 | 3.99 | 12.08 | -19.31 | 31.39 | 3.33 |
| 2095 | 900 | -1.86 | -26.07 | -19.81 | 0.00 | 3.17 |
| 2121 | 957 | 8.44 | 80.56 | 12.37 | 92.93 | 10.44 |
| 2129 | 966 | 6.17 | -10.85 | 11.58 | 0.73 | 3.17 |
| 2146 | 977 | -20.95 | 29.73 | -28.42 | 58.15 | 6.27 |
| 2148 | 978 | -75.25 | 40.19 | 33.78 | 55.35 | 5.96 |
| 2162 | 981 | -68.20 | 31.95 | -37.32 | 52.37 | 5.38 |
| 2164 | 937 | -19.56 | 23.27 | 20.54 | 43.81 | 4.68 |
| 2472 | 4595 | -4.19 | -5.27 | -6.70 | 1.43 | 3.17 |
| 2490 | 1192 | -2.78 | -12.78 | 11.18 | 0.00 | 3.17 |
| 2571 | 4739 | 4.25 | -2.23 | 6.94 | 4.71 | 3.17 |
| 2641 | 1271 | -10.90 | 10.23 | -23.72 | 33.95 | 3.60 |
| 2719 | 111 | -26.33 | 2.77 | -2.11 | 2.94 | 3.17 |
| 3074 | 5006 | -0.86 | -1.24 | -1.10 | 0.00 | 3.17 |
| 3158 | 1636 | -0.80 | -8.72 | 3.59 | 0.00 | 3.17 |
| 3376 | 5170 | -10.20 | 0.88 | 0.67 | 0.92 | 3.17 |
| 3521 | 5230 | -62.42 | 4.54 | -9.74 | 6.06 | 3.17 |
| 3523 | 1848 | -3.35 | 39.50 | -2.35 | 41.15 | 4.39 |
| 3592 | 3785 | -41.94 | -0.21 | -6.55 | 0.82 | 3.17 |
| 3673 | 5307 | 1.69 | -1.66 | -1.33 | 0.00 | 3.17 |
| 3825 | 7269 | -4.28 | -3.57 | 1.15 | 0.00 | 3.17 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 4091 | 2060 | 0.15 | 4.32 | 18.42 | 22.74 | 3.17 |
| 4188 | 2269 | -3.87 | 31.18 | 0.93 | 31.40 | 3.33 |
| 4309 | 2316 | 47.98 | 21.69 | 16.27 | 37.97 | 4.04 |
| 4321 | 5338 | 6.36 | 5.29 | -9.50 | 14.78 | 3.17 |
| 4387 | 2363 | 40.91 | 21.03 | -14.79 | 35.82 | 3.81 |
| 4425 | 5693 | -0.89 | 0.28 | -0.47 | 0.53 | 3.17 |
| 4447 | 1759 | 37.75 | 17.27 | 20.49 | 37.76 | 4.02 |
| 4453 | 1759 | 51.04 | 24.86 | -1.63 | 26.49 | 3.17 |
| 4464 | 2442 | -80.66 | 5.08 | -5.36 | 5.44 | 3.17 |
| 4535 | 2481 | 0.30 | -12.23 | 2.93 | 0.00 | 3.17 |
| 4580 | 136 | 25.03 | 10.15 | 26.09 | 36.24 | 3.85 |
| 4590 | 5807 | 28.52 | 13.82 | -11.52 | 25.35 | 3.17 |
| 4598 | 2515 | -64.41 | 11.16 | -16.87 | 15.58 | 3.17 |
| 4755 | 2627 | -1.41 | -12.45 | 14.37 | 1.91 | 3.17 |
| 4759 | 2630 | -7.95 | -4.92 | 6.73 | 0.77 | 3.17 |
| 4762 | 7327 | -29.06 | 3.21 | 2.32 | 3.39 | 3.17 |
| 4806 | 136 | 0.13 | -0.95 | 32.50 | 31.56 | 3.34 |
| 4843 | 6034 | -6.16 | -5.20 | 6.87 | 1.66 | 3.17 |
| 4849 | 6049 | -2.22 | -3.64 | 6.50 | 2.86 | 3.17 |
| 4894 | 5709 | 2.83 | -5.39 | 11.44 | 6.05 | 3.17 |
| 4914 | 6099 | -11.53 | -10.05 | -11.18 | 0.79 | 3.17 |
| 5240 | 2315 | -23.40 | 34.68 | 24.24 | 58.92 | 6.36 |
| 5266 | 2994 | -12.67 | 29.41 | 30.07 | 59.48 | 6.42 |
| 5268 | 2996 | -16.30 | 24.44 | -12.06 | 33.37 | 3.54 |
| 5293 | 24 | -11.94 | 12.63 | 3.11 | 13.45 | 3.17 |
| 5388 | 3076 | -8.34 | 15.98 | -25.14 | 41.13 | 4.38 |
| 5418 | 3053 | 2.34 | 12.98 | 22.98 | 35.96 | 3.82 |
| 5461 | 3750 | -2.40 | -12.98 | -13.34 | 0.36 | 3.17 |
| 5470 | 4 | -3.26 | 2.74 | -14.86 | 17.60 | 3.17 |
| 5498 | 3152 | 3.39 | -4.71 | 13.98 | 9.27 | 3.17 |
| 5502 | 3112 | -5.12 | -19.06 | 22.64 | 3.59 | 3.17 |
| 5507 | 3112 | -1.84 | -20.21 | 23.30 | 3.09 | 3.17 |
| 5541 | 3175 | 0.14 | 0.94 | -36.84 | 37.77 | 3.67 |
| 5560 | 2930 | 6.55 | 7.32 | 2.21 | 9.53 | 3.17 |
| 5566 | 3188 | 26.91 | 3.26 | -2.29 | 5.55 | 3.17 |
| 5567 | 3190 | 27.34 | 1.84 | -0.64 | 2.49 | 3.17 |
| 5569 | 3195 | 25.65 | 4.15 | 3.03 | 7.17 | 3.17 |
| 5575 | 6575 | 3.12 | 1.63 | -2.20 | 3.83 | 3.17 |
| 5771 | 3315 | 3.21 | -13.02 | 10.19 | 0.00 | 3.17 |
| 5933 | 3392 | -27.58 | 2.19 | -1.44 | 2.27 | 3.17 |
| 6036 | 2860 | 0.15 | 0.19 | -17.28 | 17.47 | 3.17 |
| 6092 | 3442 | -24.74 | 2.97 | 11.28 | 8.11 | 3.17 |
| 6203 | 4 | 8.98 | 9.94 | -3.25 | 13.19 | 3.17 |
| 6343 | 3490 | -2.28 | 19.05 | -1.00 | 19.49 | 3.17 |
| 6345 | 3525 | -17.69 | 1.97 | 0.05 | 1.97 | 3.17 |
| 6457 | 2965 | 0.15 | 0.14 | 15.55 | 15.69 | 3.17 |
| 6599 | 6870 | -11.54 | 1.37 | -5.61 | 4.10 | 3.17 |
| 6770 | 3850 | -27.88 | -3.65 | -13.90 | 3.27 | 3.17 |
| 6940 | 3850 | -18.44 | -6.82 | -17.43 | 9.66 | 3.17 |
| 6966 | 4 | 2.93 | 9.36 | 48.14 | 57.50 | 6.00 |
| 7050 | 4 | 0.26 | 14.82 | 46.94 | 61.76 | 6.67 |
| 7169 | 3668 | -0.75 | 0.08 | -16.70 | 16.78 | 3.17 |
| 7185 | 3607 | 2.09 | 0.32 | -37.49 | 37.81 | 3.68 |
| 7187 | 3607 | 1.51 | 3.99 | -35.19 | 39.18 | 3.84 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ¥ Ð ↑ Y'' |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|------------------------------|
| 7189 | 6927 | -6.43 | -0.29 | 2.56 | 0.72 | 3.17 |

 $a_{s,r,oben}$

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ¥ Ð ↑ Y'' |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|------------------------------|
| 15 | 18 | 65.89 | 62.23 | 66.08 | 131.96 | 3.17 |
| 17 | 22 | -32.05 | -9.49 | -8.19 | -40.24 | 4.29 |
| 18 | 8 | -25.13 | 1.04 | 10.90 | -36.03 | 3.83 |
| 30 | 30 | -34.82 | -157.9 | 49.03 | -83.85 | 9.30 |
| 32 | 34 | -19.81 | -69.00 | 36.44 | -56.25 | 6.06 |
| 33 | 36 | -4.48 | -182.8 | 36.36 | -40.84 | 4.35 |
| 34 | 38 | -95.11 | -284.9 | -104.8 | -199.9 | 25.62 |
| 35 | 39 | -57.26 | -32.93 | 20.06 | -77.32 | 8.49 |
| 36 | 41 | -45.85 | -80.62 | -49.31 | -95.16 | 10.72 |
| 38 | 43 | -95.31 | -16.39 | -25.86 | -121.2 | 14.11 |
| 39 | 45 | -75.66 | -32.44 | 21.78 | -97.43 | 11.01 |
| 40 | 46 | -47.36 | -30.57 | -35.80 | -83.15 | 9.21 |
| 57 | 73 | -25.09 | 1.14 | 5.03 | -30.12 | 3.19 |
| 62 | 81 | -158.0 | -20.78 | -37.55 | -195.6 | 24.93 |
| 63 | 83 | -171.1 | -20.27 | 44.06 | -215.1 | 28.14 |
| 73 | 94 | -120.3 | -30.76 | -5.03 | -125.3 | 14.67 |
| 76 | 100 | -90.81 | -13.32 | -0.47 | -91.29 | 10.23 |
| 81 | 112 | -52.24 | -219.6 | -67.90 | -120.1 | 13.97 |
| 82 | 114 | -34.59 | -27.47 | 15.79 | -50.38 | 5.40 |
| 83 | 116 | -38.61 | -53.25 | -41.79 | -80.41 | 8.87 |
| 85 | 118 | -10.39 | -175.8 | -40.32 | -50.71 | 5.44 |
| 86 | 119 | -37.13 | -59.76 | 36.69 | -73.81 | 8.06 |
| 87 | 122 | -45.78 | -46.68 | -30.64 | -76.42 | 8.38 |
| 88 | 124 | -87.00 | -247.6 | 57.82 | -144.8 | 17.35 |
| 89 | 125 | -69.52 | -27.18 | -27.65 | -97.17 | 10.98 |
| 90 | 127 | -46.09 | -3.63 | 16.75 | -62.84 | 6.80 |
| 91 | 128 | -42.57 | -17.22 | -13.89 | -56.47 | 6.08 |
| 92 | 129 | -26.22 | -14.54 | 17.74 | -43.95 | 4.40 |
| 94 | 131 | -120.5 | -5.48 | -19.66 | -140.1 | 16.70 |
| 95 | 130 | -130.3 | -9.91 | 24.01 | -154.3 | 18.69 |
| 98 | 135 | -0.79 | -1.74 | 30.73 | -31.53 | 3.34 |
| 100 | 137 | -6.62 | -3.71 | 6.28 | 0.00 | 3.17 |
| 128 | 161 | -262.6 | -105.4 | 5.40 | -268.0 | 38.00 |
| 129 | 163 | -18.33 | -20.09 | 12.37 | -30.70 | 3.25 |
| 157 | 186 | -119.0 | -19.00 | -9.57 | -128.6 | 15.10 |
| 160 | 185 | -49.51 | -10.40 | 2.40 | -51.90 | 5.57 |
| 179 | 3945 | -1.27 | 0.06 | -2.26 | 0.99 | 3.17 |
| 181 | 3947 | -2.05 | -0.89 | -6.52 | 4.47 | 3.17 |
| 185 | 2 | 4.26 | 0.28 | -47.17 | -42.91 | 4.27 |
| 193 | 215 | 0.13 | 0.15 | -1.46 | 1.59 | 3.17 |
| 202 | 205 | -0.26 | 0.16 | 37.32 | -37.58 | 3.65 |
| 205 | 165 | 18.72 | -0.59 | 27.90 | 46.62 | 3.17 |
| 214 | 166 | 0.62 | 1.22 | -36.00 | -35.38 | 3.40 |
| 216 | 232 | 0.92 | 0.21 | -36.66 | -35.74 | 3.80 |
| 219 | 234 | 1.11 | 0.07 | -34.05 | -32.93 | 3.49 |
| 258 | 258 | -1.36 | -0.04 | -44.53 | -45.89 | 4.91 |
| 265 | 3973 | 4.46 | 4.41 | -9.47 | 13.92 | 3.17 |
| 285 | 270 | -6.16 | 2.04 | 0.33 | 0.00 | 3.17 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 330 | 251 | 5.75 | 17.07 | 20.48 | 26.23 | 3.17 |
| 342 | 1 | 0.14 | 3.21 | 49.47 | -49.34 | 5.29 |
| 385 | 4005 | 5.47 | 12.54 | -12.02 | 17.49 | 3.17 |
| 431 | 328 | 18.09 | 12.57 | -38.79 | 56.88 | 3.17 |
| 444 | 223 | 17.27 | 18.65 | 28.89 | 46.16 | 3.17 |
| 506 | 322 | 16.88 | 29.56 | 33.21 | 50.09 | 3.17 |
| 600 | 332 | 19.30 | 11.32 | -36.15 | 55.46 | 3.17 |
| 625 | 3955 | -4.04 | -1.23 | -0.17 | 0.00 | 3.17 |
| 851 | 425 | 9.06 | 9.50 | 21.55 | 30.61 | 3.17 |
| 855 | 397 | 25.68 | 12.08 | -27.43 | 53.11 | 3.17 |
| 885 | 306 | -67.59 | -13.36 | -6.35 | -73.94 | 8.08 |
| 956 | 207 | 17.73 | 14.78 | 20.63 | 38.36 | 3.17 |
| 1023 | 295 | 0.26 | -1.41 | -22.94 | 23.21 | 3.17 |
| 1059 | 472 | 3.42 | 14.10 | 0.18 | 3.60 | 3.17 |
| 1107 | 249 | 0.15 | 0.14 | 2.09 | 2.24 | 3.17 |
| 1210 | 130 | 4.80 | 10.84 | 12.04 | 16.84 | 3.17 |
| 1214 | 470 | -43.42 | -7.32 | 4.78 | -48.20 | 5.16 |
| 1378 | 550 | 0.10 | 17.66 | 8.00 | 8.10 | 3.17 |
| 1379 | 550 | -3.94 | 16.41 | 7.56 | 3.62 | 3.17 |
| 1380 | 4034 | -3.95 | -3.09 | 0.44 | 0.00 | 3.17 |
| 1463 | 408 | -41.21 | -0.48 | 5.49 | -46.70 | 4.99 |
| 1541 | 653 | -2.56 | 8.57 | 7.70 | 5.14 | 3.17 |
| 1546 | 4173 | -1.92 | -11.96 | -1.48 | 0.00 | 3.17 |
| 1547 | 4214 | -0.52 | -5.85 | 1.14 | 0.00 | 3.17 |
| 1631 | 4071 | -2.50 | -5.77 | 4.44 | 0.92 | 3.17 |
| 1733 | 600 | 4.88 | 16.70 | 10.10 | 14.97 | 3.17 |
| 1758 | 730 | 10.78 | 18.95 | -16.60 | 27.38 | 3.17 |
| 1799 | 786 | -11.18 | -3.15 | 15.94 | 4.76 | 3.17 |
| 1838 | 3991 | 1.51 | 0.96 | -1.62 | 3.14 | 3.17 |
| 1840 | 794 | 10.23 | 8.00 | -12.20 | 22.43 | 3.17 |
| 1842 | 4183 | 4.41 | 3.14 | -6.77 | 11.18 | 3.17 |
| 1853 | 1 | 0.15 | 0.60 | -36.75 | -36.60 | 3.89 |
| 1872 | 811 | 4.12 | -6.30 | 3.93 | 6.57 | 3.17 |
| 1903 | 835 | -10.57 | -28.43 | 19.49 | -30.06 | 3.18 |
| 1906 | 3990 | 2.57 | -0.11 | 2.84 | 5.41 | 3.17 |
| 1929 | 116 | -9.63 | -24.42 | -28.53 | -38.16 | 3.72 |
| 1971 | 523 | -1.70 | 2.71 | 18.12 | 16.42 | 3.17 |
| 2008 | 730 | 10.19 | -3.68 | -13.61 | 23.79 | 3.17 |
| 2068 | 881 | -11.69 | -134.9 | 9.52 | 0.00 | 3.17 |
| 2085 | 4386 | -2.08 | -59.85 | -1.75 | 0.00 | 3.17 |
| 2090 | 845 | -16.38 | -82.00 | -16.26 | -32.64 | 3.46 |
| 2098 | 940 | 0.15 | 4.61 | -3.08 | 3.23 | 3.17 |
| 2125 | 960 | -1.40 | 19.63 | 6.86 | 5.46 | 3.17 |
| 2164 | 937 | -19.56 | 23.27 | 20.54 | -37.68 | 4.01 |
| 2165 | 4426 | -5.62 | -57.25 | 1.83 | 0.00 | 3.17 |
| 2205 | 1004 | 0.05 | 1.89 | 4.63 | 4.68 | 3.17 |
| 2226 | 4468 | -3.95 | -12.99 | -1.39 | 0.00 | 3.17 |
| 2243 | 980 | -41.29 | -72.27 | -22.87 | -64.16 | 6.95 |
| 2246 | 4493 | -8.21 | -18.05 | 1.10 | 0.00 | 3.17 |
| 2626 | 1261 | 3.27 | 5.37 | -5.86 | 9.13 | 3.17 |
| 2720 | 1269 | -131.9 | -5.05 | -39.37 | -171.3 | 21.19 |
| 2782 | 145 | -176.4 | -66.70 | 1.42 | -177.8 | 22.16 |
| 2809 | 1286 | 15.27 | 5.31 | 12.32 | 27.59 | 3.17 |
| 3032 | 1451 | 5.50 | 6.03 | 11.39 | 16.90 | 3.17 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 3091 | 1603 | 0.34 | -1.49 | 2.14 | 2.48 | 3.17 |
| 3158 | 1635 | -0.40 | -9.08 | 3.58 | 1.01 | 3.17 |
| 3223 | 5110 | 2.33 | 1.82 | -2.47 | 4.80 | 3.17 |
| 3389 | 4975 | 0.09 | 4.53 | -2.20 | 2.28 | 3.17 |
| 3411 | 192 | -51.73 | -10.37 | -0.50 | -52.23 | 5.61 |
| 3427 | 5006 | 0.06 | 0.83 | 4.37 | 4.43 | 3.17 |
| 3450 | 1418 | -54.86 | 7.47 | -8.50 | -63.35 | 6.85 |
| 3452 | 5200 | -0.35 | 8.03 | 2.01 | 1.67 | 3.17 |
| 3455 | 7250 | 0.77 | -0.81 | -2.25 | 3.02 | 3.17 |
| 3457 | 5203 | 1.34 | -0.55 | 1.63 | 2.97 | 3.17 |
| 3476 | 1269 | 0.04 | 8.09 | 3.81 | 3.86 | 3.17 |
| 3499 | 5189 | 0.06 | 0.84 | 0.38 | 0.44 | 3.17 |
| 3523 | 5234 | -1.80 | 14.30 | -0.88 | 0.00 | 3.17 |
| 3558 | 1875 | -1.28 | 1.17 | -0.31 | 0.00 | 3.17 |
| 3631 | 1922 | -51.87 | -10.76 | 0.97 | -52.84 | 5.68 |
| 3673 | 1944 | -0.59 | -3.73 | -4.09 | 3.49 | 3.17 |
| 3679 | 5312 | 0.65 | -0.55 | -0.89 | 1.55 | 3.17 |
| 3749 | 7042 | 2.30 | -9.07 | -3.59 | 3.72 | 3.17 |
| 3919 | 5433 | 0.02 | 4.71 | -1.21 | 1.23 | 3.17 |
| 4032 | 5480 | 6.72 | 5.37 | -7.89 | 14.61 | 3.17 |
| 4041 | 5489 | 2.31 | 0.87 | 1.78 | 4.09 | 3.17 |
| 4053 | 2092 | 0.22 | 7.75 | 5.85 | 6.07 | 3.17 |
| 4068 | 5468 | 0.06 | -0.64 | -0.30 | 0.20 | 3.17 |
| 4330 | 7305 | 1.65 | -0.84 | -0.24 | 1.72 | 3.17 |
| 4418 | 2423 | 5.81 | 5.51 | -10.36 | 16.17 | 3.17 |
| 4529 | 2209 | -17.04 | -4.29 | -19.84 | -36.88 | 3.57 |
| 4532 | 2478 | -36.11 | -14.30 | -3.47 | -39.58 | 4.21 |
| 4577 | 5803 | -0.47 | 0.27 | -9.93 | 9.46 | 3.17 |
| 4623 | 2539 | 14.05 | 6.72 | -14.26 | 28.31 | 3.17 |
| 4626 | 2542 | -30.70 | -3.31 | 2.08 | -32.78 | 3.48 |
| 4683 | 2574 | -119.5 | -6.28 | 31.82 | -151.3 | 18.26 |
| 4702 | 5911 | -0.50 | -4.02 | 0.78 | 0.00 | 3.17 |
| 4720 | 2203 | -26.02 | -31.33 | -7.44 | -33.46 | 3.55 |
| 4805 | 2551 | 5.11 | 0.72 | 6.29 | 11.40 | 3.17 |
| 4806 | 136 | 0.13 | -0.95 | 32.50 | -32.37 | 3.43 |
| 4846 | 6038 | -11.81 | -6.07 | 0.12 | 0.00 | 3.17 |
| 4932 | 6112 | -9.61 | -7.35 | 1.19 | 0.00 | 3.17 |
| 4982 | 136 | 2.08 | -24.86 | 14.80 | 10.89 | 3.17 |
| 5156 | 2733 | -15.01 | -67.92 | 6.20 | 0.00 | 3.17 |
| 5263 | 2991 | -131.2 | -210.1 | 10.78 | -142.0 | 16.96 |
| 5272 | 3000 | -21.88 | -104.5 | 11.13 | -33.01 | 3.50 |
| 5308 | 2860 | -21.15 | -101.0 | -16.05 | -37.19 | 3.95 |
| 5340 | 6416 | -4.58 | -52.52 | 7.43 | 0.00 | 3.17 |
| 5369 | 3069 | 0.17 | -18.72 | 0.63 | 0.19 | 3.17 |
| 5393 | 6245 | -5.15 | -40.56 | 3.50 | 0.00 | 3.17 |
| 5420 | 6415 | -3.90 | -28.07 | 9.97 | 0.00 | 3.17 |
| 5473 | 2975 | -9.92 | -14.60 | 5.20 | 0.00 | 3.17 |
| 5499 | 2919 | 9.28 | 1.88 | 14.90 | 24.18 | 3.17 |
| 5541 | 3174 | 0.15 | 0.94 | -36.81 | -36.67 | 3.55 |
| 5557 | 6514 | -4.00 | 5.09 | -1.24 | 0.00 | 3.17 |
| 5603 | 3718 | -3.06 | 0.47 | 2.39 | 0.00 | 3.17 |
| 5664 | 6622 | -3.16 | 12.04 | 0.50 | 0.00 | 3.17 |
| 5666 | 6622 | -1.11 | 12.06 | 4.62 | 3.51 | 3.17 |
| 5791 | 2862 | 0.15 | 0.27 | -31.85 | -31.69 | 3.36 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 5816 | 6701 | -3.96 | 33.81 | -9.65 | 5.69 | 3.17 |
| 5898 | 6723 | -0.46 | 41.37 | 3.60 | 3.14 | 3.17 |
| 6061 | 16 | -11.15 | 109.67 | 10.43 | 0.00 | 3.17 |
| 6062 | 6762 | -3.89 | 55.52 | -5.55 | 1.67 | 3.17 |
| 6103 | 9 | -31.97 | -6.32 | -1.68 | -33.64 | 3.57 |
| 6202 | 2965 | 0.15 | 0.16 | -4.63 | 4.78 | 3.17 |
| 6273 | 3495 | 0.74 | 2.30 | -0.17 | 0.91 | 3.17 |
| 6286 | 3501 | 0.15 | 0.03 | -0.02 | 0.17 | 3.17 |
| 6343 | 6792 | -0.96 | 9.25 | 0.07 | 0.00 | 3.17 |
| 6432 | 3391 | -73.05 | -14.28 | -3.28 | -76.33 | 8.37 |
| 6526 | 3527 | -32.11 | -6.40 | 3.26 | -35.37 | 3.76 |
| 6965 | 3625 | 0.15 | 6.58 | 48.04 | -47.89 | 5.13 |
| 7013 | 6877 | 5.96 | 11.49 | -12.38 | 18.35 | 3.17 |
| 7047 | 3717 | 3.62 | 2.98 | -7.39 | 11.02 | 3.17 |
| 7051 | 4 | 0.06 | 6.88 | 47.08 | -47.02 | 4.75 |
| 7136 | 3327 | 0.49 | 0.37 | 46.44 | -45.94 | 4.63 |
| 7155 | 7152 | 1.06 | 0.04 | 3.83 | 4.89 | 3.17 |
| 7158 | 3870 | -0.85 | 0.44 | 1.59 | 0.75 | 3.17 |
| 7185 | 3387 | 2.09 | 0.32 | -37.49 | -35.40 | 3.40 |
| 7188 | 3668 | -27.63 | 0.46 | 8.86 | -36.49 | 3.88 |
| 7204 | 9 | 0.08 | 0.07 | -3.12 | 3.21 | 3.17 |
| 7213 | 3707 | -0.91 | 2.62 | 1.10 | 0.19 | 3.17 |
| 7214 | 6942 | 1.98 | -0.72 | 0.31 | 2.11 | 3.17 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 15 | 19 | 65.17 | 64.63 | 66.64 | 131.27 | 3.17 |
| 26 | 24 | 1.78 | -36.86 | -1.01 | -37.44 | 3.98 |
| 27 | 24 | -4.50 | -37.94 | -7.28 | -45.23 | 4.83 |
| 30 | 31 | -34.76 | -158.3 | 48.69 | -207.0 | 26.79 |
| 31 | 33 | -5.76 | -133.8 | -23.06 | -156.8 | 19.06 |
| 33 | 36 | -4.48 | -182.8 | 36.36 | -219.1 | 28.82 |
| 34 | 38 | -95.11 | -284.9 | -104.8 | -389.7 | 55.41 |
| 38 | 44 | -94.01 | -16.60 | -25.80 | -42.40 | 4.52 |
| 40 | 47 | -44.13 | -35.01 | -36.00 | -71.01 | 7.73 |
| 46 | 58 | 1.31 | -28.88 | 4.51 | -33.38 | 3.54 |
| 50 | 3770 | 1.52 | -0.35 | -1.58 | 1.23 | 3.17 |
| 54 | 3775 | 0.12 | -0.74 | 0.40 | 0.00 | 3.17 |
| 61 | 79 | -92.99 | -4.40 | 8.35 | 0.00 | 3.17 |
| 62 | 82 | -157.5 | -20.81 | -37.50 | -58.31 | 6.29 |
| 63 | 84 | -170.8 | -20.43 | 44.12 | -64.55 | 6.99 |
| 64 | 87 | -71.95 | -21.94 | -28.13 | -50.07 | 5.37 |
| 65 | 79 | -70.29 | -24.79 | 11.33 | -36.12 | 3.84 |
| 73 | 95 | -101.2 | -32.62 | -3.88 | -36.49 | 3.88 |
| 81 | 113 | -51.22 | -220.1 | -67.68 | -287.8 | 41.94 |
| 84 | 117 | -3.11 | -146.9 | 26.11 | -173.0 | 21.44 |
| 85 | 118 | -10.39 | -175.8 | -40.32 | -216.1 | 28.31 |
| 88 | 124 | -87.00 | -247.6 | 57.82 | -305.4 | 44.27 |
| 91 | 128 | -42.57 | -17.22 | -13.89 | -31.11 | 3.30 |
| 93 | 130 | -41.77 | -18.26 | 26.04 | -44.30 | 4.73 |
| 106 | 3834 | -0.73 | -3.92 | 1.83 | 0.00 | 3.17 |
| 129 | 164 | -17.12 | -21.83 | 12.16 | -34.00 | 3.61 |

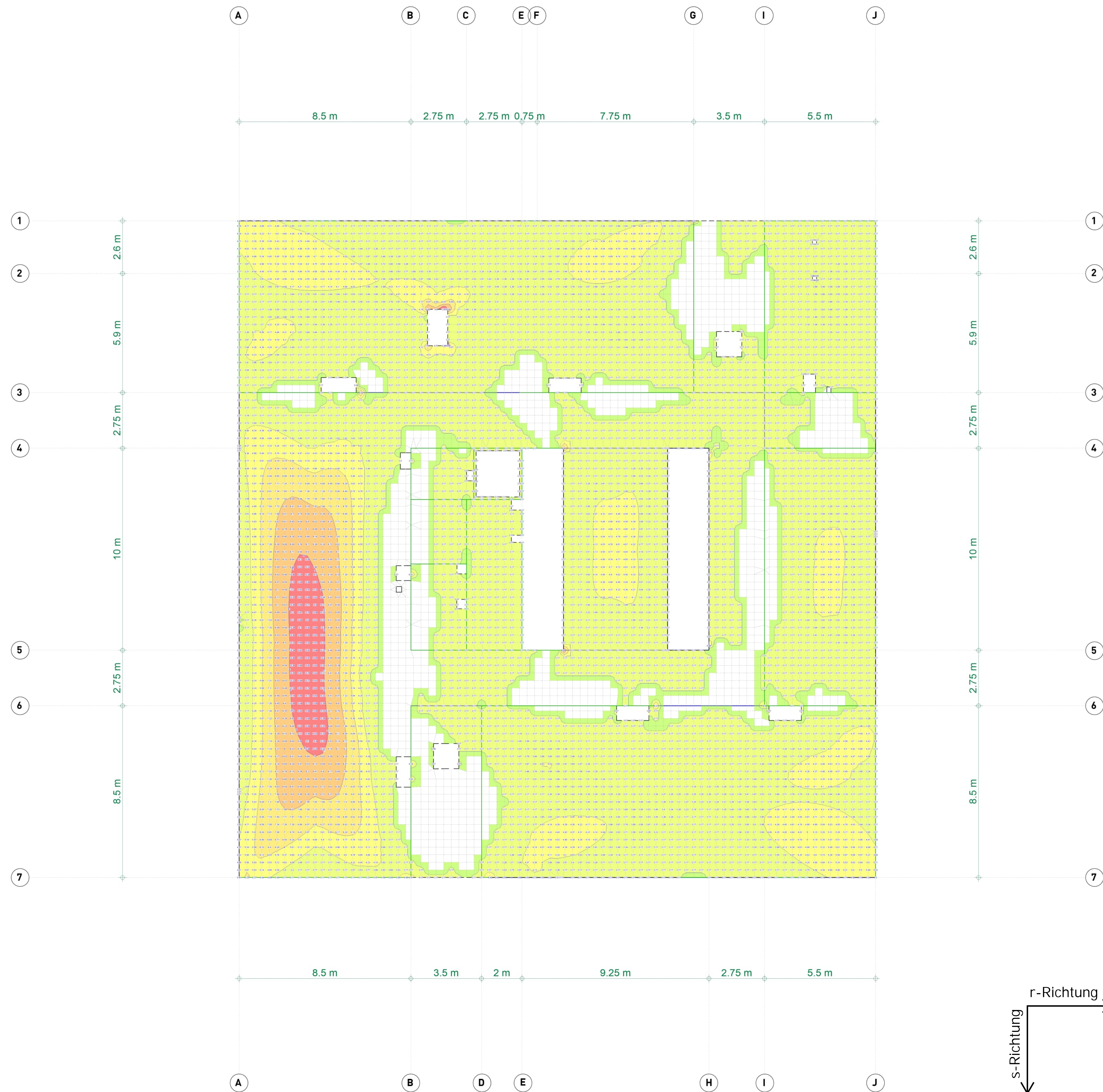
D-112


Schulcampus EWK 2OG-LP4-o.Bw.

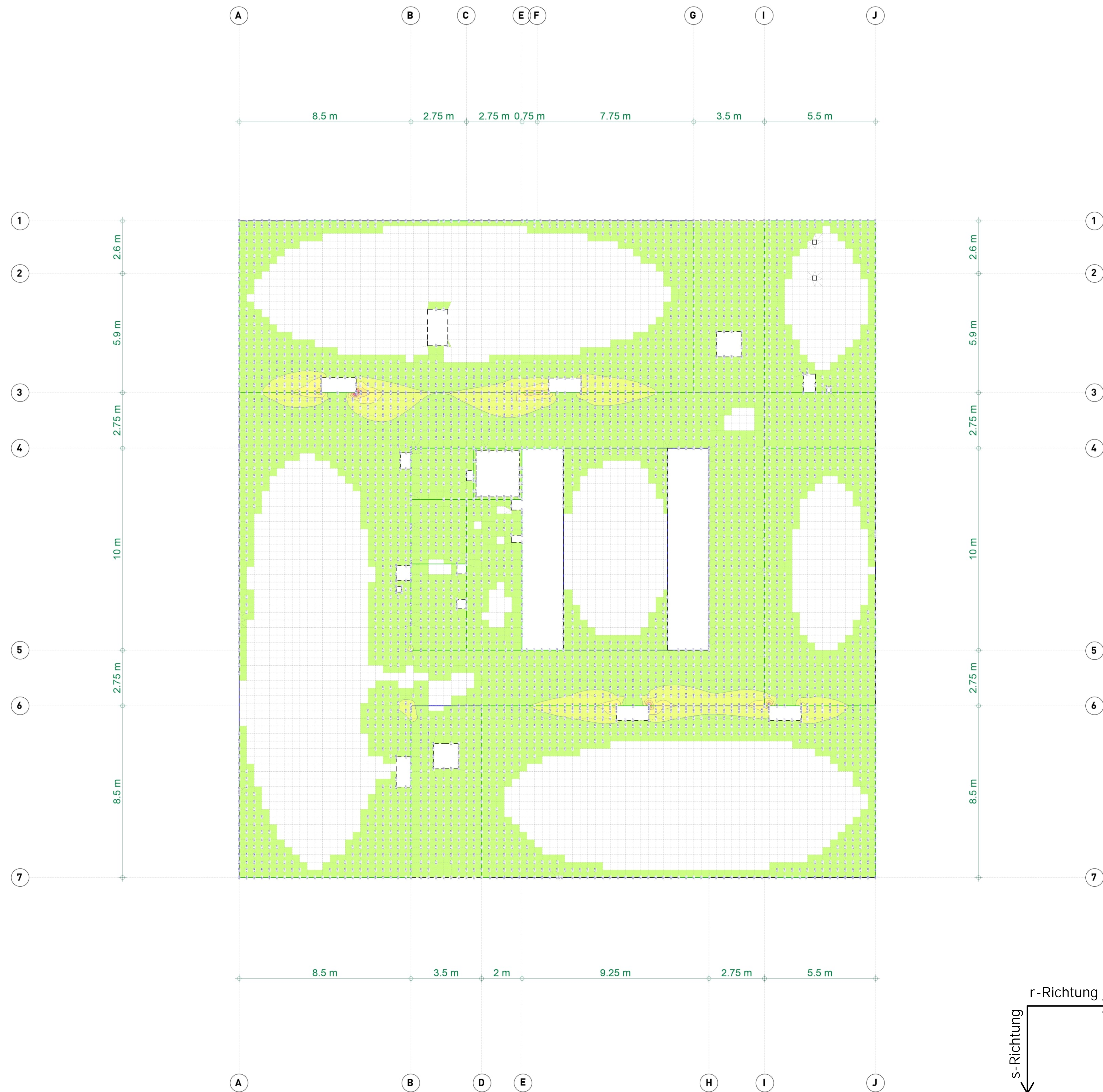
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 131 | 167 | 0.09 | -43.40 | -13.19 | -56.59 | 6.09 |
| 143 | 171 | -0.53 | 1.30 | 11.47 | 12.77 | 3.17 |
| 149 | 179 | -45.05 | -41.63 | 33.62 | -75.25 | 8.24 |
| 159 | 189 | -115.8 | -30.07 | -6.57 | -36.64 | 3.89 |
| 166 | 194 | -127.8 | -24.90 | -8.59 | -33.49 | 3.55 |
| 175 | 202 | -173.6 | -77.69 | 1.41 | -79.10 | 8.71 |
| 184 | 3 | 11.41 | -0.06 | -47.14 | -47.20 | 5.05 |
| 193 | 3953 | 0.05 | 0.06 | -0.46 | 0.52 | 3.17 |
| 202 | 205 | -0.26 | 0.16 | 37.32 | -37.17 | 3.60 |
| 209 | 228 | -5.72 | 0.17 | 0.12 | 0.17 | 3.17 |
| 216 | 232 | 0.92 | 0.21 | -36.66 | -36.44 | 3.87 |
| 236 | 253 | -3.27 | 0.14 | -2.38 | 1.87 | 3.17 |
| 247 | 3944 | -0.31 | 0.02 | 9.84 | 9.86 | 3.17 |
| 257 | 1 | 0.33 | -0.06 | 49.00 | -49.06 | 5.26 |
| 302 | 278 | 6.70 | 15.82 | -23.00 | 38.82 | 3.17 |
| 333 | 293 | 6.55 | 15.02 | 28.49 | 43.51 | 3.17 |
| 383 | 3960 | 5.12 | 10.71 | -14.03 | 24.74 | 3.17 |
| 420 | 324 | 12.28 | 23.86 | 32.66 | 56.52 | 3.17 |
| 427 | 1 | 0.18 | 1.42 | 47.56 | -46.13 | 4.93 |
| 765 | 405 | 14.82 | 17.43 | 26.73 | 44.16 | 3.17 |
| 966 | 4094 | -7.74 | -3.74 | -0.41 | 0.00 | 3.17 |
| 1107 | 249 | 0.15 | 0.14 | 2.09 | 2.23 | 3.17 |
| 1108 | 494 | 16.61 | 5.62 | -19.09 | 24.71 | 3.17 |
| 1210 | 262 | 7.64 | 12.30 | 11.75 | 24.05 | 3.17 |
| 1462 | 616 | 20.97 | -16.31 | 23.49 | -39.80 | 3.91 |
| 1603 | 4145 | 0.06 | 1.86 | -2.95 | 4.81 | 3.17 |
| 1623 | 4225 | -16.68 | -2.43 | -0.23 | 0.00 | 3.17 |
| 1625 | 4228 | -53.25 | -5.19 | -1.66 | 0.00 | 3.17 |
| 1629 | 125 | 13.53 | -38.78 | -27.87 | -66.65 | 7.23 |
| 1679 | 3807 | 6.14 | 9.47 | -12.84 | 22.31 | 3.17 |
| 1730 | 236 | 4.79 | 9.85 | 16.57 | 26.42 | 3.17 |
| 1759 | 3807 | 3.41 | 7.48 | -9.50 | 16.98 | 3.17 |
| 1768 | 644 | 0.16 | 0.38 | -36.57 | -36.19 | 3.85 |
| 1819 | 251 | -0.04 | 0.73 | 9.25 | 9.98 | 3.17 |
| 1821 | 4278 | 3.81 | 0.92 | 2.87 | 3.80 | 3.17 |
| 1823 | 4278 | -1.47 | -0.79 | 0.14 | 0.00 | 3.17 |
| 1839 | 249 | 4.05 | 6.85 | -8.72 | 15.57 | 3.17 |
| 1840 | 249 | 9.96 | 8.66 | -12.27 | 20.93 | 3.17 |
| 1842 | 796 | 9.85 | 7.59 | -14.48 | 22.07 | 3.17 |
| 1965 | 701 | -8.01 | -5.01 | 7.48 | 1.98 | 3.17 |
| 1990 | 458 | 6.88 | -4.68 | 6.77 | 2.09 | 3.17 |
| 2008 | 898 | 10.04 | -3.67 | -13.66 | 10.00 | 3.17 |
| 2120 | 161 | -153.9 | -93.70 | -35.57 | -129.3 | 15.20 |
| 2149 | 123 | -24.76 | -151.0 | 9.29 | -160.3 | 19.57 |
| 2163 | 4423 | -9.51 | -6.29 | -5.40 | 0.00 | 3.17 |
| 2193 | 4396 | -14.35 | -1.58 | -5.05 | 0.19 | 3.17 |
| 2198 | 162 | -17.24 | -4.21 | 18.94 | 14.74 | 3.17 |
| 2205 | 1005 | 0.67 | 2.60 | 2.72 | 5.32 | 3.17 |
| 2207 | 1008 | -2.55 | -8.13 | 7.97 | 0.00 | 3.17 |
| 2247 | 937 | -1.16 | -38.09 | 4.99 | -43.08 | 4.60 |
| 2258 | 4502 | -0.26 | -0.18 | 5.69 | 5.50 | 3.17 |
| 2291 | 1064 | -0.08 | 4.09 | 2.34 | 6.42 | 3.17 |
| 2416 | 4494 | 0.97 | -4.43 | -7.38 | 2.94 | 3.17 |
| 2500 | 4685 | -1.93 | -0.82 | -4.42 | 3.60 | 3.17 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 2534 | 1103 | -50.78 | 9.46 | 10.62 | 11.69 | 3.17 |
| 2538 | 1215 | -60.82 | 7.63 | -10.19 | 9.34 | 3.17 |
| 2557 | 4729 | -2.94 | -2.35 | -9.32 | 6.97 | 3.17 |
| 2655 | 1284 | 12.98 | 1.68 | 8.78 | 10.46 | 3.17 |
| 2683 | 4835 | 0.07 | -0.39 | -0.64 | 0.24 | 3.17 |
| 2712 | 3937 | 0.19 | -2.53 | -1.84 | 0.00 | 3.17 |
| 2720 | 473 | -131.9 | -5.13 | -39.34 | -44.46 | 4.45 |
| 2804 | 7001 | 10.91 | -1.21 | 0.94 | 0.00 | 3.17 |
| 2945 | 1497 | 0.29 | -0.75 | 6.64 | 5.89 | 3.17 |
| 3000 | 5007 | -12.70 | -4.68 | -0.96 | 0.00 | 3.17 |
| 3130 | 3839 | 0.24 | -1.83 | 2.79 | 0.97 | 3.17 |
| 3158 | 1636 | -0.80 | -8.72 | 3.59 | 0.00 | 3.17 |
| 3166 | 5093 | 0.29 | -0.10 | 1.99 | 1.89 | 3.17 |
| 3167 | 1647 | 0.22 | 6.16 | -10.22 | 16.38 | 3.17 |
| 3254 | 1508 | 0.04 | 6.70 | 7.83 | 14.53 | 3.17 |
| 3277 | 5140 | 0.15 | 0.40 | 1.24 | 1.64 | 3.17 |
| 3301 | 1718 | -64.13 | -21.38 | -11.49 | -32.88 | 3.49 |
| 3353 | 5006 | 0.06 | 0.27 | 4.03 | 4.30 | 3.17 |
| 3372 | 3839 | -7.46 | 1.00 | -1.91 | 1.49 | 3.17 |
| 3376 | 1761 | -27.96 | -4.70 | -1.88 | 0.00 | 3.17 |
| 3519 | 5227 | -7.17 | 0.99 | -2.90 | 2.16 | 3.17 |
| 3595 | 1893 | -40.09 | -0.86 | 7.71 | 0.62 | 3.17 |
| 3670 | 1943 | -137.7 | -24.86 | 7.70 | -32.56 | 3.45 |
| 3795 | 140 | 0.24 | 1.16 | -4.21 | 5.37 | 3.17 |
| 3818 | 5340 | -48.55 | -10.06 | -2.28 | 0.00 | 3.17 |
| 3820 | 5385 | -29.42 | -8.70 | -0.46 | 0.00 | 3.17 |
| 3828 | 5398 | 2.02 | 0.08 | 1.06 | 1.14 | 3.17 |
| 3903 | 2086 | 7.24 | 2.33 | -2.34 | 4.68 | 3.17 |
| 4114 | 5523 | -19.20 | -1.85 | -1.98 | 0.00 | 3.17 |
| 4125 | 7066 | 0.71 | 1.18 | 2.41 | 3.58 | 3.17 |
| 4140 | 2246 | 0.04 | 7.09 | -6.86 | 13.95 | 3.17 |
| 4183 | 5196 | -8.03 | 0.39 | -7.68 | 7.74 | 3.17 |
| 4190 | 5560 | 6.92 | 4.10 | -0.14 | 4.24 | 3.17 |
| 4197 | 2282 | 0.22 | 6.60 | 8.75 | 15.35 | 3.17 |
| 4403 | 7310 | -0.67 | 4.84 | -0.73 | 5.58 | 3.17 |
| 4607 | 5828 | -0.63 | 0.54 | 2.86 | 3.40 | 3.17 |
| 4647 | 2552 | 3.04 | 0.69 | -16.29 | 16.97 | 3.17 |
| 4669 | 2562 | -42.45 | -26.83 | -21.06 | -47.89 | 5.13 |
| 4674 | 2567 | -5.83 | -34.51 | 2.06 | -36.58 | 3.89 |
| 4680 | 5893 | -1.68 | 0.05 | -0.76 | 0.40 | 3.17 |
| 4683 | 2574 | -119.5 | -6.28 | 31.82 | -38.10 | 3.71 |
| 4705 | 7326 | 1.98 | 0.26 | -0.74 | 1.01 | 3.17 |
| 4713 | 2303 | -5.56 | -31.14 | 2.67 | -33.81 | 3.59 |
| 4720 | 2605 | -26.81 | -33.08 | -5.82 | -38.90 | 4.14 |
| 4721 | 136 | 0.22 | -1.25 | 32.50 | -33.75 | 3.58 |
| 4762 | 2633 | -21.36 | -3.32 | -1.07 | 0.00 | 3.17 |
| 4764 | 7328 | -8.04 | -14.82 | 13.52 | 0.00 | 3.17 |
| 4785 | 2658 | -3.18 | 0.61 | 1.73 | 1.54 | 3.17 |
| 4805 | 2670 | 4.56 | 0.81 | 6.85 | 7.66 | 3.17 |
| 5221 | 6371 | 0.55 | -6.62 | -0.21 | 0.00 | 3.17 |
| 5241 | 6305 | -14.49 | -16.96 | 6.26 | 0.00 | 3.17 |
| 5263 | 2991 | -131.2 | -210.1 | 10.78 | -220.9 | 29.13 |
| 5295 | 24 | -5.03 | -31.87 | 1.93 | -33.80 | 3.59 |
| 5389 | 6511 | 2.80 | -3.24 | -13.81 | 10.58 | 3.17 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 5417 | 6530 | 3.00 | -2.38 | 7.64 | 5.26 | 3.17 |
| 5449 | 3729 | 3.25 | -1.11 | 1.34 | 0.22 | 3.17 |
| 5469 | 4 | 4.13 | 4.76 | -16.19 | 20.95 | 3.17 |
| 5499 | 3153 | 9.31 | 1.89 | 15.12 | 17.01 | 3.17 |
| 5559 | 6617 | -1.14 | -2.74 | 0.85 | 0.00 | 3.17 |
| 5566 | 3187 | 18.96 | 0.84 | -3.02 | 3.86 | 3.17 |
| 5576 | 6575 | 0.35 | 1.02 | -2.66 | 3.68 | 3.17 |
| 5581 | 3206 | -11.85 | 7.60 | 9.77 | 15.66 | 3.17 |
| 5586 | 2922 | 4.78 | 3.94 | 15.35 | 19.29 | 3.17 |
| 5626 | 3175 | 0.16 | 0.47 | -36.69 | -36.22 | 3.47 |
| 5637 | 3071 | 5.14 | 22.92 | -16.35 | 39.27 | 3.17 |
| 5673 | 3262 | 7.19 | 16.46 | 17.47 | 33.93 | 3.17 |
| 5690 | 2852 | -7.03 | 1.85 | -2.42 | 2.68 | 3.17 |
| 5717 | 3751 | 2.66 | 10.73 | -10.89 | 21.62 | 3.17 |
| 5734 | 6675 | 20.93 | -4.35 | -2.83 | 0.00 | 3.17 |
| 5791 | 3134 | 0.15 | 0.27 | -31.85 | -31.57 | 3.35 |
| 5875 | 3751 | 6.52 | 9.16 | -12.55 | 21.71 | 3.17 |
| 6145 | 17 | 68.84 | -7.91 | -42.23 | -33.82 | 3.21 |
| 6202 | 2860 | 0.15 | 0.16 | -4.63 | 4.79 | 3.17 |
| 6286 | 7139 | 0.14 | 0.04 | 0.17 | 0.20 | 3.17 |
| 6881 | 4 | 0.17 | 1.99 | 46.52 | -44.52 | 4.46 |
| 6886 | 4 | 13.41 | 24.72 | 37.16 | 61.87 | 3.17 |
| 6962 | 7 | 10.24 | 7.68 | -15.69 | 23.37 | 3.17 |
| 7062 | 3505 | 3.05 | 11.90 | 22.40 | 34.30 | 3.17 |
| 7110 | 8 | -16.38 | -29.96 | -18.16 | -48.12 | 5.15 |
| 7135 | 4 | 0.01 | -1.06 | 45.50 | -46.56 | 4.70 |
| 7159 | 3645 | -1.70 | -0.14 | 0.95 | 0.39 | 3.17 |
| 7167 | 6933 | -1.95 | -0.59 | -5.99 | 5.40 | 3.17 |
| 7184 | 3243 | 2.55 | 0.00 | -37.79 | -37.80 | 3.68 |
| 7188 | 3679 | -22.33 | 1.06 | 8.85 | 4.57 | 3.17 |
| 7204 | 6 | 0.07 | 0.08 | -3.98 | 4.06 | 3.17 |



| | | | | | |
|--|--|---|------------------------------|--------------------------------------|------------------|
| :) W Yb VYa Yggi b[Erforderliche Bewehrung as_erf | |  | Modell | QJÓÉUj q ÉÜ ÁÜÁÄ^ÁÜÁÜÁÜ^ÁÜ^ÁÜ&Ü•• | Tafel • nach KEE |
| Max = 15.55 (Kn. 15), Min = 0 (Kn. 283), Step = 2 Bew.-Abstand d' = 38 mm Beton C 30/37 Bauteildicke h = 25.00 cm | | | Bauvorhaben | Schulcampus EVWK Schwesternschule | |
| aus allen Nachweisen (Büro) (A) (A) (A) (A) (A) (A) | | | KREBS+KIEFER Ingenieure GmbH | | |



r-Richtung → Biegebemessung:
 erf. Bewehrung
 - obere Lage s-Richtung -

[illegible]

Bemessung (GZT)

Bemessungsparameter Biegebemessung der Platten (Stahlbeton) nach DIN EN 1992-1-1

Positionsgrafik



Mat. /Querschnitt

| Position | Winkel | Art | Material | Dicke |
|----------|--------|-----|---------------------------|-------|
| | Yfl | | Quer | [cm] |
| D-2.OG | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: $\vec{Q} = \vec{Q} \cdot \vec{r} = \vec{Q} \cdot \vec{r} = \vec{Q} \cdot \vec{r}$

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|--|
| D-2.OG | umlaufend | XC1 | trocken oder $b \cdot \vec{r} = \vec{r} \cdot \vec{r} = \vec{r} \cdot \vec{r}$ |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

Position

| | ^{ro} YflŸ | ^{so} YflŸ | ^{ru} YflŸ | ^{su} YflŸ |
|--------|-----------------------|-----------------------|-----------------------|-----------------------|
| D-2.OG | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

Position

| | c_{min} [mm] | # _{def} [mm] | c_{nom} [mm] | c_v [mm] | d'_r [mm] | d'_s [mm] |
|--------|-------------------|--------------------------|-------------------|---------------|----------------|----------------|
| D-2.OG | 16 | 10 | 26 | 30 | 54 | 38 |
| | 16 | 10 | 26 | 30 | 54 | 38 |

Grundbewehrung

Position

| | Rá\\æÊÁU\†âæ ~Y††ŸĐbY'†Ÿ | d'_r [mm] | $a_{sg,r}$ [cm ² /m] | d'_s [mm] | $a_{sg,s}$ [cm ² /m] |
|--------|-----------------------------|----------------|------------------------------------|----------------|------------------------------------|
| D-2.OG | u r Ó3813202 | 54 | 20.11 | | |
| | u s Ó3813202 | | | 38 | 20.11 |
| | o r Ó3813202 | 54 | 20.11 | | |
| | o s Ó3813202 | | | 38 | 20.11 |

Zulagebewehrung

Position

| | Rá\\æÊÁU\†âæ ~Y††ŸĐbY'†Ÿ | d'_r [mm] | $a_{sz,r}$ [cm ² /m] | d'_s [mm] | $a_{sz,s}$ [cm ² /m] |
|--------|-----------------------------|----------------|------------------------------------|----------------|------------------------------------|
| D-2.OG | ZULAGE-1 u r Ó3814202 | 54 | 10.05 | | |
| | ZULAGE-1 u s Ó3814202 | | | 38 | 10.05 |
| | ZULAGE-2 o r Ó3814202 | 54 | 10.05 | | |
| | ZULAGE-2 o s Ó3814202 | | | 38 | 10.05 |
| | ZULAGE-3 u r Ó3814202 | 54 | 10.05 | | |
| | ZULAGE-3 u s Ó3814202 | | | 38 | 10.05 |
| | ZULAGE-4 o r Ó3814202 | 38 | 10.05 | | |
| | ZULAGE-5 u s Ó3814202 | | | 38 | 10.05 |
| | ZULAGE-6 u s Ó3614202 | | | 37 | 7.70 |

Bemessungsparameter

äfiãÄäæ^ÄÖãæ^~ | b\á^äÄäæãÄÜãä&à†â↔&æ↔\Á^á^'äÄØSÁÓSÁ
1992-1-1

Bi egung

Position

Mindestbewehrung

D-2.OG

ja

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

D-2. OG

Ñæ†æbb | ^&ÄfiãÄŞ→á\\æÁÇU\ää→âæ\~^DÁEËGÈŠÖ

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nationen

Ráß&æâæ^äæÄP~†â↔^á\↔~^æ^Á^á^'äÄØSÁÓSÁFïï€

Ew Einwirkungsname

Lkn Lastkombinationsnummer

Œ↔æÄÑæ\æ↔↔& | ^&Äæ↔^~ æ→^æãÄQáb\à†→æÄ↔^æãää→âÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh} bX] [#j cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|-----------|----|------|------|---------|-------------|
| 1-4678 | | 1.35 | 1.35 | 1.50 | 1.50 |
| 4679-6865 | | 1.00 | 1.00 | 1.50 | 1.50 |
| 6866-7084 | | 1.35 | 1.00 | 1.50 | 1.50 |
| 7085-7278 | | 1.00 | 1.35 | 1.50 | 1.50 |
| 7279-7284 | | 1.00 | 1.00 | . | 1.50 |
| 7285-7287 | | 1.35 | 1.35 | . | 1.50 |

| Lkn | Ew | Gk | Ö← | Qk.N_El | Qk.N_DA |
|-----------|----|------|------|---------|-------------|
| 7288-7289 | | 1.00 | 1.35 | . | 1.50 |

Alle Nachweise

Óã~ääã→´âÁQ†^&bâæ}æã| ^&Áá| bÁá→æ^ÁSá´â}æ→bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$ (Differenzbew.)

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y´↑¥Đ↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|-----------------------|
| 132 | 187 | -262.5 | -105.3 | 5.40 | -267.9 | 0.42 |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$ (Differenzbew.)

ÓbÁ↔b\Á←æ↔^æÃ~| b†\~→´âæÃÑæ}æã| ^&Áæã~ääã~→´âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, r, oben

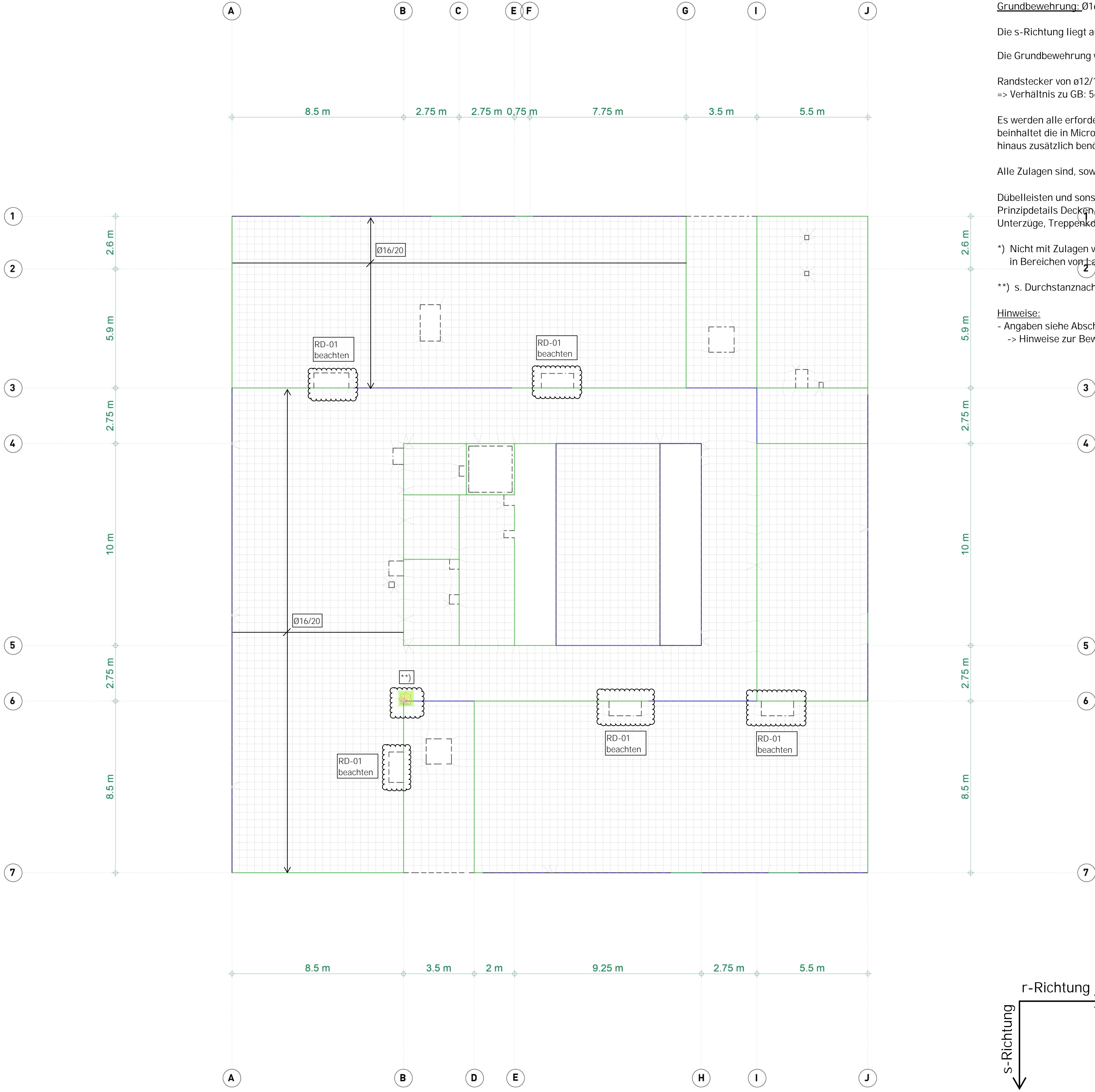
Erforderliche obere Bewehrung $a_{s,ro}$ (Differenzbew.)

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y´↑¥Đ↑Ÿ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|-----------------------|
| 132 | 215 | -256.8 | -100.7 | 7.01 | -263.8 | 7.33 |
| 2726 | 1462 | -131.9 | -5.05 | -39.36 | -171.2 | 3.45 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$ (Differenzbew.)

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y´↑¥Đ↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|-----------------------|
| 40 | 58 | -95.11 | -284.9 | -104.8 | -389.7 | 20.27 |
| 85 | 145 | -51.23 | -220.1 | -67.69 | -287.8 | 16.01 |
| 88 | 150 | -3.11 | -146.9 | 26.12 | -173.0 | 0.68 |
| 89 | 152 | -10.38 | -175.8 | -40.31 | -216.1 | 6.35 |
| 92 | 159 | -87.00 | -247.5 | 57.81 | -305.4 | 18.42 |



Grundbewehrung: Ø16/10 (20,11 cm²/m)

Die s-Richtung liegt außen.

Die Grundbewehrung wird über das Auflager geführt

Randstecker von Ø12/10 (11,31 cm²/m) einlegen.
=> Verhältnis zu GB: 56 % > 50%

Es werden alle erforderlichen Zulagen zur Grundbewehrung abgebildet. Dies beinhaltet die in MicroFE vorgewählten Zulagen, sowie solche, die darüber hinaus zusätzlich benötigt werden.

Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.

Dübelleisten und sonstige Zulagen aus Durchstanznachweisen, Aussteifung, Prinzipdetails Decken, wandartige Trägern, Unterzüge, deckengleiche Unterzüge, Treppenkonsolen usw. sind zu beachten.

*) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Bauteileinleitungen, Plattenversprüngen o.ä. dar.

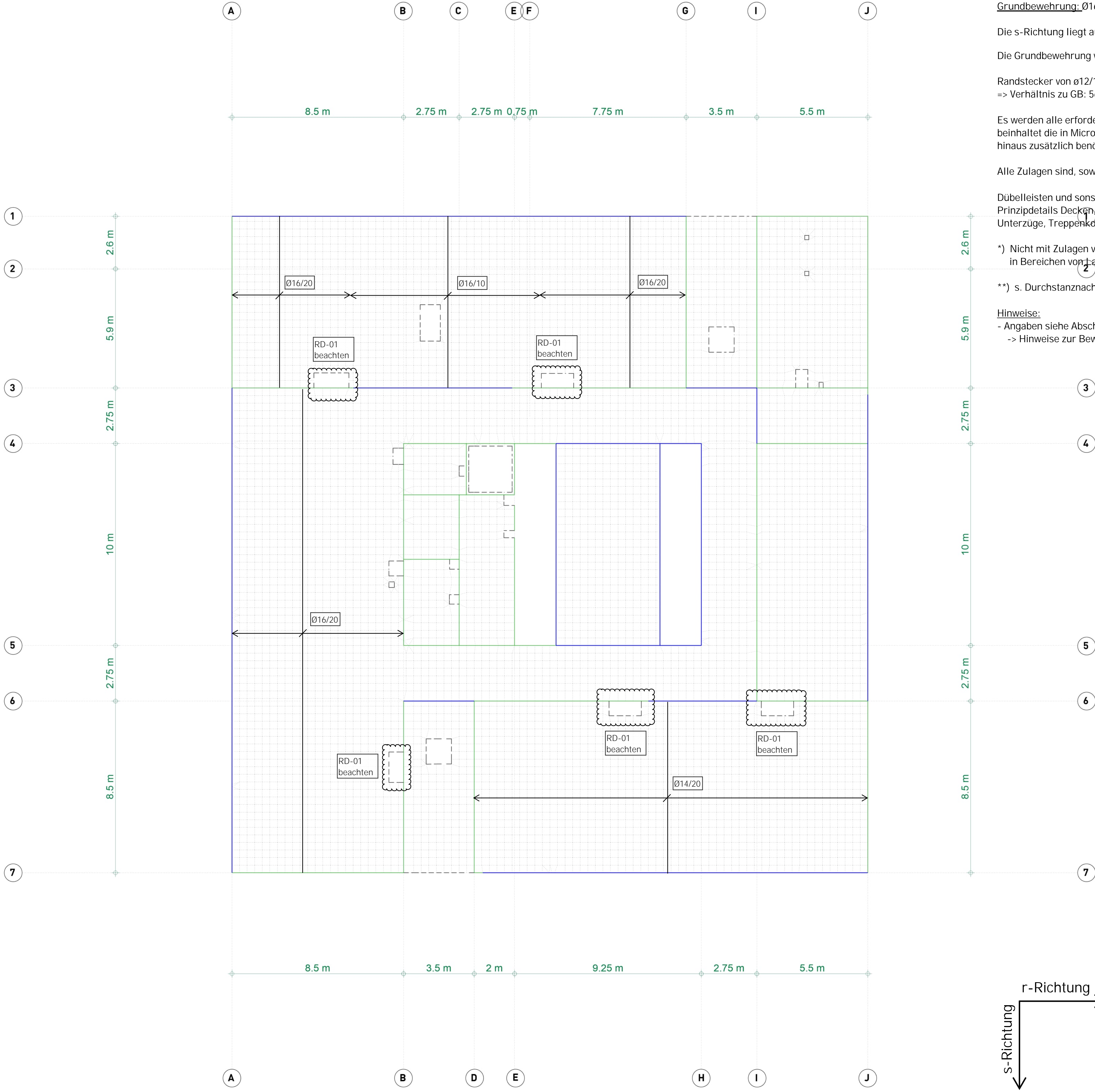
**) s. Durchstanznachweis

Hinweise:
- Angaben siehe Abschnitt 02 beachten.
-> Hinweise zur Bewehrungsführung <-

r-Richtung → **Biegebemessung:**

s-Richtung ↓

erf. Zulagen
- untere Lage r-Richtung -



Grundbewehrung: Ø16/10 (20,11 cm²/m)

Die s-Richtung liegt außen.

Die Grundbewehrung wird über das Auflager geführt

Randstecker von Ø12/10 (11,31 cm²/m) einlegen.
=> Verhältnis zu GB: 56 % > 50%

Es werden alle erforderlichen Zulagen zur Grundbewehrung abgebildet. Dies beinhaltet die in MicroFE vorgewählten Zulagen, sowie solche, die darüber hinaus zusätzlich benötigt werden.

Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.

Dübelleisten und sonstige Zulagen aus Durchstanznachweisen, Aussteifung, Prinzipdetails Decken, wandartige Trägern, Unterzüge, deckengleiche Unterzüge, Treppenkonsolen usw. sind zu beachten.

*) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Mastenleitungen, Plattenversprüngen o.ä. dar.

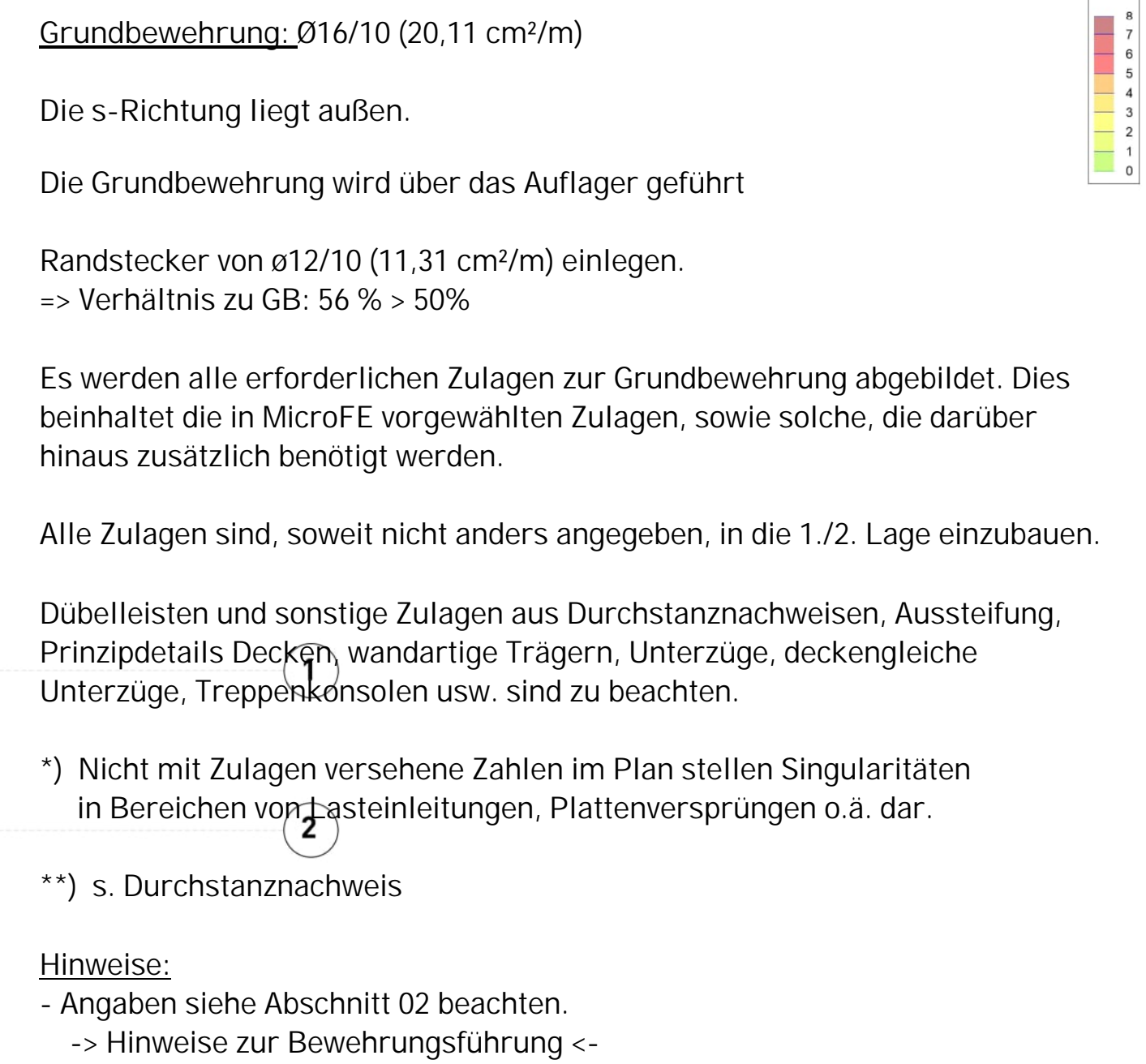
**) s. Durchstanznachweis

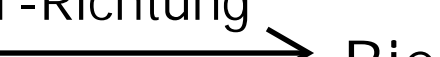
Hinweise:
- Angaben siehe Abschnitt 02 beachten.
-> Hinweise zur Bewehrungsführung <-

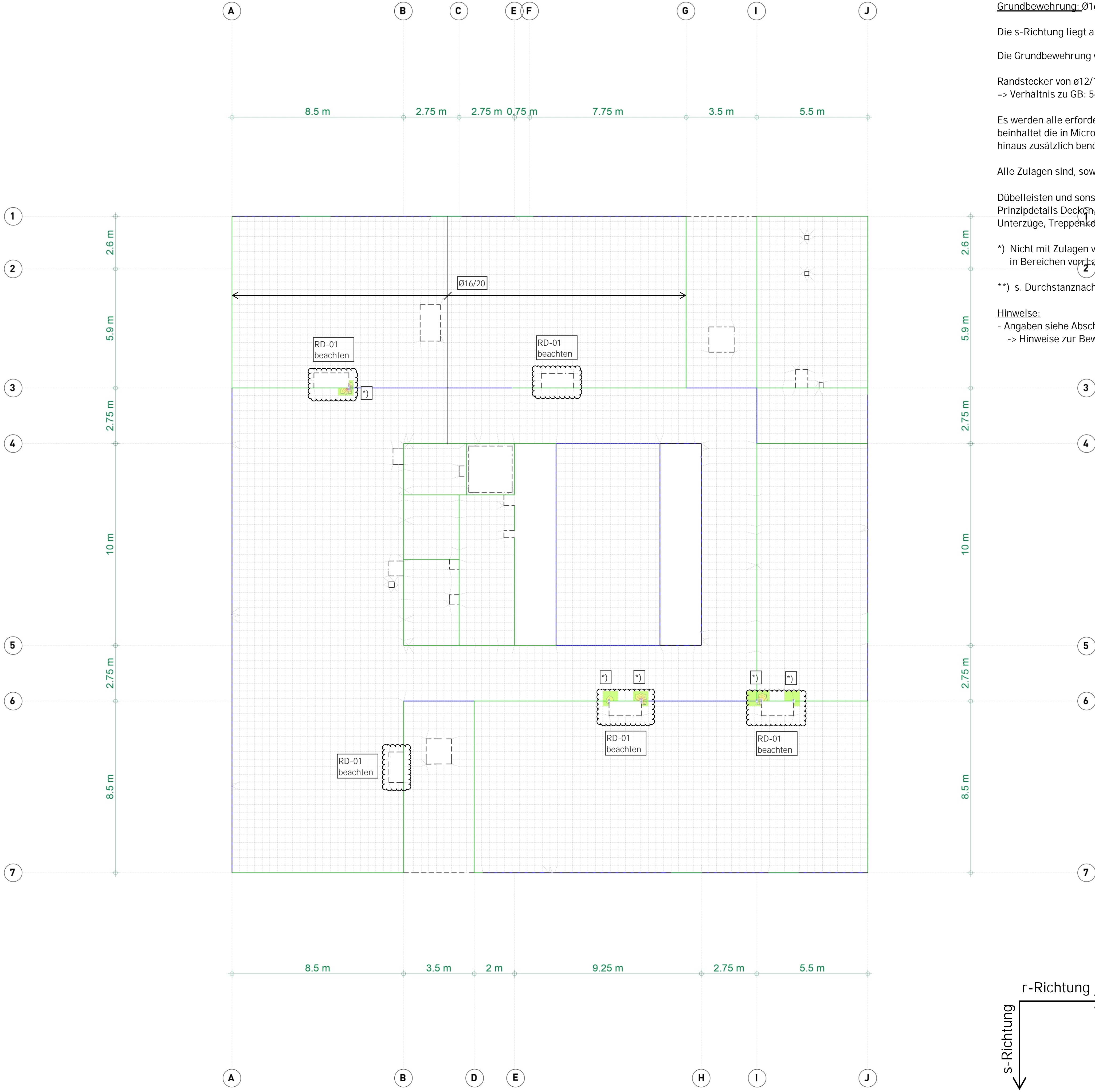
r-Richtung → Biegebemessung:

s-Richtung ↓

erf. Zulagen
- untere Lage s-Richtung -







Grundbewehrung: Ø16/10 (20,11 cm²/m)

Die s-Richtung liegt außen.

Die Grundbewehrung wird über das Auflager geführt

Randstecker von Ø12/10 (11,31 cm²/m) einlegen.
=> Verhältnis zu GB: 56 % > 50%

Es werden alle erforderlichen Zulagen zur Grundbewehrung abgebildet. Dies beinhaltet die in MicroFE vorgewählten Zulagen, sowie solche, die darüber hinaus zusätzlich benötigt werden.

Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.

Dübelleisten und sonstige Zulagen aus Durchstanznachweisen, Aussteifung, Prinzipdetails Decken, wandartige Trägern, Unterzüge, deckengleiche Unterzüge, Treppenkonsolen usw. sind zu beachten.

*) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Bauteileinleitungen, Plattenversprüngen o.ä. dar.

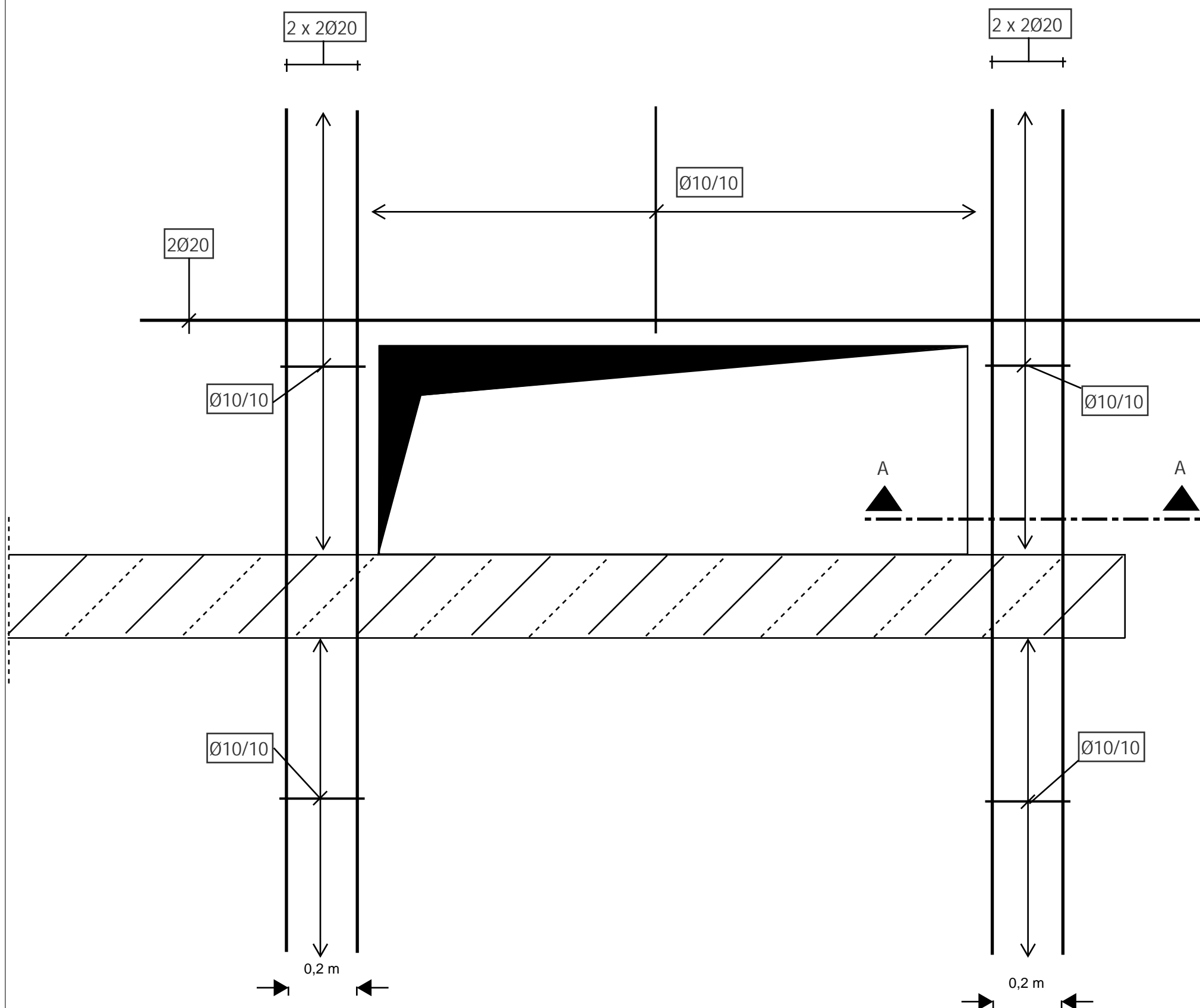
**) s. Durchstanznachweis

Hinweise:
- Angaben siehe Abschnitt 02 beachten.
-> Hinweise zur Bewehrungsführung <-

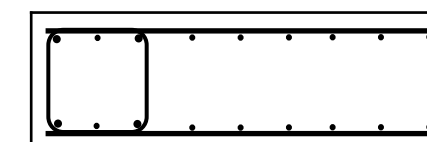
r-Richtung → **Biegebemessung:**

s-Richtung ↓

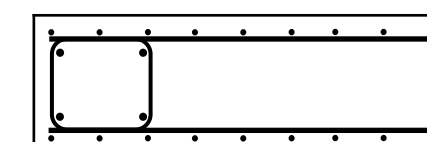
erf. Zulagen
- obere Lage s-Richtung -



Schnitt A-A Fall 1: Bügel liegt in 1. Lage



Schnitt A-A Fall 2: Bügel liegt in 2. Lage



Vorhandene Querkraftbewehrung: Ø10/10/20

$$a_{s,vorh} = 7,85 \text{ cm}^2/\text{m} * 5 \text{ St/m} = 39,25 \text{ cm}^2/\text{m}^2$$

Hinweis: In der Skizze ist nur die statisch erforderliche Bewehrung dargestellt.
Die konstruktive Bewehrung ist zu ergänzen.

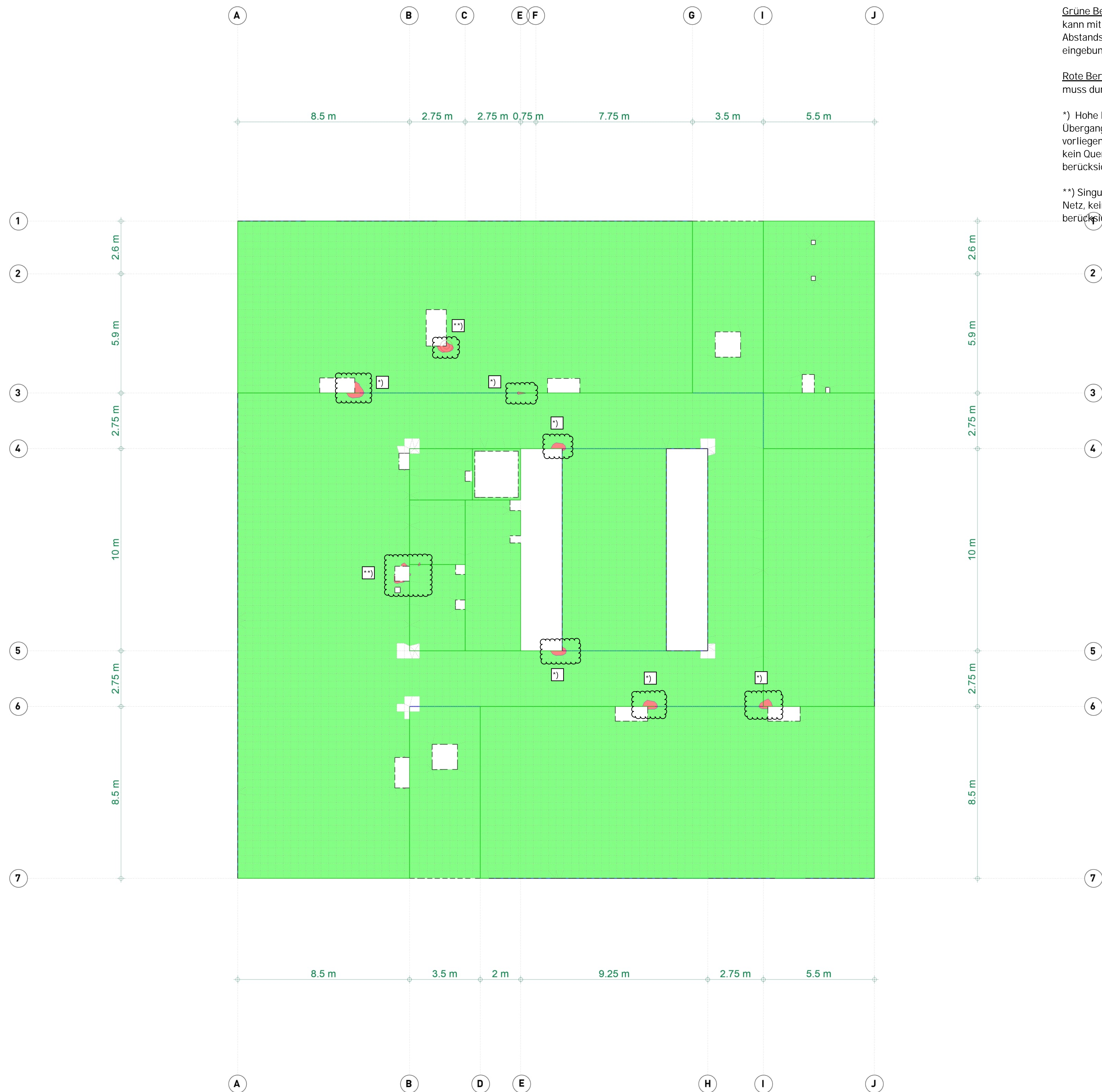
Schulcampus Neubau

Bewehrungsskizze zu
Regeldetail RD-01

| Knoten | Lkn | $V_{Ed,r}$ | $V_{Rd,c}$ | Z | | $V_{Rd,max}$ | $a_{sw,r}$ | a_{sw} | | |
|--------|-----|------------|------------|------|---------------|--------------|------------|------------|---------------|------------|
| | | $V_{Ed,s}$ | | | | | | | | |
| | | [kN/m] | [kN/m] | [mm] | γ_{fl} | \ddot{Y} | [kN/m] | $a_{sw,s}$ | γ_{fl} | \ddot{Y} |
| 126 | 37 | -214.8 | 140.6 | 136 | 24 | 639.1 | 16.0 | 15.98 | | |
| | | 10.97 | 146.0 | 152 | 18 | 581.4 | 0.00 | | | |
| 131 | 36 | -379.6 | 122.8 | 136 | 31 | 771.3 | 39.2 | 71.72 | | |
| | | 371.20 | 128.2 | 152 | 30 | 840.3 | 32.5 | | | |
| 1218 | 5 | -220.4 | 142.9 | 141 | 23 | 658.9 | 15.6 | 15.59 | | |
| | | 15.62 | 146.0 | 152 | 18 | 581.4 | 0.00 | | | |
| 1468 | 6 | -123.7 | 122.8 | 136 | 18 | 520.2 | 6.97 | 6.97 | | |
| | | -15.91 | 127.6 | 152 | 18 | 581.4 | 0.00 | | | |
| 1549 | 7 | -207.1 | 142.9 | 141 | 22 | 631.6 | 13.8 | 13.79 | | |
| | | -18.77 | 146.0 | 152 | 18 | 581.4 | 0.00 | | | |
| 1635 | 4 | 165.26 | 122.8 | 136 | 18 | 520.2 | 9.32 | 9.32 | | |
| | | -51.68 | 127.6 | 152 | 18 | 581.4 | 0.00 | | | |
| 1969 | 35 | 151.56 | 142.9 | 141 | 18 | 540.6 | 8.22 | 8.22 | | |
| | | 32.50 | 127.6 | 152 | 18 | 581.4 | 0.00 | | | |
| 1994 | 34 | -74.62 | 122.8 | 136 | 18 | 520.2 | 0.00 | 6.81 | | |
| | | -134.9 | 127.6 | 152 | 18 | 581.4 | 6.81 | | | |
| 1998 | 33 | 88.09 | 122.8 | 136 | 18 | 520.2 | 0.00 | 6.86 | | |
| | | -136.0 | 127.6 | 152 | 18 | 581.4 | 6.86 | | | |
| 2075 | 16 | 40.30 | 122.8 | 136 | 18 | 520.2 | 0.00 | 30.46 | | |
| | | -354.9 | 127.6 | 152 | 30 | 831.6 | 30.5 | | | |
| 2076 | 17 | -47.47 | 122.8 | 136 | 18 | 520.2 | 0.00 | 53.50 | | |
| | | -537.6 | 127.6 | 152 | 33 | 889.7 | 53.5 | | | |
| 2078 | 16 | -39.85 | 122.8 | 136 | 18 | 520.2 | 0.00 | 7.31 | | |
| | | -145.0 | 127.6 | 152 | 18 | 581.4 | 7.31 | | | |
| 2090 | 32 | 18.79 | 122.8 | 136 | 18 | 520.2 | 0.00 | 7.48 | | |
| | | -148.3 | 127.6 | 152 | 18 | 581.4 | 7.48 | | | |
| 2092 | 14 | 12.16 | 122.8 | 136 | 18 | 520.2 | 0.00 | 65.27 | | |
| | | -631.0 | 127.6 | 152 | 34 | 902.9 | 65.3 | | | |
| 2093 | 15 | -35.30 | 122.8 | 136 | 18 | 520.2 | 0.00 | 22.80 | | |
| | | -294.2 | 127.6 | 152 | 27 | 786.4 | 22.8 | | | |
| 2154 | 18 | -74.54 | 122.8 | 136 | 18 | 520.2 | 0.00 | 8.42 | | |
| | | -166.9 | 127.6 | 152 | 18 | 581.4 | 8.42 | | | |
| 2726 | 2 | 576.05 | 129.5 | 136 | 34 | 809.1 | 66.9 | 66.89 | | |
| | | 1.68 | 127.6 | 152 | 18 | 581.4 | 0.00 | | | |
| 3452 | 22 | 184.34 | 140.6 | 136 | 21 | 569.9 | 11.7 | 11.69 | | |
| | | 15.63 | 127.6 | 152 | 18 | 581.4 | 0.00 | | | |
| 3453 | 20 | -185.5 | 122.8 | 136 | 21 | 573.1 | 11.8 | 11.85 | | |
| | | 16.72 | 127.6 | 152 | 18 | 581.4 | 0.00 | | | |
| 3525 | 21 | -335.7 | 142.9 | 141 | 30 | 776.4 | 31.2 | 46.24 | | |
| | | 232.36 | 146.0 | 152 | 23 | 699.7 | 15.0 | | | |
| 3526 | 31 | 177.76 | 142.9 | 141 | 19 | 548.2 | 9.81 | 9.81 | | |
| | | -89.75 | 127.6 | 152 | 18 | 581.4 | 0.00 | | | |
| 4468 | 8 | -197.7 | 142.9 | 141 | 21 | 609.0 | 12.5 | 12.52 | | |
| | | 5.97 | 146.0 | 152 | 18 | 581.4 | 0.00 | | | |
| 4629 | 3 | -81.74 | 122.8 | 136 | 18 | 520.2 | 0.00 | 7.34 | | |
| | | 145.55 | 127.6 | 152 | 18 | 581.4 | 7.34 | | | |
| 4687 | 1 | 512.36 | 140.6 | 136 | 34 | 801.1 | 57.9 | 57.91 | | |
| | | 0.35 | 127.6 | 152 | 18 | 581.4 | 0.00 | | | |
| 5159 | 30 | 26.14 | 156.6 | 140 | 18 | 535.5 | 0.00 | 8.41 | | |
| | | -166.7 | 146.0 | 152 | 18 | 581.4 | 8.41 | | | |
| 5187 | 29 | -24.72 | 140.6 | 136 | 18 | 520.2 | 0.00 | 10.83 | | |
| | | -199.3 | 146.0 | 152 | 20 | 616.7 | 10.8 | | | |
| 5269 | 13 | 82.11 | 122.8 | 136 | 18 | 520.2 | 0.00 | 10.98 | | |

| Knoten | Lkn | $V_{Ed,r}$ $V_{Ed,s}$ [kN/m] | $V_{Rd,c}$ [kN/m] | z [mm] | $V_{Rd,max}$ [kN/m] | $a_{sw,r}$ $a_{sw,s}$ mm | a_{sw} mm |
|--------|-----|------------------------------------|----------------------|-------------|------------------------|--------------------------------|----------------|
| | | 200.40 | 127.6 | 152 | 20 | 620.2 | 11.0 |
| 5314 | 11 | 46.69 | 140.6 | 136 | 18 | 520.2 | 0.00 |
| | | 221.28 | 146.0 | 152 | 22 | 676.0 | 13.6 |
| 5315 | 10 | -323.1 | 140.6 | 136 | 30 | 747.2 | 31.2 |
| | | 568.07 | 146.0 | 152 | 34 | 894.7 | 57.3 |
| 5338 | 29 | -21.29 | 140.6 | 136 | 18 | 520.2 | 0.00 |
| | | 213.72 | 146.0 | 152 | 21 | 657.7 | 12.7 |
| 5341 | 12 | 106.05 | 140.6 | 136 | 18 | 520.2 | 0.00 |
| | | 239.52 | 146.0 | 152 | 24 | 713.3 | 15.9 |
| 5390 | 28 | -45.08 | 140.6 | 136 | 18 | 520.2 | 0.00 |
| | | 151.16 | 146.0 | 152 | 18 | 581.4 | 7.62 |
| 5418 | 27 | 35.41 | 140.6 | 136 | 18 | 520.2 | 0.00 |
| | | 157.32 | 146.0 | 152 | 18 | 581.4 | 7.93 |
| 6148 | 25 | 35.26 | 140.6 | 136 | 18 | 520.2 | 0.00 |
| | | 192.91 | 160.7 | 152 | 19 | 595.7 | 10.0 |

***: Querkraftversagen



Grüne Bereiche: $V_{Ed} / V_{Rd,max} < 0,3 \rightarrow$ Querkraftbewehrung kann mit Hilfe von Abstandshaltern abgedeckt werden. Die Abstandshalter müssen in die Lagen der Längsbewehrung eingebunden und bis in die Zugzone geführt werden.

Rote Bereiche: $V_{Ed} / V_{Rd,max} > 0,3$ -> Querkraftbewehrung muss durch zusätzliche Bügel realisiert werden.

*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke -> nicht zu berücksichtigen

**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand -> nicht zu berücksichtigen

Verhältnis:
$$- V_{Ed} / V_{Rd,max} -$$

A B C E F G I J

8.5 m 2.75 m 2.75 m 0.75 m 7.75 m 3.5 m 5.5 m

1

2

3

4

5

6

7

2.6 m

5.9 m

2.75 m

10 m

2.75 m

2.75 m

8.5 m

A

B

D

E

H

I

J

8.5 m 3.5 m 2 m 9.25 m 2.75 m 5.5 m

2

3

4

5

6

7

2.6 m

5.9 m

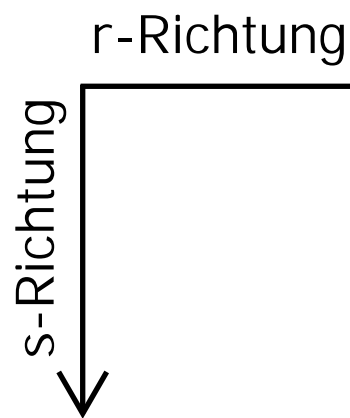
2.75 m

10 m

2.75 m

2.75 m

8.5 m



Grüne Bereiche: $V_{Ed} / V_{Rd,max} < 0,3$ -> Querkraftbewehrung kann mit Hilfe von Abstandshaltern abgedeckt werden. Die Abstandshalter müssen in die Lagen der Längsbewehrung eingebunden und bis in die Zugzone geführt werden.

Rote Bereiche: $V_{Ed} / V_{Rd,max} > 0,3$ -> Querkraftbewehrung muss durch zusätzliche Bügel realisiert werden.

*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke -> nicht zu berücksichtigen

**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand -> nicht zu berücksichtigen

→ Knoten mit Querkraftversagen

| | | |
|--------------------|--|---------------------------|
| Querkraftbemessung | Modell | Tab |
| Max = 0.7, Min = 0 | KREBS+KIEFER KREBS+KIEFER Ingenieure GmbH | D-132 MicroFe 2025.015 |

A B C E F G I J

8.5 m 2.75 m 2.75 m 0.75 m 7.75 m 3.5 m 5.5 m

1

2

3

4

5

6

7

2.6 m

5.9 m

2.75 m

10 m

2.75 m

2.75 m

8.5 m

8.5 m 3.5 m 2 m 9.25 m 2.75 m 5.5 m

A B D E H I J

Legende:

$a_{sw, gew} = 39,25 \text{ cm}^2/\text{m}^2$ (aus RD-01)

*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke -> nicht zu berücksichtigen

**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand -> nicht zu berücksichtigen

Hier zusätzliche Bügellreihe, gesichert mit Längseisen analog zu RD-01 Ø10/10/20
 $a_{s, vorh} = 39,25 \text{ cm}^2/\text{m}^2$

RD-01

RD-01

RD-01

RD-01

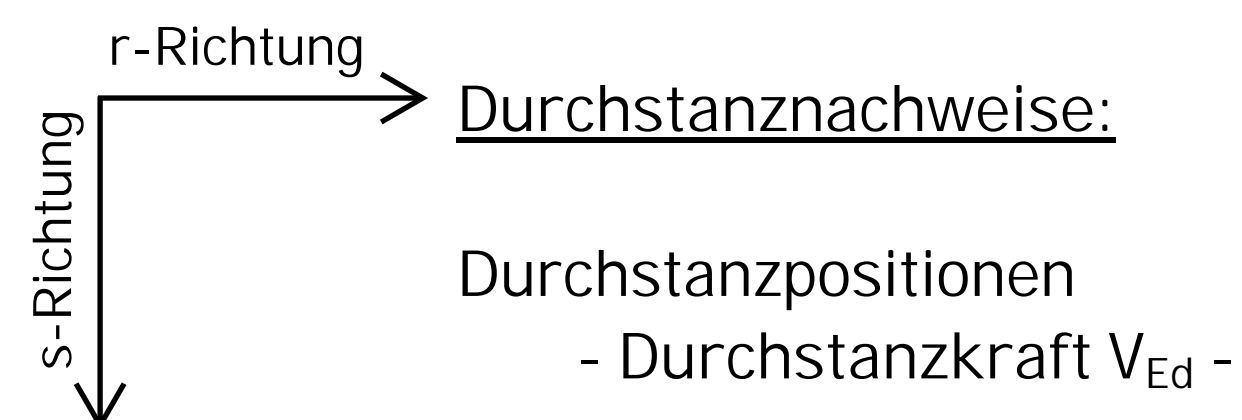
RD-01

→ Nachweis wurde nicht erbracht

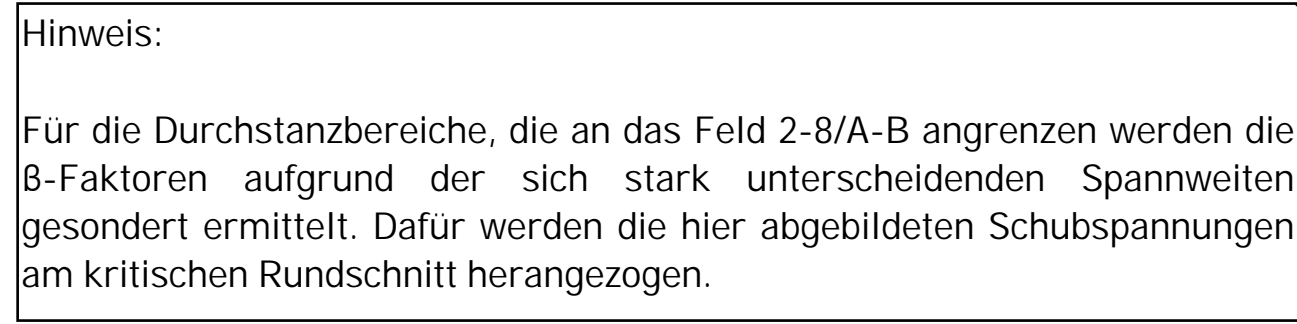
Querkraftbemessung:

- $a_{s, erf}$ -

| | | |
|----------------------------------|--|------------------|
| Querkraftbemessung | Modell | Tab |
| Max = 149.25, Min = 0, Step = 20 | Bauvorhaben Schulcampus EWK Schwesternschule | D-133 |
| | KREBS+KIEFER Ingenieure GmbH | MicroFe 2025.015 |



D-134
MicroFe 2025.015



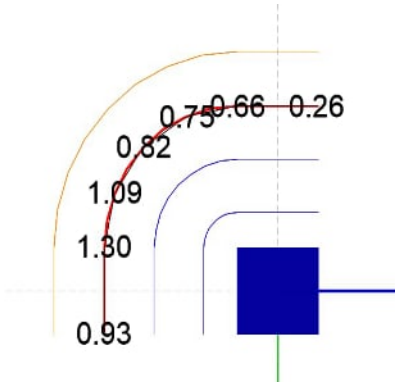
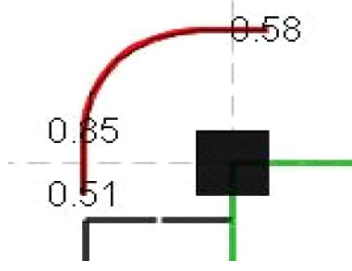
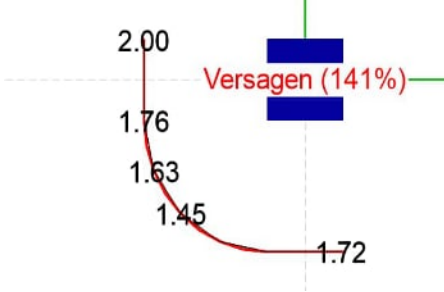
r-Richtung
 s-Richtung

Durchstanznachweise:
 Ermittlung β -Faktoren
 - Schubspannungsverlauf V_{Ed} -

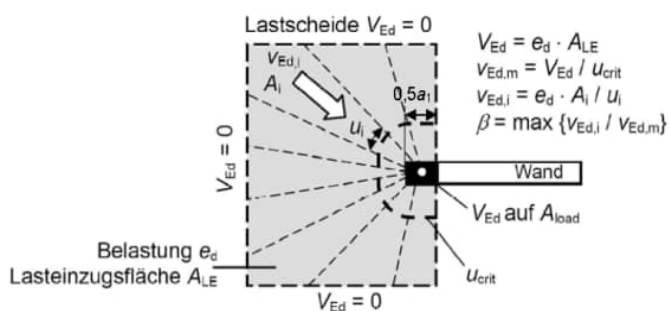
| Decke ü. 2.OG: Durchstanznachweise - Übersicht | | | | | | | | | | | | | |
|--|------------|------------------------|-------|------|-------------------|-----|-----------------|---------------------|----------------------------|----------------------------|-------------|--|-----------|
| DS-Typ | DS-Bereich | Querschnitt (b x l) | Decke | | maßg. β-Faktor | d' | V _{Ed} | β * V _{ed} | angesetzte Bewehrung | | | erforderliche Dübelleisten | Bemerkung |
| | | | h | d | | | | | | | | | |
| | | | [cm] | [cm] | | | | | Grundbewehrung | Zulagen | SUMME Σ | | |
| DS_25_01 | Wandecke | 25,0 | 25,0 | 20,4 | 1,60 | 4,6 | ≤ 200 | 320,0 | Ø16/10 (= 20,11 cm²/m) | - | 20,11 cm²/m | 3x1xHDB-14/195-2/280 3x1xHDB-14/195-3/420 | |
| DS_25_02 | Wandecke | 25,0 | 25,0 | 20,4 | 1,30 | 4,6 | ≤ 135 | 175,5 | Ø16/10 (= 20,11 cm²/m) | - | 20,11 cm²/m | - | |
| DS_25_03 | Wandecke | 25,0 | 25,0 | 20,4 | 1,20 | 4,6 | ≤ 325 | 390,0 | Ø16/10 (= 20,11 cm²/m) | Ø16/10 (= 10,05 cm²/m) | 30,16 cm²/m | 4x1xHDB-12/195-3/420 4x2xHDB-12/195-2/280 | |

Berechnung β -Faktor

-> Gesonderte Berechnung aufgrund von sich stark unterscheidenden Spannweiten

| <p>DS-2.1</p> <table border="1"> <thead> <tr> <th></th> <th>$v_{ed,crit}$</th> </tr> </thead> <tbody> <tr><td></td><td>0,26</td></tr> <tr><td></td><td>0,66</td></tr> <tr><td></td><td>0,75</td></tr> <tr><td></td><td>0,82</td></tr> <tr><td></td><td>1,09</td></tr> <tr><td></td><td>1,3</td></tr> <tr><td></td><td>0,93</td></tr> <tr> <td>$v_{ed,m} =$</td> <td>0,83</td> </tr> </tbody> </table> <p>$\beta = \max(v_{ed,crit}/v_{ed,m}) = 1,57$</p> | | $v_{ed,crit}$ | | 0,26 | | 0,66 | | 0,75 | | 0,82 | | 1,09 | | 1,3 | | 0,93 | $v_{ed,m} =$ | 0,83 |  |
|---|---------------|---------------|--|------|--|------|--|------|--------------|------|---|------|--------------|-------|--|------|--------------|------|--|
| | $v_{ed,crit}$ | | | | | | | | | | | | | | | | | | |
| | 0,26 | | | | | | | | | | | | | | | | | | |
| | 0,66 | | | | | | | | | | | | | | | | | | |
| | 0,75 | | | | | | | | | | | | | | | | | | |
| | 0,82 | | | | | | | | | | | | | | | | | | |
| | 1,09 | | | | | | | | | | | | | | | | | | |
| | 1,3 | | | | | | | | | | | | | | | | | | |
| | 0,93 | | | | | | | | | | | | | | | | | | |
| $v_{ed,m} =$ | 0,83 | | | | | | | | | | | | | | | | | | |
| <p>DS-2.2</p> <table border="1"> <thead> <tr> <th></th> <th>$v_{ed,crit}$</th> </tr> </thead> <tbody> <tr><td></td><td>0,58</td></tr> <tr><td></td><td>0,85</td></tr> <tr><td></td><td>0,51</td></tr> <tr> <td>$v_{ed,m} =$</td> <td>0,65</td> </tr> </tbody> </table> <p>$\beta = \max(v_{ed,crit}/v_{ed,m}) = 1,31$</p> | | $v_{ed,crit}$ | | 0,58 | | 0,85 | | 0,51 | $v_{ed,m} =$ | 0,65 |  | | | | | | | | |
| | $v_{ed,crit}$ | | | | | | | | | | | | | | | | | | |
| | 0,58 | | | | | | | | | | | | | | | | | | |
| | 0,85 | | | | | | | | | | | | | | | | | | |
| | 0,51 | | | | | | | | | | | | | | | | | | |
| $v_{ed,m} =$ | 0,65 | | | | | | | | | | | | | | | | | | |
| <p>DS-2.3</p> <table border="1"> <thead> <tr> <th></th> <th>$v_{ed,crit}$</th> </tr> </thead> <tbody> <tr><td></td><td>2</td></tr> <tr><td></td><td>1,76</td></tr> <tr><td></td><td>1,63</td></tr> <tr><td></td><td>1,45</td></tr> <tr><td></td><td>1,72</td></tr> <tr> <td>$v_{ed,m} =$</td> <td>1,712</td> </tr> </tbody> </table> <p>$\beta = \max(v_{ed,crit}/v_{ed,m}) = 1,17$</p> | | $v_{ed,crit}$ | | 2 | | 1,76 | | 1,63 | | 1,45 | | 1,72 | $v_{ed,m} =$ | 1,712 |  <p>-> gew. 1,2 (nach Norm)</p> | | | | |
| | $v_{ed,crit}$ | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | | |
| | 1,76 | | | | | | | | | | | | | | | | | | |
| | 1,63 | | | | | | | | | | | | | | | | | | |
| | 1,45 | | | | | | | | | | | | | | | | | | |
| | 1,72 | | | | | | | | | | | | | | | | | | |
| $v_{ed,m} =$ | 1,712 | | | | | | | | | | | | | | | | | | |

Übersicht zu Ermittlung β -Faktor aus EC2:



HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71



Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Innenecke (Ortbetonplatte)

| | | | |
|--|-------------------------|---|-------------------------------------|
| Bemessungswert Durchstanzlast | V_{Ed} | = | 200,0 kN |
| Lasterhöhungsfaktor | β | = | 1,60 |
| Plattendicke | h | = | 25 cm |
| statische Nutzhöhe | d | = | 20,4 cm |
| Wanddicke | b | = | 25 cm |
| Einflussbreite | a | = | 30,6 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = | 3 cm / 3 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = | C30/37 / B500 / B500 |
| Durchmesser / Abstand | | = | Ø16 / 100 mm ($\rho_x = 0,99 \%$) |
| Durchmesser / Abstand | | = | Ø16 / 100 mm ($\rho_y = 0,99 \%$) |
| Längsbewehrungsgrad | ρ_l | = | 0,99 % < 1,95 % |

am kritischen Rundschnitt u_l

Rundschnittführung analog Innenstütze

| | | | |
|--|------------|---|--------------------------|
| bezogener Stützenumfang | u_0 / d | = | 6 |
| u_l | | = | 125,3 cm |
| $k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ | | = | 1,99 |
| Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 | $C_{Rd,c}$ | = | 0,12 |
| $v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ | | = | 738,58 kN/m ² |
| $v_{Rd,c,2} = v_{min} = 0,0525 \gamma_C \cdot k^{3/2} \cdot f_{ck}^{1/2}$ | | = | 538,22 kN/m ² |
| $V_{Rd,c} = \max \{ v_{Rd,c,1} ; v_{Rd,c,2} \} \cdot u_l \cdot d = 188,8 \text{ kN} < 320,0 \text{ kN} = V_{Ed} \cdot \beta$ | | | |
| $V_{Rd,max} = 1,96 \cdot V_{Rd,c} = 370,0 \text{ kN} > 320,0 \text{ kN} = V_{Ed} \cdot \beta$ | | | |

am äußeren Rundschnitt u_{out}

$u_{out, req} = 195 \text{ cm} < 208,2 \text{ cm} = u_{out, prov}$: Rundschnittführung analog Innenstütze

| | | | |
|--|----------------|---|--------------------------|
| $l_{s, req} = 54,6 \text{ cm} < 63 \text{ cm} = l_{s, prov}$ | | | |
| $\beta_{red} = \max \{ \beta / (1,2 + \beta \cdot l_{s, prov} / (40 \cdot d)) ; 1,1 \}$ | | = | 1,21 |
| Vorfaktor für $v_{Rd,c,out,1}$ nach DIN EN 1992-1-1/NA:2013-04 | $C_{Rd,c,out}$ | = | 0,10 |
| $v_{Rd,c,out,1} = C_{Rd,c,out} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ | | = | 615,49 kN/m ² |
| $v_{Rd,c,out,2} = v_{min} = 0,0525 \gamma_C \cdot k^{3/2} \cdot f_{ck}^{1/2}$ | | = | 538,22 kN/m ² |
| $V_{Rd,c,out} = \max \{ v_{Rd,c,out,1} ; v_{Rd,c,out,2} \} \cdot u_{out, prov} \cdot d = 261,4 \text{ kN} > 241,8 \text{ kN} = V_{Ed} \cdot \beta_{red}$ | | | |

| | | | | | |
|--------------------------|-------|-------|-------|-------|-------|
| Ankerdurchmesser d_A : | 12 mm | 14 mm | 16 mm | 20 mm | 25 mm |
| Bereich C : | 7 | 5 | 4 | 3 | 2 |

| | | |
|----------|---------|------------------|
| Gewählt: | innen : | HDB-14/195-2/280 |
| | außen : | HDB-14/195-3/420 |

Anzahl der Kombinationen pro Stütze $m_C = 3$ Anzahl der Stützen = 1

$$V_{Rd,sy} = m_C \cdot n_C \cdot d_A^2 / 4 \cdot \pi \cdot f_{yd} / \eta = 400,0 \text{ kN} > 320,0 \text{ kN} = V_{Ed} \cdot \beta \quad (\eta = 1,00)$$

Elementabstand innen / außen = 30,3 cm / 62,6 cm

Hinweis: Für die Abreibbewehrung ist DIN EN 1992-1-1/NA:2013-04 zu berücksichtigen:

$$A_s = V_{Ed} / (1,4 \cdot f_{yk}) = 2,9 \text{ cm}^2$$

HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71

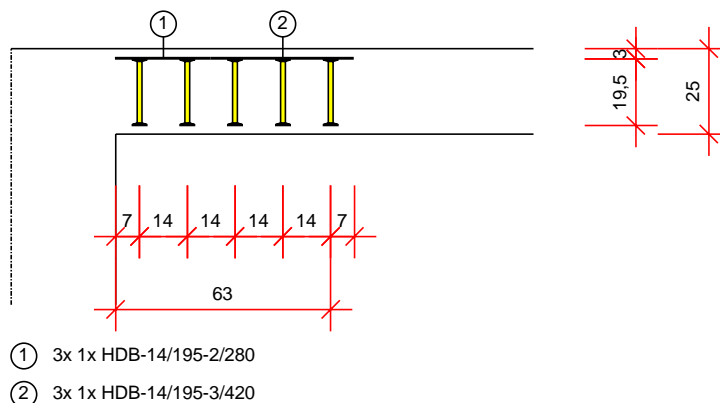


Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

Schnitt

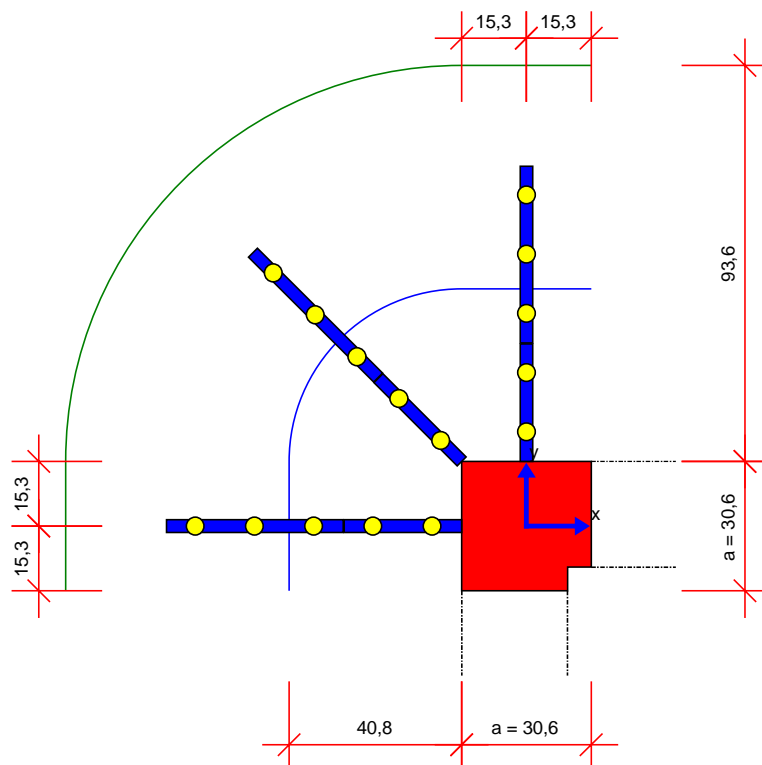
M 1:21



[cm]

Grundriss

M 1:18



Mindeststablängen: $l_{bar,min,x} = 144,6 \text{ cm} + 2 \cdot l_{bd}$; $l_{bar,min,y} = 144,6 \text{ cm} + 2 \cdot l_{bd}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

Die Stäbe sind beginnend vom Anschnitt der Wand mindestens $114 \text{ cm} + l_{bd}$ in die Platte zu führen.

HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71



Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Innenecke (Ortbetonplatte)

| | | | |
|--|-------------------------|---|--|
| Bemessungswert Durchstanzlast | V_{Ed} | = | 135,0 kN |
| Lasterhöhungsfaktor | β | = | 1,30 |
| Plattendicke | h | = | 25 cm |
| statische Nutzhöhe | d | = | 20,4 cm |
| Wanddicke | b | = | 25 cm |
| Einflussbreite | a | = | 30,6 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = | 3 cm / 3 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = | C30/37 / B500 / B500 |
| Durchmesser / Abstand | | = | $\varnothing 16 / 100$ mm ($\rho_x = 0,99$ %) |
| Durchmesser / Abstand | | = | $\varnothing 16 / 100$ mm ($\rho_y = 0,99$ %) |
| Längsbewehrungsgrad | ρ_l | = | 0,99 % < 1,95 % |

am kritischen Rundschnitt u_1

Rundschnittführung analog Innenstütze

| | | | |
|--|------------|---|--------------------------|
| bezogener Stützenumfang | u_0 / d | = | 6 |
| u_1 | | = | 125,3 cm |
| $k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ | | = | 1,99 |
| Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 | $C_{Rd,c}$ | = | 0,12 |
| $v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ | | = | 738,58 kN/m ² |
| $v_{Rd,c,2} = v_{min} = 0,0525/\gamma_C \cdot k^{3/2} \cdot f_{ck}^{1/2}$ | | = | 538,22 kN/m ² |
| $V_{Rd,c} = \max \{ v_{Rd,c,1} ; v_{Rd,c,2} \} \cdot u_1 \cdot d = 188,8 \text{ kN} > 175,5 \text{ kN} = V_{Ed} \cdot \beta$ | | | |

Keine Durchstanzbewehrung erforderlich

Hinweis: Für die Abreißbewehrung ist DIN EN 1992-1-1/NA:2013-04 zu berücksichtigen:

$$A_s = V_{Ed} / (1,4 \cdot f_{yk}) = 1,9 \text{ cm}^2$$

HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71

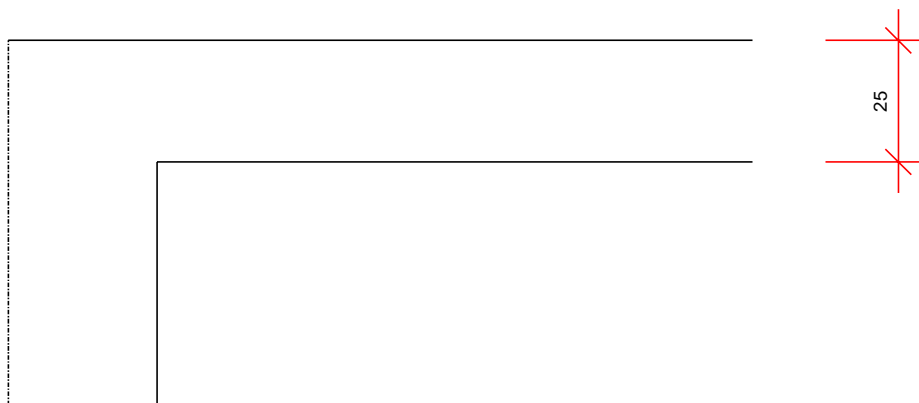


Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

Schnitt

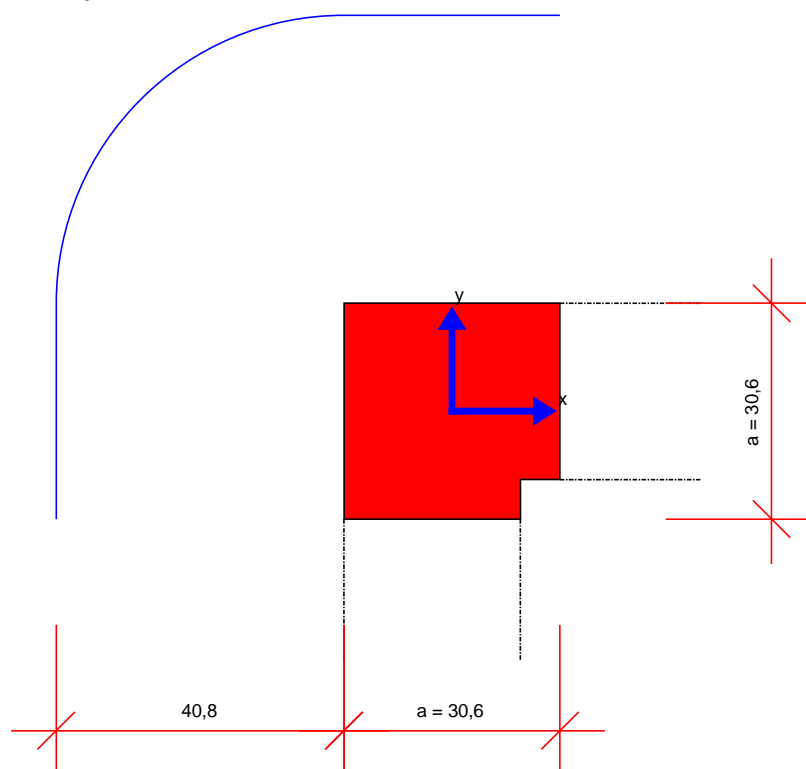
M 1:15



[cm]

Grundriss

M 1:10



Mindeststablängen: $l_{\text{bar,min,x}} = 91,8 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 91,8 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

Die Stäbe sind beginnend vom Anschnitt der Wand mindestens $61,2 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71



Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Innenecke (Ortbetonplatte)

| | | | |
|--|-------------------------|---|---|
| Bemessungswert Durchstanzlast | V_{Ed} | = | 325,0 kN |
| Lasterhöhungsfaktor | β | = | 1,20 |
| Plattendicke | h | = | 25 cm |
| statische Nutzhöhe | d | = | 20,4 cm |
| Wanddicke | b | = | 25 cm |
| Einflussbreite | a | = | 30,6 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = | 3 cm / 3 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = | C30/37 / B500 / B500 |
| Flächenbewehrung | a_{sx} | = | 30,16 cm ² /m ($\rho_x = 1,48 \%$) |
| Flächenbewehrung | a_{sy} | = | 30,16 cm ² /m ($\rho_y = 1,48 \%$) |
| Längsbewehrungsgrad | ρ_l | = | 1,48 % < 1,95 % |

am kritischen Rundschnitt u_1

Rundschnittführung analog Innenstütze

| | | | |
|--|------------|---|--------------------------|
| bezogener Stützenumfang | u_0 / d | = | 6 |
| u_1 | | = | 125,3 cm |
| $k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ | | = | 1,99 |
| Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 | $C_{Rd,c}$ | = | 0,12 |
| $v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ | | = | 845,28 kN/m ² |
| $v_{Rd,c,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2}$ | | = | 538,22 kN/m ² |
| $v_{Rd,c} = \max \{ v_{Rd,c,1} ; v_{Rd,c,2} \} \cdot u_1 \cdot d = 216,0 \text{ kN} < 390,0 \text{ kN} = V_{Ed} \cdot \beta$ | | | |
| $v_{Rd,max} = 1,96 \cdot v_{Rd,c} = 423,4 \text{ kN} > 390,0 \text{ kN} = V_{Ed} \cdot \beta$ | | | |

am äußeren Rundschnitt u_{out}

$u_{out, req} = 248,8 \text{ cm} < 252,2 \text{ cm} = u_{out, prov}$: Rundschnittführung analog Innenstütze

| | | | |
|--|----------------|---|--------------------------|
| $l_{s, req} = 88,8 \text{ cm} < 91 \text{ cm} = l_{s, prov}$ | | | |
| $\beta_{red} = \max \{ \beta / (1,2 + \beta \cdot l_{s, prov} / (40 \cdot d)) ; 1,1 \}$ | | = | 1,10 |
| Vorfaktor für $v_{Rd,c,out,1}$ nach DIN EN 1992-1-1/NA:2013-04 | $C_{Rd,c,out}$ | = | 0,10 |
| $v_{Rd,c,out,1} = C_{Rd,c,out} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ | | = | 704,4 kN/m ² |
| $v_{Rd,c,out,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2}$ | | = | 538,22 kN/m ² |
| $v_{Rd,c,out} = \max \{ v_{Rd,c,out,1} ; v_{Rd,c,out,2} \} \cdot u_{out, prov} \cdot d = 362,4 \text{ kN} > 357,5 \text{ kN} = V_{Ed} \cdot \beta_{red}$ | | | |

| | | | | | |
|--------------------------|-------|-------|-------|-------|-------|
| Ankerdurchmesser d_A : | 12 mm | 14 mm | 16 mm | 20 mm | 25 mm |
| Bereich C : | 8 | 6 | 5 | 3 | 2 |

| | | |
|----------|---------|----------------------|
| Gewählt: | innen : | HDB-12/195-3/420 |
| | außen : | 2 x HDB-12/195-2/280 |

Anzahl der Kombinationen pro Stütze $m_c = 4$ Anzahl der Stützen = 1

$$V_{Rd,sy} = m_c \cdot n_c \cdot d_A^2 / 4 \cdot \pi \cdot f_{yd} / \eta = 391,8 \text{ kN} > 390,0 \text{ kN} = V_{Ed} \cdot \beta \quad (\eta = 1,00)$$

Elementabstand innen / außen = 25,6 cm / 62 cm

Hinweis: Für die Abreibbewehrung ist DIN EN 1992-1-1/NA:2013-04 zu berücksichtigen:

$$A_s = V_{Ed} / (1,4 \cdot f_{yk}) = 4,6 \text{ cm}^2$$

HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71

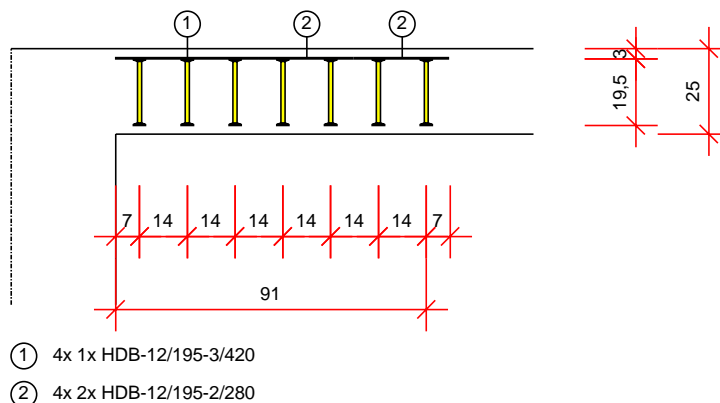


Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

Schnitt

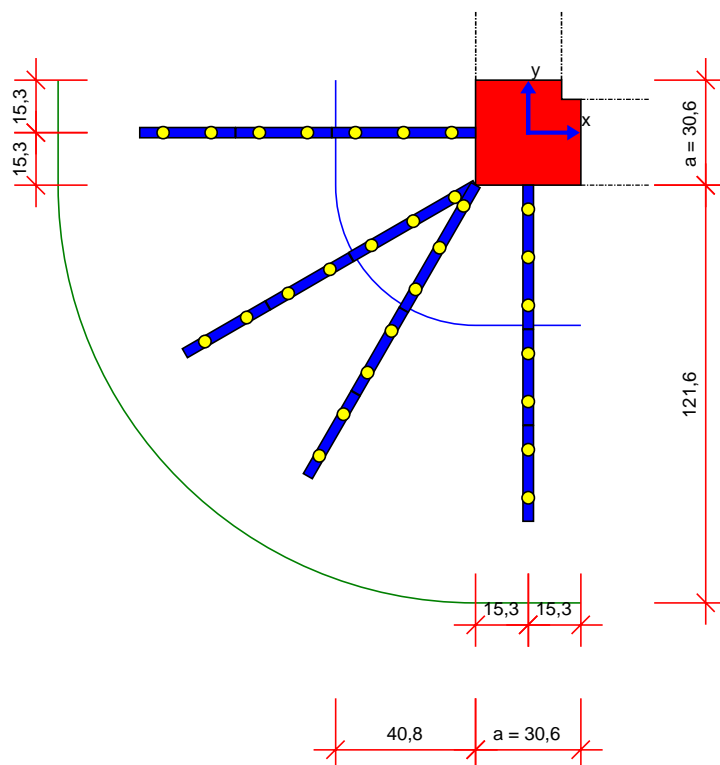
M 1:21



[cm]

Grundriss

M 1:22



Mindeststablängen: $l_{\text{bar,min,x}} = 172,6 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 172,6 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

Die Stäbe sind beginnend vom Anschnitt der Wand mindestens $142 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

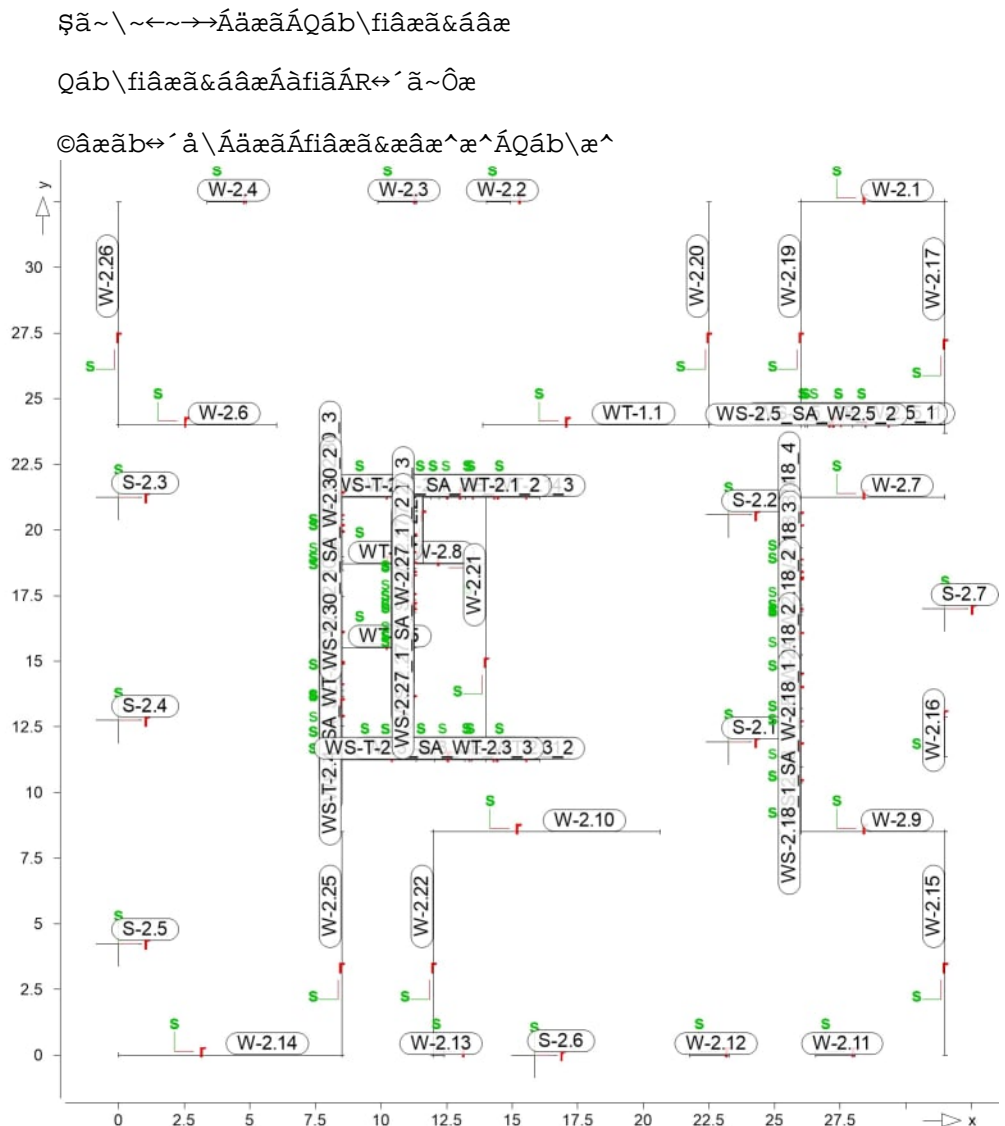
Lastübergabe

y Vyf [UVY

@Ugh~ Vyf [UVY

Mi croFe

Posi ti onsgrafi k



Die vertikalen Auflagerreaktionen werden
→áb\àá→→}æ↔bæÃ~ |ãÃQáb\fiâæã^áâ↑æÃâæãæ↔\&æb\æ→→\ÈÃ
Ó↔^b*á^↑~↑æ^æÃâ→æ↔âæ^Ã |^âæãfi'↔b↔'â↔&\E

Kleine Lasten (< 0.01 kN bzw. kN/m) werden nicht lastfallweise ausgegeben, sondern als Lastsumme zusammengefasst.
Lasten bis zu einer Summe von 0.01 kN pro Position }æãääæ^Ã{æã^á^â→↑bb↔&\lÃää↔æÃN|b}æã\|^Ãæää~→&\Ã
getrennt nach positiver und negativer Wirkungsrichtung.

Punktlasten

| | Position | EW | Lastfall | Art | P [kN] |
|------|----------|--------|----------|-----|-----------|
| (g1) | S-2.1 | Gk | LF-1 | PGr | 20.36 |
| | | Gk | LF-1 | PGr | 196.12 |
| | | Qk.N_D | LF-3 | PGr | -42.12 |
| | | A | | | |
| | | Qk.N_D | LF-4 | PGr | 0.20 |
| | | A | | | |
| | | Qk.N_D | LF-5 | PGr | -0.29 |
| | | A | | | |
| | | Qk.N_D | LF-6 | PGr | 1.07 |
| | | A | | | |
| | | Qk.N_D | LF-8 | PGr | -0.08 |
| | | A | | | |
| | | Qk.N_D | LF-9 | PGr | 0.10 |
| | | A | | | |
| | | Qk.N_D | LF-10 | PGr | 41.28 |
| | | A | | | |
| | | Qk.N_D | LF-11 | PGr | -2.31 |
| | | A | | | |
| | | Qk.N_D | LF-12 | PGr | 23.13 |
| | | A | | | |
| | | Qk.N_D | LF-13 | PGr | 29.55 |
| | | A | | | |
| | | Qk.N_E | LF-17 | PGr | -21.83 |
| | | 1 | | | |
| | | Ö← | LF-2 | PGr | 18.03 |
| (g1) | S-2.2 | Gk | LF-1 | PGr | 20.36 |
| | | Gk | LF-1 | PGr | 251.31 |
| | | Qk.N_D | LF-3 | PGr | 4.08 |
| | | A | | | |
| | | Qk.N_D | LF-4 | PGr | -0.02 |
| | | A | | | |
| | | Qk.N_D | LF-5 | PGr | 0.04 |
| | | A | | | |
| | | Qk.N_D | LF-6 | PGr | -12.49 |
| | | A | | | |
| | | Qk.N_D | LF-7 | PGr | 0.11 |
| | | A | | | |
| | | Qk.N_D | LF-8 | PGr | -0.06 |
| | | A | | | |
| | | Qk.N_D | LF-9 | PGr | 0.11 |
| | | A | | | |
| | | Qk.N_D | LF-10 | PGr | 40.04 |
| | | A | | | |
| | | Qk.N_D | LF-11 | PGr | 28.83 |
| | | A | | | |
| | | Qk.N_D | LF-12 | PGr | -1.75 |
| | | A | | | |
| | | Qk.N_D | LF-13 | PGr | 21.97 |
| | | A | | | |
| | | Qk.N_E | LF-17 | PGr | -11.45 |
| | | 1 | | | |
| | | Ö← | LF-2 | PGr | 36.73 |
| (g1) | S-2.3 | Gk | LF-1 | PGr | 5.66 |
| | | Gk | LF-1 | PGr | 179.00 |

| Position | EW | Lastfall | Art | P [kN] |
|------------|----------|-----------|-----|-----------|
| | Gk | #1 LF-1 | PGr | -0.21 |
| | Qk . N_D | LF-3 | PGr | -0.06 |
| | A | | | |
| | Qk . N_D | LF-4 | PGr | 0.05 |
| | A | | | |
| | Qk . N_D | LF-5 | PGr | 63.89 |
| | A | | | |
| | Qk . N_D | LF-6 | PGr | -10.65 |
| | A | | | |
| | Qk . N_D | LF-11 | PGr | -0.06 |
| | A | | | |
| | Qk . N_D | LF-14 | PGr | -0.02 |
| | A | | | |
| | Qk . N_D | LF-15 | PGr | -0.04 |
| | A | | | |
| | Qk . N_D | LF-16 | PGr | -0.02 |
| | A | | | |
| | Qk . N_D | #1 LF-4 | PGr | -0.01 |
| | A | | | |
| | Qk . N_E | LF-21 | PGr | -0.02 |
| | 1 | | | |
| | Qk . N_E | LF-22 | PGr | 0.02 |
| | 1 | | | |
| | Qk . N_E | LF-23 | PGr | -0.01 |
| | 1 | | | |
| | Ö← | LF-2 | PGr | 65.22 |
| | Ö← | #1 LF-2 | PGr | -0.02 |
| (g1) S-2.4 | Gk | LF-1 | PGr | 5.66 |
| | Gk | LF-1 | PGr | 367.06 |
| | Gk | #1 LF-1 | PGr | -0.45 |
| | Qk . N_D | LF-3 | PGr | 0.17 |
| | A | | | |
| | Qk . N_D | LF-4 | PGr | -0.15 |
| | A | | | |
| | Qk . N_D | LF-5 | PGr | 132.23 |
| | A | | | |
| | Qk . N_D | LF-6 | PGr | -1.70 |
| | A | | | |
| | Qk . N_D | LF-11 | PGr | -0.03 |
| | A | | | |
| | Qk . N_D | LF-15 | PGr | -0.04 |
| | A | | | |
| | Qk . N_D | LF-16 | PGr | -0.10 |
| | A | | | |
| | Qk . N_D | #1 LF-4 | PGr | -0.01 |
| | A | | | |
| | Qk . N_D | #1 LF-7 | PGr | -0.06 |
| | A | | | |
| | Qk . N_E | LF-21 | PGr | -0.02 |
| | 1 | | | |
| | Qk . N_E | LF-22 | PGr | 0.05 |
| | 1 | | | |
| | Qk . N_E | LF-23 | PGr | -0.06 |
| | 1 | | | |

| Position | EW | Lastfall | Art | P [kN] |
|------------|--------|-----------|-----|-----------|
| (g1) S-2.5 | Ö← | LF-2 | PGr | 130.33 |
| | Ö← | #1 LF-2 | PGr | -0.04 |
| | Gk | LF-1 | PGr | 5.66 |
| | Gk | LF-1 | PGr | 241.87 |
| | Gk | #1 LF-1 | PGr | -0.03 |
| | Qk.N_D | LF-3 | PGr | 0.59 |
| | A | | | |
| | Qk.N_D | LF-4 | PGr | -0.51 |
| | A | | | |
| | Qk.N_D | LF-5 | PGr | 85.75 |
| | A | | | |
| | Qk.N_D | LF-6 | PGr | 0.59 |
| | A | | | |
| | Qk.N_D | LF-12 | PGr | -0.02 |
| | A | | | |
| | Qk.N_D | LF-16 | PGr | -0.01 |
| | A | | | |
| | Qk.N_D | #1 LF-7 | PGr | -0.01 |
| | A | | | |
| (g1) S-2.6 | Ö← | LF-2 | PGr | 86.25 |
| | Gk | LF-1 | PGr | 5.66 |
| | Gk | LF-1 | PGr | 140.12 |
| | Qk.N_D | LF-3 | PGr | 48.33 |
| | A | | | |
| | Qk.N_D | LF-4 | PGr | -2.13 |
| | A | | | |
| | Qk.N_D | LF-5 | PGr | 2.27 |
| | A | | | |
| | Qk.N_D | LF-10 | PGr | -0.15 |
| | A | | | |
| | Qk.N_D | LF-12 | PGr | -0.32 |
| | A | | | |
| | Qk.N_E | LF-17 | PGr | 0.02 |
| | 1 | | | |
| | Ö← | LF-2 | PGr | 50.93 |
| (g1) S-2.7 | Gk | LF-1 | PGr | 5.66 |
| | Gk | LF-1 | PGr | 101.52 |
| | Qk.N_D | LF-3 | PGr | 0.74 |
| | A | | | |
| | Qk.N_D | LF-6 | PGr | 0.03 |
| | A | | | |
| | Qk.N_D | LF-7 | PGr | -0.03 |
| | A | | | |
| | Qk.N_D | LF-8 | PGr | 0.42 |
| | A | | | |
| | Qk.N_D | LF-9 | PGr | -0.16 |
| | A | | | |
| | Qk.N_D | LF-10 | PGr | 0.06 |
| | A | | | |
| | Qk.N_D | LF-11 | PGr | 0.02 |
| | A | | | |
| | Qk.N_D | LF-12 | PGr | 0.02 |
| | A | | | |
| | Qk.N_D | LF-13 | PGr | 19.33 |

| Position | EW | Lastfall | Art | P [kN] |
|----------|----|----------|-----|-----------|
|----------|----|----------|-----|-----------|

| | | | | |
|--|--------------|--|-----|-------|
| | A | | | |
| | Qk.N_E LF-17 | | PGr | 10.45 |
| | 1 | | | |
| | Ö← LF-2 | | PGr | 37.66 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

(g1)

j Yf bUWV } gg] [hY
Lasten

á | bÁÖ↔&æ^&æ}↔' á \ ÁäæãÁU\fi \ ~æ

| Position | in Dokumentation | ↔^ÁQáb\fiâæã&ââæ positiv negativ [kN] [kN] [kN] |
|----------|------------------|---|
| S-2.1 | 0.00000 | 0.00230 -0.0031 |
| S-2.2 | 0.00000 | 0.00144 -0.0007 |
| S-2.3 | -0.02159 | 0.00431 -0.0042 |
| S-2.4 | -0.01801 | 0.00427 -0.0026 |
| S-2.5 | 0.00637 | 0.00324 -0.0057 |
| S-2.6 | 0.01332 | 0.00444 -0.0049 |
| S-2.7 | 0.00000 | 0.00017 -0.0001 |

Folgende Punktlastanteile werden wegen ihres geringen
Ö↔^â→|bbæbÁâæ↔ÁäæãÁQáb\fiâæã&ââæÁ{æã^á'â→#bb↔&\i

| Lastfall | Pt [kN] |
|-----------|------------|
| LF-4 | -0.00010 |
| LF-5 | 0.00017 |
| LF-6 | 0.00168 |
| LF-7 | -0.00258 |
| LF-8 | 0.00045 |
| LF-9 | -0.00004 |
| LF-10 | 0.00042 |
| LF-11 | -0.00070 |
| LF-12 | 0.00003 |
| LF-13 | 0.00006 |
| LF-14 | -0.00215 |
| LF-15 | 0.00001 |
| LF-16 | 0.00067 |
| LF-17 | 0.00021 |
| LF-18 | 0.00108 |
| LF-19 | 0.00112 |
| LF-20 | 0.00326 |
| LF-21 | -0.00001 |
| LF-22 | 0.00030 |
| LF-23 | 0.00060 |
| #1 LF-1 | -0.00147 |
| #1 LF-2 | -0.00107 |
| #1 LF-3 | -0.00117 |
| #1 LF-4 | 0.00043 |
| #1 LF-5 | -0.00125 |
| #1 LF-6 | 0.00123 |
| #1 LF-7 | 0.00065 |
| #1 LF-8 | -0.00293 |

Linienlasten

Blocklasten der einzelnen Abschnitte in
Gravitationsrichtung

W-2.1

| | Lastfall | Lasten (8 Abschnitte je 0.69m) | | | | | | | [kN/m] |
|---------|----------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| Gk | LF-1 (g) | 24.63 | 35.03 | 39.87 | 42.48 | 43.22 | 42.72 | 39.71 | |
| | | 21.89 | | | | | | | |
| Ö← | LF-2 | 8.63 | 14.07 | 15.80 | 16.58 | 16.80 | 16.64 | 15.67 | |
| | | 9.98 | | | | | | | |
| Qk.N_E1 | LF-17 | -0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | |
| | | -0.01 | | | | | | | |
| Qk.N_DA | LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | | | | | | | |
| | LF-6 | 1.40 | 2.96 | 1.46 | 0.81 | 0.52 | 0.35 | 0.19 | |
| | | -0.57 | | | | | | | |
| | LF-7 | -0.33 | -3.45 | -1.51 | -0.73 | -0.44 | -0.29 | -0.16 | |
| | | 0.47 | | | | | | | |
| | LF-8 | -2.78 | 4.87 | 7.47 | 9.03 | 9.52 | 9.22 | 7.31 | |
| | | -4.02 | | | | | | | |
| | LF-9 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | |
| | | 0.03 | | | | | | | |
| | LF-10 | -0.01 | -0.03 | -0.02 | -0.01 | -0.01 | -0.01 | 0.00 | |
| | | 0.01 | | | | | | | |
| | LF-11 | -0.02 | -0.05 | -0.03 | -0.02 | -0.01 | -0.01 | -0.01 | |
| | | 0.01 | | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.2

| | Lastfall | Lasten (3 Abschnitte je 0.30m) | | | [kN/m] |
|---------|-----------|--------------------------------|-------|-------|--------|
| Gk | LF-1 (g) | 239.6 | 269.8 | 301.4 | |
| | #1 LF-1 | 0.01 | 0.02 | 0.02 | |
| Ö← | LF-2 | 84.00 | 94.76 | 106.0 | |
| | #1 LF-2 | 0.01 | 0.01 | 0.01 | |
| Qk.N_DA | LF-3 | 0.00 | 0.00 | -0.01 | |
| | LF-5 | 0.36 | 0.37 | 0.39 | |
| | LF-6 | 86.16 | 96.79 | 107.9 | |
| | LF-7 | -1.79 | -2.31 | -2.86 | |
| | LF-8 | 0.87 | 1.15 | 1.43 | |
| | LF-9 | -0.01 | -0.01 | -0.01 | |
| | LF-10 | -0.20 | -0.24 | -0.29 | |
| | LF-11 | -0.59 | -0.69 | -0.79 | |
| | LF-13 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-4 | 0.01 | 0.01 | 0.01 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.3

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|---------|-----------|--------------------------------|-------|-------|--------|
| Gk | LF-1 (g) | 170.3 | 143.4 | 126.5 | |
| | #1 LF-1 | 0.01 | 0.01 | 0.01 | |
| Ö← | LF-2 | 59.28 | 49.72 | 43.72 | |
| | #1 LF-2 | 0.00 | 0.00 | 0.00 | |
| Qk.N_E1 | LF-18 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | LF-5 | -1.18 | -0.76 | -0.44 | |
| | LF-6 | 59.50 | 49.96 | 44.23 | |
| | LF-7 | 0.36 | 0.39 | 0.41 | |
| | LF-8 | -0.19 | -0.21 | -0.23 | |
| | LF-9 | 0.00 | 0.00 | 0.00 | |
| | LF-10 | 0.04 | 0.03 | 0.03 | |
| | LF-11 | 0.19 | 0.13 | 0.08 | |
| | LF-14 | 0.00 | 0.00 | 0.00 | |

D-150

Lastfall Lasten (3 Abschnitte je 0.50m) [kN/m]
#1 | LF-4 0.00 0.00 0.00
(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.4

Gk

Ö←

Qk.N_E1

Qk.N_DA

Lastfall Lasten (3 Abschnitte je 0.50m) [kN/m]
LF-1 (g) 128.7 151.6 180.0
#1 | LF-1 0.01 0.01 0.02
LF-2 45.57 53.23 62.90
LF-18 0.00 0.00 0.00
LF-5 -1.17 -1.72 -2.25
LF-6 39.26 50.74 63.61
LF-7 0.00 0.01 0.03
LF-8 0.00 -0.01 -0.01
LF-10 0.00 0.01 0.01
LF-11 0.00 0.04 0.09
LF-14 0.00 0.00 0.00
LF-15 0.00 0.00 0.00
(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.5_1

Gk

Ö←

Qk.N_E1

Qk.N_DA

Lastfall Lasten (6 Abschnitte je 0.71m) [kN/m]
LF-1 (g) 44.35 41.62 48.17 49.29 45.23 36.13
LF-2 7.03 6.09 7.99 8.20 7.58 8.43
LF-17 -1.25 -1.40 -2.01 -1.91 -1.55 -2.11
LF-3 0.03 0.02 0.02 0.01 0.00 -0.03
LF-6 1.83 0.99 0.98 0.72 0.38 -0.10
LF-7 -1.70 -0.91 -0.83 -0.58 -0.30 0.09
LF-8 11.14 9.47 13.71 14.58 10.96 1.79
LF-9 4.97 4.78 5.70 5.93 5.38 4.25
LF-10 -0.02 -0.02 -0.04 -0.04 -0.02 -0.01
LF-11 -0.87 -0.35 -0.13 -0.03 0.00 0.01
LF-12 -0.01 -0.01 -0.01 0.00 0.00 0.00
LF-13 -0.40 -0.55 -0.96 -1.09 -0.97 -1.58
(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.5_2

Gk

Ö←

Qk.N_E1

Qk.N_DA

Lastfall Lasten (3 Abschnitte je 0.08m) [kN/m]
LF-1 (g) 55.30 53.97 52.65
LF-2 6.76 6.53 6.30
LF-17 -0.50 -0.51 -0.52
LF-3 -0.14 -0.13 -0.12
LF-6 -3.29 -2.86 -2.43
LF-7 7.05 6.48 5.91
LF-8 -6.02 -5.52 -5.02
LF-9 4.64 4.61 4.58
LF-10 -1.06 -1.03 -1.00
LF-11 12.94 12.11 11.28
LF-12 0.06 0.06 0.05
LF-13 -0.22 -0.20 -0.19
(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.6

Gk

Ö←

Lastfall Lasten (9 Abschnitte je 0.67m) [kN/m]
LF-1 (g) 34.72 61.55 73.26 83.56 100.3 110.1 43.67
42.52 387.2
#1 | LF-1 0.05 -0.02 -0.04 -0.07 -0.10 -0.10 0.01
-0.04 -0.79
LF-2 7.99 13.18 16.09 19.41 24.85 27.98 6.93
5.96 109.8
#1 | LF-2 0.00 0.00 0.00 0.00 -0.01 -0.01 0.00

| | Lastfall | Lasten (9 Abschnitte je 0.67m) | | | | | | [kN/m] |
|---------|-----------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | 0.00 | -0.06 | | | | | |
| Qk.N_E1 | LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| | | -0.01 | -0.39 | | | | | |
| | LF-21 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.03 | | | | | |
| | LF-22 | -0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 |
| Qk.N_DA | | 0.00 | -0.01 | | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.02 | | | | | |
| | LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-5 | 1.86 | 13.10 | 17.67 | 21.14 | 25.11 | 24.53 | 11.01 |
| | | 9.07 | 26.32 | | | | | |
| | LF-6 | -5.87 | 9.39 | 14.96 | 18.35 | 25.05 | 31.82 | 3.63 |
| | | 3.00 | 182.3 | | | | | |
| | LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.02 | | | | | |
| | LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-11 | -0.01 | -0.03 | -0.06 | -0.11 | -0.16 | -0.21 | -0.63 |
| | | 0.06 | 11.97 | | | | | |
| | LF-14 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | 0.01 |
| | | -0.02 | -0.31 | | | | | |
| | LF-15 | 0.01 | 0.00 | -0.01 | -0.01 | -0.02 | -0.02 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.13 | | | | | |
| | #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (8 Abschnitte je 0.69m) | | | | | | [kN/m] |
|---------|----------|--------------------------------|--------|-------|-------|-------|-------|--------|
| W-2.7 | | | | | | | | |
| | Gk | LF-1 (g) | 37.86 | 35.37 | 42.44 | 47.18 | 47.02 | 44.09 |
| | | | 144.18 | | | | | 57.15 |
| Ö← | | | | | | | | |
| | LF-2 | 3.91 | 3.92 | 6.43 | 7.88 | 7.60 | 6.47 | 11.88 |
| | | 46.54 | | | | | | |
| Qk.N_E1 | | | | | | | | |
| | LF-17 | 5.38 | 14.45 | 19.52 | 20.30 | 16.26 | 9.57 | 4.93 |
| | | 3.58 | | | | | | |
| Qk.N_DA | | | | | | | | |
| | LF-3 | -0.08 | -0.03 | -0.05 | -0.06 | -0.07 | -0.06 | 0.02 |
| | | 0.40 | | | | | | |
| | LF-6 | 0.19 | -0.56 | -0.47 | -0.34 | -0.26 | -0.20 | -0.14 |
| | | -0.13 | | | | | | |
| | LF-7 | 0.19 | 0.32 | 0.27 | 0.23 | 0.19 | 0.15 | 0.11 |
| | | 0.11 | | | | | | |
| | | | | | | | | |
| | LF-8 | -1.35 | -1.33 | -1.76 | -2.20 | -2.36 | -2.13 | -1.73 |
| | | -2.12 | | | | | | |
| | | | | | | | | |
| | LF-9 | 2.83 | 2.42 | 2.80 | 3.29 | 4.23 | 5.28 | 5.37 |

| Lastfall | Lasten (8 Abschnitte je 0.69m) | | | | | | | [kN/m] |
|----------|--------------------------------|-------|-------|-------|-------|------|------|--------|
| | 5.24 | | | | | | | |
| LF-10 | -0.62 | 0.48 | 0.35 | 0.16 | 0.08 | 0.05 | 0.03 | |
| | 0.01 | | | | | | | |
| LF-11 | 3.85 | -1.05 | -0.94 | -0.31 | -0.03 | 0.03 | 0.03 | |
| | 0.02 | | | | | | | |
| LF-12 | 0.04 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | |
| | 0.00 | | | | | | | |
| LF-13 | -0.72 | -2.02 | -0.17 | 2.25 | 4.96 | 7.16 | 9.09 | |
| | 17.68 | | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.8

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten (4 Abschnitte je 0.69m) | | | | | | | [kN/m] |
|-----------|--------------------------------|-------|-------|-------|--|--|--|--------|
| LF-1 (g) | 25.84 | 30.09 | 32.24 | 30.84 | | | | |
| #1 LF-1 | 3.31 | -0.35 | 14.78 | 15.06 | | | | |
| LF-2 | 1.03 | 2.39 | 3.04 | 2.61 | | | | |
| #1 LF-2 | -3.30 | -4.59 | -0.65 | 1.33 | | | | |
| LF-18 | 0.02 | -0.10 | -0.53 | 0.77 | | | | |
| LF-21 | -0.02 | -0.25 | -0.57 | -0.09 | | | | |
| LF-22 | 2.28 | 5.86 | 6.59 | 3.41 | | | | |
| LF-23 | 0.00 | 0.01 | 0.01 | 0.02 | | | | |
| #1 LF-8 | 3.65 | 7.36 | 5.38 | 1.71 | | | | |
| LF-5 | -0.02 | 0.56 | 1.98 | 2.56 | | | | |
| LF-6 | 0.16 | 0.09 | 0.00 | -0.15 | | | | |
| LF-10 | 0.01 | 0.01 | 0.00 | 0.00 | | | | |
| LF-11 | -0.10 | -0.04 | 0.27 | 0.14 | | | | |
| LF-14 | 0.01 | 0.00 | -0.13 | -0.08 | | | | |
| LF-15 | 0.00 | -0.10 | -0.25 | -0.31 | | | | |
| LF-16 | 0.00 | 0.01 | 0.02 | 0.02 | | | | |
| #1 LF-3 | 1.57 | 3.31 | 2.88 | 1.28 | | | | |
| #1 LF-4 | -10.2 | -16.6 | -9.22 | -1.91 | | | | |
| #1 LF-5 | 1.59 | 2.81 | 3.72 | 2.84 | | | | |
| #1 LF-6 | 0.21 | 0.87 | 0.93 | 0.28 | | | | |
| #1 LF-7 | 0.25 | 0.45 | 0.40 | 0.17 | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.9

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten (8 Abschnitte je 0.69m) | | | | | | | [kN/m] |
|----------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| LF-1 (g) | 217.93 | 31.20 | 62.85 | 96.13 | 81.34 | 68.90 | 54.64 | |
| | 25.09 | | | | | | | |
| LF-2 | 60.74 | 2.82 | 12.92 | 23.50 | 18.70 | 14.66 | 10.73 | |
| | 4.35 | | | | | | | |
| LF-17 | -3.99 | 4.52 | 12.22 | 18.05 | 14.96 | 8.69 | 3.77 | |
| | -1.34 | | | | | | | |
| LF-3 | 123.71 | 4.68 | 18.41 | 33.34 | 22.84 | 16.56 | 10.40 | |
| | -4.88 | | | | | | | |
| LF-4 | -0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | | | | | | | |
| LF-5 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | | | | | | | |
| LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | -0.05 | | | | | | | |
| LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.04 | | | | | | | |
| LF-10 | -1.27 | -0.04 | 0.03 | 0.02 | 0.04 | 0.03 | 0.02 | |
| | 0.01 | | | | | | | |
| LF-11 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |

Lastfall Lasten (8 Abschnitte je 0.69m) [kN/m]

| | | | | | | | |
|-------|------|-------|-------|-------|-------|-------|------|
| | 0.00 | | | | | | |
| LF-12 | 0.82 | -0.57 | -0.27 | -0.16 | -0.06 | -0.01 | 0.00 |
| | 0.01 | | | | | | |
| LF-13 | 0.96 | -1.41 | -0.38 | 1.99 | 5.03 | 7.52 | 7.21 |
| | 3.45 | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.10

Gk

Lastfall Lasten (12 Abschnitte je 0.72m) [kN/m]

| | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| LF-1 (g) | 15.14 | 39.82 | 51.73 | 57.75 | 62.34 | 67.35 | 74.37 |
| | 87.51 | 103.5 | 55.55 | 34.61 | 319.4 | | |
| #1 LF-1 | -0.12 | -0.22 | -0.40 | -0.38 | -0.23 | -0.08 | 0.00 |
| | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | | |

Ö←

| | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| LF-2 | -3.88 | 5.48 | 9.68 | 11.81 | 13.38 | 14.82 | 16.57 |
| | 20.04 | 24.50 | 9.88 | 3.14 | 88.01 | | |
| #1 LF-2 | -0.14 | -0.13 | -0.13 | -0.09 | -0.04 | -0.01 | 0.01 |
| | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | | |

Qk.N_E1

| | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| LF-17 | 0.00 | 0.00 | -0.01 | -0.02 | -0.02 | -0.01 | 0.01 |
| | 0.05 | 0.09 | 0.10 | 0.10 | -0.90 | | |
| LF-19 | -0.10 | -0.04 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-20 | 2.04 | 0.43 | -0.04 | -0.07 | -0.04 | -0.01 | -0.01 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-22 | -0.97 | -0.63 | -0.38 | -0.19 | -0.05 | 0.01 | 0.03 |
| | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | | |
| LF-23 | -0.14 | 0.01 | 0.04 | 0.02 | 0.01 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

Qk.N_DA

| | | | | | | | |
|-----------|--------|-------|-------|-------|-------|-------|-------|
| LF-3 | -8.50 | 5.12 | 13.43 | 18.91 | 22.97 | 25.82 | 28.21 |
| | 33.09 | 40.21 | 14.16 | 0.30 | 147.2 | | |
| LF-4 | 3.66 | -1.53 | -1.81 | -1.22 | -0.82 | -0.59 | -0.45 |
| | -0.37 | -0.27 | 0.02 | 0.06 | -0.24 | | |
| LF-5 | -16.70 | 0.63 | 3.11 | 2.15 | 1.36 | 0.94 | 0.70 |
| | 0.56 | 0.41 | -0.04 | -0.09 | 0.34 | | |
| LF-6 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.01 |
| | 0.02 | 0.03 | 0.03 | 0.05 | 0.16 | | |
| LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | | |
| LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | | |
| LF-10 | 0.02 | -0.17 | -0.60 | -1.23 | -1.70 | -1.64 | -1.03 |
| | 0.01 | 0.94 | -0.10 | -0.26 | 3.57 | | |
| LF-11 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.03 | -0.03 |
| | -0.03 | -0.03 | -0.04 | -0.05 | -0.08 | | |
| LF-12 | 14.89 | 7.33 | 5.46 | 5.19 | 5.11 | 5.22 | 5.74 |
| | 6.71 | 7.58 | 5.83 | 6.23 | 21.45 | | |
| LF-13 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | -0.02 |
| | -0.05 | -0.09 | -0.17 | 0.03 | 3.88 | | |
| LF-16 | -0.09 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-4 | -0.36 | -0.35 | -0.29 | -0.18 | -0.07 | 0.00 | 0.02 |
| | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | | |
| #1 LF-6 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-7 | 0.10 | 0.10 | 0.04 | 0.00 | -0.01 | -0.01 | 0.00 |

Lastfall Lasten (12 Abschnitte je 0.72m) [kN/m]

0.00 0.00 0.00 0.00 0.00

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.11

Gk

Ö←

Qk.N_E1

Qk.N_DA

Lastfall Lasten (3 Abschnitte je 0.50m) [kN/m]

LF-1 (g) 104.7 105.2 107.3

LF-2 36.02 36.61 37.86

LF-17 -0.26 -0.23 -0.19

LF-3 37.48 34.72 31.98

LF-4 0.15 0.11 0.06

LF-5 -0.19 -0.13 -0.08

LF-10 0.00 0.01 0.02

LF-12 0.05 0.05 0.05

LF-13 -0.12 -0.10 -0.09

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.12

Gk

Ö←

Qk.N_E1

Qk.N_DA

Lastfall Lasten (3 Abschnitte je 0.51m) [kN/m]

LF-1 (g) 248.2 196.6 158.7

#1 | LF-1 0.00 0.00 0.00

LF-2 86.98 68.64 55.10

LF-17 -0.01 -0.05 -0.09

LF-3 85.79 68.75 56.87

LF-4 -0.36 -0.12 0.07

LF-5 0.48 0.18 -0.05

LF-6 0.00 0.00 0.00

LF-10 -0.37 -0.27 -0.20

LF-12 -0.53 -0.36 -0.22

LF-13 -0.02 -0.03 -0.05

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.13

Gk

Ö←

Qk.N_E1

Qk.N_DA

Lastfall Lasten (3 Abschnitte je 0.14m) [kN/m]

LF-1 (g) 52.12 68.84 85.56

LF-2 18.52 24.70 30.89

LF-17 0.01 0.01 0.01

LF-3 -3.77 3.27 10.31

LF-4 -0.85 -3.87 -6.88

LF-5 3.20 5.45 7.69

LF-10 0.15 0.14 0.12

LF-12 0.28 0.23 0.18

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.14

Gk

Ö←

Qk.N_E1

Qk.N_DA

Lastfall Lasten (12 Abschnitte je 0.71m) [kN/m]

LF-1 (g) 23.45 42.54 47.37 49.75 51.00 51.11 50.03

47.70 43.96 38.93 32.90 14.59

#1 | LF-1 0.06 0.00 0.00 0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00 0.00

LF-2 11.70 16.54 18.07 18.87 19.28 19.31 18.97

18.23 17.04 15.48 13.43 5.44

LF-22 -0.01 0.00 0.00 0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00 0.00

LF-23 0.01 0.00 0.00 0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00 0.00

LF-3 -0.41 0.05 0.08 0.11 0.15 0.22 0.32

0.48 0.74 1.37 2.98 1.28

LF-4 0.35 -0.04 -0.07 -0.09 -0.13 -0.19 -0.28

-0.42 -0.68 -1.44 -3.49 -0.34

LF-5 -15.01 9.49 12.74 13.88 14.60 14.64 13.94

| Lastfall | Lasten (12 Abschnitte je 0.71m) | | | | | [kN/m] | |
|-----------|---------------------------------|-------|-------|-------|-------|--------|-------|
| | 12.43 | 10.03 | 6.89 | 3.42 | -8.84 | | |
| LF-6 | -0.15 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | -0.01 | -0.02 | -0.01 | | |
| LF-12 | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 |
| | -0.01 | -0.02 | -0.02 | -0.05 | -0.02 | | |
| LF-16 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-7 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.15

Gk

| Lastfall | Lasten (12 Abschnitte je 0.71m) | | | | | [kN/m] | |
|----------|---------------------------------|-------|-------|-------|-------|--------|-------|
| LF-1 (g) | 38.74 | 42.20 | 46.86 | 49.70 | 51.02 | 51.04 | 49.74 |
| | 46.95 | 42.34 | 35.32 | 24.13 | 5.93 | | |

Ö←

| | | | | | | | |
|------|-------|-------|-------|-------|-------|-------|-------|
| LF-2 | 17.27 | 16.41 | 17.88 | 18.85 | 19.28 | 19.29 | 18.87 |
| | 17.98 | 16.50 | 14.25 | 10.37 | 2.97 | | |

Qk.N_E1

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|
| LF-17 | 0.29 | -0.03 | -0.05 | -0.07 | -0.11 | -0.18 | -0.30 |
| | -0.50 | -0.85 | -1.40 | -2.38 | -4.48 | | |

Qk.N_DA

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|
| LF-3 | -9.99 | 9.44 | 12.66 | 13.99 | 14.78 | 14.84 | 14.12 |
| | 12.54 | 9.99 | 6.31 | 0.47 | -12.0 | | |
| LF-4 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-5 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | -0.05 | | |
| LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | | |
| LF-10 | 0.07 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | | |
| LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | | |
| LF-12 | 0.05 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | | |
| LF-13 | 0.12 | -0.01 | -0.02 | -0.03 | -0.05 | -0.07 | -0.12 |
| | -0.21 | -0.38 | -0.77 | -1.48 | -1.37 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.16

Gk

| Lastfall | Lasten (3 Abschnitte je 0.50m) | | | [kN/m] | |
|----------|--------------------------------|-------|-------|--------|--|
| LF-1 (g) | 85.80 | 114.5 | 145.7 | | |

Ö←

| | | | | | |
|------|-------|-------|-------|--|--|
| LF-2 | 30.54 | 40.61 | 51.55 | | |
|------|-------|-------|-------|--|--|

Qk.N_E1

| | | | | | |
|-------|------|-------|-------|--|--|
| LF-17 | 9.75 | 13.82 | 18.06 | | |
|-------|------|-------|-------|--|--|

Qk.N_DA

| | | | | | |
|-------|-------|-------|-------|--|--|
| LF-3 | -8.56 | -5.76 | -3.54 | | |
| LF-7 | 0.00 | -0.01 | -0.02 | | |
| LF-8 | 0.03 | 0.13 | 0.24 | | |
| LF-9 | -0.07 | -0.15 | -0.23 | | |
| LF-10 | 0.07 | 0.09 | 0.11 | | |
| LF-11 | 0.01 | 0.02 | 0.03 | | |
| LF-12 | 0.01 | 0.01 | 0.02 | | |
| LF-13 | 18.54 | 23.73 | 29.53 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.17

Gk

| Lastfall | Lasten (12 Abschnitte je 0.74m) | | | | | [kN/m] | |
|----------|---------------------------------|-------|-------|-------|-------|--------|-------|
| LF-1 (g) | 29.66 | 28.19 | 36.12 | 40.25 | 42.16 | 43.06 | 43.40 |

| | Lastfall | Lasten (12 Abschnitte je 0.74m) | | | | | [kN/m] | |
|---|----------|---------------------------------|-------|-------|-------|-------|--------|-------|
| | | 43.35 | 42.88 | 41.97 | 39.36 | 22.34 | | |
| Ö← | LF-2 | 11.08 | 11.34 | 14.47 | 15.85 | 16.46 | 16.75 | 16.86 |
| | | 16.83 | 16.68 | 16.39 | 15.55 | 10.12 | | |
| Qk.N_E1 | LF-17 | -2.94 | 0.50 | 0.40 | 0.17 | 0.08 | 0.04 | 0.02 |
| | | 0.01 | 0.00 | 0.00 | 0.00 | -0.02 | | |
| Qk.N_DA | LF-3 | -0.06 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-6 | -0.47 | -0.18 | 0.03 | 0.20 | 0.33 | 0.41 | 0.44 |
| | | 0.44 | 0.40 | 0.34 | 0.23 | -0.52 | | |
| | LF-7 | 0.39 | 0.14 | -0.02 | -0.16 | -0.26 | -0.32 | -0.36 |
| | | -0.36 | -0.33 | -0.29 | -0.20 | 0.43 | | |
| | LF-8 | -5.68 | 1.36 | 5.57 | 7.80 | 8.92 | 9.45 | 9.65 |
| | | 9.60 | 9.31 | 8.74 | 7.08 | -3.73 | | |
| | LF-9 | 3.26 | -0.97 | -0.67 | -0.29 | -0.14 | -0.07 | -0.03 |
| | | -0.01 | 0.00 | 0.00 | 0.00 | 0.03 | | |
| | LF-10 | -0.01 | 0.01 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 |
| | | -0.01 | -0.01 | -0.01 | 0.00 | 0.01 | | |
| | LF-11 | 0.01 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 |
| | | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | | |
| | LF-13 | -2.34 | 0.14 | 0.21 | 0.08 | 0.04 | 0.02 | 0.01 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |

| | | | | | | | |
|---|----------|--------------------------------|-------|-------|-------|--------|--|
| W-2.18_1 | Lastfall | Lasten (4 Abschnitte je 0.62m) | | | | [kN/m] | |
| Gk | LF-1 (g) | 152.5 | -6.44 | -6.32 | 20.62 | | |
| Ö← | LF-2 | 38.93 | -9.96 | -9.02 | -0.10 | | |
| Qk.N_E1 | LF-17 | 1.20 | 12.41 | 17.54 | 19.54 | | |
| Qk.N_DA | LF-3 | 68.80 | -35.3 | -35.7 | -18.6 | | |
| | LF-4 | -0.03 | 0.02 | 0.02 | 0.01 | | |
| | LF-5 | 0.05 | -0.03 | -0.03 | -0.01 | | |
| | LF-6 | -0.01 | -0.01 | -0.02 | -0.03 | | |
| | LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-10 | -0.97 | -0.06 | -0.24 | -0.58 | | |
| | LF-11 | 0.04 | 0.05 | 0.06 | 0.08 | | |
| | LF-12 | 3.37 | 1.62 | 0.48 | -0.11 | | |
| | LF-13 | 5.89 | 5.53 | 5.81 | 6.14 | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |

| | | | | | | | |
|---|----------|--------------------------------|-------|-------|-------|--------|--|
| W-2.18_2 | Lastfall | Lasten (4 Abschnitte je 0.69m) | | | | [kN/m] | |
| Gk | LF-1 (g) | 55.86 | 57.45 | 58.34 | 58.77 | | |
| Ö← | LF-2 | 10.73 | 11.08 | 11.27 | 11.37 | | |
| Qk.N_E1 | LF-17 | 21.77 | 21.66 | 21.66 | 21.68 | | |
| Qk.N_DA | LF-3 | -0.27 | -0.05 | 0.04 | 0.10 | | |
| | LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-6 | 0.00 | 0.01 | 0.02 | 0.03 | | |
| | LF-8 | 0.00 | 0.00 | 0.00 | 0.01 | | |
| | LF-9 | 0.00 | 0.00 | -0.01 | -0.01 | | |
| | LF-10 | -0.32 | -0.20 | -0.18 | -0.21 | | |
| | LF-11 | -0.01 | -0.04 | -0.06 | -0.08 | | |
| | LF-12 | -0.28 | -0.15 | -0.10 | -0.08 | | |
| | LF-13 | 7.80 | 8.10 | 8.30 | 8.42 | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |

| | | | | | | | |
|-----------------|----------|--------------------------------|-------|-------|--|--------|--|
| W-2.18_3 | Lastfall | Lasten (3 Abschnitte je 0.13m) | | | | [kN/m] | |
| Gk | LF-1 (g) | 58.06 | 57.88 | 57.70 | | | |
| Ö← | LF-2 | 11.12 | 11.06 | 11.01 | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.13m) | [kN/m] | | |
|---------|---|--------------------------------|--------|-------|--|
| Qk.N_E1 | LF-17 | 21.14 | 21.05 | 20.95 | |
| Qk.N_DA | LF-3 | 0.16 | 0.16 | 0.16 | |
| | LF-6 | 0.04 | 0.04 | 0.04 | |
| | LF-8 | 0.06 | 0.06 | 0.06 | |
| | LF-9 | -0.08 | -0.08 | -0.08 | |
| | LF-10 | -0.24 | -0.23 | -0.23 | |
| | LF-11 | -0.13 | -0.13 | -0.13 | |
| | LF-12 | -0.08 | -0.07 | -0.07 | |
| | LF-13 | 8.28 | 8.24 | 8.19 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (4 Abschnitte je 0.65m) | [kN/m] | | |
|----------|---|--------------------------------|--------|-------|-------|
| W-2.18_4 | LF-1 (g) | 50.83 | 45.70 | 40.56 | 43.24 |
| Gk | LF-2 | 8.97 | 7.48 | 5.82 | 5.92 |
| Ö← | LF-17 | 17.54 | 14.33 | 8.51 | 1.44 |
| Qk.N_E1 | LF-3 | 0.08 | 0.04 | -0.04 | -0.14 |
| Qk.N_DA | LF-6 | 0.10 | 0.28 | 0.72 | 1.38 |
| | LF-7 | -0.04 | -0.11 | -0.28 | -0.36 |
| | LF-8 | 0.35 | 0.54 | 0.57 | -0.29 |
| | LF-9 | -0.50 | -0.74 | -0.51 | 1.45 |
| | LF-10 | -0.22 | -0.42 | -0.97 | -1.98 |
| | LF-11 | -0.40 | -0.26 | 1.46 | 6.87 |
| | LF-12 | -0.03 | -0.01 | 0.02 | 0.07 |
| | LF-13 | 6.93 | 6.15 | 5.09 | 4.06 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (12 Abschnitte je 0.71m) | [kN/m] | | |
|---------|-----------|---------------------------------|--------|-------|-------|
| W-2.19 | LF-1 (g) | 47.65 | 39.63 | 42.29 | 45.48 |
| Gk | | 49.37 | 48.85 | 47.14 | 41.21 |
| | #1 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 |
| Ö← | LF-2 | 5.47 | 4.88 | 6.24 | 7.29 |
| | | 8.47 | 8.24 | 7.62 | 6.08 |
| Qk.N_E1 | LF-17 | 0.08 | 0.40 | 0.30 | 0.17 |
| | | 0.02 | 0.01 | 0.01 | 0.00 |
| Qk.N_DA | LF-3 | -0.08 | 0.00 | 0.02 | 0.01 |
| | | 0.00 | 0.00 | 0.00 | 0.00 |
| | LF-5 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 |
| | LF-6 | -3.54 | -2.41 | -2.98 | -3.99 |
| | | -5.53 | -4.91 | -4.29 | -4.53 |
| | LF-7 | 7.30 | 6.05 | 6.11 | 6.25 |
| | | 7.28 | 7.21 | 7.35 | 8.56 |
| | LF-8 | -2.49 | 5.28 | 9.99 | 12.47 |
| | | 15.34 | 14.77 | 13.18 | 8.24 |
| | LF-9 | 2.01 | -0.48 | -0.67 | -0.39 |
| | | -0.04 | -0.02 | -0.01 | 0.00 |
| | LF-10 | -0.46 | 0.09 | 0.19 | 0.19 |
| | | 0.07 | 0.05 | 0.03 | 0.04 |
| | LF-11 | 8.34 | 0.90 | -0.50 | -0.18 |
| | | 0.13 | 0.09 | 0.07 | 0.07 |
| | LF-12 | 0.04 | 0.00 | -0.01 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 |
| | LF-13 | -0.17 | 0.05 | 0.11 | 0.08 |
| | | 0.01 | 0.00 | 0.00 | 0.00 |

| | | Lastfall Lasten (12 Abschnitte je 0.71m) | | | | | | [kN/m] |
|---------|----------|--|-------|-------|-------|-------|-------|--------|
| | #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | (g): | Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| W-2.20 | | Lastfall Lasten (12 Abschnitte je 0.71m) | | | | | | [kN/m] |
| Gk | LF-1 (g) | 33.03 | 23.89 | 37.81 | 49.65 | 57.74 | 63.74 | 67.07 |
| | | 67.09 | 63.32 | 56.38 | 62.23 | 142.7 | | |
| | #1 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ö← | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-2 | 2.48 | 1.88 | 5.90 | 9.18 | 11.52 | 13.34 | 14.34 |
| | | 14.26 | 12.87 | 10.45 | 13.31 | 45.43 | | |
| | #1 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | Qk.N_E1 | LF-17 | 0.23 | -0.25 | -0.18 | -0.09 | -0.05 | -0.03 |
| Qk.N_DA | | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | | |
| | LF-3 | -0.08 | 0.01 | 0.01 | 0.00 | -0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 |
| | | -0.01 | -0.01 | -0.01 | 0.00 | 0.08 | | |
| | LF-6 | -4.91 | 7.61 | 12.93 | 16.80 | 20.20 | 23.21 | 24.95 |
| | | 24.91 | 23.13 | 19.32 | 13.77 | 13.47 | | |
| | LF-7 | 7.29 | 5.97 | 6.08 | 6.19 | 6.61 | 7.01 | 7.13 |
| | | 7.14 | 7.17 | 7.44 | 8.17 | 7.41 | | |
| | LF-8 | -1.90 | -1.23 | -1.54 | -2.01 | -2.45 | -2.68 | -2.65 |
| | | -2.46 | -2.18 | -1.92 | -1.78 | -0.66 | | |
| | LF-9 | 0.03 | 0.09 | 0.09 | 0.07 | 0.06 | 0.04 | 0.03 |
| | | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | | |
| | LF-10 | -1.69 | -3.65 | -1.99 | -0.90 | -0.47 | -0.32 | -0.23 |
| | | -0.17 | -0.12 | -0.08 | -0.01 | 0.12 | | |
| | LF-11 | 6.29 | -4.87 | -3.63 | -1.69 | -0.81 | -0.51 | -0.38 |
| | | -0.29 | -0.21 | -0.15 | -0.04 | 0.20 | | |
| | LF-12 | 0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-13 | -0.15 | 0.14 | 0.07 | 0.01 | -0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | (g): | Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| W-2.21 | | Lastfall Lasten (14 Abschnitte je 0.71m) | | | | | | [kN/m] |
| Gk | LF-1 (g) | 27.15 | 30.48 | 31.14 | 31.42 | 31.16 | 30.78 | 30.67 |
| | | 27.04 | 32.52 | 24.27 | 22.52 | 22.16 | 25.35 | 28.49 |
| | #1 LF-1 | 60.80 | 66.90 | 52.30 | 50.96 | 57.06 | 62.30 | 65.13 |
| Ö← | | 33.33 | 71.07 | 49.06 | 21.87 | 50.18 | 72.73 | 69.42 |
| | LF-2 | 1.70 | 2.50 | 2.72 | 2.81 | 2.73 | 2.61 | 2.58 |
| | | 1.42 | 3.17 | 0.53 | -0.04 | -0.16 | 0.90 | 2.28 |
| | #1 LF-2 | 9.62 | 11.79 | 9.63 | 9.30 | 9.69 | 8.98 | 9.15 |
| | | 4.85 | 9.71 | 7.84 | 3.11 | 8.34 | 12.80 | 11.69 |
| | Qk.N_E1 | LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.05 |
| | LF-19 | -0.01 | 0.05 | 0.06 | 0.03 | -0.01 | -0.02 | -0.01 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | LF-20 | -0.10 | -0.11 | -0.04 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | LF-21 | 0.00 | 0.01 | 0.01 | 0.01 | -0.02 | -0.06 | -0.14 |

Qk.N_DA

| Lastfall | Lasten (14 Abschnitte je 0.71m) | | | | | | | [kN/m] |
|---|---------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | -0.13 | -0.22 | 0.02 | 0.01 | 0.04 | 0.00 | 0.00 | |
| LF-22 | 1.92 | 5.49 | 7.00 | 7.33 | 7.31 | 7.23 | 7.35 | |
| | 4.14 | 8.89 | 1.75 | -0.22 | -0.85 | 0.02 | 0.04 | |
| LF-23 | 0.04 | -0.12 | -0.24 | -0.26 | -0.22 | -0.14 | -0.04 | |
| | 0.03 | -0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-8 | 0.15 | 0.10 | 0.00 | -0.05 | -0.09 | -0.03 | -0.17 | |
| | -0.30 | -1.60 | -1.19 | 0.75 | 5.08 | 6.43 | 1.30 | |
| LF-3 | 3.26 | 2.76 | 0.49 | 0.05 | -0.01 | -0.01 | -0.01 | |
| | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| LF-4 | -0.15 | -0.15 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| LF-5 | 0.17 | 0.88 | 1.07 | 1.05 | 0.84 | 0.62 | 0.47 | |
| | 0.20 | 0.77 | -0.18 | -0.02 | -0.12 | -0.02 | -0.09 | |
| LF-6 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.03 | |
| | -0.03 | -0.06 | 0.01 | -0.17 | -0.29 | 2.22 | 7.13 | |
| LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.05 | |
| LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | |
| LF-10 | -0.02 | 0.14 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | 0.07 | 0.07 | |
| LF-11 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | 0.00 | -0.01 | -0.01 | 0.09 | 0.14 | -1.00 | -3.36 | |
| LF-12 | -1.58 | -2.20 | -0.52 | -0.06 | 0.02 | 0.03 | 0.02 | |
| | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | |
| LF-15 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | -0.02 | -0.06 | |
| | -0.06 | -0.11 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | |
| LF-16 | 0.02 | -0.06 | -0.13 | -0.14 | -0.12 | -0.07 | -0.01 | |
| | 0.03 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-3 | 0.05 | 0.03 | 0.00 | -0.02 | -0.03 | -0.01 | -0.06 | |
| | -0.09 | -0.50 | -0.35 | 0.38 | 2.26 | 3.16 | 1.49 | |
| #1 LF-4 | 19.55 | 19.17 | 11.49 | 11.16 | 13.60 | 12.52 | 13.88 | |
| | 8.08 | 13.99 | 15.06 | 5.83 | 15.17 | 22.76 | 21.84 | |
| #1 LF-5 | -0.01 | -0.01 | 0.00 | -0.01 | -0.04 | -0.11 | 0.10 | |
| | 0.43 | 2.05 | 1.33 | 0.21 | -0.23 | -0.23 | -0.04 | |
| #1 LF-6 | -0.01 | -0.09 | -0.21 | -0.29 | 0.11 | 1.85 | 3.69 | |
| | 2.22 | 3.62 | 0.42 | -0.13 | -0.33 | -0.04 | -0.06 | |
| #1 LF-7 | -0.32 | 4.48 | 7.98 | 7.76 | 5.74 | 3.73 | 0.71 | |
| | -0.94 | 0.26 | -0.80 | -0.06 | -0.19 | -0.04 | 0.14 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |

W-2.22

Gk

Ö←

Qk.N_E1

| Lastfall | Lasten (12 Abschnitte je 0.71m) | | | | | | | [kN/m] |
|-----------|---------------------------------|-------|-------|-------|-------|-------|-------|--------|
| LF-1 (g) | 25.00 | 48.82 | 58.99 | 62.47 | 63.37 | 62.25 | 58.37 | |
| | 52.19 | 44.95 | 36.99 | 26.27 | 8.94 | | | |
| #1 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | |
| | 0.05 | 0.09 | 0.13 | 0.09 | -0.14 | | | |
| LF-2 | 3.81 | 8.66 | 11.49 | 12.70 | 13.07 | 12.75 | 11.52 | |
| | 9.55 | 7.24 | 4.63 | 0.80 | -6.10 | | | |
| #1 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.01 | 0.02 | 0.04 | 0.07 | -0.01 | | | |
| LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

D-160

Schulcampus EWK \

20G-LP4

| | Lastfall | Lasten (12 Abschnitte je 0.71m) | | | | | [kN/m] | |
|---------|-----------|---------------------------------|-------|-------|-------|-------|--------|-------|
| | | 0.00 | 0.01 | 0.02 | 0.03 | -0.03 | | |
| Qk.N_DA | LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.09 | -0.29 | -0.41 | 0.93 | | |
| | LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.01 | 0.05 | 0.17 | 0.32 | -0.12 | | |
| | LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.02 | 0.04 | 0.03 | -0.11 | | |
| | LF-3 | -8.63 | 11.69 | 20.44 | 23.73 | 24.96 | 24.63 | 22.58 |
| | | 19.48 | 16.01 | 11.70 | 5.60 | -6.03 | | |
| | LF-4 | 10.34 | 8.46 | 7.29 | 7.10 | 7.19 | 7.30 | 7.27 |
| | | 6.89 | 6.52 | 6.40 | 6.29 | 7.76 | | |
| | LF-5 | -5.20 | -4.26 | -4.15 | -4.87 | -5.55 | -5.95 | -6.23 |
| | | -6.47 | -6.67 | -6.40 | -7.82 | -20.4 | | |
| | LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | | |
| | LF-10 | 0.10 | -0.02 | -0.07 | -0.09 | -0.11 | -0.12 | -0.12 |
| | | -0.10 | -0.06 | 0.01 | 0.10 | 0.13 | | |
| | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-12 | 0.23 | -0.03 | -0.14 | -0.20 | -0.26 | -0.32 | -0.41 |
| | | -0.64 | -1.28 | -2.52 | -2.71 | 6.87 | | |
| | LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.02 | 0.03 | 0.03 | -0.07 | | |
| | #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.01 | 0.03 | 0.09 | 0.17 | 0.04 | | |
| | #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | 0.00 | -0.04 | -0.06 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.23

| | Lastfall | Lasten (4 Abschnitte je 0.63m) | | | | [kN/m] | |
|---------|-----------|--------------------------------|-------|-------|-------|--------|--|
| | | | | | | | |
| Gk | LF-1 (g) | | 25.83 | 22.85 | 12.41 | 13.63 | |
| | #1 LF-1 | | 19.11 | 24.12 | 25.44 | 24.81 | |
| Ö← | LF-2 | | 1.05 | 0.27 | -2.52 | -2.28 | |
| | #1 LF-2 | | 2.54 | 2.80 | 2.18 | 1.54 | |
| Qk.N_E1 | LF-18 | | 2.28 | 4.00 | 4.13 | 2.51 | |
| | LF-21 | | -0.28 | -0.32 | -0.15 | -0.03 | |
| | LF-22 | | -0.82 | -0.93 | -0.03 | 0.02 | |
| | LF-23 | | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-8 | | 3.61 | 7.47 | 7.77 | 3.92 | |
| | LF-5 | | 1.41 | 0.22 | -0.45 | 0.05 | |
| Qk.N_DA | LF-6 | | -0.23 | -0.75 | -2.28 | -3.29 | |
| | LF-7 | | 0.00 | 0.00 | -0.02 | -0.02 | |
| | LF-8 | | 0.00 | 0.00 | 0.01 | 0.01 | |
| | LF-10 | | 0.00 | 0.00 | 0.03 | 0.04 | |
| | LF-11 | | -0.16 | -1.45 | -5.78 | -3.53 | |
| | LF-14 | | 0.05 | 0.32 | 0.36 | 0.08 | |
| | LF-15 | | -0.21 | -0.17 | -0.10 | -0.02 | |
| | #1 LF-3 | | 2.17 | 3.65 | 3.72 | 2.27 | |
| | #1 LF-4 | | 0.37 | -1.53 | -2.59 | -1.16 | |
| | #1 LF-5 | | 3.37 | 3.97 | 3.23 | 1.94 | |
| | #1 LF-6 | | -1.03 | -0.62 | -0.02 | 0.03 | |
| | #1 LF-7 | | 0.20 | 0.13 | 0.02 | -0.01 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.24

| | Lastfall | Lasten (6 Abschnitte je 0.71m) | | | | | | [kN/m] |
|---------|---|--------------------------------|-------|-------|-------|-------|-------|--------|
| Gk | LF-1 (g) | 25.56 | 17.43 | 18.39 | 24.40 | 34.69 | 43.57 | |
| | #1 LF-1 | 15.77 | 13.23 | 10.63 | 9.59 | 13.84 | 18.79 | |
| Ö← | LF-2 | 1.01 | -1.56 | -1.33 | 0.56 | 3.86 | 6.71 | |
| | #1 LF-2 | 1.30 | 1.22 | 1.00 | 0.70 | 0.88 | 1.76 | |
| Qk.N_E1 | LF-18 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.04 | |
| | LF-19 | 1.28 | 6.71 | 8.41 | 1.75 | 0.18 | -0.09 | |
| | LF-20 | -0.21 | -0.75 | -0.29 | -0.03 | 0.00 | 0.01 | |
| | LF-21 | 0.01 | 0.00 | -0.03 | -0.20 | -0.53 | -0.48 | |
| | LF-22 | 3.41 | 8.17 | 9.51 | 9.95 | 12.67 | 12.41 | |
| | LF-23 | 2.88 | 5.56 | 5.95 | 5.40 | 4.81 | 1.66 | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.03 | 0.11 | 0.18 | |
| Qk.N_DA | LF-3 | 0.81 | 1.11 | 0.56 | 0.10 | 0.05 | 0.04 | |
| | LF-4 | -0.05 | 0.03 | 0.02 | 0.02 | 0.01 | -0.01 | |
| | LF-5 | -1.93 | -10.4 | -13.3 | -10.2 | -4.25 | 5.02 | |
| | LF-6 | 0.01 | 0.10 | 0.13 | 0.08 | -0.08 | -0.26 | |
| | LF-10 | 0.03 | 0.04 | 0.03 | 0.01 | 0.00 | 0.00 | |
| | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 | |
| | LF-12 | -1.40 | -4.47 | -1.99 | -0.32 | -0.06 | 0.03 | |
| | LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | |
| | LF-15 | 0.01 | 0.01 | -0.01 | -0.12 | -0.36 | -0.52 | |
| | LF-16 | 0.34 | 1.41 | 1.81 | 1.63 | 1.16 | -0.03 | |
| | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.05 | |
| | #1 LF-4 | -0.47 | -0.46 | -0.42 | -1.83 | -5.80 | -9.43 | |
| | #1 LF-5 | 0.00 | 0.00 | -0.01 | -0.03 | -0.09 | -0.15 | |
| | #1 LF-6 | -0.04 | -0.07 | -0.13 | 0.25 | 1.70 | 3.97 | |
| | #1 LF-7 | 3.11 | 2.98 | 2.56 | 3.00 | 5.91 | 9.07 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |

W-2.25

| | Lastfall | Lasten (12 Abschnitte je 0.71m) | | | | | | [kN/m] |
|---------|-----------|---------------------------------|-------|-------|-------|-------|-------|--------|
| Gk | LF-1 (g) | 11.06 | 44.00 | 57.23 | 63.07 | 70.98 | 80.38 | 51.02 |
| | | 19.25 | 56.60 | 76.12 | 97.53 | 219.3 | | |
| | #1 LF-1 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | | 0.03 | 0.14 | 0.25 | -0.07 | -2.76 | | |
| Ö← | LF-2 | -1.51 | 6.98 | 10.89 | 12.84 | 15.43 | 18.47 | 9.07 |
| | | -1.09 | 10.94 | 17.17 | 23.45 | 60.26 | | |
| | #1 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | 0.03 | 0.00 | -0.27 | | |
| Qk.N_E1 | LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.01 | 0.00 | -0.08 | | |
| | LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.06 | -0.12 | 0.04 | 0.90 | | |
| | LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.01 | -0.01 | 0.00 | 0.15 | | |
| | LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.03 | 0.07 | 0.00 | -0.59 | | |
| Qk.N_DA | LF-3 | -6.86 | -4.44 | -3.95 | -4.72 | -5.86 | -6.54 | -4.12 |
| | | -1.98 | -3.14 | -3.48 | -1.69 | -1.44 | | |
| | LF-4 | 12.10 | 8.68 | 7.26 | 7.18 | 7.55 | 7.77 | 6.02 |
| | | 4.44 | 5.45 | 6.47 | 5.91 | 7.27 | | |
| | LF-5 | -12.80 | 9.62 | 18.92 | 23.34 | 29.02 | 35.40 | 16.13 |
| | | -4.53 | 19.93 | 32.04 | 41.39 | 101.1 | | |
| | LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| | | 0.00 | 0.02 | 0.02 | 0.02 | -0.03 | | |

| Lastfall | Lasten (12 Abschnitte je 0.71m) | | | | | | [kN/m] |
|---|---------------------------------|-------|-------|-------|-------|------|--------|
| LF-10 | 0.04 | 0.02 | 0.02 | 0.03 | 0.04 | 0.05 | 0.03 |
| | 0.01 | 0.02 | 0.03 | 0.01 | 0.01 | | |
| LF-12 | 0.10 | 0.06 | 0.06 | 0.08 | 0.11 | 0.13 | 0.09 |
| | 0.00 | -0.49 | -1.08 | 0.91 | 13.73 | | |
| LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.01 | 0.04 | 0.07 | -0.02 | -0.69 | | |
| #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | -0.01 | -0.01 | 0.00 | 0.04 | | |
| #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | | |
| #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.01 | 0.03 | 0.06 | -0.01 | -0.61 | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |

W-2.26

Gk

| Lastfall | Lasten (12 Abschnitte je 0.71m) | | | | | | [kN/m] |
|-----------|---------------------------------|-------|-------|-------|-------|-------|--------|
| LF-1 (g) | -10.25 | 14.12 | 31.14 | 39.85 | 45.33 | 48.72 | 50.44 |
| | 50.71 | 49.66 | 47.46 | 42.54 | 20.72 | | |
| #1 LF-1 | 0.12 | 0.04 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 |
| | 0.01 | 0.00 | 0.00 | 0.00 | -0.02 | | |

Ö←

| | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| LF-2 | -2.46 | 6.99 | 12.88 | 15.70 | 17.45 | 18.54 | 19.09 |
| | 19.17 | 18.83 | 18.09 | 16.54 | 10.91 | | |
| #1 LF-2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

Qk.N_E1

| | | | | | | | |
|-------|-------|------|------|------|------|------|------|
| LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-21 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-22 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-23 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

Qk.N_DA

| | | | | | | | |
|-----------|--------|-------|-------|-------|-------|-------|-------|
| LF-3 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-4 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-5 | -16.21 | -8.88 | -4.74 | -3.04 | -2.02 | -1.36 | -0.93 |
| | -0.64 | -0.45 | -0.36 | -0.20 | 2.00 | | |
| LF-6 | -11.19 | 1.82 | 7.26 | 10.66 | 13.04 | 14.51 | 15.16 |
| | 15.04 | 14.25 | 13.09 | 9.59 | -17.3 | | |
| LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | | |
| LF-11 | 0.01 | 0.00 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.01 | 0.00 | -0.08 | | |
| LF-14 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-15 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| LF-16 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-4 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-7 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.27_1

| | Lastfall | Lasten (3 Abschnitte je 0.15m) | [kN/m] | | |
|---------|-----------|--------------------------------|--------|-------|-------|
| Gk | LF-1 (g) | | 46.17 | 46.41 | 46.03 |
| | #1 LF-1 | | 23.44 | 22.20 | 20.66 |
| Ö← | LF-2 | | 7.55 | 7.62 | 7.50 |
| | #1 LF-2 | | 2.16 | 1.82 | 1.45 |
| Qk.N_E1 | LF-18 | | 0.04 | 0.04 | 0.03 |
| | LF-19 | | -0.05 | -0.04 | -0.03 |
| | LF-21 | | 1.02 | 1.69 | 2.33 |
| | LF-22 | | 13.90 | 14.35 | 14.48 |
| | LF-23 | | -0.32 | -0.53 | -0.69 |
| | #1 LF-8 | | 0.16 | 0.13 | 0.08 |
| Qk.N_DA | LF-3 | | 0.04 | 0.04 | 0.04 |
| | LF-5 | | 6.22 | 5.63 | 4.81 |
| | LF-6 | | -0.23 | -0.17 | -0.11 |
| | LF-11 | | -0.03 | -0.03 | -0.02 |
| | LF-12 | | 0.02 | 0.01 | 0.01 |
| | LF-14 | | 0.02 | 0.02 | 0.02 |
| | LF-15 | | -0.31 | -0.15 | 0.02 |
| | LF-16 | | -0.48 | -0.55 | -0.59 |
| | #1 LF-3 | | 0.05 | 0.04 | 0.02 |
| | #1 LF-4 | | -12.4 | -12.5 | -12.3 |
| | #1 LF-5 | | 0.04 | 0.15 | 0.27 |
| | #1 LF-6 | | 5.68 | 5.65 | 5.49 |
| | #1 LF-7 | | 10.94 | 10.34 | 9.44 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.27_2

| | Lastfall | Lasten (3 Abschnitte je 0.24m) | [kN/m] | | |
|---------|-----------|--------------------------------|--------|-------|-------|
| Gk | LF-1 (g) | | 32.30 | 31.66 | 31.36 |
| | #1 LF-1 | | 38.36 | 43.61 | 47.00 |
| Ö← | LF-2 | | 3.05 | 2.84 | 2.73 |
| | #1 LF-2 | | 2.20 | 2.78 | 3.21 |
| Qk.N_E1 | LF-18 | | -0.43 | -0.56 | -0.71 |
| | LF-21 | | 6.14 | 6.14 | 6.02 |
| | LF-22 | | 11.03 | 10.53 | 9.93 |
| | LF-23 | | -0.34 | -0.25 | -0.18 |
| | #1 LF-8 | | -1.12 | -1.30 | -1.42 |
| Qk.N_DA | LF-5 | | -6.51 | -6.65 | -6.32 |
| | LF-6 | | 0.56 | 0.57 | 0.56 |
| | LF-11 | | 0.20 | 0.26 | 0.33 |
| | LF-14 | | -0.17 | -0.22 | -0.28 |
| | LF-15 | | 1.43 | 1.43 | 1.38 |
| | LF-16 | | -0.22 | -0.17 | -0.11 |
| | #1 LF-3 | | -0.34 | -0.39 | -0.43 |
| | #1 LF-4 | | -5.02 | -4.26 | -3.54 |
| | #1 LF-5 | | 3.90 | 4.49 | 4.87 |
| | #1 LF-6 | | 6.50 | 7.04 | 7.32 |
| | #1 LF-7 | | -0.65 | -1.31 | -1.79 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.27_3

| | Lastfall | Lasten (3 Abschnitte je 0.08m) | [kN/m] | | |
|---------|-----------|--------------------------------|--------|-------|-------|
| Gk | LF-1 (g) | | 29.54 | 29.28 | 29.01 |
| | #1 LF-1 | | 10.82 | 10.39 | 9.96 |
| Ö← | LF-2 | | 2.21 | 2.14 | 2.07 |
| | #1 LF-2 | | 1.05 | 1.06 | 1.06 |
| Qk.N_E1 | LF-18 | | 1.36 | 1.70 | 2.04 |

| | | Lastfall Lasten (3 Abschnitte je 0.08m) | | | [kN/m] |
|----------|---|---|-------|-------|--------|
| Qk.N_DA | | LF-21 | 1.75 | 1.58 | 1.41 |
| | | LF-22 | 1.79 | 1.50 | 1.22 |
| | | LF-23 | 0.02 | 0.02 | 0.02 |
| | | #1 LF-8 | 0.05 | 0.13 | 0.22 |
| | | LF-5 | 1.29 | 1.34 | 1.38 |
| | | LF-6 | -0.19 | -0.23 | -0.28 |
| | | LF-11 | 0.03 | -0.06 | -0.15 |
| | | LF-14 | -0.06 | -0.01 | 0.05 |
| | | LF-15 | 0.01 | -0.04 | -0.08 |
| | | LF-16 | 0.01 | 0.01 | 0.01 |
| | | #1 LF-3 | 0.22 | 0.27 | 0.31 |
| | | #1 LF-4 | 0.12 | 0.21 | 0.31 |
| | | #1 LF-5 | 1.48 | 1.46 | 1.45 |
| | | #1 LF-6 | 0.54 | 0.37 | 0.21 |
| | | #1 LF-7 | -0.25 | -0.20 | -0.15 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.17m) | | | [kN/m] |
| W-2.30_2 | Gk | LF-1 (g) | 113.8 | 114.2 | 113.4 |
| | | #1 LF-1 | -3.26 | -3.96 | -4.37 |
| | Ö← | LF-2 | 29.24 | 29.40 | 29.15 |
| | | #1 LF-2 | -0.22 | -0.26 | -0.29 |
| Qk.N_E1 | | LF-18 | -0.49 | -0.38 | -0.25 |
| | | LF-21 | -0.38 | -0.50 | -0.59 |
| | | LF-22 | 0.23 | 0.29 | 0.34 |
| | | #1 LF-8 | 0.05 | 0.05 | 0.04 |
| Qk.N_DA | | LF-5 | 64.88 | 65.76 | 65.63 |
| | | LF-6 | -7.50 | -7.93 | -8.27 |
| | | LF-11 | 0.29 | 0.18 | 0.04 |
| | | LF-14 | 0.00 | 0.34 | 0.76 |
| | | LF-15 | 0.52 | 0.10 | -0.25 |
| | | LF-16 | -0.03 | -0.03 | -0.03 |
| | | #1 LF-3 | 0.02 | 0.02 | 0.02 |
| | | #1 LF-4 | -0.24 | -0.30 | -0.34 |
| | | #1 LF-5 | -0.25 | -0.27 | -0.27 |
| | | #1 LF-6 | -0.05 | -0.08 | -0.11 |
| | | #1 LF-7 | 0.09 | 0.12 | 0.14 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.43m) | | | [kN/m] |
| W-2.30_3 | Gk | LF-1 (g) | 34.21 | 21.33 | 70.83 |
| | | #1 LF-1 | 1.56 | 0.70 | -2.06 |
| | Ö← | LF-2 | 4.46 | 0.34 | 14.99 |
| | | #1 LF-2 | 0.11 | 0.06 | -0.12 |
| Qk.N_E1 | | LF-18 | 0.91 | 0.35 | -0.65 |
| | | LF-21 | -0.23 | -0.07 | 0.03 |
| | | LF-22 | 0.11 | 0.03 | 0.00 |
| | | LF-23 | 0.01 | 0.00 | 0.00 |
| Qk.N_DA | | #1 LF-8 | -0.08 | -0.02 | 0.06 |
| | | LF-5 | 20.41 | 15.11 | 55.28 |
| | | LF-6 | -11.5 | -13.4 | -29.3 |
| | | LF-7 | 0.00 | 0.00 | 0.01 |
| | | LF-11 | -3.88 | -3.66 | 3.50 |
| | | LF-14 | 3.55 | 2.46 | 0.72 |
| | | LF-15 | -0.30 | -0.10 | -0.04 |
| | | | | | |

Lastfall Lasten (3 Abschnitte je 0.43m) [kN/m]

| | | | |
|-----------|-------|-------|-------|
| LF-16 | 0.01 | 0.00 | -0.01 |
| #1 LF-3 | -0.02 | 0.00 | 0.01 |
| #1 LF-4 | -0.08 | -0.02 | -0.02 |
| #1 LF-5 | 0.31 | 0.15 | -0.23 |
| #1 LF-6 | -0.06 | -0.02 | 0.01 |
| #1 LF-7 | 0.06 | 0.02 | -0.01 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WS-2.5_BR

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Lastfall Lasten (1 Abschnitte je 1.01m) [kN/m]

| | | |
|----|------|------|
| Gk | LF-1 | 0.00 |
|----|------|------|

WS-2.5_SA_W-2.5_2

aus WS-2.5 Sturzanfang

Lastfall Lasten (1 Abschnitte je 0.08m) [kN/m]

| | | |
|---------|-----------|-------|
| Gk | LF-1 | 35.98 |
| | | 121.6 |
| | #1 LF-1 | 0.00 |
| Ö← | LF-2 | 31.40 |
| | #1 LF-2 | 0.00 |
| Qk.N_E1 | LF-17 | -4.35 |
| | LF-18 | 0.00 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | 0.00 |
| | LF-22 | 0.00 |
| | LF-23 | 0.00 |
| | #1 LF-8 | 0.00 |
| Qk.N_DA | LF-3 | -0.14 |
| | LF-4 | 0.00 |
| | LF-5 | -0.01 |
| | LF-6 | 5.57 |
| | LF-7 | 3.78 |
| | LF-8 | 13.60 |
| | LF-9 | 27.41 |
| | LF-10 | -2.89 |
| | LF-11 | 19.60 |
| | LF-12 | 0.06 |
| | LF-13 | -1.09 |
| | LF-14 | 0.00 |
| | LF-15 | 0.00 |
| | LF-16 | 0.00 |
| | #1 LF-3 | 0.00 |
| | #1 LF-4 | 0.00 |
| | #1 LF-5 | 0.00 |
| | #1 LF-6 | 0.00 |
| | #1 LF-7 | 0.00 |

WS-2.5_SE_W-2.5_1

aus WS-2.5 Sturzende

Lastfall Lasten (1 Abschnitte je 0.71m) [kN/m]

| | | |
|---------|-----------|-------|
| Gk | LF-1 | 4.24 |
| | | 13.71 |
| | #1 LF-1 | 0.00 |
| Ö← | LF-2 | 4.00 |
| | #1 LF-2 | 0.00 |
| Qk.N_E1 | LF-17 | -0.66 |

| | Lastfall | Lasten (1 Abschnitte je 0.71m) | [kN/m] |
|-----------------------|--|--------------------------------|--------|
| | LF-18 | | 0.00 |
| | LF-19 | | 0.00 |
| | LF-20 | | 0.00 |
| | LF-21 | | 0.00 |
| | LF-22 | | 0.00 |
| | LF-23 | | 0.00 |
| | #1 LF-8 | | 0.00 |
| Qk.N_DA | LF-3 | | 0.01 |
| | LF-4 | | 0.00 |
| | LF-5 | | 0.00 |
| | LF-6 | | 1.31 |
| | LF-7 | | -0.73 |
| | LF-8 | | 4.28 |
| | LF-9 | | 3.45 |
| | LF-10 | | -0.18 |
| | LF-11 | | 0.51 |
| | LF-12 | | 0.00 |
| | LF-13 | | -0.18 |
| | LF-14 | | 0.00 |
| | LF-15 | | 0.00 |
| | LF-16 | | 0.00 |
| | #1 LF-3 | | 0.00 |
| | #1 LF-4 | | 0.00 |
| | #1 LF-5 | | 0.00 |
| | #1 LF-6 | | 0.00 |
| | #1 LF-7 | | 0.00 |
| WS-2.18_1_BR | á bÁÛÜËGÈFÎŽFÁÓ↔&æ^&æ}↔´å\ÃÑãfib\ ^& | | |
| | Lastfall | Lasten (1 Abschnitte je 1.52m) | [kN/m] |
| Gk | LF-1 | | 0.00 |
| WS-2.18_1_SA_W-2.18_1 | aus WS-2.18_1 Sturzanfang | | |
| | Lastfall | Lasten (1 Abschnitte je 0.62m) | [kN/m] |
| Gk | LF-1 | | 7.24 |
| | | | 25.43 |
| | #1 LF-1 | | 0.00 |
| Ö← | LF-2 | | 8.78 |
| | #1 LF-2 | | 0.00 |
| Qk.N_E1 | LF-17 | | 25.84 |
| | LF-18 | | 0.00 |
| | LF-19 | | 0.00 |
| | LF-20 | | 0.00 |
| | LF-21 | | 0.00 |
| | LF-22 | | 0.00 |
| | LF-23 | | 0.00 |
| | #1 LF-8 | | 0.00 |
| Qk.N_DA | LF-3 | | -6.47 |
| | LF-4 | | 0.00 |
| | LF-5 | | 0.01 |
| | LF-6 | | -0.03 |
| | LF-7 | | 0.00 |
| | LF-8 | | 0.00 |
| | LF-9 | | 0.00 |
| | LF-10 | | -0.87 |
| | LF-11 | | 0.08 |
| | | | D-167 |

| | | Lastfall Lasten (1 Abschnitte je 0.62m) | [kN/m] |
|---------------------------|----|---|---------|
| | | LF-12 | -0.55 |
| | | LF-13 | 8.25 |
| | | LF-14 | 0.00 |
| | | LF-15 | 0.00 |
| | | LF-16 | 0.00 |
| | | #1 LF-3 | 0.00 |
| | | #1 LF-4 | 0.00 |
| | | #1 LF-5 | 0.00 |
| | | #1 LF-6 | 0.00 |
| | | #1 LF-7 | 0.00 |
| | | | |
| | | aus WS-2.18_1 Sturzende | |
| | | Lastfall Lasten (1 Abschnitte je 0.69m) | [kN/m] |
| WS-2.18_1_SE_W- 2.18_2 | Gk | LF-1 | 6.57 |
| | | | 29.48 |
| Ö← | | #1 LF-1 | 0.00 |
| | | LF-2 | 9.88 |
| Qk.N_E1 | | #1 LF-2 | 0.00 |
| | | LF-17 | 23.65 |
| | | LF-18 | 0.00 |
| | | LF-19 | 0.00 |
| | | LF-20 | 0.00 |
| | | LF-21 | 0.00 |
| | | LF-22 | 0.00 |
| | | LF-23 | 0.00 |
| Qk.N_DA | | #1 LF-8 | 0.00 |
| | | LF-3 | -2.61 |
| | | LF-4 | 0.00 |
| | | LF-5 | 0.01 |
| | | LF-6 | -0.02 |
| | | LF-7 | 0.00 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.00 |
| | | LF-10 | -0.67 |
| | | LF-11 | 0.05 |
| | | LF-12 | -0.50 |
| | | LF-13 | 7.77 |
| | | LF-14 | 0.00 |
| | | LF-15 | 0.00 |
| | | LF-16 | 0.00 |
| | | #1 LF-3 | 0.00 |
| | | #1 LF-4 | 0.00 |
| | | #1 LF-5 | 0.00 |
| | | #1 LF-6 | 0.00 |
| | | #1 LF-7 | 0.00 |
| | | | |
| | | á bÁÛUËGÈFÎŽGÁÓ↔&æ^&æ}↔´à\ÃÑãfib\ ^& | |
| | | Lastfall Lasten (1 Abschnitte je 1.51m) | [kN/m] |
| WS-2.18_2_BR | Gk | LF-1 | 0.00 |
| | | | |
| | | aus WS-2.18_2 Sturzanfang | |
| | | Lastfall Lasten (1 Abschnitte je 0.69m) | [kN/m] |
| WS-2.18_2_SA_W- 2.18_2 | Gk | LF-1 | 6.54 |
| | | | 39.73 |
| | | #1 LF-1 | 0.00 |
| | | | |
| | | D-168 | |
| | | Schulcampus EWK \ | 20G-LP4 |

| | Lastfall Lasten (1 Abschnitte je 0.69m) | [kN/m] |
|-----------------------------------|---|--------|
| Ö← | LF-2 | 12.48 |
| | #1 LF-2 | 0.00 |
| Qk.N_E1 | LF-17 | 23.70 |
| | LF-18 | 0.00 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | 0.00 |
| | LF-22 | 0.00 |
| | LF-23 | 0.00 |
| | #1 LF-8 | 0.00 |
| Qk.N_DA | LF-3 | 0.16 |
| | LF-4 | 0.00 |
| | LF-5 | 0.00 |
| | LF-6 | 0.04 |
| | LF-7 | 0.00 |
| | LF-8 | 0.02 |
| | LF-9 | -0.03 |
| | LF-10 | -0.26 |
| | LF-11 | -0.11 |
| | LF-12 | -0.09 |
| | LF-13 | 9.27 |
| | LF-14 | 0.00 |
| | LF-15 | 0.00 |
| | LF-16 | 0.00 |
| | #1 LF-3 | 0.00 |
| | #1 LF-4 | 0.00 |
| | #1 LF-5 | 0.00 |
| | #1 LF-6 | 0.00 |
| | #1 LF-7 | 0.00 |
| WS-2.18_2_SE_W- 2.18_3 | aus WS-2.18_2 Sturzende | |
| Gk | Lastfall Lasten (1 Abschnitte je 0.13m) | [kN/m] |
| | LF-1 | 33.62 |
| | | 204.5 |
| | #1 LF-1 | 0.00 |
| Ö← | LF-2 | 64.18 |
| | #1 LF-2 | 0.00 |
| Qk.N_E1 | LF-17 | 121.8 |
| | LF-18 | 0.00 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | 0.00 |
| | LF-22 | 0.00 |
| | LF-23 | 0.00 |
| | #1 LF-8 | 0.00 |
| Qk.N_DA | LF-3 | 0.90 |
| | LF-4 | 0.00 |
| | LF-5 | 0.01 |
| | LF-6 | 0.22 |
| | LF-7 | -0.01 |
| | LF-8 | 0.19 |
| | LF-9 | -0.26 |
| | LF-10 | -1.38 |
| | LF-11 | -0.64 |
| | LF-12 | -0.46 |
| | | D-169 |

| | | |
|------------------------------|---|--------|
| | Lastfall Lasten (1 Abschnitte je 0.13m) | [kN/m] |
| | LF-13 | 47.79 |
| | LF-14 | 0.00 |
| | LF-15 | 0.00 |
| | LF-16 | 0.00 |
| | #1 LF-3 | 0.00 |
| | #1 LF-4 | 0.00 |
| | #1 LF-5 | 0.00 |
| | #1 LF-6 | 0.00 |
| | #1 LF-7 | 0.00 |
| WS-2.18_3_BR | á bÁÛUËGÈFÎŽĜÁÓ↔&æ^&æ}↔´å\ÃÑãfib\ ^& | |
| | Lastfall Lasten (1 Abschnitte je 1.51m) | [kN/m] |
| Gk | LF-1 | 0.00 |
| WS-2.18_3_SA_W-2.18_3 | aus WS-2.18_3 Sturzanfang | |
| | Lastfall Lasten (1 Abschnitte je 0.13m) | [kN/m] |
| Gk | LF-1 | 33.62 |
| | | 192.5 |
| | #1 LF-1 | 0.00 |
| Ö← | LF-2 | 60.46 |
| | #1 LF-2 | 0.00 |
| Qk.N_E1 | LF-17 | 115.8 |
| | LF-18 | 0.00 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | 0.00 |
| | LF-22 | 0.00 |
| | LF-23 | 0.00 |
| | #1 LF-8 | 0.00 |
| Qk.N_DA | LF-3 | 0.80 |
| | LF-4 | 0.00 |
| | LF-5 | 0.00 |
| | LF-6 | 0.21 |
| | LF-7 | -0.04 |
| | LF-8 | 0.64 |
| | LF-9 | -0.91 |
| | LF-10 | -1.15 |
| | LF-11 | -0.99 |
| | LF-12 | -0.36 |
| | LF-13 | 45.06 |
| | LF-14 | 0.00 |
| | LF-15 | 0.00 |
| | LF-16 | 0.00 |
| | #1 LF-3 | 0.00 |
| | #1 LF-4 | 0.00 |
| | #1 LF-5 | 0.00 |
| | #1 LF-6 | 0.00 |
| | #1 LF-7 | 0.00 |
| WS-2.18_3_SE_W-2.18_4 | aus WS-2.18_3 Sturzende | |
| | Lastfall Lasten (1 Abschnitte je 0.65m) | [kN/m] |
| Gk | LF-1 | 6.92 |
| | | 38.39 |
| | #1 LF-1 | 0.00 |
| Ö← | LF-2 | 12.08 |

| | Lastfall Lasten (1 Abschnitte je 0.65m) | [kN/m] |
|---|---|--------|
| Qk.N_E1 | #1 LF-2 | 0.00 |
| | LF-17 | 23.24 |
| | LF-18 | 0.00 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | 0.00 |
| | LF-22 | 0.00 |
| | LF-23 | 0.00 |
| Qk.N_DA | #1 LF-8 | 0.00 |
| | LF-3 | 0.15 |
| | LF-4 | 0.00 |
| | LF-5 | 0.00 |
| | LF-6 | 0.05 |
| | LF-7 | -0.01 |
| | LF-8 | 0.19 |
| | LF-9 | -0.28 |
| | LF-10 | -0.22 |
| | LF-11 | -0.27 |
| | LF-12 | -0.07 |
| | LF-13 | 9.07 |
| | LF-14 | 0.00 |
| | LF-15 | 0.00 |
| | LF-16 | 0.00 |
| | #1 LF-3 | 0.00 |
| | #1 LF-4 | 0.00 |
| | #1 LF-5 | 0.00 |
| | #1 LF-6 | 0.00 |
| | #1 LF-7 | 0.00 |
| WS-2.27_1_BR | | |
| á bÁÛÜËGÈGÍŽFÁÓ↔&æ^&æ}↔´â\ÃÑãfib\ ^& | | |
| Lastfall Lasten (1 Abschnitte je 0.88m) | | [kN/m] |
| Gk | LF-1 | 0.00 |
| WS-2.27_1_SA_W-2.27_1 | | |
| aus WS-2.27_1 Sturzanfang | | |
| Lastfall Lasten (1 Abschnitte je 0.15m) | | [kN/m] |
| Gk | LF-1 | 17.13 |
| | | 50.85 |
| Ö← | #1 LF-1 | 56.10 |
| | LF-2 | 16.25 |
| Qk.N_E1 | #1 LF-2 | 1.93 |
| | LF-17 | 0.00 |
| | LF-18 | -0.20 |
| | LF-19 | -0.05 |
| | LF-20 | 0.00 |
| | LF-21 | 13.02 |
| | LF-22 | 38.08 |
| | LF-23 | -2.19 |
| Qk.N_DA | #1 LF-8 | -0.72 |
| | LF-3 | 0.07 |
| | LF-4 | -0.02 |
| | LF-5 | -1.27 |
| | LF-6 | 0.62 |
| | LF-7 | 0.00 |
| | LF-8 | 0.00 |
| | LF-9 | 0.00 |
| | D-171 | |

| | Lastfall | Lasten (1 Abschnitte je 0.15m) | [kN/m] |
|------------------------------|--------------------------------------|--------------------------------|--------|
| | LF-10 | | 0.00 |
| | LF-11 | | 0.07 |
| | LF-12 | | 0.02 |
| | LF-13 | | 0.00 |
| | LF-14 | | -0.07 |
| | LF-15 | | 2.16 |
| | LF-16 | | -1.52 |
| | #1 LF-3 | | -0.22 |
| | #1 LF-4 | | -27.2 |
| | #1 LF-5 | | 3.52 |
| | #1 LF-6 | | 14.06 |
| | #1 LF-7 | | 13.66 |
| | | | |
| WS-2.27_1_SE_W-2.27_2 | aus WS-2.27_1 Sturzende | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| | LF-1 | | 11.02 |
| | | | 27.69 |
| | #1 LF-1 | | 41.77 |
| Ö← | LF-2 | | 8.83 |
| | #1 LF-2 | | 1.45 |
| Qk.N_E1 | LF-17 | | 0.00 |
| | LF-18 | | -0.26 |
| | LF-19 | | -0.02 |
| | LF-20 | | 0.00 |
| | LF-21 | | 9.67 |
| | LF-22 | | 23.40 |
| | LF-23 | | -1.24 |
| | #1 LF-8 | | -0.85 |
| Qk.N_DA | LF-3 | | 0.03 |
| | LF-4 | | -0.01 |
| | LF-5 | | -5.05 |
| | LF-6 | | 0.64 |
| | LF-7 | | 0.00 |
| | LF-8 | | 0.00 |
| | LF-9 | | 0.00 |
| | LF-10 | | 0.00 |
| | LF-11 | | 0.11 |
| | LF-12 | | 0.01 |
| | LF-13 | | 0.00 |
| | LF-14 | | -0.10 |
| | LF-15 | | 1.90 |
| | LF-16 | | -0.83 |
| | #1 LF-3 | | -0.26 |
| | #1 LF-4 | | -15.0 |
| | #1 LF-5 | | 3.43 |
| | #1 LF-6 | | 9.32 |
| | #1 LF-7 | | 5.45 |
| | | | |
| WS-2.27_2_BR | á bÁÛÜËĞÈĞÍŽGÁÓ↔&æ^&æ}↔´â\ÃÑãfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.89m) | [kN/m] |
| | LF-1 | | 0.00 |
| | | | |
| WS-2.27_2_SA_W-2.27_2 | aus WS-2.27_2 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| | LF-1 | | 11.02 |

| Lastfall Lasten (1 Abschnitte je 0.24m) | | [kN/m] |
|---|---|-------------------------|
| Ö← | #1 LF-1 | 16.62 |
| | LF-2 | 62.90 |
| | #1 LF-2 | 5.17 |
| Qk.N_E1 | #1 LF-2 | 4.41 |
| | LF-17 | 0.00 |
| | LF-18 | -1.52 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | 8.67 |
| | LF-22 | 13.05 |
| | LF-23 | -0.07 |
| Qk.N_DA | #1 LF-8 | -1.95 |
| | LF-3 | 0.00 |
| | LF-4 | 0.00 |
| | LF-5 | -5.33 |
| | LF-6 | 0.62 |
| | LF-7 | 0.00 |
| | LF-8 | 0.00 |
| | LF-9 | 0.00 |
| | LF-10 | 0.00 |
| | LF-11 | 0.89 |
| | LF-12 | 0.00 |
| | LF-13 | 0.00 |
| | LF-14 | -0.72 |
| | LF-15 | 1.62 |
| | LF-16 | -0.04 |
| | #1 LF-3 | -0.51 |
| | #1 LF-4 | -3.64 |
| | #1 LF-5 | 6.67 |
| | #1 LF-6 | 9.12 |
| | #1 LF-7 | -2.81 |
| WS-2.27_2_SE_W-2.27_3 | | aus WS-2.27_2 Sturzende |
| Gk | Lastfall Lasten (1 Abschnitte je 0.08m) | [kN/m] |
| | LF-1 | 31.53 |
| Ö← | #1 LF-1 | 46.57 |
| | LF-2 | 133.2 |
| | #1 LF-2 | 14.51 |
| Qk.N_E1 | #1 LF-2 | 9.45 |
| | LF-17 | 0.00 |
| | LF-18 | -2.91 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | 20.37 |
| | LF-22 | 29.11 |
| | LF-23 | -0.06 |
| Qk.N_DA | #1 LF-8 | -3.95 |
| | LF-3 | -0.01 |
| | LF-4 | 0.00 |
| | LF-5 | -6.51 |
| | LF-6 | 1.05 |
| | LF-7 | 0.00 |
| | LF-8 | 0.00 |
| | LF-9 | 0.00 |
| | LF-10 | 0.00 |
| | | D-173 |

| | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|------------------------------|--|--------------------------------|--------|
| | LF-11 | | 2.45 |
| | LF-12 | | 0.00 |
| | LF-13 | | 0.00 |
| | LF-14 | | -1.95 |
| | LF-15 | | 3.18 |
| | LF-16 | | -0.03 |
| | #1 LF-3 | | -0.79 |
| | #1 LF-4 | | -7.07 |
| | #1 LF-5 | | 14.52 |
| | #1 LF-6 | | 18.07 |
| | #1 LF-7 | | -5.82 |
| WS-2.30_2_BR | | | |
| | á bÁÛÜËĞÈĞĚŽGÁÓ↔&æ^&æ}↔´â\ÁÑñfib\ ^& | | |
| | Lastfall | Lasten (1 Abschnitte je 1.01m) | [kN/m] |
| Gk | LF-1 | | 0.00 |
| WS-2.30_2_SA_W-2.30_2 | | | |
| | aus WS-2.30_2 Sturzanfang | | |
| | Lastfall | Lasten (1 Abschnitte je 0.17m) | [kN/m] |
| Gk | LF-1 | | 17.99 |
| | | | 213.5 |
| | #1 LF-1 | | -7.61 |
| Ö← | LF-2 | | 69.23 |
| | #1 LF-2 | | -0.52 |
| Qk.N_E1 | LF-17 | | 0.00 |
| | LF-18 | | 1.61 |
| | LF-19 | | 0.00 |
| | LF-20 | | 0.00 |
| | LF-21 | | -1.93 |
| | LF-22 | | 1.02 |
| | LF-23 | | 0.02 |
| | #1 LF-8 | | -0.08 |
| Qk.N_DA | LF-3 | | 0.00 |
| | LF-4 | | 0.00 |
| | LF-5 | | 163.0 |
| | LF-6 | | -29.0 |
| | LF-7 | | 0.00 |
| | LF-8 | | 0.00 |
| | LF-9 | | 0.00 |
| | LF-10 | | 0.00 |
| | LF-11 | | -3.59 |
| | LF-12 | | 0.00 |
| | LF-13 | | 0.00 |
| | LF-14 | | 8.11 |
| | LF-15 | | -2.22 |
| | LF-16 | | -0.04 |
| | #1 LF-3 | | -0.01 |
| | #1 LF-4 | | -0.98 |
| | #1 LF-5 | | -0.07 |
| | #1 LF-6 | | -0.43 |
| | #1 LF-7 | | 0.46 |
| WS-2.30_2_SE_W-2.30_3 | | | |
| | aus WS-2.30_2 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.43m) | [kN/m] |
| Gk | LF-1 | | 7.06 |
| | | | 68.88 |

| Lastfall Lasten (1 Abschnitte je 0.43m) | | [kN/m] |
|---|-----------|-------------------------------------|
| Ö← | #1 LF-1 | -1.29 |
| | LF-2 | 22.53 |
| | #1 LF-2 | -0.09 |
| Qk.N_E1 | LF-17 | 0.00 |
| | LF-18 | 0.98 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | -0.67 |
| | LF-22 | 0.34 |
| | LF-23 | 0.01 |
| | #1 LF-8 | -0.07 |
| Qk.N_DA | LF-3 | 0.00 |
| | LF-4 | 0.00 |
| | LF-5 | 55.67 |
| | LF-6 | -12.4 |
| | LF-7 | 0.00 |
| | LF-8 | 0.00 |
| | LF-9 | 0.00 |
| | LF-10 | 0.00 |
| | LF-11 | -2.27 |
| | LF-12 | 0.00 |
| | LF-13 | 0.00 |
| | LF-14 | 3.93 |
| | LF-15 | -0.83 |
| | LF-16 | -0.01 |
| | #1 LF-3 | -0.02 |
| | #1 LF-4 | -0.32 |
| | #1 LF-5 | 0.14 |
| | #1 LF-6 | -0.15 |
| | #1 LF-7 | 0.16 |
| WS-T-2.1_BR | | á bÁÛÜËÜËGÈFÁÓ↔&æ^&æ}↔´â\ÁÑãfib\ ^& |
| Lastfall Lasten (1 Abschnitte je 1.00m) | | [kN/m] |
| Gk | LF-1 | 0.00 |
| WS-T-2.1_SA_WT-2.1_2 | | aus WS-T-2.1 Sturzanfang |
| Lastfall Lasten (1 Abschnitte je 0.32m) | | [kN/m] |
| Ö← | LF-1 | 13.94 |
| | | -3.68 |
| | #1 LF-1 | 11.87 |
| Qk.N_E1 | LF-2 | -1.36 |
| | #1 LF-2 | -3.86 |
| | LF-17 | 0.00 |
| | LF-18 | -0.56 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | 0.02 |
| | LF-22 | -0.01 |
| Qk.N_DA | LF-23 | 0.00 |
| | #1 LF-8 | 6.48 |
| | LF-3 | 0.00 |
| | LF-4 | 0.00 |
| | LF-5 | 0.46 |
| | LF-6 | -11.8 |
| | LF-7 | 0.04 |
| | | D-175 |

| Lastfall Lasten (1 Abschnitte je 0.32m) | | [kN/m] |
|--|-----------|--------|
| LF-8 | | -0.02 |
| LF-9 | | 0.00 |
| LF-10 | | 0.02 |
| LF-11 | | 8.26 |
| LF-12 | | 0.00 |
| LF-13 | | 0.00 |
| LF-14 | | -0.12 |
| LF-15 | | 0.02 |
| LF-16 | | 0.00 |
| #1 LF-3 | | 4.26 |
| #1 LF-4 | | -11.6 |
| #1 LF-5 | | -0.46 |
| #1 LF-6 | | 0.07 |
| #1 LF-7 | | 0.00 |
| WS-T-2.1_SE_WT-2.1_3 aus WS-T-2.1 Sturzende | | |
| Lastfall Lasten (1 Abschnitte je 0.26m) | | [kN/m] |
| Gk | LF-1 | 17.54 |
| | | -9.75 |
| | #1 LF-1 | 5.68 |
| Ö← | LF-2 | -3.19 |
| | #1 LF-2 | -6.93 |
| Qk.N_E1 | LF-17 | 0.00 |
| | LF-18 | -0.36 |
| | LF-19 | 0.00 |
| | LF-20 | 0.00 |
| | LF-21 | 0.01 |
| | LF-22 | -0.04 |
| | LF-23 | 0.00 |
| | #1 LF-8 | 8.56 |
| Qk.N_DA | LF-3 | 0.00 |
| | LF-4 | 0.00 |
| | LF-5 | 0.30 |
| | LF-6 | -17.0 |
| | LF-7 | 0.05 |
| | LF-8 | -0.03 |
| | LF-9 | 0.00 |
| | LF-10 | -0.01 |
| | LF-11 | 9.67 |
| | LF-12 | 0.00 |
| | LF-13 | 0.00 |
| | LF-14 | -0.05 |
| | LF-15 | 0.01 |
| | LF-16 | 0.00 |
| | #1 LF-3 | 5.54 |
| | #1 LF-4 | -19.0 |
| | #1 LF-5 | -0.54 |
| | #1 LF-6 | 0.09 |
| | #1 LF-7 | 0.04 |
| WS-T-2.3_BR á bÁÛÜËÚËĞËĞÁÓ↔&æ^&æ}↔´â\ÁÑñfib\ ^& | | |
| Lastfall Lasten (1 Abschnitte je 1.14m) | | [kN/m] |
| Gk | LF-1 | 0.00 |

WS-T-2.3_SA_WT-2.3_3 aus WS-T-2.3 Sturzanfang

| | Lastfall Lasten (1 Abschnitte je 0.71m) | [kN/m] |
|---------|---|--------|
| Gk | LF-1 | 4.76 |
| | | 16.59 |
| | #1 LF-1 | 6.87 |
| Ö← | LF-2 | 5.26 |
| | #1 LF-2 | -1.07 |
| Qk.N_E1 | LF-17 | 0.00 |
| | LF-18 | 0.00 |
| | LF-19 | 0.11 |
| | LF-20 | 0.55 |
| | LF-21 | 0.00 |
| | LF-22 | 6.92 |
| | LF-23 | -0.70 |
| | #1 LF-8 | -0.02 |
| Qk.N_DA | LF-3 | -1.63 |
| | LF-4 | 0.10 |
| | LF-5 | 2.61 |
| | LF-6 | -0.03 |
| | LF-7 | 0.00 |
| | LF-8 | 0.00 |
| | LF-9 | 0.00 |
| | LF-10 | -0.02 |
| | LF-11 | 0.00 |
| | LF-12 | 5.73 |
| | LF-13 | 0.00 |
| | LF-14 | 0.00 |
| | LF-15 | 0.00 |
| | LF-16 | -0.39 |
| | #1 LF-3 | 0.00 |
| | #1 LF-4 | -6.43 |
| | #1 LF-5 | 0.00 |
| | #1 LF-6 | 0.04 |
| | #1 LF-7 | 4.26 |

WS-T-2.3_SE_WT-2.3_2 aus WS-T-2.3 Sturzende

| | Lastfall Lasten (1 Abschnitte je 0.27m) | [kN/m] |
|---------|---|--------|
| Gk | LF-1 | 12.61 |
| | | 36.93 |
| | #1 LF-1 | 9.90 |
| Ö← | LF-2 | 11.79 |
| | #1 LF-2 | -5.22 |
| Qk.N_E1 | LF-17 | 0.00 |
| | LF-18 | 0.00 |
| | LF-19 | 0.27 |
| | LF-20 | 0.82 |
| | LF-21 | 0.01 |
| | LF-22 | 19.00 |
| | LF-23 | -1.39 |
| | #1 LF-8 | -0.05 |
| Qk.N_DA | LF-3 | -7.08 |
| | LF-4 | 0.48 |
| | LF-5 | 4.32 |
| | LF-6 | -0.05 |
| | LF-7 | 0.00 |
| | LF-8 | 0.00 |
| | LF-9 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.27m) | [kN/m] |
|-----------------------------|-----------|--|--------|
| | LF-10 | | -0.21 |
| | LF-11 | | 0.00 |
| | LF-12 | | 15.15 |
| | LF-13 | | 0.00 |
| | LF-14 | | 0.00 |
| | LF-15 | | 0.01 |
| | LF-16 | | -0.72 |
| | #1 LF-3 | | -0.02 |
| | #1 LF-4 | | -21.2 |
| | #1 LF-5 | | 0.01 |
| | #1 LF-6 | | 0.13 |
| | #1 LF-7 | | 10.63 |
| WS-T-2.4_BR | | | |
| | | á bÁÛÜËÜËËGÈHÁÓ↔&æ^&æ}↔´å\ÁÑñfib\ ^& | |
| | Lastfall | Lasten (1 Abschnitte je 1.01m) | [kN/m] |
| Gk | LF-1 | | 0.00 |
| WS-T-2.4_SA_WT-2.4_1 | | | |
| | | aus WS-T-2.4 Sturzanfang | |
| | Lastfall | Lasten (1 Abschnitte je 0.43m) | [kN/m] |
| Gk | LF-1 | | 7.06 |
| | | | 61.57 |
| | #1 LF-1 | | 9.82 |
| Ö← | LF-2 | | 19.80 |
| | #1 LF-2 | | 0.99 |
| Qk.N_E1 | LF-17 | | 0.00 |
| | LF-18 | | 0.00 |
| | LF-19 | | 0.13 |
| | LF-20 | | -0.13 |
| | LF-21 | | -0.03 |
| | LF-22 | | -0.98 |
| | LF-23 | | 1.91 |
| | #1 LF-8 | | -0.01 |
| Qk.N_DA | LF-3 | | -0.16 |
| | LF-4 | | 0.04 |
| | LF-5 | | 34.94 |
| | LF-6 | | -0.13 |
| | LF-7 | | 0.00 |
| | LF-8 | | 0.00 |
| | LF-9 | | 0.00 |
| | LF-10 | | 0.00 |
| | LF-11 | | 0.00 |
| | LF-12 | | -1.48 |
| | LF-13 | | 0.00 |
| | LF-14 | | 0.00 |
| | LF-15 | | -0.04 |
| | LF-16 | | 5.58 |
| | #1 LF-3 | | 0.00 |
| | #1 LF-4 | | -0.11 |
| | #1 LF-5 | | 0.00 |
| | #1 LF-6 | | -0.12 |
| | #1 LF-7 | | 2.21 |
| WS-T-2.4_SE_WT-2.4_2 | | | |
| | | aus WS-T-2.4 Sturzende | |
| | Lastfall | Lasten (1 Abschnitte je 0.11m) | [kN/m] |
| Gk | LF-1 | | 26.46 |

| | | Lastfall Lasten (1 Abschnitte je 0.11m) | | | | | | [kN/m] | |
|---------------|-----------|--|--------|-------|-------|-------|-------|--------|-------|
| Ö← | Qk.N_E1 | | | | | | | 240.1 | |
| | | #1 LF-1 | | | | | | 36.85 | |
| | | LF-2 | | | | | | 77.12 | |
| | | #1 LF-2 | | | | | | 3.68 | |
| Qk.N_DA | | LF-17 | | | | | | 0.00 | |
| | | LF-18 | | | | | | 0.01 | |
| | | LF-19 | | | | | | 0.44 | |
| | | LF-20 | | | | | | -0.30 | |
| | | LF-21 | | | | | | -0.26 | |
| | | LF-22 | | | | | | -4.14 | |
| | | LF-23 | | | | | | 7.67 | |
| | | #1 LF-8 | | | | | | -0.03 | |
| | | LF-3 | | | | | | -0.50 | |
| | | LF-4 | | | | | | 0.12 | |
| | | LF-5 | | | | | | 134.4 | |
| | | LF-6 | | | | | | -0.72 | |
| | | LF-7 | | | | | | 0.00 | |
| | | LF-8 | | | | | | 0.00 | |
| | | LF-9 | | | | | | 0.00 | |
| | | LF-10 | | | | | | -0.01 | |
| | | LF-11 | | | | | | -0.03 | |
| | | LF-12 | | | | | | -3.48 | |
| | | LF-13 | | | | | | 0.00 | |
| | | LF-14 | | | | | | 0.00 | |
| | | LF-15 | | | | | | -0.34 | |
| | | LF-16 | | | | | | 21.55 | |
| | | #1 LF-3 | | | | | | -0.01 | |
| | | #1 LF-4 | | | | | | -0.14 | |
| | | #1 LF-5 | | | | | | -0.01 | |
| | | #1 LF-6 | | | | | | -0.60 | |
| | | #1 LF-7 | | | | | | 8.12 | |
| WT-1.1 | | Lastfall Lasten (12 Abschnitte je 0.72m) | | | | | | [kN/m] | |
| Gk | LF-1 (g) | 401.89 | 109.1 | 11.72 | 21.01 | 80.65 | 89.97 | 78.87 | |
| | | 72.29 | 66.78 | 59.44 | 52.58 | 56.90 | | | |
| Ö← | #1 LF-1 | -1.44 | -0.38 | -0.03 | 0.02 | 0.05 | 0.03 | 0.01 | |
| | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | | LF-2 | 115.02 | 27.90 | -2.42 | -0.12 | 18.47 | 20.81 | 16.81 |
| | | 14.45 | 12.61 | 10.30 | 7.77 | 7.36 | | | |
| Qk.N_E1 | #1 LF-2 | -0.30 | -0.07 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | | LF-17 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.01 | 0.03 |
| | | 0.03 | 0.04 | 0.08 | 0.26 | 0.77 | | | |
| Qk.N_DA | LF-18 | -0.43 | -0.01 | 0.04 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | | LF-21 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Qk.N_E1 | LF-22 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | | #1 LF-8 | -0.07 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Qk.N_DA | LF-3 | -0.01 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 | |
| | | 0.10 | 0.14 | 0.15 | 0.08 | -0.11 | | | |
| | | LF-5 | -3.02 | -0.31 | 0.26 | 0.07 | 0.00 | -0.01 | 0.00 |
| | | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | | | |

| Lastfall | Lasten (12 Abschnitte je 0.72m) | | | | | | [kN/m] | |
|-----------|---------------------------------|-------|-------|-------|-------|-------|--------|--|
| LF-6 | 205.79 | 50.94 | -6.13 | -2.88 | 32.53 | 35.14 | 25.95 | |
| | 20.42 | 16.21 | 11.07 | 2.92 | -10.6 | | | |
| LF-7 | -0.27 | -0.25 | -0.05 | 0.09 | -0.24 | -0.48 | -0.54 | |
| | -0.71 | -1.08 | -1.62 | -1.35 | 3.45 | | | |
| LF-8 | 0.15 | 0.14 | 0.03 | -0.05 | 0.14 | 0.28 | 0.32 | |
| | 0.41 | 0.60 | 0.86 | 0.88 | -0.67 | | | |
| LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | |
| | -0.01 | -0.01 | -0.04 | -0.09 | -0.14 | | | |
| LF-10 | -1.44 | -1.75 | -1.58 | -1.28 | -0.91 | -0.13 | 0.64 | |
| | 1.36 | 2.06 | 2.65 | 3.32 | 4.40 | | | |
| LF-11 | 29.52 | 7.17 | 2.76 | 3.97 | 5.46 | 6.77 | 7.17 | |
| | 7.30 | 7.31 | 7.52 | 9.77 | 18.28 | | | |
| LF-12 | 0.00 | -0.02 | -0.02 | -0.02 | -0.03 | -0.03 | -0.04 | |
| | -0.05 | -0.08 | -0.09 | -0.05 | 0.04 | | | |
| LF-13 | 0.01 | 0.02 | 0.01 | 0.00 | -0.01 | -0.02 | -0.03 | |
| | -0.03 | -0.04 | -0.07 | -0.21 | -0.55 | | | |
| LF-14 | -0.21 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| LF-15 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-3 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-4 | -0.46 | -0.14 | -0.01 | 0.01 | 0.03 | 0.01 | 0.01 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-5 | -0.12 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.1_1

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten (4 Abschnitte je 0.69m) | | | | [kN/m] | |
|-----------|--------------------------------|-------|-------|-------|--------|--|
| LF-1 (g) | 60.94 | 26.01 | 35.71 | 44.95 | | |
| #1 LF-1 | 1.46 | 15.84 | 29.44 | 28.41 | | |
| LF-2 | 10.68 | 0.23 | 3.45 | 6.20 | | |
| #1 LF-2 | 0.05 | 0.78 | 1.34 | 1.30 | | |
| LF-18 | -0.31 | 2.12 | 4.73 | 4.65 | | |
| LF-21 | 0.02 | -0.10 | -0.15 | -0.09 | | |
| LF-22 | -0.01 | 0.03 | 0.05 | 0.03 | | |
| LF-23 | 0.00 | 0.01 | 0.01 | 0.00 | | |
| #1 LF-8 | -0.10 | -0.57 | -1.13 | -1.18 | | |
| LF-5 | 17.82 | -18.7 | -10.1 | -1.89 | | |
| LF-6 | -8.71 | 6.13 | 2.97 | -0.37 | | |
| LF-7 | 0.01 | 0.00 | 0.01 | 0.03 | | |
| LF-8 | 0.00 | 0.00 | -0.01 | -0.02 | | |
| LF-10 | 0.00 | 0.00 | 0.00 | -0.01 | | |
| LF-11 | 11.02 | 8.77 | 9.13 | 11.17 | | |
| LF-14 | 1.51 | 3.16 | 2.07 | 0.55 | | |
| LF-15 | 0.02 | -0.05 | -0.11 | -0.07 | | |
| LF-16 | 0.00 | 0.01 | 0.01 | 0.00 | | |
| #1 LF-3 | -0.04 | -0.20 | -0.36 | -0.18 | | |
| #1 LF-4 | 0.03 | 0.20 | 0.47 | 0.65 | | |
| #1 LF-5 | 0.11 | 1.55 | 2.56 | 2.13 | | |
| #1 LF-6 | 0.01 | -0.03 | -0.04 | -0.03 | | |
| #1 LF-7 | -0.01 | 0.03 | 0.04 | 0.02 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.1_2

| | Lastfall | Lasten (3 Abschnitte je 0.32m) | | [kN/m] |
|---|-----------|--------------------------------|-------|--------|
| Gk | LF-1 (g) | 45.41 | 40.57 | 32.85 |
| | #1 LF-1 | 23.27 | 21.18 | 18.62 |
| Ö← | LF-2 | 6.14 | 4.74 | 2.58 |
| | #1 LF-2 | 0.94 | 0.60 | 0.04 |
| Qk.N_E1 | LF-18 | 1.29 | -0.09 | -0.84 |
| | LF-21 | 0.03 | 0.06 | 0.06 |
| | #1 LF-8 | 0.18 | 1.12 | 2.23 |
| Qk.N_DA | LF-5 | 1.14 | 1.37 | 1.16 |
| | LF-6 | -2.43 | -3.50 | -4.99 |
| | LF-7 | 0.05 | 0.04 | 0.04 |
| | LF-8 | -0.03 | -0.03 | -0.02 |
| | LF-10 | -0.04 | -0.03 | -0.01 |
| | LF-11 | 12.83 | 11.72 | 9.42 |
| | LF-14 | -0.28 | -0.39 | -0.35 |
| | LF-15 | 0.02 | 0.05 | 0.05 |
| | #1 LF-3 | 0.71 | 1.24 | 1.84 |
| | #1 LF-4 | 0.11 | -0.60 | -1.85 |
| | #1 LF-5 | 1.05 | 0.56 | 0.08 |
| | #1 LF-6 | 0.02 | 0.03 | 0.04 |
| | #1 LF-7 | -0.01 | -0.02 | -0.02 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

WT-2.1_3

| | Lastfall | Lasten (3 Abschnitte je 0.26m) | | [kN/m] |
|---|-----------|--------------------------------|-------|--------|
| Gk | LF-1 (g) | 10.16 | 6.71 | 4.12 |
| | #1 LF-1 | 2.30 | 8.39 | 14.06 |
| Ö← | LF-2 | -3.88 | -4.88 | -5.58 |
| | #1 LF-2 | -3.55 | -1.90 | -0.28 |
| Qk.N_E1 | LF-18 | -0.01 | -0.01 | -0.02 |
| | LF-22 | -0.07 | -0.07 | -0.05 |
| | #1 LF-8 | 2.66 | 1.58 | 0.89 |
| Qk.N_DA | LF-5 | 0.09 | 0.13 | 0.16 |
| | LF-6 | -14.4 | -17.3 | -19.3 |
| | LF-7 | 0.05 | 0.07 | 0.08 |
| | LF-8 | -0.03 | -0.04 | -0.05 |
| | LF-10 | -0.26 | -0.48 | -0.68 |
| | LF-11 | 6.30 | 7.29 | 7.97 |
| | LF-12 | 0.00 | -0.01 | -0.01 |
| | LF-14 | 0.01 | 0.00 | -0.01 |
| | #1 LF-3 | 2.14 | 1.64 | 1.28 |
| | #1 LF-4 | -9.23 | -5.47 | -1.90 |
| | #1 LF-5 | -0.12 | -0.07 | -0.04 |
| | #1 LF-6 | 0.02 | 0.00 | 0.00 |
| | #1 LF-7 | 0.08 | 0.10 | 0.11 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

WT-2.1_4

| | Lastfall | Lasten (3 Abschnitte je 0.68m) | | [kN/m] |
|---------|-----------|--------------------------------|-------|--------|
| Gk | LF-1 (g) | 6.32 | 26.27 | 322.6 |
| | #1 LF-1 | 16.26 | 0.80 | -0.56 |
| Ö← | LF-2 | -5.78 | -0.15 | 56.55 |
| | #1 LF-2 | 2.20 | 0.18 | -0.07 |
| Qk.N_E1 | LF-17 | -0.01 | -0.03 | 0.27 |
| | LF-18 | -0.02 | 0.01 | 0.01 |
| | LF-22 | 0.04 | 0.01 | 0.01 |
| | #1 LF-8 | -0.26 | -0.08 | -0.01 |
| Qk.N_DA | LF-3 | -0.02 | 0.12 | 1.54 |

| Lastfall | Lasten (3 Abschnitte je 0.68m) | [kN/m] | | |
|---|--------------------------------|--------|-------|-------|
| LF-4 | | 0.00 | 0.00 | -0.04 |
| LF-5 | | 0.18 | 0.08 | 0.25 |
| LF-6 | | -17.0 | -8.17 | -49.0 |
| LF-7 | | 0.05 | 0.01 | 0.95 |
| LF-8 | | -0.03 | 0.00 | -0.56 |
| LF-9 | | 0.00 | 0.00 | 0.01 |
| LF-10 | | -3.25 | 0.05 | 101.9 |
| LF-11 | | 6.74 | 3.81 | 33.57 |
| LF-12 | | -0.01 | -0.07 | -0.09 |
| LF-13 | | 0.01 | 0.02 | -0.39 |
| LF-14 | | -0.01 | 0.01 | 0.01 |
| #1 LF-3 | | 0.29 | -0.03 | -0.02 |
| #1 LF-4 | | 4.04 | 0.39 | -0.13 |
| #1 LF-5 | | 0.01 | 0.01 | 0.00 |
| #1 LF-7 | | 0.06 | 0.00 | 0.00 |
| (g): Lastfall beinhaltet Eigengewicht (31.67 kN/m) der Wand | | | | |

WT-2.2

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten (4 Abschnitte je 0.69m) | [kN/m] | | | |
|---|--------------------------------|--------|-------|-------|--|
| LF-1 (g) | -21.5 | -46.4 | -1.44 | 22.55 | |
| #1 LF-1 | 7.48 | 28.84 | 34.14 | 15.21 | |
| LF-2 | -14.1 | -22.0 | -7.51 | 0.13 | |
| #1 LF-2 | 0.46 | 1.92 | 2.50 | 1.43 | |
| LF-18 | 0.40 | 2.37 | 4.96 | 4.91 | |
| LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | |
| LF-21 | 0.48 | 2.27 | 3.84 | 2.66 | |
| LF-22 | -0.23 | -1.08 | -1.98 | -1.33 | |
| LF-23 | 0.02 | 0.00 | -0.02 | 0.01 | |
| #1 LF-8 | -0.15 | -0.65 | -0.78 | -0.03 | |
| LF-3 | -0.01 | -0.01 | 0.00 | 0.00 | |
| LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | |
| LF-5 | -37.6 | -58.6 | -24.3 | -3.85 | |
| LF-6 | 5.47 | 7.23 | 2.10 | -0.23 | |
| LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | |
| LF-11 | -0.27 | -1.11 | -1.48 | -1.02 | |
| LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | |
| LF-14 | 2.05 | 3.32 | 2.23 | 0.81 | |
| LF-15 | 2.13 | 3.52 | 2.17 | 0.41 | |
| LF-16 | 0.05 | 0.03 | -0.01 | 0.00 | |
| #1 LF-3 | -0.05 | -0.23 | -0.27 | 0.08 | |
| #1 LF-4 | 0.25 | 1.22 | 2.08 | 1.65 | |
| #1 LF-5 | 0.66 | 2.92 | 3.60 | 1.66 | |
| #1 LF-6 | 0.11 | 0.25 | 0.02 | -0.30 | |
| #1 LF-7 | -0.06 | -0.31 | -0.42 | -0.24 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

WT-2.3_1

Gk

Ö←

Qk.N_E1

| Lastfall | Lasten (3 Abschnitte je 0.68m) | [kN/m] | | |
|-----------|--------------------------------|--------|-------|-------|
| LF-1 (g) | | 20.30 | 33.98 | 312.8 |
| #1 LF-1 | | 17.07 | 0.71 | -0.56 |
| LF-2 | | -1.32 | 2.26 | 52.76 |
| #1 LF-2 | | 2.12 | 0.14 | -0.07 |
| LF-17 | | -0.03 | -0.04 | 0.81 |
| LF-19 | | -0.05 | 0.00 | 0.00 |
| LF-20 | | 0.02 | -0.02 | -0.01 |
| LF-22 | | -1.45 | -0.26 | -0.04 |
| LF-23 | | 0.13 | 0.02 | 0.00 |

| Lastfall Lasten (3 Abschnitte je 0.68m) | | [kN/m] | | |
|---|-----------|--------|-------|-------|
| Qk.N_DA | #1 LF-8 | 0.05 | 0.00 | 0.00 |
| | LF-3 | -4.97 | -2.67 | -58.0 |
| | LF-4 | 0.32 | 0.16 | 0.97 |
| | LF-5 | -1.16 | -0.30 | -1.52 |
| | LF-6 | -0.03 | 0.09 | 1.89 |
| | LF-7 | 0.00 | 0.00 | -0.02 |
| | LF-8 | 0.00 | 0.00 | 0.01 |
| | LF-10 | -3.19 | -0.05 | 102.8 |
| | LF-11 | -0.01 | -0.06 | -0.13 |
| | LF-12 | 5.49 | 3.75 | 34.76 |
| | LF-13 | 0.02 | 0.00 | -0.49 |
| | LF-16 | 0.07 | 0.01 | 0.00 |
| | #1 LF-3 | 0.01 | 0.00 | 0.00 |
| | #1 LF-4 | 4.84 | 0.38 | -0.14 |
| | #1 LF-6 | -0.02 | 0.00 | 0.00 |
| | #1 LF-7 | -0.58 | -0.10 | 0.00 |
| (g): Lastfall beinhaltet Eigengewicht (31.67 kN/m) der Wand | | | | |

| WT-2.3_2 | | Lastfall Lasten (3 Abschnitte je 0.27m) | | [kN/m] |
|----------|---|---|-------|--------|
| Gk | LF-1 (g) | 28.82 | 23.70 | 19.86 |
| | #1 LF-1 | 7.13 | 13.00 | 18.37 |
| Ö← | LF-2 | 2.15 | 0.64 | -0.46 |
| | #1 LF-2 | -2.25 | -0.87 | 0.52 |
| Qk.N_E1 | LF-19 | 0.03 | -0.01 | -0.04 |
| | LF-20 | 0.09 | 0.07 | 0.07 |
| | LF-22 | 5.90 | 3.56 | 1.59 |
| | LF-23 | -0.21 | -0.07 | 0.03 |
| | #1 LF-8 | 0.00 | 0.02 | 0.04 |
| Qk.N_DA | LF-3 | -7.21 | -8.31 | -8.75 |
| | LF-4 | 0.43 | 0.48 | 0.49 |
| | LF-5 | -0.16 | -0.78 | -1.18 |
| | LF-6 | -0.01 | -0.01 | 0.00 |
| | LF-10 | -0.44 | -0.61 | -0.76 |
| | LF-11 | -0.01 | -0.01 | -0.01 |
| | LF-12 | 7.98 | 8.09 | 7.94 |
| | LF-16 | -0.09 | -0.02 | 0.03 |
| | #1 LF-3 | 0.00 | 0.01 | 0.01 |
| | #1 LF-4 | -7.27 | -3.30 | 0.35 |
| | #1 LF-6 | 0.05 | 0.03 | 0.01 |
| | #1 LF-7 | 2.71 | 1.52 | 0.65 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |

| WT-2.3_3 | | Lastfall Lasten (5 Abschnitte je 0.71m) | | | | | [kN/m] |
|----------|-----------|---|-------|-------|-------|-------|--------|
| Gk | LF-1 (g) | 73.72 | -43.9 | -0.65 | 32.46 | 43.84 | |
| | #1 LF-1 | 1.68 | 22.20 | 33.14 | 23.31 | 15.78 | |
| Ö← | LF-2 | 16.08 | -21.5 | -7.64 | 2.98 | 6.65 | |
| | #1 LF-2 | 0.04 | 1.33 | 1.83 | 1.56 | 0.88 | |
| Qk.N_E1 | LF-19 | -0.06 | 0.09 | 0.09 | -0.12 | -0.07 | |
| | LF-20 | 0.19 | 0.37 | 1.00 | 1.65 | 1.54 | |
| | LF-21 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | |
| | LF-22 | 0.12 | -1.15 | -2.18 | -1.26 | 3.51 | |
| | LF-23 | -0.17 | 2.45 | 3.95 | 2.02 | -0.55 | |
| | #1 LF-8 | 0.00 | 0.00 | -0.01 | 0.00 | 0.00 | |
| Qk.N_DA | LF-3 | 0.57 | 0.15 | 0.18 | -0.15 | -0.57 | |
| | LF-4 | -0.21 | -0.03 | -0.22 | -0.23 | -0.09 | |

| Lastfall | Lasten (5 Abschnitte je 0.71m) | [kN/m] |
|-----------|--------------------------------|--------|
| LF-5 | 22.86 -54.0 -25.9 -2.58 | 4.60 |
| LF-6 | 0.14 0.36 0.16 0.00 | -0.05 |
| LF-10 | 0.00 0.00 -0.01 -0.01 | 0.01 |
| LF-11 | 0.00 0.01 0.00 0.00 | 0.00 |
| LF-12 | 7.38 6.85 7.58 8.33 | 8.02 |
| LF-15 | 0.01 0.03 0.01 0.00 | 0.00 |
| LF-16 | 1.46 3.61 2.13 0.12 | -0.65 |
| #1 LF-4 | 0.03 0.31 0.65 -0.20 | -2.57 |
| #1 LF-5 | 0.00 0.01 0.00 0.00 | 0.00 |
| #1 LF-6 | 0.02 -0.06 -0.07 -0.05 | -0.01 |
| #1 LF-7 | 0.02 2.41 3.08 3.37 | 4.33 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.4_1

| Lastfall | Lasten (3 Abschnitte je 0.43m) | [kN/m] |
|----------|--------------------------------|-------------------|
| Gk | LF-1 (g) | 230.0 135.1 93.84 |
| | #1 LF-1 | -4.77 1.56 5.31 |
| Ö← | LF-2 | 66.38 36.12 22.94 |
| | #1 LF-2 | -0.43 0.18 0.54 |
| Qk.N_E1 | LF-19 | -0.08 0.02 0.07 |
| | LF-20 | -0.03 -0.18 -0.20 |
| | LF-21 | 0.01 0.01 0.01 |
| | LF-22 | 0.60 0.06 -0.31 |
| | LF-23 | -0.98 0.11 0.81 |
| | #1 LF-8 | 0.00 0.00 0.00 |
| Qk.N_DA | LF-3 | 0.77 0.17 -0.07 |
| | LF-4 | -0.49 -0.17 -0.03 |
| | LF-5 | 128.6 70.31 43.85 |
| | LF-6 | -0.37 -0.21 -0.13 |
| | LF-11 | -0.01 -0.01 0.00 |
| | LF-12 | 2.81 -0.99 -2.02 |
| | LF-15 | -0.02 -0.01 0.00 |
| | LF-16 | 0.25 2.24 3.49 |
| | #1 LF-4 | -0.06 -0.14 -0.17 |
| | #1 LF-6 | 0.06 0.01 -0.03 |
| | #1 LF-7 | -0.85 0.48 1.27 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.4_2

| Lastfall | Lasten (3 Abschnitte je 0.11m) | [kN/m] |
|----------|--------------------------------|-------------------|
| Gk | LF-1 (g) | 85.41 86.52 87.63 |
| | #1 LF-1 | 7.82 7.73 7.65 |
| Ö← | LF-2 | 20.14 20.49 20.84 |
| | #1 LF-2 | 0.77 0.76 0.75 |
| Qk.N_E1 | LF-19 | 0.06 0.05 0.05 |
| | LF-20 | -0.02 -0.01 -0.01 |
| | LF-21 | -0.17 -0.18 -0.20 |
| | LF-22 | -0.96 -0.94 -0.93 |
| | LF-23 | 1.72 1.70 1.68 |
| Qk.N_DA | LF-3 | -0.07 -0.06 -0.06 |
| | LF-4 | 0.01 0.01 0.01 |
| | LF-5 | 35.56 36.31 37.06 |
| | LF-6 | -0.36 -0.39 -0.42 |
| | LF-11 | -0.01 -0.01 -0.02 |
| | LF-12 | -0.20 -0.17 -0.14 |
| | LF-15 | -0.21 -0.23 -0.25 |
| | LF-16 | 4.86 4.83 4.81 |

Lastfall Lasten (3 Abschnitte je 0.11m) [kN/m]

| | | | |
|-----------|-------|-------|-------|
| #1 LF-4 | 0.05 | 0.05 | 0.05 |
| #1 LF-5 | -0.01 | -0.02 | -0.02 |
| #1 LF-6 | -0.18 | -0.18 | -0.19 |
| #1 LF-7 | 1.69 | 1.67 | 1.66 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.4_3

Lastfall Lasten (5 Abschnitte je 0.72m) [kN/m]

| | | | | | | |
|---------|-----------|-------|-------|-------|-------|-------|
| Gk | LF-1 (g) | 89.67 | 70.06 | 114.1 | 110.5 | 89.41 |
| | #1 LF-1 | 5.20 | -1.06 | -5.51 | -0.48 | 5.57 |
| Ö← | LF-2 | 21.50 | 15.21 | 29.36 | 28.19 | 21.40 |
| | #1 LF-2 | 0.51 | -0.05 | -0.48 | -0.15 | 0.29 |
| Qk.N_E1 | LF-18 | 0.02 | 0.03 | 0.03 | -0.06 | -0.26 |
| | LF-19 | 0.00 | -0.02 | -0.03 | -0.01 | 0.00 |
| | LF-20 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| | LF-21 | -0.40 | -0.55 | -0.26 | 0.67 | 1.25 |
| | LF-22 | -0.49 | 0.32 | 0.69 | 0.05 | -0.52 |
| | LF-23 | 1.15 | 0.07 | -0.76 | -0.64 | -0.28 |
| | #1 LF-8 | -0.01 | 0.00 | 0.01 | 0.01 | 0.00 |
| Qk.N_DA | LF-3 | -0.03 | 0.00 | 0.05 | 0.03 | 0.01 |
| | LF-4 | 0.00 | 0.00 | -0.02 | -0.02 | 0.00 |
| | LF-5 | 39.62 | 29.50 | 59.38 | 54.96 | 40.05 |
| | LF-6 | -0.71 | -0.66 | -1.50 | -1.61 | -1.62 |
| | LF-11 | -0.03 | -0.03 | -0.05 | -0.01 | 0.13 |
| | LF-12 | 0.03 | 0.06 | 0.06 | 0.03 | 0.01 |
| | LF-14 | 0.00 | 0.01 | 0.00 | -0.08 | -0.27 |
| | LF-15 | -0.52 | -0.62 | 0.76 | 3.22 | 4.33 |
| | LF-16 | 4.08 | 2.00 | -0.44 | -0.78 | -0.36 |
| | #1 LF-4 | -0.06 | -0.32 | -0.31 | 0.24 | 0.63 |
| | #1 LF-5 | -0.04 | -0.06 | -0.06 | 0.06 | 0.23 |
| | #1 LF-6 | -0.17 | -0.09 | 0.01 | 0.16 | 0.31 |
| | #1 LF-7 | 1.30 | 0.37 | -0.59 | -0.76 | -0.58 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.5

Lastfall Lasten (4 Abschnitte je 0.69m) [kN/m]

| | | | | | |
|---------|-----------|-------|-------|-------|-------|
| Gk | LF-1 (g) | -27.3 | -55.8 | -12.8 | 21.32 |
| | #1 LF-1 | 8.00 | 32.68 | 45.54 | 28.97 |
| Ö← | LF-2 | -16.1 | -25.2 | -11.4 | -0.42 |
| | #1 LF-2 | 0.52 | 2.24 | 3.83 | 3.78 |
| Qk.N_E1 | LF-18 | -0.01 | -0.06 | -0.06 | -0.01 |
| | LF-19 | 0.00 | 0.02 | -0.01 | -0.04 |
| | LF-21 | 0.49 | 2.31 | 4.04 | 2.59 |
| | LF-22 | -0.56 | -3.24 | -6.76 | -3.22 |
| | LF-23 | 0.54 | 2.58 | 4.00 | 2.00 |
| | #1 LF-8 | 0.00 | 0.01 | 0.04 | 0.09 |
| Qk.N_DA | LF-3 | -0.04 | -0.09 | -0.10 | -0.05 |
| | LF-4 | 0.02 | 0.04 | 0.03 | 0.00 |
| | LF-5 | -37.9 | -60.3 | -29.1 | -2.63 |
| | LF-6 | 1.71 | 2.28 | 1.08 | 0.10 |
| | LF-11 | 0.03 | 0.08 | 0.06 | 0.01 |
| | LF-12 | -0.01 | -0.04 | 0.01 | 0.05 |
| | LF-14 | 0.02 | -0.01 | -0.03 | -0.01 |
| | LF-15 | 2.16 | 3.53 | 2.33 | 0.41 |
| | LF-16 | 2.21 | 3.96 | 2.57 | 0.38 |
| | #1 LF-3 | 0.00 | 0.00 | 0.01 | 0.02 |
| | #1 LF-4 | 0.39 | 2.47 | 5.35 | 2.11 |

| Lastfall | Lasten (4 Abschnitte je 0.69m) | [kN/m] | | | |
|---|--------------------------------|--------|--|--|--|
| #1 LF-5 | 0.04 0.05 -0.16 -0.31 | | | | |
| #1 LF-6 | 0.12 0.63 0.94 1.67 | | | | |
| #1 LF-7 | 0.48 1.34 1.54 4.07 | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

j Yf bUWV } gg] [hY`
Lasten

| Position | in Dokumentation | ↔^ÁQáb\fiâã&ââ | |
|------------|------------------|----------------|---------|
| | | positiv | negativ |
| | [kN] | [kN] | [kN] |
| W-2.1(1) | -0.00655 | 0.00258 | -0.0005 |
| W-2.1(2) | -0.00252 | 0.00039 | -0.0019 |
| W-2.1(3) | -0.00307 | 0.00027 | -0.0021 |
| W-2.1(4) | 0.00423 | 0.00022 | -0.0028 |
| W-2.1(5) | -0.00086 | 0.00018 | -0.0031 |
| W-2.1(6) | -0.00508 | 0.00015 | -0.0030 |
| W-2.1(7) | -0.00213 | 0.00009 | -0.0021 |
| W-2.1(8) | 0.00029 | 0.00509 | -0.0002 |
| W-2.2(1) | 0.00256 | 0.00039 | -0.0023 |
| W-2.2(2) | 0.00254 | 0.00041 | -0.0028 |
| W-2.2(3) | 0.00286 | 0.00044 | -0.0033 |
| W-2.3(1) | 0.00533 | 0.00154 | -0.0021 |
| W-2.3(2) | 0.00924 | 0.00135 | -0.0014 |
| W-2.3(3) | 0.00876 | 0.00121 | -0.0009 |
| W-2.4(1) | 0.00860 | 0.00041 | -0.0015 |
| W-2.4(2) | 0.00483 | 0.00070 | -0.0023 |
| W-2.4(3) | 0.00501 | 0.00103 | -0.0032 |
| W-2.5_1(1) | 0.00000 | 0.00086 | -0.0007 |
| W-2.5_1(2) | -0.00436 | 0.00048 | -0.0004 |
| W-2.5_1(3) | -0.00405 | 0.00050 | -0.0004 |
| W-2.5_1(4) | -0.00305 | 0.00037 | -0.0003 |
| W-2.5_1(5) | -0.00204 | 0.00020 | -0.0001 |
| W-2.5_1(6) | 0.00221 | 0.00006 | -0.0001 |
| W-2.5_2(1) | 0.00000 | 0.00011 | -0.0001 |
| W-2.5_2(2) | 0.00000 | 0.00009 | -0.0001 |
| W-2.5_2(3) | 0.00000 | 0.00008 | 0.0000 |
| W-2.6(1) | 0.01458 | 0.00111 | -0.0093 |
| W-2.6(2) | -0.00754 | 0.00194 | -0.0007 |
| W-2.6(3) | -0.01390 | 0.00450 | -0.0004 |
| W-2.6(4) | -0.01251 | 0.00551 | -0.0002 |
| W-2.6(5) | -0.01326 | 0.00664 | -0.0001 |
| W-2.6(6) | -0.00518 | 0.00588 | -0.0002 |
| W-2.6(7) | 0.00964 | 0.00056 | -0.0002 |
| W-2.6(8) | 0.00366 | 0.00022 | -0.0026 |
| W-2.6(9) | 0.00227 | 0.00032 | -0.0084 |
| W-2.7(1) | 0.00000 | 0.00071 | -0.0005 |
| W-2.7(2) | 0.00000 | 0.00037 | -0.0004 |
| W-2.7(3) | 0.00000 | 0.00027 | -0.0003 |
| W-2.7(4) | 0.00000 | 0.00016 | -0.0001 |
| W-2.7(5) | 0.00000 | 0.00013 | -0.0001 |
| W-2.7(6) | 0.00000 | 0.00009 | -0.0001 |
| W-2.7(7) | 0.00539 | 0.00005 | -0.0001 |
| W-2.7(8) | 0.00320 | 0.00006 | -0.0001 |
| W-2.8(1) | 0.01231 | 0.00122 | -0.0008 |
| W-2.8(2) | 0.01040 | 0.00129 | -0.0008 |
| W-2.8(3) | 0.00127 | 0.00111 | -0.0007 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâæã&áâæ | |
|------------|------------------|------------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| W-2.8(4) | -0.00047 | 0.00073 | -0.0005 |
| W-2.9(1) | -0.00006 | 0.00406 | -0.0025 |
| W-2.9(2) | -0.00016 | 0.00011 | -0.0021 |
| W-2.9(3) | -0.00615 | 0.00006 | -0.0016 |
| W-2.9(4) | -0.00127 | 0.00003 | 0.0000 |
| W-2.9(5) | 0.00182 | 0.00104 | 0.0000 |
| W-2.9(6) | 0.00265 | 0.00123 | 0.0000 |
| W-2.9(7) | 0.00016 | 0.00085 | -0.0001 |
| W-2.9(8) | 0.00597 | 0.00129 | -0.0024 |
| W-2.10(1) | 0.00733 | 0.00065 | -0.0013 |
| W-2.10(2) | -0.00162 | 0.00104 | -0.0003 |
| W-2.10(3) | -0.01428 | 0.00087 | -0.0002 |
| W-2.10(4) | -0.01217 | 0.00046 | -0.0002 |
| W-2.10(5) | 0.00404 | 0.00017 | -0.0001 |
| W-2.10(6) | -0.01693 | 0.00003 | -0.0001 |
| W-2.10(7) | 0.00121 | 0.00002 | -0.0001 |
| W-2.10(8) | 0.00626 | 0.00008 | 0.0000 |
| W-2.10(9) | 0.00167 | 0.00013 | 0.0000 |
| W-2.10(10) | 0.00432 | 0.00000 | -0.0001 |
| W-2.10(11) | -0.00179 | 0.00021 | 0.0000 |
| W-2.10(12) | 0.01609 | 0.00356 | 0.0000 |
| W-2.11(1) | -0.00233 | 0.00212 | -0.0005 |
| W-2.11(2) | 0.00427 | 0.00160 | -0.0005 |
| W-2.11(3) | 0.00000 | 0.00111 | -0.0004 |
| W-2.12(1) | -0.00450 | 0.00104 | -0.0037 |
| W-2.12(2) | -0.00033 | 0.00086 | -0.0020 |
| W-2.12(3) | -0.00046 | 0.00074 | -0.0006 |
| W-2.13(1) | 0.00123 | 0.00191 | -0.0008 |
| W-2.13(2) | 0.00128 | 0.00174 | -0.0008 |
| W-2.13(3) | 0.00134 | 0.00159 | -0.0008 |
| W-2.14(1) | 0.00357 | 0.00205 | -0.0049 |
| W-2.14(2) | -0.00144 | 0.00027 | -0.0001 |
| W-2.14(3) | -0.00229 | 0.00041 | -0.0001 |
| W-2.14(4) | -0.00447 | 0.00030 | -0.0001 |
| W-2.14(5) | -0.00567 | 0.00028 | -0.0001 |
| W-2.14(6) | -0.00662 | 0.00024 | -0.0002 |
| W-2.14(7) | -0.00766 | 0.00017 | -0.0002 |
| W-2.14(8) | -0.00090 | 0.00016 | -0.0004 |
| W-2.14(9) | -0.00091 | 0.00019 | -0.0006 |
| W-2.14(10) | -0.00270 | 0.00034 | -0.0008 |
| W-2.14(11) | 0.00323 | 0.00067 | -0.0011 |
| W-2.14(12) | -0.00144 | 0.00037 | -0.0007 |
| W-2.15(1) | 0.00068 | 0.00009 | -0.0002 |
| W-2.15(2) | -0.01012 | 0.00002 | 0.0000 |
| W-2.15(3) | -0.00699 | 0.00003 | 0.0000 |
| W-2.15(4) | 0.00004 | 0.00003 | 0.0000 |
| W-2.15(5) | 0.00000 | 0.00002 | 0.0000 |
| W-2.15(6) | -0.00678 | 0.00000 | 0.0000 |
| W-2.15(7) | -0.00509 | 0.00000 | 0.0000 |
| W-2.15(8) | -0.00848 | 0.00001 | -0.0001 |
| W-2.15(9) | -0.00162 | 0.00004 | -0.0001 |
| W-2.15(10) | -0.00184 | 0.00012 | -0.0003 |
| W-2.15(11) | -0.00249 | 0.00005 | -0.0005 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâã&áâæ | |
|-------------|------------------|-----------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| W-2.15(12) | -0.00909 | 0.00075 | -0.0027 |
| W-2.16(1) | 0.00266 | 0.00191 | -0.0006 |
| W-2.16(2) | -0.00430 | 0.00071 | -0.0014 |
| W-2.16(3) | 0.00000 | 0.00058 | -0.0037 |
| W-2.17(1) | -0.00711 | 0.00484 | -0.0003 |
| W-2.17(2) | 0.00864 | 0.00007 | -0.0010 |
| W-2.17(3) | 0.00220 | 0.00002 | -0.0008 |
| W-2.17(4) | -0.00843 | 0.00012 | -0.0005 |
| W-2.17(5) | -0.00630 | 0.00019 | -0.0004 |
| W-2.17(6) | -0.00726 | 0.00023 | -0.0003 |
| W-2.17(7) | -0.00163 | 0.00025 | -0.0003 |
| W-2.17(8) | -0.00029 | 0.00025 | -0.0003 |
| W-2.17(9) | -0.01335 | 0.00022 | -0.0002 |
| W-2.17(10) | -0.01036 | 0.00019 | -0.0002 |
| W-2.17(11) | -0.00679 | 0.00013 | -0.0001 |
| W-2.17(12) | 0.00172 | 0.00031 | -0.0003 |
| W-2.18_1(1) | -0.00079 | 0.00058 | -0.0027 |
| W-2.18_1(2) | -0.00127 | 0.00117 | -0.0013 |
| W-2.18_1(3) | -0.00163 | 0.00102 | -0.0015 |
| W-2.18_1(4) | 0.00265 | 0.00043 | -0.0017 |
| W-2.18_2(1) | -0.00238 | 0.00194 | -0.0001 |
| W-2.18_2(2) | 0.00068 | 0.00103 | -0.0001 |
| W-2.18_2(3) | -0.00065 | 0.00072 | 0.0000 |
| W-2.18_2(4) | 0.00625 | 0.00088 | 0.0000 |
| W-2.18_3(1) | 0.00000 | 0.00058 | -0.0001 |
| W-2.18_3(2) | 0.00000 | 0.00059 | -0.0001 |
| W-2.18_3(3) | 0.00000 | 0.00061 | -0.0001 |
| W-2.18_4(1) | 0.00000 | 0.00019 | -0.0003 |
| W-2.18_4(2) | 0.00000 | 0.00019 | -0.0002 |
| W-2.18_4(3) | 0.00000 | 0.00085 | -0.0006 |
| W-2.18_4(4) | 0.00000 | 0.00201 | -0.0015 |
| W-2.19(1) | -0.00005 | 0.00032 | -0.0003 |
| W-2.19(2) | 0.00031 | 0.00024 | 0.0000 |
| W-2.19(3) | -0.00438 | 0.00035 | 0.0000 |
| W-2.19(4) | 0.00423 | 0.00043 | 0.0000 |
| W-2.19(5) | 0.00266 | 0.00051 | 0.0000 |
| W-2.19(6) | 0.00226 | 0.00055 | 0.0000 |
| W-2.19(7) | 0.00216 | 0.00054 | 0.0000 |
| W-2.19(8) | 0.00777 | 0.00049 | 0.0000 |
| W-2.19(9) | 0.00462 | 0.00041 | 0.0000 |
| W-2.19(10) | 0.00714 | 0.00034 | 0.0000 |
| W-2.19(11) | 0.00126 | 0.00035 | 0.0000 |
| W-2.19(12) | -0.00463 | 0.00050 | 0.0000 |
| W-2.20(1) | 0.00058 | 0.00036 | -0.0004 |
| W-2.20(2) | 0.00186 | 0.00005 | -0.0004 |
| W-2.20(3) | 0.00457 | 0.00005 | -0.0005 |
| W-2.20(4) | 0.00146 | 0.00004 | -0.0006 |
| W-2.20(5) | -0.00421 | 0.00005 | -0.0007 |
| W-2.20(6) | -0.00634 | 0.00005 | -0.0008 |
| W-2.20(7) | 0.00196 | 0.00006 | -0.0008 |
| W-2.20(8) | 0.00336 | 0.00006 | -0.0007 |
| W-2.20(9) | -0.00166 | 0.00005 | -0.0006 |
| W-2.20(10) | 0.00413 | 0.00004 | -0.0005 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâæã&áâæ | |
|------------|------------------|------------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| W-2.20(11) | 0.00418 | 0.00002 | -0.00002 |
| W-2.20(12) | -0.00605 | 0.00048 | -0.00002 |
| W-2.21(1) | -0.00676 | 0.00256 | -0.00009 |
| W-2.21(2) | 0.00154 | 0.00068 | 0.00000 |
| W-2.21(3) | -0.00068 | 0.00008 | 0.00000 |
| W-2.21(4) | -0.00512 | 0.00001 | 0.00000 |
| W-2.21(5) | -0.01283 | 0.00000 | 0.00000 |
| W-2.21(6) | 0.00393 | 0.00000 | 0.00000 |
| W-2.21(7) | 0.00466 | 0.00000 | 0.00000 |
| W-2.21(8) | 0.00536 | 0.00000 | 0.00000 |
| W-2.21(9) | 0.00513 | 0.00000 | 0.00000 |
| W-2.21(10) | -0.00138 | 0.00000 | 0.00000 |
| W-2.21(11) | 0.00142 | 0.00001 | 0.00000 |
| W-2.21(12) | -0.00637 | 0.00002 | 0.00000 |
| W-2.21(13) | 0.00700 | 0.00009 | -0.00002 |
| W-2.21(14) | -0.00571 | 0.00073 | -0.00012 |
| W-2.22(1) | -0.00132 | 0.00009 | -0.00010 |
| W-2.22(2) | 0.00101 | 0.00032 | 0.00000 |
| W-2.22(3) | 0.00197 | 0.00092 | -0.00001 |
| W-2.22(4) | 0.00327 | 0.00113 | -0.00001 |
| W-2.22(5) | 0.00621 | 0.00116 | -0.00001 |
| W-2.22(6) | 0.00571 | 0.00101 | -0.00001 |
| W-2.22(7) | 0.01265 | 0.00069 | -0.00002 |
| W-2.22(8) | 0.01612 | 0.00028 | -0.00002 |
| W-2.22(9) | 0.00824 | 0.00006 | -0.00005 |
| W-2.22(10) | 0.00015 | 0.00009 | -0.00012 |
| W-2.22(11) | 0.00773 | 0.00010 | -0.00020 |
| W-2.22(12) | 0.00393 | 0.00007 | -0.00023 |
| W-2.23(1) | -0.00020 | 0.00016 | -0.00046 |
| W-2.23(2) | 0.00491 | 0.00014 | -0.00021 |
| W-2.23(3) | 0.00131 | 0.00049 | -0.00017 |
| W-2.23(4) | -0.00394 | 0.00059 | -0.00007 |
| W-2.24(1) | 0.01085 | 0.00017 | 0.00000 |
| W-2.24(2) | 0.00603 | 0.00021 | 0.00000 |
| W-2.24(3) | 0.00154 | 0.00011 | 0.00000 |
| W-2.24(4) | 0.01118 | 0.00002 | 0.00000 |
| W-2.24(5) | 0.00521 | 0.00001 | 0.00000 |
| W-2.24(6) | -0.00025 | 0.00001 | 0.00000 |
| W-2.25(1) | 0.00460 | 0.00021 | -0.00004 |
| W-2.25(2) | 0.00165 | 0.00010 | -0.00003 |
| W-2.25(3) | 0.00083 | 0.00008 | -0.00003 |
| W-2.25(4) | -0.00041 | 0.00012 | -0.00004 |
| W-2.25(5) | -0.00294 | 0.00020 | -0.00006 |
| W-2.25(6) | -0.00326 | 0.00027 | -0.00007 |
| W-2.25(7) | 0.00133 | 0.00018 | -0.00006 |
| W-2.25(8) | 0.01301 | 0.00009 | -0.00006 |
| W-2.25(9) | -0.00113 | 0.00014 | -0.00014 |
| W-2.25(10) | -0.00748 | 0.00025 | -0.00011 |
| W-2.25(11) | -0.01138 | 0.00034 | -0.00003 |
| W-2.25(12) | 0.00032 | 0.00588 | -0.00024 |
| W-2.26(1) | 0.04320 | 0.00143 | -0.00013 |
| W-2.26(2) | 0.02331 | 0.00063 | -0.00005 |
| W-2.26(3) | 0.00974 | 0.00044 | -0.00004 |

| Position | in Dokumentation | ↔ [^] Qáb\fiãã&áâ | |
|--|------------------|----------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| W-2.26(4) | 0.00575 | 0.00034 | -0.0003 |
| W-2.26(5) | 0.00486 | 0.00025 | -0.0002 |
| W-2.26(6) | 0.00513 | 0.00018 | -0.0002 |
| W-2.26(7) | 0.01063 | 0.00013 | -0.0001 |
| W-2.26(8) | 0.00917 | 0.00010 | -0.0001 |
| W-2.26(9) | 0.00799 | 0.00008 | -0.0001 |
| W-2.26(10) | 0.00869 | 0.00015 | -0.0001 |
| W-2.26(11) | 0.00514 | 0.00008 | -0.0001 |
| W-2.26(12) | -0.01437 | 0.00179 | -0.0032 |
| W-2.27_1(1) | 0.00000 | 0.00142 | -0.0006 |
| W-2.27_1(2) | 0.00000 | 0.00147 | -0.0005 |
| W-2.27_1(3) | 0.00000 | 0.00146 | -0.0005 |
| W-2.27_2(1) | 0.00000 | 0.00115 | -0.0022 |
| W-2.27_2(2) | 0.00000 | 0.00077 | -0.0014 |
| W-2.27_2(3) | 0.00000 | 0.00070 | -0.0009 |
| W-2.27_3(1) | 0.00064 | 0.00010 | 0.0000 |
| W-2.27_3(2) | -0.00047 | 0.00008 | 0.0000 |
| W-2.27_3(3) | 0.00000 | 0.00007 | 0.0000 |
| W-2.30_2(1) | -0.00034 | 0.00063 | -0.0011 |
| W-2.30_2(2) | 0.00000 | 0.00066 | -0.0014 |
| W-2.30_2(3) | 0.00000 | 0.00066 | -0.0017 |
| W-2.30_3(1) | 0.00463 | 0.00095 | -0.0025 |
| W-2.30_3(2) | 0.00023 | 0.00080 | -0.0023 |
| W-2.30_3(3) | -0.00348 | 0.00280 | -0.0023 |
| WS-2.5_SA_W-2.5_2 | -0.00031 | 0.00000 | 0.00000 |
| WS-2.5_SE_W-2.5_1 | -0.00461 | 0.00000 | 0.00000 |
| WS-2.18_1_SA_W-2.18_1, WS- 2.18_1_SE_W-2.18_2 | 0.00215 | 0.00000 | 0.00000 |
| WS-2.18_2_SA_W-2.18_2 | -0.00260 | 0.00000 | 0.00000 |
| WS-2.18_2_SE_W-2.18_3 | 0.00044 | 0.00000 | 0.00000 |
| WS-2.18_3_SA_W-2.18_3, WS- 2.18_3_SE_W-2.18_4 | 0.00034 | 0.00000 | 0.00000 |
| WS-2.27_1_SA_W-2.27_1 | 0.00128 | 0.00000 | 0.00000 |
| WS-2.27_1_SE_W-2.27_2 | -0.00359 | 0.00000 | 0.00000 |
| WS-2.27_2_SA_W-2.27_2 | -0.00103 | 0.00000 | 0.00000 |
| WS-2.27_2_SE_W-2.27_3 | 0.00084 | 0.00000 | 0.00000 |
| WS-2.30_2_SA_W-2.30_2 | 0.00146 | 0.00000 | 0.00000 |
| WS-2.30_2_SE_W-2.30_3 | -0.00047 | 0.00000 | 0.00000 |
| WS-T-2.1_SA_WT-2.1_2 | 0.00970 | 0.00000 | 0.00000 |
| WS-T-2.1_SE_WT-2.1_3 | -0.00045 | 0.00000 | 0.00000 |
| WS-T-2.3_SA_WT-2.3_3 | 0.00997 | 0.00000 | 0.00000 |
| WS-T-2.3_SE_WT-2.3_2 | 0.01027 | 0.00000 | 0.00000 |
| WS-T-2.4_SA_WT-2.4_1 | -0.01482 | 0.00000 | 0.00000 |
| WS-T-2.4_SE_WT-2.4_2 | -0.00358 | 0.00000 | 0.00000 |
| WT-1.1(1) | -0.01706 | 0.00475 | -0.0029 |
| WT-1.1(2) | -0.00678 | 0.00027 | -0.0002 |
| WT-1.1(3) | -0.01184 | 0.00029 | -0.0004 |
| WT-1.1(4) | 0.01391 | 0.00006 | -0.0001 |
| WT-1.1(5) | 0.00367 | 0.00002 | -0.0001 |
| WT-1.1(6) | 0.00694 | 0.00011 | 0.0000 |
| WT-1.1(7) | 0.00290 | 0.00029 | 0.0000 |
| WT-1.1(8) | 0.00622 | 0.00057 | 0.0000 |
| WT-1.1(9) | 0.00190 | 0.00086 | 0.0000 |

| Position | in Dokumentation | ↔ [^] Qáb\fiãã&áãæ | |
|-------------|------------------|-----------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| WT-1.1(10) | -0.00048 | 0.00099 | 0.0000 |
| WT-1.1(11) | -0.00261 | 0.00079 | 0.0000 |
| WT-1.1(12) | -0.00593 | 0.00025 | 0.0000 |
| WT-2.1_1(1) | 0.00477 | 0.00130 | -0.0009 |
| WT-2.1_1(2) | 0.00905 | 0.00041 | -0.0003 |
| WT-2.1_1(3) | 0.00643 | 0.00031 | -0.0003 |
| WT-2.1_1(4) | 0.00358 | 0.00070 | -0.0006 |
| WT-2.1_2(1) | 0.00000 | 0.00097 | -0.0013 |
| WT-2.1_2(2) | 0.00000 | 0.00252 | -0.0004 |
| WT-2.1_2(3) | 0.00000 | 0.00282 | -0.0003 |
| WT-2.1_3(1) | -0.00082 | 0.00018 | -0.0014 |
| WT-2.1_3(2) | -0.00086 | 0.00032 | -0.0022 |
| WT-2.1_3(3) | -0.00475 | 0.00045 | -0.0023 |
| WT-2.1_4(1) | 0.00045 | 0.00215 | -0.0024 |
| WT-2.1_4(2) | 0.01583 | 0.00164 | -0.0010 |
| WT-2.1_4(3) | 0.01826 | 0.00244 | -0.0004 |
| WT-2.2(1) | -0.00272 | 0.00042 | -0.0005 |
| WT-2.2(2) | -0.00576 | 0.00039 | -0.0017 |
| WT-2.2(3) | -0.00644 | 0.00017 | -0.0023 |
| WT-2.2(4) | 0.00291 | 0.00004 | -0.0015 |
| WT-2.3_1(1) | 0.00005 | 0.00294 | -0.0002 |
| WT-2.3_1(2) | 0.00614 | 0.00027 | -0.0002 |
| WT-2.3_1(3) | -0.00090 | 0.00166 | -0.0003 |
| WT-2.3_2(1) | -0.00165 | 0.00021 | -0.0026 |
| WT-2.3_2(2) | -0.00398 | 0.00030 | -0.0016 |
| WT-2.3_2(3) | -0.00363 | 0.00063 | -0.0009 |
| WT-2.3_3(1) | 0.00922 | 0.00018 | -0.0010 |
| WT-2.3_3(2) | 0.00820 | 0.00092 | -0.0028 |
| WT-2.3_3(3) | 0.00165 | 0.00109 | -0.0013 |
| WT-2.3_3(4) | -0.00073 | 0.00086 | 0.0000 |
| WT-2.3_3(5) | 0.00044 | 0.00177 | -0.0001 |
| WT-2.4_1(1) | 0.00008 | 0.00519 | -0.0005 |
| WT-2.4_1(2) | -0.00189 | 0.00228 | -0.0001 |
| WT-2.4_1(3) | 0.00020 | 0.00141 | -0.0004 |
| WT-2.4_2(1) | 0.00000 | 0.00127 | -0.0008 |
| WT-2.4_2(2) | 0.00112 | 0.00126 | -0.0009 |
| WT-2.4_2(3) | -0.00009 | 0.00125 | -0.0010 |
| WT-2.4_3(1) | 0.00733 | 0.00077 | -0.0008 |
| WT-2.4_3(2) | 0.00842 | 0.00002 | -0.0024 |
| WT-2.4_3(3) | 0.00765 | 0.00007 | -0.0042 |
| WT-2.4_3(4) | -0.00375 | 0.00011 | -0.0009 |
| WT-2.4_3(5) | 0.00684 | 0.00564 | -0.0005 |
| WT-2.5(1) | -0.00546 | 0.00099 | -0.0001 |
| WT-2.5(2) | -0.00050 | 0.00393 | -0.0001 |
| WT-2.5(3) | 0.00348 | 0.00218 | -0.0010 |
| WT-2.5(4) | 0.00033 | 0.00141 | -0.0036 |

Folgende Linienlastanteile werden wegen ihres
&æã↔[^]&æ[^]ÁÓ↔[^]à→|bbæbÁâæ↔ÁâæãÁQáb\fiãã&áãæÁ
{æã[^]á[^]ã→†bb↔&\í

Lastfall

Pt

[kN]

| | |
|-----------|----------|
| LF-3 | 0.00247 |
| LF-4 | 0.00478 |
| LF-5 | 0.00752 |
| LF-6 | -0.00111 |
| LF-7 | -0.00314 |
| LF-8 | -0.00955 |
| LF-9 | 0.00402 |
| LF-10 | 0.00170 |
| LF-11 | 0.00570 |
| LF-12 | -0.00375 |
| LF-13 | -0.00626 |
| LF-14 | -0.00236 |
| LF-15 | -0.00104 |
| LF-16 | -0.00299 |
| LF-17 | 0.00603 |
| LF-18 | -0.00641 |
| LF-19 | 0.00159 |
| LF-20 | -0.00216 |
| LF-21 | -0.00440 |
| LF-22 | 0.00250 |
| LF-23 | 0.00077 |
| #1 LF-1 | -0.00037 |
| #1 LF-2 | -0.00369 |
| #1 LF-3 | 0.00444 |
| #1 LF-4 | -0.00438 |
| #1 LF-5 | -0.00176 |
| #1 LF-6 | -0.00528 |
| #1 LF-7 | 0.00470 |
| #1 LF-8 | 0.00236 |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und Linienlast-Resultierenden, getrennt nach positiven und negativen Anteilen

Lasten aus Lastgruppen werden nicht berücksichtigt

Punktlasten

| Position | EW | Art | *~b↔↔{ [kN] | ^æ&á\↔{ [kN] |
|----------|-------------|-----|-------------|--------------|
| S-2.1 | Gk | PGr | 216.48 | |
| | Ö← | PGr | 18.03 | |
| | Qk.N_E 1 | PGr | 0.00 | -21.83 |
| | Qk.N_D A | PGr | 95.32 | -44.81 |
| | | | | |
| S-2.2 | Gk | PGr | 271.67 | |
| | Ö← | PGr | 36.73 | |
| | Qk.N_E 1 | PGr | 0.00 | -11.45 |
| | Qk.N_D A | PGr | 95.18 | -14.32 |
| | | | | |
| S-2.3 | Gk | PGr | 184.45 | |
| | Ö← | PGr | 65.20 | |
| | Qk.N_E 1 | PGr | 0.02 | -0.04 |
| | | | | |

Linienlasten

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_D A | PGr | 63.94 | -10.87 |
| S-2.4 | Gk | PGr | 372.26 | |
| | Ö← | PGr | 130.29 | |
| | Qk.N_E 1 | PGr | 0.05 | -0.08 |
| | Qk.N_D A | PGr | 132.40 | -2.09 |
| S-2.5 | Gk | PGr | 247.50 | |
| | Ö← | PGr | 86.24 | |
| | Qk.N_E 1 | PGr | 0.01 | -0.01 |
| | Qk.N_D A | PGr | 86.95 | -0.56 |
| S-2.6 | Gk | PGr | 145.78 | |
| | Ö← | PGr | 50.93 | |
| | Qk.N_E 1 | PGr | 0.03 | 0.00 |
| | Qk.N_D A | PGr | 50.60 | -2.60 |
| S-2.7 | Gk | PGr | 107.18 | |
| | Ö← | PGr | 37.66 | |
| | Qk.N_E 1 | PGr | 10.45 | 0.00 |
| | Qk.N_D A | PGr | 20.62 | -0.19 |
| W-2.1 | Gk | PGr | 199.07 | |
| | Ö← | PGr | 78.48 | |
| | Qk.N_E 1 | PGr | 0.02 | -0.02 |
| | Qk.N_D A | PGr | 38.27 | -10.04 |
| W-2.2 | Gk | PGr | 241.89 | |
| | Ö← | PGr | 84.96 | |
| | Qk.N_D A | PGr | 88.17 | -2.93 |
| W-2.3 | Gk | PGr | 220.09 | |
| | Ö← | PGr | 76.36 | |
| | Qk.N_E 1 | PGr | 0.00 | 0.00 |
| | Qk.N_D A | PGr | 77.69 | -1.51 |
| W-2.4 | Gk | PGr | 230.18 | |
| | Ö← | PGr | 80.85 | |
| | Qk.N_E 1 | PGr | 0.00 | 0.00 |
| | Qk.N_D A | PGr | 76.92 | -2.58 |
| W-2.5_1 | Gk | PGr | 187.12 | |
| | Ö← | PGr | 32.03 | |
| | Qk.N_E 1 | PGr | 0.00 | -7.23 |
| | Qk.N_D A | PGr | 69.06 | -8.18 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|------------------|------------------|
| W-2.5_2 | Gk | PGr | 13.49 | |
| | Ö← | PGr | 1.63 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.13 |
| | Qk.N_D A | PGr | 5.81 | -2.44 |
| W-2.6 | Gk | PGr | 626.49 | |
| | Ö← | PGr | 155.39 | |
| | Qk.N_E 1 | PGr | 0.06 | -0.32 |
| | Qk.N_D A | PGr | 301.56 | -5.21 |
| W-2.7 | Gk | PGr | 313.01 | |
| | Ö← | PGr | 65.06 | |
| | Qk.N_E 1 | PGr | 64.61 | 0.00 |
| | Qk.N_D A | PGr | 55.00 | -16.01 |
| W-2.8 | Gk | PGr | 104.37 | |
| | Ö← | PGr | 1.28 | |
| | Qk.N_E 1 | PGr | 25.48 | -1.06 |
| | Qk.N_D A | PGr | 20.20 | -26.92 |
| W-2.9 | Gk | PGr | 438.66 | |
| | Ö← | PGr | 102.05 | |
| | Qk.N_E 1 | PGr | 42.78 | -3.66 |
| | Qk.N_D A | PGr | 176.84 | -6.33 |
| W-2.10 | Gk | PGr | 695.50 | |
| | Ö← | PGr | 153.04 | |
| | Qk.N_E 1 | PGr | 2.16 | -2.63 |
| | Qk.N_D A | PGr | 337.28 | -29.80 |
| W-2.11 | Gk | PGr | 158.59 | |
| | Ö← | PGr | 55.25 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.34 |
| | Qk.N_D A | PGr | 52.35 | -0.36 |
| W-2.12 | Gk | PGr | 306.80 | |
| | Ö← | PGr | 107.12 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.08 |
| | Qk.N_D A | PGr | 107.84 | -1.32 |
| W-2.13 | Gk | PGr | 29.26 | |
| | Ö← | PGr | 10.50 | |
| | Qk.N_E 1 | PGr | 0.00 | 0.00 |
| | Qk.N_D A | PGr | 4.40 | -2.18 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|------------------|------------------|
| W-2.14 | Gk | PGr | 349.48 | |
| | Ö← | PGr | 136.25 | |
| | Qk.N_E 1 | PGr | 0.01 | -0.01 |
| | Qk.N_D A | PGr | 85.17 | -22.50 |
| W-2.15 | Gk | PGr | 342.81 | |
| | Ö← | PGr | 134.52 | |
| | Qk.N_E 1 | PGr | 0.21 | -7.33 |
| | Qk.N_D A | PGr | 77.56 | -18.92 |
| W-2.16 | Gk | PGr | 173.00 | |
| | Ö← | PGr | 61.35 | |
| | Qk.N_E 1 | PGr | 20.81 | 0.00 |
| | Qk.N_D A | PGr | 36.29 | -9.17 |
| W-2.17 | Gk | PGr | 332.94 | |
| | Ö← | PGr | 131.19 | |
| | Qk.N_E 1 | PGr | 0.88 | -2.17 |
| | Qk.N_D A | PGr | 62.58 | -12.97 |
| W-2.18_1 | Gk | PGr | 99.64 | |
| | Ö← | PGr | 12.33 | |
| | Qk.N_E 1 | PGr | 31.49 | 0.00 |
| | Qk.N_D A | PGr | 60.86 | -57.03 |
| W-2.18_2 | Gk | PGr | 157.84 | |
| | Ö← | PGr | 30.46 | |
| | Qk.N_E 1 | PGr | 59.43 | 0.00 |
| | Qk.N_D A | PGr | 22.50 | -1.41 |
| W-2.18_3 | Gk | PGr | 23.15 | |
| | Ö← | PGr | 4.43 | |
| | Qk.N_E 1 | PGr | 8.42 | 0.00 |
| | Qk.N_D A | PGr | 3.40 | -0.21 |
| W-2.18_4 | Gk | PGr | 116.76 | |
| | Ö← | PGr | 18.25 | |
| | Qk.N_E 1 | PGr | 27.08 | 0.00 |
| | Qk.N_D A | PGr | 23.42 | -4.74 |
| W-2.19 | Gk | PGr | 377.67 | |
| | Ö← | PGr | 58.31 | |
| | Qk.N_E 1 | PGr | 0.84 | -0.01 |
| | Qk.N_D A | PGr | 160.05 | -46.01 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|------------------|------------------|
| W-2.20 | Gk | PGr | 513.28 | |
| | Ö← | PGr | 109.77 | |
| | Qk.N_E 1 | PGr | 0.16 | -0.45 |
| | Qk.N_D A | PGr | 206.40 | -36.07 |
| W-2.21 | Gk | PGr | 841.60 | |
| | Ö← | PGr | 108.76 | |
| | Qk.N_E 1 | PGr | 51.92 | -4.60 |
| | Qk.N_D A | PGr | 200.79 | -11.70 |
| W-2.22 | Gk | PGr | 388.78 | |
| | Ö← | PGr | 63.94 | |
| | Qk.N_E 1 | PGr | 1.18 | -0.78 |
| | Qk.N_D A | PGr | 196.61 | -76.52 |
| W-2.23 | Gk | PGr | 106.60 | |
| | Ö← | PGr | 3.54 | |
| | Qk.N_E 1 | PGr | 22.64 | -1.62 |
| | Qk.N_D A | PGr | 17.54 | -16.11 |
| W-2.24 | Gk | PGr | 174.98 | |
| | Ö← | PGr | 11.46 | |
| | Qk.N_E 1 | PGr | 71.96 | -1.86 |
| | Qk.N_D A | PGr | 33.65 | -48.95 |
| W-2.25 | Gk | PGr | 597.93 | |
| | Ö← | PGr | 129.39 | |
| | Qk.N_E 1 | PGr | 0.87 | -0.64 |
| | Qk.N_D A | PGr | 303.85 | -48.53 |
| W-2.26 | Gk | PGr | 305.07 | |
| | Ö← | PGr | 121.65 | |
| | Qk.N_E 1 | PGr | 0.03 | -0.02 |
| | Qk.N_D A | PGr | 82.58 | -47.74 |
| W-2.27_1 | Gk | PGr | 31.42 | |
| | Ö← | PGr | 4.31 | |
| | Qk.N_E 1 | PGr | 7.40 | -0.25 |
| | Qk.N_D A | PGr | 9.97 | -6.12 |
| W-2.27_2 | Gk | PGr | 53.46 | |
| | Ö← | PGr | 4.01 | |
| | Qk.N_E 1 | PGr | 11.87 | -1.51 |
| | Qk.N_D A | PGr | 9.73 | -9.15 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|-------------------------------|-------------|-----|------------------|------------------|
| W-2.27_3 | Gk | PGr | 9.92 | |
| | Ö← | PGr | 0.80 | |
| | Qk.N_E 1 | PGr | 1.23 | 0.00 |
| | Qk.N_D A | PGr | 0.92 | -0.14 |
| W-2.30_2 | Gk | PGr | 54.97 | |
| | Ö← | PGr | 14.50 | |
| | Qk.N_E 1 | PGr | 0.17 | -0.43 |
| | Qk.N_D A | PGr | 33.15 | -4.33 |
| W-2.30_3 | Gk | PGr | 53.79 | |
| | Ö← | PGr | 8.43 | |
| | Qk.N_E 1 | PGr | 0.63 | -0.45 |
| | Qk.N_D A | PGr | 43.18 | -26.63 |
| WS-2.5_BR | Gk | PGr | 0.00 | |
| WS-2.5_SA_W- 2.5_2 | Gk | PGr | 13.14 | |
| | Ö← | PGr | 2.62 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.36 |
| | Qk.N_D A | PGr | 5.83 | -0.34 |
| WS-2.5_SE_W- 2.5_1 | Gk | PGr | 12.69 | |
| | Ö← | PGr | 2.83 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.47 |
| | Qk.N_D A | PGr | 6.75 | -0.77 |
| WS-2.18_1_BR | Gk | PGr | 0.00 | |
| WS- 2.18_1_SA_W- 2.18_1 | Gk | PGr | 20.30 | |
| | Ö← | PGr | 5.46 | |
| | Qk.N_E 1 | PGr | 16.05 | 0.00 |
| | Qk.N_D A | PGr | 5.18 | -4.93 |
| WS- 2.18_1_SE_W- 2.18_2 | Gk | PGr | 24.69 | |
| | Ö← | PGr | 6.77 | |
| | Qk.N_E 1 | PGr | 16.20 | 0.00 |
| | Qk.N_D A | PGr | 5.36 | -2.60 |
| WS-2.18_2_BR | Gk | PGr | 0.00 | |
| WS- 2.18_2_SA_W- 2.18_2 | Gk | PGr | 31.70 | |

| Position | EW | Art | *~b⇒\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|-------------------------------|-------------|-----|------------------|------------------|
| | Ö← | PGr | 8.55 | |
| | Qk.N_E 1 | PGr | 16.24 | 0.00 |
| | Qk.N_D A | PGr | 6.51 | -0.34 |
| WS- 2.18_2_SE_W- 2.18_3 | Gk | PGr | 31.75 | |
| | Ö← | PGr | 8.56 | |
| | Qk.N_E 1 | PGr | 16.25 | 0.00 |
| | Qk.N_D A | PGr | 6.55 | -0.37 |
| WS-2.18_3_BR | Gk | PGr | 0.00 | |
| WS- 2.18_3_SA_W- 2.18_3 | Gk | PGr | 30.15 | |
| | Ö← | PGr | 8.06 | |
| | Qk.N_E 1 | PGr | 15.44 | 0.00 |
| | Qk.N_D A | PGr | 6.23 | -0.46 |
| WS- 2.18_3_SE_W- 2.18_4 | Gk | PGr | 29.34 | |
| | Ö← | PGr | 7.82 | |
| | Qk.N_E 1 | PGr | 15.05 | 0.00 |
| | Qk.N_D A | PGr | 6.13 | -0.55 |
| WS-2.27_1_BR | Gk | PGr | 0.00 | |
| WS- 2.27_1_SA_W- 2.27_1 | Gk | PGr | 19.03 | |
| | Ö← | PGr | 2.79 | |
| | Qk.N_E 1 | PGr | 7.83 | -0.48 |
| | Qk.N_D A | PGr | 5.24 | -4.64 |
| WS- 2.27_1_SE_W- 2.27_2 | Gk | PGr | 19.18 | |
| | Ö← | PGr | 2.45 | |
| | Qk.N_E 1 | PGr | 7.88 | -0.56 |
| | Qk.N_D A | PGr | 4.98 | -5.07 |
| WS-2.27_2_BR | Gk | PGr | 0.00 | |
| WS- 2.27_2_SA_W- 2.27_2 | Gk | PGr | 21.58 | |
| | Ö← | PGr | 2.28 | |
| | Qk.N_E 1 | PGr | 5.18 | -0.84 |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|-------------------------------|-------------------|------------|-----------------|-----------------|
| | Qk.N_D A | PGr | 4.51 | -3.11 |
| WS- 2.27_2_SE_W- 2.27_3 | Gk | PGr | 17.61 | |
| | Ö← Qk.N_E 1 | PGr PGr | 2.00 4.12 | -0.58 |
| | Qk.N_D A | PGr | 3.27 | -1.85 |
| WS-2.30_2_BR | Gk | PGr | 0.00 | |
| WS- 2.30_2_SA_W- 2.30_2 | Gk | PGr | 37.32 | |
| | Ö← Qk.N_E 1 | PGr PGr | 11.45 0.44 | -0.34 |
| | Qk.N_D A | PGr | 28.60 | -6.05 |
| WS- 2.30_2_SE_W- 2.30_3 | Gk | PGr | 31.73 | |
| | Ö← Qk.N_E 1 | PGr PGr | 9.54 0.57 | -0.31 |
| | Qk.N_D A | PGr | 25.46 | -6.80 |
| WS-T-2.1_BR | Gk | PGr | 0.00 | |
| WS-T- 2.1_SA_WT- 2.1_2 | Gk | PGr | 7.19 | |
| | Ö← Qk.N_E 1 | PGr PGr | | -1.70 |
| | Qk.N_D A | PGr | 2.11 | -0.19 |
| | | PGr | 4.27 | -7.79 |
| WS-T- 2.1_SE_WT- 2.1_3 | Gk | PGr | 3.48 | |
| | Ö← Qk.N_E 1 | PGr PGr | | -2.61 |
| | Qk.N_D A | PGr | 2.22 | -0.10 |
| | | PGr | 4.05 | -9.47 |
| WS-T-2.3_BR | Gk | PGr | 0.00 | |
| WS-T- 2.3_SA_WT- 2.3_3 | Gk | PGr | 20.06 | |
| | Ö← Qk.N_E 1 | PGr PGr | 2.98 5.39 | -0.51 |
| | Qk.N_D A | PGr | 9.06 | -6.05 |
| WS-T- | Gk | PGr | 15.95 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|------------------------------|--|------------------------------|--|-----------------------------|
| 2.3_SE_WT- 2.3_2 | Ö← Qk.N_E 1 Qk.N_D A | PGr PGr PGr | 1.76 5.39 8.25 | -0.39 -7.86 |
| WS-T-2.4_BR | Gk | PGr | 0.00 | |
| WS-T- 2.4_SA_WT- 2.4_1 | Gk Ö← Qk.N_E 1 Qk.N_D A | PGr PGr PGr | 33.34 8.84 0.87 18.18 | -0.49 -0.88 |
| WS-T- 2.4_SE_WT- 2.4_2 | Gk Ö← Qk.N_E 1 Qk.N_D A | PGr PGr PGr | 34.39 9.16 0.92 18.61 | -0.54 -0.66 |
| WT-1.1 | Gk Ö← Qk.N_E 1 Qk.N_D A | PGr PGr PGr PGr | 790.21 178.70 0.94 385.96 | -0.41 -28.84 |
| WT-2.1_1 | Gk Ö← Qk.N_E 1 Qk.N_D A | PGr PGr PGr PGr | 166.90 16.52 8.01 56.52 | -2.50 -28.12 |
| WT-2.1_2 | Gk Ö← Qk.N_E 1 Qk.N_D A | PGr PGr PGr PGr | 59.12 4.89 1.61 14.15 | -0.30 -4.74 |
| WT-2.1_3 | Gk Ö← Qk.N_E 1 Qk.N_D A | PGr PGr PGr PGr | 11.81 1.33 7.11 | -0.06 -17.94 |
| WT-2.1_4 | Gk Ö← Qk.N_E 1 Qk.N_D A | PGr PGr PGr PGr | 253.98 36.17 0.24 105.29 | -0.28 -53.90 |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|----------|-------------|-----|------------------|------------------|
| WT-2.2 | Gk | PGr | 26.77 | |
| | Ö← | PGr | | -25.60 |
| | Qk.N_E 1 | PGr | 15.07 | -4.30 |
| | Qk.N_D A | PGr | 31.66 | -89.57 |
| WT-2.3_1 | Gk | PGr | 262.60 | |
| | Ö← | PGr | 38.19 | |
| | Qk.N_E 1 | PGr | 0.70 | -1.30 |
| | Qk.N_D A | PGr | 106.34 | -50.22 |
| WT-2.3_2 | Gk | PGr | 29.75 | |
| | Ö← | PGr | | -0.07 |
| | Qk.N_E 1 | PGr | 3.06 | -0.09 |
| | Qk.N_D A | PGr | 8.26 | -10.44 |
| WT-2.3_3 | Gk | PGr | 143.34 | |
| | Ö← | PGr | 1.55 | |
| | Qk.N_E 1 | PGr | 12.10 | -3.96 |
| | Qk.N_D A | PGr | 63.14 | -62.33 |
| WT-2.4_1 | Gk | PGr | 195.92 | |
| | Ö← | PGr | 53.43 | |
| | Qk.N_E 1 | PGr | 0.72 | -0.76 |
| | Qk.N_D A | PGr | 108.08 | -2.45 |
| WT-2.4_2 | Gk | PGr | 32.05 | |
| | Ö← | PGr | 7.22 | |
| | Qk.N_E 1 | PGr | 0.60 | -0.39 |
| | Qk.N_D A | PGr | 14.58 | -0.36 |
| WT-2.4_3 | Gk | PGr | 341.89 | |
| | Ö← | PGr | 82.89 | |
| | Qk.N_E 1 | PGr | 3.10 | -3.07 |
| | Qk.N_D A | PGr | 173.01 | -8.90 |
| WT-2.5 | Gk | PGr | 27.91 | |
| | Ö← | PGr | | -29.35 |
| | Qk.N_E 1 | PGr | 12.86 | -9.60 |
| | Qk.N_D A | PGr | 30.46 | -89.91 |

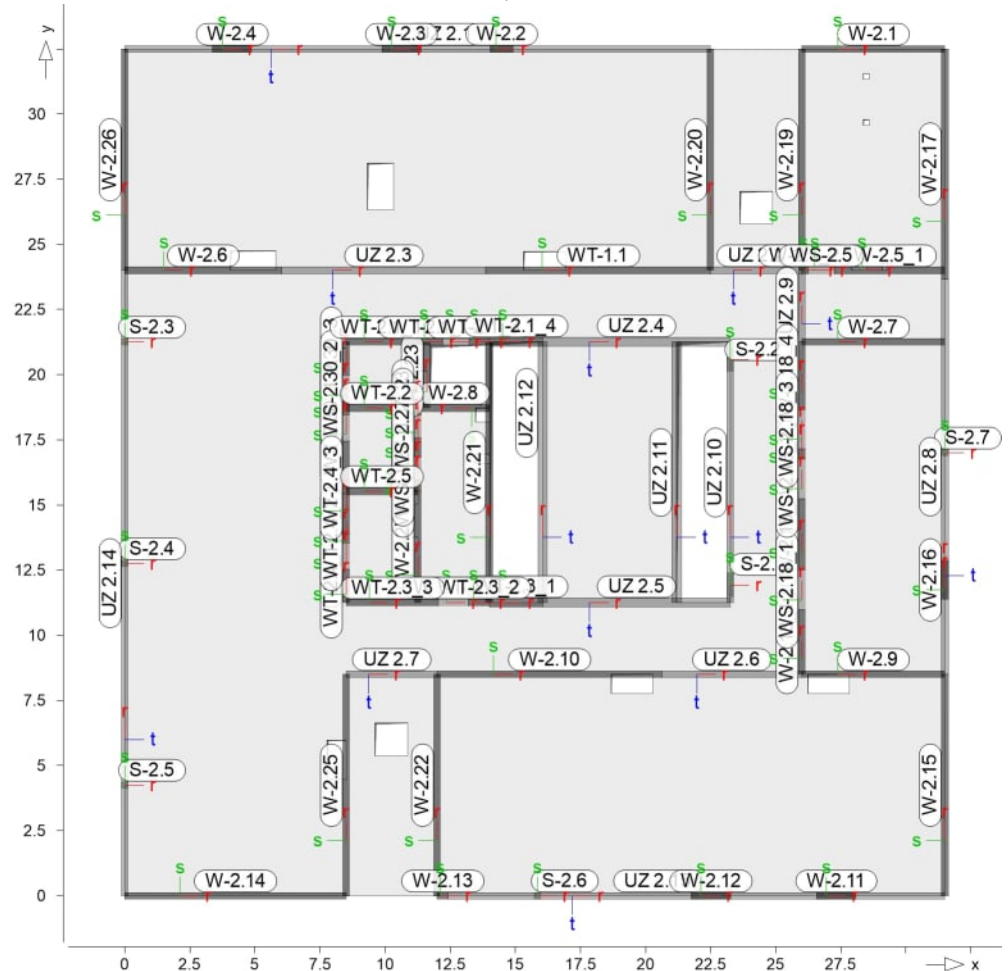
PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Lastabtrag / Einzelwerte

Qáb\fiâæã&áâæÁá→bÁQáb\áâ\ãá&Á~äæãÁÓ↔^~æ→}æã\æÁfiãÁ
MicroFe und BauStatik

Posi ti onsgrafi k

©âæãb↔'â\ÁäæãÁQáb\áâ\ãá&Ë§~b↔\↔~^æ^



Gh~ hnYb` U[Yf

Æ↔æÁN| à→á&æããæá↔\↔~^æ^Áæ↔^æãÁU\fi\ ~æ^→á&æã*~b↔\↔~^Á
}æããæ^Áá→bÁXáá→æ^}æã\æÁfiãÁä↔æÁÓâæã^áâ↑æÁ↔^ÁäæãÁ
Ñá|U\á\↔~^Á~|ãÁÜæãâfi&|^&Á&æb\æ→\È

j e Ei nwirkung

charakteristische Auflagerkraft je Einwirkung
&ÁKÁb\†^ä↔æÁÓ↔^}↔ã←|^&

S-2.1

| | | Mr [kNm] | Ms [kNm] | Ft [kN] |
|---------|-----|-------------|-------------|------------|
| Gk | g | - | - | 196.12 |
| Ö← | g | - | - | 18.03 |
| Qk.N_E1 | min | - | - | -21.83 |
| | max | - | - | 0.00 |
| Qk.N_DA | min | - | - | -44.81 |
| | max | - | - | 95.32 |

S-2.2

| | | Mr [kNm] | Ms [kNm] | Ft [kN] |
|---------|-----|-------------|-------------|------------|
| Gk | g | - | - | 251.30 |
| Ö← | g | - | - | 36.73 |
| Qk.N_E1 | min | - | - | -11.45 |

| | | Mr [kNm] | Ms [kNm] | Ft [kN] |
|--------------|-----|-------------|-------------|------------|
| Qk.N_DA | max | - | - | 0.00 |
| | min | - | - | -14.32 |
| | max | - | - | 95.18 |
| S-2.3 | | Mr [kNm] | Ms [kNm] | Ft [kN] |
| Gk | g | - | - | 178.79 |
| Ö← | g | - | - | 65.20 |
| Qk.N_E1 | min | - | - | -0.04 |
| | max | - | - | 0.02 |
| Qk.N_DA | min | - | - | -10.87 |
| | max | - | - | 63.94 |
| S-2.4 | | Mr [kNm] | Ms [kNm] | Ft [kN] |
| Gk | g | - | - | 366.61 |
| Ö← | g | - | - | 130.29 |
| Qk.N_E1 | min | - | - | -0.08 |
| | max | - | - | 0.05 |
| Qk.N_DA | min | - | - | -2.09 |
| | max | - | - | 132.40 |
| S-2.5 | | Mr [kNm] | Ms [kNm] | Ft [kN] |
| Gk | g | - | - | 241.84 |
| Ö← | g | - | - | 86.24 |
| Qk.N_E1 | min | - | - | -0.01 |
| | max | - | - | 0.01 |
| Qk.N_DA | min | - | - | -0.56 |
| | max | - | - | 86.95 |
| S-2.6 | | Mr [kNm] | Ms [kNm] | Ft [kN] |
| Gk | g | - | - | 140.12 |
| Ö← | g | - | - | 50.93 |
| Qk.N_E1 | min | - | - | 0.00 |
| | max | - | - | 0.03 |
| Qk.N_DA | min | - | - | -2.61 |
| | max | - | - | 50.61 |
| S-2.7 | | Mr [kNm] | Ms [kNm] | Ft [kN] |
| Gk | g | - | - | 101.52 |
| Ö← | g | - | - | 37.66 |
| Qk.N_E1 | min | - | - | 0.00 |
| | max | - | - | 10.45 |
| Qk.N_DA | min | - | - | -0.19 |
| | max | - | - | 20.62 |

Wandlager

Die Auflagerreaktionen entlang einer Wandlagerposition werden in eine Trapezlast $f_{\text{Wand}}(x)$ umgerechnet, dass deren Resultierende mit ihrer R_{Wand} entlang des Wandlagers entspricht. Die

Üäá*æ~âæ→áb\|^&Á}↔ääÁfiâæãÄä↔æÁQáb\~ää↔^á\æ^Áá↑ÁAnfang
A und Ende E beschrieben ($M=(A+E)/2$).
Falls die Wandlagerposition aus mehreren Kanten
âæb\æâ\ÊÁ}↔ääÁNÁ|^äÁÓÁfiâÄä↔æÁ&æbá↑\æÁ
Ûá^ä→á&æã*~b↔\↔~^Áâæãæ^â\æ\|^äÁ~|b‡\~↔↔^äÁNÇ↔DÁund
ÓÇ↔DÁâfiâÄ↓æääÁPá^\æÁ↔ÁäæãÛá^ä→á&æã*~b↔\↔~^ÊÁ(Die
N|b}æã\|^&ÁâfiâÁNÁ|^äÁÓÁfiâæãÄä↔æÁ&æ^↔↔^↔\æÁ
Ûá^ä→á&æã*~b↔\↔~^Áb~→\æÁ|^äÁfiâÁ^ääæ~|Ágeradlinige
Ûá^ä→á&æãÁfiâæã^~↑↑æ^Á}æääæ^ÊD

Abs Lastwert maximaler Lagerabschnitt
e Abstand der Resultierenden zur Mitte des
Polygonabschnitts
Res Resultierende Gesamtauflagerkraft

je Einwirkung

charakteristische Trapez-Wandlagerkraft je Einwirkung
g b\‡^ä↔æÁÓ↔^}↔ää^|^&
Reihenfolge Ausgabe min Anfang
max Anfang
min Mitte
max Mitte
min Ende
max Ende

W-2.1

Q‡^&æÁKÁIÊI€Á↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 20.59 | 13.01 | 13.57 | 14.13 | 0.04 | 74.64 |
| Ö← | g | 16.80 | 13.31 | 14.27 | 15.23 | 0.06 | 78.49 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | 0.00 | -0.02 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.02 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| Qk.N_DA | min | -3.54 | -2.05 | -0.84 | 0.38 | -1.33 | -4.60 |
| | max | 10.04 | 7.00 | 5.97 | 4.94 | -0.16 | 32.84 |
| | min | | -2.05 | -0.84 | 0.38 | -1.33 | -4.60 |
| | max | | 7.00 | 5.97 | 4.94 | -0.16 | 32.84 |
| | min | | 2.34 | 0.89 | -0.56 | -1.49 | 4.89 |
| | max | | 2.62 | 4.24 | 5.87 | 0.35 | 23.34 |

W-2.2

Q‡^&æÁKÁ€ÊîíÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 278.76 | 201.31 | 247.64 | 293.98 | 0.03 | 221.64 |
| Ö← | g | 106.02 | 78.42 | 94.93 | 111.44 | 0.03 | 84.96 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| | max | 0.01 | 0.00 | 0.01 | 0.01 | 0.04 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| | max | | 0.00 | 0.01 | 0.01 | 0.04 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| | max | | 0.00 | 0.01 | 0.01 | 0.04 | 0.01 |
| Qk.N_DA | min | -3.96 | -2.25 | -3.27 | -4.29 | 0.05 | -2.93 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | 109.78 | 81.73 | 98.51 | 115.29 | 0.03 | 88.17 |
| | min | | -2.25 | -3.27 | -4.29 | 0.05 | -2.93 |
| | max | | 81.73 | 98.51 | 115.29 | 0.03 | 88.17 |
| | min | | -2.25 | -3.27 | -4.29 | 0.05 | -2.93 |
| | max | | 81.73 | 98.51 | 115.29 | 0.03 | 88.17 |

W-2.3
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} F \grave{E} I \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 147.69 | 156.81 | 124.10 | 91.39 | -0.07 | 186.15 |
| Ö← | g | 59.28 | 62.52 | 50.91 | 39.30 | -0.06 | 76.36 |
| Qk.N_El | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.10 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.10 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.10 | 0.00 |
| Qk.N_DA | min | -1.38 | -1.54 | -1.01 | -0.47 | -0.13 | -1.51 |
| | max | 60.11 | 63.26 | 51.80 | 40.33 | -0.06 | 77.70 |
| | min | | -1.54 | -1.01 | -0.47 | -0.13 | -1.51 |
| | max | | 63.26 | 51.80 | 40.33 | -0.06 | 77.70 |
| | min | | -1.54 | -1.01 | -0.47 | -0.13 | -1.51 |
| | max | | 63.26 | 51.80 | 40.33 | -0.06 | 77.70 |

W-2.4
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} F \grave{E} I \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 157.41 | 92.70 | 130.83 | 168.95 | 0.07 | 196.24 |
| Ö← | g | 62.90 | 41.04 | 53.90 | 66.76 | 0.06 | 80.85 |
| Qk.N_El | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | 0.01 | 0.10 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.16 | 0.00 |
| | max | | 0.00 | 0.00 | 0.01 | 0.10 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.16 | 0.00 |
| | max | | 0.00 | 0.00 | 0.01 | 0.10 | 0.01 |
| Qk.N_DA | min | -2.27 | -0.94 | -1.66 | -2.37 | 0.11 | -2.48 |
| | max | 63.75 | 33.14 | 51.22 | 69.29 | 0.09 | 76.82 |
| | min | | -0.91 | -1.72 | -2.54 | 0.12 | -2.58 |
| | max | | 33.11 | 51.28 | 69.45 | 0.09 | 76.92 |
| | min | | -0.91 | -1.72 | -2.54 | 0.12 | -2.58 |
| | max | | 33.11 | 51.28 | 69.45 | 0.09 | 76.92 |

W-2.5_1
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} H \grave{E} G H \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 26.67 | 24.10 | 21.51 | 18.92 | -0.09 | 91.20 |
| Ö← | g | 8.43 | 6.54 | 7.56 | 8.57 | 0.10 | 32.03 |
| Qk.N_El | min | -2.11 | -1.30 | -1.71 | -2.11 | 0.17 | -7.23 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.30 | -1.71 | -2.11 | 0.17 | -7.23 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Kraft Ft | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | -1.30 | -1.71 | -2.11 | 0.17 | -7.23 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -3.01 | -2.69 | -1.89 | -1.10 | -8.03 |
| | max | 21.24 | 21.07 | 16.25 | 11.43 | 68.91 |
| | min | -2.69 | -1.89 | -1.10 | -0.30 | -8.03 |
| | max | 21.07 | 16.25 | 11.43 | -0.21 | 68.91 |
| | min | 1.52 | -0.15 | -1.81 | 7.93 | -0.63 |
| | max | 16.87 | 14.51 | 12.15 | -0.11 | 61.51 |

W-2.5_2
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} \in \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | F _{t,Abs} | F _{t,A} | F _{t,M} | F _{t,E} | e | F _{t,Res} |
|----------|-----|--------------------|------------------|------------------|------------------|-------|--------------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 32.67 | 33.33 | 31.35 | 29.36 | 0.00 | 7.84 |
| Ö← | g | 6.76 | 6.88 | 6.53 | 6.19 | 0.00 | 1.63 |
| Qk.N_E1 | min | -0.52 | -0.49 | -0.51 | -0.53 | 0.00 | -0.13 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.49 | -0.51 | -0.53 | 0.00 | -0.13 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.49 | -0.51 | -0.53 | 0.00 | -0.13 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -10.73 | -11.22 | -9.74 | -8.27 | -0.01 | -2.44 |
| | max | 24.69 | 25.41 | 23.26 | 21.10 | 0.00 | 5.81 |
| | min | | -11.22 | -9.74 | -8.27 | -0.01 | -2.44 |
| | max | | 25.41 | 23.26 | 21.10 | 0.00 | 5.81 |
| | min | | -11.22 | -9.74 | -8.27 | -0.01 | -2.44 |
| | max | | 25.41 | 23.26 | 21.10 | 0.00 | 5.81 |

W-2.6
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} \in \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

| Kraft | Ft | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|---------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 363.80 | -20.43 | 81.36 | 183.14 | 1.26 | 490.17 |
| Ö← | g | 109.75 | -3.27 | 25.79 | 54.85 | 1.13 | 155.39 |
| Qk.N_E1 | min | -0.38 | -0.01 | 0.00 | 0.01 | -13.32 | 0.00 |
| | max | 0.01 | 0.09 | -0.04 | -0.17 | 3.01 | -0.26 |
| | min | | 0.07 | -0.05 | -0.16 | 2.63 | -0.27 |
| | max | | 0.00 | 0.00 | 0.00 | -3.29 | 0.01 |
| | min | | 0.09 | -0.04 | -0.17 | 3.01 | -0.26 |
| | max | | -0.01 | 0.00 | 0.01 | -13.32 | 0.00 |
| Qk.N_DA | min | -0.45 | -26.95 | 32.60 | 92.16 | 1.83 | 196.42 |
| | max | 220.65 | 10.84 | 16.59 | 22.33 | 0.35 | 99.93 |
| | min | | 0.08 | -0.07 | -0.21 | 2.28 | -0.39 |
| | max | | -16.20 | 49.25 | 114.70 | 1.33 | 296.74 |
| | min | | 0.09 | -0.06 | -0.21 | 2.56 | -0.36 |
| | max | | -16.21 | 49.25 | 114.70 | 1.33 | 296.72 |

W-2.7
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} \in \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 121.55 | -7.19 | 34.29 | 75.77 | 1.11 | 188.57 |
| Ö← | g | 46.54 | -4.53 | 11.83 | 28.19 | 1.27 | 65.06 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Kraft Ft

| | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| max | 20.30 | 16.13 | 11.75 | 7.37 | -0.34 | 64.61 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 16.13 | 11.75 | 7.37 | -0.34 | 64.61 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 16.13 | 11.75 | 7.37 | -0.34 | 64.61 |
| min | -2.62 | -7.08 | 2.68 | 12.44 | 3.34 | 14.72 |
| max | 23.46 | 3.49 | 4.41 | 5.34 | 0.19 | 24.27 |
| min | | -1.72 | -2.11 | -2.50 | 0.17 | -11.61 |
| max | | -1.87 | 9.20 | 20.27 | 1.10 | 50.60 |
| min | | -0.60 | -1.91 | -3.23 | 0.63 | -10.51 |
| max | | -3.00 | 9.00 | 21.00 | 1.22 | 49.50 |

W-2.8
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} \acute{G} \acute{E} \acute{I} \acute{I} \acute{A} \uparrow$

Kraft Ft

| | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|---------|-------------|-----------|-----------|-----------|-------|-------------|
| | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | 24.39 | 2.65 | 15.33 | 28.01 | 0.38 | 42.15 |
| Ö← | 3.94 | -4.00 | 0.47 | 4.93 | 4.39 | 1.28 |
| Qk.N_El | min | -0.57 | -0.52 | 0.14 | -0.79 | -0.52 |
| | max | 13.13 | 9.07 | 8.32 | -0.04 | 24.94 |
| | min | | -0.15 | -0.32 | 0.17 | -0.64 |
| | max | | 9.45 | 8.77 | -0.02 | 25.05 |
| | min | | -0.15 | -0.23 | 0.17 | -0.64 |
| | max | | 9.45 | 8.77 | -0.02 | 25.05 |
| Qk.N_DA | min | -16.72 | -16.33 | 0.03 | -0.46 | -22.43 |
| | max | 10.20 | 5.71 | 5.86 | 0.01 | 15.71 |
| | min | | -15.65 | -3.77 | -0.28 | -26.70 |
| | max | | 4.88 | 9.66 | 0.15 | 19.98 |
| | min | | -15.42 | -3.95 | -0.27 | -26.63 |
| | max | | 4.65 | 9.83 | 0.16 | 19.91 |

W-2.9
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} \acute{I} \acute{E} \acute{I} \acute{E} \acute{A} \uparrow$

Kraft Ft

| | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|---------|-------------|-----------|-----------|-----------|-------|-------------|
| | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | 195.30 | 117.91 | 57.13 | -3.64 | -0.98 | 314.23 |
| Ö← | 60.75 | 36.12 | 18.55 | 0.99 | -0.87 | 102.05 |
| Qk.N_El | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 18.05 | 7.11 | 7.20 | 0.01 | 39.12 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 7.02 | 7.20 | 0.01 | 39.12 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 7.02 | 7.11 | 0.01 | 39.11 |
| Qk.N_DA | min | -0.62 | -1.66 | 2.90 | 1.44 | 15.93 |
| | max | 124.75 | 71.87 | -15.66 | -1.43 | 154.57 |
| | min | | -0.54 | 0.15 | -1.64 | -1.06 |
| | max | | 70.75 | -8.36 | -1.16 | 171.57 |
| | min | | 71.87 | -15.66 | -1.43 | 154.57 |
| | max | | -1.66 | 2.90 | 1.44 | 15.94 |

W-2.10
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} \acute{I} \acute{E} \acute{N} \acute{G} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 296.77 | -19.80 | 58.01 | 135.83 | 1.93 | 500.36 |
| Ö← | g | 88.01 | -5.33 | 17.74 | 40.82 | 1.87 | 153.04 |
| Qk.N_E1 | min | -1.21 | -0.68 | -0.20 | 0.29 | -3.54 | -1.69 |
| | max | 2.04 | 0.85 | 0.14 | -0.56 | -7.12 | 1.23 |
| | min | | -0.57 | -0.25 | 0.08 | -1.89 | -2.12 |
| | max | | 0.73 | 0.19 | -0.35 | -4.08 | 1.65 |
| | min | | 0.85 | 0.14 | -0.56 | -7.12 | 1.23 |
| | max | | -0.68 | -0.20 | 0.29 | -3.54 | -1.69 |
| Qk.N_DA | min | -13.48 | -16.51 | 27.60 | 71.70 | 2.30 | 238.02 |
| | max | 172.73 | 6.39 | 8.05 | 9.72 | 0.30 | 69.45 |
| | min | | -5.55 | -1.17 | 3.22 | -5.40 | -10.07 |
| | max | | -4.57 | 36.82 | 78.20 | 1.62 | 317.54 |
| | min | | 0.01 | -0.31 | -0.62 | 1.47 | -2.65 |
| | max | | -10.13 | 35.96 | 82.04 | 1.84 | 310.12 |

W-2.11
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} \acute{F} \acute{E} \acute{I} \acute{E} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 84.69 | 81.14 | 83.10 | 85.07 | 0.01 | 124.65 |
| Ö← | g | 37.86 | 35.47 | 36.83 | 38.19 | 0.01 | 55.25 |
| Qk.N_E1 | min | -0.26 | -0.28 | -0.23 | -0.18 | -0.05 | -0.34 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | min | | -0.28 | -0.23 | -0.18 | -0.05 | -0.34 |
| | max | | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | min | | -0.28 | -0.23 | -0.18 | -0.05 | -0.34 |
| | max | | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| Qk.N_DA | min | -0.31 | -0.35 | -0.23 | -0.11 | -0.14 | -0.34 |
| | max | 37.68 | 39.05 | 34.89 | 30.73 | -0.03 | 52.33 |
| | min | | -0.34 | -0.24 | -0.14 | -0.11 | -0.36 |
| | max | | 39.03 | 34.90 | 30.76 | -0.03 | 52.35 |
| | min | | -0.34 | -0.24 | -0.14 | -0.11 | -0.36 |
| | max | | 39.03 | 34.90 | 30.76 | -0.03 | 52.35 |

W-2.12
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} \acute{F} \acute{E} \acute{I} \acute{G} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 225.62 | 245.00 | 178.56 | 112.12 | -0.09 | 272.30 |
| Ö← | g | 86.98 | 93.90 | 70.24 | 46.59 | -0.09 | 107.12 |
| Qk.N_E1 | min | -0.09 | 0.00 | 0.00 | 0.00 | -0.33 | 0.00 |
| | max | 0.00 | 0.02 | -0.05 | -0.11 | 0.34 | -0.07 |
| | min | | 0.01 | -0.05 | -0.11 | 0.31 | -0.08 |
| | max | | 0.00 | 0.00 | 0.00 | -0.30 | 0.00 |
| | min | | 0.02 | -0.05 | -0.11 | 0.34 | -0.07 |
| | max | | 0.00 | 0.00 | 0.00 | -0.33 | 0.00 |
| Qk.N_DA | min | -1.28 | -1.48 | -0.83 | -0.18 | -0.20 | -1.26 |
| | max | 86.28 | 92.53 | 70.68 | 48.82 | -0.08 | 107.78 |
| | min | | -1.48 | -0.83 | -0.18 | -0.20 | -1.26 |
| | max | | 92.53 | 70.68 | 48.82 | -0.08 | 107.78 |
| | min | | -0.42 | -0.49 | -0.55 | 0.03 | -0.74 |
| | max | | 91.48 | 70.34 | 49.20 | -0.08 | 107.26 |

W-2.13
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} \acute{E} \acute{H} \acute{G} \acute{A} \uparrow$

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 62.93 | 21.12 | 46.21 | 71.30 | 0.04 | 19.64 |
| Ö← | g | 30.89 | 15.42 | 24.70 | 33.98 | 0.03 | 10.50 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.07 | 0.00 |
| | max | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.04 | 0.00 |
| | max | | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.04 | 0.00 |
| | max | | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| Qk.N_DA | min | -6.88 | -7.30 | 3.27 | 13.83 | 0.23 | 1.39 |
| | max | 18.31 | 3.21 | 1.96 | 0.70 | -0.05 | 0.83 |
| | min | | 0.65 | -3.87 | -8.39 | 0.08 | -1.64 |
| | max | | -4.74 | 9.09 | 22.92 | 0.11 | 3.86 |
| | min | | 0.65 | -3.87 | -8.39 | 0.08 | -1.64 |
| | max | | -4.74 | 9.09 | 22.92 | 0.11 | 3.86 |

W-2.14

Q₁^&æÁKÁÎÈI€Á↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 28.48 | 24.45 | 18.49 | 12.53 | -0.46 | 157.17 |
| Ö← | g | 19.31 | 18.73 | 16.03 | 13.33 | -0.24 | 136.25 |
| Qk.N_E1 | min | -0.01 | 0.00 | 0.00 | 0.00 | -8.76 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | 0.00 | -4.80 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | -4.31 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -3.39 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | -4.80 | 0.01 |
| | max | | 0.00 | 0.00 | 0.00 | -8.76 | 0.00 |
| Qk.N_DA | min | -3.55 | -0.63 | 0.60 | 1.84 | 2.90 | 5.13 |
| | max | 14.86 | 8.94 | 6.77 | 4.60 | -0.45 | 57.54 |
| | min | | 0.46 | -0.59 | -1.65 | 2.51 | -5.04 |
| | max | | 7.85 | 7.97 | 8.08 | 0.02 | 67.72 |
| | min | | 0.51 | -0.58 | -1.67 | 2.66 | -4.93 |
| | max | | 7.80 | 7.95 | 8.11 | 0.03 | 67.61 |

W-2.15

Q₁^&æÁKÁÎÈI€Á↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 28.41 | 31.49 | 17.71 | 3.92 | -1.10 | 150.50 |
| Ö← | g | 19.29 | 21.17 | 15.83 | 10.48 | -0.48 | 134.52 |
| Qk.N_E1 | min | -4.48 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 1.02 | -0.84 | -2.70 | 3.14 | -7.13 |
| | min | | 1.02 | -0.84 | -2.70 | 3.14 | -7.13 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 1.02 | -0.84 | -2.70 | 3.14 | -7.13 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -1.49 | -0.01 | 0.00 | 0.02 | 9.12 | 0.02 |
| | max | 14.83 | 11.32 | 6.90 | 2.48 | -0.91 | 58.62 |
| | min | | 0.42 | -0.38 | -1.18 | 3.02 | -3.19 |
| | max | | 10.88 | 7.28 | 3.67 | -0.70 | 61.84 |
| | min | | 0.44 | -0.37 | -1.18 | 3.09 | -3.17 |
| | max | | 10.86 | 7.27 | 3.68 | -0.70 | 61.81 |

W-2.16

Q₁^&æÁKÁFÈI€Á↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 123.07 | 48.08 | 92.71 | 137.34 | 0.12 | 139.07 |
| Ö← | g | 51.55 | 25.24 | 40.90 | 56.56 | 0.10 | 61.35 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 18.06 | 7.68 | 13.88 | 20.07 | 0.11 | 20.81 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 7.68 | 13.88 | 20.07 | 0.11 | 20.81 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 7.68 | 13.88 | 20.07 | 0.11 | 20.81 |
| Qk.N_DA | min | -8.63 | -9.75 | -5.97 | -2.19 | -0.16 | -8.95 |
| | max | 29.94 | 15.82 | 24.05 | 32.28 | 0.09 | 36.07 |
| | min | | -9.72 | -6.11 | -2.51 | -0.15 | -9.17 |
| | max | | 15.79 | 24.20 | 32.60 | 0.09 | 36.29 |
| | min | | -9.72 | -6.11 | -2.51 | -0.15 | -9.17 |
| | max | | 15.79 | 24.20 | 32.60 | 0.09 | 36.29 |

W-2.17

Q†^&æÁKÁÎÈÎGÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|--------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 20.78 | 13.61 | 15.10 | 16.59 | 0.15 | 133.28 |
| Ö← | g | 16.86 | 13.94 | 14.87 | 15.79 | 0.09 | 131.19 |
| Qk.N_E1 | min | -2.94 | -0.67 | -0.15 | 0.37 | -5.21 | -1.30 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.67 | -0.15 | 0.37 | -5.21 | -1.30 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.67 | -0.15 | 0.37 | -5.21 | -1.30 |
| Qk.N_DA | min | -2.01 | -0.67 | -0.03 | 0.61 | -34.64 | -0.24 |
| | max | 10.06 | 4.05 | 5.65 | 7.24 | 0.42 | 49.85 |
| | min | | -0.66 | -0.28 | 0.10 | -1.99 | -2.47 |
| | max | | 4.05 | 5.90 | 7.75 | 0.46 | 52.08 |
| | min | | 0.54 | -0.03 | -0.60 | 30.38 | -0.24 |
| | max | | 2.85 | 5.65 | 8.45 | 0.73 | 49.85 |

W-2.18_1

Q†^&æÁKÁGÈHÎÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|--------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 129.90 | 99.59 | 17.47 | -64.65 | -1.95 | 43.42 |
| Ö← | g | 38.93 | 29.16 | 4.96 | -19.23 | -2.02 | 12.33 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 19.54 | 0.64 | 12.67 | 24.70 | 0.39 | 31.49 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.64 | 12.67 | 24.70 | 0.39 | 31.49 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.64 | 12.67 | 24.70 | 0.39 | 31.49 |
| Qk.N_DA | min | -36.04 | -0.71 | -0.48 | -0.25 | -0.20 | -1.20 |
| | max | 9.27 | 58.66 | 2.03 | -54.61 | -11.58 | 5.03 |
| | min | | 48.64 | -5.70 | -60.05 | 3.95 | -14.17 |
| | max | | 9.31 | 7.25 | 5.18 | -0.12 | 18.00 |
| | min | | 52.29 | -4.36 | -61.02 | 5.38 | -10.84 |
| | max | | 5.66 | 5.91 | 6.15 | 0.02 | 14.68 |

W-2.18_2

Q†^&æÁKÁGÈÍHÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 36.15 | 33.05 | 34.98 | 36.91 | 0.03 | 95.85 |
| Ö← | g | 11.37 | 10.69 | 11.12 | 11.54 | 0.02 | 30.46 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 21.77 | 21.74 | 21.69 | 21.64 | 0.00 | 59.43 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 21.74 | 21.69 | 21.64 | 0.00 | 59.43 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 21.74 | 21.69 | 21.64 | 0.00 | 59.43 |
| Qk.N_DA | min | -0.88 | -0.87 | -0.41 | 0.06 | -0.53 | -1.11 |
| | max | 8.46 | 7.75 | 8.10 | 8.46 | 0.02 | 22.20 |
| | min | | -0.87 | -0.48 | -0.10 | -0.37 | -1.32 |
| | max | | 7.74 | 8.18 | 8.62 | 0.02 | 22.41 |
| | min | | -0.57 | -0.43 | -0.29 | -0.15 | -1.18 |
| | max | | 7.45 | 8.13 | 8.81 | 0.04 | 22.27 |

W-2.18_3
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{e} \acute{E} \acute{H} \acute{e} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 35.44 | 35.53 | 35.26 | 34.99 | 0.00 | 14.10 |
| Ö← | g | 11.12 | 11.15 | 11.06 | 10.98 | 0.00 | 4.43 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 21.14 | 21.19 | 21.05 | 20.91 | 0.00 | 8.42 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 21.19 | 21.05 | 20.91 | 0.00 | 8.42 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 21.19 | 21.05 | 20.91 | 0.00 | 8.42 |
| Qk.N_DA | min | -0.52 | -0.52 | -0.52 | -0.52 | 0.00 | -0.21 |
| | max | 8.54 | 8.56 | 8.49 | 8.42 | 0.00 | 3.40 |
| | min | | -0.52 | -0.52 | -0.52 | 0.00 | -0.21 |
| | max | | 8.56 | 8.49 | 8.42 | 0.00 | 3.40 |
| | min | | -0.52 | -0.52 | -0.52 | 0.00 | -0.21 |
| | max | | 8.56 | 8.49 | 8.42 | 0.00 | 3.40 |

W-2.18_4
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{G} \acute{E} \acute{I} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 28.20 | 27.80 | 22.46 | 17.11 | -0.10 | 58.17 |
| Ö← | g | 8.97 | 9.15 | 7.05 | 4.94 | -0.13 | 18.26 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 17.54 | 21.22 | 10.46 | -0.31 | -0.44 | 27.08 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 21.22 | 10.46 | -0.31 | -0.44 | 27.08 |
| | min | | 21.22 | 10.46 | -0.31 | -0.44 | 27.08 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -1.79 | -4.45 | 2.47 | 9.40 | 1.21 | 6.41 |
| | max | 12.09 | 8.60 | 4.74 | 0.88 | -0.35 | 12.27 |
| | min | | -0.90 | -1.19 | -1.47 | 0.10 | -3.07 |
| | max | | 5.04 | 8.40 | 11.75 | 0.17 | 21.75 |
| | min | | 1.12 | -0.82 | -2.76 | 1.02 | -2.12 |
| | max | | 3.03 | 8.03 | 13.04 | 0.27 | 20.80 |

W-2.19
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{I} \acute{E} \acute{I} \acute{e} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 26.75 | 25.41 | 21.81 | 18.21 | -0.23 | 185.36 |
| Ö← | g | 8.49 | 6.79 | 6.86 | 6.93 | 0.01 | 58.31 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.25 | 0.00 |
| | max | 0.40 | 0.26 | 0.10 | -0.06 | -2.32 | 0.83 |
| | min | | 0.00 | 0.00 | 0.00 | 0.28 | 0.00 |
| | max | | 0.26 | 0.10 | -0.06 | -2.32 | 0.83 |
| | min | | 0.26 | 0.10 | -0.06 | -2.32 | 0.83 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -6.22 | -3.28 | -4.54 | -5.79 | 0.39 | -38.54 |
| | max | 22.92 | 17.41 | 17.95 | 18.49 | 0.04 | 152.59 |
| | min | | -3.27 | -4.59 | -5.91 | 0.41 | -39.02 |
| | max | | 17.40 | 18.01 | 18.61 | 0.05 | 153.06 |
| | min | | -0.23 | -3.79 | -7.34 | 1.33 | -32.19 |
| | max | | 14.36 | 17.20 | 20.04 | 0.23 | 146.23 |

W-2.20
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} \hat{I} \hat{E} I \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 120.03 | 0.05 | 37.76 | 75.47 | 1.41 | 320.97 |
| Ö← | g | 45.43 | -0.57 | 12.91 | 26.39 | 1.48 | 109.77 |
| Qk.N_E1 | min | -0.25 | -0.06 | -0.03 | -0.01 | -1.19 | -0.29 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.35 | 0.00 |
| | min | | -0.06 | -0.03 | -0.01 | -1.19 | -0.29 |
| | max | | 0.00 | 0.00 | 0.00 | 0.35 | 0.00 |
| | min | | -0.06 | -0.03 | -0.01 | -1.18 | -0.29 |
| | max | | 0.00 | 0.00 | 0.00 | 0.59 | 0.00 |
| Qk.N_DA | min | -9.73 | -5.03 | -3.26 | -1.49 | -0.77 | -27.69 |
| | max | 32.10 | 15.18 | 23.30 | 31.41 | 0.49 | 198.02 |
| | min | | -5.01 | -3.26 | -1.51 | -0.76 | -27.71 |
| | max | | 15.17 | 23.30 | 31.43 | 0.49 | 198.04 |
| | min | | -2.64 | -2.42 | -2.21 | -0.13 | -20.59 |
| | max | | 12.80 | 22.46 | 32.13 | 0.61 | 190.92 |

W-2.21
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} F \in \acute{E} \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 80.96 | 66.49 | 61.54 | 56.58 | -0.13 | 615.35 |
| Ö← | g | 14.29 | 12.37 | 10.88 | 9.38 | -0.23 | 108.76 |
| Qk.N_E1 | min | -0.27 | -1.46 | 0.63 | 2.71 | 5.55 | 6.25 |
| | max | 7.31 | 7.75 | 4.11 | 0.47 | -1.48 | 41.07 |
| | min | | -0.26 | -0.12 | 0.02 | -1.93 | -1.21 |
| | max | | 6.55 | 4.85 | 3.15 | -0.58 | 48.53 |
| | min | | -0.01 | -0.03 | -0.05 | 1.13 | -0.27 |
| | max | | 6.30 | 4.76 | 3.22 | -0.54 | 47.59 |
| Qk.N_DA | min | -3.41 | -3.04 | 0.70 | 4.45 | 8.88 | 7.02 |
| | max | 30.52 | 22.83 | 18.21 | 13.59 | -0.42 | 182.07 |
| | min | | -0.72 | -0.68 | -0.64 | -0.10 | -6.79 |
| | max | | 20.51 | 19.59 | 18.67 | -0.08 | 195.89 |
| | min | | 8.47 | 2.58 | -3.30 | -3.80 | 25.83 |
| | max | | 11.32 | 16.33 | 21.33 | 0.51 | 163.26 |

W-2.22
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} \hat{I} \hat{E} I \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|--------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 40.75 | 36.86 | 23.11 | 9.37 | -0.84 | 196.47 |
| Ö← | g | 13.07 | 13.10 | 7.52 | 1.94 | -1.05 | 63.94 |
| Qk.N_E1 | min | -0.10 | -0.11 | 0.05 | 0.20 | 4.61 | 0.40 |
| | max | 0.78 | 0.01 | 0.00 | -0.01 | -27.58 | 0.01 |
| | min | | 0.01 | 0.00 | -0.02 | 5.66 | -0.03 |
| | max | | -0.10 | 0.05 | 0.20 | 4.31 | 0.43 |
| | min | | 0.01 | 0.00 | -0.02 | 5.66 | -0.03 |
| | max | | -0.10 | 0.05 | 0.20 | 4.31 | 0.43 |
| Qk.N_DA | min | -13.42 | -3.01 | -7.11 | -11.22 | 0.82 | -60.44 |
| | max | 32.15 | 25.46 | 21.24 | 17.02 | -0.28 | 180.53 |
| | min | | -2.96 | -7.15 | -11.34 | 0.83 | -60.79 |
| | max | | 25.42 | 21.28 | 17.14 | -0.28 | 180.87 |
| | min | | -2.16 | -7.00 | -11.84 | 0.98 | -59.51 |
| | max | | 24.62 | 21.13 | 17.64 | -0.23 | 179.60 |

W-2.23

Q†^&æÁKÁGÈIHÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 24.35 | 24.72 | 19.43 | 14.14 | -0.12 | 49.25 |
| Ö← | g | 3.59 | 4.55 | 1.40 | -1.76 | -0.95 | 3.54 |
| Qk.N_E1 | min | -1.25 | -1.42 | -0.64 | 0.15 | -0.52 | -1.61 |
| | max | 11.91 | 8.54 | 8.93 | 9.31 | 0.02 | 22.63 |
| | min | | -1.42 | -0.64 | 0.15 | -0.52 | -1.61 |
| | max | | 8.54 | 8.93 | 9.31 | 0.02 | 22.63 |
| | min | | -0.36 | -0.19 | -0.02 | -0.38 | -0.48 |
| | max | | 7.47 | 8.48 | 9.49 | 0.05 | 21.49 |
| Qk.N_DA | min | -10.79 | -1.62 | -4.47 | -7.31 | 0.27 | -11.32 |
| | max | 8.30 | 9.14 | 5.03 | 0.92 | -0.35 | 12.75 |
| | min | | -1.14 | -6.14 | -11.15 | 0.34 | -15.57 |
| | max | | 8.66 | 6.71 | 4.76 | -0.12 | 17.00 |
| | min | | 1.74 | -5.21 | -12.16 | 0.56 | -13.21 |
| | max | | 5.78 | 5.77 | 5.77 | 0.00 | 14.64 |

W-2.24

Q†^&æÁKÁHÈGÍÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 39.73 | 4.47 | 18.35 | 32.24 | 0.54 | 78.37 |
| Ö← | g | 8.47 | -1.35 | 2.68 | 6.72 | 1.07 | 11.46 |
| Qk.N_E1 | min | -0.75 | -0.57 | -0.15 | 0.27 | -2.03 | -0.63 |
| | max | 23.87 | 15.33 | 16.56 | 17.80 | 0.05 | 70.72 |
| | min | | -0.35 | -0.42 | -0.49 | 0.12 | -1.79 |
| | max | | 15.11 | 16.83 | 18.56 | 0.07 | 71.88 |
| | min | | 0.15 | -0.21 | -0.56 | 1.23 | -0.88 |
| | max | | 14.61 | 16.62 | 18.63 | 0.09 | 70.97 |
| Qk.N_DA | min | -15.62 | -15.05 | -6.25 | 2.55 | -1.00 | -26.68 |
| | max | 13.12 | 6.12 | 2.66 | -0.79 | -0.92 | 11.37 |
| | min | | -11.10 | -10.51 | -9.92 | -0.04 | -44.88 |
| | max | | 2.17 | 6.93 | 11.68 | 0.49 | 29.57 |
| | min | | -6.84 | -8.68 | -10.52 | 0.15 | -37.06 |
| | max | | -2.09 | 5.09 | 12.28 | 1.00 | 21.75 |

W-2.25

Q†^&æÁKÁÎÈI€Á↑

| Kraft Ft | | F _{t,Abs} | F _{t,A} | F _{t,M} | F _{t,E} | e | F _{t,Res} |
|----------|-----|--------------------|------------------|------------------|------------------|-------|--------------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 193.94 | -8.83 | 47.72 | 104.27 | 1.68 | 405.62 |
| Ö← | g | 59.99 | -1.79 | 15.22 | 32.24 | 1.58 | 129.39 |
| Qk.N_E1 | min | -0.67 | -0.16 | 0.07 | 0.30 | 4.51 | 0.61 |
| | max | 1.05 | 0.10 | -0.05 | -0.19 | 4.57 | -0.38 |
| | min | | 0.10 | -0.05 | -0.19 | 4.44 | -0.39 |
| | max | | -0.16 | 0.07 | 0.30 | 4.43 | 0.62 |
| | min | | 0.10 | -0.05 | -0.19 | 4.44 | -0.39 |
| | max | | -0.16 | 0.07 | 0.30 | 4.43 | 0.62 |
| Qk.N_DA | min | -6.86 | -14.27 | 22.92 | 60.11 | 2.30 | 194.83 |
| | max | 122.13 | 9.58 | 7.12 | 4.65 | -0.49 | 60.49 |
| | min | | -6.13 | -4.11 | -2.09 | -0.70 | -34.94 |
| | max | | 1.44 | 34.15 | 66.86 | 1.36 | 290.25 |
| | min | | -6.13 | -4.11 | -2.09 | -0.70 | -34.93 |
| | max | | 1.44 | 34.15 | 66.86 | 1.36 | 290.25 |

W-2.26

Q₁⁺ & æ Á K Á Î È I € Á ↑

| Kraft Ft | | F _{t,Abs} | F _{t,A} | F _{t,M} | F _{t,E} | e | F _{t,Res} |
|----------|-----|--------------------|------------------|------------------|------------------|--------|--------------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | -32.76 | -2.93 | 13.27 | 29.46 | 1.73 | 112.76 |
| Ö← | g | 19.17 | 8.22 | 14.31 | 20.40 | 0.60 | 121.65 |
| Qk.N_E1 | min | -0.01 | -0.01 | 0.00 | 0.00 | -3.41 | -0.02 |
| | max | 0.02 | 0.01 | 0.00 | 0.00 | -3.11 | 0.03 |
| | min | | -0.01 | 0.00 | 0.00 | -3.41 | -0.02 |
| | max | | 0.01 | 0.00 | 0.00 | -3.11 | 0.03 |
| | min | | 0.01 | 0.00 | 0.00 | -3.11 | 0.03 |
| | max | | -0.01 | 0.00 | 0.00 | -3.41 | -0.02 |
| Qk.N_DA | min | -16.21 | -9.95 | -3.07 | 3.81 | -3.18 | -26.09 |
| | max | 15.16 | 5.88 | 7.17 | 8.46 | 0.25 | 60.93 |
| | min | | -9.94 | -3.08 | 3.79 | -3.16 | -26.14 |
| | max | | 5.87 | 7.18 | 8.48 | 0.26 | 60.99 |
| | min | | 0.05 | 0.01 | -0.04 | -13.02 | 0.04 |
| | max | | -4.12 | 4.10 | 12.31 | 2.84 | 34.80 |

W-2.27_1

Q₁⁺ & æ Á K Á € È H J Á ↑

| Kraft Ft | | F _{t,Abs} | F _{t,A} | F _{t,M} | F _{t,E} | e | F _{t,Res} |
|----------|-----|--------------------|------------------|------------------|------------------|-------|--------------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 46.99 | 47.87 | 45.68 | 43.50 | 0.00 | 21.01 |
| Ö← | g | 9.71 | 9.93 | 9.36 | 8.80 | 0.00 | 4.31 |
| Qk.N_E1 | min | -0.72 | -0.28 | -0.55 | -0.82 | 0.04 | -0.25 |
| | max | 16.92 | 14.74 | 16.08 | 17.43 | 0.01 | 7.40 |
| | min | | -0.28 | -0.55 | -0.82 | 0.04 | -0.25 |
| | max | | 14.74 | 16.08 | 17.43 | 0.01 | 7.40 |
| | min | | -0.28 | -0.55 | -0.82 | 0.04 | -0.25 |
| | max | | 14.74 | 16.08 | 17.43 | 0.01 | 7.40 |
| Qk.N_DA | min | -13.46 | -13.64 | -13.16 | -12.68 | 0.00 | -6.05 |
| | max | 23.01 | 23.86 | 21.51 | 19.16 | -0.01 | 9.90 |
| | min | | -13.62 | -13.32 | -13.01 | 0.00 | -6.13 |
| | max | | 23.84 | 21.67 | 19.49 | -0.01 | 9.97 |
| | min | | -13.23 | -13.17 | -13.11 | 0.00 | -6.06 |
| | max | | 23.45 | 21.52 | 19.59 | -0.01 | 9.90 |

W-2.27_2

Q₁⁺ & æ Á K Á € È Í F Á ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 55.74 | 46.36 | 52.14 | 57.92 | 0.01 | 37.28 |
| Ö← | g | 5.95 | 5.08 | 5.60 | 6.13 | 0.01 | 4.01 |
| Qk.N_E1 | min | -2.31 | -1.80 | -2.11 | -2.42 | 0.02 | -1.51 |
| | max | 17.17 | 17.52 | 16.60 | 15.68 | -0.01 | 11.87 |
| | min | | -1.80 | -2.11 | -2.42 | 0.02 | -1.51 |
| | max | | 17.52 | 16.60 | 15.68 | -0.01 | 11.87 |
| | min | | -1.80 | -2.11 | -2.42 | 0.02 | -1.51 |
| | max | | 17.52 | 16.60 | 15.68 | -0.01 | 11.87 |
| Qk.N_DA | min | -13.00 | -13.12 | -12.80 | -12.47 | 0.00 | -9.15 |
| | max | 14.45 | 12.22 | 13.61 | 15.00 | 0.01 | 9.73 |
| | min | | -13.12 | -12.80 | -12.47 | 0.00 | -9.15 |
| | max | | 12.22 | 13.61 | 15.00 | 0.01 | 9.73 |
| | min | | -13.12 | -12.79 | -12.47 | 0.00 | -9.15 |
| | max | | 12.22 | 13.61 | 15.01 | 0.01 | 9.73 |

W-2.27_3
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \in \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 17.75 | 18.10 | 17.04 | 15.99 | 0.00 | 4.26 |
| Ö← | g | 3.26 | 3.29 | 3.20 | 3.10 | 0.00 | 0.80 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 4.96 | 4.98 | 4.94 | 4.90 | 0.00 | 1.23 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 4.98 | 4.94 | 4.90 | 0.00 | 1.23 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 4.98 | 4.94 | 4.90 | 0.00 | 1.23 |
| Qk.N_DA | min | -0.61 | -0.54 | -0.44 | -0.35 | -0.01 | -0.11 |
| | max | 3.67 | 3.76 | 3.57 | 3.38 | 0.00 | 0.89 |
| | min | | -0.43 | -0.54 | -0.65 | 0.01 | -0.14 |
| | max | | 3.65 | 3.66 | 3.68 | 0.00 | 0.92 |
| | min | | -0.33 | -0.53 | -0.74 | 0.02 | -0.13 |
| | max | | 3.55 | 3.66 | 3.76 | 0.00 | 0.91 |

W-2.30_2
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \in \acute{E} \acute{I} \acute{E} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 87.93 | 88.48 | 87.32 | 86.17 | 0.00 | 43.66 |
| Ö← | g | 29.13 | 29.13 | 29.00 | 28.88 | 0.00 | 14.50 |
| Qk.N_E1 | min | -0.88 | -0.89 | -0.87 | -0.85 | 0.00 | -0.43 |
| | max | 0.38 | 0.26 | 0.34 | 0.41 | 0.02 | 0.17 |
| | min | | -0.89 | -0.87 | -0.85 | 0.00 | -0.43 |
| | max | | 0.26 | 0.34 | 0.41 | 0.02 | 0.17 |
| | min | | -0.89 | -0.87 | -0.85 | 0.00 | -0.43 |
| | max | | 0.26 | 0.34 | 0.41 | 0.02 | 0.17 |
| Qk.N_DA | min | -9.03 | -8.06 | -8.21 | -8.35 | 0.00 | -4.10 |
| | max | 66.52 | 66.02 | 65.85 | 65.68 | 0.00 | 32.93 |
| | min | | -7.85 | -8.57 | -9.30 | 0.01 | -4.29 |
| | max | | 65.82 | 66.22 | 66.63 | 0.00 | 33.11 |
| | min | | -6.79 | -8.28 | -9.77 | 0.01 | -4.14 |
| | max | | 64.75 | 65.93 | 67.10 | 0.00 | 32.96 |

W-2.30_3
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \in \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 46.14 | -6.71 | 19.57 | 45.84 | 0.29 | 24.95 |
| Ö← | g | 14.87 | -1.55 | 6.62 | 14.78 | 0.26 | 8.43 |
| Qk.N_El | min | -0.31 | -0.40 | -0.11 | 0.19 | -0.59 | -0.13 |
| | max | 1.03 | 1.53 | 0.25 | -1.03 | -1.09 | 0.32 |
| | min | | -0.40 | -0.11 | 0.19 | -0.59 | -0.13 |
| | max | | 1.53 | 0.25 | -1.03 | -1.09 | 0.32 |
| | min | | 1.53 | 0.25 | -1.03 | -1.09 | 0.32 |
| | max | | -0.40 | -0.11 | 0.19 | -0.59 | -0.13 |
| Qk.N_DA | min | -25.88 | -12.17 | -19.63 | -27.08 | 0.08 | -25.02 |
| | max | 55.77 | 8.23 | 32.61 | 56.99 | 0.16 | 41.58 |
| | min | | -12.15 | -19.63 | -27.10 | 0.08 | -25.03 |
| | max | | 8.21 | 32.61 | 57.01 | 0.16 | 41.58 |
| | min | | -3.87 | -17.98 | -32.08 | 0.17 | -22.92 |
| | max | | -0.07 | 30.96 | 61.99 | 0.21 | 39.47 |

WS-2.5
 $Q_k^{\perp} \& \acute{a} K \acute{A} F \grave{E} \in F \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 20.25 | 20.97 | 19.63 | 18.29 | -0.01 | 19.82 |
| Ö← | g | 5.73 | 4.76 | 5.39 | 6.03 | 0.02 | 5.45 |
| Qk.N_El | min | -0.98 | -0.51 | -0.82 | -1.13 | 0.06 | -0.83 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.51 | -0.82 | -1.13 | 0.06 | -0.83 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.51 | -0.82 | -1.13 | 0.06 | -0.83 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -1.88 | -2.37 | 3.53 | 9.42 | 0.28 | 3.56 |
| | max | 14.00 | 12.27 | 7.83 | 3.39 | -0.10 | 7.91 |
| | min | | 1.40 | -0.78 | -2.97 | 0.47 | -0.79 |
| | max | | 8.51 | 12.14 | 15.77 | 0.05 | 12.26 |
| | min | | 7.23 | 1.20 | -4.83 | -0.85 | 1.21 |
| | max | | 2.67 | 10.16 | 17.64 | 0.12 | 10.26 |

WS-2.18_1
 $Q_k^{\perp} \& \acute{a} K \acute{A} F \grave{E} I G \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 28.14 | 15.05 | 23.76 | 32.47 | 0.09 | 36.00 |
| Ö← | g | 9.37 | 5.47 | 8.07 | 10.66 | 0.08 | 12.22 |
| Qk.N_El | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 21.42 | 21.00 | 21.29 | 21.58 | 0.00 | 32.25 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 21.00 | 21.29 | 21.58 | 0.00 | 32.25 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 21.00 | 21.29 | 21.58 | 0.00 | 32.25 |
| Qk.N_DA | min | -7.29 | -9.58 | -4.97 | -0.37 | -0.23 | -7.53 |
| | max | 7.13 | 6.59 | 6.95 | 7.31 | 0.01 | 10.53 |
| | min | | -9.58 | -4.97 | -0.37 | -0.23 | -7.53 |
| | max | | 6.59 | 6.95 | 7.31 | 0.01 | 10.53 |
| | min | | -1.32 | -1.14 | -0.95 | -0.04 | -1.73 |
| | max | | -1.66 | 3.12 | 7.90 | 0.39 | 4.73 |

WS-2.18_2
 $Q_k^{\perp} \& \acute{a} K \acute{A} F \grave{E} I F \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 36.15 | 35.98 | 36.08 | 36.18 | 0.00 | 54.48 |
| Ö← | g | 11.35 | 11.30 | 11.33 | 11.35 | 0.00 | 17.10 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 21.53 | 21.50 | 21.51 | 21.53 | 0.00 | 32.48 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 21.50 | 21.51 | 21.53 | 0.00 | 32.48 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 21.50 | 21.51 | 21.53 | 0.00 | 32.48 |
| Qk.N_DA | min | -0.50 | -0.42 | -0.47 | -0.52 | 0.02 | -0.71 |
| | max | 8.69 | 8.57 | 8.65 | 8.72 | 0.00 | 13.06 |
| | min | | -0.42 | -0.47 | -0.52 | 0.02 | -0.71 |
| | max | | 8.57 | 8.65 | 8.72 | 0.00 | 13.06 |
| | min | | -0.42 | -0.47 | -0.52 | 0.02 | -0.71 |
| | max | | 8.57 | 8.65 | 8.72 | 0.00 | 13.06 |

WS-2.18_3

Q†^&æÁKÁFÈIFÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 34.26 | 35.06 | 33.46 | 31.86 | -0.01 | 50.52 |
| Ö← | g | 10.76 | 10.99 | 10.52 | 10.05 | -0.01 | 15.89 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 20.57 | 20.96 | 20.19 | 19.41 | -0.01 | 30.48 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 20.96 | 20.19 | 19.41 | -0.01 | 30.48 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 20.96 | 20.19 | 19.41 | -0.01 | 30.48 |
| Qk.N_DA | min | -0.76 | -0.49 | -0.67 | -0.84 | 0.07 | -1.01 |
| | max | 8.28 | 8.39 | 8.18 | 7.98 | -0.01 | 12.36 |
| | min | | -0.49 | -0.67 | -0.84 | 0.07 | -1.01 |
| | max | | 8.39 | 8.18 | 7.98 | -0.01 | 12.36 |
| | min | | -0.49 | -0.67 | -0.84 | 0.07 | -1.01 |
| | max | | 8.39 | 8.18 | 7.98 | -0.01 | 12.36 |

WS-2.27_1

Q†^&æÁKÁ€ÈîîÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 37.41 | 36.71 | 37.24 | 37.76 | 0.00 | 32.95 |
| Ö← | g | 6.50 | 7.07 | 5.92 | 4.77 | -0.03 | 5.24 |
| Qk.N_E1 | min | -1.32 | -0.91 | -1.08 | -1.25 | 0.02 | -0.96 |
| | max | 17.84 | 17.60 | 17.65 | 17.71 | 0.00 | 15.62 |
| | min | | -0.91 | -1.19 | -1.46 | 0.03 | -1.05 |
| | max | | 17.60 | 17.76 | 17.92 | 0.00 | 15.72 |
| | min | | -0.91 | -1.19 | -1.46 | 0.03 | -1.05 |
| | max | | 17.60 | 17.76 | 17.92 | 0.00 | 15.72 |
| Qk.N_DA | min | -11.71 | -11.36 | -9.32 | -7.27 | -0.03 | -8.24 |
| | max | 12.02 | 14.30 | 9.90 | 5.49 | -0.07 | 8.76 |
| | min | | -9.50 | -10.97 | -12.45 | 0.02 | -9.71 |
| | max | | 12.45 | 11.55 | 10.66 | -0.01 | 10.23 |
| | min | | -9.50 | -10.97 | -12.45 | 0.02 | -9.71 |
| | max | | 12.45 | 11.55 | 10.66 | -0.01 | 10.23 |

WS-2.27_2

Q†^&æÁKÁ€ÈîîÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 45.06 | 51.80 | 38.34 | 24.88 | -0.05 | 33.93 |
| Ö← | g | 5.32 | 5.81 | 4.84 | 3.87 | -0.03 | 4.28 |
| Qk.N_El | min | -2.06 | -2.51 | -1.60 | -0.70 | -0.08 | -1.42 |
| | max | 12.30 | 14.09 | 10.51 | 6.94 | -0.05 | 9.30 |
| | min | | -2.51 | -1.60 | -0.70 | -0.08 | -1.42 |
| | max | | 14.09 | 10.51 | 6.94 | -0.05 | 9.30 |
| | min | | -2.45 | -1.58 | -0.71 | -0.08 | -1.40 |
| | max | | 14.02 | 10.49 | 6.95 | -0.05 | 9.28 |
| Qk.N_DA | min | -7.74 | -9.89 | -5.61 | -1.33 | -0.11 | -4.96 |
| | max | 10.89 | 12.99 | 8.79 | 4.60 | -0.07 | 7.78 |
| | min | | -9.89 | -5.61 | -1.33 | -0.11 | -4.96 |
| | max | | 12.99 | 8.79 | 4.60 | -0.07 | 7.78 |
| | min | | -5.33 | -3.54 | -1.75 | -0.07 | -3.14 |
| | max | | 8.43 | 6.73 | 5.03 | -0.04 | 5.96 |

WS-2.30_1
 $Q_k^{\perp} \& \acute{a} K \acute{A} F \acute{E} \in F \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 80.30 | 71.06 | 77.24 | 83.41 | 0.01 | 78.01 |
| Ö← | g | 25.34 | 21.07 | 23.93 | 26.78 | 0.02 | 24.17 |
| Qk.N_El | min | -0.99 | -1.11 | -0.85 | -0.60 | -0.05 | -0.86 |
| | max | 0.80 | 1.05 | 0.54 | 0.03 | -0.16 | 0.55 |
| | min | | -1.11 | -0.87 | -0.64 | -0.05 | -0.88 |
| | max | | 1.05 | 0.56 | 0.06 | -0.15 | 0.56 |
| | min | | -0.52 | -0.60 | -0.67 | 0.02 | -0.60 |
| | max | | 0.47 | 0.28 | 0.09 | -0.11 | 0.28 |
| Qk.N_DA | min | -5.74 | -3.56 | -5.01 | -6.46 | 0.05 | -5.06 |
| | max | 56.16 | 45.35 | 52.57 | 59.80 | 0.02 | 53.10 |
| | min | | -3.55 | -5.01 | -6.47 | 0.05 | -5.06 |
| | max | | 45.34 | 52.57 | 59.81 | 0.02 | 53.10 |
| | min | | -2.79 | -4.71 | -6.63 | 0.07 | -4.75 |
| | max | | 44.58 | 52.27 | 59.97 | 0.02 | 52.79 |

WS-2.30_2
 $Q_k^{\perp} \& \acute{a} K \acute{A} F \acute{E} \in F \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 70.70 | 79.04 | 62.42 | 45.81 | -0.04 | 63.05 |
| Ö← | g | 23.62 | 26.47 | 20.78 | 15.09 | -0.05 | 20.99 |
| Qk.N_El | min | -0.68 | -0.71 | -0.60 | -0.49 | -0.03 | -0.61 |
| | max | 1.18 | 0.63 | 0.96 | 1.28 | 0.06 | 0.97 |
| | min | | -0.71 | -0.64 | -0.58 | -0.02 | -0.65 |
| | max | | 0.63 | 1.00 | 1.37 | 0.06 | 1.01 |
| | min | | -0.71 | -0.64 | -0.58 | -0.02 | -0.65 |
| | max | | 0.63 | 1.00 | 1.37 | 0.06 | 1.01 |
| Qk.N_DA | min | -13.82 | -10.64 | -12.65 | -14.66 | 0.03 | -12.78 |
| | max | 58.14 | 62.98 | 53.45 | 43.93 | -0.03 | 53.99 |
| | min | | -10.47 | -12.71 | -14.95 | 0.03 | -12.84 |
| | max | | 62.80 | 53.51 | 44.22 | -0.03 | 54.05 |
| | min | | -10.47 | -12.71 | -14.95 | 0.03 | -12.84 |
| | max | | 62.80 | 53.51 | 44.22 | -0.03 | 54.05 |

WS-T-2.1
 $Q_k^{\perp} \& \acute{a} K \acute{A} F \acute{E} \in F \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 7.19 | 12.75 | 1.61 | -9.53 | -1.15 | 1.61 |
| Ö← | g | -5.69 | -1.56 | -4.31 | -7.06 | 0.11 | -4.31 |
| Qk.N_E1 | min | -0.42 | -0.54 | -0.27 | -0.01 | -0.16 | -0.27 |
| | max | 4.49 | 4.03 | 4.32 | 4.60 | 0.01 | 4.32 |
| | min | | -0.54 | -0.29 | -0.04 | -0.15 | -0.29 |
| | max | | 4.03 | 4.33 | 4.63 | 0.01 | 4.33 |
| | min | | -0.52 | -0.28 | -0.04 | -0.14 | -0.28 |
| | max | | 4.00 | 4.32 | 4.64 | 0.01 | 4.32 |
| Qk.N_DA | min | -19.77 | -12.26 | -17.25 | -22.24 | 0.05 | -17.25 |
| | max | 8.65 | 8.99 | 8.31 | 7.63 | -0.01 | 8.31 |
| | min | | -12.24 | -17.26 | -22.27 | 0.05 | -17.26 |
| | max | | 8.97 | 8.32 | 7.66 | -0.01 | 8.32 |
| | min | | -12.06 | -17.19 | -22.32 | 0.05 | -17.19 |
| | max | | 8.79 | 8.25 | 7.72 | -0.01 | 8.25 |

WS-T-2.3
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} \acute{F} \acute{E} \acute{H} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 31.28 | 36.47 | 25.65 | 14.83 | -0.08 | 29.24 |
| Ö← | g | 5.83 | 7.37 | 4.16 | 0.95 | -0.15 | 4.75 |
| Qk.N_E1 | min | -0.96 | -1.11 | -0.79 | -0.47 | -0.08 | -0.90 |
| | max | 9.46 | 9.46 | 9.46 | 9.46 | 0.00 | 10.79 |
| | min | | -1.11 | -0.79 | -0.47 | -0.08 | -0.90 |
| | max | | 9.46 | 9.46 | 9.46 | 0.00 | 10.79 |
| | min | | -1.11 | -0.79 | -0.47 | -0.08 | -0.90 |
| | max | | 9.46 | 9.46 | 9.46 | 0.00 | 10.79 |
| Qk.N_DA | min | -14.67 | -7.49 | -12.14 | -16.79 | 0.07 | -13.84 |
| | max | 16.28 | 17.37 | 15.12 | 12.87 | -0.03 | 17.24 |
| | min | | -7.43 | -12.20 | -16.97 | 0.07 | -13.91 |
| | max | | 17.32 | 15.18 | 13.05 | -0.03 | 17.31 |
| | min | | -7.43 | -12.20 | -16.97 | 0.07 | -13.91 |
| | max | | 17.32 | 15.18 | 13.05 | -0.03 | 17.31 |

WS-T-2.4
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} \acute{F} \acute{E} \acute{F} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 62.72 | 57.99 | 61.12 | 64.25 | 0.01 | 61.73 |
| Ö← | g | 18.31 | 16.86 | 17.82 | 18.77 | 0.01 | 17.99 |
| Qk.N_E1 | min | -1.09 | -0.88 | -0.97 | -1.07 | 0.02 | -0.98 |
| | max | 1.85 | 1.62 | 1.73 | 1.83 | 0.01 | 1.74 |
| | min | | -0.87 | -1.01 | -1.16 | 0.02 | -1.02 |
| | max | | 1.61 | 1.77 | 1.93 | 0.01 | 1.79 |
| | min | | -0.87 | -1.01 | -1.16 | 0.02 | -1.02 |
| | max | | 1.61 | 1.77 | 1.93 | 0.01 | 1.79 |
| Qk.N_DA | min | -1.85 | -2.17 | -1.47 | -0.77 | -0.08 | -1.48 |
| | max | 37.09 | 35.13 | 36.37 | 37.60 | 0.01 | 36.73 |
| | min | | -2.16 | -1.52 | -0.89 | -0.07 | -1.54 |
| | max | | 35.13 | 36.43 | 37.73 | 0.01 | 36.79 |
| | min | | -2.00 | -1.46 | -0.92 | -0.06 | -1.48 |
| | max | | 34.97 | 36.36 | 37.76 | 0.01 | 36.73 |

WT-1.1
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} \acute{I} \acute{E} \acute{N} \acute{G} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|--------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 377.83 | 149.17 | 68.99 | -11.19 | -1.67 | 595.07 |
| Ö← | g | 114.72 | 46.83 | 20.72 | -5.39 | -1.81 | 178.70 |
| Qk.N_E1 | min | -0.51 | -0.31 | 0.06 | 0.43 | 8.90 | 0.51 |
| | max | 0.77 | 0.01 | 0.00 | 0.00 | -4.41 | 0.02 |
| | min | | -0.15 | -0.04 | 0.08 | -4.32 | -0.33 |
| | max | | -0.15 | 0.10 | 0.35 | 3.55 | 0.86 |
| | min | | 0.01 | 0.00 | 0.00 | -4.41 | 0.02 |
| | max | | -0.31 | 0.06 | 0.43 | 8.90 | 0.51 |
| Qk.N_DA | min | -4.11 | -4.65 | 0.01 | 4.66 | 1150.6 | 0.05 |
| | max | 234.05 | 98.68 | 41.40 | -15.88 | -1.99 | 357.07 |
| | min | | -1.68 | -0.71 | 0.26 | -1.96 | -6.12 |
| | max | | 95.71 | 42.11 | -11.48 | -1.83 | 363.24 |
| | min | | 88.12 | 31.65 | -24.82 | -2.56 | 272.99 |
| | max | | 5.91 | 9.75 | 13.60 | 0.57 | 84.13 |

WT-2.1_1

Q†^&æÁKÁÈĪÍÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 50.74 | 28.73 | 38.07 | 47.40 | 0.11 | 104.68 |
| Ö← | g | 10.74 | 7.73 | 6.01 | 4.29 | -0.13 | 16.52 |
| Qk.N_E1 | min | -1.28 | -0.65 | 1.98 | 4.60 | 0.61 | 5.43 |
| | max | 4.78 | 0.01 | 0.03 | 0.05 | 0.38 | 0.08 |
| | min | | 0.00 | -0.82 | -1.64 | 0.46 | -2.26 |
| | max | | -0.65 | 2.83 | 6.30 | 0.56 | 7.77 |
| | min | | 0.00 | -0.82 | -1.64 | 0.46 | -2.26 |
| | max | | -0.65 | 2.83 | 6.30 | 0.56 | 7.77 |
| Qk.N_DA | min | -18.95 | -5.23 | 0.15 | 5.53 | 16.29 | 0.42 |
| | max | 19.86 | 21.30 | 10.18 | -0.95 | -0.50 | 27.99 |
| | min | | 8.53 | -3.49 | -15.52 | 1.58 | -9.60 |
| | max | | 7.54 | 13.82 | 20.11 | 0.21 | 38.01 |
| | min | | 8.54 | -3.49 | -15.52 | 1.58 | -9.60 |
| | max | | 7.53 | 13.82 | 20.11 | 0.21 | 38.00 |

WT-2.1_2

Q†^&æÁKÁÈĪÍÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 46.05 | 50.94 | 38.01 | 25.07 | -0.06 | 37.06 |
| Ö← | g | 7.08 | 8.36 | 5.02 | 1.67 | -0.11 | 4.89 |
| Qk.N_E1 | min | -0.01 | -0.37 | 1.18 | 2.72 | 0.21 | 1.15 |
| | max | 1.50 | 1.73 | 0.17 | -1.39 | -1.50 | 0.17 |
| | min | | 0.00 | 0.00 | -0.01 | 0.31 | 0.00 |
| | max | | 1.36 | 1.35 | 1.34 | 0.00 | 1.31 |
| | min | | 1.71 | 0.12 | -1.46 | -2.14 | 0.12 |
| | max | | -0.34 | 1.22 | 2.79 | 0.21 | 1.19 |
| Qk.N_DA | min | -7.25 | -2.10 | -4.05 | -6.00 | 0.08 | -3.95 |
| | max | 15.82 | 17.61 | 13.70 | 9.80 | -0.05 | 13.36 |
| | min | | -1.39 | -4.83 | -8.27 | 0.12 | -4.71 |
| | max | | 16.90 | 14.48 | 12.06 | -0.03 | 14.12 |
| | min | | -0.10 | -4.26 | -8.43 | 0.16 | -4.16 |
| | max | | 15.61 | 13.92 | 12.23 | -0.02 | 13.57 |

WT-2.1_3

Q†^&æÁKÁÈĪÍÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | -10.17 | -11.67 | -7.38 | -3.10 | -0.07 | -5.72 |
| Ö← | g | -7.44 | -7.87 | -6.69 | -5.52 | -0.02 | -5.19 |
| Qk.N_El | min | -0.08 | -0.08 | -0.08 | -0.08 | -0.01 | -0.06 |
| | max | 2.66 | 3.05 | 1.72 | 0.38 | -0.10 | 1.33 |
| | min | | -0.08 | -0.08 | -0.08 | -0.01 | -0.06 |
| | max | | 3.05 | 1.72 | 0.38 | -0.10 | 1.33 |
| | min | | -0.08 | -0.08 | -0.08 | -0.01 | -0.06 |
| | max | | 3.05 | 1.72 | 0.38 | -0.10 | 1.33 |
| Qk.N_DA | min | -24.07 | -24.71 | -23.14 | -21.57 | -0.01 | -17.93 |
| | max | 9.61 | 8.50 | 9.18 | 9.86 | 0.01 | 7.11 |
| | min | | -24.70 | -23.14 | -21.58 | -0.01 | -17.93 |
| | max | | 8.49 | 9.18 | 9.87 | 0.01 | 7.11 |
| | min | | -24.67 | -23.13 | -21.59 | -0.01 | -17.93 |
| | max | | 8.46 | 9.17 | 9.88 | 0.01 | 7.11 |

WT-2.1_4
 $Q_k^{\perp} \& \acute{a} K \acute{A} G \grave{E} \in I \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 290.36 | -140.1 | 92.22 | 324.57 | 0.86 | 189.05 |
| Ö← | g | 56.48 | -28.91 | 17.64 | 64.19 | 0.90 | 36.17 |
| Qk.N_El | min | -0.26 | -0.47 | -0.04 | 0.39 | -3.69 | -0.08 |
| | max | 0.29 | 0.04 | 0.02 | 0.00 | -0.40 | 0.04 |
| | min | | -0.30 | -0.12 | 0.06 | -0.53 | -0.24 |
| | max | | -0.13 | 0.10 | 0.32 | 0.80 | 0.20 |
| | min | | 0.04 | 0.02 | 0.00 | -0.42 | 0.04 |
| | max | | -0.47 | -0.04 | 0.39 | -3.80 | -0.08 |
| Qk.N_DA | min | -50.10 | -56.16 | 48.43 | 153.01 | 0.74 | 99.28 |
| | max | 138.06 | 5.99 | -23.36 | -52.70 | 0.43 | -47.88 |
| | min | | 0.86 | -25.13 | -51.12 | 0.35 | -51.52 |
| | max | | -51.03 | 50.20 | 151.43 | 0.69 | 102.91 |
| | min | | 5.86 | -23.59 | -53.04 | 0.43 | -48.36 |
| | max | | -56.03 | 48.66 | 153.36 | 0.74 | 99.76 |

WT-2.2
 $Q_k^{\perp} \& \acute{a} K \acute{A} G \grave{E} \in I \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | -40.15 | -51.45 | -12.89 | 25.68 | -1.37 | -35.45 |
| Ö← | g | -20.09 | -20.67 | -9.31 | 2.06 | -0.56 | -25.60 |
| Qk.N_El | min | -2.75 | -0.82 | -1.56 | -2.30 | 0.22 | -4.29 |
| | max | 8.78 | 0.77 | 5.48 | 10.18 | 0.39 | 15.06 |
| | min | | -0.82 | -1.56 | -2.30 | 0.22 | -4.29 |
| | max | | 0.77 | 5.48 | 10.18 | 0.39 | 15.06 |
| | min | | -0.80 | -1.56 | -2.31 | 0.22 | -4.28 |
| | max | | 0.76 | 5.47 | 10.19 | 0.39 | 15.05 |
| Qk.N_DA | min | -60.23 | -57.12 | -32.42 | -7.71 | -0.35 | -89.15 |
| | max | 18.50 | 16.34 | 11.36 | 6.38 | -0.20 | 31.25 |
| | min | | -57.12 | -32.42 | -7.72 | -0.35 | -89.15 |
| | max | | 16.34 | 11.36 | 6.38 | -0.20 | 31.25 |
| | min | | -48.92 | -28.73 | -8.53 | -0.32 | -79.00 |
| | max | | 8.15 | 7.67 | 7.20 | -0.03 | 21.10 |

WT-2.3_1
 $Q_k^{\perp} \& \acute{a} K \acute{A} G \grave{E} \in I \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 280.56 | -117.3 | 96.42 | 310.17 | 0.76 | 197.67 |
| Ö← | g | 52.69 | -21.68 | 18.63 | 58.93 | 0.74 | 38.19 |
| Qk.N_E1 | min | -1.49 | -2.11 | -0.36 | 1.40 | -1.69 | -0.73 |
| | max | 0.82 | 0.22 | 0.06 | -0.09 | -0.84 | 0.13 |
| | min | | -1.67 | -0.61 | 0.46 | -0.60 | -1.24 |
| | max | | -0.22 | 0.31 | 0.85 | 0.58 | 0.64 |
| | min | | 0.22 | 0.06 | -0.09 | -0.84 | 0.13 |
| | max | | -2.11 | -0.36 | 1.40 | -1.69 | -0.73 |
| Qk.N_DA | min | -60.19 | -59.89 | 47.77 | 155.43 | 0.77 | 97.93 |
| | max | 140.32 | 25.50 | -20.40 | -66.29 | 0.77 | -41.82 |
| | min | | 18.50 | -23.35 | -65.20 | 0.61 | -47.87 |
| | max | | -52.89 | 50.72 | 154.34 | 0.70 | 103.99 |
| | min | | 24.80 | -21.39 | -67.58 | 0.74 | -43.85 |
| | max | | -59.19 | 48.76 | 156.72 | 0.76 | 99.97 |

WT-2.3_2
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{E} \acute{E} \acute{I} \acute{E} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 15.61 | 12.63 | 14.34 | 16.04 | 0.02 | 11.54 |
| Ö← | g | -0.24 | -0.21 | -0.09 | 0.02 | -0.17 | -0.07 |
| Qk.N_E1 | min | -0.18 | -0.27 | -0.06 | 0.15 | -0.45 | -0.05 |
| | max | 5.99 | 7.06 | 3.75 | 0.45 | -0.12 | 3.02 |
| | min | | -0.21 | -0.09 | 0.04 | -0.19 | -0.07 |
| | max | | 7.00 | 3.78 | 0.56 | -0.11 | 3.04 |
| | min | | 0.05 | -0.01 | -0.06 | 1.46 | 0.00 |
| | max | | 6.74 | 3.70 | 0.65 | -0.11 | 2.98 |
| Qk.N_DA | min | -15.18 | -16.56 | -12.13 | -7.71 | -0.05 | -9.77 |
| | max | 11.19 | 11.77 | 9.43 | 7.09 | -0.03 | 7.59 |
| | min | | -16.49 | -12.85 | -9.20 | -0.04 | -10.34 |
| | max | | 11.70 | 10.14 | 8.59 | -0.02 | 8.17 |
| | min | | -7.24 | -9.41 | -11.58 | 0.03 | -7.58 |
| | max | | 2.45 | 6.71 | 10.97 | 0.09 | 5.40 |

WT-2.3_3
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{G} \acute{E} \acute{I} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 52.77 | 10.80 | 17.70 | 24.60 | 0.23 | 62.91 |
| Ö← | g | -20.20 | 0.06 | 0.44 | 0.81 | 0.51 | 1.55 |
| Qk.N_E1 | min | -2.09 | -1.91 | 0.76 | 3.43 | 2.09 | 2.69 |
| | max | 4.95 | 1.86 | 1.53 | 1.20 | -0.13 | 5.45 |
| | min | | -1.84 | -0.21 | 1.43 | -4.70 | -0.73 |
| | max | | 1.80 | 2.50 | 3.20 | 0.17 | 8.88 |
| | min | | 0.04 | -0.02 | -0.08 | 2.19 | -0.06 |
| | max | | -0.09 | 2.31 | 4.70 | 0.62 | 8.20 |
| Qk.N_DA | min | -53.80 | -11.85 | -11.20 | -10.55 | -0.03 | -39.82 |
| | max | 13.42 | 12.49 | 11.43 | 10.37 | -0.05 | 40.62 |
| | min | | -10.76 | -11.55 | -12.35 | 0.04 | -41.08 |
| | max | | 11.39 | 11.78 | 12.17 | 0.02 | 41.88 |
| | min | | -6.56 | -10.05 | -13.54 | 0.21 | -35.71 |
| | max | | 7.19 | 10.27 | 13.36 | 0.18 | 36.52 |

WT-2.4_1
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{F} \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|--------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 202.57 | 227.31 | 131.04 | 34.76 | -0.16 | 167.07 |
| Ö← | g | 65.95 | 74.33 | 41.91 | 9.49 | -0.16 | 53.44 |
| Qk.N_E1 | min | -1.01 | -1.49 | -0.16 | 1.18 | -1.84 | -0.20 |
| | max | 0.53 | 0.81 | 0.13 | -0.56 | -1.14 | 0.16 |
| | min | | -1.38 | -0.16 | 1.07 | -1.65 | -0.20 |
| | max | | 0.70 | 0.13 | -0.44 | -0.93 | 0.17 |
| | min | | 0.81 | -0.02 | -0.84 | 11.77 | -0.02 |
| | max | | -1.49 | -0.01 | 1.46 | -24.90 | -0.02 |
| Qk.N_DA | min | -2.35 | -2.85 | 1.68 | 6.22 | 0.57 | 2.15 |
| | max | 128.82 | 150.20 | 81.16 | 12.12 | -0.18 | 103.47 |
| | min | | 2.57 | -0.68 | -3.93 | 1.02 | -0.87 |
| | max | | 144.77 | 83.52 | 22.26 | -0.16 | 106.49 |
| | min | | 4.20 | -0.13 | -4.46 | 6.94 | -0.17 |
| | max | | 143.15 | 82.97 | 22.79 | -0.15 | 105.79 |

WT-2.4_2

Q†^&æÁKÁ€ÈĞHÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 72.65 | 70.10 | 71.63 | 73.16 | 0.00 | 24.35 |
| Ö← | g | 21.59 | 20.73 | 21.25 | 21.77 | 0.00 | 7.23 |
| Qk.N_E1 | min | -1.15 | -1.15 | -1.14 | -1.14 | 0.00 | -0.39 |
| | max | 1.79 | 1.80 | 1.76 | 1.72 | 0.00 | 0.60 |
| | min | | -1.15 | -1.14 | -1.14 | 0.00 | -0.39 |
| | max | | 1.80 | 1.76 | 1.72 | 0.00 | 0.60 |
| | min | | -1.15 | -1.14 | -1.14 | 0.00 | -0.39 |
| | max | | 1.80 | 1.76 | 1.72 | 0.00 | 0.60 |
| Qk.N_DA | min | -1.09 | -1.04 | -1.07 | -1.10 | 0.00 | -0.36 |
| | max | 43.58 | 41.80 | 42.87 | 43.94 | 0.00 | 14.58 |
| | min | | -1.04 | -1.07 | -1.10 | 0.00 | -0.36 |
| | max | | 41.80 | 42.87 | 43.94 | 0.00 | 14.58 |
| | min | | -1.04 | -1.07 | -1.10 | 0.00 | -0.36 |
| | max | | 41.80 | 42.87 | 43.94 | 0.00 | 14.58 |

WT-2.4_3

Q†^&æÁKÁĞÈÍÎÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 87.41 | 63.13 | 72.87 | 82.62 | 0.08 | 260.89 |
| Ö← | g | 28.88 | 20.27 | 23.16 | 26.04 | 0.07 | 82.90 |
| Qk.N_E1 | min | -0.76 | -0.99 | 0.13 | 1.26 | 5.01 | 0.48 |
| | max | 0.73 | 1.01 | -0.13 | -1.26 | 5.33 | -0.46 |
| | min | | 0.90 | -0.15 | -1.21 | 4.14 | -0.55 |
| | max | | -0.89 | 0.16 | 1.20 | 3.93 | 0.57 |
| | min | | 0.99 | -0.15 | -1.28 | 4.65 | -0.52 |
| | max | | -0.97 | 0.15 | 1.27 | 4.40 | 0.54 |
| Qk.N_DA | min | -2.47 | -3.39 | 0.32 | 4.03 | 6.88 | 1.15 |
| | max | 59.39 | 43.57 | 45.52 | 47.47 | 0.03 | 162.96 |
| | min | | 0.73 | -1.35 | -3.42 | 0.92 | -4.82 |
| | max | | 39.45 | 47.19 | 54.93 | 0.10 | 168.93 |
| | min | | 4.53 | -0.45 | -5.43 | 6.64 | -1.60 |
| | max | | 35.65 | 46.29 | 56.93 | 0.14 | 165.71 |

WT-2.5

Q†^&æÁKÁĞÈÍÎÁ↑

| Kraft | Ft | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -45.74 | -62.98 | -12.48 | 38.03 | -1.86 | -34.31 |
| Ö← | g | -22.96 | -24.32 | -10.67 | 2.97 | -0.59 | -29.35 |
| Qk.N_E1 | min | -6.83 | -1.44 | -3.44 | -5.44 | 0.27 | -9.47 |
| | max | 8.08 | 1.99 | 4.63 | 7.27 | 0.26 | 12.72 |
| | min | | -1.39 | -3.49 | -5.59 | 0.28 | -9.59 |
| | max | | 1.93 | 4.67 | 7.41 | 0.27 | 12.84 |
| | min | | -1.39 | -3.49 | -5.59 | 0.28 | -9.59 |
| | max | | 1.93 | 4.67 | 7.41 | 0.27 | 12.84 |
| Qk.N_DA | min | -60.36 | -58.88 | -29.85 | -0.81 | -0.45 | -82.07 |
| | max | 14.29 | 10.81 | 8.23 | 5.64 | -0.14 | 22.62 |
| | min | | -58.08 | -32.66 | -7.23 | -0.36 | -89.80 |
| | max | | 10.01 | 11.04 | 12.06 | 0.04 | 30.35 |
| | min | | -58.08 | -32.66 | -7.23 | -0.36 | -89.80 |
| | max | | 10.01 | 11.04 | 12.06 | 0.04 | 30.35 |

Detail nachweise

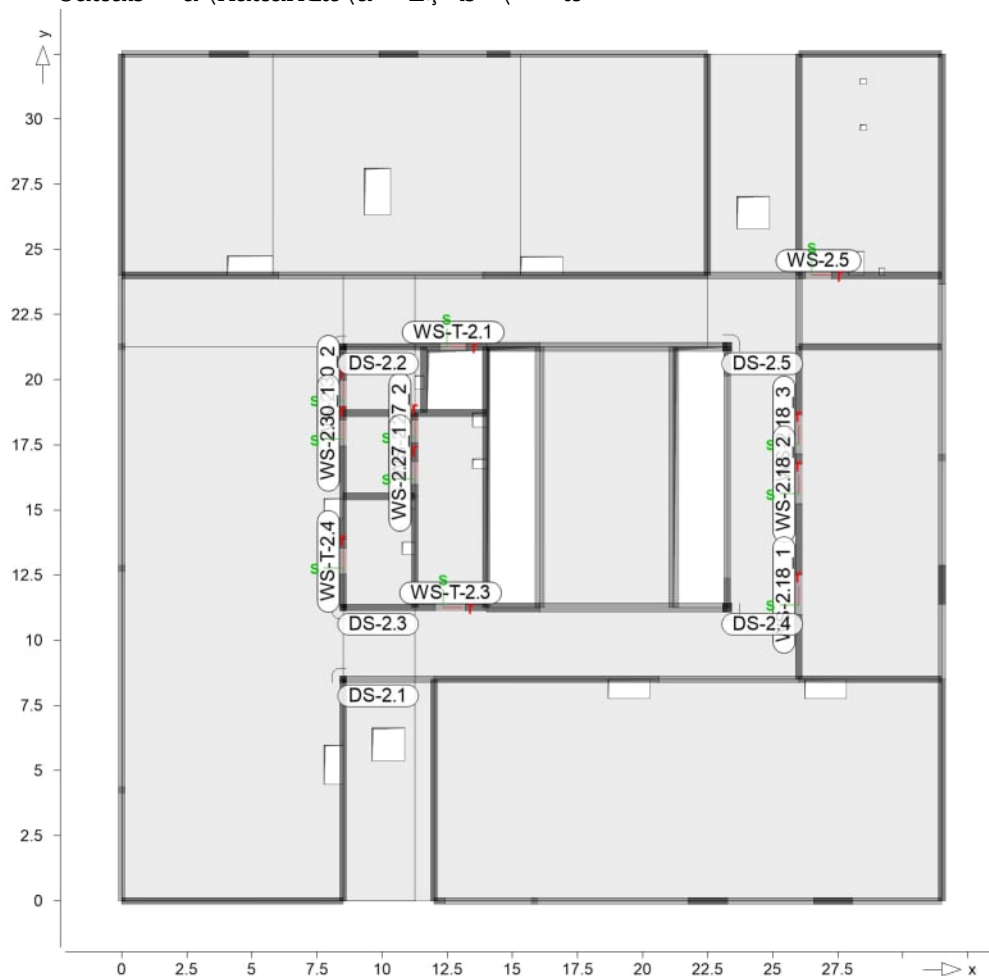
©âæã&áâæÁá→bÁÆæ\á↔↔^á´å}æ↔bæÁâfiãÃÑá|U\á\↔↔

Details

Details aus Positionen

Posi ti onsgrafi k

©âæãb↔´à\ÁäæãÁÆæ\á↔↔Ë\$~b↔\↔~^æ^



S290. de

Durchstanznachweis

Kombi nationen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á'ääÆØSÁÓSÁFïï€

Ew Einwirkungsname

Lkn Lastkombinationsnummer

↔æÁÑæ\æ↔↔↔&|^&Áæ↔^~æ→^æãÁQáb\à‡→æÁ↔^æãää→ääeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

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Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|-----|----|------|------|---------|-------------|
| 1-5 | | 1.35 | 1.35 | 1.50 | 1.50 |

6Ya"!GWb]hh[f"£Yb

max VEd Lkn
[kN]

| | | |
|--------|--------|---|
| DS-2.1 | 186.94 | 1 |
| DS-2.2 | 118.22 | 2 |
| DS-2.3 | 302.67 | 3 |
| DS-2.4 | 65.49 | 4 |
| DS-2.5 | 125.44 | 5 |

Wert1 Art = Rechteck -> Breite in x-Richtung

Art = Rund -> Durchmesser

Art = Wandende -> Wanddicke

Art = Wandecke -> Wanddicke

Wert2 Art = Rechteck -> Dicke in y-Richtung

Nä\ÁKÁÛá^äæ^äæÁËLÁÓ↔^à→|bb→‡^&æ

Nä\ÁKÁÛá^äæ'←æÁËLÁÓ↔^à→|bb→‡^&æ

Expositionsklasse

&æ↑‡BÁÆØSÁÓSÁFïïGËFËFËFËÁÚáâÈÁHËF

| Position | Seite | Kl | Kommentar |
|----------------|-----------|-----|------------------------------|
| DS-2.1..DS-2.5 | umlaufend | XC1 | trocken oder b\‡^ä↔&Á^ább |

S310. de

Stahlbeton-Sturz

Kombi nationen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á'ääÆØSÁÓSÁFïï€

Ew Einwirkungsname

Lkn Lastkombinationsnummer

↔æÁÑæ\æ↔↔↔&|^&Áæ↔^~æ→^æãÁQáb\à‡→æÁ↔^æãää→ääeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

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Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|-------|----|------|------|---------|-------------|
| 1-27 | | 1.00 | 1.00 | 1.50 | 1.50 |
| 28-54 | | 1.35 | 1.35 | 1.50 | 1.50 |
| 55-56 | | 1.00 | 1.35 | 1.50 | 1.50 |
| 57-58 | | 1.35 | 1.00 | 1.50 | 1.50 |

Daten

| | Q _{1i} [m] | Breite [cm] | Komb | Komm. | Q _{1i} [kN/m] | Q _{re} [kN/m] | Lkn |
|-----------|------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-2.18_1 | 1.52 | 25.00 | GK | min A | 12.09 | 48.52 | 1 |
| | | | GK | max A | 77.11 | 109.59 | 28 |
| | | | GK | min M | 12.09 | 48.52 | 2 |
| | | | GK | max M | 77.11 | 109.59 | 29 |
| | | | GK | min E | 24.47 | 47.64 | 3 |
| | | | GK | max E | 64.73 | 110.46 | 30 |
| WS-2.18_2 | 1.51 | 25.00 | GK | min A | 52.59 | 52.69 | 4 |
| | | | GK | max A | 116.95 | 117.55 | 31 |
| | | | GK | min M | 52.59 | 52.69 | 4 |
| | | | GK | max M | 116.95 | 117.55 | 31 |
| | | | GK | min E | 52.59 | 52.69 | 5 |
| | | | GK | max E | 116.95 | 117.55 | 32 |
| WS-2.18_3 | 1.51 | 25.00 | GK | min A | 51.25 | 46.58 | 6 |
| | | | GK | max A | 114.21 | 105.67 | 33 |
| | | | GK | min M | 51.25 | 46.58 | 6 |
| | | | GK | max M | 114.21 | 105.67 | 33 |
| | | | GK | min E | 51.25 | 46.58 | 5 |
| | | | GK | max E | 114.21 | 105.67 | 32 |
| WS-2.27_1 | 0.89 | 25.00 | GK | min A | 31.31 | 35.69 | 7 |
| | | | GK | max A | 114.97 | 100.23 | 34 |
| | | | GK | min M | 34.09 | 27.62 | 8 |
| | | | GK | max M | 112.19 | 108.30 | 35 |
| | | | GK | min E | 34.09 | 27.62 | 9 |
| | | | GK | max E | 112.19 | 108.30 | 36 |
| WS-2.27_2 | 0.89 | 25.00 | GK | min A | 44.95 | 31.65 | 10 |
| | | | GK | max A | 126.39 | 64.14 | 37 |
| | | | GK | min M | 44.95 | 31.65 | 11 |
| | | | GK | max M | 126.39 | 64.14 | 38 |
| | | | GK | min E | 51.87 | 30.98 | 12 |
| | | | GK | max E | 119.47 | 64.80 | 39 |
| WS-2.30_1 | 1.01 | 25.00 | GK | min A | 91.08 | 105.54 | 13 |
| | | | GK | max A | 202.00 | 246.51 | 40 |
| | | | GK | min M | 91.09 | 105.47 | 14 |
| | | | GK | max M | 201.98 | 246.58 | 41 |
| | | | GK | min E | 93.11 | 105.18 | 15 |
| | | | GK | max E | 199.96 | 246.86 | 42 |
| WS-2.30_2 | 1.01 | 25.00 | GK | min A | 94.42 | 44.12 | 16 |
| | | | GK | max A | 245.87 | 158.04 | 43 |
| | | | GK | min M | 94.68 | 43.55 | 17 |
| | | | GK | max M | 245.61 | 158.61 | 44 |
| | | | GK | min E | 94.68 | 43.55 | 17 |
| | | | GK | max E | 245.61 | 158.61 | 44 |
| WS-2.5 | 1.01 | 25.00 | GK | min A | 27.35 | 42.69 | 18 |
| | | | GK | max A | 61.15 | 45.93 | 45 |
| | | | GK | min M | 32.99 | 24.11 | 19 |
| | | | GK | max M | 55.51 | 64.50 | 46 |
| | | | GK | min E | 41.74 | 21.31 | 20 |
| | | | GK | max E | 46.75 | 67.30 | 47 |
| WS-T-2.1 | 1.00 | 25.00 | GK | min A | 0.51 | -43.37 | 55 |
| | | | GK | max A | 47.41 | 10.65 | 57 |
| | | | GK | min M | 0.53 | -43.47 | 56 |
| | | | GK | max M | 47.38 | 10.75 | 58 |
| | | | GK | min E | 8.48 | -43.71 | 48 |
| | | | GK | max E | 39.43 | 10.99 | 21 |

| | Q _{st} [m] | Breite [cm] | Komb | Komm. | Q _{li} [kN/m] | Q _{re} [kN/m] | Lkn |
|----------|------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-T-2.3 | 1.14 | 25.00 | GK | min A | 36.89 | -4.16 | 22 |
| | | | GK | max A | 107.45 | 62.83 | 49 |
| | | | GK | min M | 36.97 | -4.43 | 23 |
| | | | GK | max M | 107.37 | 63.09 | 50 |
| | | | GK | min E | 36.97 | -4.43 | 24 |
| | | | GK | max E | 107.37 | 63.09 | 51 |
| WS-T-2.4 | 1.01 | 25.00 | GK | min A | 76.22 | 86.21 | 25 |
| | | | GK | max A | 164.19 | 179.24 | 52 |
| | | | GK | min M | 76.25 | 85.88 | 26 |
| | | | GK | max M | 164.17 | 179.57 | 53 |
| | | | GK | min E | 76.48 | 85.84 | 27 |
| | | | GK | max E | 163.93 | 179.61 | 54 |

Q_{li} Belastung am Sturzanfang (A)

Q_{re} Belastung am Sturzende (E)

S340. de

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Kombi nati onen

Ráß&æâæ^âæÁP~†â↔^á\↔~^æ^Á^á´âÁØSÁÓSÁFïï€

Ew Einwirkungsname

Lkn Lastkombinationsnummer

↔æÁÑæ\æ↔↔&|^&Áæ↔^æ→^æãÁQáb\à†→æÁ↔^æããã→âÁeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

•æ}ää Ø|>à^|*Ë

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|-------|----|------|------|---------|-------------|
| 1-27 | | 1.00 | 1.00 | 1.50 | 1.50 |
| 28-54 | | 1.35 | 1.35 | 1.50 | 1.50 |
| 55-56 | | 1.00 | 1.35 | 1.50 | 1.50 |
| 57-58 | | 1.35 | 1.00 | 1.50 | 1.50 |

Brand

P~†â↔^á\↔~^æ^ÁfiãÁSá´â}æ↔bÁ↔†ÁÑãã^ääã→

| Lkn | Ew | Gk | Ö← | Qk.N_E1 | Qk.N_DA |
|--------|----|------|------|---------|---------|
| 59-100 | | 1.00 | 1.00 | 0.80 | . |

Daten

WS-2.18_1

| | Q _{st} [m] | Breite [cm] | Komb | Komm. | Q _{li} [kN/m] | Q _{re} [kN/m] | Lkn |
|-----------|------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-2.18_1 | 1.52 | 25.00 | GK | min A | 12.09 | 48.52 | 1 |
| | | | GK | max A | 77.11 | 109.59 | 28 |
| | | | GK | min M | 12.09 | 48.52 | 2 |
| | | | GK | max M | 77.11 | 109.59 | 29 |
| | | | GK | min E | 24.47 | 47.64 | 3 |
| | | | GK | max E | 64.73 | 110.46 | 30 |
| | | | BR | min A | 26.46 | 49.07 | 59 |
| | | | BR | min A | 43.26 | 66.33 | 60 |
| | | | BR | min A | 26.46 | 49.07 | 61 |
| | | | BR | min A | 43.26 | 66.33 | 62 |
| | | | BR | min A | 26.46 | 49.07 | 63 |
| | | | BR | min A | 43.26 | 66.33 | 64 |

WS-2.18_2

| | | | | | | | |
|-----------|------|-------|----|-------|--------|--------|----|
| WS-2.18_2 | 1.51 | 25.00 | GK | min A | 52.59 | 52.69 | 4 |
| | | | GK | max A | 116.95 | 117.55 | 31 |
| | | | GK | min M | 52.59 | 52.69 | 4 |

| | Q _{1i} [m] | Breite [cm] | Komb | Komm. | Q _{1i} [kN/m] | Q _{re} [kN/m] | Lkn |
|-----------|------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| | | | GK | max M | 116.95 | 117.55 | 31 |
| | | | GK | min E | 52.59 | 52.69 | 5 |
| | | | GK | max E | 116.95 | 117.55 | 32 |
| | | | BR | min A | 53.22 | 53.46 | 65 |
| | | | BR | min A | 70.42 | 70.68 | 66 |
| | | | BR | min A | 53.22 | 53.46 | 65 |
| | | | BR | min A | 70.42 | 70.68 | 66 |
| | | | BR | min A | 53.22 | 53.46 | 65 |
| | | | BR | min A | 70.42 | 70.68 | 66 |
| WS-2.18_3 | 1.51 | 25.00 | GK | min A | 51.25 | 46.58 | 6 |
| | | | GK | max A | 114.21 | 105.67 | 33 |
| | | | GK | min M | 51.25 | 46.58 | 6 |
| | | | GK | max M | 114.21 | 105.67 | 33 |
| | | | GK | min E | 51.25 | 46.58 | 5 |
| | | | GK | max E | 114.21 | 105.67 | 32 |
| | | | BR | min A | 51.99 | 47.84 | 67 |
| | | | BR | min A | 68.76 | 63.37 | 68 |
| | | | BR | min A | 51.99 | 47.84 | 67 |
| | | | BR | min A | 68.76 | 63.37 | 68 |
| | | | BR | min A | 51.99 | 47.84 | 65 |
| | | | BR | min A | 68.76 | 63.37 | 66 |
| WS-2.27_1 | 0.89 | 25.00 | GK | min A | 31.31 | 35.69 | 7 |
| | | | GK | max A | 114.97 | 100.23 | 34 |
| | | | GK | min M | 34.09 | 27.62 | 8 |
| | | | GK | max M | 112.19 | 108.30 | 35 |
| | | | GK | min E | 34.09 | 27.62 | 9 |
| | | | GK | max E | 112.19 | 108.30 | 36 |
| | | | BR | min A | 48.98 | 47.47 | 69 |
| | | | BR | min A | 63.79 | 62.64 | 70 |
| | | | BR | min A | 48.98 | 47.31 | 71 |
| | | | BR | min A | 63.79 | 62.81 | 72 |
| | | | BR | min A | 48.98 | 47.31 | 71 |
| | | | BR | min A | 63.79 | 62.81 | 72 |
| WS-2.27_2 | 0.89 | 25.00 | GK | min A | 44.95 | 31.65 | 10 |
| | | | GK | max A | 126.39 | 64.14 | 37 |
| | | | GK | min M | 44.95 | 31.65 | 11 |
| | | | GK | max M | 126.39 | 64.14 | 38 |
| | | | GK | min E | 51.87 | 30.98 | 12 |
| | | | GK | max E | 119.47 | 64.80 | 39 |
| | | | BR | min A | 61.54 | 34.13 | 73 |
| | | | BR | min A | 74.81 | 40.24 | 74 |
| | | | BR | min A | 61.54 | 34.13 | 75 |
| | | | BR | min A | 74.81 | 40.24 | 76 |
| | | | BR | min A | 61.59 | 34.12 | 77 |
| | | | BR | min A | 74.76 | 40.25 | 78 |
| WS-2.30_1 | 1.01 | 25.00 | GK | min A | 91.08 | 105.54 | 13 |
| | | | GK | max A | 202.00 | 246.51 | 40 |
| | | | GK | min M | 91.09 | 105.47 | 14 |
| | | | GK | max M | 201.98 | 246.58 | 41 |
| | | | GK | min E | 93.11 | 105.18 | 15 |
| | | | GK | max E | 199.96 | 246.86 | 42 |
| | | | BR | min A | 97.18 | 115.65 | 79 |
| | | | BR | min A | 98.91 | 116.15 | 80 |
| | | | BR | min A | 97.19 | 115.62 | 81 |

| | Q _{1i} [m] | Breite [cm] | Komb | Komm. | Q _{1i} [kN/m] | Q _{re} [kN/m] | Lkn |
|-----------|------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-2.30_2 | 1.01 | 25.00 | BR | min A | 98.91 | 116.18 | 82 |
| | | | BR | min A | 97.65 | 115.59 | 83 |
| | | | BR | min A | 98.45 | 116.21 | 84 |
| | | | GK | min A | 94.42 | 44.12 | 16 |
| | | | GK | max A | 245.87 | 158.04 | 43 |
| | | | GK | min M | 94.68 | 43.55 | 17 |
| | | | GK | max M | 245.61 | 158.61 | 44 |
| | | | GK | min E | 94.68 | 43.55 | 17 |
| | | | GK | max E | 245.61 | 158.61 | 44 |
| | | | BR | min A | 110.88 | 66.45 | 85 |
| | | | BR | min A | 111.96 | 67.86 | 86 |
| | | | BR | min A | 110.88 | 66.38 | 87 |
| | | | BR | min A | 111.95 | 67.93 | 88 |
| | | | BR | min A | 110.88 | 66.38 | 87 |
| | | | BR | min A | 111.95 | 67.93 | 88 |
| WS-2.5 | 1.01 | 25.00 | GK | min A | 27.35 | 42.69 | 18 |
| | | | GK | max A | 61.15 | 45.93 | 45 |
| | | | GK | min M | 32.99 | 24.11 | 19 |
| | | | GK | max M | 55.51 | 64.50 | 46 |
| | | | GK | min E | 41.74 | 21.31 | 20 |
| | | | GK | max E | 46.75 | 67.30 | 47 |
| | | | BR | min A | 31.25 | 29.35 | 89 |
| | | | BR | min A | 31.66 | 30.25 | 90 |
| | | | BR | min A | 31.25 | 29.35 | 62 |
| | | | BR | min A | 31.66 | 30.25 | 61 |
| | | | BR | min A | 31.25 | 29.35 | 80 |
| | | | BR | min A | 31.66 | 30.25 | 79 |
| | | | GK | min A | 0.51 | -43.37 | 55 |
| | | | GK | max A | 47.41 | 10.65 | 57 |
| | | | GK | min M | 0.53 | -43.47 | 56 |
| WS-T-2.1 | 1.00 | 25.00 | GK | max M | 47.38 | 10.75 | 58 |
| | | | GK | min E | 8.48 | -43.71 | 48 |
| | | | GK | max E | 39.43 | 10.99 | 21 |
| | | | BR | min A | 19.82 | -7.54 | 63 |
| | | | BR | min A | 23.47 | -3.85 | 64 |
| | | | BR | min A | 19.82 | -7.56 | 91 |
| | | | BR | min A | 23.47 | -3.83 | 92 |
| | | | BR | min A | 19.84 | -7.56 | 93 |
| | | | BR | min A | 23.45 | -3.83 | 94 |
| | | | GK | min A | 36.89 | -4.16 | 22 |
| | | | GK | max A | 107.45 | 62.83 | 49 |
| | | | GK | min M | 36.97 | -4.43 | 23 |
| | | | GK | max M | 107.37 | 63.09 | 50 |
| | | | GK | min E | 36.97 | -4.43 | 24 |
| | | | GK | max E | 107.37 | 63.09 | 51 |
| WS-T-2.3 | 1.14 | 25.00 | BR | min A | 48.90 | 21.35 | 95 |
| | | | BR | min A | 57.35 | 29.29 | 96 |
| | | | BR | min A | 48.90 | 21.35 | 95 |
| | | | BR | min A | 57.35 | 29.29 | 96 |
| | | | BR | min A | 48.90 | 21.35 | 95 |
| | | | BR | min A | 57.35 | 29.29 | 96 |
| | | | GK | min A | 76.22 | 86.21 | 25 |
| | | | GK | max A | 164.19 | 179.24 | 52 |
| | | | GK | min M | 76.25 | 85.88 | 26 |
| | | | GK | max M | 164.19 | 179.24 | 52 |
| | | | GK | min E | 76.25 | 85.88 | 26 |
| | | | GK | max E | 164.19 | 179.24 | 52 |
| | | | GK | min A | 76.22 | 86.21 | 25 |
| | | | GK | max A | 164.19 | 179.24 | 52 |
| | | | GK | min M | 76.25 | 85.88 | 26 |
| WS-T-2.4 | 1.01 | 25.00 | GK | min A | 76.22 | 86.21 | 25 |
| | | | GK | max A | 164.19 | 179.24 | 52 |
| | | | GK | min M | 76.25 | 85.88 | 26 |
| | | | GK | max M | 164.19 | 179.24 | 52 |

| Q _{1i} [m] | Breite [cm] | Komb | Komm. | Q _{1i} [kN/m] | Q _{re} [kN/m] | Lkn |
|------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| | | GK | max M | 164.17 | 179.57 | 53 |
| | | GK | min E | 76.48 | 85.84 | 27 |
| | | GK | max E | 163.93 | 179.61 | 54 |
| | | BR | min A | 80.09 | 88.10 | 97 |
| | | BR | min A | 82.08 | 90.42 | 98 |
| | | BR | min A | 80.09 | 88.03 | 99 |
| | | BR | min A | 82.08 | 90.50 | 100 |
| | | BR | min A | 80.09 | 88.03 | 99 |
| | | BR | min A | 82.08 | 90.50 | 100 |

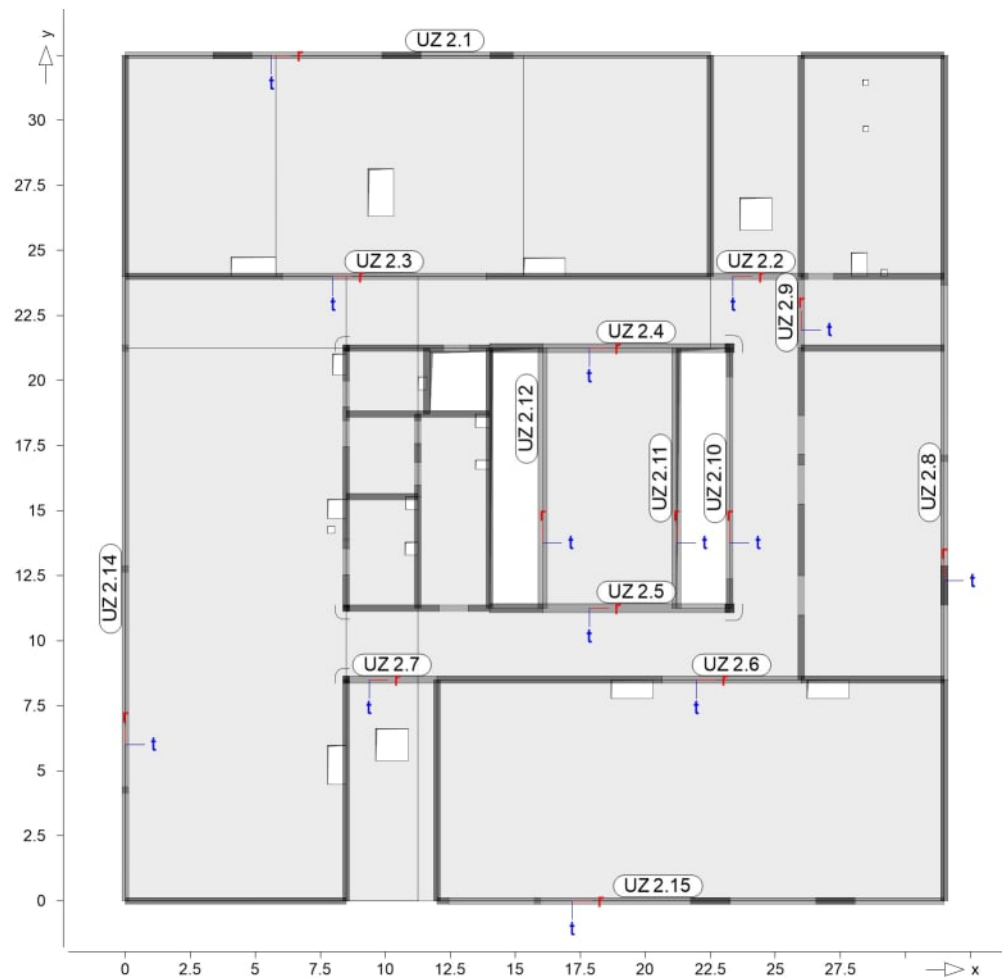
Q_{1i} Ñæ→áb\ | ^&Áá↑ÁÚã†&æãá^àá^&ÁÇND
Q_{re} Ñæ→áb\ | ^&Áá↑ÁÚã†&æãæ^ãæÁÇÓD

Lastmodel I Bal ken

N→\æã^á\↔{ ^á^á }æ↔bÁàfiãÁÆ | ã^á→á | à\ã†&æã

S340. de

U\áâ→âæ\~^EË | ã^á→á | à\ã†&æã



UZ 2.1

Unterzug

•æ}ãã^Áææc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

Gk

| Nr . | a [m] | s [m] | q [kN/m] |
|------|----------|----------|-------------|
| 1 | 0.00 | 0.98 | -11.55 |
| 2 | 0.98 | 0.98 | 15.96 |
| 3 | 1.96 | 0.98 | 19.15 |
| 4 | 2.93 | 0.98 | 20.55 |
| 5 | 3.91 | 0.98 | 21.38 |
| 6 | 4.89 | 0.98 | 21.63 |
| 7 | 5.87 | 0.98 | 23.55 |
| 8 | 6.85 | 0.98 | 34.34 |
| 9 | 7.83 | 0.98 | 35.22 |
| 10 | 8.80 | 0.98 | 23.59 |
| 11 | 9.78 | 0.98 | 21.16 |
| 12 | 10.76 | 0.98 | 21.36 |
| 13 | 11.74 | 0.98 | 21.70 |
| 14 | 12.72 | 0.98 | 21.88 |
| 15 | 13.70 | 0.98 | 23.93 |
| 16 | 14.67 | 0.98 | 30.24 |
| 17 | 15.65 | 0.98 | 24.53 |
| 18 | 16.63 | 0.98 | 21.34 |
| 19 | 17.61 | 0.98 | 20.00 |
| 20 | 18.59 | 0.98 | 17.44 |
| 21 | 19.57 | 0.98 | 13.66 |
| 22 | 20.54 | 0.98 | 13.99 |
| 23 | 21.52 | 0.98 | 5.25 |

Ö←

| | | | |
|----|-------|------|-------|
| 1 | 0.00 | 0.98 | 1.59 |
| 2 | 0.98 | 0.98 | 9.23 |
| 3 | 1.96 | 0.98 | 10.69 |
| 4 | 2.93 | 0.98 | 15.02 |
| 5 | 3.91 | 0.98 | 17.12 |
| 6 | 4.89 | 0.98 | 12.63 |
| 7 | 5.87 | 0.98 | 11.85 |
| 8 | 6.85 | 0.98 | 16.17 |
| 9 | 7.83 | 0.98 | 16.54 |
| 10 | 8.80 | 0.98 | 13.20 |
| 11 | 9.78 | 0.98 | 16.77 |
| 12 | 10.76 | 0.98 | 15.71 |
| 13 | 11.74 | 0.98 | 11.60 |
| 14 | 12.72 | 0.98 | 11.81 |
| 15 | 13.70 | 0.98 | 16.06 |
| 16 | 14.67 | 0.98 | 17.03 |
| 17 | 15.65 | 0.98 | 12.38 |
| 18 | 16.63 | 0.98 | 11.03 |
| 19 | 17.61 | 0.98 | 10.63 |
| 20 | 18.59 | 0.98 | 9.82 |
| 21 | 19.57 | 0.98 | 8.68 |
| 22 | 20.54 | 0.98 | 9.40 |
| 23 | 21.52 | 0.98 | 6.22 |

Qk . N_DA

| | | | |
|---|------|------|-------|
| 1 | 0.00 | 0.98 | -9.00 |
| 2 | 0.98 | 0.98 | 10.64 |
| 3 | 1.96 | 0.98 | 12.81 |
| 4 | 2.93 | 0.98 | 13.76 |
| 5 | 3.91 | 0.98 | 14.34 |
| 6 | 4.89 | 0.98 | 14.56 |
| 7 | 5.87 | 0.98 | 14.52 |
| 8 | 6.85 | 0.98 | 14.33 |

D-231

| Nr. | a [m] | s [m] | q [kN/m] |
|-----|----------|----------|-------------|
| 9 | 7.83 | 0.98 | 14.09 |
| 10 | 8.80 | 0.98 | 13.84 |
| 11 | 9.78 | 0.98 | 13.82 |
| 12 | 10.76 | 0.98 | 13.83 |
| 13 | 11.74 | 0.98 | 14.01 |
| 14 | 12.72 | 0.98 | 14.14 |
| 15 | 13.70 | 0.98 | 14.28 |
| 16 | 14.67 | 0.98 | 14.30 |
| 17 | 15.65 | 0.98 | 14.22 |
| 18 | 16.63 | 0.98 | 13.86 |
| 19 | 17.61 | 0.98 | 13.10 |
| 20 | 18.59 | 0.98 | 11.66 |
| 21 | 19.57 | 0.98 | 9.28 |
| 22 | 20.54 | 0.98 | 5.81 |
| 23 | 21.52 | 0.98 | -6.01 |

a: Nâb\á^äÄäbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^←æ^ÄÜä†&æäää^ä
s: Q†^æÄääÄQáb\

UZ 2.10

Unterzug

•æ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

Gk

| Nr. | a [m] | s [m] | q [kN/m] |
|-----|----------|----------|-------------|
| 1 | 0.00 | 1.00 | -2.17 |
| 2 | 1.00 | 1.00 | 6.98 |
| 3 | 2.00 | 1.00 | 3.78 |
| 4 | 3.00 | 1.00 | 2.89 |
| 5 | 4.00 | 1.00 | 2.81 |
| 6 | 5.00 | 1.00 | 3.07 |
| 7 | 6.00 | 1.00 | 3.60 |
| 8 | 7.00 | 1.00 | 4.25 |
| 9 | 8.00 | 1.00 | 4.84 |
| 10 | 9.00 | 1.00 | 13.41 |

Ö←

| | | | |
|----|------|------|-------|
| 1 | 0.00 | 1.00 | -1.07 |
| 2 | 1.00 | 1.00 | 2.23 |
| 3 | 2.00 | 1.00 | 1.22 |
| 4 | 3.00 | 1.00 | 0.92 |
| 5 | 4.00 | 1.00 | 0.90 |
| 6 | 5.00 | 1.00 | 0.98 |
| 7 | 6.00 | 1.00 | 1.15 |
| 8 | 7.00 | 1.00 | 1.37 |
| 9 | 8.00 | 1.00 | 1.55 |
| 10 | 9.00 | 1.00 | 3.91 |

Qk.N_DA

| | | | |
|---|------|------|------|
| 1 | 0.00 | 1.00 | 7.66 |
| 2 | 1.00 | 1.00 | 3.47 |
| 3 | 2.00 | 1.00 | 3.86 |
| 4 | 3.00 | 1.00 | 3.97 |
| 5 | 4.00 | 1.00 | 4.00 |
| 6 | 5.00 | 1.00 | 4.06 |
| 7 | 6.00 | 1.00 | 4.15 |
| 8 | 7.00 | 1.00 | 4.14 |
| 9 | 8.00 | 1.00 | 3.93 |

D-232

| Nr. | a [m] | s [m] | q [kN/m] |
|---|----------|----------|-------------|
| 10 | 9.00 | 1.00 | 8.78 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä‡&æäää^ä | | | |
| s: Q‡^&æÄäæääQáb\ | | | |

UZ 2.11

Unterzug

•œ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| Blocklasten | Nr . | a [m] | s [m] | q [kN/m] |
|---|------|----------|----------|-------------|
| Gk | 1 | 0.00 | 1.00 | 7.10 |
| | 2 | 1.00 | 1.00 | 13.23 |
| | 3 | 2.00 | 1.00 | 14.43 |
| | 4 | 3.00 | 1.00 | 15.65 |
| | 5 | 4.00 | 1.00 | 16.14 |
| | 6 | 5.00 | 1.00 | 16.10 |
| | 7 | 6.00 | 1.00 | 15.50 |
| | 8 | 7.00 | 1.00 | 13.80 |
| | 9 | 8.00 | 1.00 | 9.68 |
| | 10 | 9.00 | 1.00 | 2.75 |
| Ö← | 1 | 0.00 | 1.00 | 2.11 |
| | 2 | 1.00 | 1.00 | 4.23 |
| | 3 | 2.00 | 1.00 | 4.63 |
| | 4 | 3.00 | 1.00 | 5.01 |
| | 5 | 4.00 | 1.00 | 5.17 |
| | 6 | 5.00 | 1.00 | 5.15 |
| | 7 | 6.00 | 1.00 | 4.96 |
| | 8 | 7.00 | 1.00 | 4.42 |
| | 9 | 8.00 | 1.00 | 3.10 |
| | 10 | 9.00 | 1.00 | 0.68 |
| Qk .N_E1 | 1 | 0.00 | 1.00 | 0.05 |
| Qk .N_DA | 1 | 0.00 | 1.00 | 5.28 |
| | 2 | 1.00 | 1.00 | 9.97 |
| | 3 | 2.00 | 1.00 | 9.73 |
| | 4 | 3.00 | 1.00 | 10.19 |
| | 5 | 4.00 | 1.00 | 10.43 |
| | 6 | 5.00 | 1.00 | 10.40 |
| | 7 | 6.00 | 1.00 | 10.10 |
| | 8 | 7.00 | 1.00 | 9.31 |
| | 9 | 8.00 | 1.00 | 7.63 |
| | 10 | 9.00 | 1.00 | 2.30 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä‡&æäää^ä | | | | |
| s: Q‡^&æÄäæääQáb\ | | | | |

UZ 2.12

Unterzug

•œ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|----|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 1.00 | 3.96 |
| | 2 | 1.00 | 1.00 | 12.54 |

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Schulcampus EWK \ 2OG-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|--|-----|----------|----------|-------------|
| | 3 | 2.00 | 1.00 | 14.40 |
| | 4 | 3.00 | 1.00 | 15.66 |
| | 5 | 4.00 | 1.00 | 16.14 |
| | 6 | 5.00 | 1.00 | 16.09 |
| | 7 | 6.00 | 1.00 | 15.49 |
| | 8 | 7.00 | 1.00 | 14.04 |
| | 9 | 8.00 | 1.00 | 11.85 |
| | 10 | 9.00 | 1.00 | 4.37 |
| Ö← | 1 | 0.00 | 1.00 | 2.56 |
| | 2 | 1.00 | 1.00 | 5.50 |
| | 3 | 2.00 | 1.00 | 6.11 |
| | 4 | 3.00 | 1.00 | 6.51 |
| | 5 | 4.00 | 1.00 | 6.67 |
| | 6 | 5.00 | 1.00 | 6.65 |
| | 7 | 6.00 | 1.00 | 6.46 |
| | 8 | 7.00 | 1.00 | 5.99 |
| | 9 | 8.00 | 1.00 | 5.28 |
| | 10 | 9.00 | 1.00 | 2.68 |
| Qk.N_E1 | 1 | 0.00 | 1.00 | 0.03 |
| | 2 | 1.00 | 1.00 | 0.02 |
| Qk.N_DA | 1 | 0.00 | 1.00 | 3.01 |
| | 2 | 1.00 | 1.00 | 9.54 |
| | 3 | 2.00 | 1.00 | 9.69 |
| | 4 | 3.00 | 1.00 | 10.20 |
| | 5 | 4.00 | 1.00 | 10.42 |
| | 6 | 5.00 | 1.00 | 10.39 |
| | 7 | 6.00 | 1.00 | 10.09 |
| | 8 | 7.00 | 1.00 | 9.45 |
| | 9 | 8.00 | 1.00 | 9.14 |
| | 10 | 9.00 | 1.00 | 3.33 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^æ^ÄÚä†&æäää^ä | | | | |
| s: Q†^&æÄäääÄQáb\ | | | | |

UZ 2.14

Unterzug

•œ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|----|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 1.00 | -12.29 |
| | 2 | 1.00 | 1.00 | 16.64 |
| | 3 | 2.00 | 1.00 | 19.70 |
| | 4 | 3.00 | 1.00 | 23.11 |
| | 5 | 4.00 | 1.00 | 35.19 |
| | 6 | 5.00 | 1.00 | 33.94 |
| | 7 | 6.00 | 1.00 | 23.62 |
| | 8 | 7.00 | 1.00 | 23.47 |
| | 9 | 8.00 | 1.00 | 33.81 |
| | 10 | 9.00 | 1.00 | 36.41 |
| | 11 | 10.00 | 1.00 | 24.53 |
| | 12 | 11.00 | 1.00 | 21.76 |
| | 13 | 12.00 | 1.00 | 28.15 |
| | 14 | 13.00 | 1.00 | 37.11 |

D-234

POSITION

20G-LP4

Ö←

Qk.N_DA

| Nr . | a [m] | s [m] | q [kN/m] |
|------|----------|----------|-------------|
| 15 | 14.00 | 1.00 | 26.74 |
| 16 | 15.00 | 1.00 | 21.61 |
| 17 | 16.00 | 1.00 | 26.56 |
| 18 | 17.00 | 1.00 | 37.00 |
| 19 | 18.00 | 1.00 | 28.44 |
| 20 | 19.00 | 1.00 | 18.77 |
| 21 | 20.00 | 1.00 | 17.08 |
| 22 | 21.00 | 1.00 | 22.17 |
| 23 | 22.00 | 1.00 | 9.76 |
| 24 | 23.00 | 1.00 | -12.83 |
| 1 | 0.00 | 1.00 | 1.34 |
| 2 | 1.00 | 1.00 | 9.51 |
| 3 | 2.00 | 1.00 | 10.50 |
| 4 | 3.00 | 1.00 | 11.77 |
| 5 | 4.00 | 1.00 | 16.54 |
| 6 | 5.00 | 1.00 | 16.01 |
| 7 | 6.00 | 1.00 | 11.88 |
| 8 | 7.00 | 1.00 | 11.83 |
| 9 | 8.00 | 1.00 | 15.99 |
| 10 | 9.00 | 1.00 | 17.05 |
| 11 | 10.00 | 1.00 | 12.31 |
| 12 | 11.00 | 1.00 | 11.22 |
| 13 | 12.00 | 1.00 | 13.78 |
| 14 | 13.00 | 1.00 | 17.38 |
| 15 | 14.00 | 1.00 | 13.23 |
| 16 | 15.00 | 1.00 | 11.18 |
| 17 | 16.00 | 1.00 | 13.17 |
| 18 | 17.00 | 1.00 | 17.37 |
| 19 | 18.00 | 1.00 | 14.01 |
| 20 | 19.00 | 1.00 | 10.27 |
| 21 | 20.00 | 1.00 | 9.85 |
| 22 | 21.00 | 1.00 | 12.33 |
| 23 | 22.00 | 1.00 | 8.07 |
| 24 | 23.00 | 1.00 | 0.12 |
| 1 | 0.00 | 1.00 | -8.68 |
| 2 | 1.00 | 1.00 | 10.80 |
| 3 | 2.00 | 1.00 | 12.86 |
| 4 | 3.00 | 1.00 | 13.81 |
| 5 | 4.00 | 1.00 | 14.37 |
| 6 | 5.00 | 1.00 | 14.59 |
| 7 | 6.00 | 1.00 | 14.59 |
| 8 | 7.00 | 1.00 | 14.49 |
| 9 | 8.00 | 1.00 | 14.36 |
| 10 | 9.00 | 1.00 | 14.22 |
| 11 | 10.00 | 1.00 | 14.11 |
| 12 | 11.00 | 1.00 | 14.02 |
| 13 | 12.00 | 1.00 | 13.98 |
| 14 | 13.00 | 1.00 | 13.96 |
| 15 | 14.00 | 1.00 | 13.98 |
| 16 | 15.00 | 1.00 | 14.00 |
| 17 | 16.00 | 1.00 | 14.00 |
| 18 | 17.00 | 1.00 | 13.93 |
| 19 | 18.00 | 1.00 | 13.70 |
| 20 | 19.00 | 1.00 | 13.15 |

D-235

Schulcampus EWK \

20G-LP4

| Nr. | a [m] | s [m] | q [kN/m] |
|-----|----------|----------|-------------|
| 21 | 20.00 | 1.00 | 11.92 |
| 22 | 21.00 | 1.00 | 9.50 |
| 23 | 22.00 | 1.00 | 4.72 |
| 24 | 23.00 | 1.00 | -2.33 |

a: Nâb\á^ääæbÁU\ää*| ^←\æbÁ~| ↑Á→↔^←æ^ÁÚã+&æääá^ä
s: Q†^&æÁääääÁQáb\

UZ 2.15

Unterzug

•æ}ää^Ãææ{

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|----|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.95 | 1.35 |
| | 2 | 0.95 | 0.95 | 10.38 |
| | 3 | 1.91 | 0.95 | 16.28 |
| | 4 | 2.86 | 0.95 | 27.81 |
| | 5 | 3.82 | 0.95 | 35.63 |
| | 6 | 4.77 | 0.95 | 26.08 |
| | 7 | 5.72 | 0.95 | 22.08 |
| | 8 | 6.68 | 0.95 | 23.29 |
| | 9 | 7.63 | 0.95 | 32.33 |
| | 10 | 8.58 | 0.95 | 35.17 |
| | 11 | 9.54 | 0.95 | 24.71 |
| | 12 | 10.49 | 0.95 | 22.33 |
| | 13 | 11.45 | 0.95 | 22.42 |
| | 14 | 12.40 | 0.95 | 22.45 |
| | 15 | 13.35 | 0.95 | 22.31 |
| | 16 | 14.31 | 0.95 | 21.83 |
| | 17 | 15.26 | 0.95 | 20.88 |
| | 18 | 16.21 | 0.95 | 19.43 |
| | 19 | 17.17 | 0.95 | 15.98 |
| | 20 | 18.12 | 0.95 | -12.83 |
| Ö← | 1 | 0.00 | 0.95 | 5.40 |
| | 2 | 0.95 | 0.95 | 7.58 |
| | 3 | 1.91 | 0.95 | 9.48 |
| | 4 | 2.86 | 0.95 | 13.84 |
| | 5 | 3.82 | 0.95 | 16.84 |
| | 6 | 4.77 | 0.95 | 12.93 |
| | 7 | 5.72 | 0.95 | 11.28 |
| | 8 | 6.68 | 0.95 | 11.70 |
| | 9 | 7.63 | 0.95 | 15.41 |
| | 10 | 8.58 | 0.95 | 19.05 |
| | 11 | 9.54 | 0.95 | 18.82 |
| | 12 | 10.49 | 0.95 | 14.69 |
| | 13 | 11.45 | 0.95 | 11.52 |
| | 14 | 12.40 | 0.95 | 11.37 |
| | 15 | 13.35 | 0.95 | 13.65 |
| | 16 | 14.31 | 0.95 | 17.61 |
| | 17 | 15.26 | 0.95 | 14.39 |
| | 18 | 16.21 | 0.95 | 10.63 |
| | 19 | 17.17 | 0.95 | 9.25 |
| | 20 | 18.12 | 0.95 | 1.20 |

| | Nr. | a [m] | s [m] | q [kN/m] |
|---|-----|----------|----------|-------------|
| Qk.N_DA | 1 | 0.00 | 0.95 | 3.70 |
| | 2 | 0.95 | 0.95 | 8.29 |
| | 3 | 1.91 | 0.95 | 10.71 |
| | 4 | 2.86 | 0.95 | 12.56 |
| | 5 | 3.82 | 0.95 | 13.53 |
| | 6 | 4.77 | 0.95 | 14.15 |
| | 7 | 5.72 | 0.95 | 14.42 |
| | 8 | 6.68 | 0.95 | 14.54 |
| | 9 | 7.63 | 0.95 | 14.55 |
| | 10 | 8.58 | 0.95 | 14.52 |
| | 11 | 9.54 | 0.95 | 14.48 |
| | 12 | 10.49 | 0.95 | 14.48 |
| | 13 | 11.45 | 0.95 | 14.48 |
| | 14 | 12.40 | 0.95 | 14.47 |
| | 15 | 13.35 | 0.95 | 14.39 |
| | 16 | 14.31 | 0.95 | 14.10 |
| | 17 | 15.26 | 0.95 | 13.50 |
| | 18 | 16.21 | 0.95 | 12.58 |
| | 19 | 17.17 | 0.95 | 10.35 |
| | 20 | 18.12 | 0.95 | -9.09 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä+&æäää^ä | | | | |
| s: Q†^&æÄäääÄQáb\ | | | | |

UZ 2.2

Unterzug

•æ}ää^Äææ{

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.88 | 5.61 |
| | 2 | 0.88 | 0.88 | 7.82 |
| | 3 | 1.75 | 0.88 | 7.76 |
| | 4 | 2.63 | 0.88 | 4.27 |
| Ö← | 1 | 0.00 | 0.88 | 1.75 |
| | 2 | 0.88 | 0.88 | 2.48 |
| | 3 | 1.75 | 0.88 | 2.47 |
| | 4 | 2.63 | 0.88 | 1.37 |
| Qk.N_E1 | 1 | 0.00 | 0.88 | 0.01 |
| | 2 | 0.88 | 0.88 | -0.03 |
| | 3 | 1.75 | 0.88 | 0.02 |
| | 4 | 2.63 | 0.88 | 0.10 |
| Qk.N_DA | 1 | 0.00 | 0.88 | 10.59 |
| | 2 | 0.88 | 0.88 | 13.82 |
| | 3 | 1.75 | 0.88 | 12.33 |
| | 4 | 2.63 | 0.88 | 5.69 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä+&æäää^ä | | | | |
| s: Q†^&æÄäääÄQáb\ | | | | |

UZ 2.3

Unterzug

•œ}åã^Ãæç}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| Blocklasten | Nr . | a [m] | s [m] | q [kN/m] |
|--|------|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.98 | 74.81 |
| | 2 | 0.98 | 0.98 | 60.47 |
| | 3 | 1.96 | 0.98 | 53.11 |
| | 4 | 2.94 | 0.98 | 54.43 |
| | 5 | 3.93 | 0.98 | 57.48 |
| | 6 | 4.91 | 0.98 | 58.48 |
| | 7 | 5.89 | 0.98 | 57.92 |
| | 8 | 6.87 | 0.98 | 59.86 |
| Ö← | 1 | 0.00 | 0.98 | 24.01 |
| | 2 | 0.98 | 0.98 | 19.43 |
| | 3 | 1.96 | 0.98 | 17.07 |
| | 4 | 2.94 | 0.98 | 17.45 |
| | 5 | 3.93 | 0.98 | 18.35 |
| | 6 | 4.91 | 0.98 | 18.64 |
| | 7 | 5.89 | 0.98 | 18.51 |
| | 8 | 6.87 | 0.98 | 19.20 |
| Qk .N_E1 | 1 | 1.96 | 0.98 | 0.01 |
| | 2 | 2.94 | 0.98 | 0.01 |
| | 3 | 3.93 | 0.98 | 0.01 |
| Qk .N_DA | 1 | 0.00 | 0.98 | 48.11 |
| | 2 | 0.98 | 0.98 | 38.97 |
| | 3 | 1.96 | 0.98 | 34.28 |
| | 4 | 2.94 | 0.98 | 35.05 |
| | 5 | 3.93 | 0.98 | 36.84 |
| | 6 | 4.91 | 0.98 | 37.47 |
| | 7 | 5.89 | 0.98 | 37.32 |
| | 8 | 6.87 | 0.98 | 38.78 |
| a: Nâb\á^ãÄäæbÄU\áä* ^←\æbÄ~ ↑Ä→↗^←æ^ÄÚä‡&æääää^ä s: Q‡^&æÄäæääÄQáb\ | | | | |

a: Nâb\á^ãÃæbÁU\ää*|^←\æbÃ~|↑Á↔↔^æ^ÁÚã+&æääá^ä
s: Q†^&æÃæääQáb\

UZ 2.4

Unterzug

•œ}åã^Ãæç}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| Blocklasten | Nr . | a | s | q |
|-------------|------|------|------|--------|
| | | [m] | [m] | [kN/m] |
| Gk | 1 | 0.00 | 0.90 | -4.51 |
| | 2 | 0.90 | 0.90 | 13.44 |
| | 3 | 1.80 | 0.90 | 20.80 |
| | 4 | 2.70 | 0.90 | 21.38 |
| | 5 | 3.60 | 0.90 | 15.28 |
| | 6 | 4.50 | 0.90 | 2.80 |
| | 7 | 5.40 | 0.90 | 6.18 |
| | 8 | 6.30 | 0.90 | 17.70 |
| Ö← | 1 | 0.00 | 0.90 | -0.92 |
| | 2 | 0.90 | 0.90 | 4.36 |
| | 3 | 1.80 | 0.90 | 6.64 |
| | 4 | 2.70 | 0.90 | 6.85 |
| | 5 | 3.60 | 0.90 | 4.85 |
| | 6 | 4.50 | 0.90 | 0.28 |

| | Nr. | a [m] | s [m] | q [kN/m] |
|----------|-----|----------|----------|-------------|
| Qk .N_El | 7 | 5.40 | 0.90 | 0.32 |
| | 8 | 6.30 | 0.90 | 4.14 |
| | 1 | 4.50 | 0.90 | 0.04 |
| | 2 | 5.40 | 0.90 | 0.18 |
| Qk .N_DA | 3 | 6.30 | 0.90 | -0.03 |
| | 1 | 0.00 | 0.90 | 10.14 |
| | 2 | 0.90 | 0.90 | 18.84 |
| | 3 | 1.80 | 0.90 | 22.15 |
| | 4 | 2.70 | 0.90 | 21.60 |
| | 5 | 3.60 | 0.90 | 16.69 |
| | 6 | 4.50 | 0.90 | 6.34 |
| | 7 | 5.40 | 0.90 | 2.42 |
| | 8 | 6.30 | 0.90 | 8.10 |

a: Nâb\á^ãÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^←æ^ÄÚä‡&æäää^ä
s: Q†^&æÄääääQáb\

UZ 2.5

Unterzug

•ä } ää ^Ää c }

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|----------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.90 | -8.31 |
| | 2 | 0.90 | 0.90 | 10.21 |
| | 3 | 1.80 | 0.90 | 20.40 |
| | 4 | 2.70 | 0.90 | 20.68 |
| | 5 | 3.60 | 0.90 | 6.68 |
| | 6 | 4.50 | 0.90 | -14.52 |
| | 7 | 5.40 | 0.90 | -6.27 |
| | 8 | 6.30 | 0.90 | -13.39 |
| Ö← | 1 | 0.00 | 0.90 | -2.15 |
| | 2 | 0.90 | 0.90 | 3.33 |
| | 3 | 1.80 | 0.90 | 6.52 |
| | 4 | 2.70 | 0.90 | 6.63 |
| | 5 | 3.60 | 0.90 | 2.09 |
| | 6 | 4.50 | 0.90 | -5.28 |
| | 7 | 5.40 | 0.90 | -3.68 |
| | 8 | 6.30 | 0.90 | -5.83 |
| Qk .N_DA | 1 | 0.00 | 0.90 | 10.01 |
| | 2 | 0.90 | 0.90 | 18.75 |
| | 3 | 1.80 | 0.90 | 22.07 |
| | 4 | 2.70 | 0.90 | 21.54 |
| | 5 | 3.60 | 0.90 | 16.77 |
| | 6 | 4.50 | 0.90 | 6.62 |
| | 7 | 5.40 | 0.90 | 2.81 |
| | 8 | 6.30 | 0.90 | 8.77 |

a: Nâb\á^ãÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^←æ^ÄÚä‡&æäää^ä
s: Q†^&æÄääääQáb\

UZ 2.6

Unterzug

•ê}ãã^Ãæç}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| Blocklasten | Nr . | a [m] | s [m] | q [kN/m] |
|-------------|------|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.90 | 70.45 |
| | 2 | 0.90 | 0.90 | 63.09 |
| | 3 | 1.79 | 0.90 | 57.83 |
| | 4 | 2.69 | 0.90 | 58.14 |
| | 5 | 3.58 | 0.90 | 67.89 |
| | 6 | 4.48 | 0.90 | 82.39 |
| Ö← | 1 | 0.00 | 0.90 | 22.54 |
| | 2 | 0.90 | 0.90 | 20.17 |
| | 3 | 1.79 | 0.90 | 18.48 |
| | 4 | 2.69 | 0.90 | 18.60 |
| | 5 | 3.58 | 0.90 | 21.74 |
| | 6 | 4.48 | 0.90 | 26.39 |
| Qk .N_DA | 1 | 0.00 | 0.90 | 45.98 |
| | 2 | 0.90 | 0.90 | 40.50 |
| | 3 | 1.79 | 0.90 | 37.08 |
| | 4 | 2.69 | 0.90 | 38.17 |
| | 5 | 3.58 | 0.90 | 45.58 |
| | 6 | 4.48 | 0.90 | 54.46 |

a: Nâb\á^äÃäæbÃU\äã*| ^←\æbÃ~| ↑Ã→↔^←æ^ÃÚã‡&æääää^ä

s: Q‡^&æÃäæääÃQáb\

UZ 2.7

Unterzug

•ê}ãã^Ãæç}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| Blocklasten | Nr . | a [m] | s [m] | q [kN/m] |
|-------------|------|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.88 | 39.98 |
| | 2 | 0.88 | 0.88 | -52.33 |
| | 3 | 1.75 | 0.88 | -23.92 |
| | 4 | 2.63 | 0.88 | 0.15 |
| Ö← | 1 | 0.00 | 0.88 | 13.05 |
| | 2 | 0.88 | 0.88 | -16.80 |
| | 3 | 1.75 | 0.88 | -7.78 |
| | 4 | 2.63 | 0.88 | -0.10 |
| Qk.N_E1 | 1 | 0.00 | 0.88 | 0.12 |
| | 2 | 0.88 | 0.88 | 0.46 |
| | 3 | 1.75 | 0.88 | 1.09 |
| | 4 | 2.63 | 0.88 | 1.27 |
| Qk.N_DA | 1 | 0.00 | 0.88 | 7.28 |
| | 2 | 0.88 | 0.88 | 13.03 |
| | 3 | 1.75 | 0.88 | 13.26 |
| | 4 | 2.63 | 0.88 | 9.67 |

a: Nâb\á^ãÃæbÃU\ää*|^←\æbÃ~|^↑Ã↔^←æ^ÃÚã‡&æääá^ä

s: Q‡^&æÃæääÃQáb\

UZ 2.8

Unterzug

•œ} åã ^Šæ c}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| Blocklasten | Nr. | a | s | q |
|-------------|-----|-------|------|--------|
| | | [m] | [m] | [kN/m] |
| Gk | 1 | 0.00 | 0.95 | -10.50 |
| | 2 | 0.95 | 0.95 | -0.69 |
| | 3 | 1.90 | 0.95 | 7.96 |
| | 4 | 2.85 | 0.95 | 12.15 |
| | 5 | 3.79 | 0.95 | 13.77 |
| | 6 | 4.74 | 0.95 | 14.26 |
| | 7 | 5.69 | 0.95 | 15.38 |
| | 8 | 6.64 | 0.95 | 24.14 |
| | 9 | 7.59 | 0.95 | 28.03 |
| | 10 | 8.54 | 0.95 | 16.20 |
| | 11 | 9.48 | 0.95 | 12.52 |
| | 12 | 10.43 | 0.95 | 13.52 |
| | 13 | 11.38 | 0.95 | 16.89 |
| | 14 | 12.33 | 0.95 | 4.19 |
| | 15 | 13.28 | 0.95 | -1.01 |
| | 16 | 14.23 | 0.95 | -1.85 |
| Ö← | 1 | 0.00 | 0.95 | 0.76 |
| | 2 | 0.95 | 0.95 | 3.75 |
| | 3 | 1.90 | 0.95 | 8.22 |
| | 4 | 2.85 | 0.95 | 14.09 |
| | 5 | 3.79 | 0.95 | 13.22 |
| | 6 | 4.74 | 0.95 | 9.28 |
| | 7 | 5.69 | 0.95 | 9.15 |
| | 8 | 6.64 | 0.95 | 12.71 |
| | 9 | 7.59 | 0.95 | 14.30 |
| | 10 | 8.54 | 0.95 | 9.61 |
| | 11 | 9.48 | 0.95 | 8.24 |
| | 12 | 10.43 | 0.95 | 8.87 |
| | 13 | 11.38 | 0.95 | 10.46 |
| | 14 | 12.33 | 0.95 | 5.33 |
| | 15 | 13.28 | 0.95 | 3.56 |
| | 16 | 14.23 | 0.95 | 4.08 |
| Qk.N_E1 | 1 | 0.00 | 0.95 | -1.54 |
| | 2 | 0.95 | 0.95 | 0.88 |
| | 3 | 1.90 | 0.95 | 2.85 |
| | 4 | 2.85 | 0.95 | 3.82 |
| | 5 | 3.79 | 0.95 | 4.18 |
| | 6 | 4.74 | 0.95 | 4.30 |
| | 7 | 5.69 | 0.95 | 4.32 |
| | 8 | 6.64 | 0.95 | 4.31 |
| | 9 | 7.59 | 0.95 | 4.23 |
| | 10 | 8.54 | 0.95 | 3.93 |
| | 11 | 9.48 | 0.95 | 3.21 |
| | 12 | 10.43 | 0.95 | 1.60 |
| | 13 | 11.38 | 0.95 | -0.96 |
| | 14 | 12.33 | 0.95 | -2.70 |
| | 15 | 13.28 | 0.95 | -2.19 |
| | 16 | 14.23 | 0.95 | -0.63 |
| Qk.N_DA | 1 | 0.00 | 0.95 | 1.30 |
| | 2 | 0.95 | 0.95 | 4.55 |
| | 3 | 1.90 | 0.95 | 5.89 |

D-241

| Nr. | a [m] | s [m] | q [kN/m] |
|-----|----------|----------|-------------|
| 4 | 2.85 | 0.95 | 6.30 |
| 5 | 3.79 | 0.95 | 6.39 |
| 6 | 4.74 | 0.95 | 6.42 |
| 7 | 5.69 | 0.95 | 6.42 |
| 8 | 6.64 | 0.95 | 6.41 |
| 9 | 7.59 | 0.95 | 6.39 |
| 10 | 8.54 | 0.95 | 6.24 |
| 11 | 9.48 | 0.95 | 5.90 |
| 12 | 10.43 | 0.95 | 4.79 |
| 13 | 11.38 | 0.95 | 1.95 |
| 14 | 12.33 | 0.95 | -0.29 |
| 15 | 13.28 | 0.95 | 2.13 |
| 16 | 14.23 | 0.95 | 2.89 |

a: Nâb\á^äÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^←æ^ÄÜä‡&æäää^ä
s: Q‡^&æÄäääÄQáb\

UZ 2.9

Unterzug

•ä } ää^Äæc }

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.92 | 10.88 |
| | 2 | 0.92 | 0.92 | 10.70 |
| | 3 | 1.83 | 0.92 | 5.76 |
| Ö← | 1 | 0.00 | 0.92 | 3.47 |
| | 2 | 0.92 | 0.92 | 3.41 |
| | 3 | 1.83 | 0.92 | 1.84 |
| Qk.N_DA | 1 | 0.00 | 0.92 | 8.03 |
| | 2 | 0.92 | 0.92 | 10.02 |
| | 3 | 1.83 | 0.92 | 5.95 |

a: Nâb\á^äÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^←æ^ÄÜä‡&æäää^ä
s: Q‡^&æÄäääÄQáb\

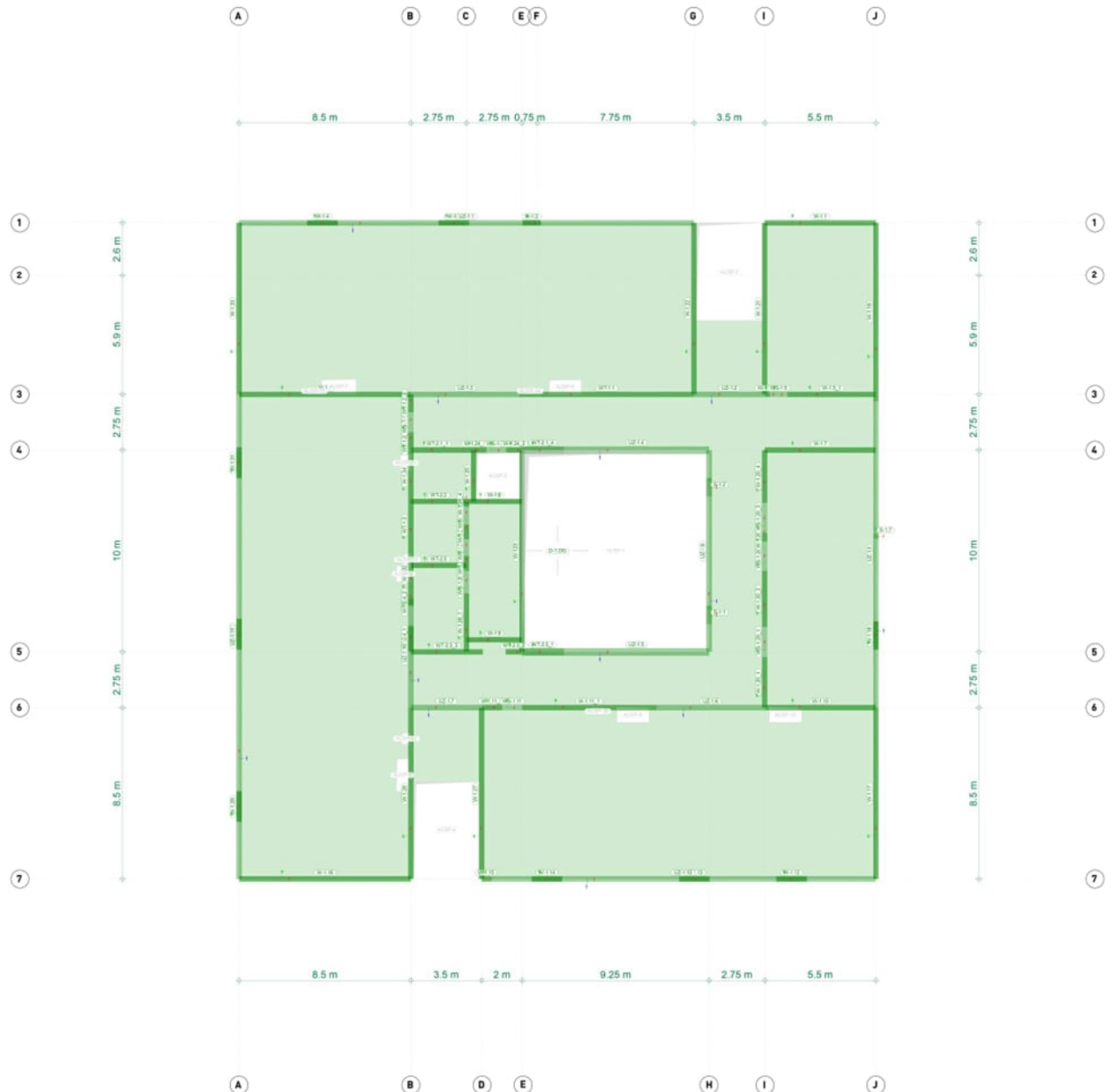
6 **Decke ü. 1.Obergeschoss (Geschossdecke)**

| | |
|--|-------|
| Decke ü. 1.Obergeschoss | |
| Ausgangswerte | D-244 |
| Übersicht der Deckenstärken / Positionsplan | D-247 |
| Einwirkungen / Lastfälle / Lastgruppen / Lastkombinationen / Lastpläne | D-257 |
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| Biegebemessung | D-325 |
| Bemessungsparameter | D-325 |
| Biegebemessung (erf. a_s) | D-342 |
| Biegebemessung (Δa_s) | D-352 |
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| Bemessungsparameter | D-357 |
| Querkraftausnutzung – $V_{Ed,res} / V_{Rd,max}$ | D-361 |
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| Lasten auf Detailpositionen (Sturz / Unterzug) | D-480 |

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Stat. System:



Material:

Dicke: 28 cm | D-1. OG

Betonstahl: B500B

Beton: C30/37

Expositionsklasse: XC1, W0

Betondeckung $c_{nom} = 3,0$ cm

| Geschossdecke - Innenbereich

| Geschossdecke - Innenbereich

Grundbewehrung: #Ø14/10

| # 15,39 cm²/m

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Belastung:

Eigenlast:

- Wird automatisch, programmintern, generiert:
 - $g_k = 7 \text{ kN/m}^2$ $= 0,28 \text{ m} * 25 \text{ kN/m}^2$ | Lastfall 1

Flächenlasten:

- Ausbaulasten
 - $\Delta g_k = 2,50 \text{ kN/m}^2$ | Lastfall 2
- Nutzlasten
 - $q_k = 5,00 \text{ kN/m}^2$ | Lastfall 3 - 10 (Kat. B1)
 - $q_k = 6,00 \text{ kN/m}^2$ | Lastfall 11 - 14 (Kat. E)
 - $q_k = 5,00 \text{ kN/m}^2$ | Lastfall 15 - 19 (Kat. C5)
 - $q_k = 5,00 \text{ kN/m}^2$ | Lastfall 20 - 21 (Kat. T2)
 - $q_k = 5,00 \text{ kN/m}^2$ | Lastfall 22 (Kat. C1)

Hinweis: Die Anordnung der Nutzlasten erfolgt feldweise. Die Lastkombination erfolgt abhängig vom geforderten Nachweis programmintern.

Linienlasten:

- Fassadenlast
 - $\Delta g_k = 9,25 \text{ kN/m}$ | Lastfall 2 (Außenwand tragend)
 - $\Delta g_k = 7,75 \text{ kN/m}$ | Lastfall 2 (Wand nicht-tragend)
 - $\Delta g_k = 2,08 \text{ kN/m}$ | Lastfall 2 (Unterzug)
 - $\Delta g_k = 2,33 \text{ kN/m}$ | Lastfall 2 (Glas)
- Außenwand nicht-tragend
 - $g_k = 19,38 \text{ kN/m}$ | Lastfall 1

Hinweis: Die nicht-tragenden Außenwände werden von der darunterliegenden Decke abgefugt und als zusätzliche Last auf den darüberliegenden Unterzug eingepreßt.

- Treppenlauf
 - $g_k = 3,4 * 7,67/2 = 13,04 \text{ kN/m}$ | Lastfall 1
 - $\Delta g_k = 3,4 * 2,5/2 = 4,25 \text{ kN/m}$ | Lastfall 2
 - $q_k = 3,4 * 5/2 = 8,5 \text{ kN/m}$ | Lastfall 20/21

Lastübernahme aus 2. Obergeschoss:

Die Lasten aus dem 2. Obergeschoss werden mit dem mB Modul M161 Lastübergabe / Lastübernahme auf die Decke über 1. Obergeschoss eingepreßt.

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Genehmigungsplanung Tragwerksplanung

Hinweis wandartige Träger:

Die wandartigen Träger im 2. Obergeschoss wurden in der Decke über 1. Obergeschoss als normale Wandlager abgebildet. Sie werden in der Weitergabe der Lasten an die Decke im Erdgeschoss nicht mitberücksichtigt. Die entstehenden Auflagerlasten werden für die Bemessung der wandartigen Träger verwendet.

Bemessung:

Siehe folgende Seiten.



Positionenplan

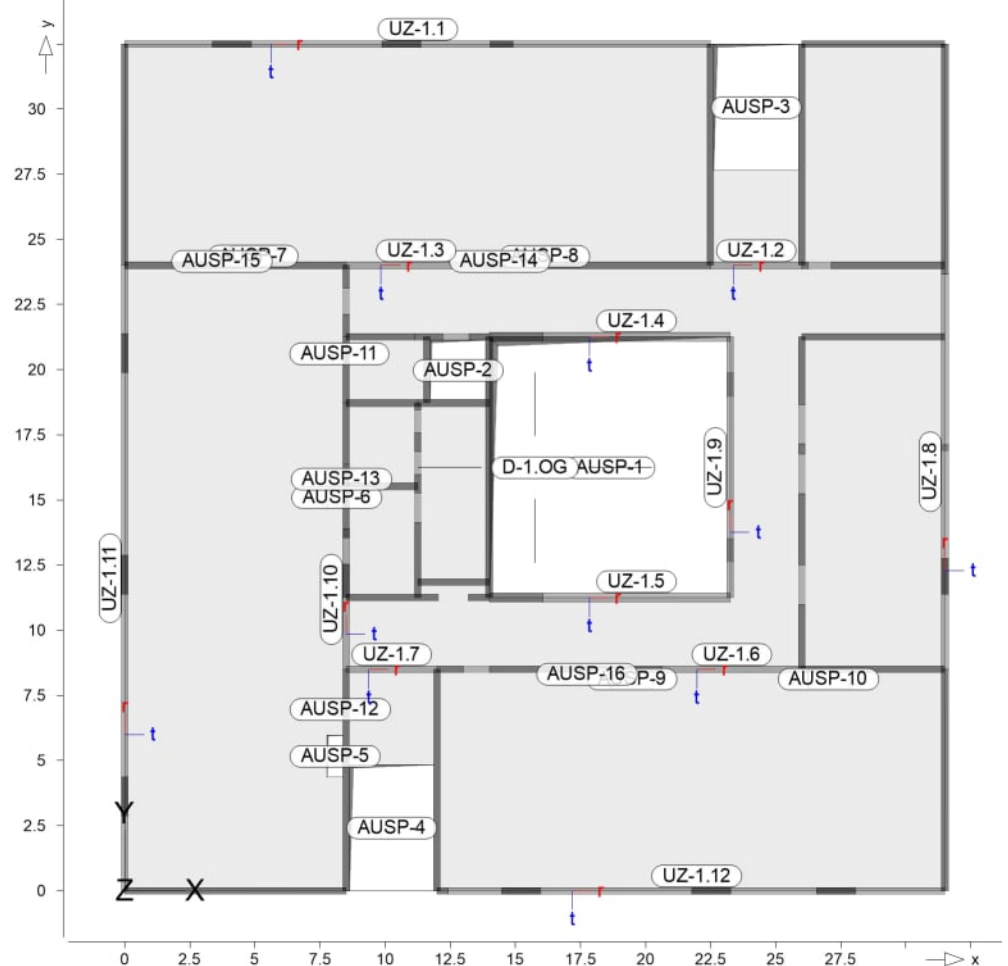
Positionsplan

Bauteile

Bauteil-Positionen

Positionsgrafik

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Platten

Platten-Positionen

Stahlbeton

| Position | Winkel | Art | Material | Dicke |
|----------|--------|-----|-----------|---------|
| | Yfl | | Quer | [cm] |
| D-1.OG | 0.0 | iso | C 30/37 Q | 28.0 |
| | | | B 500SB | B 500SB |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: 0.0

Expositionsklasse

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|------------------------------|
| D-1.OG | umlaufend | XC1 | trocken oder b\+^ä=&A^abb |

Aussparungen

| Position | $\hat{O} \rightarrow \ddagger \text{'} \text{ä} \text{æ}$ [m ²] | x [m] | y [m] |
|----------|--|----------|----------|
| AUSP-1 | 92.50 | 14.00 | 11.25 |
| | | 23.25 | 11.25 |
| | | 23.25 | 21.25 |
| | | 14.00 | 21.25 |
| AUSP-2 | 4.90 | 11.73 | 21.13 |
| | | 11.73 | 18.84 |
| | | 13.88 | 18.84 |
| | | 13.88 | 21.13 |
| AUSP-3 | 15.76 | 22.63 | 32.50 |
| | | 22.63 | 27.65 |
| | | 25.88 | 27.65 |
| | | 25.88 | 32.50 |
| AUSP-4 | 15.76 | 8.63 | 0.00 |
| | | 11.88 | 0.00 |
| | | 11.88 | 4.85 |
| | | 8.63 | 4.85 |
| AUSP-5 | 0.96 | 8.38 | 5.98 |
| | | 7.78 | 5.98 |
| | | 7.78 | 4.38 |
| | | 8.38 | 4.38 |
| AUSP-6 | 0.60 | 8.50 | 15.52 |
| | | 7.78 | 15.52 |
| | | 7.78 | 14.70 |
| | | 8.50 | 14.70 |
| AUSP-7 | 1.31 | 5.80 | 24.00 |
| | | 5.80 | 24.75 |
| | | 4.06 | 24.75 |
| | | 4.06 | 24.00 |
| AUSP-8 | 1.16 | 15.33 | 24.00 |
| | | 16.93 | 24.00 |
| | | 16.93 | 24.73 |
| | | 15.33 | 24.73 |
| AUSP-9 | 1.16 | 20.28 | 8.50 |
| | | 18.68 | 8.50 |
| | | 18.68 | 7.78 |
| | | 20.28 | 7.78 |
| AUSP-10 | 1.16 | 26.23 | 8.50 |
| | | 26.23 | 7.78 |
| | | 27.83 | 7.78 |
| | | 27.83 | 8.50 |
| AUSP-11 | 0.42 | 7.98 | 20.22 |
| | | 8.50 | 20.22 |
| | | 8.50 | 21.03 |
| | | 7.98 | 21.03 |
| AUSP-12 | 0.25 | 8.50 | 7.25 |
| | | 8.05 | 7.25 |
| | | 8.05 | 6.70 |
| | | 8.50 | 6.70 |
| AUSP-13 | 0.20 | 8.15 | 16.10 |
| | | 8.15 | 15.52 |
| | | 8.50 | 15.52 |
| | | 8.50 | 16.10 |
| AUSP-14 | 0.18 | 14.15 | 24.00 |
| | | 14.65 | 24.00 |

| Position | $\hat{O} \rightarrow \ddagger' \text{äæ}$ [m ²] | x [m] | y [m] |
|----------|--|----------|----------|
| | | 14.65 | 24.35 |
| | | 14.15 | 24.35 |
| AUSP-15 | 0.23 | 3.40 | 24.00 |
| | | 4.06 | 24.00 |
| | | 4.06 | 24.35 |
| | | 3.40 | 24.35 |
| AUSP-16 | 0.18 | 17.50 | 8.15 |
| | | 18.00 | 8.15 |
| | | 18.00 | 8.50 |
| | | 17.50 | 8.50 |

l bhYfn~[Y

Unterzug-Positionen

Stahl beton

| Position | Q†^&æ [m] | Betonstahl | | Beton | |
|----------------|--------------|------------|---------|---------|---|
| | | Q†^&b | Nfi&æ→ | | |
| UZ-1.1 | 22.50 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.2 | 3.50 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.3 | 5.38 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.4, UZ-1.5 | 7.20 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.6 | 5.38 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.7 | 3.50 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.8 | 15.18 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.9 | 10.00 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.10 | 5.38 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.11 | 24.00 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-1.12 | 19.08 | B 500SB | B 500SB | C 30/37 | Q |

Q: Öæb\æ↔^b↔=ä^|^&ÄT|ää~↔\

Abmi nderung

| Position | F _D | F _{S,s} | F _{S,t} | F _T | F _{B,s} | F _{B,t} |
|-----------------|----------------|------------------|------------------|----------------|------------------|------------------|
| UZ-1.1..UZ-1.12 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |

F_D: Nâ↑↔^äæä|^&bäá<~äÄâfiäÄ↔æÄæä^b\æ↔ä↔&æ↔\
F_{S,s}: Nâ↑↔^äæä|^&bäá<~äÄâfiäÄ↔æÄU'ä|âb\æ↔ä↔&æ↔\Ä↔^ÄbË↔'ä|^&
F_{S,t}: Nâ↑↔^äæä|^&bäá<~äÄâfiäÄ↔æÄU'ä|âb\æ↔ä↔&æ↔\Ä↔^Ä\Ë↔'ä|^&
F_T: Nâ↑↔^äæä|^&bäá<~äÄâfiäÄ↔æÄU~âb↔~^bb\æ↔ä↔&æ↔\
F_{B,s}: Nâ↑↔^äæä|^&bäá<~äÄâfiäÄ↔æÄN↔æ&æb\æ↔ä↔&æ↔\Ä|↑ÄbËN'âbæ
F_{B,t}: Nâ↑↔^äæä|^&bäá<~äÄâfiäÄ↔æÄN↔æ&æb\æ↔ä↔&æ↔\Ä|↑Ä\ËN'âbæ

Querschni tt

| Position | Exz. | b _{Pl} | h _f | b _w | h |
|------------------|------|-----------------|----------------|----------------|-------|
| | [cm] | [cm] | [cm] | [cm] | [cm] |
| UZ-1.1 | UZ | 25.0 | 28.0 | 25.0 | 83.0 |
| UZ-1.2 | UZ | 25.0 | 28.0 | 25.0 | 78.0 |
| UZ-1.3 | UZ | 200.0 | 28.0 | 25.0 | 78.0 |
| UZ-1.4, UZ-1.5 | 30.0 | - | - | 35.0 | 190.0 |
| UZ-1.6 | UZ | 200.0 | 28.0 | 25.0 | 78.0 |
| UZ-1.7 | UZ | 25.0 | 28.0 | 25.0 | 78.0 |
| UZ-1.8 | UZ | 25.0 | 28.0 | 25.0 | 83.0 |
| UZ-1.9 | 30.0 | - | - | 25.0 | 190.0 |
| UZ-1.10 | UZ | 25.0 | 28.0 | 25.0 | 78.0 |
| UZ-1.11, UZ-1.12 | UZ | 25.0 | 28.0 | 25.0 | 83.0 |

UZ: Unterzug
Exz.: æ[~æ^\'ä↔b'äÄä^&æb'ä↔-bbæ^æäNä↔-æ^Ä↑↔\ÄÖ[~æ^\'ä↔↔\†\Äæ

Exposi ti onskl asse

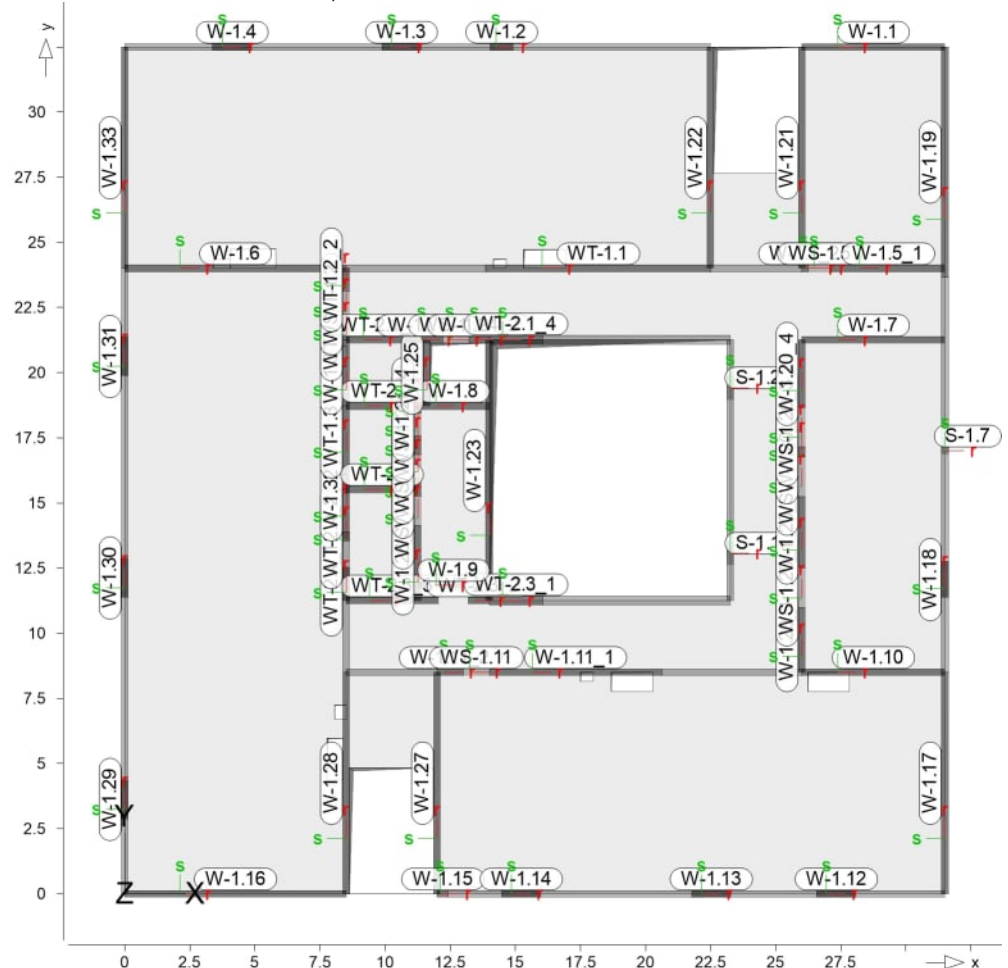
| Position | Seite | Kl | Kommentar |
|-----------------|-----------|-----|------------------------------|
| UZ-1.1..UZ-1.12 | umlaufend | XC1 | trocken oder b\†^ä↔&Ä^ább |

Auflager

Auflager-Positionen

Positionsgrafik

© 2025 by KREBS + KIEFER



GhnhYb`U[Yf

U\fi\~æ^→á&æãÑ|à→á&æãÑ~b⇔\⇔~^æ^

Stahl beton

| Position | Q†^&æ [m] | Material | b _(r) [cm] | h _(s) [cm] |
|--------------|--------------|----------------------|--------------------------|--------------------------|
| S-1.1, S-1.2 | 3.62 | C 25/30 Q B 500SB | 25.0 | 90.0 |
| S-1.7 | 3.62 | C 25/30 Q B 500SB | 25.0 | 25.0 |

Q: Öæb\æ⇔^b<=ã^|^&ÁT|áã~⇔\

Exposi ti onskl asse

&æ††BÁÆØSÁÓSÁFİİĞFĖFĖFĖÁÚáâÊÁHÈF

| Position | Seite | Kl | Kommentar |
|---------------------|-----------|-----|------------------------------|
| S-1.1, S-1.2, S-1.7 | umlaufend | XC1 | trocken oder b\†^ä⇔&Á^ább |

Federstei fi gkei ten

| Position | K _{R,r} [kNm/rad] | K _{R,s} [kNm/rad] | K _{T,t} [kN/m] |
|--------------|-------------------------------|-------------------------------|----------------------------|
| S-1.1, S-1.2 | frei | frei +/- | 1926796 |
| S-1.7 | frei | frei +/- | 535221 |

Wandlager

Wandlager-Positionen

Stahl beton

| Position | Ö=åæ [m] | Q†^&æ [m] | Material | Dicke [cm] |
|----------------|-------------|--------------|----------------------|---------------|
| W-1.1 | 3.62 | 5.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.2 | 3.62 | 0.90 | C 25/30 Q B 500SB | 25.0 |
| W-1.3, W-1.4 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.5_1 | 3.62 | 4.37 | C 25/30 Q B 500SB | 25.0 |
| W-1.5_2 | 3.62 | 0.25 | C 25/30 Q B 500SB | 25.0 |
| W-1.6 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.7 | 3.62 | 5.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.8, W-1.9 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |
| W-1.10 | 3.62 | 5.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.11_1 | 3.62 | 6.63 | C 25/30 Q B 500SB | 25.0 |
| W-1.11_2 | 3.62 | 1.00 | C 25/30 Q B 500SB | 25.0 |
| W-1.12..W-1.14 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.15 | 3.62 | 0.43 | C 25/30 Q B 500SB | 25.0 |
| W-1.16, W-1.17 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.18 | 3.62 | 1.38 | C 25/30 Q B 500SB | 25.0 |
| W-1.19 | 3.62 | 8.83 | C 25/30 Q B 500SB | 25.0 |
| W-1.20_1 | 3.62 | 2.49 | C 25/30 Q B 500SB | 25.0 |
| W-1.20_2 | 3.62 | 2.74 | C 25/30 Q B 500SB | 25.0 |
| W-1.20_3 | 3.62 | 0.40 | C 25/30 Q B 500SB | 25.0 |
| W-1.20_4 | 3.62 | 2.59 | C 25/30 Q B 500SB | 25.0 |
| W-1.21, W-1.22 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.23 | 3.62 | 10.00 | C 25/30 Q B 500SB | 25.0 |
| W-1.24_1 | 3.62 | 1.10 | C 25/30 Q B 500SB | 25.0 |
| W-1.24_2 | 3.62 | 0.78 | C 25/30 Q B 500SB | 25.0 |
| W-1.25 | 3.62 | 2.54 | C 25/30 Q B 500SB | 25.0 |
| W-1.26_1 | 3.62 | 2.88 | C 25/30 Q B 500SB | 25.0 |

D-252

Schulcampus EWK \

10G-LP4

| Position | Ö=åæ [m] | Q†^&æ [m] | Material | Dicke [cm] |
|----------------------|-------------------------------|--------------|----------------------|---------------|
| W-1.26_2, W-1.26_3 | 3.62 | 0.72 | C 25/30 Q B 500SB | 25.0 |
| W-1.26_4 | 3.62 | 0.25 | C 25/30 Q B 500SB | 25.0 |
| W-1.27, W-1.28 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.29..W-1.31 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.32 | 3.62 | 2.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.33 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-1.34 | 3.62 | 2.54 | C 25/30 Q B 500SB | 25.0 |
| WS-1.5 | 3.62 | 0.89 | C 25/30 Q B 500SB | 25.0 |
| WS-1.11 | 3.62 | 1.00 | C 25/30 Q B 500SB | 25.0 |
| WS-1.20_1 | 3.62 | 1.52 | C 25/30 Q B 500SB | 25.0 |
| WS-1.20_2, WS-1.20_3 | 3.62 | 1.51 | C 25/30 Q B 500SB | 25.0 |
| WS-1.24 | 3.62 | 1.00 | C 25/30 Q B 500SB | 25.0 |
| WS-1.26_1 | 3.62 | 1.14 | C 25/30 Q B 500SB | 25.0 |
| WS-1.26_2, WS-1.26_3 | 3.62 | 0.89 | C 25/30 Q B 500SB | 25.0 |
| WS-T-1.2 | 3.62 | 1.01 | C 25/30 Q B 500SB | 25.0 |
| WT-1.1 | 3.62 | 8.63 | C 25/30 Q B 500SB | 25.0 |
| WT-1.2_1, WT-1.2_2 | 3.62 | 0.87 | C 25/30 Q B 500SB | 25.0 |
| WT-1.3 | 3.62 | 2.34 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_1 | <i>fctÃdgtnkgigpf</i> 3.62 | 2.63 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_4 | <i>fctÃdgtnkgigpf</i> 3.62 | 2.05 | C 25/30 Q B 500SB | 35.0 |
| WT-2.2 | <i>fctÃdgtnkgigpf</i> 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |
| WT-2.3_1 | <i>fctÃdgtnkgigpf</i> 3.62 | 2.05 | C 25/30 Q B 500SB | 35.0 |

| Position | $\bar{Q} = \frac{Q}{l}$ [m] | Q_{max} [m] | Material | Dicke [cm] |
|----------|--------------------------------|-------------------------|----------------------|---------------|
| WT-2.3_2 | <i>fctÄdgtknkgigpf</i> 3.62 | 0.81 | C 25/30 Q B 500SB | 25.0 |
| WT-2.3_3 | <i>fctÄdgtknkgigpf</i> 3.62 | 3.56 | C 25/30 Q B 500SB | 25.0 |
| WT-2.4_1 | <i>fctÄdgtknkgigpf</i> 3.62 | 1.28 | C 25/30 Q B 500SB | 25.0 |
| WT-2.4_2 | <i>fctÄdgtknkgigpf</i> 3.62 | 0.34 | C 25/30 Q B 500SB | 25.0 |
| WT-2.5 | <i>fctÄdgtknkgigpf</i> 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |

Q: $\bar{Q} = \frac{Q}{l}$ | Q_{max} | Q_{max} | Q_{max} | Q_{max}

Expositionsklasse

$\bar{Q} = \frac{Q}{l}$ | Q_{max} | Q_{max} | Q_{max} | Q_{max}

| Position | Seite | Kl | Kommentar |
|--|-------|-----|------------------------------|
| W-1.1..W-1.4, W-1.5_1, W-1.5_2, W-1.6..W-1.10, W-1.11_1, W-1.11_2, W-1.12..W-1.19, W-1.20_1..W-1.20_4, W-1.21..W-1.23, W-1.24_1, W-1.24_2, W-1.25, W-1.26_1..W-1.26_4, W-1.27..W-1.34, WS-1.5, WS-1.11, WS-1.20_1..WS-1.20_3, WS-1.24, WS-1.26_1..WS-1.26_3, WS-T-1.2, WT-1.1, WT-1.2_1, WT-1.2_2, WT-1.3, WT-2.1_1, WT-2.1_4, WT-2.2, WT-2.3_1..WT-2.3_3, WT-2.4_1, WT-2.4_2, WT-2.5 umlaufend | | XC1 | trocken oder b\+^ä=&Ä^ább |

Federsteifigkeiten

| Position | $K_{R,r}$ [kNm/rad/m] | $K_{R,s}$ [kNm/rad/m] | $K_{T,t}$ [kN/m/m] |
|--|--------------------------|--------------------------|-----------------------|
| W-1.1..W-1.4, W-1.5_1, W-1.5_2, W-1.6..W-1.10, W-1.11_1, W-1.11_2, W-1.12..W-1.19, W-1.20_1..W-1.20_4, W-1.21..W-1.23, W-1.24_1, W-1.24_2, W-1.25, W-1.26_1..W-1.26_4, W-1.27..W-1.34, WS-1.5, WS-1.11, WS-1.20_1..WS-1.20_3, WS-1.24, WS-1.26_1..WS-1.26_3, WS-T-1.2, WT-1.1, WT-1.2_1, WT-1.2_2, WT-1.3, WT-2.1_1 | frei | frei | +/- 2140884 |
| WT-2.1_4 | frei | frei | +/- 2997238 |
| WT-2.2 | frei | frei | +/- 2140884 |
| WT-2.3_1 | frei | frei | +/- 2997238 |
| WT-2.3_2, WT-2.3_3, WT-2.4_1, WT-2.4_2, WT-2.5 | frei | frei | +/- 2140884 |

Material

Materialkennwerte

Stahl beton

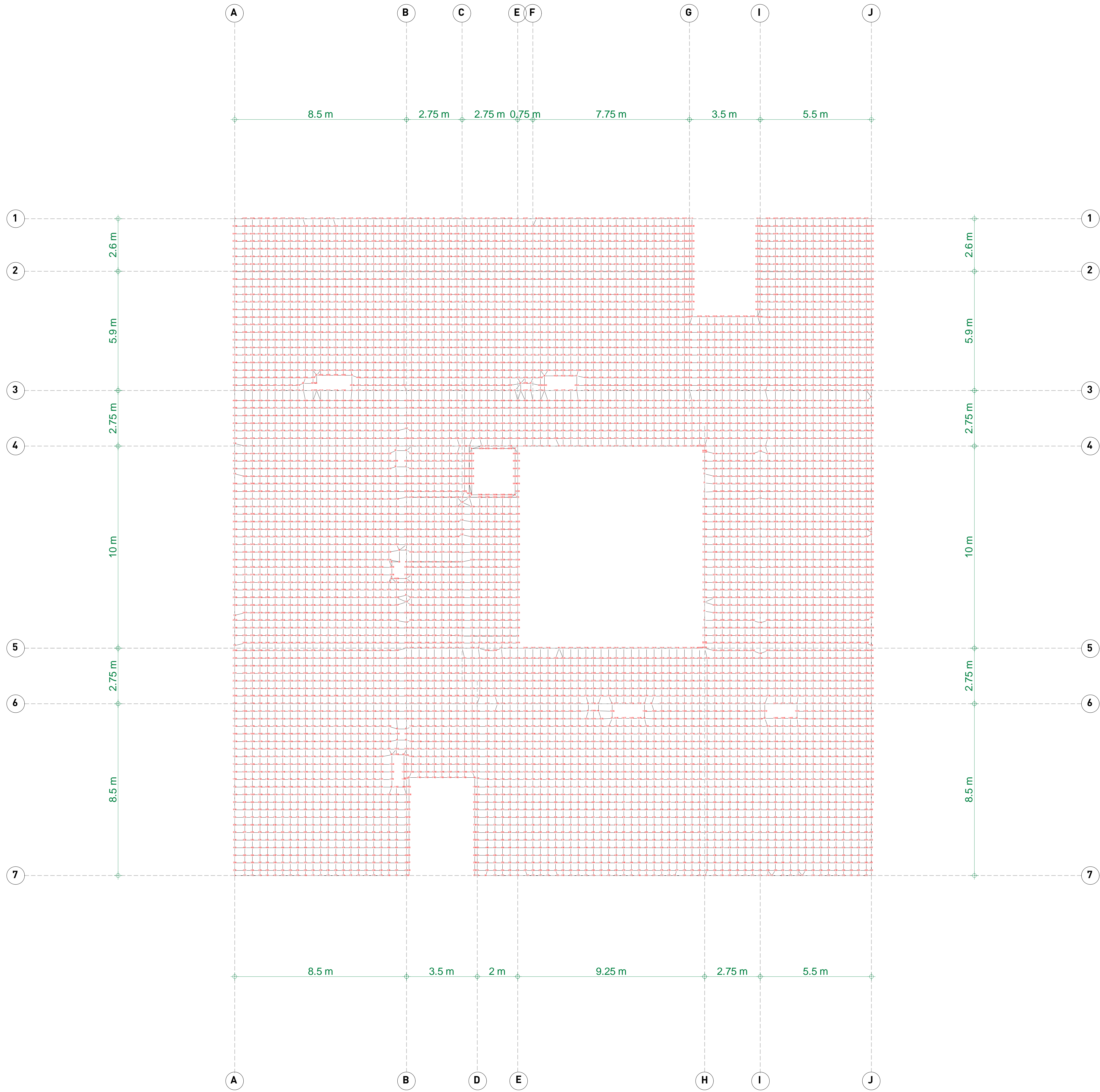
DIN EN 1992-1-1

| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|--|-----------|--------|----------------|-----------------------|
| Y←SD↑zY YSD↑↑Y YSD↑↑Y | | | | |
| S-1.1, S-1.2, S-1.7, W-1.1..W-1.4, W-1.5_1, W-1.5_2, W-1.6..W-1.10, W-1.11_1, W-1.11_2, W-1.12..W-1.19, W-1.20_1..W-1.20_4, W-1.21..W-1.23, W-1.24_1, W-1.24_2, W-1.25, W-1.26_1..W-1.26_4, W-1.27..W-1.34, WS-1.5, WS-1.11, WS-1.20_1..WS-1.20_3, WS-1.24, WS-1.26_1..WS-1.26_3, WS-T-1.2, WT-1.1, WT-1.2_1, WT-1.2_2, WT-1.3, WT-2.1_1, WT-2.1_4, WT-2.2, WT-2.3_1..WT-2.3_3, WT-2.4_1, WT-2.4_2, WT-2.5 | C 25/30 Q | 25.00 | 31000 12900 | 25.00 2.60 |
| D-1.OG, UZ-1.1..UZ-1.12 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |
| Q: Öæb\æ↔b↔=ã^ ^&ÂT ãã↔↔\ | | | | |

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte | E_s G | f_{yk} $f_{tk,cal}$ |
|--|----------|--------|-----------------|--------------------------|
| Y←SD↑zY YSD↑↑Y YSD↑↑Y | | | | |
| D-1.OG, S-1.1, S-1.2, S-1.7, UZ-1.1..UZ-1.12, W-1.1..W-1.4, W-1.5_1, W-1.5_2, W-1.6..W-1.10, W-1.11_1, W-1.11_2, W-1.12..W-1.19, W-1.20_1..W-1.20_4, W-1.21..W-1.23, W-1.24_1, W-1.24_2, W-1.25, W-1.26_1..W-1.26_4, W-1.27..W-1.34, WS-1.5, WS-1.11, WS-1.20_1..WS-1.20_3, WS-1.24, WS-1.26_1..WS-1.26_3, WS-T-1.2, WT-1.1, WT-1.2_1, WT-1.2_2, WT-1.3, WT-2.1_1, WT-2.1_4, WT-2.2, WT-2.3_1..WT-2.3_3, WT-2.4_1, WT-2.4_2, WT-2.5 | B 500SB | 78.50 | 200000 77000 | 500.00 525.00 |



Belastungen

Einwirkungen

DIN EN 1990

Einwirkungen nach DIN EN 1990

| Pflicht | Beschreibung Typisierung |
|---------|--|
| Gk | Eigenlasten U\†^ä↔&æÁÖ↔^}↔ä← ^&æ^ |
| Ö← | Ausbaulasten U\†^ä↔&æÁÖ↔^}↔ä← ^&æ^ |
| Qk.N_C5 | Nutzlast Kategorie C5: Forum mit angrenzenden Fluren Pá\æ&~ä↔æÁÖÁËÄÜæäbá↑↑ ^&bä† ^↑æ |
| Qk.N_B1 | S \~→áb\ÁPá\æ&~ä↔æÁÑFíÁÑfiä~ä† ^↑æÊÄ Sæâæ^ä† ^↑æ Pá\æ&~ä↔æÁÑÄËÄÑfiä~b |
| Qk.N_E1 | Nutzlast Kategorie E: Lager, Archiv, Bib., Technik Pá\æ&~ä↔æÁÖÁËÄQá&æä† ^↑æ |
| Qk.N_C1 | S \~→áb\ÁPá\æ&~ä↔æÁÖFíÁU´á ^ ^&bä† ^↑æÊÄ Öä ^*æ^ä† ^↑æÊÄSä→æ&æä† ^↑æ Pá\æ&~ä↔æÁÖÁËÄÜæäbá↑↑ ^&bä† ^↑æ |
| Qk.N_DA | Nutzlast Kategorie H: Dach Pá\æ&~ä↔æÁÖÁËÄÆ†´äæä |
| Qk.N_T2 | S \~→áb\ÁPá\æ&~ä↔æÁÜGíÁÜäæ*æ^ä† ^bæä U~^b\↔æ&æÜæä†^äæä↔´äæÁÖ↔^}↔ä← ^&æ^ |

@UghZ} ``Y

Qáb\à†→æÁ|^äÄäæäæ^ÁX|^ää^|^&Á~|^Ääæ^ÁÖ↔^}↔ä←|^&æ^

Gk

LF-1, #1|LF-1, #2|LF-1

Ö←

LF-2, #1|LF-2, #2|LF-2

Qk.N_C5

LF-15, LF-16, LF-17, LF-18, LF-19

Qk.N_B1

LF-3, LF-4, LF-5, LF-6, LF-7, LF-8, LF-9, LF-10

Qk.N_E1

LF-11, LF-12, LF-13, LF-14, #1|LF-17, #1|LF-18,
#1|LF-19, #1|LF-20, #1|LF-21, #1|LF-22, #1|LF-23,
#2|LF-8

Qk.N_C1

LF-22

Qk.N_DA

#1|LF-3, #1|LF-4, #1|LF-5, #1|LF-6, #1|LF-7, #1|LF-
8, #1|LF-9, #1|LF-10, #1|LF-11, #1|LF-12, #1|LF-13,
#1|LF-14, #1|LF-15, #1|LF-16, #2|LF-3, #2|LF-4,
#2|LF-5, #2|LF-6, #2|LF-7

Qk.N_T2

LF-20, LF-21

@UghZ} ``Y #

@ææä↔´ä\ÁQáb\à†→æÁ|^äÄQáb\&ä|^*æ^

Lastgruppen

@UghZ} ``Y

| Lastfall | Typ | Beschreibung |
|----------|-----|----------------|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbau |
| LF-3 | v | S \~→áb\ÁÑfiä~ |
| LF-4 | v | S \~→áb\ÁÑfiä~ |
| LF-5 | v | S \~→áb\ÁÑfiä~ |
| LF-6 | v | S \~→áb\ÁÑfiä~ |
| LF-7 | v | S \~→áb\ÁÑfiä~ |
| LF-8 | v | S \~→áb\ÁÑfiä~ |
| LF-9 | v | S \~→áb\ÁÑfiä~ |

| Lastfall | Typ | Beschreibung |
|------------|-----|--|
| LF-10 | v | S \~→áb\ÁÑfiã~ |
| LF-11 | v | Nutzlast Lager/Archiv/Technik |
| LF-12 | v | Nutzlast Lager/Archiv/Technik |
| LF-13 | v | Nutzlast Lager/Archiv/Technik |
| LF-14 | v | Nutzlast Lager/Archiv/Technik |
| LF-15 | v | Nutzlast Flur |
| LF-16 | v | Nutzlast Flur |
| LF-17 | v | Nutzlast Flur |
| LF-18 | v | Nutzlast Flur |
| LF-19 | v | Nutzlast Flur |
| LF-20 | v | Nutzlast Treppe |
| LF-21 | v | Nutzlast Treppe |
| LF-22 | v | Nutzlast Lesesaal |
| #1 LF-1 | s | aus '20G-LP4 - U'â →'á↑* bíQáb\fiâæã&ââæC |
| #1 LF-2 | s | Ausbau |
| #1 LF-3 | v | Nutzlast Dach |
| #1 LF-4 | v | Nutzlast Dach |
| #1 LF-5 | v | Nutzlast Dach |
| #1 LF-6 | v | Nutzlast Dach |
| #1 LF-7 | v | Nutzlast Dach |
| #1 LF-8 | v | Nutzlast Dach |
| #1 LF-9 | v | Nutzlast Dach |
| #1 LF-10 | v | Nutzlast Dach |
| #1 LF-11 | v | Nutzlast Dach |
| #1 LF-12 | v | Nutzlast Dach |
| #1 LF-13 | v | Nutzlast Dach |
| #1 LF-14 | v | Nutzlast Dach |
| #1 LF-15 | v | Nutzlast Dach |
| #1 LF-16 | v | Nutzlast Dach |
| #1 LF-17 | v | Nutzlast Technik |
| #1 LF-18 | v | Nutzlast Technik |
| #1 LF-19 | v | Nutzlast Technik |
| #1 LF-20 | v | Nutzlast Technik |
| #1 LF-21 | v | Nutzlast Technik |
| #1 LF-22 | v | Nutzlast Technik |
| #1 LF-23 | v | Nutzlast Technik |
| #2 LF-1 | s | aus 'TG-LP4 - U'â →'á↑* bíQáb\fiâæã&ââæC |
| #2 LF-2 | s | Ausbau |
| #2 LF-3 | v | Nutzlast Dach |
| #2 LF-4 | v | Nutzlast Dach |
| #2 LF-5 | v | Nutzlast Dach |
| #2 LF-6 | v | Nutzlast Dach |
| #2 LF-7 | v | Nutzlast Dach |
| #2 LF-8 | v | Nutzlast Aufzug |

s: b\†^â↔&æãÁQáb\âá→
v: {æã†^âæã↔→'âæãÁQáb\âá→

Lastkombinationen

Qáb\←~↑â↔^á\↔~^æ^ÄâfiãÄ↔~^æääæÄÑæää´â^|^&

Kombinationen

Manuell vorgegebene Lastkombinationen

| Ew | Einwirkungsname | | | | |
|------|-----------------|------------|------------|------------|------------|
| Lg | Lastgruppenname | | | | |
| Lf | Lastfallname | | | | |
| Ew | Gk | Gk | Gk | Ö← | Ö← |
| Lg | . | . | . | . | . |
| Lf | LF-1 | #1 LF-1 | #2 LF-1 | LF-2 | #1 LF-2 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ew | Ö← | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 |
| Lg | . | . | . | . | . |
| Lf | #2 LF-2 | LF-3 | LF-4 | LF-5 | LF-6 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ew | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_C1 |
| Lg | . | . | . | . | . |
| Lf | LF-7 | LF-8 | LF-9 | LF-10 | LF-22 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ew | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 |
| Lg | . | . | . | . | . |
| Lf | LF-15 | LF-16 | LF-17 | LF-18 | LF-19 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| Lg | . | . | . | . | . |
| Lf | LF-11 | LF-12 | LF-13 | LF-14 | #1 LF-17 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| Lg | . | . | . | . | . |
| Lf | #1 LF-18 | #1 LF-19 | #1 LF-20 | #1 LF-21 | #1 LF-22 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| Lg | . | . | . | . | . |
| Lf | #1 LF-23 | #2 LF-8 | #1 LF-3 | #1 LF-4 | #1 LF-5 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| Lg | . | . | . | . | . |
| Lf | #1 LF-6 | #1 LF-7 | #1 LF-8 | #1 LF-9 | #1 LF-10 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| Lg | . | . | . | . | . |
| Lf | #1 LF-11 | #1 LF-12 | #1 LF-13 | #1 LF-14 | #1 LF-15 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| Lg | . | . | . | . | . |
| Lf | #1 LF-16 | #2 LF-3 | #2 LF-4 | #2 LF-5 | #2 LF-6 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

| | Ew | Qk.N_DA | Qk.N_T2 | Qk.N_T2 |
|------|----|-----------|---------|---------|
| | Lg | . | . | . |
| | Lf | #2 LF-7 | LF-20 | LF-21 |
| LK-1 | | 1.00 | 1.00 | 1.00 |

Lastplan

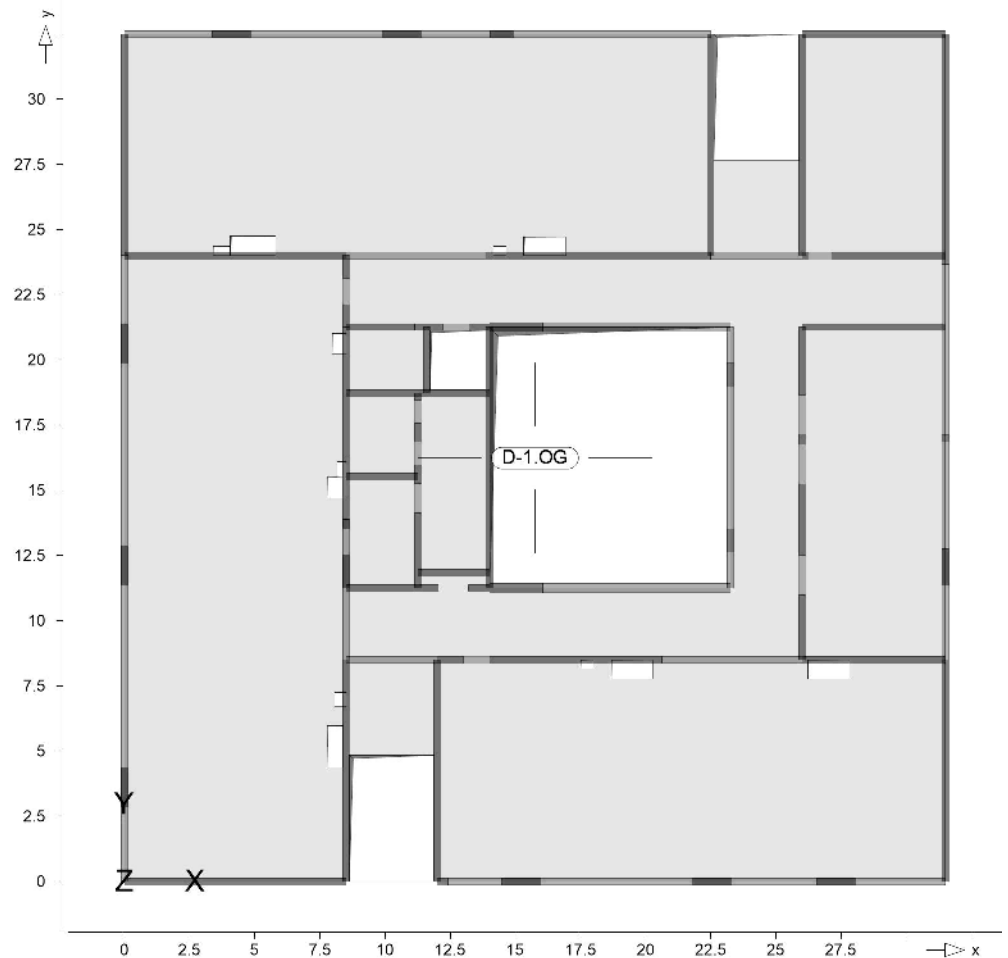
Lasten des FE-Modells

Bauteillasten

Bauteilbezogene Lasten

Positionskarte

Österreichische Normenkommission
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Eigengewicht

| Position | EW | Lastfall | Art | g |
|----------|----|----------|-----|-----------|
| | | | | [kN/m²] |
| D-1.OG | Gk | LF-1 | PGr | 7.00 |

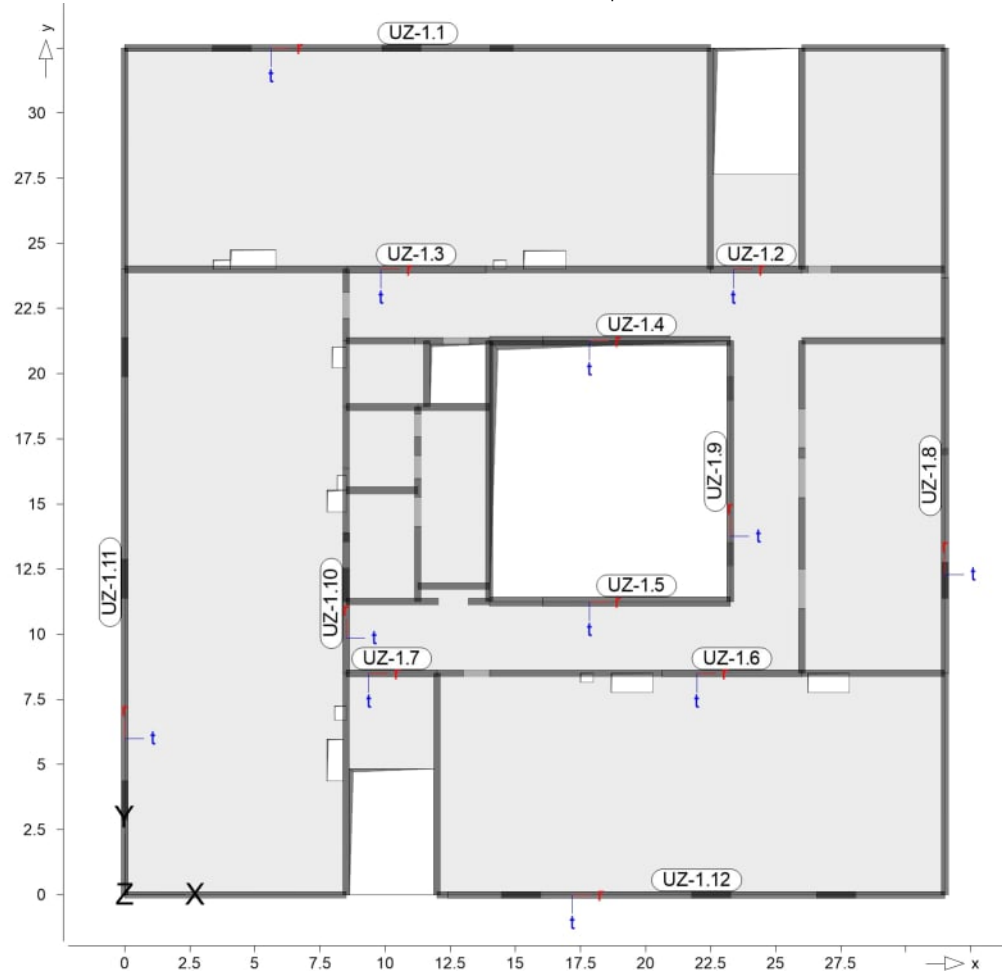
PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Streckenpositionen

Q⁺æ⁺â=ã↑&æ⁺ÃÑá | \æ↔↔Ë\$~b↔\↔~^æ⁺

Positionsgrafik

©âæãb↔' ä\ÃäæãÃ↔↔↔^æ⁺â=ã↑&æ⁺ÃÑá | \æ↔↔Ë\$~b↔\↔~^æ⁺



Eigengewichte

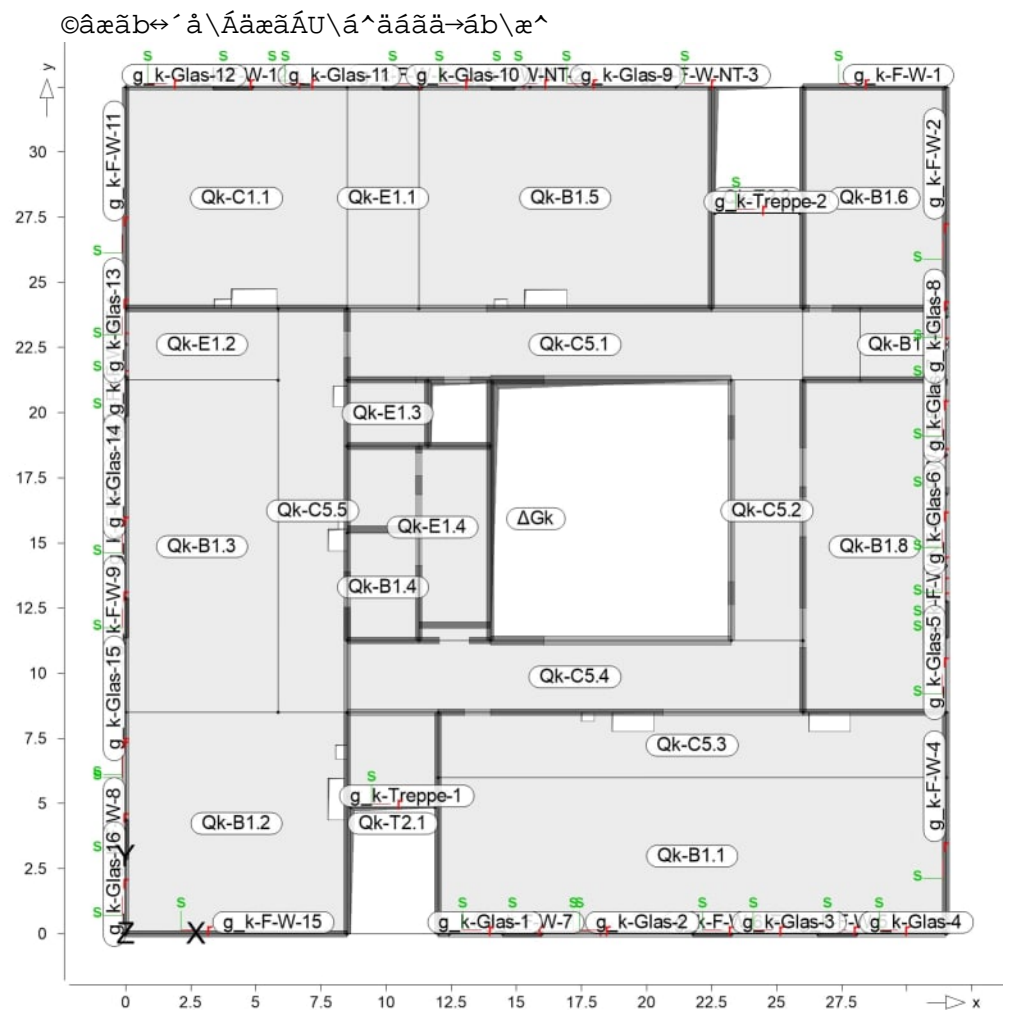
| Position | EW | Lastfall | Art | g [kN/m] |
|------------------|----|----------|-----|-------------|
| UZ-1.1 | Gk | LF-1 | PGr | 3.44 |
| UZ-1.2, UZ-1.3 | Gk | LF-1 | PGr | 3.13 |
| UZ-1.4, UZ-1.5 | Gk | LF-1 | PGr | 16.63 |
| UZ-1.6, UZ-1.7 | Gk | LF-1 | PGr | 3.13 |
| UZ-1.8 | Gk | LF-1 | PGr | 3.44 |
| UZ-1.9 | Gk | LF-1 | PGr | 11.88 |
| UZ-1.10 | Gk | LF-1 | PGr | 3.13 |
| UZ-1.11, UZ-1.12 | Gk | LF-1 | PGr | 3.44 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Standardlasten

Standardlasten im FE-Modell

Positionsgrafik



Linienlasten

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|------------|-----------------------|----------|-----|-------------------------------|-------------------------------|
| g_k-F-UZ-1 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-2 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-3 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-4 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-W-1 | Fassadenlast Wand | Ö← LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-2 | Fassadenlast Wand | Ö← LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-3 | Fassadenlast Wand | Ö← LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-4 | Fassadenlast Wand | Ö← LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-5 | Fassadenlast Wand | Ö← LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-6 | Fassadenlast Wand | Ö← LF-2 | pGr | 7.75 | 7.75 |

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|--------------|--|----------|-----|-------------------------------|-------------------------------|
| g_k-F-W-7 | Fassadenlast Wand Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-8 | Fassadenlast Wand Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-9 | Fassadenlast Wand Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-10 | Fassadenlast Wand Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-11 | Fassadenlast Wand Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-12 | Fassadenlast Wand Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-13 | Fassadenlast Wand Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-14 | Fassadenlast Wand Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-15 | Fassadenlast Wand Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-NT-1 | Fassadenlast + Eigengewicht pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-2 | Fassadenlast + Eigengewicht pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-3 | Fassadenlast + Eigengewicht pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-4 | Fassadenlast + Eigengewicht pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-5 | Fassadenlast + Eigengewicht pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-NT-6 | Fassadenlast + Eigengewicht pkejvvtcigpfg"Y@pfg | | | | |
| | Gk | LF-1 | pGr | 19.38 | 19.38 |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-Glas-1 | Glaslast Fassade Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-2 | Glaslast Fassade Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-3 | Glaslast Fassade Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-4 | Glaslast Fassade Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-5 | Glaslast Fassade Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-6 | Glaslast Fassade Ö← | LF-2 | pGr | 2.33 | 2.33 |

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|--------------|-------------------------|----------|-----|-------------------------------|-------------------------------|
| g_k-Glas-7 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-8 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-9 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-10 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-11 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-12 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-13 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-14 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-15 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-16 | <i>Glaslast Fassade</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Treppe-1 | <i>Treppenlast</i> | | | | |
| | Gk | LF-1 | pGr | 13.04 | 13.04 |
| | Qk.N_T | LF-20 | pGr | 8.50 | 8.50 |
| | 2 | | | | |
| | Ö← | LF-2 | pGr | 4.25 | 4.25 |
| g_k-Treppe-2 | <i>Treppenlast</i> | | | | |
| | Gk | LF-1 | pGr | 13.04 | 13.04 |
| | Qk.N_T | LF-21 | pGr | 8.50 | 8.50 |
| | 2 | | | | |
| | Ö← | LF-2 | pGr | 4.25 | 4.25 |

pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

;`Y] W\Z` } W\Yb` UghYb

| Position | EW | Lastfall | Art | p [kN/m ²] |
|----------|--------|----------|-----|-----------------------------|
| Qk-B1.1 | Qk.N_B | LF-3 | PGr | 5.00 |
| | 1 | | | |
| Qk-B1.2 | Qk.N_B | LF-4 | PGr | 5.00 |
| | 1 | | | |
| Qk-B1.3 | Qk.N_B | LF-5 | PGr | 5.00 |
| | 1 | | | |
| Qk-B1.4 | Qk.N_B | LF-6 | PGr | 5.00 |
| | 1 | | | |
| Qk-B1.5 | Qk.N_B | LF-7 | PGr | 5.00 |
| | 1 | | | |
| Qk-B1.6 | Qk.N_B | LF-8 | PGr | 5.00 |
| | 1 | | | |
| Qk-B1.7 | Qk.N_B | LF-9 | PGr | 5.00 |
| | 1 | | | |
| Qk-B1.8 | Qk.N_B | LF-10 | PGr | 5.00 |
| | 1 | | | |
| Qk-C1.1 | Qk.N_C | LF-22 | PGr | 5.00 |
| | 1 | | | |

| Position | EW | Lastfall | Art | p [kN/m ²] |
|----------|-------------------|----------|-----|----------------------------|
| Qk-C5.1 | Qk.N_C LF-15 5 | PGr | | 5.00 |
| | Ö← LF-2 | PGr | | 0.50 |
| Qk-C5.2 | Qk.N_C LF-16 5 | PGr | | 5.00 |
| | Ö← LF-2 | PGr | | 0.50 |
| Qk-C5.3 | Qk.N_C LF-17 5 | PGr | | 5.00 |
| | Ö← LF-2 | PGr | | 0.50 |
| Qk-C5.4 | Qk.N_C LF-18 5 | PGr | | 5.00 |
| | Ö← LF-2 | PGr | | 0.50 |
| Qk-C5.5 | Qk.N_C LF-19 5 | PGr | | 5.00 |
| | Ö← LF-2 | PGr | | 0.50 |
| Qk-E1.1 | Qk.N_E LF-11 1 | PGr | | 6.00 |
| | Ö← LF-2 | PGr | | 0.50 |
| Qk-E1.2 | Qk.N_E LF-12 1 | PGr | | 6.00 |
| | Ö← LF-2 | PGr | | 0.50 |
| Qk-E1.3 | Qk.N_E LF-13 1 | PGr | | 6.00 |
| | Ö← LF-2 | PGr | | 0.50 |
| Qk-E1.4 | Qk.N_E LF-14 1 | PGr | | 6.00 |
| | Ö← LF-2 | PGr | | 0.50 |
| Qk-T2.1 | Qk.N_T LF-20 2 | PGr | | 5.00 |
| Qk-T2.2 | Qk.N_T LF-21 2 | PGr | | 5.00 |
| Ö← | Ö← LF-2 | PGr | | 2.50 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

@Ugh~ VYf bU\ aYb

Posi ti onsgrafi k

Qáb\fiâæã^áâ↑æÁá | bÁR↔'ã~ÔæËR~äæ→æ^

©âæãb↔'â\ÁäæãÁQáb\fiâæã^áâ↑æ^

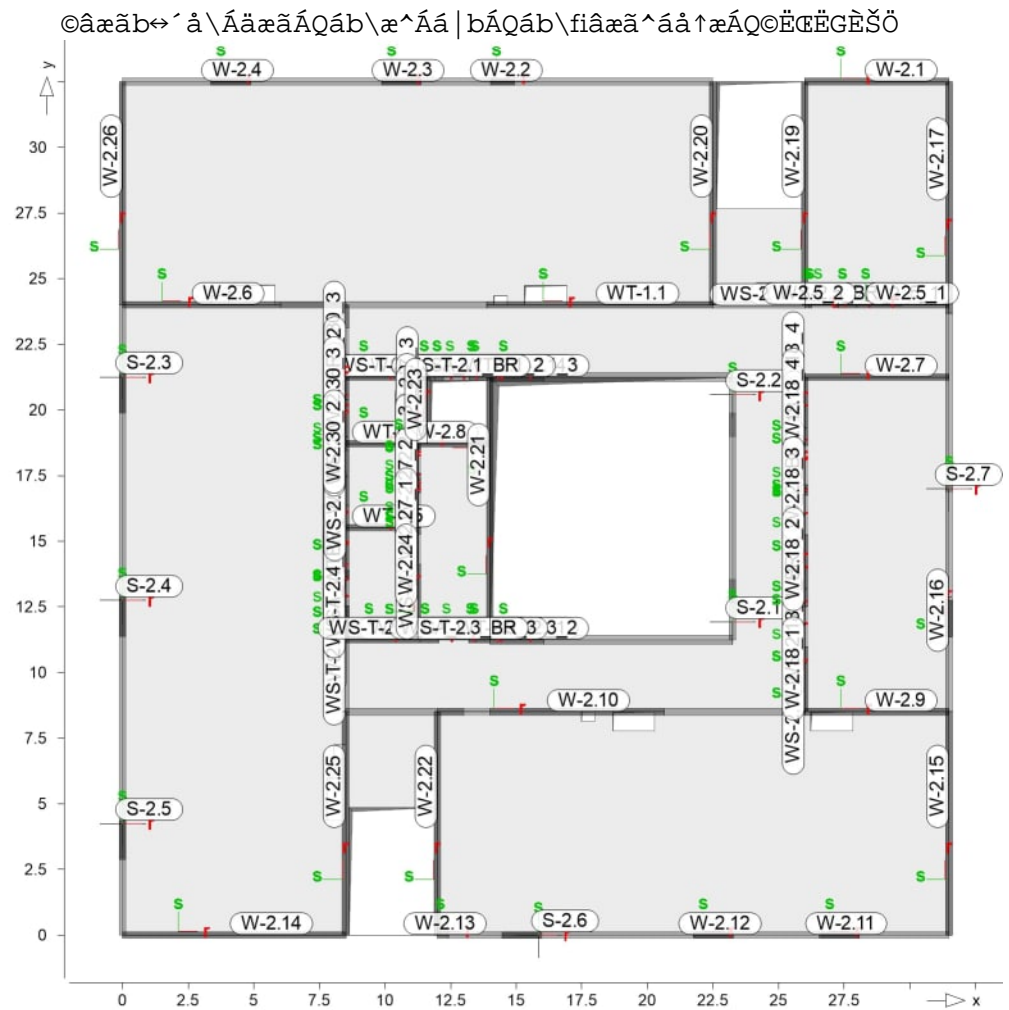


@y! 8! &" C;

Qáb\fiâæã^áâ↑æÁCU'â | →'á↑* | bİQáb\fiâæã&ââæCÁá | bÁR~äæ→Á
' 2OG-LP4 '

↔æÁQáb\fiâæã^áâ↑æÁæãà~&\Á→áb\ää→\ãæ | È
↔æÁQáb\á^æ↔æÁá | bÁb\†^ä↔æ^ÁQáb\æ^ÁäæãÁU\fi\æ^ËÁund
Ûá^ä→á&æãÁ}æãäæ^Áäæãfi'←b↔'â\↔&\È

Positionsgrafik



Punktlasten

| Position | EW | Lastfall | Art | P [kN] |
|------------|------------|-----------|-----|-----------|
| (g1) S-2.1 | Gk | #1 LF-1 | PGr | 20.36 |
| | Gk | #1 LF-1 | PGr | 196.12 |
| | Qk.N_D | #1 LF-3 | PGr | -42.12 |
| | A | | | |
| | Qk.N_D | #1 LF-4 | PGr | 0.20 |
| | A | | | |
| | Qk.N_D | #1 LF-5 | PGr | -0.29 |
| | A | | | |
| | Qk.N_D | #1 LF-6 | PGr | 1.07 |
| | A | | | |
| | Qk.N_D | #1 LF-8 | PGr | -0.08 |
| | A | | | |
| | Qk.N_D | #1 LF-9 | PGr | 0.10 |
| | A | | | |
| Qk.N_D | #1 LF-10 | PGr | | 41.28 |
| | A | | | |
| | #1 LF-11 | PGr | | -2.31 |
| | A | | | |
| | #1 LF-12 | PGr | | 23.13 |
| Qk.N_D | #1 LF-13 | PGr | | 29.55 |
| | A | | | |

| Position | EW | Lastfall | Art | P [kN] |
|------------|------------------|----------|-----|-----------|
| | Qk.N_E #1 1 | LF-17 | PGr | -21.83 |
| | Ö← #1 | LF-2 | PGr | 18.03 |
| (g1) S-2.2 | Gk #1 | LF-1 | PGr | 20.36 |
| | Gk #1 | LF-1 | PGr | 251.31 |
| | Qk.N_D #1 | LF-3 | PGr | 4.08 |
| | A | | | |
| | Qk.N_D #1 | LF-4 | PGr | -0.02 |
| | A | | | |
| | Qk.N_D #1 | LF-5 | PGr | 0.04 |
| | A | | | |
| | Qk.N_D #1 | LF-6 | PGr | -12.49 |
| | A | | | |
| | Qk.N_D #1 | LF-7 | PGr | 0.11 |
| | A | | | |
| | Qk.N_D #1 | LF-8 | PGr | -0.06 |
| | A | | | |
| | Qk.N_D #1 | LF-9 | PGr | 0.11 |
| | A | | | |
| | Qk.N_D #1 | LF-10 | PGr | 40.04 |
| | A | | | |
| | Qk.N_D #1 | LF-11 | PGr | 28.83 |
| | A | | | |
| | Qk.N_D #1 | LF-12 | PGr | -1.75 |
| | A | | | |
| | Qk.N_D #1 | LF-13 | PGr | 21.97 |
| | A | | | |
| | Qk.N_E #1 1 | LF-17 | PGr | -11.45 |
| | Ö← #1 | LF-2 | PGr | 36.73 |
| (g1) S-2.3 | Gk #1 | LF-1 | PGr | 5.66 |
| | Gk #1 | LF-1 | PGr | 179.00 |
| | Gk #2 | LF-1 | PGr | -0.21 |
| | Qk.N_D #1 | LF-3 | PGr | -0.06 |
| | A | | | |
| | Qk.N_D #1 | LF-4 | PGr | 0.05 |
| | A | | | |
| | Qk.N_D #1 | LF-5 | PGr | 63.89 |
| | A | | | |
| | Qk.N_D #1 | LF-6 | PGr | -10.65 |
| | A | | | |
| | Qk.N_D #1 | LF-11 | PGr | -0.06 |
| | A | | | |
| | Qk.N_D #1 | LF-14 | PGr | -0.02 |
| | A | | | |
| | Qk.N_D #1 | LF-15 | PGr | -0.04 |
| | A | | | |
| | Qk.N_D #1 | LF-16 | PGr | -0.02 |
| | A | | | |
| | Qk.N_D #2 | LF-4 | PGr | -0.01 |
| | A | | | |
| | Qk.N_E #1 1 | LF-21 | PGr | -0.02 |
| | Qk.N_E #1 | LF-22 | PGr | 0.02 |

| Position | EW | Lastfall | Art | P [kN] |
|------------|-----------|----------|-----|-----------|
| | 1 | | | |
| | Qk.N_E #1 | LF-23 | PGr | -0.01 |
| | 1 | | | |
| | Ö← #1 | LF-2 | PGr | 65.22 |
| | Ö← #2 | LF-2 | PGr | -0.02 |
| (g1) S-2.4 | Gk #1 | LF-1 | PGr | 5.66 |
| | Gk #1 | LF-1 | PGr | 367.06 |
| | Gk #2 | LF-1 | PGr | -0.45 |
| | Qk.N_D #1 | LF-3 | PGr | 0.17 |
| | A | | | |
| | Qk.N_D #1 | LF-4 | PGr | -0.15 |
| | A | | | |
| | Qk.N_D #1 | LF-5 | PGr | 132.23 |
| | A | | | |
| | Qk.N_D #1 | LF-6 | PGr | -1.70 |
| | A | | | |
| | Qk.N_D #1 | LF-11 | PGr | -0.03 |
| | A | | | |
| | Qk.N_D #1 | LF-15 | PGr | -0.04 |
| | A | | | |
| | Qk.N_D #1 | LF-16 | PGr | -0.10 |
| | A | | | |
| | Qk.N_D #2 | LF-4 | PGr | -0.01 |
| | A | | | |
| | Qk.N_D #2 | LF-7 | PGr | -0.06 |
| | A | | | |
| | Qk.N_E #1 | LF-21 | PGr | -0.02 |
| | 1 | | | |
| | Qk.N_E #1 | LF-22 | PGr | 0.05 |
| | 1 | | | |
| | Qk.N_E #1 | LF-23 | PGr | -0.06 |
| | 1 | | | |
| | Ö← #1 | LF-2 | PGr | 130.33 |
| | Ö← #2 | LF-2 | PGr | -0.04 |
| (g1) S-2.5 | Gk #1 | LF-1 | PGr | 5.66 |
| | Gk #1 | LF-1 | PGr | 241.87 |
| | Gk #2 | LF-1 | PGr | -0.03 |
| | Qk.N_D #1 | LF-3 | PGr | 0.59 |
| | A | | | |
| | Qk.N_D #1 | LF-4 | PGr | -0.51 |
| | A | | | |
| | Qk.N_D #1 | LF-5 | PGr | 85.75 |
| | A | | | |
| | Qk.N_D #1 | LF-6 | PGr | 0.59 |
| | A | | | |
| | Qk.N_D #1 | LF-12 | PGr | -0.02 |
| | A | | | |
| | Qk.N_D #1 | LF-16 | PGr | -0.01 |
| | A | | | |
| | Qk.N_D #2 | LF-7 | PGr | -0.01 |
| | A | | | |
| | Ö← #1 | LF-2 | PGr | 86.25 |
| (g1) S-2.6 | Gk #1 | LF-1 | PGr | 5.66 |
| | Gk #1 | LF-1 | PGr | 140.12 |

| Position | EW | Lastfall | Art | P [kN] |
|------------|-----------|-----------|-----|-----------|
| | Qk.N_D #1 | LF-3 | PGr | 48.33 |
| | A | | | |
| | Qk.N_D #1 | LF-4 | PGr | -2.13 |
| | A | | | |
| | Qk.N_D #1 | LF-5 | PGr | 2.27 |
| | A | | | |
| | Qk.N_D #1 | LF-10 | PGr | -0.15 |
| | A | | | |
| | Qk.N_D #1 | LF-12 | PGr | -0.32 |
| | A | | | |
| | Qk.N_E #1 | LF-17 | PGr | 0.02 |
| | 1 | | | |
| | Ö← | #1 LF-2 | PGr | 50.93 |
| (g1) S-2.7 | Gk | #1 LF-1 | PGr | 5.66 |
| | Gk | #1 LF-1 | PGr | 101.52 |
| | Qk.N_D #1 | LF-3 | PGr | 0.74 |
| | A | | | |
| | Qk.N_D #1 | LF-6 | PGr | 0.03 |
| | A | | | |
| | Qk.N_D #1 | LF-7 | PGr | -0.03 |
| | A | | | |
| | Qk.N_D #1 | LF-8 | PGr | 0.42 |
| | A | | | |
| | Qk.N_D #1 | LF-9 | PGr | -0.16 |
| | A | | | |
| | Qk.N_D #1 | LF-10 | PGr | 0.06 |
| | A | | | |
| | Qk.N_D #1 | LF-11 | PGr | 0.02 |
| | A | | | |
| | Qk.N_D #1 | LF-12 | PGr | 0.02 |
| | A | | | |
| | Qk.N_D #1 | LF-13 | PGr | 19.33 |
| | A | | | |
| | Qk.N_E #1 | LF-17 | PGr | 10.45 |
| | 1 | | | |
| | Ö← | #1 LF-2 | PGr | 37.66 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

(g1)

á|bÁÓ↔&æ^&æ}↔´á\ÁäæãÁU\fi\`æ

Li ni en lasten

Blocklasten der einzelnen Abschnitte in Gravitationsrichtung

W-2.1

Gk

| Lastfall | Lasten (8 Abschnitte je 0.69m) | [kN/m] |
|---------------|---|--------|
| #1 LF-1 (g) | | |
| | 24.63 35.03 39.87 42.48 43.22 42.72 39.71 | |
| | 21.89 | |

Ö←

| | |
|---------------|--|
| #1 LF-2 (g) | |
| | 8.63 14.07 15.80 16.58 16.80 16.64 15.67 |
| | 9.98 |

Qk.N_E1

| | |
|------------|-------------------------------------|
| #1 LF-17 | -0.01 0.00 0.00 0.01 0.01 0.01 0.01 |
| | -0.01 |

Qk.N_DA

| | |
|-----------|------------------------------------|
| #1 LF-5 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| | 0.00 |

| Lastfall | Lasten (8 Abschnitte je 0.69m) | [kN/m] |
|---|---|--------|
| #1 LF-6 | 1.40 2.96 1.46 0.81 0.52 0.35 0.19 -0.57 | |
| #1 LF-7 | -0.33 -3.45 -1.51 -0.73 -0.44 -0.29 -0.16 0.47 | |
| #1 LF-8 | -2.78 4.87 7.47 9.03 9.52 9.22 7.31 -4.02 | |
| #1 LF-9 | 0.01 0.00 -0.01 -0.01 -0.01 -0.01 -0.01 0.03 | |
| #1 LF-10 | -0.01 -0.03 -0.02 -0.01 -0.01 -0.01 0.00 0.01 | |
| #1 LF-11 | -0.02 -0.05 -0.03 -0.02 -0.01 -0.01 -0.01 0.01 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | |

W-2.2

Gk

Ö←

Qk.N_DA

| Lastfall | Lasten (3 Abschnitte je 0.30m) | [kN/m] |
|---|--------------------------------|--------|
| #1 LF-1 (g) | 239.6 269.8 301.4 | |
| #2 LF-1 | 0.01 0.02 0.02 | |
| #1 LF-2 (g) | 84.00 94.76 106.0 | |
| #2 LF-2 | 0.01 0.01 0.01 | |
| #1 LF-3 | 0.00 0.00 -0.01 | |
| #1 LF-5 | 0.36 0.37 0.39 | |
| #1 LF-6 | 86.16 96.79 107.9 | |
| #1 LF-7 | -1.79 -2.31 -2.86 | |
| #1 LF-8 | 0.87 1.15 1.43 | |
| #1 LF-9 | -0.01 -0.01 -0.01 | |
| #1 LF-10 | -0.20 -0.24 -0.29 | |
| #1 LF-11 | -0.59 -0.69 -0.79 | |
| #1 LF-13 | 0.01 0.01 0.01 | |
| #2 LF-4 | 0.01 0.01 0.01 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | |

W-2.3

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] |
|---|--------------------------------|--------|
| #1 LF-1 (g) | 170.3 143.4 126.5 | |
| #2 LF-1 | 0.01 0.01 0.01 | |
| #1 LF-2 (g) | 59.28 49.72 43.72 | |
| #2 LF-2 | 0.00 0.00 0.00 | |
| #1 LF-18 | 0.00 0.00 0.00 | |
| #1 LF-5 | -1.18 -0.76 -0.44 | |
| #1 LF-6 | 59.50 49.96 44.23 | |
| #1 LF-7 | 0.36 0.39 0.41 | |
| #1 LF-8 | -0.19 -0.21 -0.23 | |
| #1 LF-9 | 0.00 0.00 0.00 | |
| #1 LF-10 | 0.04 0.03 0.03 | |
| #1 LF-11 | 0.19 0.13 0.08 | |
| #1 LF-14 | 0.00 0.00 0.00 | |
| #2 LF-4 | 0.00 0.00 0.00 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | |

W-2.4

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] |
|---------------|--------------------------------|--------|
| #1 LF-1 (g) | 128.7 151.6 180.0 | |
| #2 LF-1 | 0.01 0.01 0.02 | |
| #1 LF-2 (g) | 45.57 53.23 62.90 | |
| #1 LF-18 | 0.00 0.00 0.00 | |
| #1 LF-5 | -1.17 -1.72 -2.25 | |
| #1 LF-6 | 39.26 50.74 63.61 | |
| #1 LF-7 | 0.00 0.01 0.03 | |

D-271

| Lastfall Lasten (3 Abschnitte je 0.50m) | | [kN/m] | | |
|---|-------|--------|-------|-------|
| #1 | LF-8 | 0.00 | -0.01 | -0.01 |
| #1 | LF-10 | 0.00 | 0.01 | 0.01 |
| #1 | LF-11 | 0.00 | 0.04 | 0.09 |
| #1 | LF-14 | 0.00 | 0.00 | 0.00 |
| #1 | LF-15 | 0.00 | 0.00 | 0.00 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

W-2.5_1

Gk
Ö←
Qk.N_E1
Qk.N_DA

| Lastfall Lasten (6 Abschnitte je 0.71m) | | [kN/m] | | |
|---|----------|--------|-------|-------|
| #1 | LF-1 (g) | 44.35 | 41.62 | 48.17 |
| #1 | LF-2 (g) | 7.03 | 6.09 | 7.99 |
| #1 | LF-17 | -1.25 | -1.40 | -2.01 |
| #1 | LF-3 | 0.03 | 0.02 | 0.02 |
| #1 | LF-6 | 1.83 | 0.99 | 0.98 |
| #1 | LF-7 | -1.70 | -0.91 | -0.83 |
| #1 | LF-8 | 11.14 | 9.47 | 13.71 |
| #1 | LF-9 | 4.97 | 4.78 | 5.70 |
| #1 | LF-10 | -0.02 | -0.02 | -0.04 |
| #1 | LF-11 | -0.87 | -0.35 | -0.13 |
| #1 | LF-12 | -0.01 | -0.01 | -0.01 |
| #1 | LF-13 | -0.40 | -0.55 | -0.96 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

W-2.5_2

Gk
Ö←
Qk.N_E1
Qk.N_DA

| Lastfall Lasten (3 Abschnitte je 0.08m) | | [kN/m] | | |
|---|----------|--------|-------|-------|
| #1 | LF-1 (g) | 55.30 | 53.97 | 52.65 |
| #1 | LF-2 (g) | 6.76 | 6.53 | 6.30 |
| #1 | LF-17 | -0.50 | -0.51 | -0.52 |
| #1 | LF-3 | -0.14 | -0.13 | -0.12 |
| #1 | LF-6 | -3.29 | -2.86 | -2.43 |
| #1 | LF-7 | 7.05 | 6.48 | 5.91 |
| #1 | LF-8 | -6.02 | -5.52 | -5.02 |
| #1 | LF-9 | 4.64 | 4.61 | 4.58 |
| #1 | LF-10 | -1.06 | -1.03 | -1.00 |
| #1 | LF-11 | 12.94 | 12.11 | 11.28 |
| #1 | LF-12 | 0.06 | 0.06 | 0.05 |
| #1 | LF-13 | -0.22 | -0.20 | -0.19 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

W-2.6

Gk

Ö←

Qk.N_E1

| Lastfall Lasten (9 Abschnitte je 0.67m) | | [kN/m] | | |
|---|----------|--------|-------|-------|
| #1 | LF-1 (g) | 34.72 | 61.55 | 73.26 |
| | | 42.52 | 387.2 | |
| #2 | LF-1 | 0.05 | -0.02 | -0.04 |
| | | -0.04 | -0.79 | |
| #1 | LF-2 (g) | 7.99 | 13.18 | 16.09 |
| | | 5.96 | 109.8 | |
| #2 | LF-2 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.06 | |
| #1 | LF-18 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.39 | |
| #1 | LF-21 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.03 | |
| #1 | LF-22 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | |
| #2 | LF-8 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.02 | |

| | Lastfall | Lasten (9 Abschnitte je 0.67m) | | | | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-5 | 1.86 | 13.10 | 17.67 | 21.14 | 25.11 | 24.53 | 11.01 |
| | | 9.07 | 26.32 | | | | | |
| | #1 LF-6 | -5.87 | 9.39 | 14.96 | 18.35 | 25.05 | 31.82 | 3.63 |
| | | 3.00 | 182.3 | | | | | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.02 | | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-11 | -0.01 | -0.03 | -0.06 | -0.11 | -0.16 | -0.21 | -0.63 |
| | | 0.06 | 11.97 | | | | | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | 0.01 |
| | | -0.02 | -0.31 | | | | | |
| | #1 LF-15 | 0.01 | 0.00 | -0.01 | -0.01 | -0.02 | -0.02 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.02 | | | | | |
| | #2 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.13 | | | | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (8 Abschnitte je 0.69m) | | | | | | [kN/m] |
|--------------|---------------|--------------------------------|--------|-------|-------|-------|-------|--------|
| W-2.7 | Gk | #1 LF-1 (g) | | | | | | |
| | | | 37.86 | 35.37 | 42.44 | 47.18 | 47.02 | 44.09 |
| | | | 144.18 | | | | | 57.15 |
| Ö← | #1 LF-2 (g) | | 3.91 | 3.92 | 6.43 | 7.88 | 7.60 | 6.47 |
| | | | 46.54 | | | | | 11.88 |
| Qk.N_E1 | #1 LF-17 | | 5.38 | 14.45 | 19.52 | 20.30 | 16.26 | 9.57 |
| | | | 3.58 | | | | | 4.93 |
| Qk.N_DA | #1 LF-3 | -0.08 | -0.03 | -0.05 | -0.06 | -0.07 | -0.06 | 0.02 |
| | | 0.40 | | | | | | |
| | #1 LF-6 | 0.19 | -0.56 | -0.47 | -0.34 | -0.26 | -0.20 | -0.14 |
| | | -0.13 | | | | | | |
| | #1 LF-7 | 0.19 | 0.32 | 0.27 | 0.23 | 0.19 | 0.15 | 0.11 |
| | | 0.11 | | | | | | |
| | #1 LF-8 | -1.35 | -1.33 | -1.76 | -2.20 | -2.36 | -2.13 | -1.73 |
| | | -2.12 | | | | | | |
| | #1 LF-9 | 2.83 | 2.42 | 2.80 | 3.29 | 4.23 | 5.28 | 5.37 |
| | | 5.24 | | | | | | |
| | #1 LF-10 | -0.62 | 0.48 | 0.35 | 0.16 | 0.08 | 0.05 | 0.03 |
| | | 0.01 | | | | | | |
| | #1 LF-11 | 3.85 | -1.05 | -0.94 | -0.31 | -0.03 | 0.03 | 0.03 |
| | | 0.02 | | | | | | |
| | #1 LF-12 | 0.04 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 |
| | | 0.00 | | | | | | |

Lastfall Lasten (8 Abschnitte je 0.69m) [kN/m]
#1 | LF-13 -0.72 -2.02 -0.17 2.25 4.96 7.16 9.09
17.68

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.8

Gk

Ö←

Qk.N_E1

Qk.N_DA

Lastfall Lasten (4 Abschnitte je 0.69m) [kN/m]
#1 | LF-1 (g) 25.84 30.09 32.24 30.84
#2 | LF-1 3.31 -0.35 14.78 15.06
#1 | LF-2 (g) 1.03 2.39 3.04 2.61
#2 | LF-2 -3.30 -4.59 -0.65 1.33
#1 | LF-18 0.02 -0.10 -0.53 0.77
#1 | LF-21 -0.02 -0.25 -0.57 -0.09
#1 | LF-22 2.28 5.86 6.59 3.41
#1 | LF-23 0.00 0.01 0.01 0.02
#2 | LF-8 3.65 7.36 5.38 1.71
#1 | LF-5 -0.02 0.56 1.98 2.56
#1 | LF-6 0.16 0.09 0.00 -0.15
#1 | LF-10 0.01 0.01 0.00 0.00
#1 | LF-11 -0.10 -0.04 0.27 0.14
#1 | LF-14 0.01 0.00 -0.13 -0.08
#1 | LF-15 0.00 -0.10 -0.25 -0.31
#1 | LF-16 0.00 0.01 0.02 0.02
#2 | LF-3 1.57 3.31 2.88 1.28
#2 | LF-4 -10.2 -16.6 -9.22 -1.91
#2 | LF-5 1.59 2.81 3.72 2.84
#2 | LF-6 0.21 0.87 0.93 0.28
#2 | LF-7 0.25 0.45 0.40 0.17

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.9

Gk

Ö←

Qk.N_E1

Qk.N_DA

Lastfall Lasten (8 Abschnitte je 0.69m) [kN/m]
#1 | LF-1 (g) 217.93 31.20 62.85 96.13 81.34 68.90 54.64
25.09
#1 | LF-2 (g) 60.74 2.82 12.92 23.50 18.70 14.66 10.73
4.35
#1 | LF-17 -3.99 4.52 12.22 18.05 14.96 8.69 3.77
-1.34
#1 | LF-3 123.71 4.68 18.41 33.34 22.84 16.56 10.40
-4.88
#1 | LF-4 -0.05 0.00 0.00 0.00 0.00 0.00 0.00
0.00
#1 | LF-5 0.08 0.00 0.00 0.00 0.00 0.00 0.00
0.00
#1 | LF-8 0.00 0.00 0.00 0.00 0.00 0.00 0.00
-0.05
#1 | LF-9 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.04
#1 | LF-10 -1.27 -0.04 0.03 0.02 0.04 0.03 0.02
0.01
#1 | LF-11 0.00 -0.01 -0.01 0.00 0.00 0.00 0.00
0.00
#1 | LF-12 0.82 -0.57 -0.27 -0.16 -0.06 -0.01 0.00
0.01
#1 | LF-13 0.96 -1.41 -0.38 1.99 5.03 7.52 7.21
3.45

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.10

Gk

Lastfall Lasten (12 Abschnitte je 0.72m) [kN/m]

| | | | | | | | |
|---------------|-------|-------|-------|-------|-------|-------|-------|
| #1 LF-1 (g) | 15.14 | 39.82 | 51.73 | 57.75 | 62.34 | 67.35 | 74.37 |
| | 87.51 | 103.5 | 55.55 | 34.61 | 319.4 | | |
| #2 LF-1 | -0.12 | -0.22 | -0.40 | -0.38 | -0.23 | -0.08 | 0.00 |
| | 0.02 | 0.02 | 0.00 | 0.00 | 0.01 | | |

Ö←

| | | | | | | | |
|---------------|-------|-------|-------|-------|-------|-------|-------|
| #1 LF-2 (g) | -3.88 | 5.48 | 9.68 | 11.81 | 13.38 | 14.82 | 16.57 |
| | 20.04 | 24.50 | 9.88 | 3.14 | 88.01 | | |
| #2 LF-2 | -0.14 | -0.13 | -0.13 | -0.09 | -0.04 | -0.01 | 0.01 |
| | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | | |

Qk.N_E1

| | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-------|
| #1 LF-17 | 0.00 | 0.00 | -0.01 | -0.02 | -0.02 | -0.01 | 0.01 |
| | 0.05 | 0.09 | 0.10 | 0.10 | -0.90 | | |
| #1 LF-19 | -0.10 | -0.04 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-20 | 2.04 | 0.43 | -0.04 | -0.07 | -0.04 | -0.01 | -0.01 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-22 | -0.97 | -0.63 | -0.38 | -0.19 | -0.05 | 0.01 | 0.03 |
| | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | | |
| #1 LF-23 | -0.14 | 0.01 | 0.04 | 0.02 | 0.01 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

Qk.N_DA

| | | | | | | | |
|------------|--------|-------|-------|-------|-------|-------|-------|
| #1 LF-3 | -8.50 | 5.12 | 13.43 | 18.91 | 22.97 | 25.82 | 28.21 |
| | 33.09 | 40.21 | 14.16 | 0.30 | 147.2 | | |
| #1 LF-4 | 3.66 | -1.53 | -1.81 | -1.22 | -0.82 | -0.59 | -0.45 |
| | -0.37 | -0.27 | 0.02 | 0.06 | -0.24 | | |
| #1 LF-5 | -16.70 | 0.63 | 3.11 | 2.15 | 1.36 | 0.94 | 0.70 |
| | 0.56 | 0.41 | -0.04 | -0.09 | 0.34 | | |
| #1 LF-6 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.01 |
| | 0.02 | 0.03 | 0.03 | 0.05 | 0.16 | | |
| #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | | |
| #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | | |
| #1 LF-10 | 0.02 | -0.17 | -0.60 | -1.23 | -1.70 | -1.64 | -1.03 |
| | 0.01 | 0.94 | -0.10 | -0.26 | 3.57 | | |
| #1 LF-11 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.03 | -0.03 |
| | -0.03 | -0.03 | -0.04 | -0.05 | -0.08 | | |
| #1 LF-12 | 14.89 | 7.33 | 5.46 | 5.19 | 5.11 | 5.22 | 5.74 |
| | 6.71 | 7.58 | 5.83 | 6.23 | 21.45 | | |
| #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | -0.02 |
| | -0.05 | -0.09 | -0.17 | 0.03 | 3.88 | | |
| #1 LF-16 | -0.09 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #2 LF-4 | -0.36 | -0.35 | -0.29 | -0.18 | -0.07 | 0.00 | 0.02 |
| | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | | |
| #2 LF-6 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #2 LF-7 | 0.10 | 0.10 | 0.04 | 0.00 | -0.01 | -0.01 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.11

Gk

Lastfall Lasten (3 Abschnitte je 0.50m) [kN/m]

| | | | |
|---------------|-------|-------|-------|
| #1 LF-1 (g) | 104.7 | 105.2 | 107.3 |
| #1 LF-2 (g) | 36.02 | 36.61 | 37.86 |

Ö←

D-275

Schulcampus EWK \ 10G-LP4

| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|---|------------|---|-------|-------|--------|
| Qk.N_E1 | #1 LF-17 | -0.26 | -0.23 | -0.19 | |
| Qk.N_DA | #1 LF-3 | 37.48 | 34.72 | 31.98 | |
| | #1 LF-4 | 0.15 | 0.11 | 0.06 | |
| | #1 LF-5 | -0.19 | -0.13 | -0.08 | |
| | #1 LF-10 | 0.00 | 0.01 | 0.02 | |
| | #1 LF-12 | 0.05 | 0.05 | 0.05 | |
| | #1 LF-13 | -0.12 | -0.10 | -0.09 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | | Lastfall Lasten (3 Abschnitte je 0.51m) | | | [kN/m] |
|---|---------------|---|-------|-------|--------|
| W-2.12 | #1 LF-1 (g) | 248.2 | 196.6 | 158.7 | |
| Gk | #2 LF-1 | 0.00 | 0.00 | 0.00 | |
| Ö← | #1 LF-2 (g) | 86.98 | 68.64 | 55.10 | |
| Qk.N_E1 | #1 LF-17 | -0.01 | -0.05 | -0.09 | |
| Qk.N_DA | #1 LF-3 | 85.79 | 68.75 | 56.87 | |
| | #1 LF-4 | -0.36 | -0.12 | 0.07 | |
| | #1 LF-5 | 0.48 | 0.18 | -0.05 | |
| | #1 LF-6 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-10 | -0.37 | -0.27 | -0.20 | |
| | #1 LF-12 | -0.53 | -0.36 | -0.22 | |
| | #1 LF-13 | -0.02 | -0.03 | -0.05 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | | Lastfall Lasten (3 Abschnitte je 0.14m) | | | [kN/m] |
|---|---------------|---|-------|-------|--------|
| W-2.13 | #1 LF-1 (g) | 52.12 | 68.84 | 85.56 | |
| Gk | #1 LF-2 (g) | 18.52 | 24.70 | 30.89 | |
| Ö← | #1 LF-17 | 0.01 | 0.01 | 0.01 | |
| Qk.N_E1 | #1 LF-3 | -3.77 | 3.27 | 10.31 | |
| Qk.N_DA | #1 LF-4 | -0.85 | -3.87 | -6.88 | |
| | #1 LF-5 | 3.20 | 5.45 | 7.69 | |
| | #1 LF-10 | 0.15 | 0.14 | 0.12 | |
| | #1 LF-12 | 0.28 | 0.23 | 0.18 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | | Lastfall Lasten (12 Abschnitte je 0.71m) | | | | | | | [kN/m] |
|---------|---------------|--|-------|-------|-------|-------|-------|-------|--------|
| W-2.14 | #1 LF-1 (g) | 23.45 | 42.54 | 47.37 | 49.75 | 51.00 | 51.11 | 50.03 | |
| Gk | | 47.70 | 43.96 | 38.93 | 32.90 | 14.59 | | | |
| | #2 LF-1 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Ö← | #1 LF-2 (g) | 11.70 | 16.54 | 18.07 | 18.87 | 19.28 | 19.31 | 18.97 | |
| | | 18.23 | 17.04 | 15.48 | 13.43 | 5.44 | | | |
| Qk.N_E1 | #1 LF-22 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #1 LF-23 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Qk.N_DA | #1 LF-3 | -0.41 | 0.05 | 0.08 | 0.11 | 0.15 | 0.22 | 0.32 | |
| | | 0.48 | 0.74 | 1.37 | 2.98 | 1.28 | | | |
| | #1 LF-4 | 0.35 | -0.04 | -0.07 | -0.09 | -0.13 | -0.19 | -0.28 | |
| | | -0.42 | -0.68 | -1.44 | -3.49 | -0.34 | | | |
| | #1 LF-5 | -15.01 | 9.49 | 12.74 | 13.88 | 14.60 | 14.64 | 13.94 | |
| | | 12.43 | 10.03 | 6.89 | 3.42 | -8.84 | | | |
| | #1 LF-6 | -0.15 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

| Lastfall | Lasten | (12 Abschnitte je 0.71m) | | | | | [kN/m] |
|------------|--------|--------------------------|-------|-------|-------|-------|--------|
| | | 0.00 | 0.00 | -0.01 | -0.02 | -0.01 | |
| #1 LF-12 | | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 |
| | | -0.01 | -0.02 | -0.02 | -0.05 | -0.02 | |
| #1 LF-16 | | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #2 LF-7 | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.15

Gk

| Lastfall | Lasten | (12 Abschnitte je 0.71m) | | | | | [kN/m] |
|---------------|--------|--------------------------|-------|-------|-------|-------|--------|
| #1 LF-1 (g) | | 38.74 | 42.20 | 46.86 | 49.70 | 51.02 | 51.04 |
| | | 46.95 | 42.34 | 35.32 | 24.13 | 5.93 | 49.74 |

Ö←

| | | | | | | | |
|---------------|--|-------|-------|-------|-------|-------|-------|
| #1 LF-2 (g) | | 17.27 | 16.41 | 17.88 | 18.85 | 19.28 | 19.29 |
| | | 17.98 | 16.50 | 14.25 | 10.37 | 2.97 | 18.87 |

Qk.N_E1

| | | | | | | | |
|------------|--|-------|-------|-------|-------|-------|-------|
| #1 LF-17 | | 0.29 | -0.03 | -0.05 | -0.07 | -0.11 | -0.18 |
| | | -0.50 | -0.85 | -1.40 | -2.38 | -4.48 | -0.30 |

Qk.N_DA

| | | | | | | | |
|------------|--|-------|-------|-------|-------|-------|-------|
| #1 LF-3 | | -9.99 | 9.44 | 12.66 | 13.99 | 14.78 | 14.84 |
| | | 12.54 | 9.99 | 6.31 | 0.47 | -12.0 | 14.12 |
| #1 LF-4 | | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-5 | | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-8 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | -0.05 | |
| #1 LF-9 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | |
| #1 LF-10 | | 0.07 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| #1 LF-11 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| #1 LF-12 | | 0.05 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | |
| #1 LF-13 | | 0.12 | -0.01 | -0.02 | -0.03 | -0.05 | -0.07 |
| | | -0.21 | -0.38 | -0.77 | -1.48 | -1.37 | -0.12 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.16

Gk

| Lastfall | Lasten | (3 Abschnitte je 0.50m) | | | [kN/m] |
|---------------|--------|-------------------------|-------|-------|--------|
| #1 LF-1 (g) | | 85.80 | 114.5 | 145.7 | |

Ö←

| | | | | | |
|---------------|--|-------|-------|-------|--|
| #1 LF-2 (g) | | 30.54 | 40.61 | 51.55 | |
|---------------|--|-------|-------|-------|--|

Qk.N_E1

| | | | | | |
|------------|--|------|-------|-------|--|
| #1 LF-17 | | 9.75 | 13.82 | 18.06 | |
|------------|--|------|-------|-------|--|

Qk.N_DA

| | | | | | |
|------------|--|-------|-------|-------|--|
| #1 LF-3 | | -8.56 | -5.76 | -3.54 | |
| #1 LF-7 | | 0.00 | -0.01 | -0.02 | |
| #1 LF-8 | | 0.03 | 0.13 | 0.24 | |
| #1 LF-9 | | -0.07 | -0.15 | -0.23 | |
| #1 LF-10 | | 0.07 | 0.09 | 0.11 | |
| #1 LF-11 | | 0.01 | 0.02 | 0.03 | |
| #1 LF-12 | | 0.01 | 0.01 | 0.02 | |
| #1 LF-13 | | 18.54 | 23.73 | 29.53 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.17

Gk

| Lastfall | Lasten | (12 Abschnitte je 0.74m) | | | | | [kN/m] |
|---------------|--------|--------------------------|-------|-------|-------|-------|--------|
| #1 LF-1 (g) | | 29.66 | 28.19 | 36.12 | 40.25 | 42.16 | 43.40 |
| | | 43.35 | 42.88 | 41.97 | 39.36 | 22.34 | |

| | Lastfall | Lasten (12 Abschnitte je 0.74m) | | | | | | [kN/m] |
|---|---------------|---------------------------------|-------|-------|-------|-------|-------|--------|
| Ö← | #1 LF-2 (g) | 11.08 | 11.34 | 14.47 | 15.85 | 16.46 | 16.75 | 16.86 |
| | | 16.83 | 16.68 | 16.39 | 15.55 | 10.12 | | |
| Qk.N_E1 | #1 LF-17 | -2.94 | 0.50 | 0.40 | 0.17 | 0.08 | 0.04 | 0.02 |
| | | 0.01 | 0.00 | 0.00 | 0.00 | -0.02 | | |
| Qk.N_DA | #1 LF-3 | -0.06 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-6 | -0.47 | -0.18 | 0.03 | 0.20 | 0.33 | 0.41 | 0.44 |
| | | 0.44 | 0.40 | 0.34 | 0.23 | -0.52 | | |
| | #1 LF-7 | 0.39 | 0.14 | -0.02 | -0.16 | -0.26 | -0.32 | -0.36 |
| | | -0.36 | -0.33 | -0.29 | -0.20 | 0.43 | | |
| | #1 LF-8 | -5.68 | 1.36 | 5.57 | 7.80 | 8.92 | 9.45 | 9.65 |
| | | 9.60 | 9.31 | 8.74 | 7.08 | -3.73 | | |
| | #1 LF-9 | 3.26 | -0.97 | -0.67 | -0.29 | -0.14 | -0.07 | -0.03 |
| | | -0.01 | 0.00 | 0.00 | 0.00 | 0.03 | | |
| | #1 LF-10 | -0.01 | 0.01 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 |
| | | -0.01 | -0.01 | -0.01 | 0.00 | 0.01 | | |
| | #1 LF-11 | 0.01 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 |
| | | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | | |
| | #1 LF-13 | -2.34 | 0.14 | 0.21 | 0.08 | 0.04 | 0.02 | 0.01 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |

| | Lastfall | Lasten (4 Abschnitte je 0.62m) | | | | [kN/m] |
|---|---------------|--------------------------------|-------|-------|-------|--------|
| Gk | #1 LF-1 (g) | 152.5 | -6.44 | -6.32 | 20.62 | |
| Ö← | #1 LF-2 (g) | 38.93 | -9.96 | -9.02 | -0.10 | |
| Qk.N_E1 | #1 LF-17 | 1.20 | 12.41 | 17.54 | 19.54 | |
| Qk.N_DA | #1 LF-3 | 68.80 | -35.3 | -35.7 | -18.6 | |
| | #1 LF-4 | -0.03 | 0.02 | 0.02 | 0.01 | |
| | #1 LF-5 | 0.05 | -0.03 | -0.03 | -0.01 | |
| | #1 LF-6 | -0.01 | -0.01 | -0.02 | -0.03 | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-10 | -0.97 | -0.06 | -0.24 | -0.58 | |
| | #1 LF-11 | 0.04 | 0.05 | 0.06 | 0.08 | |
| | #1 LF-12 | 3.37 | 1.62 | 0.48 | -0.11 | |
| | #1 LF-13 | 5.89 | 5.53 | 5.81 | 6.14 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |

| | Lastfall | Lasten (4 Abschnitte je 0.69m) | | | | [kN/m] |
|---|---------------|--------------------------------|-------|-------|-------|--------|
| Gk | #1 LF-1 (g) | 55.86 | 57.45 | 58.34 | 58.77 | |
| Ö← | #1 LF-2 (g) | 10.73 | 11.08 | 11.27 | 11.37 | |
| Qk.N_E1 | #1 LF-17 | 21.77 | 21.66 | 21.66 | 21.68 | |
| Qk.N_DA | #1 LF-3 | -0.27 | -0.05 | 0.04 | 0.10 | |
| | #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-6 | 0.00 | 0.01 | 0.02 | 0.03 | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | #1 LF-9 | 0.00 | 0.00 | -0.01 | -0.01 | |
| | #1 LF-10 | -0.32 | -0.20 | -0.18 | -0.21 | |
| | #1 LF-11 | -0.01 | -0.04 | -0.06 | -0.08 | |
| | #1 LF-12 | -0.28 | -0.15 | -0.10 | -0.08 | |
| | #1 LF-13 | 7.80 | 8.10 | 8.30 | 8.42 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.13m) | | | [kN/m] |
|----|---------------|--------------------------------|-------|-------|--------|
| Gk | #1 LF-1 (g) | 58.06 | 57.88 | 57.70 | |
| Ö← | #1 LF-2 (g) | 11.12 | 11.06 | 11.01 | |

| | Lastfall | Lasten (3 Abschnitte je 0.13m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| Qk.N_E1 | #1 | LF-17 | 21.14 | 21.05 | 20.95 |
| Qk.N_DA | #1 | LF-3 | 0.16 | 0.16 | 0.16 |
| | #1 | LF-6 | 0.04 | 0.04 | 0.04 |
| | #1 | LF-8 | 0.06 | 0.06 | 0.06 |
| | #1 | LF-9 | -0.08 | -0.08 | -0.08 |
| | #1 | LF-10 | -0.24 | -0.23 | -0.23 |
| | #1 | LF-11 | -0.13 | -0.13 | -0.13 |
| | #1 | LF-12 | -0.08 | -0.07 | -0.07 |
| | #1 | LF-13 | 8.28 | 8.24 | 8.19 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | Lastfall | Lasten (4 Abschnitte je 0.65m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| W-2.18_4 | #1 | LF-1 (g) | 50.83 | 45.70 | 40.56 |
| Gk | #1 | LF-2 (g) | 8.97 | 7.48 | 5.82 |
| Ö← | #1 | LF-17 | 17.54 | 14.33 | 8.51 |
| Qk.N_E1 | #1 | LF-3 | 0.08 | 0.04 | -0.04 |
| Qk.N_DA | #1 | LF-6 | 0.10 | 0.28 | 0.72 |
| | #1 | LF-7 | -0.04 | -0.11 | -0.28 |
| | #1 | LF-8 | 0.35 | 0.54 | 0.57 |
| | #1 | LF-9 | -0.50 | -0.74 | -0.51 |
| | #1 | LF-10 | -0.22 | -0.42 | -0.97 |
| | #1 | LF-11 | -0.40 | -0.26 | 1.46 |
| | #1 | LF-12 | -0.03 | -0.01 | 0.02 |
| | #1 | LF-13 | 6.93 | 6.15 | 5.09 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | Lastfall | Lasten (12 Abschnitte je 0.71m) | [kN/m] | | | | | |
|---------|----------|---------------------------------|--------|-------|-------|-------|-------|-------|
| W-2.19 | #1 | LF-1 (g) | 47.65 | 39.63 | 42.29 | 45.48 | 47.43 | 48.73 |
| Gk | | | 49.37 | 48.85 | 47.14 | 41.21 | 26.04 | |
| | #2 | LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Ö← | #1 | LF-2 (g) | 5.47 | 4.88 | 6.24 | 7.29 | 7.87 | 8.28 |
| | | | 8.47 | 8.24 | 7.62 | 6.08 | 3.38 | |
| Qk.N_E1 | #1 | LF-17 | 0.08 | 0.40 | 0.30 | 0.17 | 0.10 | 0.06 |
| | | | 0.02 | 0.01 | 0.01 | 0.00 | -0.02 | |
| Qk.N_DA | #1 | LF-3 | -0.08 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 | LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 | LF-6 | -3.54 | -2.41 | -2.98 | -3.99 | -5.06 | -5.73 |
| | | | -5.53 | -4.91 | -4.29 | -4.53 | -6.22 | |
| | #1 | LF-7 | 7.30 | 6.05 | 6.11 | 6.25 | 6.71 | 7.15 |
| | | | 7.28 | 7.21 | 7.35 | 8.56 | 11.48 | |
| | #1 | LF-8 | -2.49 | 5.28 | 9.99 | 12.47 | 13.87 | 14.87 |
| | | | 15.34 | 14.77 | 13.18 | 8.24 | -4.02 | |
| | #1 | LF-9 | 2.01 | -0.48 | -0.67 | -0.39 | -0.20 | -0.11 |
| | | | -0.04 | -0.02 | -0.01 | 0.00 | 0.03 | |
| | #1 | LF-10 | -0.46 | 0.09 | 0.19 | 0.19 | 0.17 | 0.14 |
| | | | 0.07 | 0.05 | 0.03 | 0.04 | 0.06 | |
| | #1 | LF-11 | 8.34 | 0.90 | -0.50 | -0.18 | 0.12 | 0.20 |
| | | | 0.13 | 0.09 | 0.07 | 0.07 | 0.10 | |
| | #1 | LF-12 | 0.04 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

| Lastfall | Lasten | (12 Abschnitte je 0.71m) | | | | | | [kN/m] |
|---|--------|--------------------------|------|------|-------|------|------|--------|
| #1 LF-13 | -0.17 | 0.05 | 0.11 | 0.08 | 0.05 | 0.03 | 0.01 | |
| | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | | | |
| #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |

W-2.20

Gk

| Lastfall | Lasten | (12 Abschnitte je 0.71m) | | | | | | [kN/m] |
|---------------|--------|--------------------------|-------|-------|-------|-------|-------|--------|
| #1 LF-1 (g) | | | | | | | | |
| | 33.03 | 23.89 | 37.81 | 49.65 | 57.74 | 63.74 | 67.07 | |
| | 67.09 | 63.32 | 56.38 | 62.23 | 142.7 | | | |
| #2 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |

Ö←

| | | | | | | | | |
|---------------|-------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-2 (g) | | | | | | | | |
| | 2.48 | 1.88 | 5.90 | 9.18 | 11.52 | 13.34 | 14.34 | |
| | 14.26 | 12.87 | 10.45 | 13.31 | 45.43 | | | |
| #2 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |

Qk.N_E1

| | | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-17 | 0.23 | -0.25 | -0.18 | -0.09 | -0.05 | -0.03 | -0.02 | |
| | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | | | |

Qk.N_DA

| | | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-3 | -0.08 | 0.01 | 0.01 | 0.00 | -0.01 | -0.01 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | |
| | -0.01 | -0.01 | -0.01 | 0.00 | 0.08 | | | |
| #1 LF-6 | -4.91 | 7.61 | 12.93 | 16.80 | 20.20 | 23.21 | 24.95 | |
| | 24.91 | 23.13 | 19.32 | 13.77 | 13.47 | | | |
| #1 LF-7 | 7.29 | 5.97 | 6.08 | 6.19 | 6.61 | 7.01 | 7.13 | |
| | 7.14 | 7.17 | 7.44 | 8.17 | 7.41 | | | |
| #1 LF-8 | -1.90 | -1.23 | -1.54 | -2.01 | -2.45 | -2.68 | -2.65 | |
| | -2.46 | -2.18 | -1.92 | -1.78 | -0.66 | | | |
| #1 LF-9 | 0.03 | 0.09 | 0.09 | 0.07 | 0.06 | 0.04 | 0.03 | |
| | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | | | |
| #1 LF-10 | -1.69 | -3.65 | -1.99 | -0.90 | -0.47 | -0.32 | -0.23 | |
| | -0.17 | -0.12 | -0.08 | -0.01 | 0.12 | | | |
| #1 LF-11 | 6.29 | -4.87 | -3.63 | -1.69 | -0.81 | -0.51 | -0.38 | |
| | -0.29 | -0.21 | -0.15 | -0.04 | 0.20 | | | |
| #1 LF-12 | 0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-13 | -0.15 | 0.14 | 0.07 | 0.01 | -0.01 | -0.01 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.21

Gk

| Lastfall | Lasten | (14 Abschnitte je 0.71m) | | | | | | [kN/m] |
|---------------|--------|--------------------------|-------|-------|-------|-------|-------|--------|
| #1 LF-1 (g) | | | | | | | | |
| | 27.15 | 30.48 | 31.14 | 31.42 | 31.16 | 30.78 | 30.67 | |
| | 27.04 | 32.52 | 24.27 | 22.52 | 22.16 | 25.35 | 28.49 | |
| #2 LF-1 | 60.80 | 66.90 | 52.30 | 50.96 | 57.06 | 62.30 | 65.13 | |
| | 33.33 | 71.07 | 49.06 | 21.87 | 50.18 | 72.73 | 69.42 | |

Ö←

| | | | | | | | | |
|---------------|------|-------|------|-------|-------|-------|-------|--|
| #1 LF-2 (g) | | | | | | | | |
| | 1.70 | 2.50 | 2.72 | 2.81 | 2.73 | 2.61 | 2.58 | |
| | 1.42 | 3.17 | 0.53 | -0.04 | -0.16 | 0.90 | 2.28 | |
| #2 LF-2 | 9.62 | 11.79 | 9.63 | 9.30 | 9.69 | 8.98 | 9.15 | |
| | 4.85 | 9.71 | 7.84 | 3.11 | 8.34 | 12.80 | 11.69 | |

Qk.N_E1

| | | | | | | | | |
|------------|------|------|------|------|------|------|------|--|
| #1 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
|------------|------|------|------|------|------|------|------|--|

Qk.N_DA

| Lastfall | Lasten (14 Abschnitte je 0.71m) | | | | | | | [kN/m] |
|------------|---------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.05 | |
| #1 LF-19 | -0.01 | 0.05 | 0.06 | 0.03 | -0.01 | -0.02 | -0.01 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-20 | -0.10 | -0.11 | -0.04 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-21 | 0.00 | 0.01 | 0.01 | 0.01 | -0.02 | -0.06 | -0.14 | |
| | -0.13 | -0.22 | 0.02 | 0.01 | 0.04 | 0.00 | 0.00 | |
| #1 LF-22 | 1.92 | 5.49 | 7.00 | 7.33 | 7.31 | 7.23 | 7.35 | |
| | 4.14 | 8.89 | 1.75 | -0.22 | -0.85 | 0.02 | 0.04 | |
| #1 LF-23 | 0.04 | -0.12 | -0.24 | -0.26 | -0.22 | -0.14 | -0.04 | |
| | 0.03 | -0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #2 LF-8 | 0.15 | 0.10 | 0.00 | -0.05 | -0.09 | -0.03 | -0.17 | |
| | -0.30 | -1.60 | -1.19 | 0.75 | 5.08 | 6.43 | 1.30 | |
| #1 LF-3 | 3.26 | 2.76 | 0.49 | 0.05 | -0.01 | -0.01 | -0.01 | |
| | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| #1 LF-4 | -0.15 | -0.15 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-5 | 0.17 | 0.88 | 1.07 | 1.05 | 0.84 | 0.62 | 0.47 | |
| | 0.20 | 0.77 | -0.18 | -0.02 | -0.12 | -0.02 | -0.09 | |
| #1 LF-6 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.03 | |
| | -0.03 | -0.06 | 0.01 | -0.17 | -0.29 | 2.22 | 7.13 | |
| #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.05 | |
| #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | |
| #1 LF-10 | -0.02 | 0.14 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | 0.07 | 0.07 | |
| #1 LF-11 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | 0.00 | -0.01 | -0.01 | 0.09 | 0.14 | -1.00 | -3.36 | |
| #1 LF-12 | -1.58 | -2.20 | -0.52 | -0.06 | 0.02 | 0.03 | 0.02 | |
| | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | |
| #1 LF-15 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | -0.02 | -0.06 | |
| | -0.06 | -0.11 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | |
| #1 LF-16 | 0.02 | -0.06 | -0.13 | -0.14 | -0.12 | -0.07 | -0.01 | |
| | 0.03 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #2 LF-3 | 0.05 | 0.03 | 0.00 | -0.02 | -0.03 | -0.01 | -0.06 | |
| | -0.09 | -0.50 | -0.35 | 0.38 | 2.26 | 3.16 | 1.49 | |
| #2 LF-4 | 19.55 | 19.17 | 11.49 | 11.16 | 13.60 | 12.52 | 13.88 | |
| | 8.08 | 13.99 | 15.06 | 5.83 | 15.17 | 22.76 | 21.84 | |
| #2 LF-5 | -0.01 | -0.01 | 0.00 | -0.01 | -0.04 | -0.11 | 0.10 | |
| | 0.43 | 2.05 | 1.33 | 0.21 | -0.23 | -0.23 | -0.04 | |
| #2 LF-6 | -0.01 | -0.09 | -0.21 | -0.29 | 0.11 | 1.85 | 3.69 | |
| | 2.22 | 3.62 | 0.42 | -0.13 | -0.33 | -0.04 | -0.06 | |
| #2 LF-7 | -0.32 | 4.48 | 7.98 | 7.76 | 5.74 | 3.73 | 0.71 | |
| | -0.94 | 0.26 | -0.80 | -0.06 | -0.19 | -0.04 | 0.14 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.22
Gk

| Lastfall | Lasten (12 Abschnitte je 0.71m) | | | | | | | [kN/m] |
|---------------|---------------------------------|-------|-------|-------|-------|-------|-------|--------|
| #1 LF-1 (g) | 25.00 | 48.82 | 58.99 | 62.47 | 63.37 | 62.25 | 58.37 | |
| | 52.19 | 44.95 | 36.99 | 26.27 | 8.94 | | | |
| #2 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | |
| | 0.05 | 0.09 | 0.13 | 0.09 | -0.14 | | | |

| | Lastfall | Lasten (12 Abschnitte je 0.71m) | | | | | | [kN/m] |
|---------|---------------|---------------------------------|-------|-------|-------|-------|-------|--------|
| Ö← | #1 LF-2 (g) | 3.81 | 8.66 | 11.49 | 12.70 | 13.07 | 12.75 | 11.52 |
| | | 9.55 | 7.24 | 4.63 | 0.80 | -6.10 | | |
| | #2 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.02 | 0.04 | 0.07 | -0.01 | | |
| Qk.N_E1 | #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | 0.02 | 0.03 | -0.03 | | |
| | #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.09 | -0.29 | -0.41 | 0.93 | | |
| | #1 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.01 | 0.05 | 0.17 | 0.32 | -0.12 | | |
| | #1 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.02 | 0.04 | 0.03 | -0.11 | | |
| Qk.N_DA | #1 LF-3 | -8.63 | 11.69 | 20.44 | 23.73 | 24.96 | 24.63 | 22.58 |
| | | 19.48 | 16.01 | 11.70 | 5.60 | -6.03 | | |
| | #1 LF-4 | 10.34 | 8.46 | 7.29 | 7.10 | 7.19 | 7.30 | 7.27 |
| | | 6.89 | 6.52 | 6.40 | 6.29 | 7.76 | | |
| | #1 LF-5 | -5.20 | -4.26 | -4.15 | -4.87 | -5.55 | -5.95 | -6.23 |
| | | -6.47 | -6.67 | -6.40 | -7.82 | -20.4 | | |
| | #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | | |
| | #1 LF-10 | 0.10 | -0.02 | -0.07 | -0.09 | -0.11 | -0.12 | -0.12 |
| | | -0.10 | -0.06 | 0.01 | 0.10 | 0.13 | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-12 | 0.23 | -0.03 | -0.14 | -0.20 | -0.26 | -0.32 | -0.41 |
| | | -0.64 | -1.28 | -2.52 | -2.71 | 6.87 | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.02 | 0.03 | 0.03 | -0.07 | | |
| | #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.01 | 0.03 | 0.09 | 0.17 | 0.04 | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | 0.00 | -0.04 | -0.06 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (4 Abschnitte je 0.63m) | | | | [kN/m] |
|---------|---------------|--------------------------------|-------|-------|-------|--------|
| W-2.23 | | | | | | |
| Gk | #1 LF-1 (g) | 25.83 | 22.85 | 12.41 | 13.63 | |
| | #2 LF-1 | 19.11 | 24.12 | 25.44 | 24.81 | |
| Ö← | #1 LF-2 (g) | 1.05 | 0.27 | -2.52 | -2.28 | |
| | #2 LF-2 | 2.54 | 2.80 | 2.18 | 1.54 | |
| Qk.N_E1 | #1 LF-18 | 2.28 | 4.00 | 4.13 | 2.51 | |
| | #1 LF-21 | -0.28 | -0.32 | -0.15 | -0.03 | |
| | #1 LF-22 | -0.82 | -0.93 | -0.03 | 0.02 | |
| | #1 LF-23 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #2 LF-8 | 3.61 | 7.47 | 7.77 | 3.92 | |
| Qk.N_DA | #1 LF-5 | 1.41 | 0.22 | -0.45 | 0.05 | |
| | #1 LF-6 | -0.23 | -0.75 | -2.28 | -3.29 | |
| | #1 LF-7 | 0.00 | 0.00 | -0.02 | -0.02 | |
| | #1 LF-8 | 0.00 | 0.00 | 0.01 | 0.01 | |
| | #1 LF-10 | 0.00 | 0.00 | 0.03 | 0.04 | |
| | #1 LF-11 | -0.16 | -1.45 | -5.78 | -3.53 | |

| Lastfall Lasten (4 Abschnitte je 0.63m) | | [kN/m] | | | |
|---|-------|--------|-------|-------|-------|
| #1 | LF-14 | 0.05 | 0.32 | 0.36 | 0.08 |
| #1 | LF-15 | -0.21 | -0.17 | -0.10 | -0.02 |
| #2 | LF-3 | 2.17 | 3.65 | 3.72 | 2.27 |
| #2 | LF-4 | 0.37 | -1.53 | -2.59 | -1.16 |
| #2 | LF-5 | 3.37 | 3.97 | 3.23 | 1.94 |
| #2 | LF-6 | -1.03 | -0.62 | -0.02 | 0.03 |
| #2 | LF-7 | 0.20 | 0.13 | 0.02 | -0.01 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

W-2.24

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | | Lasten (6 Abschnitte je 0.71m) | | | | | [kN/m] |
|---|----------|--------------------------------|-------|-------|-------|-------|--------|
| #1 | LF-1 (g) | 25.56 | 17.43 | 18.39 | 24.40 | 34.69 | 43.57 |
| #2 | LF-1 | 15.77 | 13.23 | 10.63 | 9.59 | 13.84 | 18.79 |
| #1 | LF-2 (g) | 1.01 | -1.56 | -1.33 | 0.56 | 3.86 | 6.71 |
| #2 | LF-2 | 1.30 | 1.22 | 1.00 | 0.70 | 0.88 | 1.76 |
| #1 | LF-18 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.04 |
| #1 | LF-19 | 1.28 | 6.71 | 8.41 | 1.75 | 0.18 | -0.09 |
| #1 | LF-20 | -0.21 | -0.75 | -0.29 | -0.03 | 0.00 | 0.01 |
| #1 | LF-21 | 0.01 | 0.00 | -0.03 | -0.20 | -0.53 | -0.48 |
| #1 | LF-22 | 3.41 | 8.17 | 9.51 | 9.95 | 12.67 | 12.41 |
| #1 | LF-23 | 2.88 | 5.56 | 5.95 | 5.40 | 4.81 | 1.66 |
| #2 | LF-8 | 0.00 | 0.00 | 0.00 | 0.03 | 0.11 | 0.18 |
| #1 | LF-3 | 0.81 | 1.11 | 0.56 | 0.10 | 0.05 | 0.04 |
| #1 | LF-4 | -0.05 | 0.03 | 0.02 | 0.02 | 0.01 | -0.01 |
| #1 | LF-5 | -1.93 | -10.4 | -13.3 | -10.2 | -4.25 | 5.02 |
| #1 | LF-6 | 0.01 | 0.10 | 0.13 | 0.08 | -0.08 | -0.26 |
| #1 | LF-10 | 0.03 | 0.04 | 0.03 | 0.01 | 0.00 | 0.00 |
| #1 | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 |
| #1 | LF-12 | -1.40 | -4.47 | -1.99 | -0.32 | -0.06 | 0.03 |
| #1 | LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| #1 | LF-15 | 0.01 | 0.01 | -0.01 | -0.12 | -0.36 | -0.52 |
| #1 | LF-16 | 0.34 | 1.41 | 1.81 | 1.63 | 1.16 | -0.03 |
| #2 | LF-3 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.05 |
| #2 | LF-4 | -0.47 | -0.46 | -0.42 | -1.83 | -5.80 | -9.43 |
| #2 | LF-5 | 0.00 | 0.00 | -0.01 | -0.03 | -0.09 | -0.15 |
| #2 | LF-6 | -0.04 | -0.07 | -0.13 | 0.25 | 1.70 | 3.97 |
| #2 | LF-7 | 3.11 | 2.98 | 2.56 | 3.00 | 5.91 | 9.07 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |

W-2.25

Gk

Ö←

Qk.N_E1

| Lastfall Lasten (12 Abschnitte je 0.71m) | | | | | | [kN/m] | | |
|--|----------|-------|-------|-------|-------|--------|-------|-------|
| #1 | LF-1 (g) | 11.06 | 44.00 | 57.23 | 63.07 | 70.98 | 80.38 | 51.02 |
| | | 19.25 | 56.60 | 76.12 | 97.53 | 219.3 | | |
| #2 | LF-1 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | | 0.03 | 0.14 | 0.25 | -0.07 | -2.76 | | |
| #1 | LF-2 (g) | -1.51 | 6.98 | 10.89 | 12.84 | 15.43 | 18.47 | 9.07 |
| | | -1.09 | 10.94 | 17.17 | 23.45 | 60.26 | | |
| #2 | LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | 0.03 | 0.00 | -0.27 | | |
| #1 | LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| #1 | LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.01 | 0.00 | -0.08 | | |
| #1 | LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.06 | -0.12 | 0.04 | 0.90 | | |

Qk.N_DA

| Lastfall | Lasten | (12 Abschnitte je 0.71m) | | | | | [kN/m] | |
|------------|--------|--------------------------|-------|-------|-------|-------|--------|------|
| #1 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | -0.01 | -0.01 | -0.01 | 0.00 | 0.15 | | | |
| #1 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.01 | 0.03 | 0.07 | 0.00 | -0.59 | | | |
| #1 LF-3 | -6.86 | -4.44 | -3.95 | -4.72 | -5.86 | -6.54 | -4.12 | |
| | -1.98 | -3.14 | -3.48 | -1.69 | -1.44 | | | |
| #1 LF-4 | 12.10 | 8.68 | 7.26 | 7.18 | 7.55 | 7.77 | 6.02 | |
| | 4.44 | 5.45 | 6.47 | 5.91 | 7.27 | | | |
| #1 LF-5 | -12.80 | 9.62 | 18.92 | 23.34 | 29.02 | 35.40 | 16.13 | |
| | -4.53 | 19.93 | 32.04 | 41.39 | 101.1 | | | |
| #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | |
| | 0.00 | 0.02 | 0.02 | 0.02 | -0.03 | | | |
| #1 LF-10 | 0.04 | 0.02 | 0.02 | 0.03 | 0.04 | 0.05 | 0.03 | |
| | 0.01 | 0.02 | 0.03 | 0.01 | 0.01 | | | |
| #1 LF-12 | 0.10 | 0.06 | 0.06 | 0.08 | 0.11 | 0.13 | 0.09 | |
| | 0.00 | -0.49 | -1.08 | 0.91 | 13.73 | | | |
| #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.01 | 0.04 | 0.07 | -0.02 | -0.69 | | | |
| #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | -0.01 | -0.01 | 0.00 | 0.04 | | | |
| #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | | | |
| #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.01 | 0.03 | 0.06 | -0.01 | -0.61 | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.26

Gk

| Lastfall | Lasten | (12 Abschnitte je 0.71m) | | | | | [kN/m] | |
|---------------|--------|--------------------------|-------|-------|-------|-------|--------|--|
| #1 LF-1 (g) | -10.25 | 14.12 | 31.14 | 39.85 | 45.33 | 48.72 | 50.44 | |
| | 50.71 | 49.66 | 47.46 | 42.54 | 20.72 | | | |
| #2 LF-1 | 0.12 | 0.04 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | |
| | 0.01 | 0.00 | 0.00 | 0.00 | -0.02 | | | |

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| | | | | | | | | |
|---------------|-------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-2 (g) | -2.46 | 6.99 | 12.88 | 15.70 | 17.45 | 18.54 | 19.09 | |
| | 19.17 | 18.83 | 18.09 | 16.54 | 10.91 | | | |
| #2 LF-2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |

Qk.N_E1

| | | | | | | | | |
|------------|-------|------|------|------|------|------|------|--|
| #1 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-21 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-22 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-23 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |

Qk.N_DA

| | | | | | | | | |
|-----------|--------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-3 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-4 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-5 | -16.21 | -8.88 | -4.74 | -3.04 | -2.02 | -1.36 | -0.93 | |
| | -0.64 | -0.45 | -0.36 | -0.20 | 2.00 | | | |
| #1 LF-6 | -11.19 | 1.82 | 7.26 | 10.66 | 13.04 | 14.51 | 15.16 | |
| | 15.04 | 14.25 | 13.09 | 9.59 | -17.3 | | | |
| #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | | | |

D-284

Schulcampus EWK \

10G-LP4

| Lastfall | Lasten | (12 Abschnitte je 0.71m) | | | | | [kN/m] | |
|------------|--------|--------------------------|------|-------|-------|------|--------|------|
| #1 LF-11 | 0.01 | 0.00 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.01 | 0.00 | -0.08 | | | |
| #1 LF-14 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-15 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #1 LF-16 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #2 LF-4 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #2 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| #2 LF-7 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.27_1

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten | (3 Abschnitte je 0.15m) | | | [kN/m] | |
|---------------|--------|-------------------------|-------|-------|--------|--|
| #1 LF-1 (g) | | 46.17 | 46.41 | 46.03 | | |
| #2 LF-1 | | 23.44 | 22.20 | 20.66 | | |
| #1 LF-2 (g) | | 7.55 | 7.62 | 7.50 | | |
| #2 LF-2 | | 2.16 | 1.82 | 1.45 | | |
| #1 LF-18 | | 0.04 | 0.04 | 0.03 | | |
| #1 LF-19 | | -0.05 | -0.04 | -0.03 | | |
| #1 LF-21 | | 1.02 | 1.69 | 2.33 | | |
| #1 LF-22 | | 13.90 | 14.35 | 14.48 | | |
| #1 LF-23 | | -0.32 | -0.53 | -0.69 | | |
| #2 LF-8 | | 0.16 | 0.13 | 0.08 | | |
| #1 LF-3 | | 0.04 | 0.04 | 0.04 | | |
| #1 LF-5 | | 6.22 | 5.63 | 4.81 | | |
| #1 LF-6 | | -0.23 | -0.17 | -0.11 | | |
| #1 LF-11 | | -0.03 | -0.03 | -0.02 | | |
| #1 LF-12 | | 0.02 | 0.01 | 0.01 | | |
| #1 LF-14 | | 0.02 | 0.02 | 0.02 | | |
| #1 LF-15 | | -0.31 | -0.15 | 0.02 | | |
| #1 LF-16 | | -0.48 | -0.55 | -0.59 | | |
| #2 LF-3 | | 0.05 | 0.04 | 0.02 | | |
| #2 LF-4 | | -12.4 | -12.5 | -12.3 | | |
| #2 LF-5 | | 0.04 | 0.15 | 0.27 | | |
| #2 LF-6 | | 5.68 | 5.65 | 5.49 | | |
| #2 LF-7 | | 10.94 | 10.34 | 9.44 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.27_2

Gk

Ö←

Qk.N_E1

Qk.N_DA

| Lastfall | Lasten | (3 Abschnitte je 0.24m) | | | [kN/m] | |
|---------------|--------|-------------------------|-------|-------|--------|--|
| #1 LF-1 (g) | | 32.30 | 31.66 | 31.36 | | |
| #2 LF-1 | | 38.36 | 43.61 | 47.00 | | |
| #1 LF-2 (g) | | 3.05 | 2.84 | 2.73 | | |
| #2 LF-2 | | 2.20 | 2.78 | 3.21 | | |
| #1 LF-18 | | -0.43 | -0.56 | -0.71 | | |
| #1 LF-21 | | 6.14 | 6.14 | 6.02 | | |
| #1 LF-22 | | 11.03 | 10.53 | 9.93 | | |
| #1 LF-23 | | -0.34 | -0.25 | -0.18 | | |
| #2 LF-8 | | -1.12 | -1.30 | -1.42 | | |
| #1 LF-5 | | -6.51 | -6.65 | -6.32 | | |
| #1 LF-6 | | 0.56 | 0.57 | 0.56 | | |
| #1 LF-11 | | 0.20 | 0.26 | 0.33 | | |

Lastfall Lasten (3 Abschnitte je 0.24m) [kN/m]

| | | | | |
|----|-------|-------|-------|-------|
| #1 | LF-14 | -0.17 | -0.22 | -0.28 |
| #1 | LF-15 | 1.43 | 1.43 | 1.38 |
| #1 | LF-16 | -0.22 | -0.17 | -0.11 |
| #2 | LF-3 | -0.34 | -0.39 | -0.43 |
| #2 | LF-4 | -5.02 | -4.26 | -3.54 |
| #2 | LF-5 | 3.90 | 4.49 | 4.87 |
| #2 | LF-6 | 6.50 | 7.04 | 7.32 |
| #2 | LF-7 | -0.65 | -1.31 | -1.79 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.27_3

Lastfall Lasten (3 Abschnitte je 0.08m) [kN/m]

| | | | | | |
|---------|----|----------|-------|-------|-------|
| Gk | #1 | LF-1 (g) | 29.54 | 29.28 | 29.01 |
| | #2 | LF-1 | 10.82 | 10.39 | 9.96 |
| Ö← | #1 | LF-2 (g) | 2.21 | 2.14 | 2.07 |
| | #2 | LF-2 | 1.05 | 1.06 | 1.06 |
| Qk.N_E1 | #1 | LF-18 | 1.36 | 1.70 | 2.04 |
| | #1 | LF-21 | 1.75 | 1.58 | 1.41 |
| | #1 | LF-22 | 1.79 | 1.50 | 1.22 |
| | #1 | LF-23 | 0.02 | 0.02 | 0.02 |
| | #2 | LF-8 | 0.05 | 0.13 | 0.22 |
| Qk.N_DA | #1 | LF-5 | 1.29 | 1.34 | 1.38 |
| | #1 | LF-6 | -0.19 | -0.23 | -0.28 |
| | #1 | LF-11 | 0.03 | -0.06 | -0.15 |
| | #1 | LF-14 | -0.06 | -0.01 | 0.05 |
| | #1 | LF-15 | 0.01 | -0.04 | -0.08 |
| | #1 | LF-16 | 0.01 | 0.01 | 0.01 |
| | #2 | LF-3 | 0.22 | 0.27 | 0.31 |
| | #2 | LF-4 | 0.12 | 0.21 | 0.31 |
| | #2 | LF-5 | 1.48 | 1.46 | 1.45 |
| | #2 | LF-6 | 0.54 | 0.37 | 0.21 |
| | #2 | LF-7 | -0.25 | -0.20 | -0.15 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.30_2

Lastfall Lasten (3 Abschnitte je 0.17m) [kN/m]

| | | | | | |
|---------|----|----------|-------|-------|-------|
| Gk | #1 | LF-1 (g) | 113.8 | 114.2 | 113.4 |
| | #2 | LF-1 | -3.26 | -3.96 | -4.37 |
| Ö← | #1 | LF-2 (g) | 29.24 | 29.40 | 29.15 |
| | #2 | LF-2 | -0.22 | -0.26 | -0.29 |
| Qk.N_E1 | #1 | LF-18 | -0.49 | -0.38 | -0.25 |
| | #1 | LF-21 | -0.38 | -0.50 | -0.59 |
| | #1 | LF-22 | 0.23 | 0.29 | 0.34 |
| | #2 | LF-8 | 0.05 | 0.05 | 0.04 |
| Qk.N_DA | #1 | LF-5 | 64.88 | 65.76 | 65.63 |
| | #1 | LF-6 | -7.50 | -7.93 | -8.27 |
| | #1 | LF-11 | 0.29 | 0.18 | 0.04 |
| | #1 | LF-14 | 0.00 | 0.34 | 0.76 |
| | #1 | LF-15 | 0.52 | 0.10 | -0.25 |
| | #1 | LF-16 | -0.03 | -0.03 | -0.03 |
| | #2 | LF-3 | 0.02 | 0.02 | 0.02 |
| | #2 | LF-4 | -0.24 | -0.30 | -0.34 |
| | #2 | LF-5 | -0.25 | -0.27 | -0.27 |
| | #2 | LF-6 | -0.05 | -0.08 | -0.11 |
| | #2 | LF-7 | 0.09 | 0.12 | 0.14 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-2.30_3

| | Lastfall Lasten (3 Abschnitte je 0.43m) | | | [kN/m] | |
|---------|---|----------|-------|--------|-------|
| Gk | #1 | LF-1 (g) | 34.21 | 21.33 | 70.83 |
| | #2 | LF-1 | 1.56 | 0.70 | -2.06 |
| Ö← | #1 | LF-2 (g) | 4.46 | 0.34 | 14.99 |
| | #2 | LF-2 | 0.11 | 0.06 | -0.12 |
| Qk.N_E1 | #1 | LF-18 | 0.91 | 0.35 | -0.65 |
| | #1 | LF-21 | -0.23 | -0.07 | 0.03 |
| | #1 | LF-22 | 0.11 | 0.03 | 0.00 |
| | #1 | LF-23 | 0.01 | 0.00 | 0.00 |
| | #2 | LF-8 | -0.08 | -0.02 | 0.06 |
| Qk.N_DA | #1 | LF-5 | 20.41 | 15.11 | 55.28 |
| | #1 | LF-6 | -11.5 | -13.4 | -29.3 |
| | #1 | LF-7 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-11 | -3.88 | -3.66 | 3.50 |
| | #1 | LF-14 | 3.55 | 2.46 | 0.72 |
| | #1 | LF-15 | -0.30 | -0.10 | -0.04 |
| | #1 | LF-16 | 0.01 | 0.00 | -0.01 |
| | #2 | LF-3 | -0.02 | 0.00 | 0.01 |
| | #2 | LF-4 | -0.08 | -0.02 | -0.02 |
| | #2 | LF-5 | 0.31 | 0.15 | -0.23 |
| | #2 | LF-6 | -0.06 | -0.02 | 0.01 |
| | #2 | LF-7 | 0.06 | 0.02 | -0.01 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

WS-2.5_BR

á|bÁÛÜËGÈIÁÓ↔&æ^&æ}↔'â\ÃÑfib\|^&

| | Lastfall Lasten (1 Abschnitte je 1.01m) | | | [kN/m] |
|----|---|------|--|--------|
| Gk | #1 | LF-1 | | 0.00 |

WS-2.5_SA_W-2.5_2

aus WS-2.5 Sturzanfang

| | Lastfall Lasten (1 Abschnitte je 0.08m) | | | [kN/m] |
|---------|---|-------|--|--------|
| Gk | #1 | LF-1 | | 35.98 |
| | | | | 121.6 |
| Ö← | #2 | LF-1 | | 0.00 |
| | #1 | LF-2 | | 31.40 |
| Qk.N_E1 | #2 | LF-2 | | 0.00 |
| | #1 | LF-17 | | -4.35 |
| | #1 | LF-18 | | 0.00 |
| | #1 | LF-19 | | 0.00 |
| | #1 | LF-20 | | 0.00 |
| | #1 | LF-21 | | 0.00 |
| | #1 | LF-22 | | 0.00 |
| | #1 | LF-23 | | 0.00 |
| Qk.N_DA | #2 | LF-8 | | 0.00 |
| | #1 | LF-3 | | -0.14 |
| | #1 | LF-4 | | 0.00 |
| | #1 | LF-5 | | -0.01 |
| | #1 | LF-6 | | 5.57 |
| | #1 | LF-7 | | 3.78 |
| | #1 | LF-8 | | 13.60 |
| | #1 | LF-9 | | 27.41 |
| | #1 | LF-10 | | -2.89 |
| | #1 | LF-11 | | 19.60 |
| | #1 | LF-12 | | 0.06 |
| | #1 | LF-13 | | -1.09 |
| | #1 | LF-14 | | 0.00 |
| | #1 | LF-15 | | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|------------------------------|--------------------------------------|--------------------------------|--------|
| | #1 | LF-16 | 0.00 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| WS-2.5_SE_W-2.5_1 | aus WS-2.5 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.71m) | [kN/m] |
| Gk | #1 | LF-1 | 4.24 |
| | | | 13.71 |
| | #2 | LF-1 | 0.00 |
| Ö← | #1 | LF-2 | 4.00 |
| | #2 | LF-2 | 0.00 |
| Qk.N_E1 | #1 | LF-17 | -0.66 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-8 | 0.00 |
| Qk.N_DA | #1 | LF-3 | 0.01 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 1.31 |
| | #1 | LF-7 | -0.73 |
| | #1 | LF-8 | 4.28 |
| | #1 | LF-9 | 3.45 |
| | #1 | LF-10 | -0.18 |
| | #1 | LF-11 | 0.51 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | -0.18 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| WS-2.18_1_BR | á bÁÛUËGÈFîŽFÁÓ↔&æ^&æ}↔´à\ÁÑñfib\ ^& | | |
| | Lastfall | Lasten (1 Abschnitte je 1.52m) | [kN/m] |
| Gk | #1 | LF-1 | 0.00 |
| WS-2.18_1_SA_W-2.18_1 | aus WS-2.18_1 Sturzanfang | | |
| | Lastfall | Lasten (1 Abschnitte je 0.62m) | [kN/m] |
| Gk | #1 | LF-1 | 7.24 |
| | | | 25.43 |
| | #2 | LF-1 | 0.00 |
| Ö← | #1 | LF-2 | 8.78 |
| | #2 | LF-2 | 0.00 |
| Qk.N_E1 | #1 | LF-17 | 25.84 |
| | #1 | LF-18 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.62m) | [kN/m] |
|-----------------------|-------------------------|--------------------------------|--------|
| Qk.N_DA | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #1 | LF-3 | -6.47 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.01 |
| | #1 | LF-6 | -0.03 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | -0.87 |
| | #1 | LF-11 | 0.08 |
| | #1 | LF-12 | -0.55 |
| | #1 | LF-13 | 8.25 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| WS-2.18_1_SE_W-2.18_2 | | | |
| Gk | aus WS-2.18_1 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.69m) | [kN/m] |
| Ö← | #1 | LF-1 | 6.57 |
| | #2 | LF-1 | 29.48 |
| Qk.N_E1 | #1 | LF-2 | 0.00 |
| | #2 | LF-2 | 9.88 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 23.65 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-8 | 0.00 |
| Qk.N_DA | #1 | LF-3 | -2.61 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.01 |
| | #1 | LF-6 | -0.02 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | -0.67 |
| | #1 | LF-11 | 0.05 |
| | #1 | LF-12 | -0.50 |
| | #1 | LF-13 | 7.77 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | | | 0.00 |
| | | | D-289 |

| | Lastfall | Lasten (1 Abschnitte je 0.69m) | [kN/m] |
|------------------------------|--------------------------------------|--------------------------------|---------|
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| WS-2.18_2_BR | á bÁÛÜËGÈFîŽGÁÓ↔&æ^&æ}↔'â\ÁÑñfib\ ^& | | |
| | Lastfall | Lasten (1 Abschnitte je 1.51m) | [kN/m] |
| Gk | #1 | LF-1 | 0.00 |
| WS-2.18_2_SA_W-2.18_2 | aus WS-2.18_2 Sturzanfang | | |
| | Lastfall | Lasten (1 Abschnitte je 0.69m) | [kN/m] |
| Gk | #1 | LF-1 | 6.54 |
| | | | 39.73 |
| | #2 | LF-1 | 0.00 |
| Ö← | #1 | LF-2 | 12.48 |
| | #2 | LF-2 | 0.00 |
| Qk.N_E1 | #1 | LF-17 | 23.70 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-8 | 0.00 |
| Qk.N_DA | #1 | LF-3 | 0.16 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.04 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.02 |
| | #1 | LF-9 | -0.03 |
| | #1 | LF-10 | -0.26 |
| | #1 | LF-11 | -0.11 |
| | #1 | LF-12 | -0.09 |
| | #1 | LF-13 | 9.27 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| WS-2.18_2_SE_W-2.18_3 | aus WS-2.18_2 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.13m) | [kN/m] |
| Gk | #1 | LF-1 | 33.62 |
| | | | 204.5 |
| | #2 | LF-1 | 0.00 |
| Ö← | #1 | LF-2 | 64.18 |
| | #2 | LF-2 | 0.00 |
| Qk.N_E1 | #1 | LF-17 | 121.8 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.00 |
| | | | D-290 |
| | Schulcampus EWK \ | | 10G-LP4 |

| | Lastfall | Lasten (1 Abschnitte je 0.13m) | [kN/m] |
|--------------------------------------|----------|--------------------------------|--------|
| Qk.N_DA | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #1 | LF-3 | 0.90 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.01 |
| | #1 | LF-6 | 0.22 |
| | #1 | LF-7 | -0.01 |
| | #1 | LF-8 | 0.19 |
| | #1 | LF-9 | -0.26 |
| | #1 | LF-10 | -1.38 |
| | #1 | LF-11 | -0.64 |
| | #1 | LF-12 | -0.46 |
| | #1 | LF-13 | 47.79 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| WS-2.18_3_BR | | | |
| á bÁÜÜEGÈFÎŽĞÁÓ↔&æ^&æ}↔´â\ÃÑãfib\ ^& | | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 1.51m) | [kN/m] |
| | #1 | LF-1 | 0.00 |
| WS-2.18_3_SA_W-2.18_3 | | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.13m) | [kN/m] |
| | #1 | LF-1 | 33.62 |
| Ö← | #2 | LF-1 | 192.5 |
| | #2 | LF-1 | 0.00 |
| | #1 | LF-2 | 60.46 |
| | #2 | LF-2 | 0.00 |
| Qk.N_E1 | #1 | LF-17 | 115.8 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-8 | 0.00 |
| Qk.N_DA | #1 | LF-3 | 0.80 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.21 |
| | #1 | LF-7 | -0.04 |
| | #1 | LF-8 | 0.64 |
| | #1 | LF-9 | -0.91 |
| | #1 | LF-10 | -1.15 |
| | #1 | LF-11 | -0.99 |
| | #1 | LF-12 | -0.36 |
| | #1 | LF-13 | 45.06 |
| | | | D-291 |

| | Lastfall | Lasten (1 Abschnitte je 0.13m) | [kN/m] |
|------------------------------|--------------------------------------|--------------------------------|---------------------------|
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| | | | |
| WS-2.18_3_SE_W-2.18_4 | aus WS-2.18_3 Sturzende | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.65m) | [kN/m] |
| | #1 | LF-1 | 6.92 |
| | | | 38.39 |
| | #2 | LF-1 | 0.00 |
| Ö← | #1 | LF-2 | 12.08 |
| | #2 | LF-2 | 0.00 |
| Qk.N_E1 | #1 | LF-17 | 23.24 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-8 | 0.00 |
| Qk.N_DA | #1 | LF-3 | 0.15 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.05 |
| | #1 | LF-7 | -0.01 |
| | #1 | LF-8 | 0.19 |
| | #1 | LF-9 | -0.28 |
| | #1 | LF-10 | -0.22 |
| | #1 | LF-11 | -0.27 |
| | #1 | LF-12 | -0.07 |
| | #1 | LF-13 | 9.07 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| | | | |
| WS-2.27_1_BR | á bÁÙÜEGÈGÍŽFÁÓ↔&æ^&æ}↔´à\ÁÑñfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.88m) | [kN/m] |
| | #1 | LF-1 | 0.00 |
| | | | |
| WS-2.27_1_SA_W-2.27_1 | aus WS-2.27_1 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.15m) | [kN/m] |
| | #1 | LF-1 | 17.13 |
| | | | 50.85 |
| | #2 | LF-1 | 56.10 |
| Ö← | #1 | LF-2 | 16.25 |
| | #2 | LF-2 | 1.93 |
| | | | |
| | | | D-292 |
| | | | Schulcampus EWK \ 10G-LP4 |

| | Lastfall | Lasten (1 Abschnitte je 0.15m) | [kN/m] |
|-------------------------|---|--------------------------------|---------|
| Qk.N_E1 | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | -0.20 |
| | #1 | LF-19 | -0.05 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 13.02 |
| | #1 | LF-22 | 38.08 |
| | #1 | LF-23 | -2.19 |
| | #2 | LF-8 | -0.72 |
| Qk.N_DA | #1 | LF-3 | 0.07 |
| | #1 | LF-4 | -0.02 |
| | #1 | LF-5 | -1.27 |
| | #1 | LF-6 | 0.62 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 0.07 |
| | #1 | LF-12 | 0.02 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | -0.07 |
| | #1 | LF-15 | 2.16 |
| | #1 | LF-16 | -1.52 |
| | #2 | LF-3 | -0.22 |
| | #2 | LF-4 | -27.2 |
| | #2 | LF-5 | 3.52 |
| | #2 | LF-6 | 14.06 |
| | #2 | LF-7 | 13.66 |
| WS-2.27_1_SE_W-2.27_2 | | | |
| aus WS-2.27_1 Sturzende | | | |
| Gk | Lastfall Lasten (1 Abschnitte je 0.24m) | | [kN/m] |
| | #1 | LF-1 | 11.02 |
| | | | 27.69 |
| Ö← | #2 | LF-1 | 41.77 |
| | #1 | LF-2 | 8.83 |
| | #2 | LF-2 | 1.45 |
| Qk.N_E1 | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | -0.26 |
| | #1 | LF-19 | -0.02 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 9.67 |
| | #1 | LF-22 | 23.40 |
| | #1 | LF-23 | -1.24 |
| | #2 | LF-8 | -0.85 |
| Qk.N_DA | #1 | LF-3 | 0.03 |
| | #1 | LF-4 | -0.01 |
| | #1 | LF-5 | -5.05 |
| | #1 | LF-6 | 0.64 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 0.11 |
| | #1 | LF-12 | 0.01 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | -0.10 |
| | | | D-293 |
| | | | 10G-LP4 |

| | | Lastfall Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|------------------------------|--|---|--------|
| | | #1 LF-15 | 1.90 |
| | | #1 LF-16 | -0.83 |
| | | #2 LF-3 | -0.26 |
| | | #2 LF-4 | -15.0 |
| | | #2 LF-5 | 3.43 |
| | | #2 LF-6 | 9.32 |
| | | #2 LF-7 | 5.45 |
| WS-2.27_2_BR | | á bÁÛÜËGÈGÍŽGÁÓ↔&æ^&æ}↔´à\ÁÑãfib\ ^& | |
| | | Lastfall Lasten (1 Abschnitte je 0.89m) | [kN/m] |
| Gk | | #1 LF-1 | 0.00 |
| WS-2.27_2_SA_W-2.27_2 | | aus WS-2.27_2 Sturzanfang | |
| | | Lastfall Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| Gk | | #1 LF-1 | 11.02 |
| | | | 16.62 |
| | | #2 LF-1 | 62.90 |
| Ö← | | #1 LF-2 | 5.17 |
| | | #2 LF-2 | 4.41 |
| Qk.N_E1 | | #1 LF-17 | 0.00 |
| | | #1 LF-18 | -1.52 |
| | | #1 LF-19 | 0.00 |
| | | #1 LF-20 | 0.00 |
| | | #1 LF-21 | 8.67 |
| | | #1 LF-22 | 13.05 |
| | | #1 LF-23 | -0.07 |
| | | #2 LF-8 | -1.95 |
| Qk.N_DA | | #1 LF-3 | 0.00 |
| | | #1 LF-4 | 0.00 |
| | | #1 LF-5 | -5.33 |
| | | #1 LF-6 | 0.62 |
| | | #1 LF-7 | 0.00 |
| | | #1 LF-8 | 0.00 |
| | | #1 LF-9 | 0.00 |
| | | #1 LF-10 | 0.00 |
| | | #1 LF-11 | 0.89 |
| | | #1 LF-12 | 0.00 |
| | | #1 LF-13 | 0.00 |
| | | #1 LF-14 | -0.72 |
| | | #1 LF-15 | 1.62 |
| | | #1 LF-16 | -0.04 |
| | | #2 LF-3 | -0.51 |
| | | #2 LF-4 | -3.64 |
| | | #2 LF-5 | 6.67 |
| | | #2 LF-6 | 9.12 |
| | | #2 LF-7 | -2.81 |
| WS-2.27_2_SE_W-2.27_3 | | aus WS-2.27_2 Sturzende | |
| | | Lastfall Lasten (1 Abschnitte je 0.08m) | [kN/m] |
| Gk | | #1 LF-1 | 31.53 |
| | | | 46.57 |
| | | #2 LF-1 | 133.2 |
| Ö← | | #1 LF-2 | 14.51 |
| | | #2 LF-2 | 9.45 |
| Qk.N_E1 | | #1 LF-17 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|-----------------------|-------------------------------------|--------------------------------|--------|
| Qk.N_DA | #1 | LF-18 | -2.91 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 20.37 |
| | #1 | LF-22 | 29.11 |
| | #1 | LF-23 | -0.06 |
| | #2 | LF-8 | -3.95 |
| | #1 | LF-3 | -0.01 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | -6.51 |
| | #1 | LF-6 | 1.05 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 2.45 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | -1.95 |
| | #1 | LF-15 | 3.18 |
| | #1 | LF-16 | -0.03 |
| | #2 | LF-3 | -0.79 |
| | #2 | LF-4 | -7.07 |
| | #2 | LF-5 | 14.52 |
| | #2 | LF-6 | 18.07 |
| | #2 | LF-7 | -5.82 |
| WS-2.30_2_BR | á bÁÛÜÈĚĞĚŽGÁÓ↔&æ^&æ}↔´â\ÃÑãfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 1.01m) | [kN/m] |
| | #1 | LF-1 | 0.00 |
| WS-2.30_2_SA_W-2.30_2 | aus WS-2.30_2 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.17m) | [kN/m] |
| | #1 | LF-1 | 17.99 |
| | | | 213.5 |
| | #2 | LF-1 | -7.61 |
| Ö← | #1 | LF-2 | 69.23 |
| | #2 | LF-2 | -0.52 |
| Qk.N_E1 | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 1.61 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | -1.93 |
| | #1 | LF-22 | 1.02 |
| | #1 | LF-23 | 0.02 |
| | #2 | LF-8 | -0.08 |
| Qk.N_DA | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 163.0 |
| | #1 | LF-6 | -29.0 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | -3.59 |
| | | D-295 | |

| | Lastfall | Lasten (1 Abschnitte je 0.17m) | [kN/m] |
|------------------------------|-------------------------------------|--------------------------------|--------|
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 8.11 |
| | #1 | LF-15 | -2.22 |
| | #1 | LF-16 | -0.04 |
| | #2 | LF-3 | -0.01 |
| | #2 | LF-4 | -0.98 |
| | #2 | LF-5 | -0.07 |
| | #2 | LF-6 | -0.43 |
| | #2 | LF-7 | 0.46 |
| | | | |
| WS-2.30_2_SE_W-2.30_3 | aus WS-2.30_2 Sturzende | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.42m) | [kN/m] |
| | #1 | LF-1 | 7.06 |
| | | | 68.88 |
| | #2 | LF-1 | -1.29 |
| Ö← | #1 | LF-2 | 22.53 |
| | #2 | LF-2 | -0.09 |
| Qk.N_E1 | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.98 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | -0.67 |
| | #1 | LF-22 | 0.34 |
| | #1 | LF-23 | 0.01 |
| | #2 | LF-8 | -0.07 |
| Qk.N_DA | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 55.67 |
| | #1 | LF-6 | -12.4 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | -2.27 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 3.93 |
| | #1 | LF-15 | -0.83 |
| | #1 | LF-16 | -0.01 |
| | #2 | LF-3 | -0.02 |
| | #2 | LF-4 | -0.32 |
| | #2 | LF-5 | 0.14 |
| | #2 | LF-6 | -0.15 |
| | #2 | LF-7 | 0.16 |
| | | | |
| WS-T-2.1_BR | á bÁÜÙÊÜËGÈFÁÓ↔&æ^&æ}↔´à\ÁÑñfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 1.00m) | [kN/m] |
| | #1 | LF-1 | 0.00 |
| | | | |
| WS-T-2.1_SA_WT-2.1_2 | aus WS-T-2.1 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.32m) | [kN/m] |
| | #1 | LF-1 | 13.94 |
| | | | -3.68 |
| | #2 | LF-1 | 11.87 |

| | Lastfall | Lasten (1 Abschnitte je 0.32m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Ö← | #1 | LF-2 | -1.36 |
| | #2 | LF-2 | -3.86 |
| Qk.N_E1 | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | -0.56 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.02 |
| | #1 | LF-22 | -0.01 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-8 | 6.48 |
| Qk.N_DA | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.46 |
| | #1 | LF-6 | -11.8 |
| | #1 | LF-7 | 0.04 |
| | #1 | LF-8 | -0.02 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.02 |
| | #1 | LF-11 | 8.26 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | -0.12 |
| | #1 | LF-15 | 0.02 |
| | #1 | LF-16 | 0.00 |
| | #2 | LF-3 | 4.26 |
| | #2 | LF-4 | -11.6 |
| | #2 | LF-5 | -0.46 |
| | #2 | LF-6 | 0.07 |
| | #2 | LF-7 | 0.00 |

WS-T-2.1_SE_WT-2.1_3 aus WS-T-2.1 Sturzende

| | Lastfall | Lasten (1 Abschnitte je 0.26m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Gk | #1 | LF-1 | 17.54 |
| | #2 | LF-1 | -9.75 |
| Ö← | #1 | LF-2 | 5.68 |
| | #2 | LF-2 | -3.19 |
| Qk.N_E1 | #1 | LF-17 | -6.93 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | -0.36 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.01 |
| | #1 | LF-23 | -0.04 |
| | #2 | LF-8 | 0.00 |
| Qk.N_DA | #1 | LF-3 | 8.56 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.30 |
| | #1 | LF-7 | -17.0 |
| | #1 | LF-8 | 0.05 |
| | #1 | LF-9 | -0.03 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | -0.01 |
| | #1 | LF-12 | 9.67 |
| | #1 | LF-12 | 0.00 |
| | | | D-297 |

| | Lastfall | Lasten (1 Abschnitte je 0.26m) | [kN/m] |
|-----------------------------|----------|-------------------------------------|--------|
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | -0.05 |
| | #1 | LF-15 | 0.01 |
| | #1 | LF-16 | 0.00 |
| | #2 | LF-3 | 5.54 |
| | #2 | LF-4 | -19.0 |
| | #2 | LF-5 | -0.54 |
| | #2 | LF-6 | 0.09 |
| | #2 | LF-7 | 0.04 |
| WS-T-2.3_BR | | | |
| | | á bÁÛÜËÜËGÈĞÁÓ↔&æ^&æ}↔´â\ÃÑãfib\ ^& | |
| | Lastfall | Lasten (1 Abschnitte je 1.14m) | [kN/m] |
| Gk | #1 | LF-1 | 0.00 |
| WS-T-2.3_SA_WT-2.3_3 | | | |
| | | aus WS-T-2.3 Sturzanfang | |
| | Lastfall | Lasten (1 Abschnitte je 0.71m) | [kN/m] |
| Gk | #1 | LF-1 | 4.76 |
| | | | 16.59 |
| | #2 | LF-1 | 6.87 |
| Ö← | #1 | LF-2 | 5.26 |
| | #2 | LF-2 | -1.07 |
| Qk.N_E1 | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.11 |
| | #1 | LF-20 | 0.55 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 6.92 |
| | #1 | LF-23 | -0.70 |
| | #2 | LF-8 | -0.02 |
| Qk.N_DA | #1 | LF-3 | -1.63 |
| | #1 | LF-4 | 0.10 |
| | #1 | LF-5 | 2.61 |
| | #1 | LF-6 | -0.03 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | -0.02 |
| | #1 | LF-11 | 0.00 |
| | #1 | LF-12 | 5.73 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | -0.39 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | -6.43 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.04 |
| | #2 | LF-7 | 4.26 |
| WS-T-2.3_SE_WT-2.3_2 | | | |
| | | aus WS-T-2.3 Sturzende | |
| | Lastfall | Lasten (1 Abschnitte je 0.27m) | [kN/m] |
| Gk | #1 | LF-1 | 12.61 |
| | | | 36.93 |
| | #2 | LF-1 | 9.90 |
| Ö← | #1 | LF-2 | 11.79 |

| | Lastfall | Lasten (1 Abschnitte je 0.27m) | [kN/m] |
|---|----------|--------------------------------|--------|
| Qk.N_E1 | #2 | LF-2 | -5.22 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.27 |
| | #1 | LF-20 | 0.82 |
| | #1 | LF-21 | 0.01 |
| | #1 | LF-22 | 19.00 |
| | #1 | LF-23 | -1.39 |
| Qk.N_DA | #2 | LF-8 | -0.05 |
| | #1 | LF-3 | -7.08 |
| | #1 | LF-4 | 0.48 |
| | #1 | LF-5 | 4.32 |
| | #1 | LF-6 | -0.05 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | -0.21 |
| | #1 | LF-11 | 0.00 |
| | #1 | LF-12 | 15.15 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.01 |
| | #1 | LF-16 | -0.72 |
| | #2 | LF-3 | -0.02 |
| | #2 | LF-4 | -21.2 |
| | #2 | LF-5 | 0.01 |
| | #2 | LF-6 | 0.13 |
| | #2 | LF-7 | 10.63 |
| WS-T-2.4_BR | | | |
| á bÁÛÜÊÜËGÈHÁÓ↔&æ^&æ}↔´â\ÁÑñfib\ ^& | | | |
| Lastfall Lasten (1 Abschnitte je 1.01m) | | | [kN/m] |
| Gk | #1 | LF-1 | 0.00 |
| WS-T-2.4_SA_WT-2.4_1 aus WS-T-2.4 Sturzanfang | | | |
| Lastfall Lasten (1 Abschnitte je 0.43m) | | | [kN/m] |
| Gk | #1 | LF-1 | 7.06 |
| | | | 61.57 |
| Ö← | #2 | LF-1 | 9.82 |
| | #1 | LF-2 | 19.80 |
| Qk.N_E1 | #2 | LF-2 | 0.99 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.13 |
| | #1 | LF-20 | -0.13 |
| | #1 | LF-21 | -0.03 |
| | #1 | LF-22 | -0.98 |
| | #1 | LF-23 | 1.91 |
| Qk.N_DA | #2 | LF-8 | -0.01 |
| | #1 | LF-3 | -0.16 |
| | #1 | LF-4 | 0.04 |
| | #1 | LF-5 | 34.94 |
| | #1 | LF-6 | -0.13 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | | | D-299 |

| Lastfall | Lasten (1 Abschnitte je 0.43m) | [kN/m] |
|----------|--------------------------------|--------|
| #1 | LF-10 | 0.00 |
| #1 | LF-11 | 0.00 |
| #1 | LF-12 | -1.48 |
| #1 | LF-13 | 0.00 |
| #1 | LF-14 | 0.00 |
| #1 | LF-15 | -0.04 |
| #1 | LF-16 | 5.58 |
| #2 | LF-3 | 0.00 |
| #2 | LF-4 | -0.11 |
| #2 | LF-5 | 0.00 |
| #2 | LF-6 | -0.12 |
| #2 | LF-7 | 2.21 |

WS-T-2.4_SE_WT-2.4_2 aus WS-T-2.4 Sturzende

| | Lastfall | Lasten (1 Abschnitte je 0.11m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Gk | #1 | LF-1 | 26.46 |
| | | | 240.1 |
| Ö← | #2 | LF-1 | 36.85 |
| | #1 | LF-2 | 77.12 |
| Qk.N_E1 | #2 | LF-2 | 3.68 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.01 |
| | #1 | LF-19 | 0.44 |
| | #1 | LF-20 | -0.30 |
| | #1 | LF-21 | -0.26 |
| | #1 | LF-22 | -4.14 |
| Qk.N_DA | #1 | LF-23 | 7.67 |
| | #2 | LF-8 | -0.03 |
| | #1 | LF-3 | -0.50 |
| | #1 | LF-4 | 0.12 |
| | #1 | LF-5 | 134.4 |
| | #1 | LF-6 | -0.72 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | -0.01 |
| | #1 | LF-11 | -0.03 |
| | #1 | LF-12 | -3.48 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | -0.34 |
| | #1 | LF-16 | 21.55 |
| | #2 | LF-3 | -0.01 |
| | #2 | LF-4 | -0.14 |
| | #2 | LF-5 | -0.01 |
| | #2 | LF-6 | -0.60 |
| | #2 | LF-7 | 8.12 |

WT-1.1

| | Lastfall | Lasten (12 Abschnitte je 0.72m) | [kN/m] |
|----|----------|--|---------------------------------------|
| Gk | #1 | LF-1 (g) | |
| | | 401.89 109.1 11.72 21.01 80.65 89.97 78.87 | |
| Ö← | #2 | LF-1 | -1.44 -0.38 -0.03 0.02 0.05 0.03 0.01 |
| | | 0.01 0.00 0.00 0.00 0.00 | |
| | #1 | LF-2 (g) | |

| | | Lastfall Lasten (12 Abschnitte je 0.72m) | | | | | | [kN/m] |
|---------|------------|--|-------|-------|-------|-------|-------|--------|
| | | 115.02 | 27.90 | -2.42 | -0.12 | 18.47 | 20.81 | 16.81 |
| | | 14.45 | 12.61 | 10.30 | 7.77 | 7.36 | | |
| Qk.N_E1 | #2 LF-2 | -0.30 | -0.07 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-17 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.01 | 0.03 |
| | | 0.03 | 0.04 | 0.08 | 0.26 | 0.77 | | |
| Qk.N_DA | #1 LF-18 | -0.43 | -0.01 | 0.04 | 0.01 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-21 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-22 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-8 | -0.07 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-3 | -0.01 | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.06 |
| | | 0.10 | 0.14 | 0.15 | 0.08 | -0.11 | | |
| | #1 LF-5 | -3.02 | -0.31 | 0.26 | 0.07 | 0.00 | -0.01 | 0.00 |
| | | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | | |
| | #1 LF-6 | 205.79 | 50.94 | -6.13 | -2.88 | 32.53 | 35.14 | 25.95 |
| | | 20.42 | 16.21 | 11.07 | 2.92 | -10.6 | | |
| | #1 LF-7 | -0.27 | -0.25 | -0.05 | 0.09 | -0.24 | -0.48 | -0.54 |
| | | -0.71 | -1.08 | -1.62 | -1.35 | 3.45 | | |
| | #1 LF-8 | 0.15 | 0.14 | 0.03 | -0.05 | 0.14 | 0.28 | 0.32 |
| | | 0.41 | 0.60 | 0.86 | 0.88 | -0.67 | | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 |
| | | -0.01 | -0.01 | -0.04 | -0.09 | -0.14 | | |
| | #1 LF-10 | -1.44 | -1.75 | -1.58 | -1.28 | -0.91 | -0.13 | 0.64 |
| | | 1.36 | 2.06 | 2.65 | 3.32 | 4.40 | | |
| | #1 LF-11 | 29.52 | 7.17 | 2.76 | 3.97 | 5.46 | 6.77 | 7.17 |
| | | 7.30 | 7.31 | 7.52 | 9.77 | 18.28 | | |
| | #1 LF-12 | 0.00 | -0.02 | -0.02 | -0.02 | -0.03 | -0.03 | -0.04 |
| | | -0.05 | -0.08 | -0.09 | -0.05 | 0.04 | | |
| | #1 LF-13 | 0.01 | 0.02 | 0.01 | 0.00 | -0.01 | -0.02 | -0.03 |
| | | -0.03 | -0.04 | -0.07 | -0.21 | -0.55 | | |
| | #1 LF-14 | -0.21 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-15 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-3 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-4 | -0.46 | -0.14 | -0.01 | 0.01 | 0.03 | 0.01 | 0.01 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-5 | -0.12 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.1_1

Gk

Ö←

Qk.N_E1

| | | Lastfall Lasten (4 Abschnitte je 0.69m) | | | | [kN/m] |
|---------------|--|---|-------|-------|-------|--------|
| #1 LF-1 (g) | | 60.94 | 26.01 | 35.71 | 44.95 | |
| #2 LF-1 | | 1.46 | 15.84 | 29.44 | 28.41 | |
| #1 LF-2 (g) | | 10.68 | 0.23 | 3.45 | 6.20 | |
| #2 LF-2 | | 0.05 | 0.78 | 1.34 | 1.30 | |
| #1 LF-18 | | -0.31 | 2.12 | 4.73 | 4.65 | |
| #1 LF-21 | | 0.02 | -0.10 | -0.15 | -0.09 | |

D-301

| | | Lastfall Lasten (4 Abschnitte je 0.69m) | | | | [kN/m] |
|---------|---|---|-------|-------|-------|--------|
| Qk.N_DA | #1 | LF-22 | -0.01 | 0.03 | 0.05 | 0.03 |
| | #1 | LF-23 | 0.00 | 0.01 | 0.01 | 0.00 |
| | #2 | LF-8 | -0.10 | -0.57 | -1.13 | -1.18 |
| | #1 | LF-5 | 17.82 | -18.7 | -10.1 | -1.89 |
| | #1 | LF-6 | -8.71 | 6.13 | 2.97 | -0.37 |
| | #1 | LF-7 | 0.01 | 0.00 | 0.01 | 0.03 |
| | #1 | LF-8 | 0.00 | 0.00 | -0.01 | -0.02 |
| | #1 | LF-10 | 0.00 | 0.00 | 0.00 | -0.01 |
| | #1 | LF-11 | 11.02 | 8.77 | 9.13 | 11.17 |
| | #1 | LF-14 | 1.51 | 3.16 | 2.07 | 0.55 |
| | #1 | LF-15 | 0.02 | -0.05 | -0.11 | -0.07 |
| | #1 | LF-16 | 0.00 | 0.01 | 0.01 | 0.00 |
| | #2 | LF-3 | -0.04 | -0.20 | -0.36 | -0.18 |
| | #2 | LF-4 | 0.03 | 0.20 | 0.47 | 0.65 |
| | #2 | LF-5 | 0.11 | 1.55 | 2.56 | 2.13 |
| | #2 | LF-6 | 0.01 | -0.03 | -0.04 | -0.03 |
| | #2 | LF-7 | -0.01 | 0.03 | 0.04 | 0.02 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | | Lastfall Lasten (3 Abschnitte je 0.32m) | | | | [kN/m] |
|----------------|---|---|-------|-------|-------|--------|
| WT-2.1_2 Gk | #1 | LF-1 (g) | 45.41 | 40.57 | 32.85 | |
| | #2 | LF-1 | 23.27 | 21.18 | 18.62 | |
| Ö← | #1 | LF-2 (g) | 6.14 | 4.74 | 2.58 | |
| | #2 | LF-2 | 0.94 | 0.60 | 0.04 | |
| Qk.N_E1 | #1 | LF-18 | 1.29 | -0.09 | -0.84 | |
| | #1 | LF-21 | 0.03 | 0.06 | 0.06 | |
| | #2 | LF-8 | 0.18 | 1.12 | 2.23 | |
| Qk.N_DA | #1 | LF-5 | 1.14 | 1.37 | 1.16 | |
| | #1 | LF-6 | -2.43 | -3.50 | -4.99 | |
| | #1 | LF-7 | 0.05 | 0.04 | 0.04 | |
| | #1 | LF-8 | -0.03 | -0.03 | -0.02 | |
| | #1 | LF-10 | -0.04 | -0.03 | -0.01 | |
| | #1 | LF-11 | 12.83 | 11.72 | 9.42 | |
| | #1 | LF-14 | -0.28 | -0.39 | -0.35 | |
| | #1 | LF-15 | 0.02 | 0.05 | 0.05 | |
| | #2 | LF-3 | 0.71 | 1.24 | 1.84 | |
| | #2 | LF-4 | 0.11 | -0.60 | -1.85 | |
| | #2 | LF-5 | 1.05 | 0.56 | 0.08 | |
| | #2 | LF-6 | 0.02 | 0.03 | 0.04 | |
| | #2 | LF-7 | -0.01 | -0.02 | -0.02 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | | Lastfall Lasten (3 Abschnitte je 0.26m) | | | | [kN/m] |
|----------------|----|---|-------|-------|-------|--------|
| WT-2.1_3 Gk | #1 | LF-1 (g) | 10.16 | 6.71 | 4.12 | |
| | #2 | LF-1 | 2.30 | 8.39 | 14.06 | |
| Ö← | #1 | LF-2 (g) | -3.88 | -4.88 | -5.58 | |
| | #2 | LF-2 | -3.55 | -1.90 | -0.28 | |
| Qk.N_E1 | #1 | LF-18 | -0.01 | -0.01 | -0.02 | |
| | #1 | LF-22 | -0.07 | -0.07 | -0.05 | |
| | #2 | LF-8 | 2.66 | 1.58 | 0.89 | |
| Qk.N_DA | #1 | LF-5 | 0.09 | 0.13 | 0.16 | |
| | #1 | LF-6 | -14.4 | -17.3 | -19.3 | |
| | #1 | LF-7 | 0.05 | 0.07 | 0.08 | |
| | #1 | LF-8 | -0.03 | -0.04 | -0.05 | |
| | #1 | LF-10 | -0.26 | -0.48 | -0.68 | |

| Lastfall | Lasten (3 Abschnitte je 0.26m) | [kN/m] | | |
|---|--------------------------------|--------|-------|-------|
| #1 | LF-11 | 6.30 | 7.29 | 7.97 |
| #1 | LF-12 | 0.00 | -0.01 | -0.01 |
| #1 | LF-14 | 0.01 | 0.00 | -0.01 |
| #2 | LF-3 | 2.14 | 1.64 | 1.28 |
| #2 | LF-4 | -9.23 | -5.47 | -1.90 |
| #2 | LF-5 | -0.12 | -0.07 | -0.04 |
| #2 | LF-6 | 0.02 | 0.00 | 0.00 |
| #2 | LF-7 | 0.08 | 0.10 | 0.11 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

WT-2.1_4

| Lastfall | Lasten (3 Abschnitte je 0.68m) | [kN/m] | | |
|---|--------------------------------|--------|-------|-------|
| Gk | #1 LF-1 (g) | 6.32 | 26.27 | 322.6 |
| | #2 LF-1 | 16.26 | 0.80 | -0.56 |
| Ö← | #1 LF-2 (g) | -5.78 | -0.15 | 56.55 |
| | #2 LF-2 | 2.20 | 0.18 | -0.07 |
| Qk.N_E1 | #1 LF-17 | -0.01 | -0.03 | 0.27 |
| | #1 LF-18 | -0.02 | 0.01 | 0.01 |
| | #1 LF-22 | 0.04 | 0.01 | 0.01 |
| | #2 LF-8 | -0.26 | -0.08 | -0.01 |
| Qk.N_DA | #1 LF-3 | -0.02 | 0.12 | 1.54 |
| | #1 LF-4 | 0.00 | 0.00 | -0.04 |
| | #1 LF-5 | 0.18 | 0.08 | 0.25 |
| | #1 LF-6 | -17.0 | -8.17 | -49.0 |
| | #1 LF-7 | 0.05 | 0.01 | 0.95 |
| | #1 LF-8 | -0.03 | 0.00 | -0.56 |
| | #1 LF-9 | 0.00 | 0.00 | 0.01 |
| | #1 LF-10 | -3.25 | 0.05 | 101.9 |
| | #1 LF-11 | 6.74 | 3.81 | 33.57 |
| | #1 LF-12 | -0.01 | -0.07 | -0.09 |
| | #1 LF-13 | 0.01 | 0.02 | -0.39 |
| | #1 LF-14 | -0.01 | 0.01 | 0.01 |
| | #2 LF-3 | 0.29 | -0.03 | -0.02 |
| | #2 LF-4 | 4.04 | 0.39 | -0.13 |
| | #2 LF-5 | 0.01 | 0.01 | 0.00 |
| | #2 LF-7 | 0.06 | 0.00 | 0.00 |
| (g): Lastfall beinhaltet Eigengewicht (31.67 kN/m) der Wand | | | | |

WT-2.2

| Lastfall | Lasten (4 Abschnitte je 0.69m) | [kN/m] | | |
|----------|--------------------------------|--------|-------|-------|
| Gk | #1 LF-1 (g) | -21.5 | -46.4 | -1.44 |
| | #2 LF-1 | 7.48 | 28.84 | 34.14 |
| Ö← | #1 LF-2 (g) | -14.1 | -22.0 | -7.51 |
| | #2 LF-2 | 0.46 | 1.92 | 2.50 |
| Qk.N_E1 | #1 LF-18 | 0.40 | 2.37 | 4.96 |
| | #1 LF-19 | 0.00 | 0.00 | 0.00 |
| | #1 LF-21 | 0.48 | 2.27 | 3.84 |
| | #1 LF-22 | -0.23 | -1.08 | -1.98 |
| | #1 LF-23 | 0.02 | 0.00 | -0.02 |
| | #2 LF-8 | -0.15 | -0.65 | -0.78 |
| Qk.N_DA | #1 LF-3 | -0.01 | -0.01 | 0.00 |
| | #1 LF-4 | 0.00 | 0.00 | 0.00 |
| | #1 LF-5 | -37.6 | -58.6 | -24.3 |
| | #1 LF-6 | 5.47 | 7.23 | 2.10 |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 |
| | #1 LF-11 | -0.27 | -1.11 | -1.48 |
| | #1 LF-12 | 0.00 | 0.00 | 0.00 |

Lastfall Lasten (4 Abschnitte je 0.69m) [kN/m]

| | | | | | |
|----|-------|-------|-------|-------|-------|
| #1 | LF-14 | 2.05 | 3.32 | 2.23 | 0.81 |
| #1 | LF-15 | 2.13 | 3.52 | 2.17 | 0.41 |
| #1 | LF-16 | 0.05 | 0.03 | -0.01 | 0.00 |
| #2 | LF-3 | -0.05 | -0.23 | -0.27 | 0.08 |
| #2 | LF-4 | 0.25 | 1.22 | 2.08 | 1.65 |
| #2 | LF-5 | 0.66 | 2.92 | 3.60 | 1.66 |
| #2 | LF-6 | 0.11 | 0.25 | 0.02 | -0.30 |
| #2 | LF-7 | -0.06 | -0.31 | -0.42 | -0.24 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.3_1

Lastfall Lasten (3 Abschnitte je 0.68m) [kN/m]

| | | | | | |
|----|----|----------|-------|-------|-------|
| Gk | #1 | LF-1 (g) | 20.30 | 33.98 | 312.8 |
| | #2 | LF-1 | 17.07 | 0.71 | -0.56 |
| Ö← | #1 | LF-2 (g) | -1.32 | 2.26 | 52.76 |
| | #2 | LF-2 | 2.12 | 0.14 | -0.07 |

Qk.N_E1

| | | | | |
|----|-------|-------|-------|-------|
| #1 | LF-17 | -0.03 | -0.04 | 0.81 |
| #1 | LF-19 | -0.05 | 0.00 | 0.00 |
| #1 | LF-20 | 0.02 | -0.02 | -0.01 |
| #1 | LF-22 | -1.45 | -0.26 | -0.04 |
| #1 | LF-23 | 0.13 | 0.02 | 0.00 |
| #2 | LF-8 | 0.05 | 0.00 | 0.00 |

Qk.N_DA

| | | | | |
|----|-------|-------|-------|-------|
| #1 | LF-3 | -4.97 | -2.67 | -58.0 |
| #1 | LF-4 | 0.32 | 0.16 | 0.97 |
| #1 | LF-5 | -1.16 | -0.30 | -1.52 |
| #1 | LF-6 | -0.03 | 0.09 | 1.89 |
| #1 | LF-7 | 0.00 | 0.00 | -0.02 |
| #1 | LF-8 | 0.00 | 0.00 | 0.01 |
| #1 | LF-10 | -3.19 | -0.05 | 102.8 |
| #1 | LF-11 | -0.01 | -0.06 | -0.13 |
| #1 | LF-12 | 5.49 | 3.75 | 34.76 |
| #1 | LF-13 | 0.02 | 0.00 | -0.49 |
| #1 | LF-16 | 0.07 | 0.01 | 0.00 |
| #2 | LF-3 | 0.01 | 0.00 | 0.00 |
| #2 | LF-4 | 4.84 | 0.38 | -0.14 |
| #2 | LF-6 | -0.02 | 0.00 | 0.00 |
| #2 | LF-7 | -0.58 | -0.10 | 0.00 |

(g): Lastfall beinhaltet Eigengewicht (31.67 kN/m) der Wand

WT-2.3_2

Lastfall Lasten (3 Abschnitte je 0.27m) [kN/m]

| | | | | | |
|----|----|----------|-------|-------|-------|
| Gk | #1 | LF-1 (g) | 28.82 | 23.70 | 19.86 |
| | #2 | LF-1 | 7.13 | 13.00 | 18.37 |
| Ö← | #1 | LF-2 (g) | 2.15 | 0.64 | -0.46 |
| | #2 | LF-2 | -2.25 | -0.87 | 0.52 |

Qk.N_E1

| | | | | |
|----|-------|-------|-------|-------|
| #1 | LF-19 | 0.03 | -0.01 | -0.04 |
| #1 | LF-20 | 0.09 | 0.07 | 0.07 |
| #1 | LF-22 | 5.90 | 3.56 | 1.59 |
| #1 | LF-23 | -0.21 | -0.07 | 0.03 |
| #2 | LF-8 | 0.00 | 0.02 | 0.04 |

Qk.N_DA

| | | | | |
|----|-------|-------|-------|-------|
| #1 | LF-3 | -7.21 | -8.31 | -8.75 |
| #1 | LF-4 | 0.43 | 0.48 | 0.49 |
| #1 | LF-5 | -0.16 | -0.78 | -1.18 |
| #1 | LF-6 | -0.01 | -0.01 | 0.00 |
| #1 | LF-10 | -0.44 | -0.61 | -0.76 |
| #1 | LF-11 | -0.01 | -0.01 | -0.01 |
| #1 | LF-12 | 7.98 | 8.09 | 7.94 |

Lastfall Lasten (3 Abschnitte je 0.27m) [kN/m]

| | | | | |
|----|-------|-------|-------|------|
| #1 | LF-16 | -0.09 | -0.02 | 0.03 |
| #2 | LF-3 | 0.00 | 0.01 | 0.01 |
| #2 | LF-4 | -7.27 | -3.30 | 0.35 |
| #2 | LF-6 | 0.05 | 0.03 | 0.01 |
| #2 | LF-7 | 2.71 | 1.52 | 0.65 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.3_3

Lastfall Lasten (5 Abschnitte je 0.71m) [kN/m]

| | | | | | | | |
|---------|----|----------|-------|-------|-------|-------|-------|
| Gk | #1 | LF-1 (g) | 73.72 | -43.9 | -0.65 | 32.46 | 43.84 |
| | #2 | LF-1 | 1.68 | 22.20 | 33.14 | 23.31 | 15.78 |
| Ö← | #1 | LF-2 (g) | 16.08 | -21.5 | -7.64 | 2.98 | 6.65 |
| | #2 | LF-2 | 0.04 | 1.33 | 1.83 | 1.56 | 0.88 |
| Qk.N_E1 | #1 | LF-19 | -0.06 | 0.09 | 0.09 | -0.12 | -0.07 |
| | #1 | LF-20 | 0.19 | 0.37 | 1.00 | 1.65 | 1.54 |
| | #1 | LF-21 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-22 | 0.12 | -1.15 | -2.18 | -1.26 | 3.51 |
| | #1 | LF-23 | -0.17 | 2.45 | 3.95 | 2.02 | -0.55 |
| | #2 | LF-8 | 0.00 | 0.00 | -0.01 | 0.00 | 0.00 |
| Qk.N_DA | #1 | LF-3 | 0.57 | 0.15 | 0.18 | -0.15 | -0.57 |
| | #1 | LF-4 | -0.21 | -0.03 | -0.22 | -0.23 | -0.09 |
| | #1 | LF-5 | 22.86 | -54.0 | -25.9 | -2.58 | 4.60 |
| | #1 | LF-6 | 0.14 | 0.36 | 0.16 | 0.00 | -0.05 |
| | #1 | LF-10 | 0.00 | 0.00 | -0.01 | -0.01 | 0.01 |
| | #1 | LF-11 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-12 | 7.38 | 6.85 | 7.58 | 8.33 | 8.02 |
| | #1 | LF-15 | 0.01 | 0.03 | 0.01 | 0.00 | 0.00 |
| | #1 | LF-16 | 1.46 | 3.61 | 2.13 | 0.12 | -0.65 |
| | #2 | LF-4 | 0.03 | 0.31 | 0.65 | -0.20 | -2.57 |
| | #2 | LF-5 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-6 | 0.02 | -0.06 | -0.07 | -0.05 | -0.01 |
| | #2 | LF-7 | 0.02 | 2.41 | 3.08 | 3.37 | 4.33 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.4_1

Lastfall Lasten (3 Abschnitte je 0.43m) [kN/m]

| | | | | | |
|---------|----|----------|-------|-------|-------|
| Gk | #1 | LF-1 (g) | 230.0 | 135.1 | 93.84 |
| | #2 | LF-1 | -4.77 | 1.56 | 5.31 |
| Ö← | #1 | LF-2 (g) | 66.38 | 36.12 | 22.94 |
| | #2 | LF-2 | -0.43 | 0.18 | 0.54 |
| Qk.N_E1 | #1 | LF-19 | -0.08 | 0.02 | 0.07 |
| | #1 | LF-20 | -0.03 | -0.18 | -0.20 |
| | #1 | LF-21 | 0.01 | 0.01 | 0.01 |
| | #1 | LF-22 | 0.60 | 0.06 | -0.31 |
| | #1 | LF-23 | -0.98 | 0.11 | 0.81 |
| | #2 | LF-8 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | #1 | LF-3 | 0.77 | 0.17 | -0.07 |
| | #1 | LF-4 | -0.49 | -0.17 | -0.03 |
| | #1 | LF-5 | 128.6 | 70.31 | 43.85 |
| | #1 | LF-6 | -0.37 | -0.21 | -0.13 |
| | #1 | LF-11 | -0.01 | -0.01 | 0.00 |
| | #1 | LF-12 | 2.81 | -0.99 | -2.02 |
| | #1 | LF-15 | -0.02 | -0.01 | 0.00 |
| | #1 | LF-16 | 0.25 | 2.24 | 3.49 |
| | #2 | LF-4 | -0.06 | -0.14 | -0.17 |
| | #2 | LF-6 | 0.06 | 0.01 | -0.03 |
| | #2 | LF-7 | -0.85 | 0.48 | 1.27 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-2.4_2

| | Lastfall | Lasten (3 Abschnitte je 0.11m) | [kN/m] | | |
|---------|---|--------------------------------|--------|-------|-------|
| Gk | #1 | LF-1 (g) | 85.41 | 86.52 | 87.63 |
| | #2 | LF-1 | 7.82 | 7.73 | 7.65 |
| Ö← | #1 | LF-2 (g) | 20.14 | 20.49 | 20.84 |
| | #2 | LF-2 | 0.77 | 0.76 | 0.75 |
| Qk.N_El | #1 | LF-19 | 0.06 | 0.05 | 0.05 |
| | #1 | LF-20 | -0.02 | -0.01 | -0.01 |
| | #1 | LF-21 | -0.17 | -0.18 | -0.20 |
| | #1 | LF-22 | -0.96 | -0.94 | -0.93 |
| | #1 | LF-23 | 1.72 | 1.70 | 1.68 |
| Qk.N_DA | #1 | LF-3 | -0.07 | -0.06 | -0.06 |
| | #1 | LF-4 | 0.01 | 0.01 | 0.01 |
| | #1 | LF-5 | 35.56 | 36.31 | 37.06 |
| | #1 | LF-6 | -0.36 | -0.39 | -0.42 |
| | #1 | LF-11 | -0.01 | -0.01 | -0.02 |
| | #1 | LF-12 | -0.20 | -0.17 | -0.14 |
| | #1 | LF-15 | -0.21 | -0.23 | -0.25 |
| | #1 | LF-16 | 4.86 | 4.83 | 4.81 |
| | #2 | LF-4 | 0.05 | 0.05 | 0.05 |
| | #2 | LF-5 | -0.01 | -0.02 | -0.02 |
| | #2 | LF-6 | -0.18 | -0.18 | -0.19 |
| | #2 | LF-7 | 1.69 | 1.67 | 1.66 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

WT-2.4_3

| | Lastfall | Lasten (5 Abschnitte je 0.72m) | [kN/m] | | |
|---------|---|--------------------------------|--------|-------|-------|
| Gk | #1 | LF-1 (g) | 89.67 | 70.06 | 114.1 |
| | #2 | LF-1 | 5.20 | -1.06 | -5.51 |
| Ö← | #1 | LF-2 (g) | 21.50 | 15.21 | 29.36 |
| | #2 | LF-2 | 0.51 | -0.05 | -0.48 |
| Qk.N_El | #1 | LF-18 | 0.02 | 0.03 | 0.03 |
| | #1 | LF-19 | 0.00 | -0.02 | -0.03 |
| | #1 | LF-20 | 0.01 | 0.01 | 0.01 |
| | #1 | LF-21 | -0.40 | -0.55 | -0.26 |
| | #1 | LF-22 | -0.49 | 0.32 | 0.69 |
| | #1 | LF-23 | 1.15 | 0.07 | -0.76 |
| | #2 | LF-8 | -0.01 | 0.00 | 0.01 |
| Qk.N_DA | #1 | LF-3 | -0.03 | 0.00 | 0.05 |
| | #1 | LF-4 | 0.00 | 0.00 | -0.02 |
| | #1 | LF-5 | 39.62 | 29.50 | 59.38 |
| | #1 | LF-6 | -0.71 | -0.66 | -1.50 |
| | #1 | LF-11 | -0.03 | -0.03 | -0.05 |
| | #1 | LF-12 | 0.03 | 0.06 | 0.06 |
| | #1 | LF-14 | 0.00 | 0.01 | 0.00 |
| | #1 | LF-15 | -0.52 | -0.62 | 0.76 |
| | #1 | LF-16 | 4.08 | 2.00 | -0.44 |
| | #2 | LF-4 | -0.06 | -0.32 | -0.31 |
| | #2 | LF-5 | -0.04 | -0.06 | -0.06 |
| | #2 | LF-6 | -0.17 | -0.09 | 0.01 |
| | #2 | LF-7 | 1.30 | 0.37 | -0.59 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

WT-2.5

| | Lastfall | Lasten (4 Abschnitte je 0.69m) | [kN/m] | | |
|----|----------|--------------------------------|--------|-------|-------|
| Gk | #1 | LF-1 (g) | -27.3 | -55.8 | -12.8 |
| | #2 | LF-1 | 8.00 | 32.68 | 45.54 |
| Ö← | #1 | LF-2 (g) | -16.1 | -25.2 | -11.4 |
| | #2 | LF-2 | 0.52 | 2.24 | 3.83 |

| | Lastfall | Lasten (4 Abschnitte je 0.69m) | [kN/m] |
|---------|---|--------------------------------|-------------------------|
| Qk.N_E1 | #1 | LF-18 | -0.01 -0.06 -0.06 -0.01 |
| | #1 | LF-19 | 0.00 0.02 -0.01 -0.04 |
| | #1 | LF-21 | 0.49 2.31 4.04 2.59 |
| | #1 | LF-22 | -0.56 -3.24 -6.76 -3.22 |
| | #1 | LF-23 | 0.54 2.58 4.00 2.00 |
| Qk.N_DA | #2 | LF-8 | 0.00 0.01 0.04 0.09 |
| | #1 | LF-3 | -0.04 -0.09 -0.10 -0.05 |
| | #1 | LF-4 | 0.02 0.04 0.03 0.00 |
| | #1 | LF-5 | -37.9 -60.3 -29.1 -2.63 |
| | #1 | LF-6 | 1.71 2.28 1.08 0.10 |
| | #1 | LF-11 | 0.03 0.08 0.06 0.01 |
| | #1 | LF-12 | -0.01 -0.04 0.01 0.05 |
| | #1 | LF-14 | 0.02 -0.01 -0.03 -0.01 |
| | #1 | LF-15 | 2.16 3.53 2.33 0.41 |
| | #1 | LF-16 | 2.21 3.96 2.57 0.38 |
| | #2 | LF-3 | 0.00 0.00 0.01 0.02 |
| | #2 | LF-4 | 0.39 2.47 5.35 2.11 |
| | #2 | LF-5 | 0.04 0.05 -0.16 -0.31 |
| | #2 | LF-6 | 0.12 0.63 0.94 1.67 |
| | #2 | LF-7 | 0.48 1.34 1.54 4.07 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und Linienlast-Resultierenden, getrennt nach positiven und negativen Anteilen

Lasten aus Lastgruppen werden nicht

| | Position | EW | Art | *~b~\{ [kN] | ^a&á\{ [kN] |
|-------------|----------|---------|-----|-------------|-------------|
| Punktlasten | S-2.1 | Gk | PGr | 216.48 | |
| | | Ö← | PGr | 18.03 | |
| | | Qk.N_E1 | PGr | 0.00 | -21.83 |
| | | Qk.N_DA | PGr | 95.32 | -44.81 |
| | S-2.2 | Gk | PGr | 271.67 | |
| | | Ö← | PGr | 36.73 | |
| | | Qk.N_E1 | PGr | 0.00 | -11.45 |
| | | Qk.N_DA | PGr | 95.18 | -14.32 |
| | S-2.3 | Gk | PGr | 184.45 | |
| | | Ö← | PGr | 65.20 | |
| | | Qk.N_E1 | PGr | 0.02 | -0.04 |
| | | Qk.N_DA | PGr | 63.94 | -10.87 |
| | S-2.4 | Gk | PGr | 372.26 | |
| | | Ö← | PGr | 130.29 | |
| | | Qk.N_E1 | PGr | 0.05 | -0.08 |
| | | Qk.N_DA | PGr | 132.40 | -2.09 |

Linienlasten

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| S-2.5 | Gk | PGr | 247.50 | |
| | Ö← | PGr | 86.24 | |
| | Qk.N_E 1 | PGr | 0.01 | -0.01 |
| | Qk.N_D A | PGr | 86.95 | -0.56 |
| S-2.6 | Gk | PGr | 145.78 | |
| | Ö← | PGr | 50.93 | |
| | Qk.N_E 1 | PGr | 0.03 | 0.00 |
| | Qk.N_D A | PGr | 50.60 | -2.60 |
| S-2.7 | Gk | PGr | 107.18 | |
| | Ö← | PGr | 37.66 | |
| | Qk.N_E 1 | PGr | 10.45 | 0.00 |
| | Qk.N_D A | PGr | 20.62 | -0.19 |
| W-2.1 | Gk | PGr | 199.07 | |
| | Ö← | PGr | 78.48 | |
| | Qk.N_E 1 | PGr | 0.02 | -0.02 |
| | Qk.N_D A | PGr | 38.27 | -10.04 |
| W-2.2 | Gk | PGr | 241.89 | |
| | Ö← | PGr | 84.96 | |
| | Qk.N_D A | PGr | 88.17 | -2.93 |
| W-2.3 | Gk | PGr | 220.09 | |
| | Ö← | PGr | 76.36 | |
| | Qk.N_E 1 | PGr | 0.00 | 0.00 |
| | Qk.N_D A | PGr | 77.69 | -1.51 |
| W-2.4 | Gk | PGr | 230.18 | |
| | Ö← | PGr | 80.85 | |
| | Qk.N_E 1 | PGr | 0.00 | 0.00 |
| | Qk.N_D A | PGr | 76.92 | -2.58 |
| W-2.5_1 | Gk | PGr | 187.12 | |
| | Ö← | PGr | 32.03 | |
| | Qk.N_E 1 | PGr | 0.00 | -7.23 |
| | Qk.N_D A | PGr | 69.06 | -8.18 |
| W-2.5_2 | Gk | PGr | 13.49 | |
| | Ö← | PGr | 1.63 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.13 |
| | Qk.N_D A | PGr | 5.81 | -2.44 |
| W-2.6 | Gk | PGr | 626.49 | |
| | Ö← | PGr | 155.39 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_E 1 | PGr | 0.06 | -0.32 |
| | Qk.N_D A | PGr | 301.56 | -5.21 |
| W-2.7 | Gk | PGr | 313.01 | |
| | Ö← | PGr | 65.06 | |
| | Qk.N_E 1 | PGr | 64.61 | 0.00 |
| | Qk.N_D A | PGr | 55.00 | -16.01 |
| W-2.8 | Gk | PGr | 104.37 | |
| | Ö← | PGr | 1.28 | |
| | Qk.N_E 1 | PGr | 25.48 | -1.06 |
| | Qk.N_D A | PGr | 20.20 | -26.92 |
| W-2.9 | Gk | PGr | 438.66 | |
| | Ö← | PGr | 102.05 | |
| | Qk.N_E 1 | PGr | 42.78 | -3.66 |
| | Qk.N_D A | PGr | 176.84 | -6.33 |
| W-2.10 | Gk | PGr | 695.50 | |
| | Ö← | PGr | 153.04 | |
| | Qk.N_E 1 | PGr | 2.16 | -2.63 |
| | Qk.N_D A | PGr | 337.28 | -29.80 |
| W-2.11 | Gk | PGr | 158.59 | |
| | Ö← | PGr | 55.25 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.34 |
| | Qk.N_D A | PGr | 52.35 | -0.36 |
| W-2.12 | Gk | PGr | 306.80 | |
| | Ö← | PGr | 107.12 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.08 |
| | Qk.N_D A | PGr | 107.84 | -1.32 |
| W-2.13 | Gk | PGr | 29.26 | |
| | Ö← | PGr | 10.50 | |
| | Qk.N_E 1 | PGr | 0.00 | 0.00 |
| | Qk.N_D A | PGr | 4.40 | -2.18 |
| W-2.14 | Gk | PGr | 349.48 | |
| | Ö← | PGr | 136.25 | |
| | Qk.N_E 1 | PGr | 0.01 | -0.01 |
| | Qk.N_D A | PGr | 85.17 | -22.50 |
| W-2.15 | Gk | PGr | 342.81 | |
| | Ö← | PGr | 134.52 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_E 1 | PGr | 0.21 | -7.33 |
| | Qk.N_D A | PGr | 77.56 | -18.92 |
| W-2.16 | Gk | PGr | 173.00 | |
| | Ö← | PGr | 61.35 | |
| | Qk.N_E 1 | PGr | 20.81 | 0.00 |
| | Qk.N_D A | PGr | 36.29 | -9.17 |
| W-2.17 | Gk | PGr | 332.94 | |
| | Ö← | PGr | 131.19 | |
| | Qk.N_E 1 | PGr | 0.88 | -2.17 |
| | Qk.N_D A | PGr | 62.58 | -12.97 |
| W-2.18_1 | Gk | PGr | 99.64 | |
| | Ö← | PGr | 12.33 | |
| | Qk.N_E 1 | PGr | 31.49 | 0.00 |
| | Qk.N_D A | PGr | 60.86 | -57.03 |
| W-2.18_2 | Gk | PGr | 157.84 | |
| | Ö← | PGr | 30.46 | |
| | Qk.N_E 1 | PGr | 59.43 | 0.00 |
| | Qk.N_D A | PGr | 22.50 | -1.41 |
| W-2.18_3 | Gk | PGr | 23.15 | |
| | Ö← | PGr | 4.43 | |
| | Qk.N_E 1 | PGr | 8.42 | 0.00 |
| | Qk.N_D A | PGr | 3.40 | -0.21 |
| W-2.18_4 | Gk | PGr | 116.76 | |
| | Ö← | PGr | 18.25 | |
| | Qk.N_E 1 | PGr | 27.08 | 0.00 |
| | Qk.N_D A | PGr | 23.42 | -4.74 |
| W-2.19 | Gk | PGr | 377.67 | |
| | Ö← | PGr | 58.31 | |
| | Qk.N_E 1 | PGr | 0.84 | -0.01 |
| | Qk.N_D A | PGr | 160.05 | -46.01 |
| W-2.20 | Gk | PGr | 513.28 | |
| | Ö← | PGr | 109.77 | |
| | Qk.N_E 1 | PGr | 0.16 | -0.45 |
| | Qk.N_D A | PGr | 206.40 | -36.07 |
| W-2.21 | Gk | PGr | 841.60 | |
| | Ö← | PGr | 108.76 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_E 1 | PGr | 51.92 | -4.60 |
| | Qk.N_D A | PGr | 200.79 | -11.70 |
| W-2.22 | Gk | PGr | 388.78 | |
| | Ö← | PGr | 63.94 | |
| | Qk.N_E 1 | PGr | 1.18 | -0.78 |
| | Qk.N_D A | PGr | 196.61 | -76.52 |
| W-2.23 | Gk | PGr | 106.60 | |
| | Ö← | PGr | 3.54 | |
| | Qk.N_E 1 | PGr | 22.64 | -1.62 |
| | Qk.N_D A | PGr | 17.54 | -16.11 |
| W-2.24 | Gk | PGr | 174.98 | |
| | Ö← | PGr | 11.46 | |
| | Qk.N_E 1 | PGr | 71.96 | -1.86 |
| | Qk.N_D A | PGr | 33.65 | -48.95 |
| W-2.25 | Gk | PGr | 597.93 | |
| | Ö← | PGr | 129.39 | |
| | Qk.N_E 1 | PGr | 0.87 | -0.64 |
| | Qk.N_D A | PGr | 303.85 | -48.53 |
| W-2.26 | Gk | PGr | 305.07 | |
| | Ö← | PGr | 121.65 | |
| | Qk.N_E 1 | PGr | 0.03 | -0.02 |
| | Qk.N_D A | PGr | 82.58 | -47.74 |
| W-2.27_1 | Gk | PGr | 31.42 | |
| | Ö← | PGr | 4.31 | |
| | Qk.N_E 1 | PGr | 7.40 | -0.25 |
| | Qk.N_D A | PGr | 9.97 | -6.12 |
| W-2.27_2 | Gk | PGr | 53.46 | |
| | Ö← | PGr | 4.01 | |
| | Qk.N_E 1 | PGr | 11.87 | -1.51 |
| | Qk.N_D A | PGr | 9.73 | -9.15 |
| W-2.27_3 | Gk | PGr | 9.92 | |
| | Ö← | PGr | 0.80 | |
| | Qk.N_E 1 | PGr | 1.23 | 0.00 |
| | Qk.N_D A | PGr | 0.92 | -0.14 |
| W-2.30_2 | Gk | PGr | 54.97 | |
| | Ö← | PGr | 14.50 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
|-------------------------------|-------------|-----|-----------------|-----------------|
| | Qk.N_E 1 | PGr | 0.17 | -0.43 |
| | Qk.N_D A | PGr | 33.15 | -4.33 |
| W-2.30_3 | Gk | PGr | 53.79 | |
| | Ö← | PGr | 8.43 | |
| | Qk.N_E 1 | PGr | 0.63 | -0.45 |
| | Qk.N_D A | PGr | 43.18 | -26.63 |
| WS-2.5_BR | Gk | PGr | 0.00 | |
| WS-2.5_SA_W- 2.5_2 | Gk | PGr | 13.14 | |
| | Ö← | PGr | 2.62 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.36 |
| | Qk.N_D A | PGr | 5.83 | -0.34 |
| WS-2.5_SE_W- 2.5_1 | Gk | PGr | 12.69 | |
| | Ö← | PGr | 2.83 | |
| | Qk.N_E 1 | PGr | 0.00 | -0.47 |
| | Qk.N_D A | PGr | 6.75 | -0.77 |
| WS-2.18_1_BR | Gk | PGr | 0.00 | |
| WS- 2.18_1_SA_W- 2.18_1 | Gk | PGr | 20.30 | |
| | Ö← | PGr | 5.46 | |
| | Qk.N_E 1 | PGr | 16.05 | 0.00 |
| | Qk.N_D A | PGr | 5.18 | -4.93 |
| WS- 2.18_1_SE_W- 2.18_2 | Gk | PGr | 24.69 | |
| | Ö← | PGr | 6.77 | |
| | Qk.N_E 1 | PGr | 16.20 | 0.00 |
| | Qk.N_D A | PGr | 5.36 | -2.60 |
| WS-2.18_2_BR | Gk | PGr | 0.00 | |
| WS- 2.18_2_SA_W- 2.18_2 | Gk | PGr | 31.70 | |
| | Ö← | PGr | 8.55 | |
| | Qk.N_E 1 | PGr | 16.24 | 0.00 |
| | Qk.N_D A | PGr | 6.51 | -0.34 |
| WS- 2.18_2_SE_W- 2.18_3 | Gk | PGr | 31.75 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
|-------------------------------|-------------|-----|-----------------|-----------------|
| | Ö← | PGr | 8.56 | |
| | Qk.N_E 1 | PGr | 16.25 | 0.00 |
| | Qk.N_D A | PGr | 6.55 | -0.37 |
| WS-2.18_3_BR | Gk | PGr | 0.00 | |
| WS- 2.18_3_SA_W- 2.18_3 | Gk | PGr | 30.15 | |
| | Ö← | PGr | 8.06 | |
| | Qk.N_E 1 | PGr | 15.44 | 0.00 |
| | Qk.N_D A | PGr | 6.23 | -0.46 |
| WS- 2.18_3_SE_W- 2.18_4 | Gk | PGr | 29.34 | |
| | Ö← | PGr | 7.82 | |
| | Qk.N_E 1 | PGr | 15.05 | 0.00 |
| | Qk.N_D A | PGr | 6.13 | -0.55 |
| WS-2.27_1_BR | Gk | PGr | 0.00 | |
| WS- 2.27_1_SA_W- 2.27_1 | Gk | PGr | 19.03 | |
| | Ö← | PGr | 2.79 | |
| | Qk.N_E 1 | PGr | 7.83 | -0.48 |
| | Qk.N_D A | PGr | 5.24 | -4.64 |
| WS- 2.27_1_SE_W- 2.27_2 | Gk | PGr | 19.18 | |
| | Ö← | PGr | 2.45 | |
| | Qk.N_E 1 | PGr | 7.88 | -0.56 |
| | Qk.N_D A | PGr | 4.98 | -5.07 |
| WS-2.27_2_BR | Gk | PGr | 0.00 | |
| WS- 2.27_2_SA_W- 2.27_2 | Gk | PGr | 21.58 | |
| | Ö← | PGr | 2.28 | |
| | Qk.N_E 1 | PGr | 5.18 | -0.84 |
| | Qk.N_D A | PGr | 4.51 | -3.11 |
| WS- 2.27_2_SE_W- 2.27_3 | Gk | PGr | 17.61 | |
| | Ö← | PGr | 2.00 | |
| | Qk.N_E 1 | PGr | 4.12 | -0.58 |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|-------------------------------|-------------|-----|-----------------|-----------------|
| | Qk.N_D A | PGr | 3.27 | -1.85 |
| WS-2.30_2_BR | Gk | PGr | 0.00 | |
| WS- 2.30_2_SA_W- 2.30_2 | Gk | PGr | 37.32 | |
| | Ö← | PGr | 11.45 | |
| | Qk.N_E 1 | PGr | 0.44 | -0.34 |
| | Qk.N_D A | PGr | 28.60 | -6.05 |
| WS- 2.30_2_SE_W- 2.30_3 | Gk | PGr | 31.73 | |
| | Ö← | PGr | 9.54 | |
| | Qk.N_E 1 | PGr | 0.57 | -0.31 |
| | Qk.N_D A | PGr | 25.46 | -6.80 |
| WS-T-2.1_BR | Gk | PGr | 0.00 | |
| WS-T- 2.1_SA_WT- 2.1_2 | Gk | PGr | 7.19 | |
| | Ö← | PGr | | -1.70 |
| | Qk.N_E 1 | PGr | 2.11 | -0.19 |
| | Qk.N_D A | PGr | 4.27 | -7.79 |
| WS-T- 2.1_SE_WT- 2.1_3 | Gk | PGr | 3.48 | |
| | Ö← | PGr | | -2.61 |
| | Qk.N_E 1 | PGr | 2.22 | -0.10 |
| | Qk.N_D A | PGr | 4.05 | -9.47 |
| WS-T-2.3_BR | Gk | PGr | 0.00 | |
| WS-T- 2.3_SA_WT- 2.3_3 | Gk | PGr | 20.06 | |
| | Ö← | PGr | 2.98 | |
| | Qk.N_E 1 | PGr | 5.39 | -0.51 |
| | Qk.N_D A | PGr | 9.06 | -6.05 |
| WS-T- 2.3_SE_WT- 2.3_2 | Gk | PGr | 15.95 | |
| | Ö← | PGr | 1.76 | |
| | Qk.N_E 1 | PGr | 5.39 | -0.39 |
| | Qk.N_D A | PGr | 8.25 | -7.86 |
| WS-T-2.4_BR | Gk | PGr | 0.00 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
|------------------------------|-------------|-----|-----------------|-----------------|
| WS-T- 2.4_SA_WT- 2.4_1 | Gk | PGr | 33.34 | |
| | Ö← | PGr | 8.84 | |
| | Qk.N_E 1 | PGr | 0.87 | -0.49 |
| | Qk.N_D A | PGr | 18.18 | -0.88 |
| WS-T- 2.4_SE_WT- 2.4_2 | Gk | PGr | 34.39 | |
| | Ö← | PGr | 9.16 | |
| | Qk.N_E 1 | PGr | 0.92 | -0.54 |
| | Qk.N_D A | PGr | 18.61 | -0.66 |
| WT-1.1 | Gk | PGr | 790.21 | |
| | Ö← | PGr | 178.70 | |
| | Qk.N_E 1 | PGr | 0.94 | -0.41 |
| | Qk.N_D A | PGr | 385.96 | -28.84 |
| WT-2.1_1 | Gk | PGr | 166.90 | |
| | Ö← | PGr | 16.52 | |
| | Qk.N_E 1 | PGr | 8.01 | -2.50 |
| | Qk.N_D A | PGr | 56.52 | -28.12 |
| WT-2.1_2 | Gk | PGr | 59.12 | |
| | Ö← | PGr | 4.89 | |
| | Qk.N_E 1 | PGr | 1.61 | -0.30 |
| | Qk.N_D A | PGr | 14.15 | -4.74 |
| WT-2.1_3 | Gk | PGr | 11.81 | |
| | Ö← | PGr | | -5.19 |
| | Qk.N_E 1 | PGr | 1.33 | -0.06 |
| | Qk.N_D A | PGr | 7.11 | -17.94 |
| WT-2.1_4 | Gk | PGr | 253.98 | |
| | Ö← | PGr | 36.17 | |
| | Qk.N_E 1 | PGr | 0.24 | -0.28 |
| | Qk.N_D A | PGr | 105.29 | -53.90 |
| WT-2.2 | Gk | PGr | 26.77 | |
| | Ö← | PGr | | -25.60 |
| | Qk.N_E 1 | PGr | 15.07 | -4.30 |
| | Qk.N_D A | PGr | 31.66 | -89.57 |
| WT-2.3_1 | Gk | PGr | 262.60 | |
| | Ö← | PGr | 38.19 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_E 1 | PGr | 0.70 | -1.30 |
| | Qk.N_D A | PGr | 106.34 | -50.22 |
| WT-2.3_2 | Gk | PGr | 29.75 | |
| | Ö← | PGr | | -0.07 |
| | Qk.N_E 1 | PGr | 3.06 | -0.09 |
| | Qk.N_D A | PGr | 8.26 | -10.44 |
| WT-2.3_3 | Gk | PGr | 143.34 | |
| | Ö← | PGr | 1.55 | |
| | Qk.N_E 1 | PGr | 12.10 | -3.96 |
| | Qk.N_D A | PGr | 63.14 | -62.33 |
| WT-2.4_1 | Gk | PGr | 195.92 | |
| | Ö← | PGr | 53.43 | |
| | Qk.N_E 1 | PGr | 0.72 | -0.76 |
| | Qk.N_D A | PGr | 108.08 | -2.45 |
| WT-2.4_2 | Gk | PGr | 32.05 | |
| | Ö← | PGr | 7.22 | |
| | Qk.N_E 1 | PGr | 0.60 | -0.39 |
| | Qk.N_D A | PGr | 14.58 | -0.36 |
| WT-2.4_3 | Gk | PGr | 341.89 | |
| | Ö← | PGr | 82.89 | |
| | Qk.N_E 1 | PGr | 3.10 | -3.07 |
| | Qk.N_D A | PGr | 173.01 | -8.90 |
| WT-2.5 | Gk | PGr | 27.91 | |
| | Ö← | PGr | | -29.35 |
| | Qk.N_E 1 | PGr | 12.86 | -9.60 |
| | Qk.N_D A | PGr | 30.46 | -89.91 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Statik-Protokoll

Systemwerte

Protokoll der statischen Analyse

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 7297 | 6685 | 20055 | 1666465 | 12 MB |

Berechnung

Statische Berechnung

| | |
|----------------------------------|--------|
| Óã}ÈĀŠ*\↔~^æ^ĀfiāĀä↔æĀÑæăæ'â^ ^& | Einst. |
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à‡→æĀíĀIĞ

Spei cher

Speicherplatzbedarf

| | | |
|-------------------|----------|-----------|
| Arbeitsspeicher | âæ^=\↔&\ | vorhanden |
| Standardverfahren | 35 MB | ja |

| | | | |
|---------|----------|-----------|-----------------------|
| Festpl. | âæ^=\↔&\ | vorhanden | Laufwerk:\Pfad |
| Ergebn. | 77 | | "M:\20\6208\433_E..." |
| | MB | - | |

Aufbereitung der Struktur : 0 sec

Q=b|^&ĀăăăĀb\á\↔b'âæ^ĀN|^&ââæ

Berechnungszeit : 0 sec

Bel astung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | -7149.29 |
| | 0.00 | 0.00 | 7149.29 |
| LF-2 | 0.00 | 0.00 | -3231.29 |
| | 0.00 | 0.00 | 3231.29 |
| LF-3 | 0.00 | 0.00 | -585.00 |
| | 0.00 | 0.00 | 585.00 |
| LF-4 | 0.00 | 0.00 | -355.21 |
| | 0.00 | 0.00 | 355.21 |
| LF-5 | 0.00 | 0.00 | -372.94 |
| | 0.00 | 0.00 | 372.94 |
| LF-6 | 0.00 | 0.00 | -56.86 |
| | 0.00 | 0.00 | 56.86 |
| LF-7 | 0.00 | 0.00 | -471.45 |
| | 0.00 | 0.00 | 471.45 |
| LF-8 | 0.00 | 0.00 | -233.75 |
| | 0.00 | 0.00 | 233.75 |
| LF-9 | 0.00 | 0.00 | -45.38 |
| | 0.00 | 0.00 | 45.38 |
| LF-10 | 0.00 | 0.00 | -350.62 |
| | 0.00 | 0.00 | 350.63 |
| LF-11 | 0.00 | 0.00 | -140.25 |
| | 0.00 | 0.00 | 140.25 |
| LF-12 | 0.00 | 0.00 | -96.52 |
| | 0.00 | 0.00 | 96.52 |
| LF-13 | 0.00 | 0.00 | -47.23 |
| | 0.00 | 0.00 | 47.23 |
| LF-14 | 0.00 | 0.00 | -178.12 |
| | 0.00 | 0.00 | 178.12 |
| LF-15 | 0.00 | 0.00 | -240.62 |
| | 0.00 | 0.00 | 240.62 |
| LF-16 | 0.00 | 0.00 | -137.50 |

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|------------|------------------|------------------|------------------|
| | 0.00 | 0.00 | 137.50 |
| LF-17 | 0.00 | 0.00 | -231.27 |
| | 0.00 | 0.00 | 231.27 |
| LF-18 | 0.00 | 0.00 | -240.63 |
| | 0.00 | 0.00 | 240.62 |
| LF-19 | 0.00 | 0.00 | -199.26 |
| | 0.00 | 0.00 | 199.26 |
| LF-20 | 0.00 | 0.00 | -97.56 |
| | 0.00 | 0.00 | 97.56 |
| LF-21 | 0.00 | 0.00 | -97.56 |
| | 0.00 | 0.00 | 97.56 |
| LF-22 | 0.00 | 0.00 | -353.58 |
| | 0.00 | 0.00 | 353.58 |
| #1 LF-1 | 0.00 | 0.00 | -12087.07 |
| | 0.00 | 0.00 | 12087.07 |
| #1 LF-2 | 0.00 | 0.00 | -2939.72 |
| | 0.00 | 0.00 | 2939.72 |
| #1 LF-3 | 0.00 | 0.00 | -649.31 |
| | 0.00 | 0.00 | 649.31 |
| #1 LF-4 | 0.00 | 0.00 | -112.74 |
| | 0.00 | 0.00 | 112.74 |
| #1 LF-5 | 0.00 | 0.00 | -758.23 |
| | 0.00 | 0.00 | 758.23 |
| #1 LF-6 | 0.00 | 0.00 | -752.18 |
| | 0.00 | 0.00 | 752.18 |
| #1 LF-7 | 0.00 | 0.00 | -112.74 |
| | 0.00 | 0.00 | 112.74 |
| #1 LF-8 | 0.00 | 0.00 | -184.18 |
| | 0.00 | 0.00 | 184.18 |
| #1 LF-9 | 0.00 | 0.00 | -49.63 |
| | 0.00 | 0.00 | 49.63 |
| #1 LF-10 | 0.00 | 0.00 | -206.01 |
| | 0.00 | 0.00 | 206.01 |
| #1 LF-11 | 0.00 | 0.00 | -190.78 |
| | 0.00 | 0.00 | 190.78 |
| #1 LF-12 | 0.00 | 0.00 | -162.25 |
| | 0.00 | 0.00 | 162.25 |
| #1 LF-13 | 0.00 | 0.00 | -232.04 |
| | 0.00 | 0.00 | 232.04 |
| #1 LF-14 | 0.00 | 0.00 | -15.78 |
| | 0.00 | 0.00 | 15.78 |
| #1 LF-15 | 0.00 | 0.00 | -16.25 |
| | 0.00 | 0.00 | 16.25 |
| #1 LF-16 | 0.00 | 0.00 | -25.69 |
| | 0.00 | 0.00 | 25.69 |
| #1 LF-17 | 0.00 | 0.00 | -307.99 |
| | 0.00 | 0.00 | 307.99 |
| #1 LF-18 | 0.00 | 0.00 | -23.92 |
| | 0.00 | 0.00 | 23.92 |
| #1 LF-19 | 0.00 | 0.00 | -13.00 |
| | 0.00 | 0.00 | 13.00 |
| #1 LF-20 | 0.00 | 0.00 | -5.00 |
| | 0.00 | 0.00 | 5.00 |
| #1 LF-21 | 0.00 | 0.00 | -23.41 |

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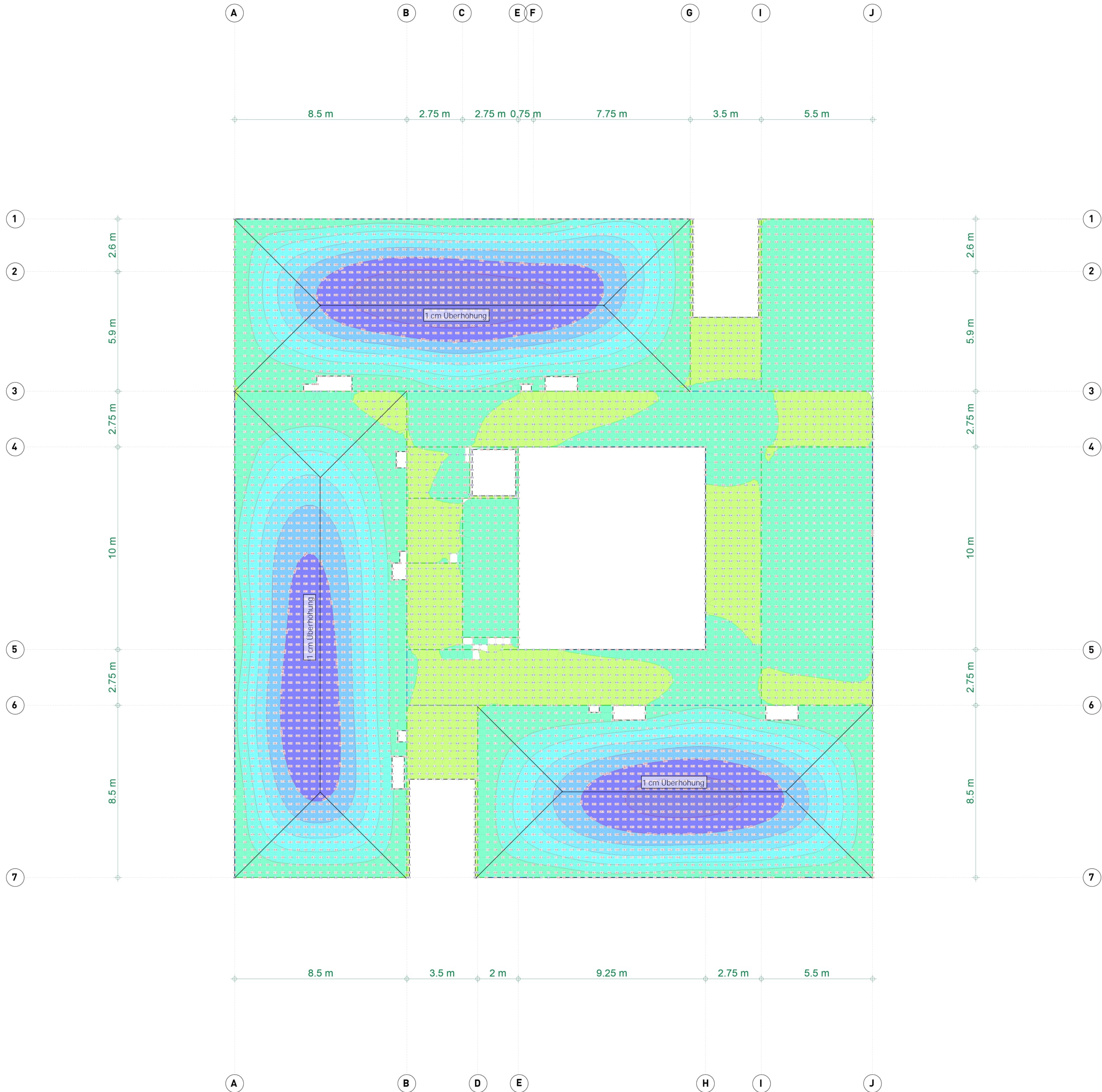
| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|------------|------------------|------------------|------------------|
| | 0.00 | 0.00 | 23.41 |
| #1 LF-22 | 0.00 | 0.00 | -120.58 |
| | 0.00 | 0.00 | 120.58 |
| #1 LF-23 | 0.00 | 0.00 | -29.32 |
| | 0.00 | 0.00 | 29.32 |
| #2 LF-1 | 0.00 | 0.00 | -1124.72 |
| | 0.00 | 0.00 | 1124.72 |
| #2 LF-2 | 0.00 | 0.00 | -115.93 |
| | 0.00 | 0.00 | 115.93 |
| #2 LF-3 | 0.00 | 0.00 | -22.44 |
| | 0.00 | 0.00 | 22.44 |
| #2 LF-4 | 0.00 | 0.00 | -74.00 |
| | 0.00 | 0.00 | 74.00 |
| #2 LF-5 | 0.00 | 0.00 | -35.80 |
| | 0.00 | 0.00 | 35.80 |
| #2 LF-6 | 0.00 | 0.00 | -30.08 |
| | 0.00 | 0.00 | 30.08 |
| #2 LF-7 | 0.00 | 0.00 | -69.57 |
| | 0.00 | 0.00 | 69.57 |
| #2 LF-8 | 0.00 | 0.00 | -35.98 |
| | 0.00 | 0.00 | 35.98 |
| Summe | | | |
| | 0.00 | 0.00 | -35438.22 |
| | 0.00 | 0.00 | 35438.22 |

Aufbau der Ergebnisse : 2 sec

Ende der statischen Analyse
Gesamtdauer : 3 sec

*** Berechnung erfolgreich abgeschlossen ***

Auswertung



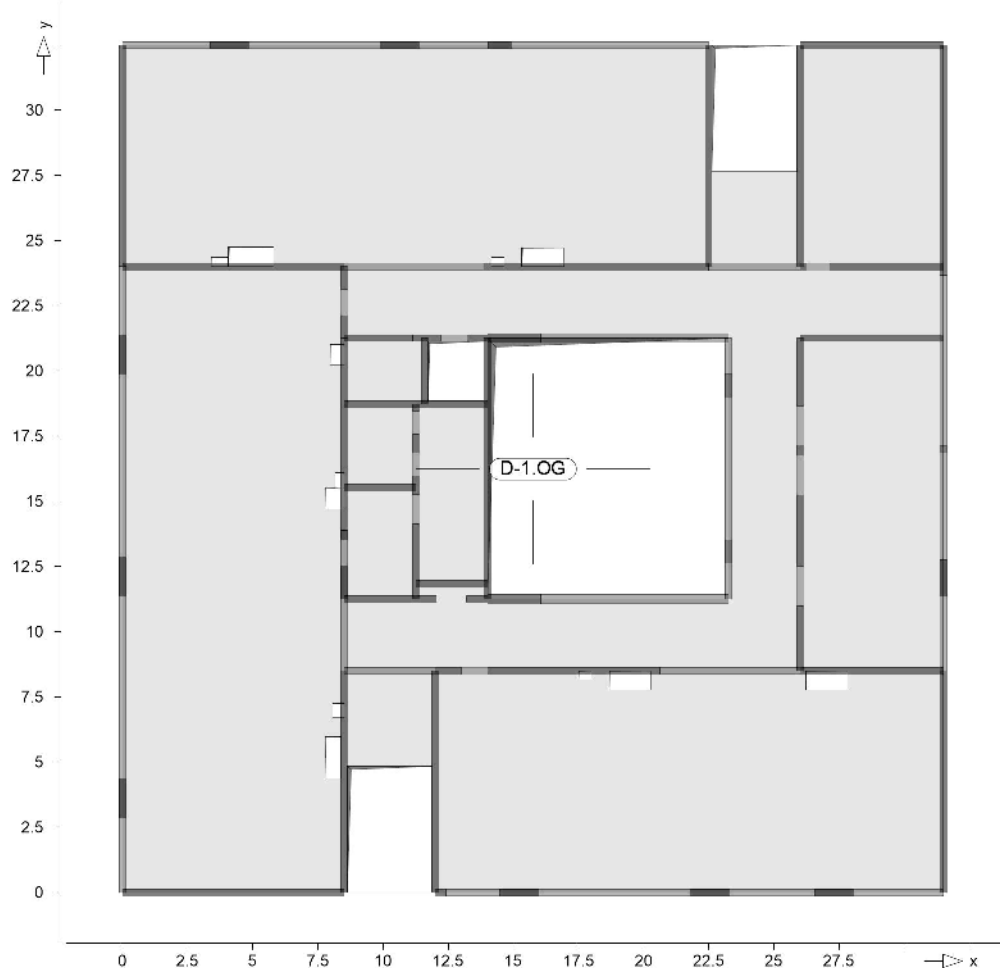
| | Begrenzung Durchbiegungen 1.OG | | | |
|--|---|------------------------|------------------------|---------------------------------------|
| | Feld1-3/A-G | Feld 3-7/A-B | Feld 6-7/D-J | Hinweise |
| Deckendicke [cm] | 28 | 28 | 28 | s-Richtung liegt außen |
| Maßgebende Spannweite [m] | 8,5 | 8,5 | 8,5 | |
| Grundbewehrung | 14/10 | 14/10 | 14/10 | |
| Zulagebewehrung maßgebender Bereich | unten: 1. Lage 14/20 im mittleren Feldbereich | - | - | |
| Max Differenzverformung [mm] GA (Feldmitte) | 30 | 30 | 30 | GA = gleitender Anschluss Wand |
| Max Endverformung [mm] l/250 | 34 | 34 | 34 | |
| Max Überhöhung [mm] l/250 | 34 | 34 | 34 | |
| Vorh. Differenzverformung ohne Überhöhung [mm] | 27,7 | 23,6 | 25,9 | |
| Vorh. Endverformung ohne Überhöhung [mm] | 41,5 | 39,4 | 39,7 | |
| Gewählte Überhöhung [mm] | 10 | 10 | 10 | |
| Vorh. Differenzverformung [mm] | 27,7 | 23,6 | 25,9 | |
| Vorh. Endverformung mit Überhöhung [mm] | 31,5 | 29,4 | 29,7 | |
| Anmerkungen | 1 cm Überhöhung | 1 cm Überhöhung | 1 cm Überhöhung | |

Bemessungsparameter Biegung

Biegebemessung der Platten (Stahlbeton) nach DIN EN 1992-1-1

Positionsgrafik

© 2025 mb-AEC Software GmbH



Mat. / Querschnitt

| Position | Winkel | Art | Material | Dicke |
|----------|--------|-----|------------------------------|-------|
| | Yfl | | Quer | [cm] |
| D-1.0G | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 28.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: 0.0

Expositionsklasse

↑ 300

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|-------------------------|
| D-1.0G | umlaufend | XC1 | trocken oder b\ 1.0G |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro | so | ru | su |
|----------|------|-------|------|-------|
| | Yfl | Yfl | Yfl | Yfl |
| D-1.0G | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

| Position | | c_{min} [mm] | $\#_{def}$ [mm] | c_{nom} [mm] | c_v [mm] | d'_r [mm] | d'_s [mm] |
|----------|---|-------------------|--------------------|-------------------|---------------|----------------|----------------|
| D-1.OG | o | 10 | 10 | 20 | - | 37 | 37 |
| | u | 10 | 10 | 20 | - | 37 | 37 |

Bemessungsparameter

1992-1-1

Belegung

| Position | Mindestbewehrung |
|----------|------------------|
| D-1.OG | ja |

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

D-1. OG

Erf. Bewehrung

Erforderliche Bewehrung

Kombinationen

Ew Einwirkungsname
Lkn Lastkombinationsnummer

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-----------|----|------|------------|-------------|-------------|---------|
| 1-481 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 |
| 482-1171 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 |
| 1172-1559 | | 1.00 | 1.00 | 1.50 | . | 1.05 |
| 1560-2545 | | 1.35 | 1.35 | 1.50 | . | 1.05 |
| 2546-2763 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 |
| 2764-2976 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 |
| 2977-3335 | | 1.35 | 1.35 | 1.50 | . | 1.05 |
| 3336-3436 | | 1.00 | 1.00 | 1.50 | . | 1.05 |
| 3437-3455 | | 1.00 | 1.35 | 1.50 | 1.05 | 1.05 |
| 3456-3481 | | 1.00 | 1.35 | 1.50 | 1.05 | 1.05 |
| 3482-3483 | | 1.00 | 1.00 | 1.50 | . | . |
| 3484-3516 | | 1.00 | 1.00 | 1.50 | 1.05 | . |
| 3517-3524 | | 1.35 | 1.00 | 1.50 | 1.05 | 1.05 |
| 3525-3535 | | 1.35 | 1.00 | 1.50 | . | 1.05 |
| 3536-3550 | | 1.00 | 1.00 | 1.50 | 1.05 | . |
| 3551-3559 | | 1.00 | 1.35 | 1.50 | . | 1.05 |
| 3560-3586 | | 1.00 | 1.35 | 1.50 | . | 1.05 |
| 3587-3595 | | 1.35 | 1.00 | 1.50 | 1.05 | 1.05 |
| 3596-3619 | | 1.35 | 1.00 | 1.50 | . | 1.05 |
| 3620-3621 | | 1.00 | 1.00 | 1.50 | . | . |
| 3622-3650 | | 1.35 | 1.35 | 1.50 | 1.05 | . |
| 3651-3656 | | 1.35 | 1.35 | 1.50 | . | . |
| 3657-3679 | | 1.35 | 1.35 | 1.50 | 1.05 | . |
| 3680 | | 1.00 | 1.35 | 1.50 | 1.05 | . |
| 3681-3875 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 |
| 3876-4044 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 |
| 4045-4100 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 |
| 4101-4122 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 |
| 4123-4132 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 |
| 4133-4135 | | 1.00 | 1.00 | 1.05 | 1.50 | . |

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| Lkn | Ew | Gk | Ö← Qk . N_B1 | Qk . N_C1 | Qk . N_C5 | Qk . N_E1 |
|-----------|------|------|--------------|-------------|-------------|-----------|
| 4136-4139 | 1.35 | 1.35 | 1.05 | 1.50 | . | 1.50 |
| 4140-4149 | 1.35 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 4150-4472 | 1.00 | 1.00 | 1.05 | . | 1.50 | 1.50 |
| 4473-4731 | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 4732-4924 | 1.35 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 4925-4937 | 1.35 | 1.00 | 1.05 | . | 1.50 | 1.50 |
| 4938-5030 | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5031-5199 | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5200-5224 | 1.00 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 5225-5254 | 1.35 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 5255-5289 | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5290-5309 | 1.00 | 1.00 | 1.05 | . | 1.50 | 1.50 |
| 5310-5327 | 1.00 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5328-5349 | 1.00 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5350 | 1.35 | 1.35 | . | 1.05 | 1.50 | 1.50 |
| 5351-5356 | 1.00 | 1.00 | . | . | 1.50 | 1.50 |
| 5357-5359 | 1.35 | 1.35 | . | . | 1.50 | 1.50 |
| 5360-5363 | 1.35 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5364-5365 | 1.00 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 5366 | 1.35 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5367-6011 | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 6012-6140 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 6141-6531 | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 6532-6642 | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 6643-7072 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7073-7153 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7154-7181 | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 7182-7259 | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 7260-7263 | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 7264-7278 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7279-7333 | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7334-7506 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7507-7513 | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7514-7530 | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7531-7605 | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 7606-7609 | 1.35 | 1.35 | 1.05 | 1.05 | . | 1.50 |
| 7610-7624 | 1.00 | 1.00 | . | . | 1.05 | 1.50 |
| 7625-7628 | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 7629 | 1.35 | 1.35 | . | . | 1.05 | 1.50 |
| 7630-7631 | 1.00 | 1.00 | 1.05 | . | . | 1.50 |
| 7632 | 1.00 | 1.00 | 1.05 | . | . | 1.50 |
| 7633 | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 7634 | 1.35 | 1.00 | . | . | 1.05 | 1.50 |
| 7635-7644 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7645-7646 | 1.35 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7647-7648 | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7649-7651 | 1.35 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7652-7768 | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 7769-7855 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7856-7863 | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7864 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7865-7891 | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 7892-7894 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7895 | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7896-7902 | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-----------|----|------|------|---------|---------|---------|---------|
| 7903 | | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 7904-7905 | | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|-----------|----|-------------|---------|
| 1-481 | | . | . |
| 482-1171 | | . | 1.20 |
| 1172-1559 | | . | 1.20 |
| 1560-2545 | | . | 1.20 |
| 2546-2763 | | . | 1.20 |
| 2764-2976 | | . | . |
| 2977-3335 | | . | . |
| 3336-3436 | | . | . |
| 3437-3455 | | . | 1.20 |
| 3456-3481 | | . | . |
| 3482-3483 | | . | 1.20 |
| 3484-3516 | | . | 1.20 |
| 3517-3524 | | . | 1.20 |
| 3525-3535 | | . | . |
| 3536-3550 | | . | . |
| 3551-3559 | | . | . |
| 3560-3586 | | . | 1.20 |
| 3587-3595 | | . | . |
| 3596-3619 | | . | 1.20 |
| 3620-3621 | | . | . |
| 3622-3650 | | . | 1.20 |
| 3651-3656 | | . | 1.20 |
| 3657-3679 | | . | . |
| 3680 | | . | . |
| 3681-3875 | | . | 1.20 |
| 3876-4044 | | . | 1.20 |
| 4045-4100 | | . | . |
| 4101-4122 | | . | . |
| 4123-4132 | | . | 1.20 |
| 4133-4135 | | . | 1.20 |
| 4136-4139 | | . | 1.20 |
| 4140-4149 | | . | 1.20 |
| 4150-4472 | | . | 1.20 |
| 4473-4731 | | . | 1.20 |
| 4732-4924 | | . | 1.20 |
| 4925-4937 | | . | 1.20 |
| 4938-5030 | | . | . |
| 5031-5199 | | . | 1.20 |
| 5200-5224 | | . | 1.20 |
| 5225-5254 | | . | . |
| 5255-5289 | | . | . |
| 5290-5309 | | . | . |
| 5310-5327 | | . | . |
| 5328-5349 | | . | 1.20 |
| 5350 | | . | 1.20 |
| 5351-5356 | | . | 1.20 |
| 5357-5359 | | . | 1.20 |
| 5360-5363 | | . | 1.20 |
| 5364-5365 | | . | . |
| 5366 | | . | . |
| 5367-6011 | | 1.50 | 1.20 |

| Lkn | Ew Qk.N_DA Qk.N_T2 |
|-----------|--------------------|
| 6012-6140 | 1.50 1.20 |
| 6141-6531 | 1.50 1.20 |
| 6532-6642 | 1.50 . |
| 6643-7072 | 1.50 1.20 |
| 7073-7153 | 1.50 . |
| 7154-7181 | 1.50 1.20 |
| 7182-7259 | 1.50 1.20 |
| 7260-7263 | 1.50 . |
| 7264-7278 | 1.50 . |
| 7279-7333 | 1.50 1.20 |
| 7334-7506 | 1.50 . |
| 7507-7513 | 1.50 . |
| 7514-7530 | 1.50 1.20 |
| 7531-7605 | 1.50 . |
| 7606-7609 | 1.50 1.20 |
| 7610-7624 | 1.50 1.20 |
| 7625-7628 | 1.50 . |
| 7629 | 1.50 1.20 |
| 7630-7631 | 1.50 1.20 |
| 7632 | 1.50 . |
| 7633 | 1.50 1.20 |
| 7634 | 1.50 1.20 |
| 7635-7644 | 1.50 1.20 |
| 7645-7646 | 1.50 1.20 |
| 7647-7648 | 1.50 . |
| 7649-7651 | 1.50 . |
| 7652-7768 | . 1.50 |
| 7769-7855 | . 1.50 |
| 7856-7863 | . 1.50 |
| 7864 | . 1.50 |
| 7865-7891 | . 1.50 |
| 7892-7894 | . 1.50 |
| 7895 | . 1.50 |
| 7896-7902 | . 1.50 |
| 7903 | . 1.50 |
| 7904-7905 | . 1.50 |

Alle Nachweise

Öã~ääã→´åAQ†^&bâæ}æää|^&Áá|bÁá→æ^ÁSá´å}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y'↑Y↓↑Y |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|-----------------------|
| 10 | 6141 | 7.41 | -125.2 | -17.56 | 9.87 | 3.47 |
| 33 | 1566 | 34.30 | 24.69 | -0.35 | 34.65 | 3.47 |
| 34 | 1567 | 40.38 | -26.23 | 16.90 | 51.27 | 4.76 |
| 40 | 6146 | 84.75 | 72.08 | 2.18 | 86.93 | 8.22 |
| 41 | 6147 | 83.27 | 136.72 | -0.23 | 83.50 | 7.88 |
| 50 | 6149 | 8.78 | -129.6 | 13.10 | 10.11 | 3.47 |
| 76 | 5 | 51.64 | -20.70 | -52.22 | 103.86 | 9.98 |
| 80 | 6152 | 26.29 | -110.6 | 23.32 | 31.21 | 3.47 |
| 85 | 6154 | 28.22 | -122.2 | 14.89 | 30.04 | 3.47 |
| 90 | 2984 | 27.82 | -5.42 | -60.50 | 88.32 | 8.36 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ¥ ↯ ↑ Y'' |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|------------------------------|
| 97 | 5393 | -2.35 | -0.81 | 15.86 | 13.51 | 3.47 |
| 105 | 1182 | -5.14 | -3.10 | -1.43 | 0.00 | 3.47 |
| 155 | 35 | 31.10 | -3.57 | -63.87 | 94.98 | 9.03 |
| 161 | 7661 | 0.02 | 0.03 | -13.23 | 13.26 | 3.47 |
| 168 | 6673 | 0.37 | 0.03 | 11.13 | 11.50 | 3.47 |
| 175 | 44 | 19.75 | -2.24 | 52.80 | 72.55 | 6.81 |
| 180 | 6675 | -6.72 | 0.19 | -17.57 | 10.85 | 3.47 |
| 210 | 5430 | -1.75 | 0.07 | 14.91 | 13.15 | 3.47 |
| 230 | 38 | 8.25 | 9.09 | -5.41 | 13.66 | 3.47 |
| 300 | 3 | 21.08 | 6.00 | -58.33 | 79.40 | 7.48 |
| 318 | 20 | 13.81 | 13.39 | 52.63 | 66.44 | 6.22 |
| 375 | 48 | 0.11 | 9.62 | 57.72 | 57.83 | 5.39 |
| 428 | 522 | 10.70 | 59.06 | -3.08 | 13.77 | 3.47 |
| 450 | 1618 | 13.95 | 19.09 | 49.75 | 63.70 | 5.95 |
| 473 | 20 | 21.95 | 22.53 | 45.51 | 67.46 | 6.31 |
| 478 | 2997 | -0.02 | 0.24 | -42.10 | 42.08 | 3.89 |
| 527 | 1618 | 20.50 | 28.52 | 43.65 | 64.15 | 5.84 |
| 563 | 3015 | 19.93 | 49.65 | -30.61 | 50.54 | 4.69 |
| 603 | 1618 | 28.05 | 45.50 | 34.80 | 62.85 | 5.87 |
| 640 | 1638 | 21.93 | 47.72 | -27.76 | 49.69 | 4.61 |
| 711 | 7673 | 0.00 | -1.36 | 13.68 | 13.68 | 3.47 |
| 727 | 520 | 35.20 | 91.63 | -10.29 | 45.50 | 4.21 |
| 730 | 570 | 36.39 | 98.29 | -9.13 | 45.53 | 4.22 |
| 765 | 3027 | 0.08 | 0.31 | 26.46 | 26.54 | 3.47 |
| 787 | 7675 | -2.56 | -0.59 | 10.36 | 7.80 | 3.47 |
| 819 | 2777 | 28.40 | 94.68 | 0.25 | 28.65 | 3.47 |
| 942 | 2779 | -2.32 | 6.81 | 7.62 | 5.30 | 3.47 |
| 944 | 602 | 1.89 | -6.70 | -1.35 | 2.16 | 3.47 |
| 945 | 590 | 2.08 | -4.51 | 6.12 | 8.20 | 3.47 |
| 1024 | 1190 | -3.09 | -2.43 | 5.70 | 2.62 | 3.47 |
| 1031 | 1638 | 31.56 | 62.84 | 1.34 | 32.91 | 3.47 |
| 1050 | 527 | 37.42 | 115.63 | -3.79 | 41.20 | 3.81 |
| 1075 | 4161 | 3.92 | 4.11 | 0.03 | 3.95 | 3.47 |
| 1096 | 54 | -0.88 | -3.14 | 22.22 | 21.34 | 3.47 |
| 1097 | 616 | 22.46 | -25.73 | -86.28 | 108.75 | 10.51 |
| 1098 | 617 | 27.48 | -29.98 | 46.52 | 74.00 | 6.95 |
| 1127 | 527 | 38.20 | 110.54 | -2.86 | 41.06 | 3.80 |
| 1173 | 627 | 18.36 | -43.45 | -85.76 | 104.12 | 10.01 |
| 1174 | 7865 | -31.52 | 11.98 | 10.79 | 0.00 | 3.47 |
| 1254 | 1709 | -1.08 | 26.55 | 11.77 | 10.69 | 3.47 |
| 1260 | 7786 | 5.32 | -2.40 | -1.27 | 6.00 | 3.47 |
| 1339 | 1589 | 36.96 | -65.80 | 28.13 | 48.99 | 4.54 |
| 1357 | 3075 | 25.39 | 46.06 | 20.59 | 45.98 | 4.26 |
| 1401 | 148 | 0.10 | 0.91 | -31.45 | 31.55 | 3.47 |
| 1439 | 3075 | 20.61 | 32.06 | 25.97 | 46.57 | 4.31 |
| 1485 | 1730 | 0.33 | 14.35 | -4.75 | 5.08 | 3.47 |
| 1504 | 3562 | -2.43 | -4.40 | 4.92 | 2.49 | 3.47 |
| 1565 | 1716 | 16.87 | 19.00 | -36.96 | 53.83 | 5.00 |
| 1650 | 708 | 9.21 | 6.26 | -42.23 | 51.44 | 4.78 |
| 1674 | 1584 | 43.11 | -39.25 | -12.21 | 46.91 | 4.35 |
| 1675 | 1581 | 76.15 | -82.50 | -2.40 | 76.22 | 7.17 |
| 1748 | 1746 | 111.91 | 33.74 | 3.72 | 115.63 | 11.25 |
| 1830 | 1642 | 113.89 | 33.01 | 1.77 | 115.67 | 11.26 |
| 1850 | 7820 | -2.49 | -0.48 | 2.65 | 0.17 | 3.47 |
| | | | | | | D-330 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 1927 | 7897 | -9.21 | 7.17 | 9.09 | 0.00 | 3.47 |
| 1949 | 6165 | 1.65 | -113.5 | 17.39 | 4.32 | 3.47 |
| 1950 | 1797 | 34.43 | -132.6 | -34.87 | 43.60 | 3.78 |
| 1966 | 4769 | 38.91 | -87.31 | 33.31 | 51.62 | 4.79 |
| 1967 | 5491 | 4.99 | -51.62 | -19.15 | 12.09 | 3.47 |
| 1971 | 5495 | -5.33 | -32.78 | -14.48 | 1.07 | 3.47 |
| 2000 | 1283 | 1.40 | 68.20 | 3.46 | 4.86 | 3.47 |
| 2021 | 1579 | -36.39 | 36.77 | -82.03 | 45.64 | 3.90 |
| 2024 | 7301 | -42.57 | 20.89 | 47.90 | 5.34 | 3.47 |
| 2104 | 7307 | -10.22 | -39.99 | 25.06 | 5.48 | 3.47 |
| 2346 | 6745 | -3.18 | -5.92 | -4.28 | 0.00 | 3.47 |
| 2399 | 1619 | 117.53 | 23.06 | -1.42 | 118.95 | 11.62 |
| 2493 | 4966 | 1.48 | 3.36 | 2.23 | 3.71 | 3.47 |
| 2514 | 5546 | -4.59 | -1.67 | -4.12 | 0.00 | 3.47 |
| 2518 | 7520 | 2.38 | -1.03 | -3.79 | 6.16 | 3.47 |
| 2585 | 6776 | -9.96 | 0.19 | -0.97 | 0.00 | 3.47 |
| 2602 | 4929 | 1.02 | 0.32 | -0.03 | 1.05 | 3.47 |
| 2696 | 752 | 0.22 | -29.00 | -2.10 | 0.37 | 3.47 |
| 2824 | 1619 | 116.00 | 22.93 | 2.13 | 118.12 | 11.53 |
| 3168 | 3203 | 30.42 | 13.76 | -0.16 | 30.59 | 3.47 |
| 3193 | 1573 | 16.07 | -42.66 | -67.64 | 83.71 | 7.90 |
| 3225 | 3210 | 43.95 | 17.22 | -0.93 | 44.89 | 4.16 |
| 3252 | 4671 | -3.82 | 8.87 | -12.75 | 8.93 | 3.47 |
| 3279 | 2172 | 27.86 | 11.69 | -0.78 | 28.64 | 3.47 |
| 3309 | 4670 | 0.25 | 9.29 | -4.25 | 4.50 | 3.47 |
| 3434 | 6875 | 0.47 | -6.76 | -0.63 | 0.52 | 3.47 |
| 3542 | 5117 | 6.73 | 3.91 | -8.77 | 15.50 | 3.47 |
| 4009 | 5734 | -12.76 | 2.47 | -10.47 | 0.00 | 3.47 |
| 4061 | 4863 | 3.40 | 11.38 | -18.87 | 22.27 | 3.47 |
| 4064 | 2344 | 20.72 | -2.83 | -17.08 | 37.80 | 3.49 |
| 4065 | 2345 | 34.25 | -37.58 | -26.77 | 53.32 | 4.96 |
| 4076 | 6419 | 4.21 | 0.91 | 3.30 | 7.50 | 3.47 |
| 4120 | 3933 | -4.17 | 3.23 | -4.18 | 0.01 | 3.47 |
| 4131 | 6422 | 31.25 | 9.59 | 8.37 | 39.62 | 3.66 |
| 4197 | 5146 | 1.21 | 0.19 | -3.79 | 5.00 | 3.47 |
| 4208 | 6453 | 16.83 | 23.89 | 1.64 | 18.47 | 3.47 |
| 4384 | 5773 | -1.84 | -2.32 | 2.01 | 0.00 | 3.47 |
| 4405 | 2241 | 27.90 | -1.87 | 0.15 | 27.91 | 3.47 |
| 4575 | 3262 | 10.16 | -29.44 | 2.01 | 10.30 | 3.47 |
| 4579 | 2394 | 21.11 | -21.15 | -21.06 | 42.08 | 3.89 |
| 4650 | 4114 | -1.00 | -0.96 | -1.63 | 0.62 | 3.47 |
| 4654 | 2279 | -7.41 | -52.10 | 20.72 | 0.83 | 3.47 |
| 4694 | 5197 | 2.66 | -56.43 | -5.34 | 3.17 | 3.47 |
| 4723 | 5857 | -1.26 | -5.19 | -3.67 | 1.33 | 3.47 |
| 4734 | 3522 | 2.94 | -24.66 | -3.12 | 3.33 | 3.47 |
| 4744 | 3396 | -9.40 | 1.26 | -13.93 | 4.54 | 3.47 |
| 4746 | 7142 | 12.78 | 28.55 | -80.95 | 93.73 | 8.89 |
| 4814 | 4459 | -0.23 | -109.1 | -14.03 | 1.57 | 3.47 |
| 4840 | 3975 | 18.28 | -110.8 | 4.68 | 18.48 | 3.47 |
| 4881 | 3716 | 0.34 | -0.66 | -26.80 | 27.14 | 3.47 |
| 4884 | 7039 | -1.94 | -25.71 | -21.53 | 16.09 | 3.47 |
| 4891 | 4045 | 5.83 | -43.43 | -21.71 | 16.67 | 3.47 |
| 4924 | 508 | -3.41 | -87.87 | 26.93 | 4.85 | 3.47 |
| 4929 | 1082 | -8.13 | -54.83 | 26.19 | 4.39 | 3.47 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ¥ Ð ↑ Y'' |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|------------------------------|
| 4931 | 1083 | -6.23 | -44.11 | 29.18 | 13.07 | 3.47 |
| 4975 | 3719 | 32.79 | 1.17 | -17.20 | 49.99 | 4.64 |
| 4978 | 5919 | 2.60 | -14.21 | -5.75 | 4.93 | 3.47 |
| 5056 | 3741 | 2.18 | -0.28 | -21.86 | 24.04 | 3.47 |
| 5064 | 3878 | -1.68 | -2.15 | -5.54 | 3.86 | 3.47 |
| 5162 | 2426 | 31.35 | 18.87 | -3.93 | 35.27 | 3.47 |
| 5306 | 3741 | 17.59 | 20.72 | -32.90 | 50.49 | 4.69 |
| 5392 | 3741 | 23.81 | 31.71 | -26.39 | 50.20 | 4.66 |
| 5399 | 3755 | 35.76 | 60.36 | -13.97 | 49.73 | 4.61 |
| 5440 | 3295 | 25.11 | 35.61 | 22.45 | 47.56 | 4.41 |
| 5479 | 3741 | 32.28 | 48.37 | -17.18 | 49.46 | 4.59 |
| 5504 | 2437 | 36.84 | 86.23 | -3.36 | 40.20 | 3.71 |
| 5524 | 3295 | 31.06 | 49.21 | 16.19 | 47.24 | 4.38 |
| 5558 | 4046 | 0.33 | 0.61 | -21.61 | 21.94 | 3.47 |
| 5568 | 3741 | 41.63 | 70.46 | -7.87 | 49.50 | 4.59 |
| 5585 | 3788 | 33.62 | 88.51 | 7.37 | 40.99 | 3.79 |
| 5590 | 2437 | 36.73 | 97.89 | -3.33 | 40.06 | 3.70 |
| 5619 | 1540 | -9.36 | 0.53 | -6.56 | 0.00 | 3.47 |
| 5701 | 1088 | 30.85 | -39.05 | 66.33 | 97.18 | 9.26 |
| 5719 | 3740 | 14.62 | 14.98 | -5.43 | 20.06 | 3.47 |
| 5743 | 3788 | 35.05 | 104.70 | 5.49 | 40.54 | 3.75 |
| 5787 | 484 | 43.38 | 23.44 | 1.07 | 44.45 | 4.11 |
| 5814 | 3266 | 17.85 | 88.70 | 2.82 | 20.67 | 3.47 |
| 5819 | 3788 | 35.40 | 108.67 | 4.52 | 39.92 | 3.69 |
| 5849 | 3309 | 30.70 | 47.67 | 0.47 | 31.17 | 3.47 |
| 5868 | 2508 | 28.12 | 13.89 | -0.28 | 28.40 | 3.47 |
| 5899 | 2437 | 35.56 | 109.36 | 5.94 | 41.49 | 3.84 |
| 5949 | 3718 | 0.32 | 0.37 | 17.59 | 17.92 | 3.47 |
| 5971 | 3851 | 33.09 | 114.44 | 5.48 | 38.57 | 3.56 |
| 5975 | 2517 | 33.21 | 105.77 | 8.07 | 41.28 | 3.82 |
| 6009 | 482 | 0.19 | -1.72 | -0.67 | 0.45 | 3.47 |
| 6046 | 3860 | 32.43 | 107.39 | 5.87 | 38.30 | 3.54 |
| 6124 | 386 | 27.48 | 96.94 | 9.61 | 37.08 | 3.47 |
| 6185 | 3681 | 27.46 | 45.29 | 32.59 | 60.05 | 5.60 |
| 6261 | 3741 | 22.79 | 33.14 | 37.27 | 60.06 | 5.60 |
| 6307 | 1099 | 37.26 | 53.14 | -27.76 | 65.02 | 6.08 |
| 6337 | 3718 | 15.89 | 24.46 | 46.12 | 62.01 | 5.62 |
| 6362 | 2532 | 15.13 | 61.74 | 10.78 | 25.92 | 3.47 |
| 6386 | 434 | 33.82 | 36.94 | -31.72 | 65.55 | 6.13 |
| 6546 | 3295 | 12.69 | -3.82 | -45.56 | 58.25 | 5.43 |
| 6548 | 22 | 0.72 | -34.19 | -44.75 | 45.47 | 4.21 |
| 6635 | 7652 | 0.01 | -1.05 | -1.01 | 0.99 | 3.47 |
| 6651 | 6525 | 0.56 | 7.30 | -1.05 | 1.61 | 3.47 |

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Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ¥ Ð ↑ Y'' |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|------------------------------|
| 5 | 7653 | -0.20 | -1.37 | -12.99 | 11.62 | 3.47 |
| 6 | 483 | -168.4 | 11.51 | 59.82 | 32.77 | 3.47 |
| 35 | 1569 | -196.2 | -2.53 | 48.58 | 9.50 | 3.47 |
| 40 | 7183 | 84.51 | 73.55 | 2.29 | 75.85 | 7.13 |
| 41 | 6148 | 83.27 | 136.72 | -0.23 | 136.95 | 13.62 |
| 59 | 1589 | -212.0 | 15.97 | 55.81 | 30.66 | 3.47 |

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Schulcampus EWK 10G-LP4-o.Bw.

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 100 | 510 | 3.62 | -4.56 | 11.31 | 6.75 | 3.47 |
| 105 | 1598 | -7.57 | -5.48 | -6.40 | 0.00 | 3.47 |
| 145 | 1185 | 0.28 | -8.68 | -32.18 | 23.50 | 3.47 |
| 156 | 2 | 17.12 | 1.59 | -64.77 | 66.36 | 6.21 |
| 161 | 7661 | 0.02 | 0.03 | -13.23 | 13.26 | 3.47 |
| 168 | 40 | 0.35 | 0.08 | 23.75 | 23.83 | 3.47 |
| 191 | 46 | 13.92 | 0.08 | -14.06 | 14.15 | 3.47 |
| 203 | 527 | 1.35 | 0.09 | 12.55 | 12.64 | 3.47 |
| 230 | 3560 | 6.99 | 8.10 | -4.50 | 12.61 | 3.47 |
| 297 | 48 | -0.07 | 17.71 | 53.56 | 71.27 | 6.68 |
| 301 | 65 | 18.91 | 10.35 | -55.38 | 65.73 | 5.99 |
| 373 | 49 | 6.91 | 12.50 | 54.13 | 66.63 | 6.23 |
| 395 | 60 | 17.99 | 19.73 | 48.31 | 68.04 | 6.37 |
| 458 | 3014 | 33.37 | 21.01 | -44.12 | 65.13 | 5.94 |
| 615 | 3022 | 50.30 | 29.92 | -32.27 | 62.19 | 5.81 |
| 627 | 3012 | 38.57 | 35.84 | 34.00 | 69.84 | 6.55 |
| 634 | 2997 | 0.02 | -2.48 | -29.57 | 27.09 | 3.47 |
| 711 | 7532 | 0.00 | -1.28 | 15.09 | 13.81 | 3.47 |
| 765 | 48 | 0.08 | 0.30 | 28.36 | 28.66 | 3.47 |
| 865 | 101 | -6.37 | -2.22 | 16.68 | 14.46 | 3.47 |
| 899 | 34 | 36.89 | 115.03 | 1.84 | 116.87 | 11.39 |
| 971 | 34 | 36.82 | 117.99 | -4.23 | 122.21 | 11.98 |
| 1020 | 116 | -26.58 | 11.63 | 15.65 | 20.84 | 3.47 |
| 1025 | 3031 | -3.04 | 12.74 | 9.09 | 21.82 | 3.47 |
| 1075 | 4734 | 5.19 | 5.47 | -0.43 | 5.90 | 3.47 |
| 1175 | 3356 | -18.78 | -1.23 | -0.38 | 0.00 | 3.47 |
| 1178 | 1700 | -13.62 | 0.65 | -6.18 | 3.45 | 3.47 |
| 1180 | 630 | -47.10 | 9.99 | -8.10 | 11.39 | 3.47 |
| 1254 | 3048 | -1.08 | 26.55 | 11.77 | 38.32 | 3.54 |
| 1255 | 7539 | -4.40 | -15.36 | -15.86 | 0.50 | 3.47 |
| 1256 | 7680 | -40.98 | 3.90 | -4.76 | 4.46 | 3.47 |
| 1317 | 4161 | 0.02 | 0.01 | -11.39 | 11.40 | 3.47 |
| 1350 | 1221 | -10.50 | -0.89 | 12.58 | 11.70 | 3.47 |
| 1715 | 5061 | 24.24 | 11.63 | -1.46 | 13.09 | 3.47 |
| 1720 | 5071 | 9.59 | 15.08 | 3.50 | 18.59 | 3.47 |
| 1737 | 600 | 0.13 | 1.75 | -43.63 | 45.38 | 3.96 |
| 1780 | 4175 | -1.30 | -10.62 | 12.88 | 2.26 | 3.47 |
| 1787 | 5080 | 2.90 | 5.50 | 7.21 | 12.71 | 3.47 |
| 1791 | 7285 | -3.42 | -7.82 | -8.07 | 0.25 | 3.47 |
| 1805 | 5329 | -7.42 | 5.71 | 2.81 | 6.77 | 3.47 |
| 1806 | 4760 | -8.03 | 11.68 | -5.46 | 15.39 | 3.47 |
| 1808 | 5085 | 6.47 | 7.21 | -17.84 | 25.05 | 3.47 |
| 1811 | 5475 | -4.69 | -8.19 | -17.16 | 8.97 | 3.47 |
| 1814 | 1262 | -1.77 | -12.52 | -16.62 | 4.10 | 3.47 |
| 1891 | 105 | -9.43 | 13.16 | -29.15 | 42.31 | 3.91 |
| 1897 | 5484 | 0.12 | -12.16 | -16.63 | 4.47 | 3.47 |
| 1898 | 1269 | -0.44 | -12.76 | -15.38 | 2.63 | 3.47 |
| 1948 | 494 | -31.62 | 45.74 | 14.40 | 52.29 | 4.86 |
| 2000 | 1806 | 1.50 | 105.76 | -2.05 | 107.81 | 10.40 |
| 2009 | 3123 | 6.56 | -13.54 | 14.25 | 0.70 | 3.47 |
| 2020 | 1575 | -62.92 | 62.44 | 6.58 | 63.13 | 5.90 |
| 2021 | 1575 | -36.39 | 36.77 | -82.03 | 118.81 | 11.60 |
| 2024 | 7078 | -96.10 | 40.43 | 80.76 | 108.29 | 10.46 |
| 2038 | 15 | -76.02 | 45.43 | -37.05 | 63.49 | 5.93 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 2040 | 213 | -34.51 | 31.05 | 37.85 | 68.91 | 6.45 |
| 2374 | 5524 | -17.64 | -10.60 | -5.30 | 0.00 | 3.47 |
| 2536 | 7204 | 14.65 | 16.38 | -2.69 | 19.07 | 3.47 |
| 2538 | 7183 | 26.05 | 12.86 | 5.41 | 18.27 | 3.47 |
| 2583 | 1330 | -53.55 | 4.74 | -1.66 | 4.79 | 3.47 |
| 2646 | 762 | 106.27 | 25.67 | 0.12 | 25.79 | 3.47 |
| 2916 | 5585 | -14.96 | 3.60 | -4.08 | 4.71 | 3.47 |
| 3196 | 1374 | -19.67 | 0.79 | -0.27 | 0.79 | 3.47 |
| 3202 | 6265 | 9.48 | 3.94 | 1.17 | 5.11 | 3.47 |
| 3215 | 5625 | -16.23 | 1.58 | -0.38 | 1.59 | 3.47 |
| 3314 | 3212 | 2.49 | 37.23 | -0.59 | 37.82 | 3.49 |
| 3370 | 7431 | -20.69 | 0.90 | 2.36 | 1.17 | 3.47 |
| 3371 | 287 | -18.89 | 5.13 | -0.97 | 5.18 | 3.47 |
| 3406 | 1911 | 0.33 | 17.68 | 9.12 | 26.80 | 3.47 |
| 3472 | 812 | 88.39 | 36.91 | 6.61 | 43.52 | 4.03 |
| 3565 | 4988 | 4.82 | -0.26 | 0.65 | 0.40 | 3.47 |
| 3684 | 4680 | 5.87 | -1.06 | 1.13 | 0.08 | 3.47 |
| 3822 | 28 | 23.17 | 7.38 | 19.07 | 26.46 | 3.47 |
| 3844 | 5704 | -56.04 | -4.92 | -1.86 | 0.00 | 3.47 |
| 3854 | 7527 | -3.31 | 0.25 | 0.54 | 0.33 | 3.47 |
| 3889 | 2316 | 80.00 | 33.81 | 1.06 | 34.88 | 3.47 |
| 3893 | 2318 | 64.14 | 29.30 | -12.38 | 41.68 | 3.85 |
| 3948 | 2318 | 51.64 | 26.07 | -16.10 | 42.16 | 3.90 |
| 4004 | 2318 | 37.80 | 22.59 | -19.47 | 42.05 | 3.89 |
| 4010 | 6995 | -23.59 | -1.08 | -6.72 | 0.84 | 3.47 |
| 4048 | 2241 | 54.96 | 20.66 | 20.49 | 41.15 | 3.80 |
| 4141 | 342 | -0.24 | -10.89 | 11.06 | 0.16 | 3.47 |
| 4155 | 2241 | 32.25 | 9.35 | 34.01 | 43.36 | 4.01 |
| 4205 | 6447 | 2.51 | 9.20 | -10.47 | 19.68 | 3.47 |
| 4228 | 2241 | 13.50 | 2.30 | 41.97 | 44.26 | 4.10 |
| 4288 | 6464 | 12.17 | 47.86 | -1.47 | 49.32 | 4.58 |
| 4290 | 6467 | 30.35 | 47.06 | -9.53 | 56.60 | 5.27 |
| 4373 | 6462 | 28.04 | 24.04 | -4.86 | 28.90 | 3.47 |
| 4483 | 7574 | 5.18 | -2.54 | 19.68 | 17.14 | 3.47 |
| 4499 | 3946 | -30.47 | -39.83 | -4.00 | -43.83 | 3.47 |
| 4558 | 5809 | -1.53 | -0.97 | -0.11 | 0.00 | 3.47 |
| 4563 | 6494 | -3.56 | -1.86 | 5.10 | 3.24 | 3.47 |
| 4742 | 3697 | -25.70 | 42.62 | 30.32 | 72.94 | 6.85 |
| 4744 | 4045 | -13.79 | 1.90 | -15.01 | 16.91 | 3.47 |
| 4746 | 4045 | -3.18 | 34.31 | -76.72 | 111.03 | 10.75 |
| 4767 | 505 | -135.9 | 34.79 | 20.84 | 37.99 | 3.51 |
| 4769 | 1051 | -33.64 | 38.52 | 23.34 | 54.72 | 5.09 |
| 4771 | 408 | -30.19 | 28.85 | -39.46 | 68.31 | 6.40 |
| 4786 | 2954 | -0.49 | -4.51 | 5.76 | 1.25 | 3.47 |
| 4815 | 4046 | -13.47 | 38.37 | -21.12 | 59.49 | 5.55 |
| 4838 | 7 | -60.97 | 47.28 | -13.68 | 50.35 | 4.67 |
| 4858 | 2766 | -2.23 | -3.38 | 3.70 | 0.31 | 3.47 |
| 4895 | 13 | 9.04 | 10.68 | -9.65 | 20.33 | 3.47 |
| 4923 | 1080 | -1.25 | 16.49 | 29.46 | 45.94 | 4.26 |
| 4970 | 5915 | -7.91 | -20.22 | -14.83 | 0.00 | 3.47 |
| 5048 | 3739 | 0.33 | 1.32 | -41.95 | 43.27 | 4.00 |
| 5064 | 3983 | -1.71 | -2.09 | -5.60 | 3.50 | 3.47 |
| 5079 | 3978 | 17.05 | -2.75 | 5.46 | 2.71 | 3.47 |
| 5094 | 1099 | 0.73 | -6.05 | 22.68 | 16.63 | 3.47 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ¥ Ð ↑ Y'' |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|------------------------------|
| 5106 | 411 | -19.36 | -8.91 | 32.53 | 23.62 | 3.47 |
| 5455 | 7899 | -4.12 | -3.61 | 3.08 | 0.00 | 3.47 |
| 5536 | 5968 | -7.12 | -2.58 | -2.67 | 0.00 | 3.47 |
| 5540 | 7885 | -3.52 | -3.36 | 5.95 | 2.59 | 3.47 |
| 5558 | 6130 | 0.29 | 0.70 | -19.81 | 20.51 | 3.47 |
| 5622 | 7887 | 14.52 | 0.31 | 1.21 | 1.52 | 3.47 |
| 5699 | 1081 | -18.26 | 7.05 | 22.82 | 29.87 | 3.47 |
| 5778 | 1081 | -8.56 | -12.18 | 30.96 | -43.14 | 3.47 |
| 5796 | 4147 | 13.92 | 15.07 | 1.98 | 17.06 | 3.47 |
| 5898 | 1148 | 34.07 | 118.95 | 5.43 | 124.38 | 12.22 |
| 5909 | 434 | 31.54 | 118.85 | -6.04 | 124.89 | 12.27 |
| 5949 | 3718 | 0.32 | 0.37 | 17.59 | 17.96 | 3.47 |
| 6085 | 1088 | 1.78 | 7.04 | -8.52 | 15.56 | 3.47 |
| 6412 | 3718 | 6.01 | 14.32 | 53.66 | 67.97 | 6.36 |
| 6488 | 3718 | 0.33 | 21.35 | 53.48 | 74.83 | 6.92 |
| 6579 | 4046 | 9.23 | 0.19 | 10.52 | 10.71 | 3.47 |
| 6593 | 3720 | -5.20 | 0.10 | -12.66 | 12.76 | 3.47 |
| 6617 | 479 | 4.85 | 5.16 | -57.63 | 62.79 | 5.68 |
| 6659 | 2544 | -98.53 | 10.12 | 15.99 | 12.71 | 3.47 |
| 6662 | 1167 | -23.47 | -11.43 | 53.81 | 42.38 | 3.66 |
| 6675 | 1169 | -34.28 | 8.02 | -77.89 | 85.91 | 8.06 |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ¥ Ð ↑ Y'' |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|------------------------------|
| 6 | 482 | -168.4 | 11.51 | 59.82 | -228.2 | 24.69 |
| 7 | 1560 | -58.10 | 9.51 | -32.98 | -91.07 | 8.63 |
| 8 | 5367 | -0.04 | -0.79 | 4.31 | 4.26 | 3.47 |
| 9 | 6012 | -56.98 | -198.6 | 72.24 | -129.2 | 12.76 |
| 11 | 487 | -31.89 | -83.80 | 42.57 | -74.46 | 7.00 |
| 12 | 6532 | -40.49 | -39.67 | -21.42 | -61.91 | 5.78 |
| 15 | 490 | -68.08 | -151.5 | 35.59 | -103.7 | 9.96 |
| 18 | 3682 | -29.41 | -53.61 | 17.45 | -46.86 | 4.34 |
| 22 | 4045 | 4.06 | -4.46 | 1.57 | 4.61 | 3.47 |
| 23 | 3685 | -71.19 | -132.0 | -74.68 | -145.9 | 14.64 |
| 25 | 2978 | -126.1 | -8.33 | -29.29 | -155.4 | 15.73 |
| 35 | 1568 | -196.3 | -2.58 | 48.60 | -244.9 | 26.93 |
| 36 | 493 | -54.12 | -0.37 | -27.65 | -81.77 | 7.71 |
| 38 | 1572 | -178.9 | -20.30 | -84.30 | -263.2 | 29.45 |
| 43 | 494 | -21.93 | -135.9 | 36.55 | -58.49 | 5.45 |
| 44 | 7279 | -5.42 | -73.39 | 0.95 | 0.00 | 3.47 |
| 47 | 1576 | -84.78 | -245.3 | -94.47 | -179.2 | 18.55 |
| 48 | 1577 | -57.18 | -17.63 | 15.74 | -72.92 | 6.85 |
| 49 | 16 | -44.27 | -70.25 | -49.38 | -93.65 | 8.89 |
| 53 | 496 | -47.88 | -82.33 | 41.40 | -89.28 | 8.46 |
| 54 | 1579 | -65.13 | -52.47 | -37.87 | -103.0 | 9.88 |
| 55 | 1581 | -203.9 | -30.07 | 12.46 | -216.3 | 23.16 |
| 58 | 1587 | -195.2 | -25.24 | -33.96 | -229.2 | 24.82 |
| 59 | 1588 | -212.0 | 15.96 | 55.81 | -267.8 | 30.11 |
| 62 | 498 | -130.9 | 36.68 | -67.01 | -198.0 | 20.84 |
| 63 | 5384 | -0.18 | -1.69 | 6.32 | 6.14 | 3.47 |
| 64 | 6655 | -0.10 | -1.68 | -5.36 | 5.26 | 3.47 |
| 65 | 500 | -130.4 | -1.36 | 44.61 | -175.0 | 18.04 |

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Schulcampus EWK 10G-LP4-o.Bw.

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 66 | 501 | -113.0 | 1.32 | -65.46 | -178.4 | 18.45 |
| 69 | 3458 | 0.07 | -2.18 | 0.00 | 0.07 | 3.47 |
| 94 | 508 | -17.96 | -4.15 | -23.26 | -41.22 | 3.55 |
| 97 | 3688 | -4.85 | -1.74 | 35.74 | -40.60 | 3.75 |
| 111 | 491 | -0.73 | -2.47 | 43.62 | -44.35 | 4.11 |
| 135 | 1184 | -1.02 | -15.06 | -2.49 | 0.00 | 3.47 |
| 148 | 34 | -2.32 | -0.47 | 36.30 | -38.62 | 3.57 |
| 157 | 3 | 4.18 | -0.17 | -59.03 | -54.85 | 4.91 |
| 164 | 39 | 0.27 | 0.08 | -5.47 | 5.75 | 3.47 |
| 173 | 36 | 1.53 | -0.11 | 51.71 | -50.18 | 4.66 |
| 177 | 2984 | -1.66 | -0.44 | -50.52 | -52.18 | 4.85 |
| 190 | 5428 | 7.50 | 0.03 | -6.79 | 14.29 | 3.47 |
| 217 | 528 | 4.14 | 0.00 | 52.87 | -48.73 | 4.52 |
| 257 | 2997 | 7.11 | 13.80 | -18.36 | 25.47 | 3.47 |
| 296 | 48 | 0.29 | 10.62 | 53.89 | -53.59 | 4.98 |
| 375 | 48 | 0.11 | 9.62 | 57.72 | -57.60 | 5.37 |
| 381 | 3 | 27.45 | 21.13 | -41.03 | 68.48 | 3.47 |
| 401 | 2997 | -1.05 | 6.93 | -45.45 | -46.50 | 4.31 |
| 410 | 1639 | 11.42 | 43.32 | -26.69 | 38.12 | 3.47 |
| 442 | 2776 | 8.01 | 21.64 | 13.46 | 21.47 | 3.47 |
| 454 | 3012 | 0.44 | -1.05 | -52.83 | -52.39 | 4.87 |
| 476 | 20 | -2.57 | 2.57 | 47.40 | -49.97 | 4.64 |
| 550 | 54 | 29.43 | 29.63 | 37.92 | 67.35 | 3.47 |
| 634 | 2997 | 0.02 | -2.48 | -29.57 | 29.58 | 3.47 |
| 690 | 3017 | 33.12 | 11.42 | -39.68 | 72.80 | 3.47 |
| 711 | 7673 | 0.00 | -1.36 | 13.68 | 13.68 | 3.47 |
| 715 | 7777 | 4.77 | 11.56 | -9.96 | 14.73 | 3.47 |
| 844 | 3020 | 24.47 | 0.54 | -31.48 | 55.95 | 3.47 |
| 944 | 602 | 1.89 | -6.70 | -1.35 | 2.16 | 3.47 |
| 998 | 5031 | 0.08 | 0.28 | 5.30 | 5.37 | 3.47 |
| 1018 | 1207 | 9.16 | 8.64 | 13.50 | 22.66 | 3.47 |
| 1023 | 1208 | -2.59 | -2.57 | 5.55 | 2.96 | 3.47 |
| 1102 | 4162 | 2.21 | 12.35 | 3.40 | 5.61 | 3.47 |
| 1171 | 1207 | 6.97 | 9.35 | 9.74 | 16.71 | 3.47 |
| 1177 | 7786 | 8.72 | -0.02 | -1.16 | 9.88 | 3.47 |
| 1265 | 637 | -96.97 | -11.80 | 27.76 | -124.7 | 12.26 |
| 1337 | 1709 | 9.13 | 14.32 | 12.62 | 21.75 | 3.47 |
| 1513 | 7803 | -2.08 | -5.85 | -1.37 | 0.00 | 3.47 |
| 1569 | 90 | 0.10 | 1.03 | -40.71 | -40.61 | 3.75 |
| 1588 | 1718 | 7.32 | -1.02 | 7.83 | 15.15 | 3.47 |
| 1641 | 1241 | 4.55 | 13.88 | -8.38 | 12.93 | 3.47 |
| 1673 | 1761 | -66.28 | -10.54 | -6.90 | -73.18 | 6.87 |
| 1703 | 620 | 2.49 | 15.67 | 9.60 | 12.09 | 3.47 |
| 1723 | 5473 | 2.77 | 10.27 | -4.96 | 7.73 | 3.47 |
| 1724 | 674 | 9.01 | 18.29 | -15.23 | 24.24 | 3.47 |
| 1737 | 1 | 0.12 | 1.66 | -43.71 | -43.58 | 3.78 |
| 1788 | 522 | 1.61 | 4.67 | 6.24 | 7.85 | 3.47 |
| 1868 | 494 | -3.80 | -72.46 | 19.35 | 1.36 | 3.47 |
| 1886 | 4758 | 1.15 | -45.62 | 9.60 | 3.17 | 3.47 |
| 1890 | 5089 | 5.36 | -3.15 | -18.16 | 23.52 | 3.47 |
| 1924 | 3105 | -196.9 | -27.60 | -42.45 | -239.3 | 26.17 |
| 1951 | 7294 | -2.72 | -64.48 | -6.66 | 0.00 | 3.47 |
| 1970 | 204 | -14.24 | -77.71 | -23.84 | -38.08 | 3.52 |
| 2001 | 1807 | -6.26 | 60.53 | 4.09 | 0.00 | 3.47 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 2020 | 3138 | -62.91 | 62.43 | 6.61 | -63.61 | 5.94 |
| 2021 | 1579 | -36.39 | 36.77 | -82.03 | -118.4 | 11.56 |
| 2024 | 1796 | -113.2 | 43.83 | 79.50 | -192.7 | 19.97 |
| 2034 | 2802 | 3.66 | -75.37 | -3.76 | 3.84 | 3.47 |
| 2040 | 212 | -34.46 | 31.00 | 37.88 | -72.35 | 6.79 |
| 2042 | 6716 | -8.32 | -55.60 | -7.51 | 0.00 | 3.47 |
| 2072 | 3143 | -190.7 | -28.14 | 33.26 | -223.9 | 24.14 |
| 2099 | 1579 | -27.65 | -81.31 | -21.08 | -48.73 | 4.52 |
| 2119 | 1576 | -80.54 | -120.9 | -40.09 | -120.6 | 11.80 |
| 2176 | 4551 | -5.90 | -21.31 | -0.07 | 0.00 | 3.47 |
| 2185 | 3507 | -12.35 | -41.24 | -2.29 | 0.00 | 3.47 |
| 2200 | 7194 | 8.18 | -38.46 | -2.17 | 8.30 | 3.47 |
| 2213 | 1294 | -0.71 | -22.50 | 0.22 | 0.00 | 3.47 |
| 2237 | 233 | 11.76 | 0.78 | -9.36 | 21.12 | 3.47 |
| 2502 | 6767 | -2.38 | -0.54 | -2.05 | 0.00 | 3.47 |
| 2595 | 6036 | -35.01 | 0.01 | -14.27 | -49.28 | 4.57 |
| 2615 | 7208 | -2.70 | -14.82 | 9.71 | 3.66 | 3.47 |
| 2616 | 5269 | 4.86 | 8.33 | 0.04 | 4.91 | 3.47 |
| 2718 | 1605 | -161.7 | -40.10 | 3.44 | -165.1 | 16.87 |
| 2732 | 6220 | 4.18 | 1.17 | -3.88 | 8.06 | 3.47 |
| 2785 | 7272 | 3.86 | -1.76 | -4.83 | 8.69 | 3.47 |
| 2800 | 1972 | -52.64 | -14.18 | -7.74 | -60.39 | 5.63 |
| 2847 | 7521 | 2.25 | 0.09 | -2.10 | 4.35 | 3.47 |
| 2950 | 5337 | 5.54 | 1.43 | 0.39 | 5.93 | 3.47 |
| 3035 | 801 | -53.88 | -11.98 | -4.37 | -58.25 | 5.43 |
| 3190 | 1369 | -0.11 | 7.19 | -5.16 | 5.05 | 3.47 |
| 3231 | 3520 | 0.04 | 4.85 | 0.76 | 0.80 | 3.47 |
| 3270 | 2874 | -4.30 | -3.32 | -0.42 | 0.00 | 3.47 |
| 3314 | 7225 | 3.12 | 31.99 | -0.51 | 3.63 | 3.47 |
| 3324 | 5641 | 0.09 | 1.13 | 0.16 | 0.24 | 3.47 |
| 3366 | 1376 | -1.26 | 7.65 | -4.57 | 3.30 | 3.47 |
| 3390 | 288 | -62.35 | -19.86 | 1.01 | -63.36 | 5.92 |
| 3448 | 4241 | -5.71 | -2.58 | -1.29 | 0.00 | 3.47 |
| 3512 | 4995 | -1.74 | 2.36 | 1.82 | 0.07 | 3.47 |
| 3665 | 2260 | -150.0 | -39.55 | -11.10 | -161.1 | 16.40 |
| 3688 | 303 | -56.04 | -18.00 | 5.80 | -61.84 | 5.77 |
| 3782 | 294 | 10.81 | 9.65 | -19.44 | 30.24 | 3.47 |
| 3847 | 6608 | 4.75 | 10.17 | -0.42 | 5.17 | 3.47 |
| 3912 | 6986 | 0.07 | 3.63 | 0.65 | 0.72 | 3.47 |
| 3935 | 2325 | 23.46 | -0.51 | 21.45 | 44.90 | 3.47 |
| 3973 | 3251 | -36.59 | -8.06 | 10.70 | -47.30 | 4.38 |
| 4115 | 2349 | 18.28 | 13.30 | -22.74 | 41.02 | 3.47 |
| 4121 | 7013 | -3.25 | 1.89 | -0.96 | 0.00 | 3.47 |
| 4137 | 6439 | -37.95 | -15.35 | 8.67 | -46.62 | 4.32 |
| 4169 | 4847 | 7.05 | 11.51 | -22.52 | 29.57 | 3.47 |
| 4173 | 2357 | -66.47 | 1.57 | -33.10 | -99.57 | 9.52 |
| 4186 | 6442 | -41.41 | 0.57 | 9.96 | -51.38 | 4.77 |
| 4206 | 7018 | -3.47 | -18.50 | -13.88 | 6.95 | 3.47 |
| 4312 | 2257 | 0.20 | -0.67 | 43.47 | -43.27 | 4.00 |
| 4495 | 6489 | 20.09 | -17.28 | -17.36 | 37.45 | 3.47 |
| 4603 | 1015 | -36.96 | -61.49 | 16.86 | -53.81 | 5.00 |
| 4630 | 5828 | 5.01 | 3.55 | -3.93 | 8.95 | 3.47 |
| 4662 | 4727 | 0.92 | -14.56 | -6.54 | 3.86 | 3.47 |
| 4672 | 1596 | -66.83 | -102.8 | -32.01 | -98.85 | 9.44 |

D-337

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ $Y' \uparrow \downarrow \uparrow \downarrow$ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--|
| 4693 | 5026 | -1.77 | -15.71 | 0.94 | 0.00 | 3.47 |
| 4698 | 5848 | -8.57 | -37.75 | 2.91 | 0.00 | 3.47 |
| 4741 | 2402 | -13.78 | -164.4 | 18.43 | 0.00 | 3.47 |
| 4742 | 3696 | -25.70 | 42.62 | 30.32 | -47.28 | 4.15 |
| 4745 | 7140 | -41.07 | -6.21 | -39.68 | -80.75 | 7.52 |
| 4748 | 7143 | -55.50 | -197.6 | -20.29 | -75.79 | 7.13 |
| 4752 | 386 | -96.44 | -218.4 | -18.17 | -114.6 | 11.14 |
| 4758 | 3273 | 9.11 | -70.34 | -8.10 | 10.04 | 3.47 |
| 4767 | 405 | -136.2 | 34.86 | 20.79 | -148.6 | 14.95 |
| 4771 | 3274 | -30.21 | 28.76 | -39.60 | -69.81 | 6.41 |
| 4775 | 1055 | -25.26 | -121.0 | 12.56 | -37.81 | 3.49 |
| 4889 | 4060 | -26.50 | -76.11 | -37.58 | -64.08 | 5.99 |
| 4915 | 6512 | 2.43 | -55.60 | -10.55 | 4.43 | 3.47 |
| 4922 | 2416 | 11.39 | -5.98 | 14.46 | 25.85 | 3.47 |
| 5001 | 5371 | -4.94 | -14.46 | -5.66 | 0.00 | 3.47 |
| 5133 | 3748 | 0.35 | 2.02 | -41.74 | -41.40 | 3.83 |
| 5173 | 1108 | 2.60 | 29.25 | 6.23 | 8.83 | 3.47 |
| 5627 | 2486 | 1.97 | 3.43 | -7.36 | 9.33 | 3.47 |
| 5697 | 7854 | 1.00 | 10.28 | 7.17 | 8.17 | 3.47 |
| 5775 | 3307 | 5.10 | 21.52 | 11.56 | 16.66 | 3.47 |
| 5778 | 1547 | -3.65 | -5.10 | 14.24 | 10.59 | 3.47 |
| 5780 | 1143 | 4.42 | 4.30 | -5.57 | 9.99 | 3.47 |
| 5794 | 2493 | 0.08 | 0.10 | 2.05 | 2.13 | 3.47 |
| 5795 | 4147 | 0.30 | 0.36 | 1.94 | 2.24 | 3.47 |
| 6396 | 443 | 7.80 | 6.75 | 19.90 | 27.70 | 3.47 |
| 6411 | 3718 | 0.46 | 10.58 | 55.68 | -55.22 | 5.14 |
| 6444 | 4132 | 1.76 | 30.03 | -11.84 | 13.60 | 3.47 |
| 6485 | 5985 | 4.61 | 4.15 | -9.24 | 13.86 | 3.47 |
| 6566 | 3741 | 3.04 | 0.76 | 49.43 | -46.39 | 4.30 |
| 6617 | 3257 | 4.86 | 5.23 | -57.10 | -52.24 | 4.85 |
| 6624 | 7501 | 0.23 | 0.07 | 0.84 | 1.07 | 3.47 |
| 6633 | 2758 | -0.23 | -4.54 | -6.18 | 5.95 | 3.47 |
| 6673 | 22 | -17.29 | -30.98 | -46.95 | -64.24 | 5.85 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ $Y' \uparrow \downarrow \uparrow \downarrow$ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--|
| 9 | 485 | -53.45 | -208.9 | 73.83 | -282.8 | 32.28 |
| 10 | 6 | 1.96 | -190.2 | -28.49 | -218.7 | 23.46 |
| 13 | 489 | -83.45 | -202.7 | 63.53 | -266.2 | 29.89 |
| 14 | 9 | -69.30 | -255.1 | -18.23 | -273.3 | 30.90 |
| 17 | 4045 | 25.89 | -223.4 | -66.03 | -289.4 | 33.26 |
| 21 | 3684 | 16.52 | -235.8 | 47.12 | -282.9 | 32.30 |
| 24 | 7073 | -27.02 | 8.83 | -13.13 | 15.21 | 3.47 |
| 27 | 1564 | -55.96 | -15.04 | -42.68 | -57.72 | 5.19 |
| 32 | 492 | -136.5 | -23.12 | -54.06 | -77.18 | 7.16 |
| 36 | 4473 | -24.61 | 5.17 | -10.58 | 9.72 | 3.47 |
| 37 | 1571 | -80.09 | -43.22 | 49.56 | -92.79 | 8.80 |
| 46 | 1575 | -18.65 | -173.9 | -18.79 | -192.6 | 20.18 |
| 47 | 15 | -84.72 | -245.3 | -94.48 | -339.8 | 41.38 |
| 50 | 18 | 8.20 | -177.6 | 19.45 | -197.0 | 20.72 |
| 51 | 1578 | -80.85 | -303.2 | 72.14 | -375.3 | 47.74 |
| 52 | 1575 | 13.52 | -262.0 | -21.67 | -283.7 | 32.41 |

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Schulcampus EWK 1OG-LP4-o.Bw.

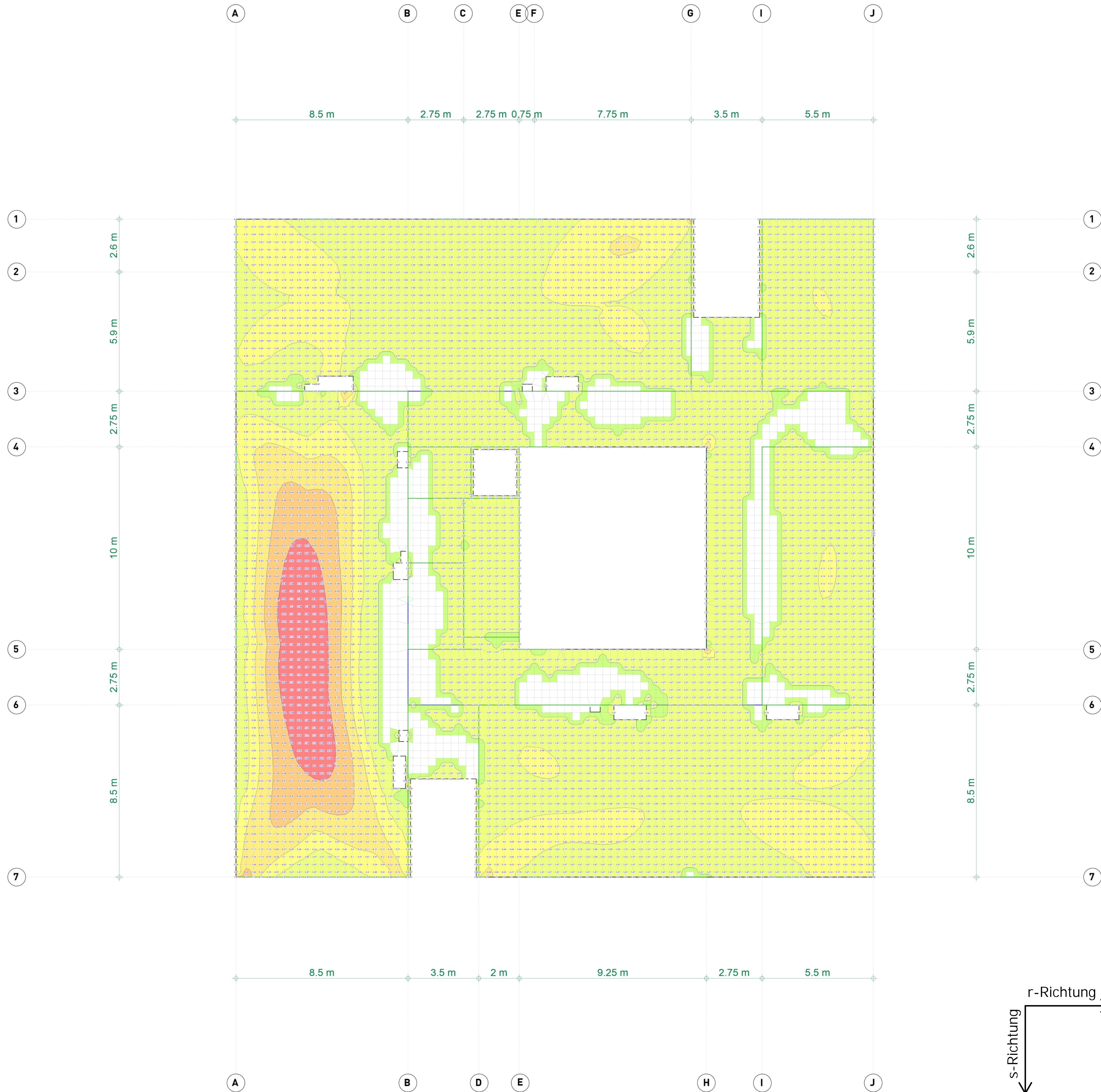
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 56 | 2981 | -139.3 | -35.79 | -38.42 | -74.21 | 6.97 |
| 60 | 497 | -51.87 | -25.34 | -30.77 | -56.11 | 5.22 |
| 63 | 20 | -0.50 | -4.55 | 15.04 | 10.49 | 3.47 |
| 64 | 6656 | -0.10 | -1.68 | -5.36 | 3.69 | 3.47 |
| 71 | 6150 | -0.32 | 0.29 | -5.33 | 5.62 | 3.47 |
| 90 | 2984 | 27.82 | -5.42 | -60.50 | -65.92 | 6.17 |
| 105 | 1182 | -5.14 | -3.10 | -1.43 | 0.00 | 3.47 |
| 146 | 7191 | 0.22 | 2.40 | -6.77 | 9.17 | 3.47 |
| 155 | 2998 | 31.09 | -3.57 | -63.87 | -67.44 | 6.17 |
| 164 | 516 | 0.28 | 0.08 | -5.27 | 5.35 | 3.47 |
| 174 | 43 | 8.80 | 0.94 | 55.03 | -54.09 | 5.03 |
| 184 | 5427 | 2.54 | -0.08 | -7.94 | 7.86 | 3.47 |
| 197 | 1187 | -1.89 | 0.48 | -5.26 | 5.74 | 3.47 |
| 218 | 48 | 2.96 | 0.44 | 53.35 | -52.91 | 4.71 |
| 284 | 34 | 4.97 | 15.60 | 23.77 | 39.37 | 3.47 |
| 298 | 1611 | 2.09 | 0.63 | -53.21 | -52.57 | 4.88 |
| 304 | 7664 | 8.69 | 7.76 | -16.42 | 24.18 | 3.47 |
| 328 | 70 | 4.87 | 21.89 | -43.70 | 65.59 | 3.47 |
| 331 | 2984 | 2.48 | 28.48 | -32.15 | 60.63 | 3.47 |
| 367 | 63 | 14.03 | 25.89 | 39.41 | 65.30 | 3.47 |
| 453 | 1 | 0.15 | 3.59 | 54.62 | -51.03 | 4.74 |
| 454 | 1619 | 0.44 | -1.05 | -52.83 | -53.88 | 4.81 |
| 477 | 20 | -0.02 | 1.30 | 47.32 | -46.02 | 4.26 |
| 478 | 2997 | -0.02 | 0.24 | -42.10 | -41.87 | 3.87 |
| 629 | 94 | 26.88 | 25.78 | 38.21 | 64.00 | 3.47 |
| 636 | 2997 | 7.23 | 13.67 | -30.01 | 43.68 | 3.47 |
| 685 | 90 | 15.42 | 17.42 | 34.56 | 51.99 | 3.47 |
| 998 | 5031 | 0.08 | 0.28 | 5.30 | 5.58 | 3.47 |
| 1001 | 1206 | 21.70 | 4.61 | -11.87 | 16.47 | 3.47 |
| 1025 | 7781 | -4.84 | 4.92 | 6.00 | 10.93 | 3.47 |
| 1097 | 1691 | 22.46 | -25.73 | -86.28 | -112.0 | 10.86 |
| 1098 | 520 | 27.48 | -29.97 | 46.52 | -76.49 | 7.09 |
| 1171 | 7784 | 7.45 | 10.18 | 6.08 | 16.26 | 3.47 |
| 1173 | 628 | 18.36 | -43.45 | -85.76 | -129.2 | 12.74 |
| 1181 | 548 | -77.87 | -5.03 | 44.51 | -49.55 | 4.38 |
| 1183 | 130 | -2.77 | 12.38 | 16.98 | 29.37 | 3.47 |
| 1254 | 7790 | -1.02 | 10.37 | 5.93 | 16.30 | 3.47 |
| 1336 | 7794 | 11.73 | 8.78 | 6.65 | 15.43 | 3.47 |
| 1339 | 1589 | 36.96 | -65.80 | 28.13 | -87.21 | 8.25 |
| 1481 | 146 | 17.22 | 19.19 | -34.58 | 53.77 | 3.47 |
| 1590 | 3367 | -24.02 | -7.28 | 3.66 | 0.00 | 3.47 |
| 1612 | 702 | 9.93 | 17.40 | 21.63 | 39.04 | 3.47 |
| 1644 | 4163 | 6.47 | 17.61 | -16.40 | 34.01 | 3.47 |
| 1652 | 709 | 0.05 | 0.68 | -43.12 | -42.45 | 3.67 |
| 1653 | 1745 | 0.18 | 12.61 | -12.37 | 24.98 | 3.47 |
| 1675 | 1762 | 76.15 | -82.50 | -2.40 | -82.57 | 7.79 |
| 1703 | 5471 | -0.73 | 6.63 | 4.37 | 10.99 | 3.47 |
| 1708 | 1579 | -0.44 | 11.60 | -10.23 | 21.82 | 3.47 |
| 1714 | 2996 | 27.60 | 5.40 | -4.66 | 10.06 | 3.47 |
| 1726 | 5075 | 5.78 | 17.63 | -18.40 | 36.03 | 3.47 |
| 1787 | 5080 | 2.90 | 5.50 | 7.21 | 12.71 | 3.47 |
| 1789 | 3599 | -11.76 | -4.86 | -0.10 | 0.00 | 3.47 |
| 1806 | 2795 | -6.62 | 0.40 | -5.88 | 5.63 | 3.47 |
| 1808 | 5085 | 6.47 | 7.21 | -17.84 | 25.05 | 3.47 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 1868 | 1574 | -3.93 | -73.03 | 18.97 | -92.00 | 8.73 |
| 1924 | 3106 | -196.9 | -27.60 | -42.45 | -70.04 | 6.57 |
| 1927 | 6542 | -15.97 | 11.94 | 7.87 | 15.82 | 3.47 |
| 1977 | 1277 | 0.39 | 0.27 | -8.72 | 8.99 | 3.47 |
| 1999 | 1793 | -102.5 | -51.25 | -8.05 | -59.30 | 5.53 |
| 2023 | 7607 | -80.17 | -5.80 | 7.23 | 0.00 | 3.47 |
| 2039 | 1814 | -40.79 | -17.96 | 7.44 | 0.00 | 3.47 |
| 2072 | 1820 | -188.4 | -28.01 | 34.85 | -62.86 | 5.87 |
| 2097 | 1824 | -7.14 | -111.1 | -1.87 | -113.0 | 10.96 |
| 2100 | 1824 | -7.06 | -84.16 | -21.97 | -106.1 | 10.22 |
| 2377 | 4608 | -7.65 | -9.45 | -3.13 | 0.00 | 3.47 |
| 2697 | 3888 | 16.63 | -8.86 | 2.35 | 0.00 | 3.47 |
| 2718 | 1874 | -160.3 | -40.10 | 4.51 | -44.61 | 4.13 |
| 2894 | 7612 | -69.04 | -13.04 | 0.21 | 0.00 | 3.47 |
| 2990 | 6826 | -0.05 | 1.47 | 0.69 | 2.15 | 3.47 |
| 3148 | 6261 | 0.20 | 0.44 | 1.68 | 2.12 | 3.47 |
| 3172 | 6043 | 0.28 | 14.17 | 9.67 | 23.84 | 3.47 |
| 3193 | 1573 | 16.07 | -42.66 | -67.64 | -110.3 | 10.68 |
| 3255 | 821 | -31.17 | 13.04 | -6.64 | 14.45 | 3.47 |
| 3367 | 270 | -19.47 | 6.34 | -8.41 | 9.98 | 3.47 |
| 3383 | 7433 | 0.24 | -1.53 | 0.03 | 0.00 | 3.47 |
| 3441 | 7108 | 8.94 | 0.83 | -1.03 | 1.86 | 3.47 |
| 3488 | 7318 | -72.23 | -7.83 | -1.13 | 0.00 | 3.47 |
| 3561 | 6598 | 0.26 | 6.02 | -6.57 | 12.59 | 3.47 |
| 3643 | 2237 | 0.33 | 10.91 | 10.32 | 21.22 | 3.47 |
| 3665 | 2987 | -148.5 | -39.64 | -11.75 | -51.38 | 4.77 |
| 3680 | 6604 | -0.01 | 2.42 | -5.05 | 7.47 | 3.47 |
| 3728 | 6945 | -24.65 | -6.72 | -1.80 | 0.00 | 3.47 |
| 3765 | 307 | 0.31 | 3.63 | 16.74 | 20.37 | 3.47 |
| 3902 | 7115 | -118.0 | -30.68 | -9.00 | -39.67 | 3.66 |
| 3966 | 6402 | 0.02 | 1.31 | -1.09 | 2.40 | 3.47 |
| 4010 | 6995 | -23.59 | -1.08 | -6.72 | 0.84 | 3.47 |
| 4043 | 932 | 0.21 | -16.72 | 36.72 | -53.44 | 4.97 |
| 4058 | 935 | 25.49 | 15.09 | -19.78 | 34.87 | 3.47 |
| 4065 | 6410 | 30.33 | -38.46 | -27.44 | -63.29 | 5.91 |
| 4130 | 2897 | -10.17 | -1.78 | -2.87 | 0.00 | 3.47 |
| 4185 | 2708 | -7.93 | 0.75 | 3.22 | 2.05 | 3.47 |
| 4206 | 6448 | -6.92 | -36.72 | -25.62 | -62.34 | 5.82 |
| 4224 | 961 | -19.86 | -40.90 | -4.95 | -45.85 | 4.25 |
| 4642 | 1437 | -1.25 | -1.57 | 0.00 | 0.00 | 3.47 |
| 4694 | 5 | 1.68 | -66.69 | -6.63 | -73.32 | 6.88 |
| 4727 | 1452 | -2.09 | -5.83 | 0.14 | 0.00 | 3.47 |
| 4743 | 3395 | -11.34 | 0.33 | 2.01 | 0.69 | 3.47 |
| 4752 | 3701 | -97.49 | -225.5 | -14.71 | -240.2 | 26.29 |
| 4773 | 1052 | -25.07 | -140.4 | 7.55 | -147.9 | 14.87 |
| 4798 | 412 | -6.80 | -36.59 | -1.48 | -38.08 | 3.51 |
| 4800 | 412 | -6.33 | -35.90 | 2.78 | -38.68 | 3.57 |
| 4814 | 4046 | -1.09 | -189.2 | -31.00 | -220.2 | 23.66 |
| 4873 | 1471 | -0.12 | -8.23 | -0.21 | 0.00 | 3.47 |
| 4922 | 487 | 8.39 | -6.68 | 18.59 | 11.91 | 3.47 |
| 5005 | 7588 | -0.97 | -0.58 | 7.49 | 6.91 | 3.47 |
| 5048 | 3739 | 0.33 | 1.32 | -41.95 | -40.64 | 3.75 |
| 5061 | 3729 | 29.84 | 8.07 | -18.88 | 26.95 | 3.47 |
| 5088 | 3746 | -11.23 | 7.20 | 6.14 | 10.56 | 3.47 |

D-340

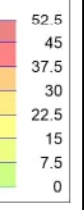
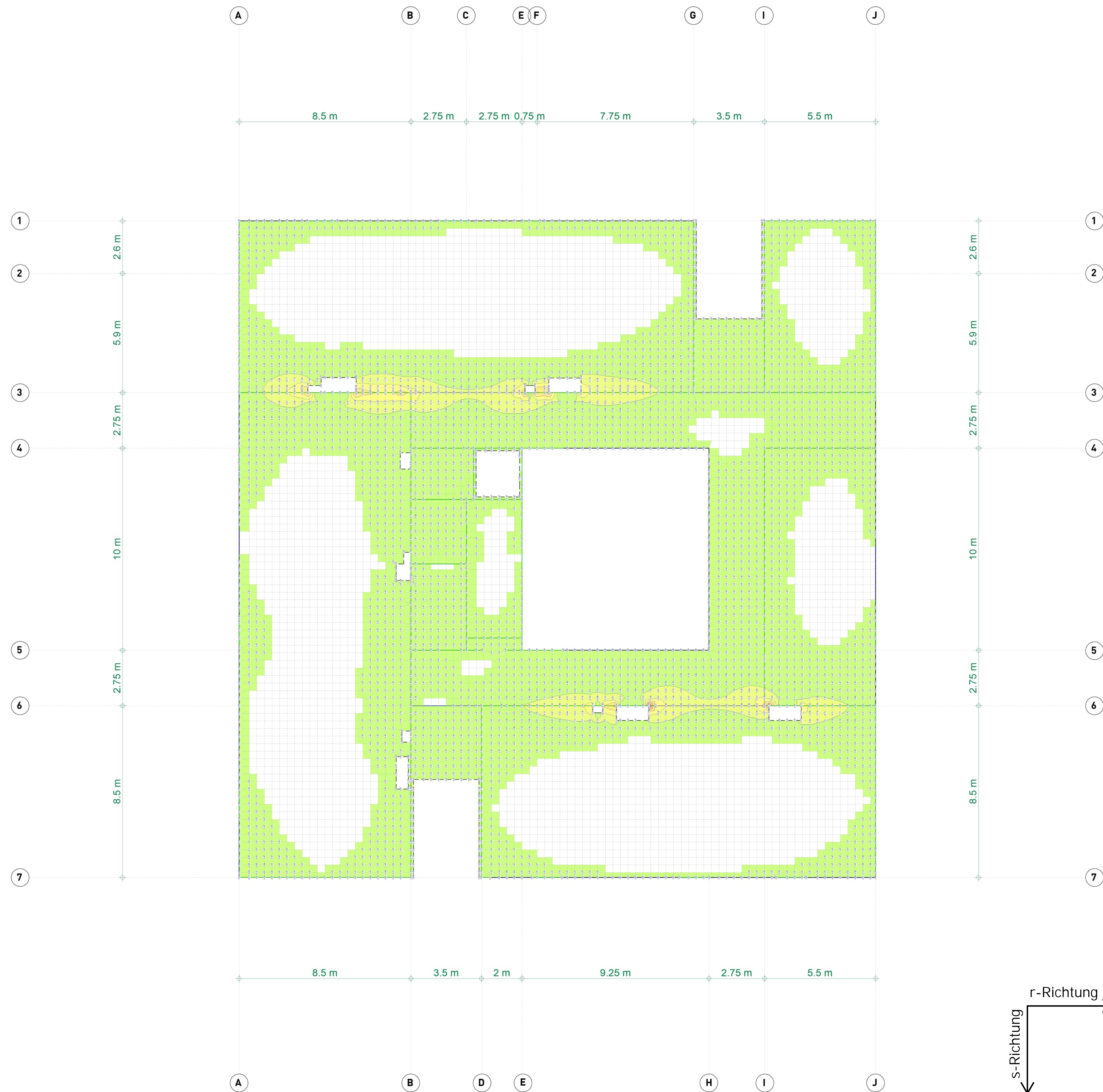
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 5142 | 3408 | 1.51 | -0.46 | -8.02 | 7.55 | 3.47 |
| 5150 | 3409 | -8.10 | 0.22 | -10.48 | 10.70 | 3.47 |
| 5159 | 3405 | 9.11 | 7.34 | -2.67 | 10.01 | 3.47 |
| 5178 | 3410 | 4.61 | 8.34 | 7.25 | 15.59 | 3.47 |
| 5267 | 4466 | 6.13 | 8.41 | 10.97 | 19.38 | 3.47 |
| 5357 | 3257 | 14.27 | 16.78 | 30.22 | 47.00 | 3.47 |
| 5390 | 3729 | 16.44 | 19.18 | -31.65 | 50.83 | 3.47 |
| 5532 | 1138 | -65.60 | -13.23 | 33.41 | -46.63 | 4.32 |
| 5699 | 1081 | -18.26 | 7.05 | 22.82 | 29.87 | 3.47 |
| 5701 | 1088 | 30.85 | -39.05 | 66.33 | -105.4 | 10.14 |
| 5794 | 7062 | 0.03 | 0.07 | 0.76 | 0.83 | 3.47 |
| 5795 | 4147 | 0.30 | 0.36 | 1.94 | 2.30 | 3.47 |
| 5854 | 1081 | -5.22 | 4.93 | 15.13 | 20.06 | 3.47 |
| 5949 | 3718 | 0.32 | 0.37 | 17.59 | 17.96 | 3.47 |
| 6026 | 3853 | 0.31 | 0.25 | 22.77 | 23.02 | 3.47 |
| 6105 | 3718 | 19.95 | 24.35 | 31.59 | 55.94 | 3.47 |
| 6238 | 4 | 12.22 | 12.17 | -22.21 | 34.38 | 3.47 |
| 6334 | 3718 | 0.24 | 4.30 | 52.41 | -48.11 | 4.46 |
| 6408 | 459 | 12.06 | 9.46 | -19.98 | 29.44 | 3.47 |
| 6419 | 3718 | 11.88 | 32.01 | 34.77 | 66.78 | 3.47 |
| 6473 | 7256 | 6.22 | 6.36 | 17.28 | 23.65 | 3.47 |
| 6535 | 3433 | 12.16 | 8.90 | -14.97 | 23.87 | 3.47 |
| 6548 | 22 | 0.72 | -34.19 | -44.75 | -78.94 | 7.34 |
| 6565 | 3732 | 1.32 | -2.52 | 50.20 | -52.72 | 4.69 |
| 6568 | 3718 | 3.42 | 0.23 | 48.46 | -48.23 | 4.47 |
| 6579 | 4046 | 9.23 | 0.19 | 10.52 | 10.71 | 3.47 |
| 6592 | 1165 | -5.33 | 0.19 | -0.86 | 0.33 | 3.47 |
| 6624 | 2498 | 0.28 | 0.18 | 1.94 | 2.12 | 3.47 |
| 6632 | 2507 | 3.29 | -14.00 | -28.05 | -42.05 | 3.63 |

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| | |
|---|--------------------------------|
| W YbVya Yggi b | Erforderliche Bewehrung as,erf |
| Max = 11.62 (Kn. 2399), Min = 0 (Kn. 198), Step = 2 | |
| Bew.-Abstand d' = 37 mm | |
| Beton C 30/37 | aus allen Nachweisen |
| Bauteiltiefe h = 28.00 cm | (Bewehrung) A) e) 海 敬 0 á |

| | |
|----------------|---|
| KREBS + KIEFER | Modell FUÖ 5000 400 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000 6200 6400 6600 6800 7000 7200 7400 7600 7800 8000 8200 8400 8600 8800 9000 9200 9400 9600 9800 10000 10200 10400 10600 10800 11000 11200 11400 11600 11800 12000 12200 12400 12600 12800 13000 13200 13400 13600 13800 14000 14200 14400 14600 14800 15000 15200 15400 15600 15800 16000 16200 16400 16600 16800 17000 17200 17400 17600 17800 18000 18200 18400 18600 18800 19000 19200 19400 19600 19800 20000 20200 20400 20600 20800 21000 21200 21400 21600 21800 22000 22200 22400 22600 22800 23000 23200 23400 23600 23800 24000 24200 24400 24600 24800 25000 25200 25400 25600 25800 26000 26200 26400 26600 26800 27000 27200 27400 27600 27800 28000 28200 28400 28600 28800 29000 29200 29400 29600 29800 30000 30200 30400 30600 30800 31000 31200 31400 31600 31800 32000 32200 32400 32600 32800 33000 33200 33400 33600 33800 34000 34200 34400 34600 34800 35000 35200 35400 35600 35800 36000 36200 36400 36600 36800 37000 37200 37400 37600 37800 38000 38200 38400 38600 38800 39000 39200 39400 39600 39800 40000 40200 40400 40600 40800 41000 41200 41400 41600 41800 42000 42200 42400 42600 42800 43000 43200 43400 43600 43800 44000 44200 44400 44600 44800 45000 45200 45400 45600 45800 46000 46200 46400 46600 46800 47000 47200 47400 47600 47800 48000 48200 48400 48600 48800 49000 49200 49400 49600 49800 50000 50200 50400 50600 50800 51000 51200 51400 51600 51800 52000 52200 52400 52600 52800 53000 53200 53400 53600 53800 54000 54200 54400 54600 54800 55000 55200 55400 55600 55800 56000 56200 56400 56600 56800 57000 57200 57400 57600 57800 58000 58200 58400 58600 58800 59000 59200 59400 59600 59800 60000 60200 60400 60600 60800 61000 61200 61400 61600 61800 62000 62200 62400 62600 62800 63000 63200 63400 63600 63800 64000 64200 64400 64600 64800 65000 65200 65400 65600 65800 66000 66200 66400 66600 66800 67000 67200 67400 67600 67800 68000 68200 68400 68600 68800 69000 69200 69400 69600 69800 70000 70200 70400 70600 70800 71000 71200 71400 71600 71800 72000 72200 72400 72600 72800 73000 73200 73400 73600 73800 74000 74200 74400 74600 74800 75000 75200 75400 75600 75800 76000 76200 76400 76600 76800 77000 77200 77400 77600 77800 78000 78200 78400 78600 78800 79000 79200 79400 79600 79800 80000 80200 80400 80600 80800 81000 81200 81400 81600 81800 82000 82200 82400 82600 82800 83000 83200 83400 83600 83800 84000 84200 84400 84600 84800 85000 85200 85400 85600 85800 86000 86200 86400 86600 86800 87000 87200 87400 87600 87800 88000 88200 88400 88600 88800 89000 89200 89400 89600 89800 90000 90200 90400 90600 90800 91000 91200 91400 91600 91800 92000 92200 92400 92600 92800 93000 93200 93400 93600 93800 94000 94200 94400 94600 94800 95000 95200 95400 95600 95800 96000 96200 96400 96600 96800 97000 97200 97400 97600 97800 98000 98200 98400 98600 98800 99000 99200 99400 99600 99800 100000 100200 100400 100600 100800 101000 101200 101400 101600 101800 102000 102200 102400 102600 102800 103000 103200 103400 103600 103800 104000 104200 104400 104600 104800 105000 105200 105400 105600 105800 106000 106200 106400 106600 106800 107000 107200 107400 107600 107800 108000 108200 108400 108600 108800 109000 109200 109400 109600 109800 110000 110200 110400 110600 110800 111000 111200 111400 111600 111800 112000 112200 112400 112600 112800 113000 113200 113400 113600 113800 114000 114200 114400 114600 114800 115000 115200 115400 115600 115800 116000 116200 116400 116600 116800 117000 117200 117400 117600 117800 118000 118200 118400 118600 118800 119000 119200 119400 119600 119800 120000 120200 120400 120600 120800 121000 121200 121400 121600 121800 122000 122200 122400 122600 122800 123000 123200 123400 123600 123800 124000 124200 124400 124600 124800 125000 125200 125400 125600 125800 126000 126200 126400 126600 126800 127000 127200 127400 127600 127800 128000 128200 128400 128600 128800 129000 129200 129400 129600 129800 130000 130200 130400 130600 130800 131000 131200 131400 131600 131800 132000 132200 132400 132600 132800 133000 133200 133400 133600 133800 134000 134200 134400 134600 134800 135000 135200 135400 135600 135800 136000 136200 136400 136600 136800 137000 137200 137400 137600 137800 138000 138200 138400 138600 138800 139000 139200 139400 139600 139800 140000 140200 140400 140600 140800 141000 141200 141400 141600 141800 142000 142200 142400 142600 142800 143000 143200 143400 143600 143800 144000 144200 144400 144600 144800 145000 145200 145400 145600 145800 146000 146200 146400 146600 146800 147000 147200 147400 147600 147800 148000 148200 148400 148600 148800 149000 149200 149400 149600 149800 150000 150200 150400 150600 150800 151000 151200 151400 151600 151800 152000 152200 152400 152600 152800 153000 153200 153400 153600 153800 154000 154200 154400 154600 154800 155000 155200 155400 155600 155800 156000 156200 156400 156600 156800 157000 157200 157400 157600 157800 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186600 186800 187000 187200 187400 187600 187800 188000 188200 188400 188600 188800 189000 189200 189400 189600 189800 190000 190200 190400 190600 190800 191000 191200 191400 191600 191800 192000 192200 192400 192600 192800 193000 193200 193400 193600 193800 194000 194200 194400 194600 194800 195000 195200 195400 195600 195800 196000 196200 196400 196600 196800 197000 197200 197400 197600 197800 198000 198200 198400 198600 198800 199000 199200 199400 199600 199800 200000 200200 200400 200600 200800 201000 201200 201400 201600 201800 202000 202200 202400 202600 202800 203000 203200 203400 203600 203800 204000 204200 204400 204600 204800 205000 205200 205400 205600 205800 206000 206200 206400 206600 206800 207000 207200 207400 207600 207800 208000 208200 208400 208600 208800 209000 209200 209400 209600 209800 210000 210200 210400 210600 210800 211000 211200 211400 211600 211800 212000 212200 212400 212600 212800 213000 213200 213400 213600 213800 214000 214200 214400 214600 214800 215000 215200 215400 215600 215800 216000 216200 216400 216600 216800 217000 217200 217400 217600 217800 218000 218200 218400 218600 218800 219000 219200 219400 219600 219800 220000 220200 220400 220600 220800 221000 221200 221400 221600 221800 222000 222200 222400 222600 222800 223000 223200 223400 223600 223800 224000 224200 224400 224600 224800 225000 225200 225400 225600 225800 226000 226200 226400 226600 226800 227000 227200 227400 227600 227800 228000 228200 228400 228600 228800 229000 229200 229400 229600 229800 230000 230200 230400 230600 230800 231000 231200 231400 231600 231800 232000 232200 232400 232600 232800 233000 233200 233400 233600 233800 234000 234200 234400 234600 234800 235000 235200 235400 235600 235800 236000 236200 236400 236600 236800 237000 237200 237400 237600 237800 238000 238200 238400 238600 238800 239000 239200 239400 239600 239800 240000 240200 240400 240600 240800 241000 241200 241400 241600 241800 242000 242200 242400 242600 242800 243000 243200 243400 243600 243800 244000 244200 244400 244600 244800 245000 245200 245400 245600 245800 246000 246200 246400 246600 246800 247000 247200 247400 247600 247800 248000 248200 248400 248600 248800 249000 249200 249400 249600 249800 250000 250200 250400 250600 250800 251000 251200 251400 251600 251800 252000 252200 252400 252600 252800 253000 253200 253400 253600 253800 254000 254200 254400 254600 254800 255000 255200 255400 255600 255800 256000 256200 256400 256600 256800 257000 257200 257400 257600 257800 258000 258200 258400 258600 258800 259000 259200 259400 259600 259800 260000 260200 260400 260600 260800 261000 261200 261400 261600 261800 262000 262200 262400 262600 262800 263000 263200 263400 263600 263800 264000 264200 264400 264600 264800 265000 265200 265400 265600 265800 266000 266200 266400 266600 266800 267000 267200 267400 267600 267800 268000 268200 268400 268600 268800 269000 269200 269400 269600 269800 270000 270200 270400 270600 270800 271000 271200 271400 271600 271800 272000 272200 272400 272600 272800 273000 273200 273400 273600 273800 274000 274200 274400 274600 274800 275000 275200 275400 275600 275800 276000 276200 276400 276600 276800 277000 277200 277400 277600 277800 278000 278200 278400 278600 278800 279000 279200 279400 279600 279800 280000 280200 280400 280600 280800 281000 281200 281400 281600 281800 282000 282200 282400 282600 282800 283000 283200 283400 283600 283800 284000 284200 284400 284600 284800 285000 285200 285400 285600 285800 286000 286200 286400 286600 286800 287000 287200 287400 287600 287800 288000 288200 288400 288600 288800 289000 289200 289400 289600 289800 290000 290200 290400 290600 290800 291000 291200 291400 291600 291800 292000 292200 292400 292600 292800 293000 293200 293400 293600 293800 294000 294200 294400 294600 294800 295000 295200 295400 295600 295800 296000 296200 296400 296600 296800 297000 297200 297400 297600 297800 298000 298200 298400 298600 298800 299000 299200 299400 299600 299800 300000 300200 300400 300600 300800 301000 301200 301400 301600 301800 302000 302200 302400 302600 302800 303000 303200 303400 303600 303800 304000 304200 304400 304600 304800 305000 305200 305400 305600 305800 306000 306200 306400 306600 306800 307000 307200 307400 307600 307800 308000 308200 308400 308600 308800 309000 309200 309400 309600 309800 310000 310200 310400 310600 310800 311000 311200 311400 311600 311800 312000 312200 312400 312600 312800 313000 313200 313400 313600 313800 314000 314200 314400 314600 314800 315000 315200 315400 315600 315800 316000 316200 316400 316600 316800 317000 317200 317400 317600 317800 318000 318200 318400 318600 318800 319000 319200 319400 319600 319800 320000 320200 320400 320600 320800 321000 321200 321400 321600 321800 322000 322200 322400 322600 322800 323000 323200 323400 323600 323800 324000 324200 324400 324600 324800 325000 325200 325400 325600 325800 326000 326200 326400 326600 326800 327000 327200 327400 327600 327800 328000 328200 328400 328600 328800 329000 329200 329400 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|----------------|---|




r-Richtung
 s-Richtung

Biegebemessung:

erf. Bewehrung

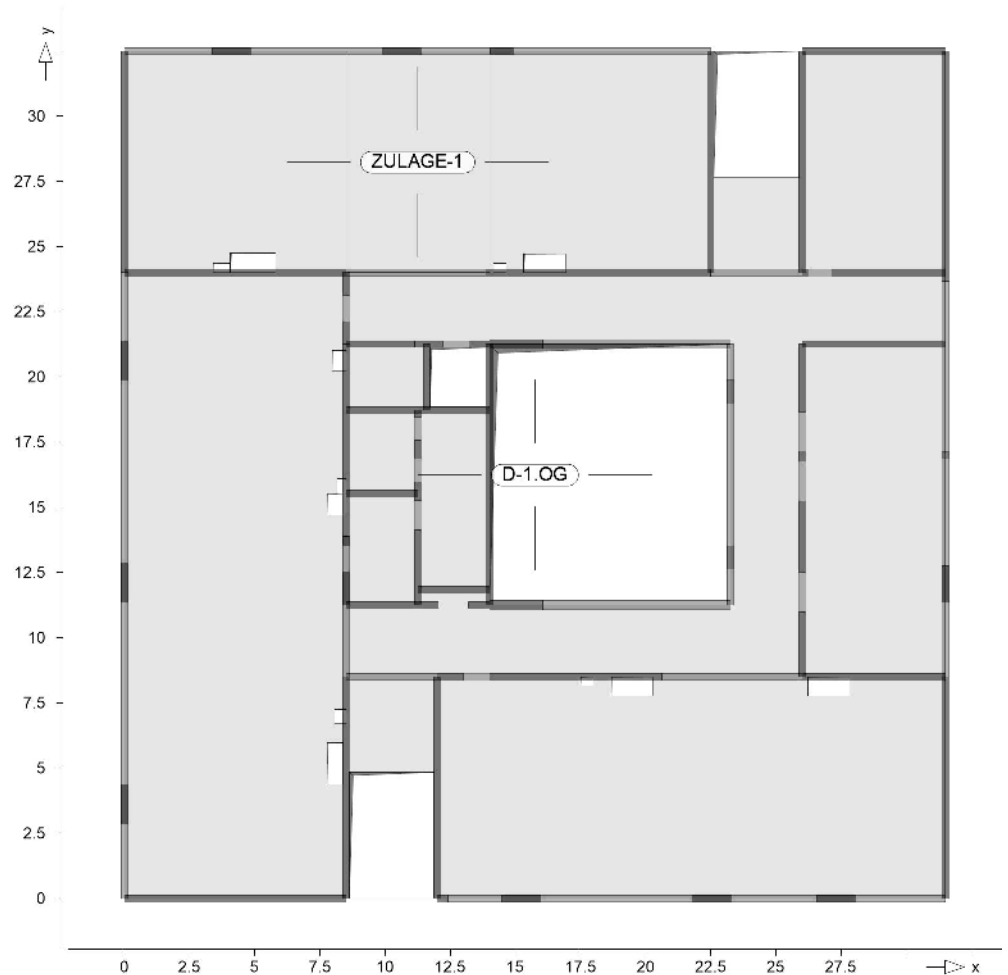
- obere Lage s-Richtung -

| | | | |
|---|---|--|----------------------------|
| :) " V YbYVa Yggi b[Max = 47.74 (Kn. 51), Min = 0 (Kn. 230), Step = 7.5 Bew.-Abstand d' = 37 mm Beton C 30/37 Bauteildicke h = 28.00 cm | Erforderliche Bewehrung as_erl aus allen Nachweisen • B 2023 / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 |  KREBS + KIEFER Modell FUÖBUI 的 60° x 60° x 60° Bauvorhaben Schulcampus EWK Schwwesternschule | T ab 0.000000 D-345 |
| | | | MicroFe 2025.015 |

Bemessung (GZT+GZG)

Bemessungsparameter Biegebemessung der Platten (Stahlbeton) nach DIN EN
Bi egung 1992-1-1

Posi ti onsgrafi k ©âæäb↔´â\ÄäæãÄŞ→á\\æ^ÄÇU\áâ→âæ\~^DÄ| ^äÄX|→á&æâæ}æää| ^&



Mat. /Querschni tt

| Position | Winkel YflŸ | Art | Material Q†^&b | Dicke [cm] |
|----------|----------------|-----|------------------------------|---------------|
| D-1.OG | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 28.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ↔^b←=ä^|^&ÄT|ää~↔\

Exposi ti onskl asse

&æ†#BÄÇØSÁÓSÁFİİGĖFĖFĖÁÚáâÈÄHÈF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|------------------------------|
| D-1.OG | umlaufend | XC1 | trocken oder b\†^ä↔&Ä^ább |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

Position

| | ^{ro} Yfl ^Y | ^{so} Yfl ^Y | ^{ru} Yfl ^Y | ^{su} Yfl ^Y |
|--------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| D-1.OG | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

Position

| | c_{min} [mm] | # _{def} [mm] | c_{nom} [mm] | c_v [mm] | d'_r [mm] | d'_s [mm] |
|--------|-------------------|--------------------------|-------------------|---------------|----------------|----------------|
| D-1.OG | 14 | 10 | 24 | 30 | 51 | 37 |
| | 14 | 10 | 24 | 30 | 51 | 37 |

Grundbewehrung

Position

| | Rá\\æÉÁU\†âæ ~Y↑↑YĐbY'↑Y | d'_r [mm] | $a_{sg,r}$ [cm ² /m] | d'_s [mm] | $a_{sg,s}$ [cm ² /m] |
|--------|-----------------------------|----------------|------------------------------------|----------------|------------------------------------|
| D-1.OG | u r Ö3613202 | 51 | 15.39 | | |
| | u s Ö3613202 | | | 37 | 15.39 |
| | o r Ö3613202 | 51 | 15.39 | | |
| | o s Ö3613202 | | | 37 | 15.39 |

Zulagebewehrung

Position

| | Rá\\æÉÁU\†âæ ~Y↑↑YĐbY'↑Y | d'_r [mm] | $a_{sz,r}$ [cm ² /m] | d'_s [mm] | $a_{sz,s}$ [cm ² /m] |
|--------|------------------------------|----------------|------------------------------------|----------------|------------------------------------|
| D-1.OG | ZULAGE-1 u s Ö3614202 | | | 37 | 7.70 |

Bemessungsparameter

àfiãÁäæ^ÁÖäæ^~ | b\á^äÁäæãÁÜäã&à†â&←æ↔\Á^á´ääÆØSÁÓSÁ
1992-1-1

Belegung

Position

Mindestbewehrung

D-1.OG ja
Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

D-1. OG

Ñæ†æbb | ^&ÁâfiãÁŞ→á\\æÁÇU\áâ→âæ\~^DÁÆFÈSÖ

Erf. Bewehrung

Erforderliche Bewehrung

Kombinationen

Ráß&æâæ^äæÁP~†â↔^á\↔~^æ^Á^á´ääÆØSÁÓSÁFïï€

Ew Einwirkungsname

Lkn Lastkombinationsnummer

Æ↔æÁÑæ\æ↔↔& | ^&Áæ↔^~æ→æäÁQáb\à†→æÁ↔^æääá→âÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-----------|------|------|-------------|---------|---------|---------|
| 1-563 | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 564-1755 | 1.35 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 1756-2566 | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 2567-2591 | 1.00 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 2592-2879 | 1.00 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 2880-3009 | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 3010-3461 | 1.35 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 3462-3617 | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 3618-3692 | 1.00 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 3693-3726 | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 3727-3731 | 1.35 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 3732-3737 | 1.00 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 3738-3762 | 1.35 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 3763-3764 | 1.00 | 1.00 | 1.50 | . | . | 1.50 |

D-347

Schulcampus EWK \

10G-LP4

| Lkn | Ew | Gk | Ö← Qk . N_B1 | Qk . N_C1 | Qk . N_C5 | Qk . N_E1 |
|-----------|------|------|--------------|-------------|-------------|-----------|
| 3765-3799 | 1.35 | 1.35 | 1.50 | 1.05 | . | 1.50 |
| 3800-3805 | 1.35 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 3806-3831 | 1.00 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 3832-3844 | 1.35 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 3845-3853 | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 3854 | 1.00 | 1.00 | 1.50 | . | . | 1.50 |
| 3855-3867 | 1.00 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 3868 | 1.00 | 1.35 | 1.50 | 1.05 | . | 1.50 |
| 3869-3878 | 1.35 | 1.35 | 1.50 | . | . | 1.50 |
| 3879-3880 | 1.00 | 1.35 | 1.50 | 1.05 | . | 1.50 |
| 3881-3899 | 1.35 | 1.35 | 1.50 | 1.05 | . | 1.50 |
| 3900-4098 | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 4099-4248 | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 4249-4315 | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 4316-4341 | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 4342-4343 | 1.00 | 1.00 | 1.05 | 1.50 | . | 1.50 |
| 4344-4354 | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 4355-4357 | 1.35 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 4358-4367 | 1.35 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 4368-4370 | 1.35 | 1.35 | 1.05 | 1.50 | . | 1.50 |
| 4371-4641 | 1.00 | 1.00 | 1.05 | . | 1.50 | 1.50 |
| 4642-4662 | 1.00 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 4663-4812 | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 4813-4995 | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 4996-5009 | 1.35 | 1.00 | 1.05 | . | 1.50 | 1.50 |
| 5010-5051 | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5052-5053 | 1.00 | 1.35 | . | . | 1.50 | 1.50 |
| 5054-5252 | 1.35 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 5253-5283 | 1.35 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 5284-5321 | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5322-5332 | 1.00 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5333-5337 | 1.00 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5338-5341 | 1.35 | 1.35 | . | . | 1.50 | 1.50 |
| 5342-5356 | 1.00 | 1.00 | 1.05 | . | 1.50 | 1.50 |
| 5357 | 1.35 | 1.35 | . | 1.05 | 1.50 | 1.50 |
| 5358-5363 | 1.00 | 1.00 | . | . | 1.50 | 1.50 |
| 5364-5367 | 1.35 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5368-5369 | 1.00 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 5370-6154 | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 6155-6472 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 6473-6727 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 6728-6733 | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 6734-6756 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 6757-6851 | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 6852-6862 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 6863-7011 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7012-7258 | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 7259-7454 | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 7455-7492 | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7493-7510 | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 7511-7572 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7573-7576 | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7577-7597 | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7598-7599 | 1.35 | 1.35 | 1.05 | 1.05 | . | 1.50 |
| 7600-7607 | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |

| Lkn | Ew | Gk | Ö← Qk . N_B1 | Qk . N_C1 | Qk . N_C5 | Qk . N_E1 |
|-----------|------|------|--------------|-----------|-----------|-----------|
| 7608-7637 | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 7638-7641 | 1.35 | 1.35 | 1.05 | 1.05 | . | 1.50 |
| 7642-7643 | 1.00 | 1.00 | . | . | 1.05 | 1.50 |
| 7644-7646 | 1.35 | 1.00 | . | . | 1.05 | 1.50 |
| 7647-7649 | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7650-7652 | 1.35 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7653-7654 | 1.35 | 1.35 | . | . | 1.05 | 1.50 |
| 7655 | 1.35 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7656-7688 | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 7689-7773 | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 7774-7845 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7846-7851 | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 7852-7860 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 7861-7866 | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 7867 | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |

| Lkn | Ew | Qk . N_DA | Qk . N_T2 |
|-----------|----|-----------|-----------|
| 1-563 | . | . | . |
| 564-1755 | . | 1.20 | . |
| 1756-2566 | . | 1.20 | . |
| 2567-2591 | . | . | . |
| 2592-2879 | . | 1.20 | . |
| 2880-3009 | . | . | . |
| 3010-3461 | . | . | . |
| 3462-3617 | . | 1.20 | . |
| 3618-3692 | . | . | . |
| 3693-3726 | . | 1.20 | . |
| 3727-3731 | . | . | . |
| 3732-3737 | . | . | . |
| 3738-3762 | . | 1.20 | . |
| 3763-3764 | . | . | . |
| 3765-3799 | . | 1.20 | . |
| 3800-3805 | . | 1.20 | . |
| 3806-3831 | . | 1.20 | . |
| 3832-3844 | . | . | . |
| 3845-3853 | . | . | . |
| 3854 | . | 1.20 | . |
| 3855-3867 | . | 1.20 | . |
| 3868 | . | 1.20 | . |
| 3869-3878 | . | 1.20 | . |
| 3879-3880 | . | . | . |
| 3881-3899 | . | . | . |
| 3900-4098 | . | 1.20 | . |
| 4099-4248 | . | 1.20 | . |
| 4249-4315 | . | . | . |
| 4316-4341 | . | . | . |
| 4342-4343 | . | 1.20 | . |
| 4344-4354 | . | 1.20 | . |
| 4355-4357 | . | . | . |
| 4358-4367 | . | 1.20 | . |
| 4368-4370 | . | 1.20 | . |
| 4371-4641 | . | 1.20 | . |
| 4642-4662 | . | 1.20 | . |
| 4663-4812 | . | 1.20 | . |
| 4813-4995 | . | 1.20 | . |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|-----------|-------------|---------|-------------|
| 4996-5009 | . | | 1.20 |
| 5010-5051 | . | | . |
| 5052-5053 | . | | 1.20 |
| 5054-5252 | . | | 1.20 |
| 5253-5283 | . | | . |
| 5284-5321 | . | | . |
| 5322-5332 | . | | 1.20 |
| 5333-5337 | . | | . |
| 5338-5341 | . | | 1.20 |
| 5342-5356 | . | | . |
| 5357 | . | | 1.20 |
| 5358-5363 | . | | 1.20 |
| 5364-5367 | . | | 1.20 |
| 5368-5369 | . | | . |
| 5370-6154 | 1.50 | | 1.20 |
| 6155-6472 | 1.50 | | 1.20 |
| 6473-6727 | 1.50 | | 1.20 |
| 6728-6733 | 1.50 | | . |
| 6734-6756 | 1.50 | | . |
| 6757-6851 | 1.50 | | 1.20 |
| 6852-6862 | 1.50 | | 1.20 |
| 6863-7011 | 1.50 | | . |
| 7012-7258 | 1.50 | | 1.20 |
| 7259-7454 | 1.50 | | . |
| 7455-7492 | 1.50 | | 1.20 |
| 7493-7510 | 1.50 | | 1.20 |
| 7511-7572 | 1.50 | | . |
| 7573-7576 | 1.50 | | . |
| 7577-7597 | 1.50 | | 1.20 |
| 7598-7599 | 1.50 | | . |
| 7600-7607 | 1.50 | | . |
| 7608-7637 | 1.50 | | . |
| 7638-7641 | 1.50 | | 1.20 |
| 7642-7643 | 1.50 | | 1.20 |
| 7644-7646 | 1.50 | | 1.20 |
| 7647-7649 | 1.50 | | . |
| 7650-7652 | 1.50 | | 1.20 |
| 7653-7654 | 1.50 | | 1.20 |
| 7655 | 1.50 | | . |
| 7656-7688 | . | | 1.50 |
| 7689-7773 | . | | 1.50 |
| 7774-7845 | . | | 1.50 |
| 7846-7851 | . | | 1.50 |
| 7852-7860 | . | | 1.50 |
| 7861-7866 | . | | 1.50 |
| 7867 | . | | 1.50 |

Alle Nachweise

Öã~ããã~>´âæÁQ†^&bâæ}æãã|^&Áã|bÁã->æ^ÁSá´â}æbæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$ (Differenzbew.)

ÓbÁ↔b\Á←æ←^æÁ~|b†\~>´âæÁÑæ}æãã|^&Áæã~ããã~>´âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$ (Differenzbew.)

ÓbÁ↔b\Á←æ↔^æÁ~|b‡\~→↗'âæÁÑæ}æää|^&Áæää~ääæã→↗'âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, r, oben

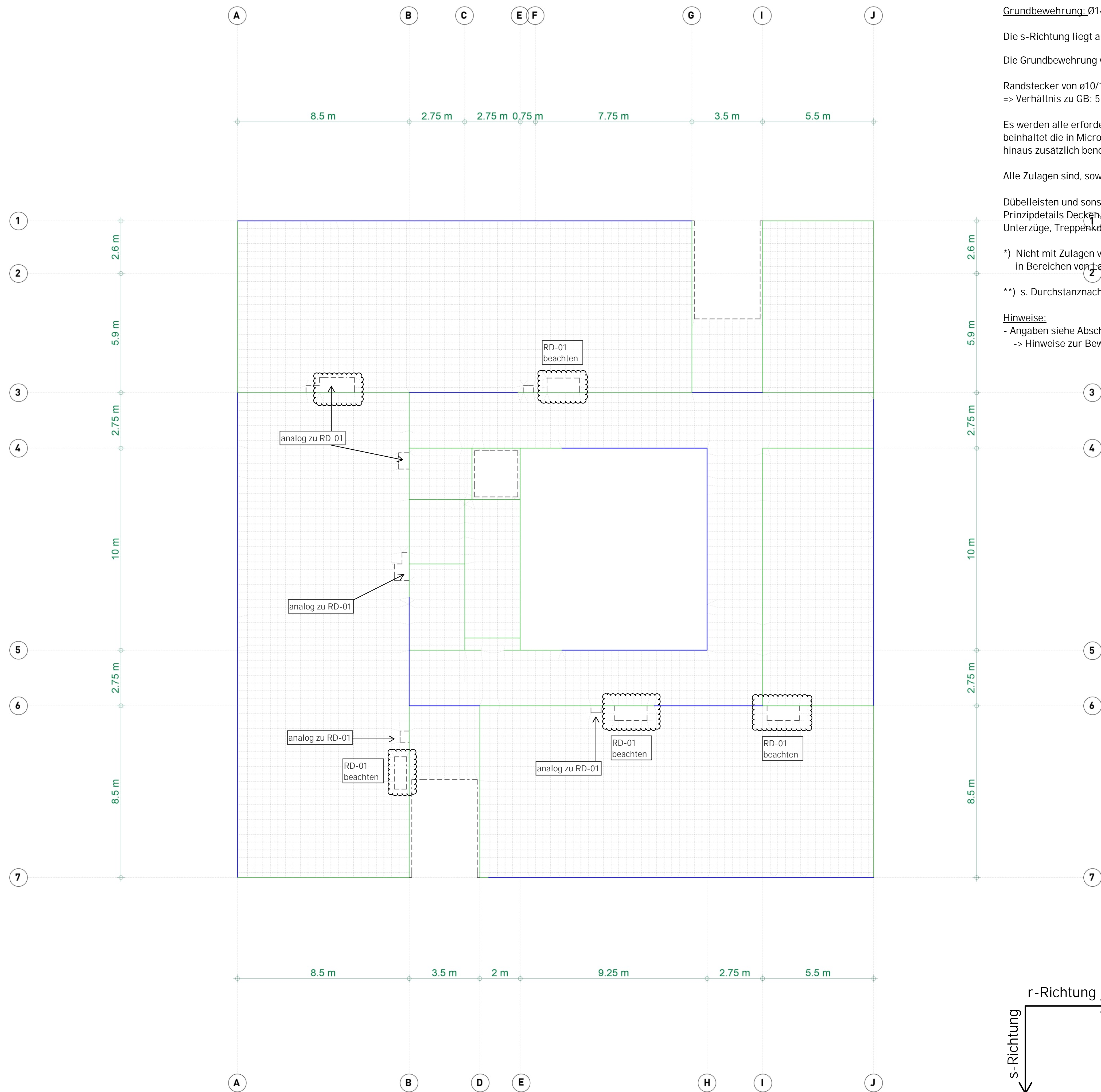
Erforderliche obere Bewehrung $a_{s,ro}$ (Differenzbew.)

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ¥ Ð ↑ Y |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|----------------------------|
| 12 | 1757 | -168.4 | 11.51 | 59.82 | -228.2 | 10.96 |
| 29 | 3905 | -71.19 | -132.0 | -74.68 | -145.9 | 0.41 |
| 31 | 3013 | -126.1 | -8.33 | -29.29 | -155.4 | 1.60 |
| 41 | 576 | -196.3 | -2.58 | 48.60 | -244.9 | 13.17 |
| 44 | 580 | -178.9 | -20.30 | -84.30 | -263.2 | 15.61 |
| 51 | 586 | -84.78 | -245.3 | -94.47 | -179.2 | 4.63 |
| 59 | 593 | -203.9 | -30.07 | 12.46 | -216.3 | 9.41 |
| 62 | 599 | -195.2 | -25.24 | -33.96 | -229.2 | 11.09 |
| 63 | 600 | -212.0 | 15.96 | 55.81 | -267.8 | 16.24 |
| 66 | 1774 | -130.9 | 36.68 | -67.01 | -198.0 | 7.03 |
| 69 | 1775 | -130.4 | -1.36 | 44.61 | -175.0 | 4.10 |
| 70 | 1777 | -113.0 | 1.32 | -65.46 | -178.4 | 4.53 |
| 1930 | 3160 | -196.9 | -27.60 | -42.45 | -239.3 | 12.43 |
| 2030 | 813 | -113.2 | 43.83 | 79.50 | -192.7 | 6.35 |
| 2078 | 3204 | -190.7 | -28.14 | 33.26 | -223.9 | 10.40 |
| 2722 | 940 | -161.7 | -40.12 | 3.47 | -165.2 | 2.84 |
| 3669 | 1435 | -150.0 | -39.55 | -11.10 | -161.1 | 2.33 |
| 4767 | 477 | -136.2 | 34.86 | 20.78 | -148.6 | 0.75 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$ (Differenzbew.)

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ¥ Ð ↑ Y |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|----------------------------|
| 15 | 1759 | -53.45 | -208.9 | 73.83 | -282.8 | 14.64 |
| 16 | 6 | 1.96 | -190.2 | -28.49 | -218.7 | 7.25 |
| 19 | 1764 | -83.45 | -202.7 | 63.53 | -266.2 | 12.71 |
| 20 | 9 | -69.30 | -255.1 | -18.23 | -273.3 | 13.53 |
| 23 | 4249 | 25.89 | -223.4 | -66.03 | -289.4 | 15.43 |
| 27 | 3904 | 16.52 | -235.8 | 47.12 | -282.9 | 14.66 |
| 50 | 584 | -18.65 | -173.9 | -18.79 | -192.6 | 4.32 |
| 51 | 17 | -84.72 | -245.3 | -94.48 | -339.8 | 21.53 |
| 54 | 22 | 8.20 | -177.6 | 19.45 | -197.0 | 4.81 |
| 55 | 589 | -80.85 | -303.2 | 72.14 | -375.3 | 26.03 |
| 56 | 584 | 13.52 | -262.0 | -21.67 | -283.7 | 14.75 |
| 4752 | 3932 | -97.49 | -225.5 | -14.71 | -240.2 | 9.70 |
| 4814 | 4250 | -1.09 | -189.2 | -31.00 | -220.2 | 7.42 |



Grundbewehrung: Ø14/10 (15,39 cm²/m)

Die s-Richtung liegt außen.

Die Grundbewehrung wird über das Auflager geführt

Randstecker von $\varnothing 10/10$ ($7,85 \text{ cm}^2/\text{m}$) einlegen.
=> Verhältnis zu GB: 51 % > 50%

Es werden alle erforderlichen Zulagen zur Grundbewehrung abgebildet. Dies beinhaltet die in MicroFE vorgewählten Zulagen, sowie solche, die darüber hinaus zusätzlich benötigt werden.

Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.

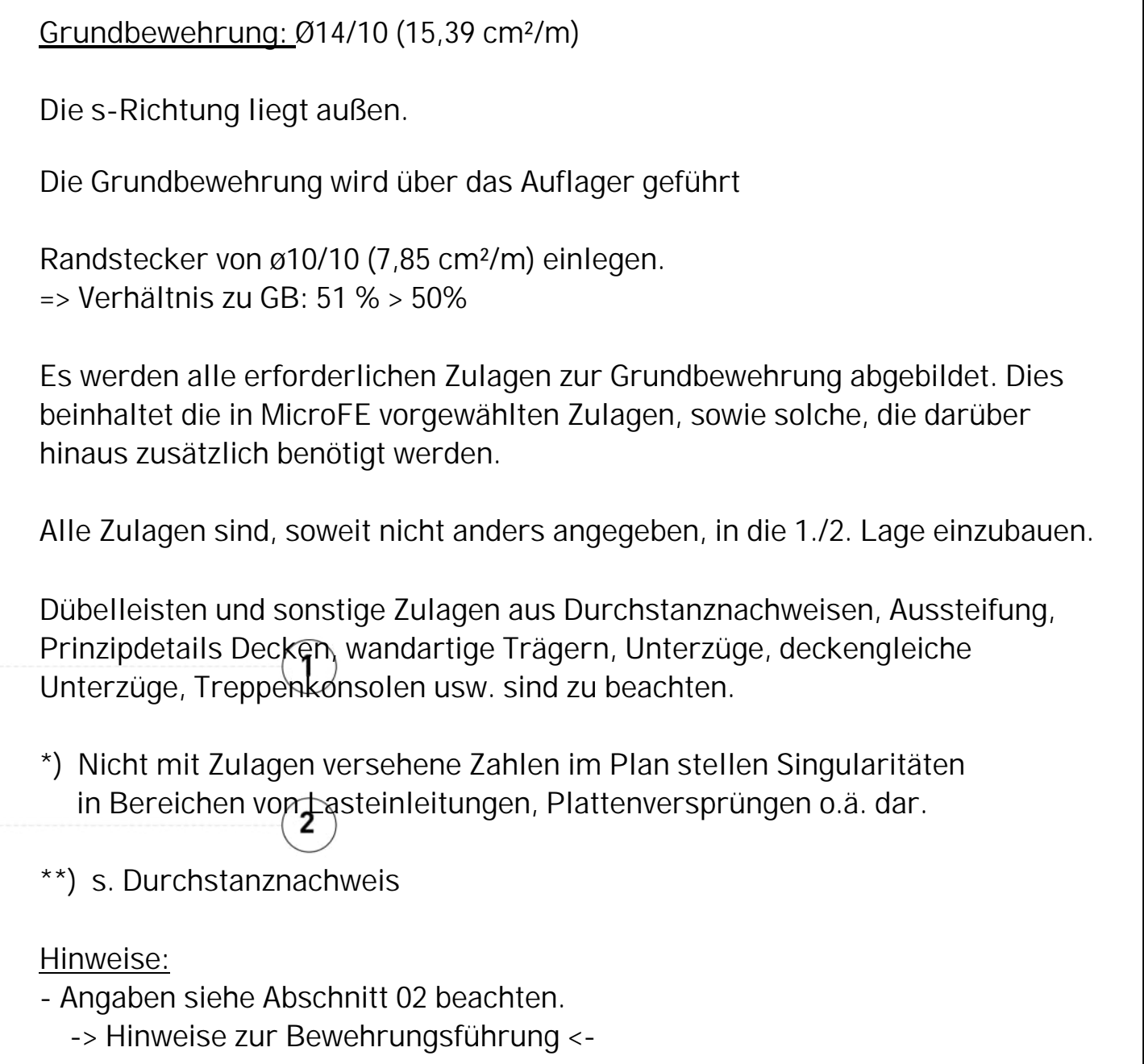
Dübelleisten und sonstige Zulagen aus Durchstanznachweisen, Aussteifung, Prinzipdetails Decken, wandartige Trägern, Unterzüge, deckengleiche Unterzüge, Treppenkonsolen usw. sind zu beachten.


*) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Lasteinleitungen, Plattenversprüngen o.ä. dar.

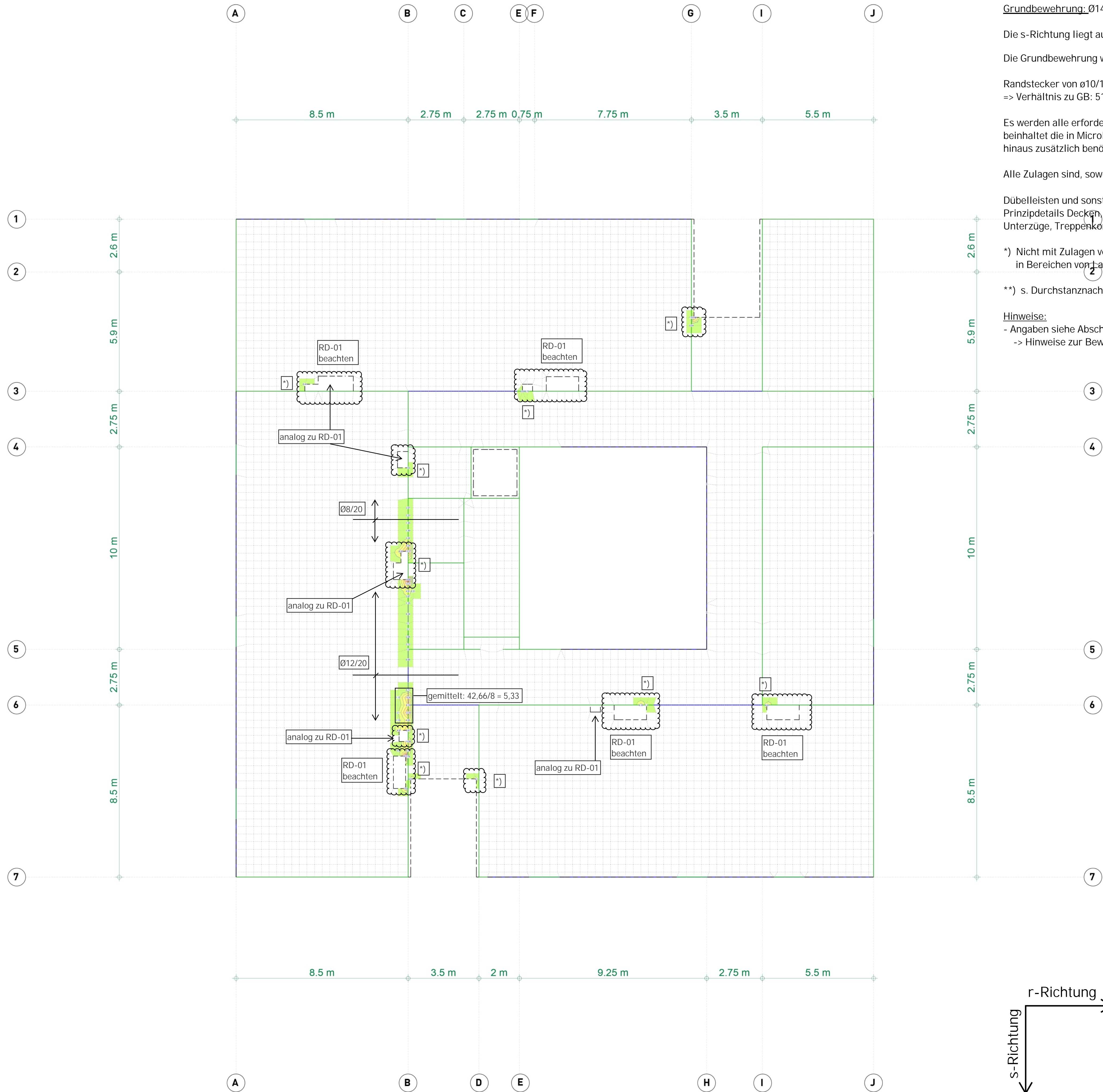
**) s. Durchstanznachweis

Hinweise:

- Angaben siehe Abschnitt 02 beachten.
- > Hinweise zur Bewehrungsführung <-




 r-Richtung → Biegebemessung:
 s-Richtung ↓ erf. Zulagen
 - untere Lage s-Richtung -



Grundbewehrung: Ø14/10 (15,39 cm²/m)

Die s-Richtung liegt außen.

Die Grundbewehrung wird über das Auflager geführt

Randstecker von Ø10/10 (7,85 cm²/m) einlegen.
=> Verhältnis zu GB: 51 % > 50%

Es werden alle erforderlichen Zulagen zur Grundbewehrung abgebildet. Dies beinhaltet die in MicroFE vorgewählten Zulagen, sowie solche, die darüber hinaus zusätzlich benötigt werden.

Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.

Dübelleisten und sonstige Zulagen aus Durchstanznachweisen, Aussteifung, Prinzipdetails Decken, wandartige Trägern, Unterzüge, deckengleiche Unterzüge, Treppenkonsolen usw. sind zu beachten.

*) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Bauteileinleitungen, Plattenversprüngen o.ä. dar.

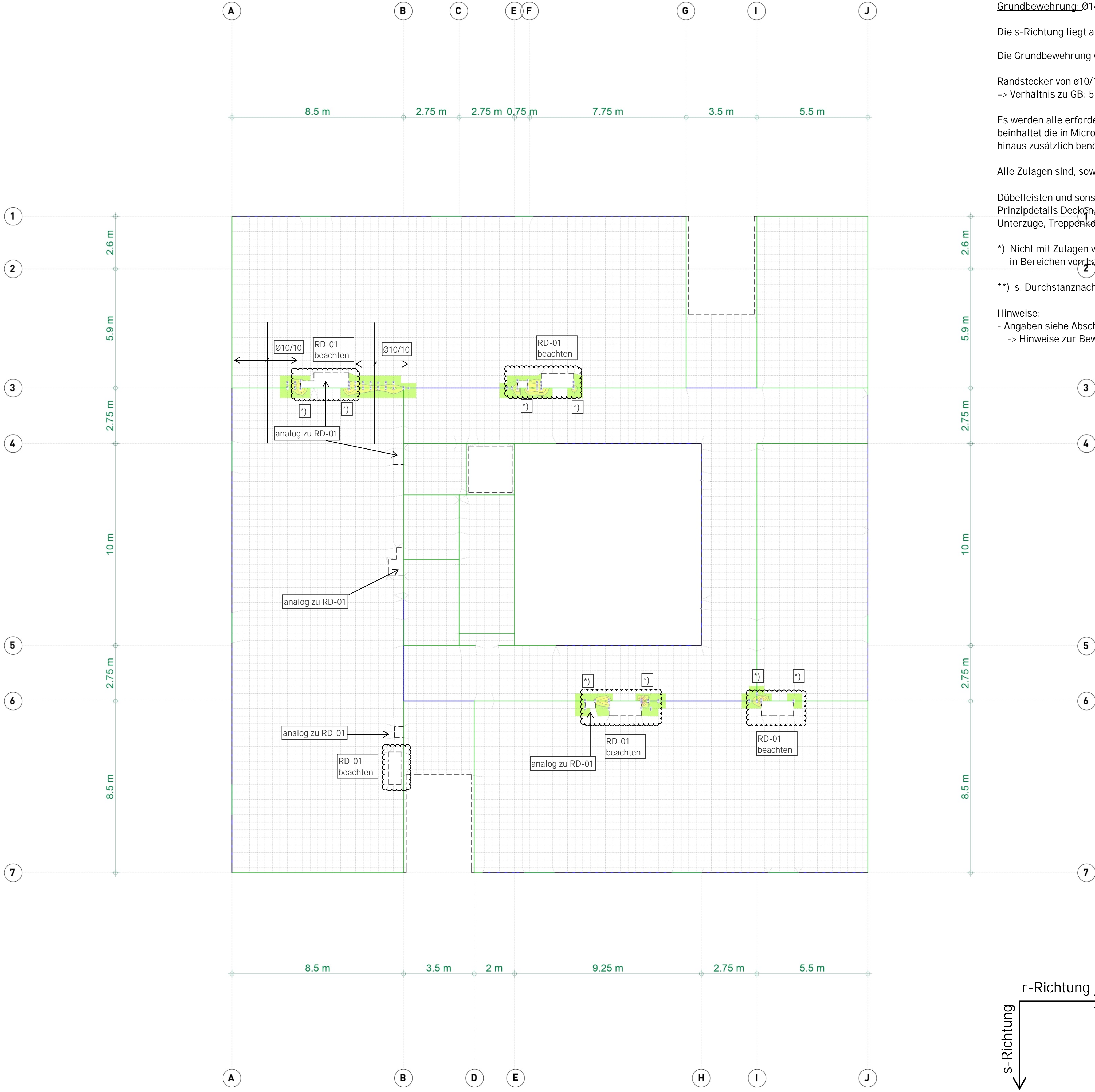
**) s. Durchstanznachweis

Hinweise:
- Angaben siehe Abschnitt 02 beachten.
-> Hinweise zur Bewehrungsführung <-

r-Richtung → **Biegebemessung:**

s-Richtung ↓

erf. Zulagen
- obere Lage r-Richtung -



Grundbewehrung: Ø14/10 (15,39 cm²/m)

Die s-Richtung liegt außen.

Die Grundbewehrung wird über das Auflager geführt

Randstecker von Ø10/10 (7,85 cm²/m) einlegen.
=> Verhältnis zu GB: 51 % > 50%

Es werden alle erforderlichen Zulagen zur Grundbewehrung abgebildet. Dies beinhaltet die in MicroFE vorgewählten Zulagen, sowie solche, die darüber hinaus zusätzlich benötigt werden.

Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.

Dübelleisten und sonstige Zulagen aus Durchstanznachweisen, Aussteifung, Prinzipdetails Decken, wandartige Trägern, Unterzüge, deckengleiche Unterzüge, Treppenkonsolen usw. sind zu beachten.

*) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von Bauteileinleitungen, Plattenversprüngen o.ä. dar.

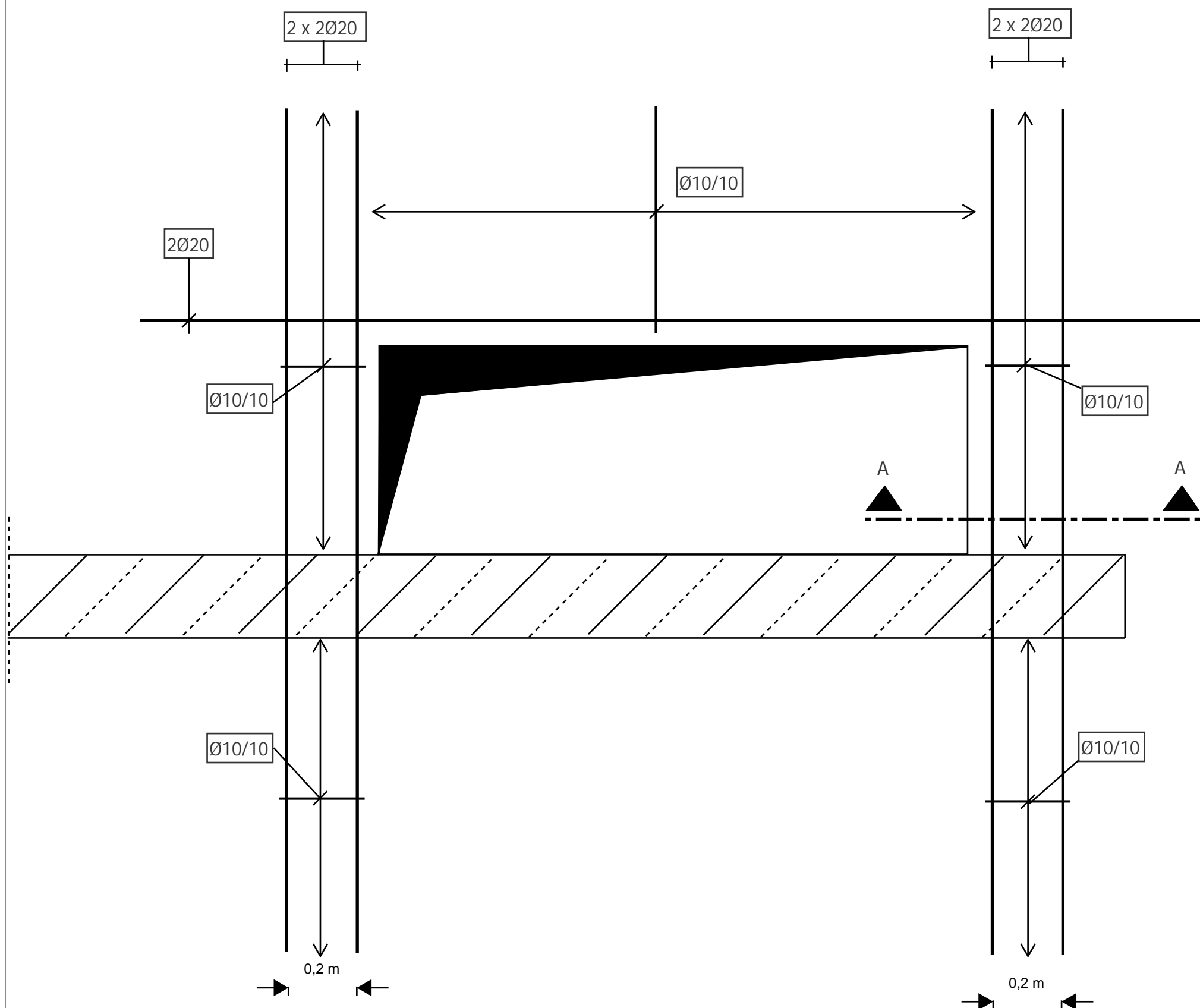
**) s. Durchstanznachweis

Hinweise:
- Angaben siehe Abschnitt 02 beachten.
-> Hinweise zur Bewehrungsführung <-

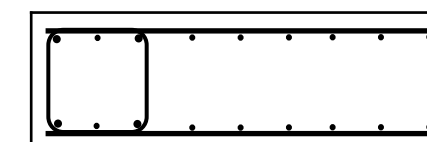
r-Richtung → **Biegebemessung:**

s-Richtung ↓

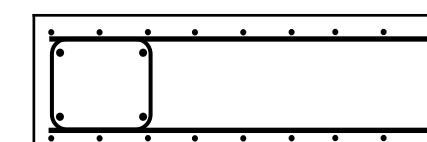
erf. Zulagen
- obere Lage s-Richtung -



Schnitt A-A Fall 1: Bügel liegt in 1. Lage



Schnitt A-A Fall 2: Bügel liegt in 2. Lage



Vorhandene Querkraftbewehrung: Ø10/10/20

$$a_{s,vorh} = 7,85 \text{ cm}^2/\text{m} * 5 \text{ St/m} = 39,25 \text{ cm}^2/\text{m}^2$$

Hinweis: In der Skizze ist nur die statisch erforderliche Bewehrung dargestellt.
Die konstruktive Bewehrung ist zu ergänzen.

Schulcampus Neubau

Bewehrungsskizze zu
Regeldetail RD-01

Bemessungsparameter
Querkraft
Bemessungsparameter

Ö→†´ää^@|æã←ääà\âæ↑æbb|^&Á^á´ääÆØSÁÓSÁFİİĞĖFĖF
âfiääÄäæ^ÁÖäæ^~|b\á^ääÄäæãÁŮää&à†â&←æ↔\Á^á´ääÆØSÁÓSÁ
1992-1-1

Querkraft

| Position | Druckstrebenneigung | Mindestbewehrung |
|---|---------------------|------------------|
| D-1.OG | automatisch | nein |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

D-1. OG

Ñæ↑æbb|^&ÁâfiääŞ→á\\æÁÇU\áâ→âæ\~^DÁĖĖFÈŠÖ

Kombi nati onen

Ráß&æâæ^ääÁP~↑â↔^á\↔~^æ^Á^á´ääÆØSÁÓSÁFİİ€
Ew Einwirkungsname
Lkn Lastkombinationsnummer
Æ↔æÁÑæ\æ↔→&|^&Áæ↔^~æ→^æääQáb\à†→æÁ↔^~æääá→âÁeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh} bX] [#] cf~ VYf ["

| Grundkombinationen | | | | | | | |
|--------------------|----|------|------|-------------|-------------|-------------|---------|
| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
| 1-14 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 15-25 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 26-48 | | 1.35 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 49-56 | | 1.35 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 57-62 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 63-64 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 65 | | 1.35 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 66 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 67 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 68 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 69 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|-------|-------------|---------|---------|
| 1-14 | | . | . |
| 15-25 | | . | 1.20 |
| 26-48 | | . | 1.20 |
| 49-56 | | . | . |
| 57-62 | | . | 1.20 |
| 63-64 | | . | . |
| 65 | | . | 1.20 |
| 66 | | . | . |
| 67 | | . | 1.20 |
| 68 | 1.50 | | 1.20 |
| 69 | 1.50 | | 1.20 |

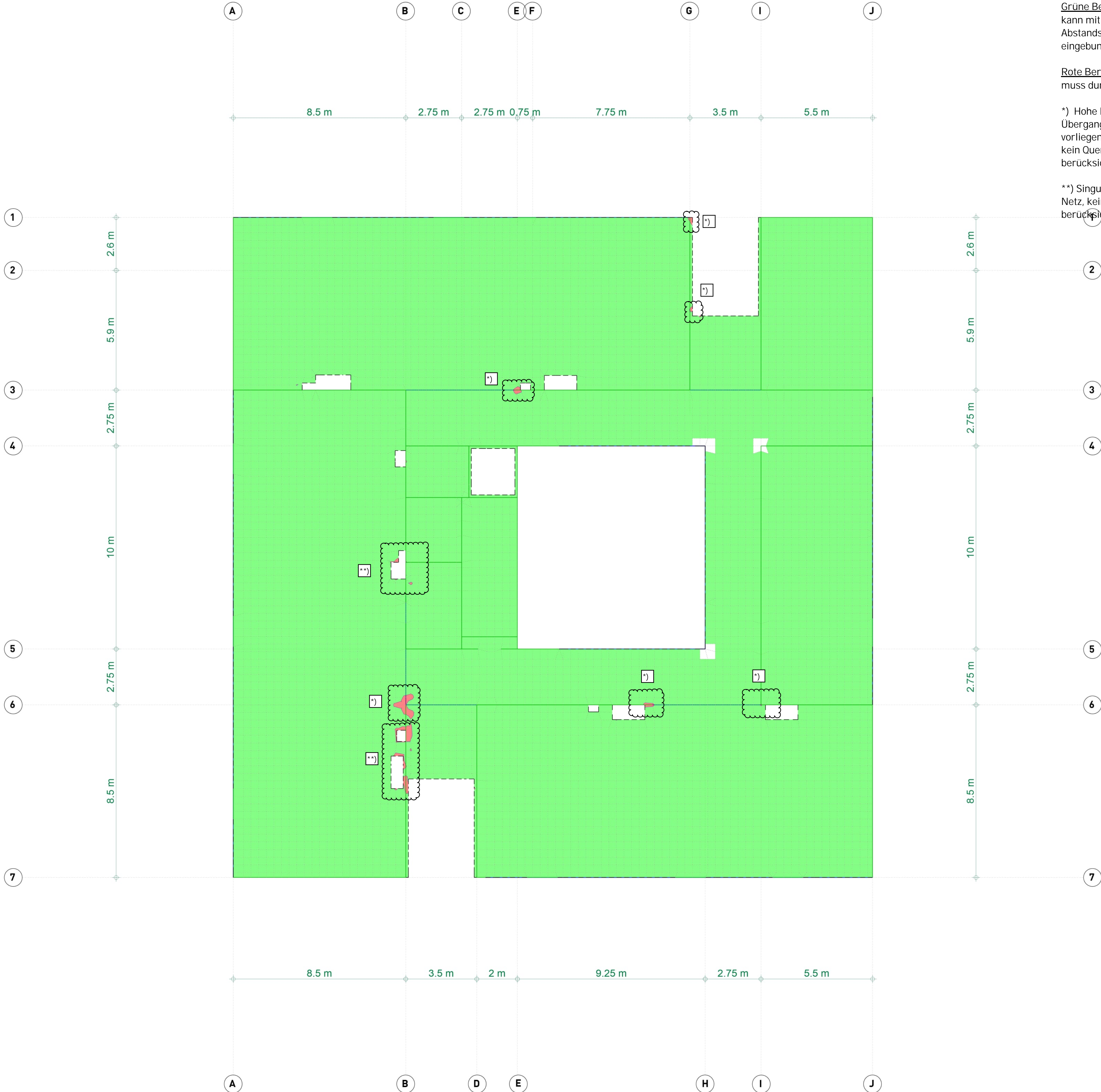
Hf U[Z}\] [_Y] h

Erforderliche Querkraftbewehrung aus
Ůää&à†â&←æ↔\b^á^á}æ↔b
Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $V_{Ed,r}$ | $V_{Rd,c}$ | Z | | $V_{Rd,max}$ | $a_{sw,r}$ | a_{sw} |
|--------|-----|------------|------------|------|---------------|--------------|----------------|------------|
| | | $V_{Ed,s}$ | | | | | $a_{sw,s}$ | |
| | | [kN/m] | [kN/m] | [mm] | γ_{fl} | \ddot{Y} | γ'_{fl} | \ddot{Y} |
| 11 | 1 | -843.8 | 120.6 | 181 | 35 | 1084 | 75.1 | 81.48 |
| | | 163.30 | 123.7 | 195 | 18 | 745.9 | 6.42 | |
| 19 | 6 | -322.0 | 122.0 | 181 | 26 | 904.9 | 19.8 | 27.99 |
| | | 208.38 | 151.2 | 195 | 18 | 745.9 | 8.19 | |
| 21 | 7 | -54.23 | 120.6 | 181 | 18 | 692.3 | 0.00 | 27.63 |
| | | 426.54 | 133.0 | 195 | 29 | 1049 | 27.6 | |
| 28 | 49 | 106.53 | 120.6 | 181 | 18 | 692.3 | 0.00 | 5.11 |
| | | -130.0 | 123.7 | 195 | 18 | 745.9 | 5.11 | |
| 31 | 52 | 163.41 | 124.6 | 181 | 18 | 692.3 | 6.92 | 6.92 |
| | | 10.67 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 42 | 3 | 337.30 | 120.6 | 181 | 27 | 922.9 | 21.4 | 56.12 |
| | | 498.37 | 123.7 | 195 | 31 | 1088 | 34.7 | |
| 49 | 28 | 77.25 | 120.6 | 181 | 18 | 692.3 | 0.00 | 15.02 |
| | | 298.24 | 140.5 | 195 | 23 | 897.9 | 15.0 | |
| 59 | 34 | 419.04 | 141.4 | 181 | 29 | 988.3 | 30.1 | 30.08 |
| | | 28.49 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 62 | 34 | 212.97 | 144.5 | 181 | 18 | 692.3 | 9.02 | 9.02 |
| | | -39.10 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 67 | 2 | -226.4 | 120.6 | 181 | 19 | 697.6 | 9.68 | 14.74 |
| | | 128.61 | 123.7 | 195 | 18 | 745.9 | 5.06 | |
| 80 | 10 | -461.8 | 120.6 | 181 | 31 | 1010 | 34.6 | 34.61 |
| | | 70.53 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 89 | 48 | 349.52 | 120.6 | 181 | 27 | 935.6 | 22.7 | 28.59 |
| | | 149.37 | 134.4 | 195 | 18 | 745.9 | 5.87 | |
| 1102 | 20 | -317.9 | 120.6 | 181 | 26 | 899.7 | 19.4 | 19.37 |
| | | -109.0 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1103 | 18 | 485.59 | 120.6 | 181 | 31 | 1019 | 37.1 | 37.13 |
| | | 54.21 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1104 | 16 | -297.6 | 120.6 | 181 | 24 | 870.4 | 17.2 | 17.22 |
| | | -24.82 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1179 | 18 | -529.9 | 120.6 | 181 | 32 | 1034 | 41.8 | 59.79 |
| | | -328.3 | 123.7 | 195 | 25 | 949.5 | 18.0 | |
| 1186 | 17 | -184.6 | 120.6 | 181 | 18 | 692.3 | 7.82 | 7.82 |
| | | -46.88 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1262 | 25 | -170.9 | 120.6 | 181 | 18 | 692.3 | 7.24 | 7.24 |
| | | 49.69 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1428 | 19 | -469.1 | 120.6 | 181 | 31 | 1013 | 35.4 | 40.77 |
| | | 137.06 | 123.7 | 195 | 18 | 745.9 | 5.39 | |
| 1511 | 47 | -183.2 | 120.6 | 181 | 18 | 692.3 | 7.76 | 7.76 |
| | | -33.95 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1514 | 46 | 220.42 | 120.6 | 181 | 18 | 692.3 | 9.34 | 9.34 |
| | | -23.39 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1680 | 35 | 239.34 | 120.6 | 181 | 20 | 740.8 | 11.1 | 11.05 |
| | | -96.61 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1681 | 36 | -684.0 | 120.6 | 181 | 34 | 1066 | 58.1 | 58.14 |
| | | -2.14 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1876 | 22 | 229.47 | 120.6 | 181 | 19 | 708.5 | 10.0 | 10.01 |
| | | 7.40 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1894 | 14 | -66.80 | 120.6 | 181 | 18 | 692.3 | 0.00 | 6.46 |
| | | -164.2 | 123.7 | 195 | 18 | 745.9 | 6.46 | |
| 1897 | 5 | -131.8 | 120.6 | 181 | 18 | 692.3 | 5.58 | 5.58 |
| | | 29.41 | 123.7 | 195 | 18 | 745.9 | 0.00 | |
| 1928 | 56 | -140.1 | 120.6 | 181 | 18 | 692.3 | 5.93 | 5.93 |

| Knoten | Lkn | $V_{Ed,r}$ $V_{Ed,s}$ [kN/m] | $V_{Rd,c}$ [kN/m] | Z [mm] | $V_{Rd,max}$ [kN/m] | $a_{sw,r}$ $a_{sw,s}$ mm | a_{sw} mm |
|--------|-----|------------------------------------|----------------------|-----------|------------------------|--------------------------------|----------------|
| | | -0.61 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 1931 | 45 | 419.79 | 120.6 | 181 | 29 | 988.7 | 30.2 |
| | | 257.58 | 123.7 | 195 | 20 | 797.2 | 11.0 |
| 1954 | 37 | 19.92 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 303.40 | 123.7 | 195 | 23 | 907.9 | 15.5 |
| 1955 | 29 | -16.80 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -269.6 | 128.7 | 195 | 21 | 831.9 | 12.2 |
| 1956 | 30 | -76.35 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -513.7 | 127.6 | 195 | 31 | 1095 | 36.2 |
| 1970 | 13 | -23.77 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -148.1 | 123.7 | 195 | 18 | 745.9 | 5.82 |
| 1972 | 31 | 186.73 | 120.6 | 181 | 18 | 692.3 | 7.91 |
| | | -622.2 | 123.7 | 195 | 33 | 1128 | 46.9 |
| 1973 | 67 | -7.64 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -194.8 | 123.7 | 195 | 18 | 745.9 | 7.66 |
| 2005 | 55 | -344.6 | 120.6 | 181 | 27 | 930.7 | 22.2 |
| | | 13.45 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 2026 | 28 | 25.49 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -511.5 | 123.7 | 195 | 31 | 1094 | 36.0 |
| 2027 | 28 | -148.7 | 120.6 | 181 | 18 | 692.3 | 6.30 |
| | | -445.5 | 123.7 | 195 | 29 | 1061 | 29.5 |
| 2046 | 51 | 66.73 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -235.1 | 123.7 | 195 | 18 | 745.9 | 9.24 |
| 2076 | 54 | -125.8 | 120.6 | 181 | 18 | 692.3 | 5.33 |
| | | 19.32 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 2079 | 44 | 427.58 | 120.6 | 181 | 30 | 993.1 | 31.0 |
| | | -207.3 | 123.7 | 195 | 18 | 745.9 | 8.15 |
| 2130 | 12 | -53.14 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 131.17 | 123.7 | 195 | 18 | 745.9 | 5.16 |
| 2589 | 43 | 144.31 | 120.6 | 181 | 18 | 692.3 | 6.11 |
| | | -22.15 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 2664 | 42 | 149.26 | 120.6 | 181 | 18 | 692.3 | 6.32 |
| | | 12.49 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 3076 | 53 | -127.5 | 120.6 | 181 | 18 | 692.3 | 5.40 |
| | | -2.10 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 3138 | 41 | 293.44 | 120.6 | 181 | 24 | 863.6 | 16.8 |
| | | 147.97 | 123.7 | 195 | 18 | 745.9 | 5.82 |
| 3196 | 65 | -123.6 | 120.6 | 181 | 18 | 692.3 | 5.24 |
| | | 403.98 | 123.7 | 195 | 28 | 1032 | 25.4 |
| 3197 | 27 | -267.7 | 120.6 | 181 | 22 | 814.4 | 14.1 |
| | | 88.87 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 3430 | 40 | -127.3 | 120.6 | 181 | 18 | 692.3 | 5.39 |
| | | 0.39 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 3432 | 40 | 207.84 | 120.6 | 181 | 18 | 692.3 | 8.80 |
| | | -42.49 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 3731 | 39 | 158.54 | 120.6 | 181 | 18 | 692.3 | 6.72 |
| | | 38.60 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 3848 | 38 | 136.23 | 120.6 | 181 | 18 | 692.3 | 5.77 |
| | | -24.11 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 4068 | 33 | 123.29 | 120.6 | 181 | 18 | 692.3 | 5.22 |
| | | -17.57 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 4069 | 32 | -256.8 | 120.6 | 181 | 22 | 789.0 | 12.9 |
| | | 52.02 | 123.7 | 195 | 18 | 745.9 | 0.00 |

| Knoten | Lkn | $V_{Ed,r}$ | $V_{Rd,c}$ | Z | $V_{Rd,max}$ | $a_{sw,r}$ | a_{sw} |
|--------|-----|------------|------------|------|------------------|------------|--|
| | | $V_{Ed,s}$ | | | | $a_{sw,s}$ | |
| | | [kN/m] | [kN/m] | [mm] | $Y_{fl}\ddot{Y}$ | [kN/m] | $Y' \uparrow \ddot{Y} \uparrow \ddot{Y}$ |
| 4588 | 62 | -29.75 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -147.2 | 123.7 | 195 | 18 | 745.9 | 5.79 |
| 4658 | 64 | 18.23 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -192.4 | 123.7 | 195 | 18 | 745.9 | 7.56 |
| 4666 | 61 | -77.74 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -163.8 | 123.7 | 195 | 18 | 745.9 | 6.44 |
| 4671 | 60 | -6.76 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -206.7 | 123.7 | 195 | 18 | 745.9 | 8.13 |
| 4742 | 58 | -54.11 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 190.14 | 123.7 | 195 | 18 | 745.9 | 7.48 |
| 4746 | 63 | 10.31 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 187.24 | 123.7 | 195 | 18 | 745.9 | 7.36 |
| 4768 | 11 | -69.89 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -257.0 | 149.4 | 195 | 20 | 795.4 | 11.0 |
| 4771 | 21 | 27.82 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 201.36 | 123.7 | 195 | 18 | 745.9 | 7.92 |
| 4814 | 64 | -231.8 | 120.6 | 181 | 19 | 716.4 | 10.3 |
| | | 109.43 | 141.0 | 195 | 18 | 745.9 | 0.00 |
| 4815 | 9 | 108.75 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -248.4 | 123.7 | 195 | 19 | 767.3 | 10.1 |
| 4816 | 57 | -29.39 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 419.43 | 134.7 | 195 | 29 | 1044 | 26.9 |
| 4818 | 69 | -39.19 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 171.10 | 129.7 | 195 | 18 | 745.9 | 6.73 |
| 4823 | 24 | 128.68 | 120.6 | 181 | 18 | 692.3 | 5.45 |
| | | 214.33 | 123.7 | 195 | 18 | 745.9 | 8.43 |
| 4838 | 8 | -6.88 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -377.9 | 123.7 | 195 | 27 | 1009 | 22.9 |
| 4840 | 4 | 187.37 | 120.6 | 181 | 18 | 692.3 | 7.94 |
| | | 657.08 | 135.1 | 195 | 33 | 1135 | 50.3 |
| 4841 | 50 | -6.97 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 261.37 | 128.5 | 195 | 20 | 808.6 | 11.4 |
| 4896 | 59 | 42.36 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 163.89 | 123.7 | 195 | 18 | 745.9 | 6.44 |
| 4920 | 11 | -77.97 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | 194.01 | 123.7 | 195 | 18 | 745.9 | 7.63 |
| 5532 | 23 | -144.8 | 120.6 | 181 | 18 | 692.3 | 6.13 |
| | | 10.37 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 5618 | 15 | 288.44 | 120.6 | 181 | 24 | 855.1 | 16.3 |
| | | -50.16 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 6632 | 26 | -187.0 | 120.6 | 181 | 18 | 692.3 | 7.92 |
| | | -14.72 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| 6653 | 68 | -51.24 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| | | -126.9 | 123.7 | 195 | 18 | 745.9 | 4.99 |
| 6659 | 66 | -282.7 | 120.6 | 181 | 24 | 844.8 | 15.6 |
| | | 20.08 | 123.7 | 195 | 18 | 745.9 | 0.00 |

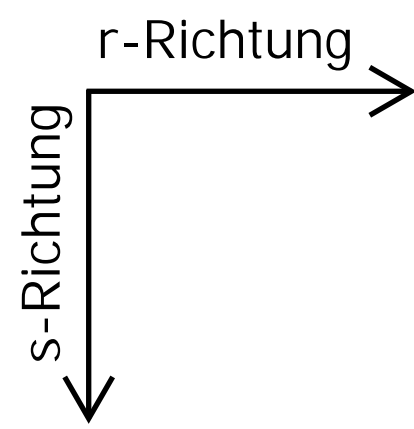


Grüne Bereiche: $V_{Ed} / V_{Rd,max} < 0,3 \rightarrow$ Querkraftbewehrung kann mit Hilfe von Abstandshaltern abgedeckt werden. Die Abstandshalter müssen in die Lagen der Längsbewehrung eingebunden und bis in die Zugzone geführt werden.

Rote Bereiche: $V_{Ed} / V_{Rd,max} > 0,3 \rightarrow$ Querkraftbewehrung muss durch zusätzliche Bügel realisiert werden.

*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke \rightarrow nicht zu berücksichtigen

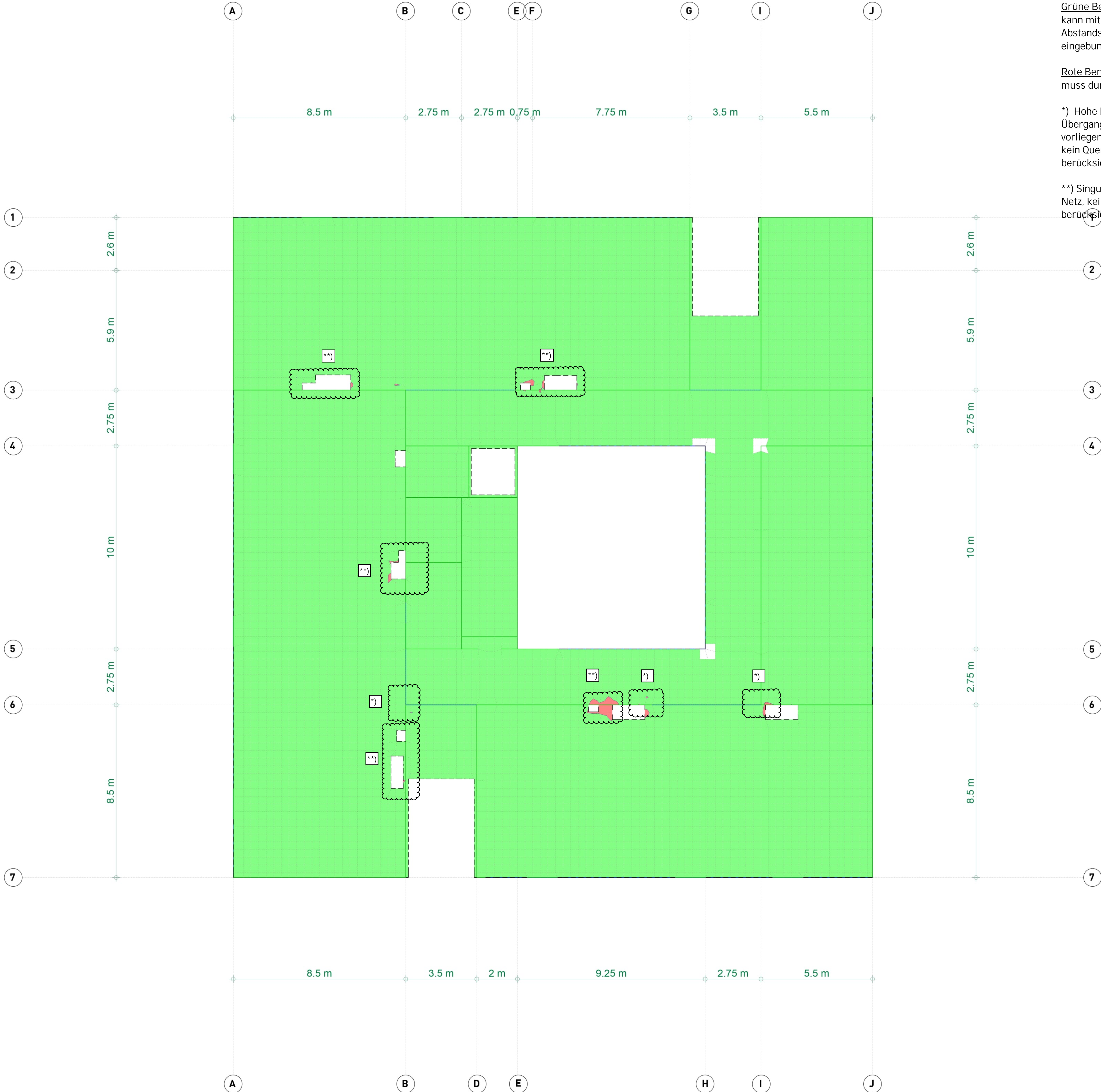
**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand \rightarrow nicht zu berücksichtigen



Verhältnis:

- $V_{Ed} / V_{Rd,max}$ -

| | |
|--------------------|--|
| Querkraftbemessung | <div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></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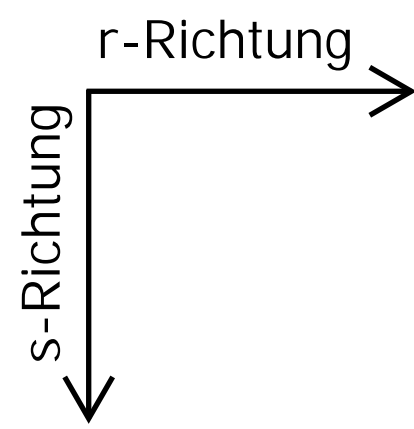


Grüne Bereiche: $V_{Ed} / V_{Rd,max} < 0,3 \rightarrow$ Querkraftbewehrung kann mit Hilfe von Abstandshaltern abgedeckt werden. Die Abstandshalter müssen in die Lagen der Längsbewehrung eingebunden und bis in die Zugzone geführt werden.

Rote Bereiche: $V_{Ed} / V_{Rd,max} > 0,3 \rightarrow$ Querkraftbewehrung muss durch zusätzliche Bügel realisiert werden.

*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke \rightarrow nicht zu berücksichtigen

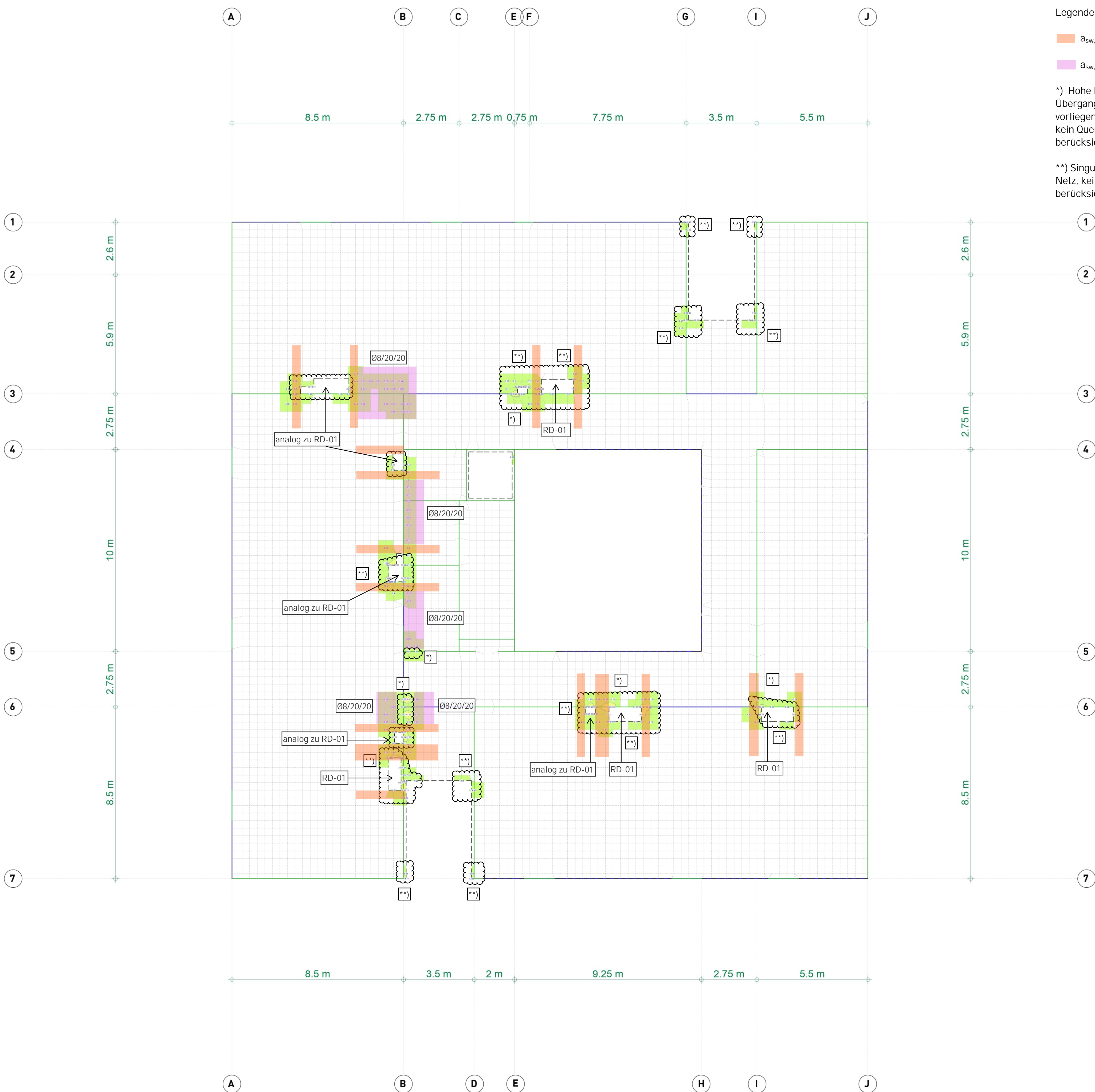
**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand \rightarrow nicht zu berücksichtigen



Verhältnis:

- $V_{Ed} / V_{Rd,max}$ -

| | | | |
|------------------------------|-----------------|-------|----------------------|
| Querkraftbemessung | Modell | | Tisch + 200mm KIEFER |
| Max = 0.58, Min = 0 | Bauvorhaben | | |
| | Schulcampus EWK | | |
| | Schwesterschule | | |
| KREBS+KIEFER Ingenieure GmbH | | D-362 | |



Legende:

$a_{sw, gew} = 39,25 \text{ cm}^2/\text{m}^2$ (aus RD-01)

$a_{sw, gew} = 12,55 \text{ cm}^2/\text{m}^2$ (Ø8/20/20)

*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke -> nicht zu berücksichtigen

**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand -> nicht zu berücksichtigen

Querkraftbemessung:

- $a_{s, erf}$ -

HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71



Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Innenecke (Ortbetonplatte)

| | | | |
|--|-------------------------|---|-------------------------------------|
| Bemessungswert Durchstanzlast | V_{Ed} | = | 170,0 kN |
| Lasterhöhungsfaktor | β | = | 1,20 |
| Plattendicke | h | = | 28 cm |
| statische Nutzhöhe | d | = | 23,6 cm |
| Wanddicke | b | = | 25 cm |
| Einflussbreite | a | = | 35,4 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = | 3 cm / 3 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = | C30/37 / B500 / B500 |
| Durchmesser / Abstand | | = | Ø14 / 100 mm ($\rho_x = 0,65 \%$) |
| Durchmesser / Abstand | | = | Ø14 / 100 mm ($\rho_y = 0,65 \%$) |
| Längsbewehrungsgrad | ρ_l | = | 0,65 % < 1,95 % |

am kritischen Rundschnitt u_1

Rundschnittführung analog Innenstütze

| | | | |
|--|------------|---|--------------------------|
| bezogener Stützenumfang | u_0 / d | = | 6 |
| u_1 | | = | 144,9 cm |
| $k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ | | = | 1,92 |
| Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 | $C_{Rd,c}$ | = | 0,12 |
| $v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ | | = | 620,97 kN/m ² |
| $v_{Rd,c,2} = v_{min} = 0,0525/\gamma_C \cdot k^{3/2} \cdot f_{ck}^{1/2}$ | | = | 510,24 kN/m ² |
| $V_{Rd,c} = \max \{ v_{Rd,c,1} ; v_{Rd,c,2} \} \cdot u_1 \cdot d = 212,4 \text{ kN} > 204,0 \text{ kN} = V_{Ed} \cdot \beta$ | | | |

Keine Durchstanzbewehrung erforderlich

Hinweis: Für die Abreißbewehrung ist DIN EN 1992-1-1/NA:2013-04 zu berücksichtigen:

$$A_s = V_{Ed} / (1,4 \cdot f_{yk}) = 2,4 \text{ cm}^2$$

HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71

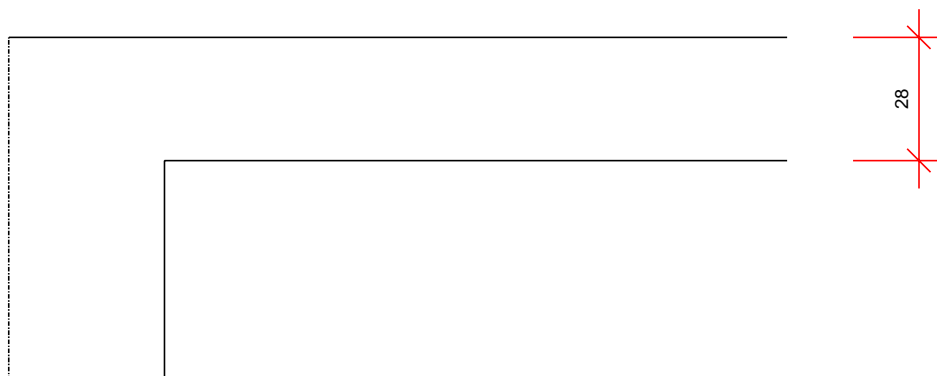


Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

Schnitt

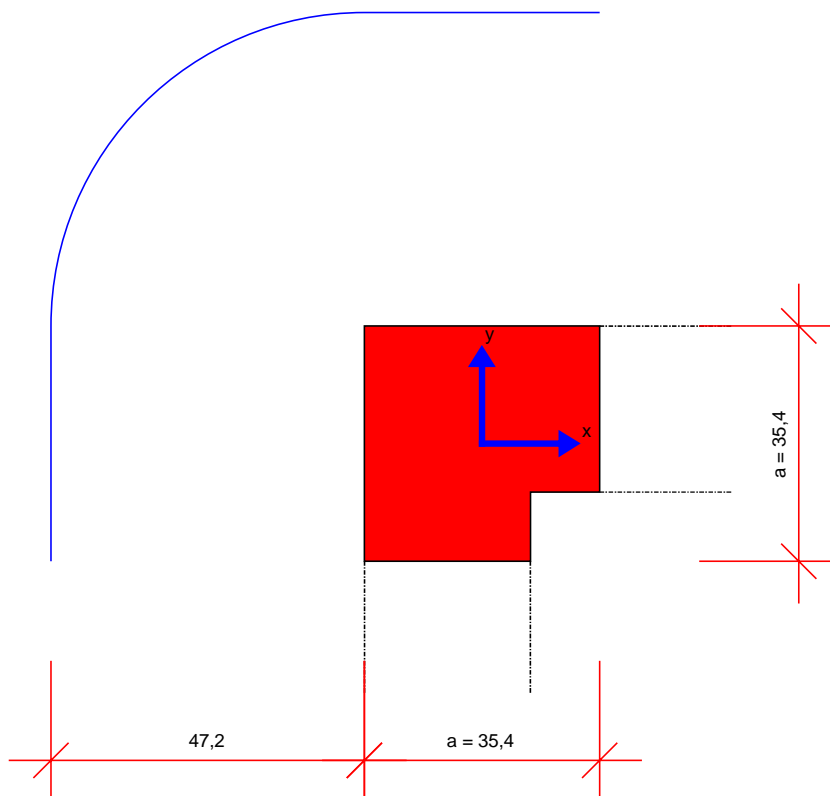
M 1:17



[cm]

Grundriss

M 1:11



Mindeststablängen: $l_{\text{bar,min,x}} = 106,2 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 106,2 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

Die Stäbe sind beginnend vom Anschnitt der Wand mindestens $70,8 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

Lastübergabe

y VYf[UY

@Ugh~ VYf[UY

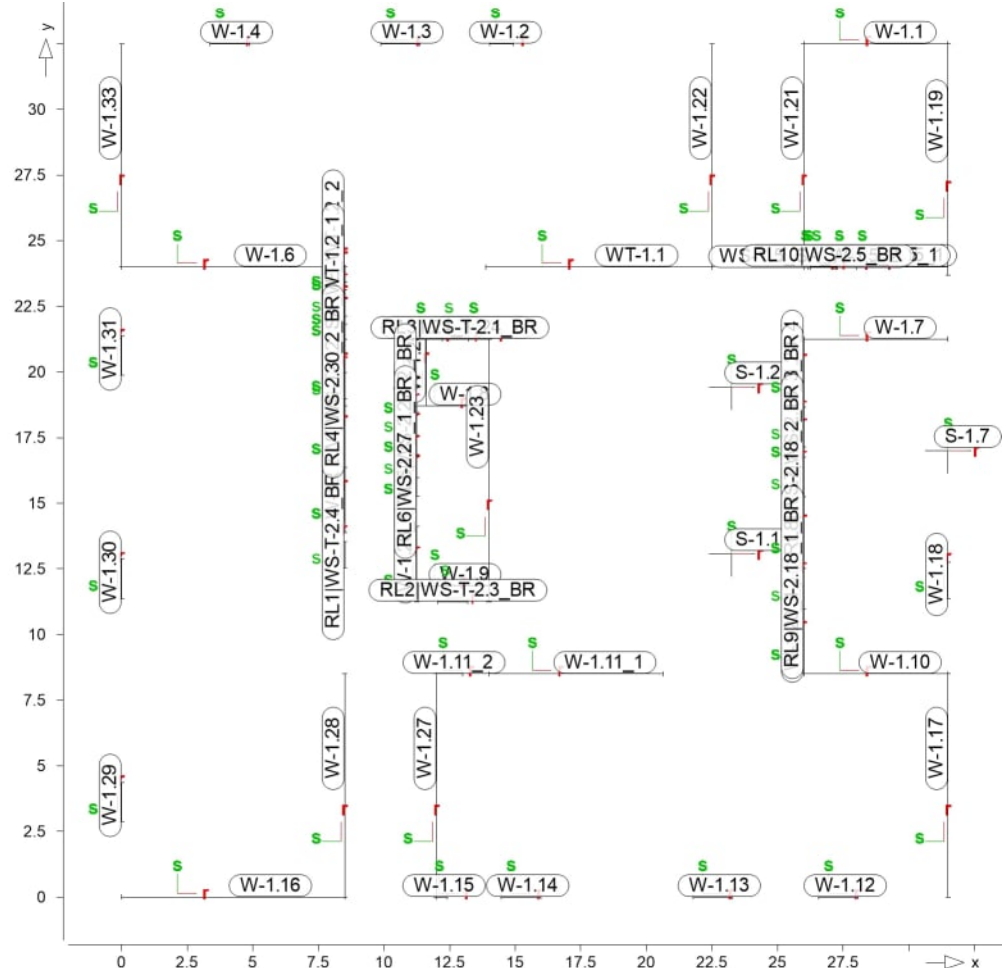
Mi croFe

Posi ti onsgrafi k

§ã~\~<~>→ÄäæãÁQáb\fiâæã&áâæ

Qáb\fiâæã&áâæÄâfiãÄR↔´ã~Ôæ

©âæãb↔´â\ÄäæãÄfiâæã&æâæ^æ^ÁQáb\æ^



Die vertikalen Auflagerreaktionen werden
→áb\àá→}æ↔bæÄ~|ãÄQáb\fiâæã^áâ↑æÄâæãæ↔\æb\æ→\ÈÄ
Ó↔^b*á^↑~↑æ^æÄâ→æ↔âæ^Ä|^âæâfi´↔b↔´â↔&\È

Kleine Lasten (< 0.01 kN bzw. kN/m) werden nicht lastfallweise ausgegeben, sondern als Lastsumme zusammengefasst.
Lasten bis zu einer Summe von 0.01 kN pro Position }æãäæ^Ä{æã^á^â→†bb↔&\iÄä↔æÄN|b}æã\|^Äæãä~→&\Ä
getrennt nach positiver und negativer Wirkungsrichtung.

Punktlasten

| Position | EW | Lastfall | Art | P [kN] |
|------------|-------------|-----------|-----|-----------|
| (g1) S-1.1 | Gk | LF-1 | PGr | 20.36 |
| | Gk | LF-1 | PGr | 116.65 |
| | Gk | #1 LF-1 | PGr | 186.74 |
| | Gk | #2 LF-1 | PGr | -0.01 |
| | Qk . N_B | LF-3 | PGr | -30.66 |
| | 1 | | | |
| | Qk . N_B | LF-4 | PGr | -0.14 |
| | 1 | | | |
| | Qk . N_B | LF-5 | PGr | -0.04 |
| | 1 | | | |
| | Qk . N_B | LF-7 | PGr | 3.24 |
| | 1 | | | |
| | Qk . N_B | LF-9 | PGr | 0.06 |
| | 1 | | | |
| | Qk . N_B | LF-10 | PGr | -26.49 |
| | 1 | | | |
| | Qk . N_C | LF-22 | PGr | 0.03 |
| | 1 | | | |
| | Qk . N_C | LF-15 | PGr | -8.41 |
| | 5 | | | |
| | Qk . N_C | LF-16 | PGr | 31.98 |
| | 5 | | | |
| | Qk . N_C | LF-17 | PGr | -6.22 |
| | 5 | | | |
| | Qk . N_C | LF-18 | PGr | 41.17 |
| | 5 | | | |
| | Qk . N_C | LF-19 | PGr | -0.01 |
| | 5 | | | |
| | Qk . N_D #1 | LF-3 | PGr | -40.28 |
| | A | | | |
| | Qk . N_D #1 | LF-4 | PGr | 0.20 |
| | A | | | |
| | Qk . N_D #1 | LF-5 | PGr | -0.30 |
| | A | | | |
| | Qk . N_D #1 | LF-6 | PGr | 2.71 |
| | A | | | |
| | Qk . N_D #1 | LF-7 | PGr | -0.04 |
| | A | | | |
| | Qk . N_D #1 | LF-8 | PGr | -0.04 |
| | A | | | |
| | Qk . N_D #1 | LF-9 | PGr | 0.06 |
| | A | | | |
| | Qk . N_D #1 | LF-10 | PGr | 36.41 |
| | A | | | |
| | Qk . N_D #1 | LF-11 | PGr | -5.86 |
| | A | | | |
| | Qk . N_D #1 | LF-12 | PGr | 23.44 |
| | A | | | |
| | Qk . N_D #1 | LF-13 | PGr | 26.60 |
| | A | | | |
| | Qk . N_E | LF-11 | PGr | 0.12 |
| | 1 | | | |
| | Qk . N_E #1 | LF-17 | PGr | -19.52 |
| | 1 | | | |

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| Position | EW | Lastfall | Art | P [kN] |
|------------|--------|------------|-----|-----------|
| (g1) S-1.2 | Qk.N_T | LF-20 | PGr | 0.18 |
| | 2 | | | |
| | Qk.N_T | LF-21 | PGr | -0.13 |
| | 2 | | | |
| | Ö← | LF-2 | PGr | 7.87 |
| | Ö← | #1 LF-2 | PGr | 14.78 |
| | Gk | LF-1 | PGr | 20.36 |
| | Gk | LF-1 | PGr | 159.65 |
| | Gk | #1 LF-1 | PGr | 235.49 |
| | Qk.N_B | LF-3 | PGr | 7.06 |
| | 1 | | | |
| | Qk.N_B | LF-4 | PGr | 0.03 |
| | 1 | | | |
| | Qk.N_B | LF-5 | PGr | 0.01 |
| | 1 | | | |
| | Qk.N_B | LF-7 | PGr | -14.54 |
| | 1 | | | |
| | Qk.N_B | LF-8 | PGr | -0.44 |
| | 1 | | | |
| | Qk.N_B | LF-9 | PGr | 0.21 |
| | 1 | | | |
| | Qk.N_B | LF-10 | PGr | -12.40 |
| | 1 | | | |
| | Qk.N_C | LF-22 | PGr | -0.15 |
| | 1 | | | |
| | Qk.N_C | LF-15 | PGr | 36.10 |
| | 5 | | | |
| | Qk.N_C | LF-16 | PGr | 31.17 |
| | 5 | | | |
| | Qk.N_C | LF-17 | PGr | 1.16 |
| | 5 | | | |
| | Qk.N_C | LF-18 | PGr | -9.73 |
| | 5 | | | |
| | Qk.N_D | #1 LF-3 | PGr | 8.48 |
| | A | | | |
| | Qk.N_D | #1 LF-4 | PGr | -0.04 |
| | A | | | |
| | Qk.N_D | #1 LF-5 | PGr | 0.08 |
| | A | | | |
| | Qk.N_D | #1 LF-6 | PGr | -12.90 |
| | A | | | |
| | Qk.N_D | #1 LF-7 | PGr | 0.15 |
| | A | | | |
| | Qk.N_D | #1 LF-8 | PGr | -0.08 |
| | A | | | |
| | Qk.N_D | #1 LF-9 | PGr | 0.13 |
| | A | | | |
| | Qk.N_D | #1 LF-10 | PGr | 33.79 |
| | A | | | |
| | Qk.N_D | #1 LF-11 | PGr | 28.94 |
| | A | | | |
| | Qk.N_D | #1 LF-12 | PGr | -4.59 |
| | A | | | |
| | Qk.N_D | #1 LF-13 | PGr | 17.45 |
| | | | | D-370 |

| Position | EW | Lastfall | Art | P [kN] |
|------------|-------------------|----------|-----|-----------|
| | A | | | |
| | Qk.N_E LF-11 | | PGr | -0.54 |
| | 1 | | | |
| | Qk.N_E #1 LF-17 | | PGr | -8.50 |
| | 1 | | | |
| | Qk.N_T LF-20 | | PGr | -0.04 |
| | 2 | | | |
| | Qk.N_T LF-21 | | PGr | 0.50 |
| | 2 | | | |
| | Ö← LF-2 | | PGr | 25.07 |
| | Ö← #1 LF-2 | | PGr | 32.89 |
| (g1) S-1.7 | Gk LF-1 | | PGr | 5.66 |
| | Gk LF-1 | | PGr | 103.26 |
| | Gk #1 LF-1 | | PGr | 95.99 |
| | Qk.N_B LF-3 | | PGr | 0.66 |
| | 1 | | | |
| | Qk.N_B LF-7 | | PGr | 0.04 |
| | 1 | | | |
| | Qk.N_B LF-8 | | PGr | 0.72 |
| | 1 | | | |
| | Qk.N_B LF-9 | | PGr | -0.60 |
| | 1 | | | |
| | Qk.N_B LF-10 | | PGr | 43.22 |
| | 1 | | | |
| | Qk.N_C LF-15 | | PGr | -0.03 |
| | 5 | | | |
| | Qk.N_C LF-16 | | PGr | -1.03 |
| | 5 | | | |
| | Qk.N_C LF-17 | | PGr | 0.31 |
| | 5 | | | |
| | Qk.N_D #1 LF-3 | | PGr | 0.54 |
| | A | | | |
| | Qk.N_D #1 LF-6 | | PGr | 0.02 |
| | A | | | |
| | Qk.N_D #1 LF-7 | | PGr | -0.02 |
| | A | | | |
| | Qk.N_D #1 LF-8 | | PGr | 0.25 |
| | A | | | |
| | Qk.N_D #1 LF-9 | | PGr | 0.04 |
| | A | | | |
| | Qk.N_D #1 LF-10 | | PGr | 0.02 |
| | A | | | |
| | Qk.N_D #1 LF-13 | | PGr | 17.29 |
| | A | | | |
| | Qk.N_E #1 LF-17 | | PGr | 9.33 |
| | 1 | | | |
| | Qk.N_T LF-21 | | PGr | -0.06 |
| | 2 | | | |
| | Ö← LF-2 | | PGr | 47.92 |
| | Ö← #1 LF-2 | | PGr | 33.66 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

(g1)

á|bÁÓ↔&æ^&æ}↔´á\ÁäæãÁU\fi\`æ

Yf bUW` } gg] [hY`
Lasten

| Position | in Dokumentation | | ↔^ÁQáb\fiâæã&áâæ | |
|----------|------------------|---------|------------------|------|
| | [kN] | positiv | negativ | [kN] |
| S-1.1 | -0.00433 | 0.00644 | -0.0018 | |
| S-1.2 | -0.00280 | 0.00435 | -0.0034 | |
| S-1.7 | 0.01661 | 0.00167 | -0.0015 | |

Folgende Punktlastanteile werden wegen ihres geringen
Ó↔^â→|bbæbÁâæ↔ÁâæãÁQáb\fiâæã&áâæÁ{æã^á^â→†bb↔&\i

| Lastfall | Pt [kN] |
|------------|------------|
| LF-4 | -0.00002 |
| LF-5 | 0.00000 |
| LF-6 | 0.00002 |
| LF-11 | -0.00101 |
| LF-12 | -0.00200 |
| LF-13 | 0.00022 |
| LF-14 | -0.00005 |
| LF-19 | 0.00000 |
| LF-20 | 0.00003 |
| LF-22 | -0.00030 |
| #1 LF-4 | 0.00010 |
| #1 LF-5 | -0.00014 |
| #1 LF-11 | 0.00149 |
| #1 LF-14 | -0.00011 |
| #1 LF-15 | 0.00002 |
| #1 LF-16 | 0.00010 |
| #1 LF-18 | -0.00025 |
| #1 LF-19 | 0.00001 |
| #1 LF-20 | -0.00036 |
| #1 LF-21 | 0.00002 |
| #1 LF-22 | -0.00060 |
| #1 LF-23 | 0.00011 |
| #2 LF-1 | 0.00003 |
| #2 LF-2 | 0.00284 |
| #2 LF-3 | 0.00022 |
| #2 LF-4 | 0.00586 |
| #2 LF-5 | -0.00009 |
| #2 LF-6 | -0.00001 |
| #2 LF-7 | -0.00031 |
| #2 LF-8 | -0.00006 |

Li ni en lasten

Blocklasten der einzelnen Abschnitte in
Gravitationsrichtung

W-1.1

| | Lastfall | Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
|---------|-----------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Gk | LF-1 (g) | 20.80 | 38.44 | 40.52 | 40.68 | 38.30 | 18.85 | |
| | #1 LF-1 | 27.82 | 36.97 | 41.89 | 43.18 | 40.07 | 27.30 | |
| Ö← | LF-2 | 7.04 | 14.99 | 15.69 | 15.71 | 14.86 | 7.91 | |
| | #1 LF-2 | 9.42 | 14.66 | 16.45 | 16.80 | 15.79 | 11.72 | |
| Qk.N_E1 | LF-7 | -0.12 | 0.20 | 0.20 | 0.17 | 0.12 | -0.15 | |
| | LF-8 | -1.46 | 11.45 | 12.91 | 13.00 | 11.27 | -2.79 | |
| | LF-9 | 0.02 | -0.02 | -0.02 | -0.02 | -0.02 | 0.02 | |
| | LF-10 | -0.02 | 0.02 | 0.02 | 0.02 | 0.02 | -0.03 | |
| | LF-11 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | |

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| | | Lastfall Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
|---------|---|---|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | LF-15 | 0.01 | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | |
| | LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-17 | -0.01 | 0.00 | 0.00 | 0.01 | 0.00 | -0.01 | |
| | #1 LF-6 | 0.56 | 2.11 | 1.07 | 0.52 | 0.22 | -0.32 | |
| | #1 LF-7 | 0.77 | -2.30 | -1.09 | -0.46 | -0.19 | 0.27 | |
| | #1 LF-8 | -0.88 | 5.81 | 8.74 | 9.50 | 7.55 | -0.59 | |
| | #1 LF-9 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | 0.01 | |
| | #1 LF-10 | -0.01 | -0.02 | -0.02 | -0.01 | 0.00 | 0.01 | |
| | #1 LF-11 | -0.01 | -0.04 | -0.02 | -0.01 | -0.01 | 0.01 | |
| | LF-21 | 0.25 | -0.32 | -0.29 | -0.24 | -0.16 | 0.22 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| Qk.N_T2 | | | | | | | | |

| | | Lastfall Lasten (3 Abschnitte je 0.30m) | | | [kN/m] |
|---------|---|---|-------|-------|--------|
| Gk | LF-1 (g) | 199.3 | 269.6 | 332.3 | |
| | #1 LF-1 | 255.7 | 263.5 | 269.1 | |
| | #2 LF-1 | 0.01 | 0.01 | 0.02 | |
| Ö← | LF-2 | 86.66 | 119.2 | 148.3 | |
| | #1 LF-2 | 89.79 | 92.57 | 94.56 | |
| | #2 LF-2 | 0.01 | 0.01 | 0.01 | |
| Qk.N_E1 | LF-5 | 0.18 | 0.17 | 0.16 | |
| | LF-7 | 108.6 | 147.7 | 182.9 | |
| | LF-8 | 0.16 | 0.30 | 0.43 | |
| | LF-9 | 0.00 | -0.01 | -0.01 | |
| | LF-10 | 0.00 | 0.01 | 0.01 | |
| | LF-11 | 3.56 | 2.49 | 1.68 | |
| | LF-12 | 0.11 | 0.10 | 0.10 | |
| | LF-13 | 0.00 | 0.00 | 0.00 | |
| | LF-15 | -0.66 | -1.00 | -1.31 | |
| | LF-16 | 0.00 | -0.01 | -0.01 | |
| | LF-18 | 0.00 | 0.00 | -0.01 | |
| | LF-19 | 0.07 | 0.07 | 0.07 | |
| | LF-22 | -8.61 | -6.76 | -5.49 | |
| | #1 LF-17 | 0.01 | 0.01 | 0.02 | |
| Qk.N_DA | #1 LF-3 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-5 | 0.34 | 0.37 | 0.40 | |
| | #1 LF-6 | 91.84 | 94.51 | 96.37 | |
| | #1 LF-7 | -2.07 | -2.16 | -2.22 | |
| | #1 LF-8 | 1.02 | 1.09 | 1.13 | |
| | #1 LF-9 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-10 | -0.30 | -0.36 | -0.41 | |
| | #1 LF-11 | -0.63 | -0.69 | -0.74 | |
| | #1 LF-13 | -0.01 | -0.02 | -0.03 | |
| | #2 LF-4 | 0.02 | 0.02 | 0.02 | |
| Qk.N_T2 | LF-21 | -0.47 | -0.92 | -1.31 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|---------|-----------|---|-------|-------|--------|
| Gk | LF-1 (g) | 163.1 | 100.2 | 52.80 | |
| | #1 LF-1 | 151.5 | 150.7 | 152.9 | |
| | #2 LF-1 | 0.01 | 0.00 | 0.00 | |
| Ö← | LF-2 | 74.39 | 44.07 | 21.22 | |
| | #1 LF-2 | 52.55 | 52.30 | 53.12 | |
| | #2 LF-2 | 0.00 | 0.00 | 0.00 | |
| Qk.N_E1 | LF-4 | 0.00 | 0.00 | 0.00 | |
| | LF-5 | -0.67 | -0.29 | 0.00 | |

| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|---|---|---|-------|-------|--------|
| Qk.N_DA | LF-7 | 7.11 | 4.99 | 2.87 | |
| | LF-8 | -0.02 | -0.06 | -0.11 | |
| | LF-10 | 0.00 | 0.00 | 0.00 | |
| | LF-11 | 44.47 | 31.24 | 21.84 | |
| | LF-12 | -0.41 | -0.17 | 0.00 | |
| | LF-13 | 0.01 | 0.00 | 0.00 | |
| | LF-14 | 0.00 | 0.00 | 0.00 | |
| | LF-15 | 0.09 | 0.13 | 0.19 | |
| | LF-16 | 0.00 | 0.00 | 0.00 | |
| | LF-19 | -0.38 | -0.18 | -0.04 | |
| | LF-22 | 45.93 | 19.65 | 0.38 | |
| | #1 LF-17 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-5 | -1.07 | -0.83 | -0.60 | |
| | #1 LF-6 | 53.28 | 52.97 | 53.87 | |
| | #1 LF-7 | 0.45 | 0.31 | 0.12 | |
| | #1 LF-8 | -0.24 | -0.18 | -0.09 | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-10 | 0.05 | 0.04 | 0.03 | |
| | #1 LF-11 | 0.19 | 0.14 | 0.09 | |
| Qk.N_T2 | #1 LF-13 | 0.00 | 0.00 | 0.01 | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-4 | 0.00 | 0.01 | 0.01 | |
| | LF-21 | 0.05 | 0.17 | 0.33 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-1.4 | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
| Gk | LF-1 (g) | 91.91 | 121.3 | 172.8 | |
| | #1 LF-1 | 140.6 | 151.9 | 162.8 | |
| | #2 LF-1 | 0.02 | 0.02 | 0.02 | |
| Ö← | LF-2 | 40.85 | 53.18 | 76.50 | |
| | #1 LF-2 | 49.67 | 53.39 | 56.96 | |
| Qk.N_E1 | LF-4 | 0.00 | 0.00 | -0.01 | |
| | LF-5 | -0.72 | -0.98 | -1.38 | |
| | LF-7 | -1.20 | -0.27 | 0.91 | |
| | LF-8 | 0.00 | 0.00 | 0.01 | |
| | LF-11 | -2.41 | 5.77 | 17.47 | |
| | LF-12 | -0.47 | -0.63 | -0.86 | |
| | LF-13 | 0.00 | 0.00 | 0.01 | |
| | LF-14 | 0.00 | 0.00 | 0.00 | |
| | LF-15 | 0.00 | 0.01 | 0.02 | |
| | LF-19 | -0.20 | -0.35 | -0.57 | |
| | LF-22 | 45.76 | 58.30 | 81.58 | |
| | #1 LF-18 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | #1 LF-5 | -1.39 | -1.69 | -1.99 | |
| | #1 LF-6 | 44.67 | 50.47 | 56.03 | |
| | #1 LF-7 | -0.01 | 0.03 | 0.08 | |
| | #1 LF-8 | 0.00 | -0.01 | -0.04 | |
| | #1 LF-10 | 0.01 | 0.01 | 0.02 | |
| | #1 LF-11 | 0.02 | 0.05 | 0.08 | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | |
| Qk.N_T2 | LF-21 | 0.01 | 0.00 | -0.02 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-1.5_1 | | Lastfall Lasten (5 Abschnitte je 0.87m) | | | [kN/m] |
| Gk | LF-1 (g) | 46.25 | 52.31 | 53.78 | 49.28 |
| | | 34.28 | | | |

| | | Lastfall Lasten (5 Abschnitte je 0.87m) [kN/m] | | | | | |
|---------|---|--|-------|-------|-------|-------|--|
| Ö← | #1 LF-1 | 38.76 | 45.48 | 47.09 | 44.97 | 37.18 | |
| | LF-2 | 8.66 | 10.53 | 10.71 | 9.49 | 8.05 | |
| Qk.N_E1 | #1 LF-2 | 6.49 | 7.20 | 7.44 | 7.79 | 9.02 | |
| | LF-3 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 | |
| | LF-7 | 2.59 | 1.49 | 0.74 | 0.33 | -0.07 | |
| | LF-8 | 13.81 | 18.62 | 19.40 | 15.47 | 3.25 | |
| | LF-9 | 1.60 | 4.68 | 6.99 | 7.09 | 5.54 | |
| | LF-10 | -2.64 | -3.25 | -3.37 | -2.92 | -3.73 | |
| | LF-11 | 0.07 | 0.04 | 0.02 | 0.01 | 0.00 | |
| | LF-15 | -0.89 | -0.76 | -0.24 | -0.04 | 0.04 | |
| | LF-16 | 0.14 | 0.20 | 0.21 | 0.15 | 0.15 | |
| | LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-18 | -0.03 | -0.02 | -0.01 | 0.00 | 0.00 | |
| | LF-22 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-17 | -0.98 | -1.42 | -1.72 | -1.78 | -2.25 | |
| | #1 LF-3 | 0.00 | 0.01 | 0.01 | 0.00 | -0.04 | |
| | #1 LF-6 | 1.66 | 1.40 | 0.88 | 0.46 | -0.04 | |
| Qk.N_DA | #1 LF-7 | -1.17 | -1.22 | -0.78 | -0.39 | 0.04 | |
| | #1 LF-8 | 9.55 | 12.18 | 13.48 | 11.02 | 2.81 | |
| | #1 LF-9 | 5.14 | 5.69 | 5.74 | 5.37 | 4.16 | |
| | #1 LF-10 | -0.30 | -0.12 | -0.03 | -0.01 | -0.01 | |
| | #1 LF-11 | -0.24 | -0.48 | -0.19 | -0.02 | 0.02 | |
| | #1 LF-12 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | |
| | #1 LF-13 | -0.65 | -0.85 | -1.03 | -1.08 | -1.51 | |
| | LF-21 | -3.08 | -1.93 | -1.00 | -0.46 | 0.09 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| | | | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.08m) [kN/m] | | | | | |
| W-1.5_2 | LF-1 (g) | 61.35 | 59.56 | 57.77 | | | |
| | #1 LF-1 | 56.06 | 54.41 | 52.75 | | | |
| Gk | LF-2 | 12.40 | 11.89 | 11.38 | | | |
| | #1 LF-2 | 7.42 | 7.23 | 7.05 | | | |
| Ö← | LF-3 | -0.17 | -0.15 | -0.14 | | | |
| | LF-7 | -5.60 | -4.91 | -4.21 | | | |
| | LF-8 | -9.01 | -8.37 | -7.73 | | | |
| | LF-9 | 0.51 | 0.49 | 0.48 | | | |
| | LF-10 | -2.91 | -2.87 | -2.83 | | | |
| | LF-11 | -0.13 | -0.11 | -0.10 | | | |
| | LF-15 | 20.26 | 19.03 | 17.79 | | | |
| | LF-16 | 0.99 | 0.94 | 0.89 | | | |
| | LF-17 | -0.02 | -0.02 | -0.02 | | | |
| | LF-18 | 0.24 | 0.22 | 0.20 | | | |
| | LF-22 | -0.04 | -0.03 | -0.03 | | | |
| | #1 LF-17 | -0.98 | -0.94 | -0.89 | | | |
| | #1 LF-3 | 0.11 | 0.10 | 0.09 | | | |
| | #1 LF-6 | -2.57 | -2.42 | -2.28 | | | |
| | #1 LF-7 | 4.77 | 4.63 | 4.49 | | | |
| Qk.N_E1 | #1 LF-8 | -1.45 | -1.33 | -1.22 | | | |
| | #1 LF-9 | 3.57 | 3.57 | 3.57 | | | |
| | #1 LF-10 | 1.45 | 1.30 | 1.15 | | | |
| | #1 LF-11 | 8.86 | 8.59 | 8.31 | | | |
| | #1 LF-12 | -0.03 | -0.03 | -0.03 | | | |
| | #1 LF-13 | 0.90 | 0.81 | 0.72 | | | |
| | LF-21 | 9.13 | 8.26 | 7.40 | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Qk.N_DA | #1 LF-3 | 0.11 | 0.10 | 0.09 | | | |
| | #1 LF-6 | -2.57 | -2.42 | -2.28 | | | |
| | #1 LF-7 | 4.77 | 4.63 | 4.49 | | | |
| | #1 LF-8 | -1.45 | -1.33 | -1.22 | | | |
| | #1 LF-9 | 3.57 | 3.57 | 3.57 | | | |
| | #1 LF-10 | 1.45 | 1.30 | 1.15 | | | |
| | #1 LF-11 | 8.86 | 8.59 | 8.31 | | | |
| | #1 LF-12 | -0.03 | -0.03 | -0.03 | | | |
| | #1 LF-13 | 0.90 | 0.81 | 0.72 | | | |
| | LF-21 | 9.13 | 8.26 | 7.40 | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Qk.N_T2 | #1 LF-3 | 0.11 | 0.10 | 0.09 | | | |
| | #1 LF-6 | -2.57 | -2.42 | -2.28 | | | |
| | #1 LF-7 | 4.77 | 4.63 | 4.49 | | | |
| | #1 LF-8 | -1.45 | -1.33 | -1.22 | | | |
| | #1 LF-9 | 3.57 | 3.57 | 3.57 | | | |
| | #1 LF-10 | 1.45 | 1.30 | 1.15 | | | |
| | #1 LF-11 | 8.86 | 8.59 | 8.31 | | | |
| | #1 LF-12 | -0.03 | -0.03 | -0.03 | | | |
| | #1 LF-13 | 0.90 | 0.81 | 0.72 | | | |
| | LF-21 | 9.13 | 8.26 | 7.40 | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |

W-1.6

Gk

Lastfall Lasten (9 Abschnitte je 0.94m) [kN/m]

LF-1 (g) 22.55 75.96 111.8 111.7 33.89 37.43 104.3
99.89 229.1

#1 | LF-1 46.49 68.23 86.85 98.29 70.32 148.9 136.2
15.19 -1.50

#2 | LF-1 0.05 -0.05 -0.13 -0.14 -0.06 -0.30 -0.43
-0.24 0.02

Ö←

LF-2 3.72 20.32 33.43 33.33 4.80 6.03 30.86
29.33 77.19

#1 | LF-2 12.00 15.32 20.40 24.10 15.08 38.54 38.20
4.43 -0.30

#2 | LF-2 0.00 0.00 -0.01 -0.01 0.00 -0.02 -0.03
0.00 0.00

Qk.N_E1

LF-3 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

LF-4 0.78 0.07 0.00 0.00 -0.02 -0.02 -0.02
-0.02 -0.02

LF-5 -9.30 8.09 15.21 11.77 2.54 2.26 6.04
-0.21 -10.0

LF-6 0.01 -0.01 -0.01 -0.01 0.00 0.00 0.00
0.00 0.01

LF-7 -0.24 -0.03 0.10 -0.04 -0.46 -1.87 -2.07
1.10 36.82

LF-8 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.01

LF-11 -0.64 0.15 1.02 1.56 -0.87 -2.49 1.95
10.69 60.57

LF-12 8.62 13.41 17.24 15.11 9.56 8.13 6.86
1.03 -5.20

LF-13 0.01 -0.01 -0.03 -0.02 -0.01 -0.02 -0.03
0.08 0.01

LF-14 0.01 -0.01 -0.03 -0.03 0.00 -0.01 -0.03
-0.01 0.04

LF-15 0.00 -0.01 -0.04 -0.02 0.00 -0.12 -1.03
-2.40 4.59

LF-19 -0.92 0.92 2.36 1.96 0.80 2.83 9.05
7.71 -2.50

LF-22 -1.67 17.66 31.14 36.21 -2.01 2.89 39.38
39.58 69.63

#1 | LF-18 0.00 0.00 0.00 0.00 0.00 -0.13 -0.15
-0.04 0.00

#1 | LF-21 0.00 -0.01 -0.01 -0.01 -0.01 0.01 0.01
0.00 0.01

#1 | LF-22 0.00 0.00 0.01 0.01 0.00 0.00 0.00
0.00 0.00

#2 | LF-8 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.02 -0.01

Qk.N_DA

#1 | LF-3 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

#1 | LF-4 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

#1 | LF-5 6.42 15.60 21.63 23.33 15.46 14.36 10.18
1.26 -0.81

#1 | LF-6 -2.09 11.57 20.05 25.73 15.18 59.55 62.66
7.39 0.12

#1 | LF-7 0.00 0.00 0.00 0.00 0.00 -0.01 -0.01
D-376

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | | 0.02 | -0.04 | | | | | |
| | #1 LF-11 | -0.03 | -0.07 | -0.12 | -0.16 | -0.18 | 3.68 | 3.99 |
| | | 0.26 | 0.03 | | | | | |
| | #1 LF-14 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.11 | -0.12 |
| | | -0.03 | -0.01 | | | | | |
| | #1 LF-15 | 0.00 | -0.01 | -0.02 | -0.02 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | -0.01 | | | | | |
| | #2 LF-4 | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.01 | | | | | |
| | #2 LF-5 | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 | -0.05 | -0.06 |
| | | -0.02 | 0.00 | | | | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | LF-20 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.00 | -0.04 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | | | | | | | |
| W-1.7 | LF-1 (g) | 42.69 | 37.70 | 47.36 | 50.00 | 52.73 | 101.9 | |
| | #1 LF-1 | 43.43 | 33.17 | 41.29 | 45.32 | 62.73 | 122.9 | |
| Gk | LF-2 | 7.29 | 5.78 | 8.69 | 9.08 | 11.07 | 40.46 | |
| | #1 LF-2 | 5.11 | 4.43 | 6.30 | 7.07 | 13.90 | 37.91 | |
| Ö← | LF-3 | -0.09 | 0.00 | -0.03 | -0.03 | -0.02 | 0.02 | |
| | LF-7 | -0.40 | 0.16 | -0.14 | -0.22 | -0.16 | -0.08 | |
| Qk.N_E1 | LF-8 | -2.34 | -2.57 | -3.21 | -3.27 | -2.54 | -2.09 | |
| | LF-9 | 0.37 | 1.12 | 4.08 | 6.74 | 7.17 | 7.08 | |
| | LF-10 | -0.35 | 11.49 | 17.25 | 18.45 | 16.40 | 16.88 | |
| | LF-11 | -0.01 | 0.01 | 0.00 | -0.01 | 0.00 | 0.00 | |
| | LF-15 | 7.33 | -1.56 | -1.10 | -0.30 | -0.04 | 0.03 | |
| | LF-16 | 0.93 | -2.66 | -1.58 | -0.80 | -0.39 | 0.15 | |
| | LF-17 | -0.01 | 0.00 | -0.01 | -0.01 | -0.01 | 0.01 | |
| | LF-18 | 0.14 | -0.01 | 0.01 | 0.02 | 0.01 | 0.03 | |
| | #1 LF-17 | 7.45 | 16.10 | 18.78 | 14.60 | 8.22 | 5.40 | |
| Qk.N_DA | #1 LF-3 | -0.03 | -0.18 | -0.11 | -0.08 | 0.03 | 0.42 | |
| | #1 LF-6 | -0.05 | 0.05 | -0.19 | -0.21 | -0.16 | -0.15 | |
| | #1 LF-7 | 0.14 | 0.19 | 0.18 | 0.15 | 0.13 | 0.12 | |
| | #1 LF-8 | -1.15 | -1.51 | -1.87 | -1.97 | -1.82 | -2.07 | |
| | #1 LF-9 | 2.36 | 2.71 | 3.39 | 4.44 | 5.18 | 5.05 | |
| | #1 LF-10 | 0.22 | -0.81 | -0.15 | 0.02 | 0.03 | 0.05 | |
| | #1 LF-11 | 3.48 | -0.93 | -0.88 | -0.24 | 0.00 | 0.05 | |
| | #1 LF-12 | 0.03 | 0.08 | 0.04 | 0.02 | 0.01 | 0.02 | |
| | #1 LF-13 | 0.48 | -0.96 | 1.60 | 4.96 | 9.00 | 16.65 | |
| | LF-21 | 0.32 | 0.29 | 0.34 | 0.31 | 0.20 | 0.10 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.8

| | Lastfall | Lasten (3 Abschnitte je 0.92m) | [kN/m] | | |
|---|------------|--------------------------------|--------|-------|-------|
| Gk | LF-1 (g) | | 31.74 | 32.96 | 28.10 |
| | #1 LF-1 | | 28.95 | 31.28 | 26.53 |
| | #2 LF-1 | | 16.27 | 7.30 | 9.83 |
| Ö← | LF-2 | | 3.69 | 4.25 | 2.26 |
| | #1 LF-2 | | 2.54 | 2.87 | 1.23 |
| | #2 LF-2 | | 0.86 | -2.34 | -1.49 |
| Qk.N_E1 | LF-4 | | 0.02 | 0.02 | 0.00 |
| | LF-5 | | 1.92 | 1.18 | 0.14 |
| | LF-6 | | 0.03 | 0.01 | 0.00 |
| | LF-7 | | -0.04 | 0.03 | 0.17 |
| | LF-11 | | -0.01 | 0.00 | 0.02 |
| | LF-12 | | 0.19 | 0.11 | 0.01 |
| | LF-13 | | 0.43 | -0.40 | -0.01 |
| | LF-14 | | 3.40 | 6.23 | 3.64 |
| | LF-15 | | 0.15 | 0.08 | -0.12 |
| | LF-19 | | 0.84 | 0.52 | 0.06 |
| | LF-22 | | -0.17 | -0.09 | 0.01 |
| | #1 LF-18 | | 0.98 | -0.21 | -0.08 |
| | #1 LF-21 | | 0.52 | -0.32 | -0.13 |
| | #1 LF-22 | | 3.43 | 5.66 | 2.98 |
| | #1 LF-23 | | 0.00 | -0.01 | 0.00 |
| | #2 LF-8 | | 2.97 | 5.75 | 4.10 |
| Qk.N_DA | #1 LF-5 | | 1.78 | 2.04 | 0.31 |
| | #1 LF-6 | | -0.12 | -0.05 | -0.11 |
| | #1 LF-10 | | 0.00 | 0.00 | 0.01 |
| | #1 LF-11 | | -0.02 | 0.11 | 0.03 |
| | #1 LF-14 | | -0.05 | -0.11 | -0.01 |
| | #1 LF-15 | | -0.13 | -0.21 | -0.05 |
| | #2 LF-3 | | 1.74 | 2.82 | 1.86 |
| | #2 LF-4 | | -3.78 | -11.8 | -7.11 |
| | #2 LF-5 | | 3.12 | 3.12 | 1.72 |
| | #2 LF-6 | | 0.60 | 0.84 | 0.36 |
| | #2 LF-7 | | 0.03 | 0.38 | 0.19 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

W-1.9

| | Lastfall | Lasten (3 Abschnitte je 0.92m) | [kN/m] | | |
|---------|------------|--------------------------------|--------|-------|-------|
| Gk | LF-1 (g) | | 36.51 | 44.64 | 34.89 |
| | #1 LF-1 | | 14.57 | 9.93 | 13.32 |
| | #2 LF-1 | | 6.82 | 2.89 | 20.05 |
| Ö← | LF-2 | | 5.59 | 9.12 | 4.99 |
| | #1 LF-2 | | 1.41 | 1.74 | 1.26 |
| | #2 LF-2 | | 0.27 | -0.30 | 2.67 |
| Qk.N_E1 | LF-3 | | 0.61 | 0.68 | 2.29 |
| | LF-4 | | 1.19 | 0.83 | 0.38 |
| | LF-5 | | 3.09 | 3.46 | 0.94 |
| | LF-6 | | -0.22 | -1.48 | -0.40 |
| | LF-7 | | 0.00 | 0.00 | 0.00 |
| | LF-11 | | 0.00 | -0.01 | 0.00 |
| | LF-12 | | 0.04 | 0.05 | 0.01 |
| | LF-14 | | 6.28 | 11.55 | 6.81 |
| | LF-17 | | 0.30 | 0.25 | 0.97 |
| | LF-18 | | -1.18 | 1.04 | -1.26 |
| | LF-19 | | 1.18 | 1.42 | 0.38 |
| | LF-22 | | -0.02 | -0.03 | -0.01 |
| | #1 LF-19 | | 1.42 | 0.33 | 0.05 |

| | | Lastfall Lasten (3 Abschnitte je 0.92m) | | | | [kN/m] | |
|---|------------|---|-------|-------|--|--------|--|
| Qk.N_DA | #1 LF-20 | 0.13 | 0.14 | 0.01 | | | |
| | #1 LF-21 | 0.00 | -0.02 | 0.00 | | | |
| | #1 LF-22 | 3.21 | 2.71 | 2.63 | | | |
| | #1 LF-23 | 1.27 | 0.00 | -0.10 | | | |
| | #2 LF-8 | 0.00 | 0.00 | 0.03 | | | |
| | #1 LF-3 | 0.04 | -1.01 | -0.52 | | | |
| | #1 LF-4 | -0.03 | 0.05 | 0.05 | | | |
| | #1 LF-5 | -1.12 | 0.99 | 0.43 | | | |
| | #1 LF-6 | 0.00 | -0.02 | -0.01 | | | |
| | #1 LF-10 | 0.02 | -0.04 | -0.19 | | | |
| | #1 LF-12 | 0.80 | 1.87 | 1.08 | | | |
| | #1 LF-15 | 0.00 | -0.01 | 0.00 | | | |
| | #1 LF-16 | 0.12 | -0.14 | -0.06 | | | |
| | #2 LF-3 | 0.00 | 0.00 | 0.01 | | | |
| | #2 LF-4 | -1.45 | -2.10 | 3.93 | | | |
| | #2 LF-5 | 0.00 | 0.00 | 0.00 | | | |
| Qk.N_T2 | #2 LF-6 | -0.02 | 0.01 | 0.00 | | | |
| | #2 LF-7 | 2.02 | 1.49 | 1.41 | | | |
| LF-20 | | -0.16 | -0.08 | -0.18 | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |

| | | Lastfall Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] | |
|---------|----|---|-------|-------|-------|-------|-------|--------|--|
| W-1.10 | Gk | LF-1 (g) | 167.9 | 33.30 | 96.65 | 85.65 | 66.28 | 26.02 | |
| | | #1 LF-1 | 139.0 | 63.89 | 77.94 | 77.81 | 60.17 | 29.98 | |
| Ö← | | LF-2 | 54.84 | 4.40 | 28.14 | 23.63 | 16.75 | 6.25 | |
| | | #1 LF-2 | 36.09 | 13.73 | 18.14 | 17.77 | 12.75 | 6.13 | |
| Qk.N_E1 | | LF-3 | 68.31 | 2.64 | 24.00 | 15.71 | 7.49 | -5.23 | |
| | | LF-4 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | LF-5 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | LF-7 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | | LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | | LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | | LF-10 | -5.52 | 6.63 | 15.43 | 17.62 | 14.56 | 5.67 | |
| | | LF-15 | -0.01 | -0.04 | -0.02 | 0.00 | 0.00 | 0.00 | |
| | | LF-16 | 0.14 | -0.30 | -0.54 | -0.42 | -0.22 | 0.10 | |
| | | LF-17 | 35.69 | 2.95 | 16.45 | 13.21 | 9.75 | 1.50 | |
| | | LF-18 | 3.28 | -2.92 | -1.61 | -0.66 | -0.20 | 0.00 | |
| | | #1 LF-17 | 0.35 | 8.73 | 15.22 | 13.35 | 6.78 | -0.07 | |
| Qk.N_DA | | #1 LF-3 | 70.99 | 23.88 | 25.77 | 22.42 | 12.77 | -1.39 | |
| | | #1 LF-4 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | #1 LF-5 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | #1 LF-6 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | |
| | | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.04 | |
| | | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | |
| | | #1 LF-10 | -1.00 | -0.69 | -0.43 | -0.17 | -0.04 | 0.02 | |
| | | #1 LF-11 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.00 | |
| | | #1 LF-12 | 0.90 | -0.62 | -0.45 | -0.20 | -0.06 | 0.01 | |
| | | #1 LF-13 | 1.12 | -0.76 | 1.70 | 5.14 | 6.52 | 3.54 | |
| Qk.N_T2 | | LF-20 | -0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |

| | | Lastfall Lasten (7 Abschnitte je 0.95m) | | | | | | [kN/m] | |
|----------|----|---|-------|-------|-------|-------|-------|--------|-------|
| W-1.11_1 | Gk | LF-1 (g) | 66.23 | 74.53 | 85.21 | 82.16 | 91.89 | 30.49 | 275.2 |
| | | #1 LF-1 | 55.98 | 63.80 | 73.61 | 85.98 | 84.91 | 74.28 | 231.2 |
| | | #2 LF-1 | -0.35 | -0.27 | -0.12 | -0.02 | 0.01 | 0.01 | 0.01 |

| | Lastfall | Lasten (7 Abschnitte je 0.95m) | | | | | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| Ö← | LF-2 | 17.91 | 20.91 | 24.59 | 23.22 | 26.78 | 3.71 | 93.56 | |
| | #1 LF-2 | 11.36 | 13.83 | 16.43 | 19.64 | 18.85 | 15.42 | 59.45 | |
| | #2 LF-2 | -0.13 | -0.05 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | |
| Qk.N_E1 | LF-3 | 11.84 | 16.65 | 21.98 | 20.66 | 25.04 | -1.89 | 88.38 | |
| | LF-4 | 2.04 | 0.88 | 0.45 | 0.21 | 0.13 | -0.05 | 0.13 | |
| | LF-5 | 0.74 | 0.26 | 0.12 | 0.05 | 0.03 | -0.01 | 0.03 | |
| | LF-6 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | -0.07 | |
| | LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-10 | 0.02 | 0.04 | 0.04 | 0.04 | 0.07 | 0.25 | -1.95 | |
| | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-14 | -0.05 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-15 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | -0.02 | 0.19 | |
| | LF-16 | -0.01 | -0.02 | -0.02 | -0.01 | 0.00 | -0.04 | 0.19 | |
| | LF-17 | 12.40 | 13.61 | 14.74 | 13.67 | 15.79 | 1.74 | 54.39 | |
| | LF-18 | 6.73 | 7.14 | 7.82 | 7.70 | 7.83 | 5.87 | 29.02 | |
| | LF-19 | 0.22 | 0.08 | 0.03 | 0.01 | 0.01 | 0.00 | 0.01 | |
| | #1 LF-17 | 0.03 | 0.05 | 0.06 | 0.07 | 0.08 | 0.11 | -1.77 | |
| | #1 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-20 | -0.05 | -0.06 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-22 | -0.16 | -0.06 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-23 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | #1 LF-3 | 18.30 | 23.54 | 27.60 | 32.26 | 29.92 | 22.96 | 94.20 | |
| | #1 LF-4 | -1.34 | -0.86 | -0.54 | -0.37 | -0.19 | -0.01 | -0.12 | |
| | #1 LF-5 | 2.21 | 1.49 | 0.86 | 0.56 | 0.27 | 0.01 | 0.17 | |
| | #1 LF-6 | -0.01 | 0.00 | 0.01 | 0.02 | 0.03 | 0.05 | 0.16 | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | #1 LF-10 | -1.44 | -1.50 | -0.79 | 0.12 | 0.58 | 0.09 | 4.31 | |
| | #1 LF-11 | -0.01 | -0.02 | -0.02 | -0.03 | -0.03 | -0.04 | -0.16 | |
| | #1 LF-12 | 5.21 | 5.10 | 5.65 | 6.54 | 6.95 | 7.55 | 17.08 | |
| | #1 LF-13 | -0.05 | -0.09 | -0.09 | -0.10 | -0.08 | 0.16 | 4.10 | |
| | #1 LF-16 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-4 | -0.28 | -0.07 | 0.01 | 0.02 | 0.02 | 0.00 | 0.01 | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-7 | 0.03 | -0.02 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | |
| Qk.N_T2 | LF-20 | -2.04 | -1.05 | -0.61 | -0.29 | -0.18 | 0.06 | -0.18 | |
| | LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (3 Abschnitte je 0.33m) | | | [kN/m] |
|----------|-----------|--------------------------------|-------|-------|--------|
| W-1.11_2 | LF-1 (g) | 7.62 | 22.85 | 34.32 | |
| Gk | #1 LF-1 | 19.22 | 21.68 | 26.36 | |
| | #2 LF-1 | 1.07 | 0.69 | 0.37 | |
| Ö← | LF-2 | -5.45 | 0.69 | 5.31 | |
| | #1 LF-2 | -2.51 | -1.43 | 0.40 | |
| | #2 LF-2 | -0.19 | -0.21 | -0.22 | |
| Qk.N_E1 | LF-3 | -11.6 | -7.41 | -3.81 | |
| | LF-4 | -12.6 | -4.70 | 0.19 | |
| | LF-5 | -8.24 | -3.75 | -0.92 | |
| | LF-6 | -0.39 | -0.23 | -0.12 | |
| | LF-12 | -0.02 | -0.01 | 0.00 | |
| | LF-14 | -0.17 | -0.16 | -0.15 | |
| | LF-16 | 0.00 | 0.00 | 0.00 | |
| | LF-17 | -2.83 | 0.13 | 2.88 | |

| | Lastfall | Lasten (3 Abschnitte je 0.33m) | | [kN/m] |
|---------|---|--------------------------------|-------|--------|
| | LF-18 | 19.34 | 14.82 | 11.61 |
| | LF-19 | -3.06 | -1.59 | -0.61 |
| | LF-22 | 0.01 | 0.00 | 0.00 |
| | #1 LF-17 | -0.01 | 0.00 | 0.00 |
| | #1 LF-19 | -0.15 | -0.12 | -0.10 |
| | #1 LF-20 | 1.37 | 1.24 | 1.02 |
| | #1 LF-22 | -0.19 | -0.26 | -0.30 |
| | #1 LF-23 | -0.16 | -0.13 | -0.10 |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | #1 LF-3 | -5.33 | -3.39 | -0.71 |
| | #1 LF-4 | 4.01 | 2.89 | 1.66 |
| | #1 LF-5 | -14.0 | -12.2 | -9.15 |
| | #1 LF-6 | 0.01 | 0.01 | 0.00 |
| | #1 LF-10 | 0.03 | -0.07 | -0.20 |
| | #1 LF-12 | 10.92 | 10.53 | 9.75 |
| | #1 LF-13 | 0.01 | 0.01 | 0.01 |
| | #1 LF-16 | -0.12 | -0.09 | -0.06 |
| | #2 LF-4 | -0.82 | -0.80 | -0.77 |
| | #2 LF-6 | 0.00 | 0.00 | -0.01 |
| | #2 LF-7 | 0.45 | 0.39 | 0.34 |
| Qk.N_T2 | LF-20 | 6.16 | 1.70 | -1.18 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | | [kN/m] |
|---------|---|--------------------------------|-------|--------|
| W-1.12 | | | | |
| Gk | LF-1 (g) | 105.6 | 101.4 | 104.3 |
| | #1 LF-1 | 107.4 | 104.5 | 100.6 |
| Ö← | LF-2 | 43.93 | 43.40 | 46.99 |
| | #1 LF-2 | 37.21 | 36.40 | 35.34 |
| Qk.N_E1 | LF-3 | 49.57 | 46.62 | 47.54 |
| | LF-4 | -0.03 | -0.02 | 0.00 |
| | LF-5 | -0.01 | 0.00 | 0.00 |
| | LF-10 | -0.43 | -0.41 | -0.42 |
| | LF-16 | 0.01 | 0.01 | 0.01 |
| | LF-17 | 3.26 | 2.56 | 1.87 |
| | LF-18 | 0.10 | 0.05 | 0.01 |
| | #1 LF-17 | -0.24 | -0.22 | -0.19 |
| Qk.N_DA | #1 LF-3 | 36.88 | 34.34 | 30.94 |
| | #1 LF-4 | 0.17 | 0.13 | 0.09 |
| | #1 LF-5 | -0.19 | -0.16 | -0.12 |
| | #1 LF-10 | -0.02 | 0.00 | 0.02 |
| | #1 LF-12 | 0.04 | 0.05 | 0.06 |
| | #1 LF-13 | -0.13 | -0.11 | -0.09 |
| Qk.N_T2 | LF-20 | 0.05 | 0.02 | 0.01 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | | [kN/m] |
|---------|-----------|--------------------------------|-------|--------|
| W-1.13 | | | | |
| Gk | LF-1 (g) | 196.6 | 140.9 | 108.0 |
| | #1 LF-1 | 229.9 | 207.7 | 185.2 |
| Ö← | LF-2 | 87.30 | 60.74 | 44.81 |
| | #1 LF-2 | 80.51 | 72.57 | 64.54 |
| Qk.N_E1 | LF-3 | 104.1 | 70.61 | 50.82 |
| | LF-4 | 0.12 | 0.03 | -0.04 |
| | LF-5 | 0.03 | 0.01 | -0.01 |
| | LF-10 | 0.06 | -0.04 | -0.15 |
| | LF-15 | -0.01 | 0.00 | 0.00 |

| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|--------------|--|---|-------|-------|--------|
| Qk.N_DA | | LF-16 | -0.02 | -0.02 | -0.01 |
| | | LF-17 | 6.50 | 4.65 | 3.68 |
| | | LF-18 | -0.68 | -0.30 | 0.00 |
| | | LF-19 | 0.01 | 0.00 | 0.00 |
| | | #1 LF-17 | 0.02 | -0.03 | -0.08 |
| | | #1 LF-3 | 80.70 | 73.27 | 65.88 |
| | | #1 LF-4 | -0.45 | -0.21 | 0.00 |
| | | #1 LF-5 | 0.51 | 0.27 | 0.05 |
| | | #1 LF-6 | -0.01 | 0.00 | 0.00 |
| | | #1 LF-10 | -0.49 | -0.39 | -0.30 |
| Qk.N_T2 | | #1 LF-11 | 0.01 | 0.00 | 0.00 |
| | | #1 LF-12 | -0.50 | -0.41 | -0.31 |
| | | #1 LF-13 | -0.10 | -0.09 | -0.08 |
| | | #2 LF-4 | 0.00 | 0.00 | 0.00 |
| | | LF-20 | -0.16 | -0.05 | 0.05 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
| W-1.14 Gk | | LF-1 (g) | 71.69 | 121.7 | 189.1 |
| | | #1 LF-1 | 60.57 | 102.8 | 149.8 |
| | | #2 LF-1 | 0.00 | 0.00 | 0.00 |
| Ö← | | LF-2 | 29.68 | 53.09 | 84.73 |
| | | #1 LF-2 | 21.15 | 35.99 | 52.52 |
| | | LF-3 | 28.94 | 59.33 | 100.1 |
| Qk.N_E1 | | LF-4 | 0.45 | 0.46 | 0.52 |
| | | LF-5 | 0.11 | 0.11 | 0.13 |
| | | LF-10 | 0.00 | 0.04 | 0.08 |
| | | LF-14 | 0.00 | 0.00 | 0.00 |
| | | LF-15 | 0.00 | 0.00 | 0.00 |
| | | LF-16 | 0.00 | -0.01 | -0.01 |
| | | LF-17 | 0.90 | 2.85 | 5.34 |
| | | LF-18 | -0.19 | -0.48 | -0.86 |
| | | LF-19 | 0.03 | 0.03 | 0.04 |
| | | #1 LF-17 | 0.01 | 0.03 | 0.06 |
| Qk.N_DA | | #1 LF-3 | 18.19 | 33.97 | 50.96 |
| | | #1 LF-4 | -1.06 | -1.56 | -2.11 |
| | | #1 LF-5 | 1.31 | 1.66 | 2.12 |
| | | #1 LF-6 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-10 | -0.06 | -0.18 | -0.31 |
| | | #1 LF-11 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-12 | -0.11 | -0.25 | -0.40 |
| | | #1 LF-13 | 0.00 | -0.02 | -0.04 |
| | | #2 LF-4 | 0.00 | 0.01 | 0.01 |
| | | #2 LF-7 | 0.00 | 0.00 | 0.00 |
| Qk.N_T2 | | LF-20 | -0.68 | -0.68 | -0.74 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.14m) | | | [kN/m] |
| W-1.15 Gk | | LF-1 (g) | -20.8 | -11.9 | -2.99 |
| | | #1 LF-1 | 30.75 | 29.42 | 28.10 |
| Ö← | | LF-2 | -13.7 | -9.92 | -6.20 |
| | | #1 LF-2 | 9.42 | 9.16 | 8.90 |
| Qk.N_E1 | | LF-3 | -29.8 | -24.1 | -18.3 |
| | | LF-4 | -0.43 | -0.27 | -0.11 |
| | | LF-5 | -0.11 | -0.07 | -0.03 |

| | | | | | | | | | |
|---------------|--|---|--------|-------|-------|-------|-------|--------|-------|
| | | Lastfall Lasten (3 Abschnitte je 0.14m) | | | | | | [kN/m] | |
| Qk.N_DA | | LF-10 | | | | -0.01 | -0.01 | -0.02 | |
| | | LF-16 | | | | 0.01 | 0.01 | 0.01 | |
| | | LF-17 | | | | -3.75 | -3.24 | -2.74 | |
| | | LF-18 | | | | 0.55 | 0.47 | 0.39 | |
| | | LF-19 | | | | -0.03 | -0.02 | -0.01 | |
| | | #1 LF-17 | | | | -0.02 | -0.01 | -0.01 | |
| | | #1 LF-3 | | | | -8.50 | -8.47 | -8.43 | |
| | | #1 LF-4 | | | | 1.92 | 1.36 | 0.79 | |
| | | #1 LF-5 | | | | 0.97 | 1.33 | 1.68 | |
| | | #1 LF-10 | | | | 0.24 | 0.23 | 0.22 | |
| Qk.N_T2 | | #1 LF-12 | | | | 0.30 | 0.29 | 0.29 | |
| | | #1 LF-13 | | | | 0.03 | 0.03 | 0.02 | |
| | | LF-20 | | | | 0.80 | 0.52 | 0.24 | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| W-1.16 | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] | |
| Gk | | LF-1 (g) | -9.11 | 43.93 | 47.69 | 49.37 | 49.65 | 48.19 | 45.44 |
| | | | 42.52 | 11.22 | | | | | |
| | | #1 LF-1 | 15.62 | 44.61 | 49.73 | 51.07 | 50.60 | 48.00 | 43.16 |
| | | | 35.14 | 18.81 | | | | | |
| Ö← | | #2 LF-1 | 0.04 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.01 | | | | | |
| | | LF-2 | 0.91 | 16.65 | 18.12 | 18.80 | 18.91 | 18.40 | 17.45 |
| | | | 16.45 | 3.64 | | | | | |
| Qk.N_E1 | | #1 LF-2 | 8.38 | 17.31 | 18.85 | 19.30 | 19.16 | 18.34 | 16.85 |
| | | | 14.10 | 6.57 | | | | | |
| | | LF-3 | -0.21 | 0.04 | 0.05 | 0.06 | 0.09 | 0.12 | 0.14 |
| | | | 0.15 | -0.12 | | | | | |
| | | LF-4 | -19.63 | 14.60 | 17.20 | 18.37 | 18.65 | 17.80 | 16.05 |
| | | | 14.02 | -7.24 | | | | | |
| | | LF-5 | -4.99 | 0.71 | 0.71 | 0.69 | 0.63 | 0.48 | 0.31 |
| | | | 0.28 | -0.90 | | | | | |
| | | LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | LF-12 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | LF-17 | -0.06 | 0.01 | 0.01 | 0.02 | 0.02 | 0.03 | 0.04 |
| | | | 0.04 | -0.03 | | | | | |
| | | LF-18 | 0.05 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | | | -0.01 | 0.02 | | | | | |
| | | LF-19 | -0.62 | 0.10 | 0.11 | 0.11 | 0.11 | 0.08 | 0.06 |
| | | | 0.05 | -0.17 | | | | | |
| | | LF-22 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | #1 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | #1 LF-23 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | #1 LF-3 | -0.30 | 0.04 | 0.11 | 0.17 | 0.27 | 0.47 | 0.99 |
| | | | 2.09 | 0.42 | | | | | |
| Qk.N_DA | | #1 LF-4 | 0.25 | -0.03 | -0.09 | -0.14 | -0.24 | -0.42 | -1.02 |
| | | | -2.31 | 0.81 | | | | | |
| | | #1 LF-5 | -11.89 | 9.78 | 14.02 | 14.66 | 14.31 | 12.63 | 9.58 |
| | | | | | | | | | |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---|------------|---|-------|-------|-------|-------|-------|-------|--------|
| | | 4.64 | -6.29 | | | | | | |
| Qk.N_T2 | #1 LF-6 | -0.14 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | | -0.01 | 0.00 | | | | | | |
| | #1 LF-12 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.02 | |
| | | -0.03 | -0.01 | | | | | | |
| | #1 LF-16 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-7 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| Qk.N_T2 | LF-20 | 0.36 | -0.06 | -0.08 | -0.11 | -0.16 | -0.21 | -0.26 | |
| | | -0.30 | 0.28 | | | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | | |
| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
| W-1.17 Gk | LF-1 (g) | 13.69 | 42.70 | 46.89 | 48.49 | 47.81 | 44.36 | 37.40 | |
| | | 25.27 | 2.16 | | | | | | |
| Ö← | #1 LF-1 | 40.38 | 44.51 | 49.02 | 50.96 | 50.44 | 47.41 | 41.09 | |
| | | 29.11 | 12.35 | | | | | | |
| Qk.N_E1 | LF-2 | 11.57 | 16.10 | 17.85 | 18.57 | 18.40 | 17.30 | 15.04 | |
| | | 10.51 | 1.94 | | | | | | |
| | #1 LF-2 | 17.20 | 17.28 | 18.59 | 19.26 | 19.09 | 18.12 | 16.08 | |
| | | 11.85 | 4.40 | | | | | | |
| | LF-3 | -8.27 | 14.04 | 16.69 | 17.46 | 16.51 | 13.08 | 6.22 | |
| | | -1.02 | -10.3 | | | | | | |
| | LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | -0.01 | | | | | | |
| | LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.01 | | | | | | |
| | LF-10 | 0.40 | -0.08 | -0.11 | -0.18 | -0.35 | -0.70 | -1.48 | |
| | | -3.16 | -4.22 | | | | | | |
| | LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | LF-16 | -0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.05 | |
| | | 0.10 | 0.25 | | | | | | |
| | LF-17 | -3.01 | 0.67 | 0.87 | 1.22 | 1.82 | 3.10 | 5.66 | |
| | | 5.78 | -1.14 | | | | | | |
| | LF-18 | -0.01 | 0.00 | -0.01 | 0.00 | 0.00 | 0.02 | 0.06 | |
| | | 0.12 | 0.16 | | | | | | |
| | #1 LF-17 | 0.18 | -0.02 | -0.08 | -0.13 | -0.25 | -0.49 | -0.98 | |
| | | -2.09 | -3.83 | | | | | | |
| Qk.N_DA | #1 LF-3 | -3.97 | 9.88 | 13.94 | 14.84 | 14.54 | 12.82 | 9.35 | |
| | | 2.80 | -7.37 | | | | | | |
| | #1 LF-4 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-5 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | -0.05 | | | | | | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.04 | | | | | | |
| | #1 LF-10 | 0.07 | -0.01 | -0.02 | -0.02 | -0.02 | 0.00 | 0.02 | |

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | 0.04 | 0.07 | | | | | |
| Qk.N_T2 | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #1 LF-12 | 0.04 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.02 |
| | | 0.04 | 0.06 | | | | | |
| | #1 LF-13 | 0.09 | -0.01 | -0.04 | -0.06 | -0.10 | -0.21 | -0.49 |
| | | -1.05 | -0.76 | | | | | |
| | LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | | | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (3 Abschnitte je 0.46m) | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|--------|
| | | | | | |
| W-1.18 | LF-1 (g) | 57.73 | 95.89 | 142.6 | |
| | #1 LF-1 | 104.5 | 129.6 | 157.1 | |
| Gk | LF-2 | 26.64 | 41.56 | 60.57 | |
| | #1 LF-2 | 36.99 | 46.01 | 55.87 | |
| Ö← | LF-3 | -8.99 | -5.12 | -1.81 | |
| | #1 LF-3 | -7.29 | -6.43 | -5.54 | |
| Qk.N_E1 | LF-7 | 0.00 | -0.01 | -0.01 | |
| | LF-8 | -0.05 | -0.03 | 0.01 | |
| | LF-9 | 0.04 | -0.01 | -0.09 | |
| | LF-10 | 27.61 | 40.02 | 56.78 | |
| | LF-15 | 0.01 | 0.02 | 0.03 | |
| | LF-16 | -0.29 | -0.76 | -1.33 | |
| | LF-17 | -4.39 | -2.55 | -0.98 | |
| | LF-18 | -0.37 | -0.37 | -0.38 | |
| | #1 LF-17 | 12.50 | 15.68 | 19.04 | |
| | #1 LF-3 | -7.29 | -6.43 | -5.54 | |
| | #1 LF-6 | -0.01 | 0.00 | 0.00 | |
| | #1 LF-7 | -0.01 | -0.01 | -0.02 | |
| | #1 LF-8 | 0.10 | 0.20 | 0.31 | |
| | #1 LF-9 | -0.14 | -0.21 | -0.29 | |
| | #1 LF-10 | -0.03 | -0.03 | -0.04 | |
| Qk.N_DA | #1 LF-11 | 0.03 | 0.04 | 0.05 | |
| | #1 LF-12 | -0.07 | -0.07 | -0.09 | |
| | #1 LF-13 | 22.07 | 26.83 | 32.00 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (9 Abschnitte je 0.98m) | | | | | | [kN/m] |
|---------|-----------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | | | | | | | |
| W-1.19 | LF-1 (g) | 20.61 | 27.69 | 35.32 | 38.58 | 40.03 | 40.44 | 39.88 |
| | | 37.73 | 19.56 | | | | | |
| Gk | #1 LF-1 | 30.48 | 32.30 | 39.13 | 42.23 | 43.25 | 43.38 | 42.86 |
| | | 39.75 | 27.25 | | | | | |
| Ö← | LF-2 | 7.90 | 10.67 | 13.78 | 14.96 | 15.48 | 15.62 | 15.42 |
| | | 14.65 | 8.16 | | | | | |
| | #1 LF-2 | 10.43 | 12.76 | 15.47 | 16.49 | 16.81 | 16.85 | 16.67 |
| | | 15.68 | 11.70 | | | | | |
| Qk.N_E1 | LF-3 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-7 | -0.33 | -0.02 | 0.18 | 0.28 | 0.27 | 0.21 | 0.13 |
| | | 0.08 | -0.16 | | | | | |
| | LF-8 | -5.65 | 4.50 | 9.41 | 11.61 | 12.60 | 12.85 | 12.40 |
| | | 10.84 | -2.28 | | | | | |
| | LF-9 | 2.74 | -1.09 | -0.42 | -0.14 | -0.05 | -0.02 | -0.01 |
| | | 0.00 | 0.03 | | | | | |
| | LF-10 | -3.66 | 0.94 | 0.41 | 0.15 | 0.06 | 0.02 | 0.01 |
| | | | | | | | | |

| | | Lastfall Lasten (9 Abschnitte je 0.98m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | | 0.00 | -0.03 | | | | | |
| | LF-11 | -0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-15 | 0.06 | -0.01 | -0.03 | -0.03 | -0.02 | -0.01 | -0.01 |
| | | 0.00 | 0.01 | | | | | |
| | LF-16 | 0.11 | -0.06 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-17 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-17 | -2.17 | 0.14 | 0.24 | 0.07 | 0.02 | 0.01 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #1 LF-3 | -0.06 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-6 | -0.32 | -0.08 | 0.17 | 0.33 | 0.42 | 0.43 | 0.39 |
| | | 0.24 | -0.30 | | | | | |
| | #1 LF-7 | 0.26 | 0.06 | -0.14 | -0.27 | -0.34 | -0.36 | -0.33 |
| | | -0.21 | 0.25 | | | | | |
| | #1 LF-8 | -2.23 | 3.34 | 7.33 | 8.99 | 9.58 | 9.64 | 9.30 |
| | | 7.33 | -0.62 | | | | | |
| | #1 LF-9 | 2.41 | -0.44 | -0.43 | -0.15 | -0.05 | -0.02 | 0.00 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 |
| | | 0.00 | 0.01 | | | | | |
| | #1 LF-11 | 0.03 | 0.00 | -0.01 | -0.02 | -0.02 | -0.01 | -0.01 |
| | | -0.01 | 0.01 | | | | | |
| | #1 LF-13 | -1.64 | -0.11 | 0.13 | 0.04 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | LF-21 | 0.44 | 0.03 | -0.24 | -0.37 | -0.37 | -0.29 | -0.19 |
| | | -0.12 | 0.22 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.20_1

| | | Lastfall Lasten (3 Abschnitte je 0.83m) | | | [kN/m] |
|---------|------------|---|-------|-------|--------|
| Gk | LF-1 (g) | 159.0 | -0.81 | 18.59 | |
| | #1 LF-1 | 121.6 | 34.09 | 23.53 | |
| Ö← | LF-2 | 50.15 | -9.64 | -2.46 | |
| | #1 LF-2 | 28.03 | 1.57 | -0.25 | |
| Qk.N_E1 | LF-3 | 43.18 | -32.5 | -22.1 | |
| | LF-4 | 0.01 | -0.02 | -0.02 | |
| | LF-5 | 0.00 | -0.01 | 0.00 | |
| | LF-7 | -0.05 | -0.05 | -0.06 | |
| | LF-10 | -1.89 | 11.78 | 16.52 | |
| | LF-11 | 0.00 | 0.00 | 0.00 | |
| | LF-15 | 0.15 | 0.13 | 0.16 | |
| | LF-16 | 0.28 | 0.00 | 1.09 | |
| | LF-17 | 31.56 | -9.91 | -8.87 | |
| | LF-18 | 17.27 | 11.06 | 8.27 | |
| | #1 LF-17 | 3.75 | 15.83 | 22.69 | |
| Qk.N_DA | #1 LF-3 | 44.27 | -17.3 | -26.0 | |
| | #1 LF-4 | -0.02 | 0.02 | 0.02 | |
| | #1 LF-5 | 0.02 | -0.02 | -0.02 | |
| | #1 LF-6 | 0.02 | 0.00 | -0.01 | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-10 | 0.81 | 0.85 | 0.91 | |
| | #1 LF-11 | -0.03 | 0.02 | 0.03 | |

| | | Lastfall Lasten (3 Abschnitte je 0.83m) | | | [kN/m] |
|----------|---|---|-------|-------|--------|
| Qk.N_T2 | #1 LF-12 | 3.05 | 1.79 | 0.87 | |
| | #1 LF-13 | 5.54 | 7.46 | 8.76 | |
| | LF-20 | -0.02 | 0.03 | 0.02 | |
| | LF-21 | 0.00 | 0.00 | 0.00 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.91m) | | | [kN/m] |
| W-1.20_2 | Gk | LF-1 (g) | 59.73 | 61.44 | 62.04 |
| | #1 LF-1 | 61.06 | 66.19 | 63.79 | |
| Ö← | LF-2 | 13.81 | 14.72 | 15.02 | |
| | #1 LF-2 | 12.89 | 13.74 | 14.02 | |
| Qk.N_E1 | LF-3 | -0.86 | 0.00 | 0.23 | |
| | LF-7 | 0.00 | 0.03 | 0.06 | |
| | LF-8 | 0.00 | 0.00 | 0.01 | |
| | LF-9 | 0.00 | -0.01 | -0.01 | |
| | LF-10 | 20.17 | 20.57 | 20.68 | |
| | LF-11 | 0.00 | 0.00 | 0.00 | |
| | LF-15 | 0.00 | -0.08 | -0.16 | |
| | LF-16 | 7.79 | 8.04 | 8.02 | |
| | LF-17 | -0.63 | -0.15 | 0.00 | |
| | LF-18 | -0.31 | -0.57 | -0.51 | |
| | #1 LF-17 | 26.67 | 27.17 | 27.02 | |
| Qk.N_DA | #1 LF-3 | -1.36 | -0.16 | 0.31 | |
| | #1 LF-5 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-6 | 0.01 | 0.04 | 0.06 | |
| | #1 LF-8 | 0.00 | 0.01 | 0.02 | |
| | #1 LF-9 | 0.00 | -0.01 | -0.02 | |
| | #1 LF-10 | -0.20 | -0.46 | -0.56 | |
| | #1 LF-11 | -0.03 | -0.09 | -0.16 | |
| | #1 LF-12 | -0.23 | -0.27 | -0.23 | |
| | #1 LF-13 | 9.71 | 10.08 | 10.28 | |
| | LF-20 | 0.00 | 0.00 | 0.00 | |
| Qk.N_T2 | LF-21 | 0.00 | 0.00 | 0.00 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.13m) | | | [kN/m] |
| W-1.20_3 | Gk | LF-1 (g) | 61.19 | 61.13 | 61.07 |
| | #1 LF-1 | 59.52 | 59.46 | 59.39 | |
| Ö← | LF-2 | 14.71 | 14.68 | 14.66 | |
| | #1 LF-2 | 15.11 | 15.09 | 15.08 | |
| Qk.N_E1 | LF-3 | 0.20 | 0.20 | 0.20 | |
| | LF-7 | 0.12 | 0.12 | 0.13 | |
| | LF-8 | 0.09 | 0.09 | 0.10 | |
| | LF-9 | -0.09 | -0.10 | -0.10 | |
| | LF-10 | 19.96 | 19.92 | 19.88 | |
| | LF-15 | -0.35 | -0.36 | -0.36 | |
| | LF-16 | 8.02 | 8.03 | 8.03 | |
| | LF-17 | 0.04 | 0.04 | 0.04 | |
| | LF-18 | -0.27 | -0.26 | -0.26 | |
| | #1 LF-17 | 29.10 | 29.08 | 29.05 | |
| Qk.N_DA | #1 LF-3 | 0.33 | 0.33 | 0.32 | |
| | #1 LF-6 | 0.10 | 0.10 | 0.10 | |
| | #1 LF-8 | 0.09 | 0.09 | 0.09 | |
| | #1 LF-9 | -0.13 | -0.14 | -0.14 | |
| | #1 LF-10 | -0.63 | -0.62 | -0.62 | |

| | Lastfall | Lasten (3 Abschnitte je 0.13m) | [kN/m] | | |
|---------|---|--------------------------------|--------|-------|--|
| Qk.N_T2 | #1 LF-11 | -0.34 | -0.34 | -0.34 | |
| | #1 LF-12 | -0.17 | -0.17 | -0.17 | |
| | #1 LF-13 | 11.20 | 11.19 | 11.18 | |
| | LF-21 | -0.01 | -0.01 | -0.01 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.86m) | [kN/m] | | |
|----------|---|--------------------------------|--------|-------|--|
| W-1.20_4 | LF-1 (g) | 53.24 | 47.74 | 53.76 | |
| | #1 LF-1 | 54.90 | 54.73 | 62.33 | |
| Gk | LF-2 | 11.65 | 9.19 | 10.40 | |
| | #1 LF-2 | 11.02 | 8.93 | 8.28 | |
| Ö← | LF-3 | 0.05 | -0.02 | -0.17 | |
| | LF-7 | 0.11 | -0.07 | -0.95 | |
| Qk.N_E1 | LF-8 | 0.71 | 1.23 | 0.11 | |
| | LF-9 | -0.44 | -0.58 | -0.18 | |
| | LF-10 | 14.88 | 8.99 | -1.68 | |
| | LF-11 | 0.00 | 0.00 | -0.03 | |
| | LF-15 | -0.85 | 0.38 | 9.93 | |
| | LF-16 | 8.27 | 8.33 | 8.57 | |
| | LF-17 | 0.01 | 0.00 | -0.02 | |
| | LF-18 | -0.05 | 0.05 | 0.26 | |
| | LF-22 | 0.00 | 0.00 | -0.01 | |
| | #1 LF-17 | 21.01 | 13.55 | 4.80 | |
| Qk.N_DA | #1 LF-3 | 0.15 | 0.12 | 0.24 | |
| | #1 LF-6 | 0.19 | 0.25 | -0.31 | |
| | #1 LF-7 | -0.09 | -0.18 | -0.11 | |
| | #1 LF-8 | 0.40 | 0.32 | -0.36 | |
| | #1 LF-9 | -0.60 | -0.30 | 1.07 | |
| | #1 LF-10 | -0.33 | 0.11 | 1.98 | |
| | #1 LF-11 | -0.20 | 1.83 | 6.24 | |
| | #1 LF-12 | -0.07 | -0.05 | -0.09 | |
| | #1 LF-13 | 8.57 | 6.85 | 4.89 | |
| | LF-21 | -0.10 | -0.22 | -0.07 | |
| Qk.N_T2 | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | [kN/m] | | | | | |
|-----------|-----------|--------------------------------|--------|-------|-------|-------|-------|-------|
| W-1.21 | LF-1 (g) | 45.54 | 41.39 | 54.09 | 65.11 | 48.14 | 40.15 | 40.90 |
| | | 38.97 | 17.11 | | | | | |
| Gk | #1 LF-1 | 47.23 | 39.76 | 43.55 | 47.53 | 49.23 | 49.44 | 48.51 |
| | | 43.23 | 30.55 | | | | | |
| Ö← | #2 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| LF-2 | | 7.25 | 6.63 | 11.10 | 14.55 | 8.82 | 6.29 | 6.49 |
| | | 5.73 | -0.45 | | | | | |
| #1 LF-2 | | 6.05 | 5.48 | 6.82 | 7.93 | 8.42 | 8.47 | 8.07 |
| | | 6.66 | 5.02 | | | | | |
| Qk.N_E1 | LF-3 | -0.06 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-7 | -4.82 | -3.34 | -5.90 | -8.60 | -2.37 | 0.65 | 0.22 |
| | | 0.07 | -0.29 | | | | | |
| | LF-8 | -0.67 | 11.12 | 18.31 | 19.66 | 12.88 | 12.24 | 12.62 |
| | | 11.07 | -4.68 | | | | | |
| | LF-9 | -0.23 | -0.59 | -0.40 | -0.18 | -0.03 | -0.01 | -0.01 |
| | | | | | | | | |

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------------|---|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | -0.01 | 0.03 | | | | | |
| | LF-10 | 0.23 | 1.27 | 0.62 | 0.21 | 0.02 | 0.01 | 0.01 |
| | | 0.01 | -0.04 | | | | | |
| | LF-11 | -0.11 | -0.08 | -0.16 | -0.24 | -0.07 | 0.02 | 0.01 |
| | | 0.00 | -0.01 | | | | | |
| | LF-15 | 8.07 | -1.30 | -0.80 | 0.06 | 0.09 | -0.01 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| | LF-16 | 0.12 | -0.26 | -0.11 | -0.02 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-17 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-18 | 0.09 | -0.03 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-22 | -0.03 | -0.02 | -0.05 | -0.07 | -0.02 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-17 | -0.36 | 0.26 | 0.21 | 0.09 | 0.05 | 0.03 | 0.01 |
| | | 0.00 | -0.01 | | | | | |
| Qk.N_DA | #1 LF-3 | 0.01 | -0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-6 | -2.75 | -2.78 | -3.72 | -4.92 | -5.71 | -5.54 | -4.85 |
| | | -4.68 | -4.38 | | | | | |
| | #1 LF-7 | 5.80 | 6.14 | 6.33 | 6.77 | 7.18 | 7.26 | 7.33 |
| | | 8.30 | 8.56 | | | | | |
| | #1 LF-8 | 0.73 | 7.03 | 11.69 | 14.00 | 15.16 | 15.39 | 14.44 |
| | | 9.93 | 0.05 | | | | | |
| | #1 LF-9 | 1.93 | -0.13 | -0.45 | -0.24 | -0.10 | -0.04 | -0.02 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-10 | 0.33 | -0.28 | 0.01 | 0.19 | 0.15 | 0.08 | 0.05 |
| | | 0.04 | 0.04 | | | | | |
| | #1 LF-11 | 5.98 | 0.86 | -0.39 | -0.05 | 0.18 | 0.15 | 0.09 |
| | | 0.07 | 0.07 | | | | | |
| | #1 LF-12 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-13 | 0.32 | -0.10 | 0.00 | 0.05 | 0.03 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | LF-21 | 9.29 | 8.23 | 11.60 | 18.68 | 7.22 | -0.33 | 0.24 |
| | | 0.54 | 0.98 | | | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| W-1.22 | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
| Gk | LF-1 (g) | 39.08 | 39.43 | 67.76 | 88.14 | 55.24 | 44.55 | 44.51 |
| | | 38.42 | 93.21 | | | | | |
| | #1 LF-1 | 41.11 | 25.43 | 42.69 | 57.28 | 65.16 | 66.05 | 60.56 |
| | | 65.96 | 119.4 | | | | | |
| | #2 LF-1 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Ö← | LF-2 | 5.18 | 6.80 | 16.46 | 23.18 | 11.41 | 7.81 | 7.56 |
| | | 5.00 | 35.32 | | | | | |
| | #1 LF-2 | 4.27 | 3.30 | 7.79 | 11.58 | 13.75 | 13.89 | 11.88 |
| | | 14.51 | 36.07 | | | | | |
| Qk.N_E1 | LF-3 | -0.06 | 0.08 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|------------|-----------|---|-------|-------|-------|-------|-------|--------|
| | | 0.00 | 0.00 | | | | | |
| LF-5 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.02 | | | | | |
| LF-7 | | -5.78 | 14.12 | 27.46 | 31.88 | 16.90 | 15.85 | 16.11 |
| | | 12.64 | 21.13 | | | | | |
| LF-8 | | -2.41 | -1.72 | -2.83 | -4.00 | -1.01 | 0.31 | 0.11 |
| | | 0.04 | -0.03 | | | | | |
| LF-9 | | 0.06 | 0.04 | 0.06 | 0.07 | 0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| LF-10 | | -0.10 | -0.05 | -0.06 | -0.08 | -0.02 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| LF-11 | | -0.28 | 0.05 | 0.36 | 0.53 | 0.15 | 0.15 | 0.23 |
| | | 0.24 | -1.43 | | | | | |
| LF-12 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| LF-15 | | 7.98 | -5.45 | -3.07 | -1.11 | -0.12 | -0.07 | -0.09 |
| | | -0.06 | 0.15 | | | | | |
| LF-16 | | 0.07 | -0.23 | -0.09 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| LF-17 | | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| LF-18 | | 0.09 | -0.11 | -0.05 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| LF-19 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.02 | | | | | |
| LF-22 | | -0.09 | -0.01 | 0.08 | 0.13 | 0.02 | 0.03 | 0.06 |
| | | 0.07 | -0.45 | | | | | |
| #1 LF-17 | | -0.03 | 0.28 | 0.05 | -0.01 | -0.03 | -0.01 | -0.01 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_DA | #1 LF-3 | 0.00 | -0.13 | -0.05 | -0.02 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-5 | | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.02 |
| | | 0.00 | 0.06 | | | | | |
| #1 LF-6 | | -1.93 | 9.45 | 16.28 | 20.79 | 23.98 | 24.71 | 22.11 |
| | | 16.86 | 14.05 | | | | | |
| #1 LF-7 | | 5.71 | 6.10 | 6.27 | 6.67 | 7.04 | 7.15 | 7.29 |
| | | 7.72 | 7.61 | | | | | |
| #1 LF-8 | | -1.39 | -1.47 | -1.85 | -2.32 | -2.62 | -2.50 | -2.17 |
| | | -1.79 | -0.98 | | | | | |
| #1 LF-9 | | 0.07 | 0.06 | 0.05 | 0.04 | 0.04 | 0.02 | 0.01 |
| | | 0.01 | 0.00 | | | | | |
| #1 LF-10 | | -0.09 | -3.70 | -1.98 | -0.72 | -0.27 | -0.18 | -0.12 |
| | | -0.05 | 0.10 | | | | | |
| #1 LF-11 | | 6.10 | -3.09 | -2.83 | -1.18 | -0.46 | -0.30 | -0.21 |
| | | -0.08 | 0.12 | | | | | |
| #1 LF-12 | | 0.00 | 0.05 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-13 | | 0.21 | -0.67 | -0.24 | -0.06 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #2 LF-4 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | LF-21 | 9.28 | 8.12 | 11.47 | 18.65 | 6.98 | -0.34 | 0.22 |
| | | 0.53 | 0.70 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.23

Gk

Lastfall Lasten (10 Abschnitte je 1.00m) [kN/m]

LF-1 (g) 24.29 28.18 31.76 32.07 31.77 31.54 29.23
21.94 23.09 27.50

#1 | LF-1 20.49 27.68 31.21 31.49 30.67 29.67 27.68
23.31 23.88 17.58

#2 | LF-1 41.27 54.68 52.84 58.85 58.81 51.30 52.28
29.62 58.15 57.11

Ö←

LF-2 0.67 2.28 3.86 4.00 3.88 3.78 2.81
-0.28 0.12 1.67

#1 | LF-2 1.01 2.27 2.79 2.83 2.59 2.29 1.65
0.19 0.40 -1.08

#2 | LF-2 6.47 9.99 9.53 9.34 8.40 7.22 7.48
3.94 9.91 9.26

Qk.N_E1

LF-3 1.73 0.80 0.05 0.00 0.00 0.00 0.00
0.00 0.00 0.00

LF-4 0.09 0.13 0.13 0.09 0.03 0.01 0.00
-0.01 0.00 0.00

LF-5 -0.29 0.27 0.75 0.67 0.51 0.44 0.25
-0.25 -0.05 0.03

LF-6 0.16 -0.13 -0.37 -0.30 -0.13 -0.01 0.02
0.02 0.00 0.00

LF-7 0.00 0.00 0.00 0.00 0.00 0.00 -0.03
-0.16 0.11 5.90

LF-8 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.02

LF-11 0.00 0.00 0.00 0.00 0.00 -0.01 -0.01
-0.02 0.03 0.63

LF-12 -0.01 0.00 0.01 0.01 0.02 0.03 0.02
-0.02 0.00 0.02

LF-13 0.00 0.00 0.00 0.00 0.01 0.00 -0.01
0.01 0.00 0.06

LF-14 0.32 4.44 6.93 7.19 7.07 6.91 5.27
-0.43 -0.37 0.02

LF-15 0.00 0.00 0.00 0.00 0.00 0.00 0.01
0.11 -0.07 -3.61

LF-17 0.73 0.37 0.03 0.00 0.00 0.00 0.00
0.00 0.00 0.00

LF-18 -1.07 -1.21 -0.14 0.02 0.02 0.01 0.00
0.00 0.00 0.00

LF-19 -0.13 0.11 0.31 0.28 0.21 0.19 0.11
-0.11 -0.02 0.05

LF-22 0.00 0.00 -0.01 -0.01 -0.02 -0.02 -0.02
0.00 0.02 0.41

#1 | LF-18 0.00 0.00 0.00 0.00 0.00 -0.02 -0.02
0.02 0.01 0.02

#1 | LF-19 -0.02 0.06 0.05 -0.01 -0.03 -0.01 0.00
0.00 0.00 0.00

#1 | LF-20 -0.06 -0.09 -0.02 0.00 0.00 0.00 0.00
0.00 0.00 0.00

#1 | LF-21 0.01 0.00 -0.02 -0.06 -0.11 -0.12 -0.05
-0.02 0.01 0.00

#1 | LF-22 2.42 5.64 7.30 7.48 7.00 6.29 4.60
0.39 -0.46 0.01

#1 | LF-23 -0.05 -0.15 -0.21 -0.18 -0.09 -0.03 -0.01
0.01 0.00 0.00

#2 | LF-8 0.08 0.04 -0.04 -0.06 -0.16 -0.77 -1.04
D-391

| | Lastfall | Lasten (10 Abschnitte je 1.00m) | | | [kN/m] | | | |
|---------|------------|---------------------------------|-------|-------|--------|-------|-------|-------|
| | | 1.68 | 5.39 | 2.94 | | | | |
| Qk.N_DA | #1 LF-3 | 0.49 | 1.61 | 0.23 | -0.02 | -0.02 | -0.01 | 0.00 |
| | | 0.00 | 0.00 | -0.01 | | | | |
| | #1 LF-4 | 0.00 | -0.08 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | | | | |
| | #1 LF-5 | 0.11 | 0.85 | 1.05 | 0.97 | 0.78 | 0.64 | 0.31 |
| | | -0.20 | -0.10 | 0.02 | | | | |
| | #1 LF-6 | -0.01 | 0.00 | -0.01 | -0.02 | -0.04 | -0.05 | 0.00 |
| | | -0.01 | 1.15 | -1.74 | | | | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | -0.01 | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.01 | | | | |
| | #1 LF-10 | -0.63 | 0.12 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | 0.05 | -0.59 | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.03 | -0.52 | -0.58 | | | | |
| | #1 LF-12 | 0.21 | -1.57 | -0.30 | 0.02 | 0.03 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | | | | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.00 | 0.01 | | | | |
| | #1 LF-15 | 0.00 | 0.01 | 0.00 | -0.03 | -0.07 | -0.08 | -0.04 |
| | | 0.01 | 0.01 | 0.00 | | | | |
| | #1 LF-16 | 0.00 | -0.08 | -0.14 | -0.11 | -0.05 | -0.01 | 0.00 |
| | | 0.01 | 0.00 | 0.00 | | | | |
| | #2 LF-3 | 0.02 | 0.01 | -0.01 | -0.02 | -0.06 | -0.24 | -0.30 |
| | | 0.78 | 2.54 | 1.99 | | | | |
| | #2 LF-4 | 11.62 | 14.37 | 11.96 | 12.81 | 12.34 | 11.10 | 12.34 |
| | | 6.75 | 17.79 | 16.63 | | | | |
| | #2 LF-5 | -0.01 | -0.01 | -0.02 | -0.07 | 0.08 | 0.94 | 1.50 |
| | | 0.57 | -0.20 | -0.12 | | | | |
| | #2 LF-6 | -0.03 | -0.18 | -0.18 | 0.98 | 2.84 | 2.95 | 1.76 |
| | | -0.04 | -0.22 | -0.04 | | | | |
| | #2 LF-7 | 1.33 | 5.80 | 7.31 | 4.98 | 1.58 | -0.30 | -0.35 |
| | | -0.19 | -0.10 | 0.06 | | | | |
| Qk.N_T2 | LF-20 | -0.12 | -0.07 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | | | | |
| | LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | -0.04 | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (3 Abschnitte je 0.37m) | | | [kN/m] | | |
|----------------|-----------|--------------------------------|--|--|--------|-------|-------|
| | | | | | | | |
| W-1.24_1 Gk | LF-1 (g) | | | | 37.72 | 33.42 | 30.34 |
| | #1 LF-1 | | | | 39.58 | 33.89 | 29.44 |
| | #2 LF-1 | | | | 25.09 | 21.34 | 18.45 |
| Ö← | LF-2 | | | | 6.31 | 4.55 | 3.34 |
| | #1 LF-2 | | | | 4.69 | 3.46 | 2.68 |
| | #2 LF-2 | | | | 0.85 | 0.06 | -0.42 |
| Qk.N_E1 | LF-5 | | | | -0.19 | 0.31 | 0.39 |
| | LF-7 | | | | -4.78 | -5.26 | -5.31 |
| | LF-8 | | | | -0.01 | -0.01 | -0.01 |
| | LF-11 | | | | -0.03 | -0.21 | -0.53 |
| | LF-12 | | | | -0.23 | -0.03 | 0.03 |
| | LF-13 | | | | 2.31 | -0.23 | -0.88 |
| | LF-14 | | | | -0.01 | 0.10 | 0.11 |

| | Lastfall | Lasten (3 Abschnitte je 0.37m) | [kN/m] | | |
|---------|---|--------------------------------|--------|-------|--|
| | LF-15 | 14.28 | 12.73 | 11.20 | |
| | LF-19 | -0.44 | -0.02 | 0.10 | |
| | LF-22 | -1.19 | -1.18 | -1.15 | |
| | #1 LF-18 | 2.55 | 1.12 | 0.50 | |
| | #1 LF-21 | -0.03 | -0.01 | -0.01 | |
| | #1 LF-22 | 0.01 | 0.05 | 0.05 | |
| | #2 LF-8 | 1.16 | 2.56 | 2.99 | |
| Qk.N_DA | #1 LF-5 | -1.46 | 0.43 | 0.91 | |
| | #1 LF-6 | 0.28 | -2.16 | -3.36 | |
| | #1 LF-7 | 0.02 | 0.02 | 0.02 | |
| | #1 LF-8 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-10 | -0.05 | -0.04 | -0.04 | |
| | #1 LF-11 | 8.58 | 7.73 | 7.34 | |
| | #1 LF-14 | 0.22 | -0.13 | -0.22 | |
| | #1 LF-15 | -0.02 | -0.01 | 0.00 | |
| | #2 LF-3 | 1.07 | 1.89 | 2.13 | |
| | #2 LF-4 | -0.94 | -2.73 | -3.61 | |
| | #2 LF-5 | 1.55 | 0.93 | 0.59 | |
| | #2 LF-6 | 0.01 | 0.05 | 0.06 | |
| | #2 LF-7 | 0.00 | -0.01 | -0.01 | |
| | LF-21 | 0.03 | 0.03 | 0.03 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.26m) | [kN/m] | | |
|----------------|------------|--------------------------------|--------|-------|--|
| W-1.24_2 Gk | LF-1 (g) | 13.82 | 11.35 | 9.05 | |
| | #1 LF-1 | 11.02 | 12.97 | 14.45 | |
| | #2 LF-1 | 12.02 | 16.38 | 20.67 | |
| Ö← | LF-2 | -2.57 | -3.37 | -4.11 | |
| | #1 LF-2 | -2.22 | -2.08 | -1.74 | |
| | #2 LF-2 | -1.49 | -0.40 | 1.03 | |
| Qk.N_E1 | LF-5 | 0.06 | 0.05 | 0.05 | |
| | LF-7 | -11.4 | -13.5 | -15.4 | |
| | LF-8 | -0.02 | -0.02 | -0.03 | |
| | LF-11 | -2.88 | -3.19 | -3.42 | |
| | LF-12 | 0.04 | 0.03 | 0.03 | |
| | LF-13 | -0.03 | -0.03 | -0.04 | |
| | LF-14 | 0.01 | 0.01 | 0.00 | |
| | LF-15 | 8.17 | 9.11 | 9.82 | |
| | LF-19 | 0.04 | 0.02 | 0.02 | |
| | LF-22 | -1.43 | -1.58 | -1.69 | |
| | #1 LF-18 | -0.14 | -0.10 | -0.07 | |
| | #1 LF-22 | -0.01 | -0.01 | 0.00 | |
| | #2 LF-8 | 2.94 | 2.54 | 1.88 | |
| Qk.N_DA | #1 LF-3 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-5 | 0.12 | 0.09 | 0.06 | |
| | #1 LF-6 | -10.1 | -9.46 | -7.91 | |
| | #1 LF-7 | 0.04 | 0.03 | 0.03 | |
| | #1 LF-8 | -0.02 | -0.02 | -0.01 | |
| | #1 LF-10 | -0.76 | -1.02 | -1.35 | |
| | #1 LF-11 | 5.86 | 5.70 | 5.07 | |
| | #1 LF-14 | -0.02 | -0.01 | -0.01 | |
| | #2 LF-3 | 2.28 | 2.09 | 1.70 | |
| | #2 LF-4 | -5.17 | -2.83 | 0.37 | |
| | #2 LF-5 | -0.19 | -0.16 | -0.11 | |
| | #2 LF-6 | 0.02 | 0.01 | 0.00 | |

| | Lastfall | Lasten (3 Abschnitte je 0.26m) | [kN/m] | | |
|---------|---|--------------------------------|--------|------|------|
| Qk.N_T2 | #2 LF-7 | | 0.08 | 0.09 | 0.09 |
| | LF-21 | | 0.05 | 0.07 | 0.08 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.84m) | [kN/m] | | |
|--------------|---|--------------------------------|--------|-------|-------|
| W-1.25 Gk | LF-1 (g) | | 27.74 | 24.81 | 22.07 |
| | #1 LF-1 | | 25.80 | 17.38 | 20.76 |
| | #2 LF-1 | | 19.37 | 24.35 | 25.10 |
| Ö← | LF-2 | | 2.03 | 0.99 | -0.04 |
| | #1 LF-2 | | 1.11 | -1.44 | -0.60 |
| | #2 LF-2 | | 2.03 | 2.38 | 1.32 |
| Qk.N_E1 | LF-4 | | 0.02 | 0.01 | 0.00 |
| | LF-5 | | 1.33 | 0.57 | 0.56 |
| | LF-6 | | 0.03 | 0.01 | 0.00 |
| | LF-7 | | 0.04 | 0.90 | 0.73 |
| | LF-8 | | 0.00 | 0.00 | 0.01 |
| | LF-11 | | -0.04 | -0.57 | -1.32 |
| | LF-12 | | 0.13 | 0.12 | 0.23 |
| | LF-13 | | 2.94 | 5.37 | 3.14 |
| | LF-14 | | -1.08 | -0.95 | -0.10 |
| | LF-15 | | -0.36 | -3.82 | -3.29 |
| | LF-19 | | 0.57 | 0.32 | 0.43 |
| | LF-22 | | -0.08 | 0.04 | -0.44 |
| | #1 LF-18 | | 2.58 | 3.82 | 2.64 |
| | #1 LF-21 | | 0.03 | -0.24 | -0.08 |
| | #1 LF-22 | | 0.54 | -0.57 | -0.10 |
| Qk.N_DA | #1 LF-23 | | 0.02 | 0.01 | 0.00 |
| | #2 LF-8 | | 4.44 | 6.70 | 4.41 |
| | #1 LF-5 | | 1.19 | -0.03 | 0.11 |
| | #1 LF-6 | | -0.52 | -2.55 | -4.79 |
| | #1 LF-7 | | 0.00 | -0.01 | 0.00 |
| | #1 LF-8 | | 0.00 | 0.01 | 0.00 |
| | #1 LF-10 | | 0.00 | 0.04 | 0.05 |
| | #1 LF-11 | | -0.97 | -3.06 | 1.28 |
| | #1 LF-14 | | 0.14 | 0.32 | 0.10 |
| | #1 LF-15 | | -0.19 | -0.14 | -0.04 |
| | #1 LF-16 | | 0.01 | 0.00 | 0.00 |
| | #2 LF-3 | | 2.41 | 3.34 | 2.52 |
| | #2 LF-4 | | -1.42 | -1.62 | -1.91 |
| | #2 LF-5 | | 3.38 | 3.39 | 2.05 |
| | #2 LF-6 | | -0.41 | -0.45 | -0.04 |
| Qk.N_T2 | #2 LF-7 | | 0.10 | 0.09 | 0.01 |
| | LF-21 | | 0.00 | -0.01 | -0.02 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.96m) | [kN/m] | | |
|----------------|-----------|--------------------------------|--------|-------|-------|
| W-1.26_1 Gk | LF-1 (g) | | 22.67 | 16.45 | 22.78 |
| | #1 LF-1 | | 20.18 | 14.32 | 22.91 |
| | #2 LF-1 | | 14.86 | 10.49 | 11.09 |
| Ö← | LF-2 | | 0.02 | -2.34 | 0.35 |
| | #1 LF-2 | | 0.50 | -1.60 | 0.23 |
| | #2 LF-2 | | 0.94 | 1.01 | 0.96 |
| Qk.N_E1 | LF-3 | | 0.35 | 0.52 | 0.16 |
| | LF-4 | | -0.06 | -0.91 | -1.39 |
| | LF-5 | | -2.81 | -9.13 | -9.49 |

| Lastfall Lasten (3 Abschnitte je 0.96m) | | [kN/m] | | |
|---|---|--------|-------|-------|
| LF-6 | | 3.51 | 7.43 | 7.84 |
| LF-7 | | 0.00 | 0.01 | 0.01 |
| LF-11 | | 0.01 | 0.02 | 0.01 |
| LF-12 | | -0.04 | -0.14 | -0.12 |
| LF-13 | | 0.00 | 0.00 | 0.02 |
| LF-14 | | 1.07 | 5.78 | 9.39 |
| LF-17 | | 0.17 | 0.30 | 0.09 |
| LF-18 | | -0.33 | -3.17 | -0.93 |
| LF-19 | | -1.38 | -3.93 | -3.93 |
| LF-22 | | 0.03 | 0.10 | 0.08 |
| #1 LF-18 | | 0.00 | 0.00 | 0.01 |
| #1 LF-19 | | 2.09 | 5.46 | 3.56 |
| #1 LF-20 | | 0.30 | -0.40 | -0.19 |
| #1 LF-21 | | 0.00 | -0.07 | -0.26 |
| #1 LF-22 | | 3.59 | 7.20 | 9.95 |
| #1 LF-23 | | 2.58 | 5.02 | 5.41 |
| #2 LF-8 | | 0.00 | 0.01 | 0.05 |
| Qk.N_DA | #1 LF-3 | 0.30 | 0.88 | 0.38 |
| | #1 LF-4 | -0.09 | -0.05 | 0.00 |
| | #1 LF-5 | -5.47 | -10.9 | -10.1 |
| | #1 LF-6 | 0.04 | 0.10 | 0.07 |
| | #1 LF-10 | 0.02 | 0.05 | 0.03 |
| | #1 LF-12 | 1.62 | -2.72 | -1.34 |
| | #1 LF-14 | 0.00 | 0.00 | 0.01 |
| | #1 LF-15 | 0.01 | -0.03 | -0.15 |
| | #1 LF-16 | 0.54 | 1.54 | 1.68 |
| | #2 LF-3 | 0.00 | 0.00 | 0.02 |
| | #2 LF-4 | -1.08 | -0.26 | -2.04 |
| | #2 LF-5 | 0.00 | -0.01 | -0.07 |
| | #2 LF-6 | -0.06 | -0.07 | 0.45 |
| | #2 LF-7 | 3.02 | 2.36 | 3.56 |
| | LF-20 | -0.14 | -0.13 | -0.01 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| | | | | |
| Lastfall Lasten (3 Abschnitte je 0.24m) | | [kN/m] | | |
| Gk | LF-1 (g) | 47.34 | 46.94 | 46.30 |
| | #1 LF-1 | 35.89 | 34.90 | 33.56 |
| | #2 LF-1 | 23.89 | 24.75 | 24.98 |
| Ö← | LF-2 | 10.13 | 10.04 | 9.85 |
| | #1 LF-2 | 4.80 | 4.91 | 4.90 |
| | #2 LF-2 | 2.23 | 2.19 | 2.09 |
| Qk.N_E1 | LF-3 | 0.01 | 0.01 | 0.01 |
| | LF-4 | 0.37 | 0.43 | 0.44 |
| | LF-5 | 4.33 | 4.09 | 3.58 |
| | LF-6 | 0.22 | -0.51 | -0.91 |
| | LF-7 | -0.01 | -0.01 | -0.01 |
| | LF-11 | -0.03 | -0.02 | -0.01 |
| | LF-12 | 0.19 | 0.14 | 0.09 |
| | LF-13 | 0.05 | 0.03 | 0.01 |
| | LF-14 | 13.07 | 13.96 | 14.74 |
| | LF-15 | -0.02 | -0.02 | -0.01 |
| | LF-18 | 0.05 | 0.05 | 0.04 |
| | LF-19 | 1.76 | 1.66 | 1.44 |
| | LF-22 | -0.14 | -0.10 | -0.06 |
| | #1 LF-18 | -0.02 | -0.05 | -0.07 |
| | | | | |

| | | Lastfall Lasten (3 Abschnitte je 0.24m) | | | [kN/m] |
|---|------------|---|-------|-------|--------|
| Qk.N_DA | #1 LF-19 | -0.09 | -0.10 | -0.10 | |
| | #1 LF-21 | 1.59 | 2.21 | 2.62 | |
| | #1 LF-22 | 9.60 | 9.85 | 10.05 | |
| | #1 LF-23 | 1.34 | 0.83 | 0.50 | |
| | #2 LF-8 | 0.08 | 0.02 | -0.04 | |
| | #1 LF-3 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-5 | 1.25 | 1.20 | 0.92 | |
| | #1 LF-6 | -0.08 | -0.03 | 0.01 | |
| | #1 LF-11 | 0.00 | 0.01 | 0.02 | |
| | #1 LF-12 | 0.04 | 0.04 | 0.04 | |
| | #1 LF-14 | -0.01 | -0.01 | -0.02 | |
| | #1 LF-15 | 0.00 | 0.15 | 0.27 | |
| | #1 LF-16 | 0.01 | -0.14 | -0.22 | |
| | #2 LF-3 | 0.02 | 0.00 | -0.02 | |
| | #2 LF-4 | -6.99 | -7.35 | -7.52 | |
| | #2 LF-5 | 0.10 | 0.30 | 0.47 | |
| | #2 LF-6 | 3.90 | 4.26 | 4.46 | |
| | #2 LF-7 | 7.43 | 7.17 | 6.79 | |
| Qk.N_T2 | LF-20 | 0.00 | -0.01 | -0.01 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.24m) | | | [kN/m] |
| W-1.26_3 Gk | LF-1 (g) | 32.45 | 31.35 | 30.81 | |
| | #1 LF-1 | 25.77 | 25.90 | 24.99 | |
| | #2 LF-1 | 37.50 | 39.29 | 38.86 | |
| Ö← | LF-2 | 4.74 | 4.27 | 4.03 | |
| | #1 LF-2 | 3.41 | 3.29 | 3.07 | |
| | #2 LF-2 | 2.20 | 2.35 | 2.37 | |
| Qk.N_E1 | LF-4 | 0.04 | 0.00 | -0.03 | |
| | LF-5 | -5.28 | -5.49 | -5.38 | |
| | LF-6 | -0.65 | -0.48 | -0.37 | |
| | LF-7 | 0.02 | 0.02 | 0.01 | |
| | LF-11 | 0.08 | 0.08 | 0.08 | |
| | LF-12 | -0.42 | -0.41 | -0.38 | |
| | LF-13 | -0.70 | -0.89 | -1.02 | |
| | LF-14 | 18.68 | 18.07 | 17.43 | |
| | LF-15 | 0.15 | 0.20 | 0.23 | |
| | LF-18 | 0.01 | 0.01 | 0.01 | |
| | LF-19 | -2.26 | -2.33 | -2.28 | |
| | LF-22 | 0.30 | 0.27 | 0.24 | |
| | #1 LF-18 | -0.53 | -0.55 | -0.52 | |
| | #1 LF-19 | -0.02 | -0.02 | -0.01 | |
| | #1 LF-21 | 6.01 | 6.14 | 5.95 | |
| | #1 LF-22 | 11.42 | 11.23 | 10.58 | |
| | #1 LF-23 | -0.42 | -0.39 | -0.34 | |
| | #2 LF-8 | -1.06 | -1.15 | -1.15 | |
| Qk.N_DA | #1 LF-5 | -5.78 | -6.09 | -6.03 | |
| | #1 LF-6 | 0.62 | 0.66 | 0.67 | |
| | #1 LF-11 | 0.25 | 0.28 | 0.29 | |
| | #1 LF-12 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-14 | -0.21 | -0.23 | -0.23 | |
| | #1 LF-15 | 1.35 | 1.38 | 1.33 | |
| | #1 LF-16 | -0.28 | -0.25 | -0.21 | |
| | #2 LF-3 | -0.32 | -0.34 | -0.33 | |
| | #2 LF-4 | -5.70 | -5.26 | -4.73 | |

Lastfall Lasten (3 Abschnitte je 0.24m) [kN/m]

| | | | | |
|----|------|------|-------|-------|
| #2 | LF-5 | 3.54 | 3.86 | 3.90 |
| #2 | LF-6 | 6.41 | 6.52 | 6.30 |
| #2 | LF-7 | 0.46 | -0.08 | -0.40 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.26_4

Gk

Lastfall Lasten (3 Abschnitte je 0.08m) [kN/m]

| | | | |
|-----------|-------|-------|-------|
| LF-1 (g) | 29.47 | 29.41 | 29.36 |
| #1 LF-1 | 22.44 | 22.69 | 22.95 |
| #2 LF-1 | 20.29 | 20.22 | 20.16 |

Ö←

| | | | |
|-----------|------|------|------|
| LF-2 | 2.90 | 2.87 | 2.84 |
| #1 LF-2 | 1.24 | 1.19 | 1.13 |
| #2 LF-2 | 1.72 | 1.74 | 1.77 |

Qk.N_E1

| | | | |
|------------|-------|-------|-------|
| LF-5 | 0.32 | 0.41 | 0.50 |
| LF-6 | 0.02 | 0.02 | 0.02 |
| LF-7 | -0.02 | -0.02 | -0.02 |
| LF-11 | -0.02 | -0.03 | -0.03 |
| LF-12 | 0.06 | 0.06 | 0.06 |
| LF-13 | 1.56 | 1.92 | 2.27 |
| LF-14 | 3.76 | 3.27 | 2.78 |
| LF-15 | -0.03 | -0.09 | -0.15 |
| LF-19 | 0.12 | 0.15 | 0.18 |
| LF-22 | -0.06 | -0.05 | -0.04 |
| #1 LF-18 | 1.84 | 1.95 | 2.07 |
| #1 LF-21 | 2.18 | 2.11 | 2.03 |
| #1 LF-22 | 2.29 | 2.12 | 1.94 |
| #1 LF-23 | -0.01 | -0.01 | 0.00 |
| #2 LF-8 | 0.55 | 0.65 | 0.75 |

Qk.N_DA

| | | | |
|------------|-------|-------|-------|
| #1 LF-5 | -2.29 | -2.28 | -2.28 |
| #1 LF-6 | 0.14 | 0.12 | 0.10 |
| #1 LF-11 | -0.17 | -0.19 | -0.22 |
| #1 LF-14 | 0.20 | 0.22 | 0.24 |
| #1 LF-15 | 0.33 | 0.32 | 0.30 |
| #2 LF-3 | 0.53 | 0.58 | 0.63 |
| #2 LF-4 | -0.45 | -0.38 | -0.31 |
| #2 LF-5 | 2.69 | 2.70 | 2.72 |
| #2 LF-6 | 1.09 | 0.98 | 0.86 |
| #2 LF-7 | -0.41 | -0.39 | -0.37 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.27

Gk

Lastfall Lasten (9 Abschnitte je 0.94m) [kN/m]

| | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| LF-1 (g) | 4.13 | 44.08 | 47.19 | 45.63 | 55.27 | 79.62 | 61.23 |
| | 34.90 | 4.22 | | | | | |
| #1 LF-1 | 36.07 | 52.00 | 61.53 | 63.07 | 59.77 | 52.26 | 42.82 |
| | 31.16 | 20.82 | | | | | |
| #2 LF-1 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 | -0.01 |
| | -0.22 | 0.20 | | | | | |

Ö←

| | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| LF-2 | -6.50 | 7.68 | 8.84 | 8.31 | 11.53 | 20.32 | 14.41 |
| | 4.73 | -7.33 | | | | | |
| #1 LF-2 | 7.42 | 9.61 | 12.33 | 12.96 | 11.98 | 9.64 | 6.58 |
| | 2.44 | -1.79 | | | | | |
| #2 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 |
| | 0.07 | -0.01 | | | | | |

Qk.N_E1

| | | | | | | | |
|------|--------|-------|-------|-------|-------|-------|-------|
| LF-3 | -12.52 | 14.32 | 16.55 | 15.50 | 16.13 | 25.23 | 17.03 |
| | 3.69 | -7.52 | | | | | |
| LF-4 | -0.34 | 0.09 | 0.24 | 0.67 | -1.70 | -7.64 | -6.85 |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | -6.45 | -14.9 | | | | | | |
| LF-5 | -0.08 | 0.02 | 0.05 | 0.14 | -0.15 | -1.34 | -1.67 | |
| | -2.50 | -8.49 | | | | | | |
| LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | |
| | 0.07 | -0.17 | | | | | | |
| LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | -0.01 | -0.02 | | | | | | |
| LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | 0.04 | 0.00 | | | | | | |
| LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-17 | -1.92 | 0.52 | 0.68 | 0.69 | 1.23 | 5.27 | 9.24 | |
| | 8.79 | 1.31 | | | | | | |
| LF-18 | 0.29 | -0.07 | -0.09 | -0.08 | -0.16 | -0.88 | -2.04 | |
| | -2.96 | 6.97 | | | | | | |
| LF-19 | -0.02 | 0.01 | 0.01 | 0.04 | -0.03 | -0.36 | -0.49 | |
| | -0.77 | -2.81 | | | | | | |
| LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.01 | | | | | | |
| #1 LF-17 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | |
| | 0.03 | -0.05 | | | | | | |
| #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.05 | -0.18 | |
| | -0.14 | 0.75 | | | | | | |
| #1 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.07 | |
| | 0.03 | -0.22 | | | | | | |
| #1 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | |
| | 0.03 | -0.07 | | | | | | |
| #1 LF-3 | -1.50 | 14.73 | 23.00 | 24.85 | 23.55 | 20.10 | 15.16 | |
| | 7.76 | -2.17 | | | | | | |
| #1 LF-4 | 7.48 | 8.17 | 7.25 | 7.20 | 7.24 | 6.93 | 6.57 | |
| | 6.41 | 5.95 | | | | | | |
| #1 LF-5 | -3.22 | -4.47 | -4.80 | -5.56 | -6.21 | -6.57 | -6.56 | |
| | -8.10 | -12.7 | | | | | | |
| #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.01 | | | | | | |
| #1 LF-10 | 0.12 | -0.05 | -0.10 | -0.13 | -0.14 | -0.18 | -0.13 | |
| | 0.02 | 0.13 | | | | | | |
| #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-12 | 0.17 | -0.08 | -0.20 | -0.27 | -0.41 | -0.92 | -1.84 | |
| | -1.10 | 5.80 | | | | | | |
| #1 LF-13 | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.01 | |
| | 0.00 | 0.01 | | | | | | |
| #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | |
| | 0.02 | -0.06 | | | | | | |
| #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.12 | |
| | 0.26 | -0.04 | | | | | | |
| #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | |
| | -0.12 | 0.02 | | | | | | |

Qk.N_DA

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|--------------|---|---|-------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | LF-20 | 1.04 | 0.50 | 0.17 | -0.44 | 7.56 | 19.52 | 12.23 | |
| | | 8.60 | 10.02 | | | | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |
| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
| W-1.28 Gk | LF-1 (g) | 0.61 | 43.39 | 45.53 | 46.70 | 59.01 | 53.58 | 87.32 | |
| | | 83.50 | 200.4 | | | | | | |
| | #1 LF-1 | 21.87 | 48.49 | 63.14 | 72.38 | 61.84 | 36.81 | 57.43 | |
| Ö← | | 100.76 | 166.0 | | | | | | |
| | #2 LF-1 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.07 | 0.09 | |
| | | -0.38 | -1.71 | | | | | | |
| | LF-2 | -6.40 | 7.30 | 8.13 | 8.60 | 12.71 | 10.51 | 22.95 | |
| | | 21.75 | 64.04 | | | | | | |
| | #1 LF-2 | 2.20 | 8.36 | 12.79 | 15.86 | 12.53 | 4.56 | 11.15 | |
| | | 24.47 | 44.20 | | | | | | |
| | #2 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | | -0.03 | -0.18 | | | | | | |
| Qk.N_E1 | LF-3 | -0.27 | 0.06 | 0.15 | 0.22 | -2.13 | -4.64 | -4.16 | |
| | | -1.71 | -1.46 | | | | | | |
| | LF-4 | -14.65 | 14.16 | 16.04 | 17.10 | 19.91 | 12.63 | 38.17 | |
| | | 28.36 | 48.04 | | | | | | |
| | LF-5 | -1.54 | 0.08 | -0.08 | -0.19 | 0.64 | -0.35 | 2.73 | |
| | | 6.26 | 34.97 | | | | | | |
| | LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.06 | |
| | | -0.05 | -1.23 | | | | | | |
| | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | |
| | | -0.01 | 0.04 | | | | | | |
| | LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | | 0.01 | 0.19 | | | | | | |
| | LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | LF-17 | -0.07 | 0.02 | 0.04 | 0.06 | -0.44 | -1.10 | -1.19 | |
| | | -0.66 | -0.92 | | | | | | |
| | LF-18 | 0.03 | 0.00 | 0.00 | -0.01 | 0.00 | 0.01 | -0.43 | |
| | | 0.66 | 11.10 | | | | | | |
| | LF-19 | -0.29 | 0.00 | -0.05 | -0.09 | 0.09 | -0.31 | 0.12 | |
| | | 2.78 | 22.31 | | | | | | |
| | LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | | 0.01 | -0.02 | | | | | | |
| | #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | | -0.01 | -0.11 | | | | | | |
| | #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.07 | |
| | | 0.08 | 0.56 | | | | | | |
| | #1 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.01 | | | | | | |
| | #1 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.02 | 0.08 | | | | | | |
| | #1 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | |
| | | -0.06 | -0.46 | | | | | | |
| Qk.N_DA | #1 LF-3 | -4.70 | -4.54 | -4.73 | -5.83 | -5.07 | -2.93 | -2.90 | |
| | | -2.56 | -1.79 | | | | | | |

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|----------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #1 LF-4 | 8.92 | 8.37 | 7.35 | 7.50 | 6.74 | 5.21 | 5.63 |
| | | 6.32 | 6.49 | | | | | |
| | #1 LF-5 | -5.15 | 12.84 | 23.28 | 29.93 | 23.24 | 7.00 | 19.87 |
| | | 43.23 | 75.14 | | | | | |
| | #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 |
| | | 0.01 | 0.00 | | | | | |
| | #1 LF-10 | 0.03 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 |
| | | 0.03 | 0.03 | | | | | |
| | #1 LF-12 | 0.07 | 0.06 | 0.08 | 0.11 | 0.07 | -0.19 | -0.55 |
| | | 1.66 | 8.57 | | | | | |
| | #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.03 |
| | | -0.09 | -0.51 | | | | | |
| | #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #2 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.03 | | | | | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.03 |
| | | -0.07 | -0.40 | | | | | |
| | LF-20 | 1.06 | 0.53 | 0.29 | 0.15 | 7.44 | 15.07 | 10.82 |
| | | 7.17 | 8.11 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.29

| Lastfall | | Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|----------|------------|--------------------------------|-------|-------|--------|
| Gk | LF-1 (g) | 65.70 | 135.3 | 233.2 | |
| | #1 LF-1 | 96.40 | 159.2 | 227.0 | |
| | #2 LF-1 | -0.01 | -0.01 | -0.01 | |
| Ö← | LF-2 | 28.96 | 59.04 | 102.9 | |
| | #1 LF-2 | 33.87 | 55.51 | 78.90 | |
| Qk.N_E1 | LF-3 | 0.03 | 0.22 | 0.47 | |
| | LF-4 | 29.26 | 64.69 | 114.3 | |
| | LF-5 | -4.23 | 5.29 | 17.91 | |
| | LF-6 | 0.01 | 0.00 | -0.01 | |
| | LF-7 | 0.00 | 0.00 | 0.01 | |
| | LF-11 | 0.00 | 0.01 | 0.03 | |
| | LF-12 | 0.04 | -0.06 | -0.20 | |
| | LF-13 | 0.00 | 0.00 | 0.01 | |
| | LF-14 | -0.01 | 0.01 | 0.02 | |
| | LF-15 | 0.00 | 0.00 | 0.00 | |
| | LF-17 | 0.01 | 0.06 | 0.13 | |
| | LF-18 | 0.01 | -0.05 | -0.13 | |
| | LF-19 | -0.34 | 0.33 | 1.18 | |
| | LF-22 | 0.00 | 0.02 | 0.06 | |
| | #1 LF-21 | 0.00 | 0.00 | 0.01 | |
| | #1 LF-23 | 0.00 | -0.01 | -0.01 | |
| Qk.N_DA | #1 LF-3 | 0.18 | 0.39 | 0.60 | |
| | #1 LF-4 | -0.16 | -0.33 | -0.51 | |
| | #1 LF-5 | 31.61 | 54.92 | 79.54 | |
| | #1 LF-6 | 0.19 | 0.40 | 0.64 | |
| | #1 LF-10 | 0.00 | 0.00 | -0.01 | |

D-400

Schulcampus EWK \

10G-LP4

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| Qk.N_T2 | #1 | LF-11 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-12 | -0.01 | -0.01 | -0.02 |
| | #1 | LF-15 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-16 | -0.01 | -0.01 | -0.01 |
| | #2 | LF-4 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-7 | 0.00 | -0.01 | -0.01 |
| | LF-20 | | -0.06 | -0.38 | -0.79 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|--------------|---|--------------------------------|--------|-------|-------|
| W-1.30 Gk | LF-1 (g) | | 198.7 | 172.1 | 195.8 |
| | #1 | LF-1 | 146.4 | 241.8 | 361.1 |
| | #2 | LF-1 | -0.17 | -0.36 | -0.60 |
| Ö← | LF-2 | | 87.90 | 76.06 | 88.05 |
| | #1 | LF-2 | 51.08 | 84.51 | 126.3 |
| | #2 | LF-2 | -0.01 | -0.03 | -0.05 |
| Qk.N_E1 | LF-3 | | 0.28 | 0.08 | -0.11 |
| | LF-4 | | 57.95 | 16.08 | -21.4 |
| | LF-5 | | 50.15 | 73.56 | 122.8 |
| | LF-6 | | -0.07 | -0.10 | -0.17 |
| | LF-7 | | 0.03 | 0.00 | -0.03 |
| | LF-11 | | 0.06 | 0.01 | -0.05 |
| | LF-12 | | -0.48 | -0.01 | 0.59 |
| | LF-13 | | 0.01 | 0.00 | -0.03 |
| | LF-14 | | 0.05 | -0.01 | -0.08 |
| | LF-15 | | 0.01 | 0.00 | -0.01 |
| | LF-17 | | 0.08 | 0.02 | -0.03 |
| | LF-18 | | -0.13 | -0.05 | 0.02 |
| | LF-19 | | 2.61 | 4.28 | 7.52 |
| | LF-22 | | 0.11 | 0.16 | 0.26 |
| | #1 | LF-18 | 0.00 | 0.00 | -0.01 |
| | #1 | LF-19 | 0.00 | 0.00 | -0.01 |
| | #1 | LF-21 | 0.00 | -0.01 | -0.03 |
| | #1 | LF-22 | 0.01 | 0.03 | 0.05 |
| | #1 | LF-23 | -0.03 | -0.05 | -0.07 |
| Qk.N_DA | #1 | LF-3 | 0.13 | 0.13 | 0.14 |
| | #1 | LF-4 | -0.10 | -0.11 | -0.13 |
| | #1 | LF-5 | 52.09 | 86.07 | 128.6 |
| | #1 | LF-6 | -0.63 | -0.97 | -1.29 |
| | #1 | LF-11 | -0.01 | -0.02 | -0.03 |
| | #1 | LF-12 | 0.00 | 0.00 | -0.01 |
| | #1 | LF-14 | 0.00 | -0.01 | -0.01 |
| | #1 | LF-15 | -0.01 | -0.03 | -0.04 |
| | #1 | LF-16 | -0.03 | -0.06 | -0.09 |
| | #2 | LF-4 | 0.00 | -0.01 | -0.02 |
| | #2 | LF-5 | 0.00 | -0.01 | -0.01 |
| | #2 | LF-7 | -0.03 | -0.04 | -0.06 |
| Qk.N_T2 | LF-20 | | -0.46 | -0.12 | 0.19 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|--------------|----------|--------------------------------|--------|-------|-------|
| W-1.31 Gk | LF-1 (g) | | 213.0 | 116.1 | 53.55 |
| | #1 | LF-1 | 107.9 | 122.1 | 142.4 |
| | #2 | LF-1 | -0.30 | -0.20 | -0.15 |
| Ö← | LF-2 | | 97.30 | 51.92 | 23.10 |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|---------------------------------------|---|--------------------------------|--------|--|--|
| Qk.N_E1 | #1 LF-2 | 37.99 42.96 | 50.07 | | |
| | #2 LF-2 | -0.02 -0.01 | -0.01 | | |
| | LF-3 | -0.06 -0.02 | 0.01 | | |
| | LF-4 | -8.70 -2.42 | 1.56 | | |
| | LF-5 | 115.1 47.41 | 2.09 | | |
| | LF-6 | -0.07 -0.02 | 0.02 | | |
| | LF-7 | -0.33 -0.37 | -0.45 | | |
| | LF-11 | -0.71 -0.91 | -1.20 | | |
| | LF-12 | 9.52 12.56 | 16.30 | | |
| | LF-13 | -0.06 -0.03 | -0.01 | | |
| | LF-14 | -0.11 -0.04 | 0.01 | | |
| | LF-15 | -0.04 -0.03 | -0.02 | | |
| | LF-17 | -0.02 0.00 | 0.00 | | |
| | LF-18 | 0.02 0.01 | 0.00 | | |
| | LF-19 | 7.06 2.75 | -0.20 | | |
| | LF-22 | -4.27 -8.36 | -13.1 | | |
| | #1 LF-18 | -0.01 -0.01 | -0.01 | | |
| | #1 LF-21 | -0.02 -0.02 | -0.01 | | |
| | #1 LF-22 | 0.02 0.01 | 0.01 | | |
| Qk.N_DA | #1 LF-23 | -0.02 -0.01 | -0.01 | | |
| | #1 LF-3 | -0.01 -0.03 | -0.05 | | |
| | #1 LF-4 | 0.01 0.03 | 0.04 | | |
| | #1 LF-5 | 38.52 42.33 | 48.34 | | |
| | #1 LF-6 | -3.76 -6.75 | -9.59 | | |
| | #1 LF-11 | -0.04 -0.05 | -0.06 | | |
| | #1 LF-12 | -0.01 0.00 | 0.00 | | |
| | #1 LF-14 | -0.01 -0.01 | -0.01 | | |
| | #1 LF-15 | -0.03 -0.03 | -0.03 | | |
| | #1 LF-16 | -0.02 -0.02 | -0.02 | | |
| | #2 LF-4 | -0.02 -0.01 | -0.01 | | |
| | #2 LF-5 | -0.02 -0.01 | -0.01 | | |
| | #2 LF-7 | -0.01 -0.01 | 0.00 | | |
| Qk.N_T2 | LF-20 | 0.09 0.03 | -0.01 | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-1.32 Gk Ö← Qk.N_E1 | Lastfall | Lasten (3 Abschnitte je 0.83m) | [kN/m] | | |
| | LF-1 (g) | 122.4 54.57 | 81.18 | | |
| | #1 LF-1 | 99.28 69.64 | 84.99 | | |
| | #2 LF-1 | 6.96 0.11 | -0.69 | | |
| | LF-2 | 37.60 12.30 | 22.86 | | |
| | #1 LF-2 | 24.00 15.00 | 20.05 | | |
| | #2 LF-2 | 0.69 0.00 | -0.14 | | |
| | LF-3 | -0.03 -0.01 | 0.01 | | |
| | LF-4 | -0.44 -0.39 | 0.86 | | |
| | LF-5 | 40.29 12.95 | 23.69 | | |
| | LF-6 | 8.29 1.74 | -1.43 | | |
| | LF-7 | -0.05 -0.03 | -0.02 | | |
| | LF-11 | -0.11 -0.06 | -0.04 | | |
| | LF-12 | 0.92 0.46 | 0.50 | | |
| | LF-13 | 0.01 0.04 | -0.02 | | |
| | LF-14 | -1.80 -0.42 | 3.21 | | |
| | LF-15 | -0.02 -0.02 | 0.00 | | |
| | LF-18 | -1.13 -0.04 | 0.05 | | |
| | LF-19 | 24.96 8.83 | 15.85 | | |
| | LF-22 | -0.60 -0.31 | -0.27 | | |

| | | Lastfall Lasten (3 Abschnitte je 0.83m) | | | | [kN/m] | | |
|---|------------|---|-------|-------|--|--------|--|--|
| Qk.N_DA | #1 LF-18 | 0.01 | 0.01 | -0.05 | | | | |
| | #1 LF-19 | 0.11 | -0.03 | -0.05 | | | | |
| | #1 LF-20 | -0.06 | 0.00 | 0.01 | | | | |
| | #1 LF-21 | -0.38 | -0.33 | 0.26 | | | | |
| | #1 LF-22 | -0.67 | 0.04 | 0.04 | | | | |
| | #1 LF-23 | 1.61 | 0.12 | -0.48 | | | | |
| | #2 LF-8 | 0.01 | 0.02 | 0.01 | | | | |
| | #1 LF-3 | -0.03 | -0.01 | 0.02 | | | | |
| | #1 LF-4 | -0.08 | 0.00 | -0.01 | | | | |
| | #1 LF-5 | 43.71 | 28.24 | 38.64 | | | | |
| | #1 LF-6 | -0.61 | -0.53 | -0.96 | | | | |
| | #1 LF-11 | -0.03 | -0.02 | 0.00 | | | | |
| | #1 LF-12 | -0.72 | -0.02 | 0.04 | | | | |
| | #1 LF-14 | -0.01 | 0.00 | -0.07 | | | | |
| | #1 LF-15 | -0.36 | 0.29 | 2.02 | | | | |
| | #1 LF-16 | 5.17 | 1.87 | 0.07 | | | | |
| | #2 LF-3 | 0.01 | 0.01 | 0.00 | | | | |
| | #2 LF-4 | -0.03 | -0.13 | 0.11 | | | | |
| Qk.N_T2 | #2 LF-5 | -0.07 | -0.07 | 0.00 | | | | |
| | #2 LF-6 | -0.22 | -0.09 | 0.08 | | | | |
| | #2 LF-7 | 1.70 | 0.29 | -0.47 | | | | |
| | LF-20 | -0.08 | 0.01 | -0.01 | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |

W-1.33

Gk

Ö←

Qk.N_E1

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] | |
|---------|-----------|---|-------|-------|-------|-------|-------|-------|--------|--|
| Gk | LF-1 | -30.86 | -1.63 | 12.59 | 20.54 | 24.40 | 25.29 | 23.93 | | |
| | | 20.07 | -14.4 | | | | | | | |
| | #1 LF-1 | 12.12 | 20.12 | 37.46 | 45.67 | 49.52 | 50.59 | 49.34 | | |
| | | 43.67 | 27.95 | | | | | | | |
| Ö← | #2 LF-1 | 0.12 | 0.06 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | | |
| | | 0.00 | -0.02 | | | | | | | |
| | LF-2 | -2.98 | 8.22 | 13.58 | 16.52 | 17.95 | 18.28 | 17.70 | | |
| | | 16.13 | 8.80 | | | | | | | |
| Qk.N_E1 | #1 LF-2 | 4.65 | 8.87 | 14.91 | 17.56 | 18.79 | 19.13 | 18.70 | | |
| | | 16.98 | 12.82 | | | | | | | |
| | #2 LF-2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | | | | | | | |
| | LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | | | | | | | |
| | LF-4 | 0.52 | -0.08 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | | | | | | | |
| | LF-5 | -13.77 | -3.27 | -1.91 | -1.11 | -0.63 | -0.37 | -0.23 | | |
| | | -0.18 | 0.93 | | | | | | | |
| | LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | | | | | | | |
| | LF-7 | -0.30 | -0.13 | -0.03 | 0.09 | 0.17 | 0.22 | 0.24 | | |
| | | 0.24 | -1.43 | | | | | | | |
| | LF-11 | -0.89 | -0.23 | 0.14 | 0.46 | 0.66 | 0.73 | 0.74 | | |
| | | 0.73 | -4.43 | | | | | | | |
| | LF-12 | -0.65 | -3.01 | -1.51 | -0.76 | -0.42 | -0.24 | -0.15 | | |
| | | -0.11 | 0.59 | | | | | | | |
| | LF-13 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | | | | | | | |
| | LF-14 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | | | | | | | |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | LF-15 | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | LF-19 | -1.60 | -0.66 | -0.43 | -0.28 | -0.18 | -0.12 | -0.08 |
| | | -0.06 | 0.33 | | | | | |
| | LF-22 | -9.29 | 6.01 | 12.63 | 16.24 | 17.86 | 17.94 | 16.78 |
| | | 14.08 | -10.7 | | | | | |
| | #1 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-21 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-22 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-23 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-5 | -8.34 | -7.72 | -3.60 | -1.97 | -1.17 | -0.71 | -0.47 |
| | | -0.14 | 1.31 | | | | | |
| | #1 LF-6 | -7.04 | 3.88 | 10.05 | 13.25 | 14.84 | 15.09 | 14.31 |
| | | 9.60 | -8.84 | | | | | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | | 0.00 | -0.06 | | | | | |
| | #1 LF-14 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-15 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-16 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | #2 LF-4 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-5 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

W-1.34

| | | Lastfall Lasten (3 Abschnitte je 0.84m) | | | [kN/m] |
|---------|-----------|---|-------|-------|--------|
| Gk | LF-1 (g) | 110.5 | 75.43 | 46.55 | |
| | #1 LF-1 | 43.77 | 45.31 | 48.32 | |
| | #2 LF-1 | -0.11 | 0.32 | -0.36 | |
| Ö← | LF-2 | 34.54 | 21.31 | 10.10 | |
| | #1 LF-2 | 10.34 | 9.97 | 9.30 | |
| Qk.N_E1 | LF-4 | 0.14 | -0.02 | -0.05 | |
| | LF-5 | 38.60 | 20.45 | 10.07 | |
| | LF-6 | -0.01 | 0.01 | 0.00 | |
| | LF-7 | -0.67 | -0.69 | -1.27 | |

D-404

| Lastfall Lasten (3 Abschnitte je 0.84m) | | [kN/m] | | |
|---|---|-----------------------------------|-------|-------|
| LF-11 | | -1.32 | -1.44 | -2.08 |
| LF-12 | | 6.15 | 5.06 | 4.20 |
| LF-13 | | 3.30 | 5.94 | 2.76 |
| LF-14 | | -0.91 | -0.90 | -0.17 |
| LF-15 | | -0.54 | -1.82 | -1.94 |
| LF-18 | | 0.00 | 0.00 | 0.00 |
| LF-19 | | 24.52 | 17.60 | 11.95 |
| LF-22 | | -5.28 | -4.83 | -5.29 |
| Qk.N_DA | #1 LF-18 | 0.29 | 0.63 | 0.14 |
| | #1 LF-21 | -0.28 | -0.31 | -0.17 |
| | #1 LF-22 | 0.08 | 0.09 | 0.08 |
| | #1 LF-23 | 0.00 | 0.00 | 0.00 |
| | #2 LF-8 | -0.03 | -0.05 | -0.02 |
| | #1 LF-5 | 24.06 | 29.58 | 31.39 |
| | #1 LF-6 | -4.71 | -10.9 | -15.6 |
| | #1 LF-10 | 0.00 | 0.01 | 0.01 |
| | #1 LF-11 | -0.88 | -1.77 | 0.62 |
| | #1 LF-12 | 0.00 | 0.00 | 0.00 |
| Qk.N_T2 | #1 LF-14 | 1.71 | 2.78 | 2.24 |
| | #1 LF-15 | 0.14 | -0.29 | -0.24 |
| | #1 LF-16 | -0.01 | 0.00 | 0.00 |
| | #2 LF-3 | -0.01 | -0.02 | -0.01 |
| | #2 LF-4 | -0.11 | -0.09 | -0.07 |
| | #2 LF-5 | 0.11 | 0.19 | 0.05 |
| | #2 LF-6 | -0.10 | -0.11 | -0.04 |
| | #2 LF-7 | 0.07 | 0.08 | 0.04 |
| | LF-20 | 0.00 | 0.00 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| WS-1.5_BR | | á bÁÙÈËFÈIÁÓ↔&æ^&æ}↔´â\ÃÑñfib\ ^& | | |
| Lastfall Lasten (1 Abschnitte je 0.89m) | | [kN/m] | | |
| Gk | LF-1 | 0.00 | | |
| WS-1.5_SA_W-1.5_2 | | aus WS-1.5 Sturzanfang | | |
| Lastfall Lasten (1 Abschnitte je 0.08m) | | [kN/m] | | |
| Gk | LF-1 | 31.53 | | |
| | | 120.1 | | |
| Ö← | #1 LF-1 | 176.9 | | |
| | #2 LF-1 | 0.00 | | |
| | LF-2 | 42.01 | | |
| | #1 LF-2 | 25.51 | | |
| Qk.N_E1 | #2 LF-2 | 0.00 | | |
| | LF-3 | -0.21 | | |
| | LF-4 | 0.00 | | |
| | LF-5 | 0.00 | | |
| | LF-6 | 0.00 | | |
| | LF-7 | 4.31 | | |
| | LF-8 | 3.58 | | |
| | LF-9 | 1.90 | | |
| | LF-10 | -12.8 | | |
| | LF-11 | 0.14 | | |
| | LF-12 | 0.00 | | |
| | LF-13 | 0.00 | | |
| | LF-14 | 0.00 | | |
| | LF-15 | 36.30 | | |

| | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|-------------------|----------------------|--------------------------------|--------|
| | LF-16 | | 2.27 |
| | LF-17 | | -0.02 |
| | LF-18 | | 0.32 |
| | LF-19 | | 0.00 |
| | LF-22 | | 0.04 |
| | #1 LF-17 | | -2.68 |
| | #1 LF-18 | | 0.00 |
| | #1 LF-19 | | 0.00 |
| | #1 LF-20 | | 0.00 |
| | #1 LF-21 | | 0.00 |
| | #1 LF-22 | | 0.00 |
| | #1 LF-23 | | 0.00 |
| | #2 LF-8 | | 0.00 |
| Qk.N_DA | #1 LF-3 | | 0.05 |
| | #1 LF-4 | | 0.00 |
| | #1 LF-5 | | 0.00 |
| | #1 LF-6 | | -3.30 |
| | #1 LF-7 | | 11.28 |
| | #1 LF-8 | | 6.21 |
| | #1 LF-9 | | 16.14 |
| | #1 LF-10 | | 0.77 |
| | #1 LF-11 | | 21.99 |
| | #1 LF-12 | | 0.00 |
| | #1 LF-13 | | 0.08 |
| | #1 LF-14 | | 0.00 |
| | #1 LF-15 | | 0.00 |
| | #1 LF-16 | | 0.00 |
| | #2 LF-3 | | 0.00 |
| | #2 LF-4 | | 0.00 |
| | #2 LF-5 | | 0.00 |
| | #2 LF-6 | | 0.00 |
| | #2 LF-7 | | 0.00 |
| Qk.N_T2 | LF-20 | | 0.00 |
| | LF-21 | | 1.83 |
| WS-1.5_SE_W-1.5_1 | | | |
| | aus WS-1.5 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
| Gk | LF-1 | | 3.01 |
| | | | 10.38 |
| | #1 LF-1 | | 14.62 |
| | #2 LF-1 | | 0.00 |
| Ö← | LF-2 | | 3.75 |
| | #1 LF-2 | | 2.23 |
| | #2 LF-2 | | 0.00 |
| Qk.N_E1 | LF-3 | | -0.01 |
| | LF-4 | | 0.00 |
| | LF-5 | | 0.00 |
| | LF-6 | | 0.00 |
| | LF-7 | | 1.01 |
| | LF-8 | | 2.11 |
| | LF-9 | | 0.20 |
| | LF-10 | | -1.19 |
| | LF-11 | | 0.03 |
| | LF-12 | | 0.00 |
| | LF-13 | | 0.00 |
| | | | D-406 |

| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
|----------------------|-------------------------------------|--------------------------------|--------|
| | LF-14 | | 0.00 |
| | LF-15 | | 1.85 |
| | LF-16 | | 0.15 |
| | LF-17 | | 0.00 |
| | LF-18 | | 0.01 |
| | LF-19 | | 0.00 |
| | LF-22 | | 0.01 |
| | #1 LF-17 | | -0.23 |
| | #1 LF-18 | | 0.00 |
| | #1 LF-19 | | 0.00 |
| | #1 LF-20 | | 0.00 |
| | #1 LF-21 | | 0.00 |
| | #1 LF-22 | | 0.00 |
| | #1 LF-23 | | 0.00 |
| | #2 LF-8 | | 0.00 |
| Qk.N_DA | #1 LF-3 | | 0.00 |
| | #1 LF-4 | | 0.00 |
| | #1 LF-5 | | 0.00 |
| | #1 LF-6 | | 0.01 |
| | #1 LF-7 | | 0.58 |
| | #1 LF-8 | | 1.35 |
| | #1 LF-9 | | 1.55 |
| | #1 LF-10 | | -0.05 |
| | #1 LF-11 | | 1.31 |
| | #1 LF-12 | | 0.00 |
| | #1 LF-13 | | -0.10 |
| | #1 LF-14 | | 0.00 |
| | #1 LF-15 | | 0.00 |
| | #1 LF-16 | | 0.00 |
| | #2 LF-3 | | 0.00 |
| | #2 LF-4 | | 0.00 |
| | #2 LF-5 | | 0.00 |
| | #2 LF-6 | | 0.00 |
| | #2 LF-7 | | 0.00 |
| Qk.N_T2 | LF-20 | | 0.00 |
| | LF-21 | | -0.75 |
| WS-T-1.2_BR | á bÁÛÈÜËËFÈGÁÓ↔&æ^&æ}↔´â\ÁÑñfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 1.01m) | [kN/m] |
| | LF-1 | | 0.00 |
| WS-T-1.2_SA_WT-1.2_1 | aus WS-T-1.2 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.29m) | [kN/m] |
| | LF-1 | | 10.34 |
| | | | -85.3 |
| | #1 LF-1 | | 3.46 |
| | #2 LF-1 | | 0.39 |
| Ö← | LF-2 | | -29.5 |
| | #1 LF-2 | | 0.47 |
| | #2 LF-2 | | -0.01 |
| Qk.N_E1 | LF-3 | | 0.00 |
| | LF-4 | | -0.02 |
| | LF-5 | | 14.58 |
| | LF-6 | | -0.01 |
| | LF-7 | | -24.8 |
| | | | D-407 |

| | Lastfall | Lasten (1 Abschnitte je 0.29m) | [kN/m] |
|--|------------|--------------------------------|--------|
| | LF-8 | | -0.01 |
| | LF-9 | | 0.00 |
| | LF-10 | | 0.00 |
| | LF-11 | | -36.7 |
| | LF-12 | | 9.28 |
| | LF-13 | | -1.84 |
| | LF-14 | | 0.06 |
| | LF-15 | | 12.17 |
| | LF-16 | | 0.00 |
| | LF-17 | | 0.00 |
| | LF-18 | | 0.00 |
| | LF-19 | | 22.88 |
| | LF-22 | | -61.6 |
| | #1 LF-17 | | 0.00 |
| | #1 LF-18 | | -0.02 |
| | #1 LF-19 | | 0.00 |
| | #1 LF-20 | | 0.00 |
| | #1 LF-21 | | -0.02 |
| | #1 LF-22 | | 0.04 |
| | #1 LF-23 | | 0.00 |
| | #2 LF-8 | | -0.08 |
| Qk.N_DA | #1 LF-3 | | 0.00 |
| | #1 LF-4 | | 0.00 |
| | #1 LF-5 | | 0.81 |
| | #1 LF-6 | | -1.03 |
| | #1 LF-7 | | 0.00 |
| | #1 LF-8 | | 0.00 |
| | #1 LF-9 | | 0.00 |
| | #1 LF-10 | | 0.02 |
| | #1 LF-11 | | 1.25 |
| | #1 LF-12 | | 0.00 |
| | #1 LF-13 | | 0.00 |
| | #1 LF-14 | | 0.06 |
| | #1 LF-15 | | -0.02 |
| | #1 LF-16 | | 0.00 |
| | #2 LF-3 | | -0.03 |
| | #2 LF-4 | | -0.02 |
| | #2 LF-5 | | 0.02 |
| | #2 LF-6 | | 0.01 |
| | #2 LF-7 | | 0.00 |
| Qk.N_T2 | LF-20 | | 0.00 |
| | LF-21 | | 0.04 |
| WS-T-1.2_SE_WT-1.2_2 aus WS-T-1.2 Sturzende | | | |
| | Lastfall | Lasten (1 Abschnitte je 0.29m) | [kN/m] |
| Gk | LF-1 | | 10.34 |
| | | | -113 |
| | #1 LF-1 | | 0.33 |
| Ö← | #2 LF-1 | | 0.42 |
| | LF-2 | | -40.6 |
| | #1 LF-2 | | -0.12 |
| Qk.N_E1 | #2 LF-2 | | -0.01 |
| | LF-3 | | 0.00 |
| | LF-4 | | -0.02 |
| | LF-5 | | 9.92 |
| | | | D-408 |

| Lastfall Lasten (1 Abschnitte je 0.29m) | | [kN/m] |
|---|--|--------|
| LF-6 | | -0.01 |
| LF-7 | | -25.7 |
| LF-8 | | -0.02 |
| LF-9 | | 0.00 |
| LF-10 | | 0.00 |
| LF-11 | | -40.2 |
| LF-12 | | 7.41 |
| LF-13 | | -1.51 |
| LF-14 | | 0.06 |
| LF-15 | | 14.79 |
| LF-16 | | 0.00 |
| LF-17 | | 0.00 |
| LF-18 | | 0.00 |
| LF-19 | | 18.78 |
| LF-22 | | -71.2 |
| #1 LF-17 | | 0.00 |
| #1 LF-18 | | 0.02 |
| #1 LF-19 | | 0.00 |
| #1 LF-20 | | 0.00 |
| #1 LF-21 | | -0.02 |
| #1 LF-22 | | 0.03 |
| #1 LF-23 | | 0.00 |
| #2 LF-8 | | -0.08 |
| Qk.N_DA | | |
| #1 LF-3 | | 0.00 |
| #1 LF-4 | | 0.00 |
| #1 LF-5 | | -0.57 |
| #1 LF-6 | | -0.31 |
| #1 LF-7 | | 0.00 |
| #1 LF-8 | | 0.00 |
| #1 LF-9 | | 0.00 |
| #1 LF-10 | | 0.01 |
| #1 LF-11 | | 0.83 |
| #1 LF-12 | | 0.00 |
| #1 LF-13 | | 0.00 |
| #1 LF-14 | | -0.01 |
| #1 LF-15 | | -0.01 |
| #1 LF-16 | | 0.00 |
| #2 LF-3 | | -0.03 |
| #2 LF-4 | | -0.03 |
| #2 LF-5 | | 0.02 |
| #2 LF-6 | | 0.01 |
| #2 LF-7 | | 0.00 |
| Qk.N_T2 | | |
| LF-20 | | 0.00 |
| LF-21 | | 0.05 |

WT-1.1

| Lastfall Lasten (9 Abschnitte je 0.96m) | | [kN/m] | | | | | | |
|---|-----------|--------|-------|-------|-------|-------|-------|-------|
| Gk | LF-1 (g) | 272.15 | 75.63 | 24.02 | 91.78 | 91.24 | 75.91 | 64.00 |
| | | 50.72 | 52.29 | | | | | |
| | #1 LF-1 | 282.46 | 95.46 | 29.88 | 72.07 | 83.32 | 75.24 | 66.29 |
| | | 61.26 | 71.45 | | | | | |
| | #2 LF-1 | -1.24 | -0.49 | -0.06 | 0.00 | 0.01 | 0.01 | 0.00 |
| | | 0.00 | -0.01 | | | | | |

Ö←

| | | | | | | | |
|-----------|-------|-------|------|-------|-------|-------|-------|
| LF-2 | 92.16 | 19.97 | 1.04 | 25.46 | 25.17 | 19.58 | 15.26 |
| | 10.10 | 8.51 | | | | | |
| #1 LF-2 | 79.70 | 23.23 | 2.91 | 15.51 | 18.39 | 15.39 | 12.29 |

D-409

| | | Lastfall Lasten (9 Abschnitte je 0.96m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| | | 9.70 | 9.20 | | | | | |
| Qk.N_E1 | #2 LF-2 | -0.36 | -0.09 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-3 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.04 | -0.23 | | | | | |
| | LF-5 | -1.19 | 0.13 | 0.08 | 0.02 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-7 | 105.07 | 31.87 | -1.33 | 40.41 | 39.31 | 29.40 | 21.85 |
| | | 10.39 | -10.7 | | | | | |
| | LF-8 | 0.07 | 0.05 | -0.03 | 0.10 | 0.21 | 0.35 | 0.71 |
| | | 1.21 | -0.30 | | | | | |
| | LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 |
| | | -0.03 | 0.00 | | | | | |
| | LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.03 |
| | | 0.11 | 0.12 | | | | | |
| | LF-11 | 38.94 | 0.21 | -2.32 | 1.09 | 0.80 | 0.21 | -0.04 |
| | | -0.20 | -0.47 | | | | | |
| | LF-12 | -0.70 | 0.07 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-13 | -0.32 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-14 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-15 | 24.76 | 6.90 | 5.52 | 7.61 | 8.35 | 8.18 | 8.14 |
| | | 9.74 | 21.42 | | | | | |
| Qk.N_DA | LF-16 | -0.01 | -0.02 | -0.02 | -0.01 | 0.00 | 0.01 | 0.01 |
| | | 0.04 | 0.40 | | | | | |
| | LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.03 | | | | | |
| | LF-18 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.06 | 0.33 | | | | | |
| | LF-19 | -1.12 | 0.10 | 0.07 | 0.02 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-22 | 14.23 | -0.76 | -1.07 | 0.10 | 0.12 | -0.01 | -0.06 |
| | | -0.09 | -0.14 | | | | | |
| | #1 LF-17 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 |
| | | 0.00 | -0.62 | | | | | |
| | #1 LF-18 | -0.27 | -0.04 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-21 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-8 | -0.08 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-3 | -0.02 | -0.01 | 0.01 | 0.03 | 0.06 | 0.10 | 0.15 |
| | | 0.16 | 0.29 | | | | | |
| | #1 LF-5 | -2.10 | -0.35 | 0.13 | 0.02 | 0.00 | 0.01 | 0.01 |
| | | 0.01 | 0.01 | | | | | |
| | #1 LF-6 | 143.20 | 41.07 | 3.33 | 25.70 | 29.40 | 22.29 | 14.99 |
| | | 5.73 | -5.28 | | | | | |
| | #1 LF-7 | -0.25 | -0.13 | -0.02 | -0.26 | -0.51 | -0.80 | -1.23 |
| | | -0.67 | 2.77 | | | | | |
| | #1 LF-8 | 0.14 | 0.08 | 0.01 | 0.15 | 0.29 | 0.43 | 0.65 |
| | | 0.57 | -0.52 | | | | | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 |
| | | -0.08 | -0.06 | | | | | |

| | | Lastfall Lasten (9 Abschnitte je 0.96m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #1 LF-10 | -2.02 | -1.68 | -1.27 | -0.32 | 0.55 | 1.42 | 2.38 |
| | | 3.66 | 5.88 | | | | | |
| | #1 LF-11 | 20.91 | 7.67 | 3.78 | 5.64 | 6.86 | 7.25 | 7.60 |
| | | 9.75 | 14.21 | | | | | |
| | #1 LF-12 | 0.00 | -0.01 | -0.02 | -0.03 | -0.04 | -0.06 | -0.08 |
| | | -0.08 | -0.11 | | | | | |
| | #1 LF-13 | -0.04 | -0.05 | -0.04 | -0.03 | -0.01 | 0.00 | 0.01 |
| | | 0.23 | 1.58 | | | | | |
| | #1 LF-14 | -0.14 | -0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-15 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-3 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-4 | -0.63 | -0.15 | 0.01 | 0.03 | 0.01 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-5 | -0.09 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-21 | -0.20 | -0.15 | 0.09 | -0.29 | -0.61 | -0.99 | -1.94 |
| | | -2.91 | 2.33 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WT-1.2_1

Gk

Ö←

Qk.N_E1

Qk.N_DA

| | | Lastfall Lasten (3 Abschnitte je 0.29m) | | | [kN/m] |
|---------|------------|---|-------|-------|--------|
| Qk.N_E1 | LF-1 (g) | 45.02 | 33.27 | 20.73 | |
| | #1 LF-1 | 27.76 | 18.81 | 12.64 | |
| | #2 LF-1 | -0.34 | -0.14 | 0.00 | |
| | LF-2 | 10.16 | 5.77 | 1.05 | |
| | #1 LF-2 | 5.33 | 3.57 | 2.36 | |
| | #2 LF-2 | -0.03 | -0.02 | -0.02 | |
| | LF-4 | -0.02 | -0.01 | -0.01 | |
| | LF-5 | 18.87 | 17.29 | 15.23 | |
| | LF-6 | -0.01 | -0.01 | -0.01 | |
| | LF-7 | -5.52 | -7.34 | -9.04 | |
| | LF-11 | -7.97 | -10.4 | -12.8 | |
| | LF-12 | 7.97 | 7.81 | 7.38 | |
| | LF-13 | -0.33 | -0.86 | -1.10 | |
| | LF-14 | -0.04 | -0.01 | 0.01 | |
| | LF-15 | 0.34 | 1.81 | 3.13 | |
| Qk.N_DA | LF-19 | 19.10 | 18.50 | 17.49 | |
| | LF-22 | -16.0 | -19.3 | -22.4 | |
| | #1 LF-18 | -0.17 | -0.14 | -0.10 | |
| | #1 LF-21 | -0.05 | -0.04 | -0.03 | |
| | #1 LF-22 | 0.04 | 0.04 | 0.03 | |
| | #2 LF-8 | -0.02 | -0.03 | -0.04 | |
| | #1 LF-5 | 15.04 | 9.43 | 5.87 | |
| | #1 LF-6 | -7.64 | -4.85 | -3.11 | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-10 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-11 | 2.68 | 2.23 | 1.77 | |
| | #1 LF-14 | 0.73 | 0.46 | 0.29 | |
| | #1 LF-15 | -0.07 | -0.05 | -0.03 | |
| | #2 LF-3 | -0.01 | -0.02 | -0.02 | |
| | #2 LF-4 | -0.03 | -0.02 | -0.02 | |

D-411

Schulcampus EWK \

10G-LP4

| | Lastfall | Lasten (3 Abschnitte je 0.29m) | [kN/m] | | |
|---------|---|--------------------------------|--------|-------|-------|
| Qk.N_T2 | #2 | LF-5 | -0.03 | -0.01 | -0.01 |
| | #2 | LF-6 | 0.00 | 0.01 | 0.01 |
| | #2 | LF-7 | 0.01 | 0.00 | 0.00 |
| | LF-21 | | 0.00 | 0.01 | 0.01 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.29m) | [kN/m] | | |
|---------|---|--------------------------------|--------|-------|-------|
| Gk | LF-1 (g) | | 9.01 | 100.4 | 223.3 |
| | #1 | LF-1 | 1.04 | 3.18 | 5.78 |
| | #2 | LF-1 | 0.28 | 0.32 | 0.38 |
| Ö← | LF-2 | | -4.87 | 28.97 | 74.69 |
| | #1 | LF-2 | 0.31 | 0.93 | 1.70 |
| | #2 | LF-2 | -0.02 | -0.02 | -0.02 |
| Qk.N_E1 | LF-4 | | -0.01 | -0.01 | -0.01 |
| | LF-5 | | -0.31 | -4.02 | -8.43 |
| | LF-6 | | 0.00 | 0.00 | 0.01 |
| | LF-7 | | 2.18 | 22.69 | 48.73 |
| | LF-8 | | 0.00 | 0.00 | 0.01 |
| | LF-11 | | -2.94 | 25.05 | 61.58 |
| | LF-12 | | 0.94 | -1.38 | -4.10 |
| | LF-13 | | -0.54 | -0.48 | -0.45 |
| | LF-14 | | 0.04 | 0.05 | 0.07 |
| | LF-15 | | 12.43 | 14.67 | 17.06 |
| | LF-19 | | 4.22 | 0.39 | -3.68 |
| | LF-22 | | -28.9 | -1.88 | 36.05 |
| | #1 | LF-18 | 0.03 | 0.03 | 0.03 |
| | #1 | LF-22 | 0.01 | 0.01 | 0.01 |
| | #2 | LF-8 | -0.05 | -0.06 | -0.07 |
| Qk.N_DA | #1 | LF-5 | -0.89 | -1.03 | -1.22 |
| | #1 | LF-6 | 1.16 | 2.33 | 3.79 |
| | #1 | LF-7 | 0.00 | 0.00 | -0.01 |
| | #1 | LF-10 | -0.03 | -0.07 | -0.11 |
| | #1 | LF-11 | 0.47 | 0.66 | 0.88 |
| | #1 | LF-14 | -0.03 | -0.02 | -0.01 |
| | #2 | LF-3 | -0.02 | -0.02 | -0.02 |
| | #2 | LF-4 | -0.03 | -0.04 | -0.04 |
| | #2 | LF-5 | 0.01 | 0.01 | 0.02 |
| | #2 | LF-6 | 0.00 | 0.01 | 0.01 |
| Qk.N_T2 | LF-21 | | 0.01 | -0.01 | -0.04 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.78m) | [kN/m] | | |
|---------|----------|--------------------------------|--------|-------|-------|
| Gk | LF-1 (g) | | 115.4 | 105.2 | 111.8 |
| | #1 | LF-1 | 82.02 | 46.74 | 37.02 |
| | #2 | LF-1 | 2.64 | 2.47 | 0.61 |
| Ö← | LF-2 | | 36.21 | 32.34 | 34.81 |
| | #1 | LF-2 | 20.13 | 11.17 | 8.43 |
| | #2 | LF-2 | 0.09 | 0.12 | 0.02 |
| Qk.N_E1 | LF-3 | | 0.01 | 0.00 | 0.00 |
| | LF-4 | | 0.79 | 0.26 | 0.17 |
| | LF-5 | | 38.15 | 33.82 | 39.18 |
| | LF-6 | | -1.05 | -0.34 | -0.07 |
| | LF-7 | | -0.11 | -0.23 | -0.46 |
| | LF-11 | | -0.22 | -0.42 | -0.84 |
| | LF-12 | | 1.78 | 2.77 | 4.68 |

| Lastfall Lasten (3 Abschnitte je 0.78m) | | [kN/m] | | |
|---|---|--------|-------|-------|
| LF-13 | | -0.48 | -1.11 | -0.81 |
| LF-14 | | 6.77 | 6.28 | 2.77 |
| LF-15 | | 0.07 | 0.19 | 0.20 |
| LF-18 | | 0.02 | 0.00 | 0.00 |
| LF-19 | | 22.99 | 21.00 | 23.55 |
| LF-22 | | -1.21 | -2.09 | -3.81 |
| Qk.N_DA | #1 LF-18 | -0.15 | -0.11 | 0.00 |
| | #1 LF-19 | -0.03 | -0.01 | 0.00 |
| | #1 LF-21 | 0.88 | 0.60 | 0.02 |
| | #1 LF-22 | -0.29 | -0.18 | 0.03 |
| | #1 LF-23 | -0.38 | -0.18 | -0.04 |
| | #2 LF-8 | -0.02 | -0.05 | -0.04 |
| | #1 LF-3 | 0.01 | 0.01 | 0.00 |
| | #1 LF-4 | -0.01 | 0.00 | 0.00 |
| | #1 LF-5 | 38.19 | 20.91 | 17.16 |
| | #1 LF-6 | -1.19 | -0.78 | -1.79 |
| | #1 LF-11 | 0.05 | -0.02 | -0.28 |
| | #1 LF-12 | 0.01 | 0.00 | 0.00 |
| | #1 LF-14 | -0.17 | 0.05 | 0.79 |
| | #1 LF-15 | 3.12 | 1.98 | 0.75 |
| | #1 LF-16 | -0.37 | -0.22 | -0.06 |
| | #2 LF-3 | -0.01 | -0.02 | -0.02 |
| Qk.N_T2 | #2 LF-4 | 0.42 | 0.26 | -0.02 |
| | #2 LF-5 | 0.13 | 0.14 | 0.10 |
| | #2 LF-6 | 0.24 | 0.17 | 0.01 |
| | #2 LF-7 | -0.59 | -0.32 | -0.04 |
| | LF-20 | -0.01 | 0.00 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |

j Yf bUW ` } gg] [hY`
Lasten

| Position | in Dokumentation | ↔ ^ Á Q á b \ f i â æ ã & á â ã | | |
|------------|------------------|---------------------------------|---------|--|
| | | positiv | negativ | |
| | [kN] | [kN] | [kN] | |
| W-1.1(1) | -0.01591 | 0.00177 | -0.0015 | |
| W-1.1(2) | 0.00311 | 0.00250 | -0.0001 | |
| W-1.1(3) | 0.01025 | 0.00187 | -0.0001 | |
| W-1.1(4) | 0.00270 | 0.00157 | -0.0001 | |
| W-1.1(5) | -0.01885 | 0.00126 | -0.0001 | |
| W-1.1(6) | 0.00395 | 0.00122 | -0.0017 | |
| W-1.2(1) | -0.00468 | 0.00113 | -0.0011 | |
| W-1.2(2) | 0.00007 | 0.00105 | -0.0017 | |
| W-1.2(3) | 0.00229 | 0.00101 | -0.0022 | |
| W-1.3(1) | 0.01407 | 0.00067 | -0.0022 | |
| W-1.3(2) | 0.01135 | 0.00090 | -0.0020 | |
| W-1.3(3) | 0.01101 | 0.00133 | -0.0023 | |
| W-1.4(1) | 0.00573 | 0.00030 | -0.0019 | |
| W-1.4(2) | 0.00812 | 0.00037 | -0.0028 | |
| W-1.4(3) | 0.01039 | 0.00059 | -0.0041 | |
| W-1.5_1(1) | 0.00177 | 0.00133 | -0.0007 | |
| W-1.5_1(2) | 0.00688 | 0.00073 | -0.0004 | |
| W-1.5_1(3) | 0.00136 | 0.00035 | -0.0002 | |
| W-1.5_1(4) | 0.00519 | 0.00017 | -0.0001 | |
| W-1.5_1(5) | -0.02109 | 0.00003 | -0.0001 | |
| W-1.5_2(1) | 0.00000 | 0.00018 | -0.0004 | |
| W-1.5_2(2) | 0.00000 | 0.00016 | -0.0004 | |

| Position | in Dokumentation | ↔ [^] Qáb\fiâæã&áâæ | |
|-------------|------------------|------------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| W-1.5_2(3) | 0.00000 | 0.00014 | -0.0003 |
| W-1.6(1) | 0.02392 | 0.00117 | -0.0068 |
| W-1.6(2) | -0.03676 | 0.00166 | -0.0002 |
| W-1.6(3) | -0.02718 | 0.00329 | -0.0001 |
| W-1.6(4) | -0.02305 | 0.00238 | -0.0001 |
| W-1.6(5) | -0.01355 | 0.00030 | -0.0002 |
| W-1.6(6) | 0.00567 | 0.00050 | -0.0005 |
| W-1.6(7) | 0.01950 | 0.00165 | -0.0006 |
| W-1.6(8) | -0.00291 | 0.00039 | -0.0008 |
| W-1.6(9) | 0.02192 | 0.00311 | -0.0041 |
| W-1.7(1) | -0.00856 | 0.00283 | -0.0014 |
| W-1.7(2) | -0.00601 | 0.00130 | -0.0022 |
| W-1.7(3) | -0.01102 | 0.00157 | -0.0003 |
| W-1.7(4) | -0.00545 | 0.00189 | -0.0002 |
| W-1.7(5) | -0.01100 | 0.00126 | -0.0001 |
| W-1.7(6) | -0.00198 | 0.00071 | -0.0001 |
| W-1.8(1) | -0.00170 | 0.00245 | -0.0010 |
| W-1.8(2) | 0.00644 | 0.00266 | -0.0007 |
| W-1.8(3) | 0.00840 | 0.00177 | -0.0040 |
| W-1.9(1) | -0.01100 | 0.00245 | -0.0006 |
| W-1.9(2) | -0.01563 | 0.00327 | -0.0004 |
| W-1.9(3) | -0.01424 | 0.00226 | -0.0007 |
| W-1.10(1) | 0.00414 | 0.00049 | -0.0036 |
| W-1.10(2) | 0.00278 | 0.00106 | -0.0007 |
| W-1.10(3) | 0.00780 | 0.00057 | -0.0006 |
| W-1.10(4) | -0.00920 | 0.00026 | -0.0001 |
| W-1.10(5) | 0.00254 | 0.00012 | -0.0001 |
| W-1.10(6) | -0.01324 | 0.00013 | -0.0015 |
| W-1.11_1(1) | -0.01380 | 0.00161 | -0.0011 |
| W-1.11_1(2) | 0.00831 | 0.00049 | -0.0005 |
| W-1.11_1(3) | 0.00248 | 0.00025 | -0.0004 |
| W-1.11_1(4) | -0.00353 | 0.00012 | -0.0002 |
| W-1.11_1(5) | 0.02458 | 0.00004 | -0.0002 |
| W-1.11_1(6) | 0.01784 | 0.00003 | -0.0018 |
| W-1.11_1(7) | 0.02680 | 0.00070 | -0.0011 |
| W-1.11_2(1) | 0.00332 | 0.00144 | -0.0027 |
| W-1.11_2(2) | 0.00092 | 0.00104 | -0.0015 |
| W-1.11_2(3) | -0.00124 | 0.00060 | -0.0008 |
| W-1.12(1) | -0.00086 | 0.00291 | -0.0012 |
| W-1.12(2) | 0.00237 | 0.00165 | -0.0007 |
| W-1.12(3) | 0.00022 | 0.00062 | -0.0003 |
| W-1.13(1) | 0.00179 | 0.00112 | -0.0038 |
| W-1.13(2) | 0.00303 | 0.00043 | -0.0025 |
| W-1.13(3) | -0.01294 | 0.00034 | -0.0019 |
| W-1.14(1) | 0.00383 | 0.00067 | -0.0008 |
| W-1.14(2) | -0.00170 | 0.00076 | -0.0018 |
| W-1.14(3) | 0.00158 | 0.00103 | -0.0030 |
| W-1.15(1) | 0.00113 | 0.00206 | -0.0015 |
| W-1.15(2) | 0.00106 | 0.00171 | -0.0011 |
| W-1.15(3) | -0.00024 | 0.00144 | -0.0009 |
| W-1.16(1) | 0.01875 | 0.00886 | -0.0010 |
| W-1.16(2) | -0.01316 | 0.00018 | -0.0006 |
| W-1.16(3) | -0.01418 | 0.00021 | -0.0004 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâæã&áâæ | |
|--|------------------|------------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| W-1.16(4) | -0.00960 | 0.00024 | -0.0004 |
| W-1.16(5) | -0.01215 | 0.00027 | -0.0005 |
| W-1.16(6) | -0.00464 | 0.00027 | -0.0005 |
| W-1.16(7) | -0.00563 | 0.00027 | -0.0006 |
| W-1.16(8) | 0.00194 | 0.00027 | -0.0005 |
| W-1.16(9) | 0.00008 | 0.00055 | -0.0006 |
| W-1.17(1) | -0.00371 | 0.00358 | -0.0001 |
| W-1.17(2) | -0.00841 | 0.00002 | -0.0009 |
| W-1.17(3) | -0.00386 | 0.00002 | -0.0009 |
| W-1.17(4) | 0.00067 | 0.00001 | -0.0008 |
| W-1.17(5) | -0.00363 | 0.00001 | -0.0004 |
| W-1.17(6) | -0.00343 | 0.00030 | -0.0001 |
| W-1.17(7) | 0.00035 | 0.00103 | 0.0000 |
| W-1.17(8) | -0.00101 | 0.00169 | 0.0000 |
| W-1.17(9) | 0.00449 | 0.00196 | -0.0021 |
| W-1.18(1) | -0.00459 | 0.00060 | -0.0027 |
| W-1.18(2) | -0.00569 | 0.00054 | -0.0019 |
| W-1.18(3) | 0.00033 | 0.00089 | -0.0011 |
| W-1.19(1) | -0.01597 | 0.00886 | -0.0002 |
| W-1.19(2) | -0.00812 | 0.00019 | -0.0015 |
| W-1.19(3) | -0.00035 | 0.00009 | -0.0021 |
| W-1.19(4) | -0.01121 | 0.00014 | -0.0024 |
| W-1.19(5) | -0.00617 | 0.00013 | -0.0023 |
| W-1.19(6) | 0.00607 | 0.00010 | -0.0017 |
| W-1.19(7) | -0.01174 | 0.00007 | -0.0011 |
| W-1.19(8) | -0.01140 | 0.00004 | -0.0007 |
| W-1.19(9) | 0.00095 | 0.00129 | -0.0001 |
| W-1.20_1(1) | 0.00293 | 0.00140 | -0.0031 |
| W-1.20_1(2) | -0.00905 | 0.00311 | -0.0009 |
| W-1.20_1(3) | -0.01188 | 0.00297 | -0.0010 |
| W-1.20_2(1) | 0.00183 | 0.00046 | -0.0002 |
| W-1.20_2(2) | 0.00365 | 0.00149 | -0.0018 |
| W-1.20_2(3) | 0.00328 | 0.00209 | -0.0023 |
| W-1.20_3(1), W-1.20_3(2), W-1.20_3(3) | 0.00000 | 0.00078 | -0.0012 |
| W-1.20_4(1) | 0.00315 | 0.00042 | -0.0006 |
| W-1.20_4(2) | -0.00280 | 0.00052 | -0.0012 |
| W-1.20_4(3) | -0.00726 | 0.00185 | -0.0043 |
| W-1.21(1) | -0.00516 | 0.00116 | -0.0008 |
| W-1.21(2) | 0.00367 | 0.00065 | -0.0005 |
| W-1.21(3) | -0.00101 | 0.00096 | -0.0008 |
| W-1.21(4) | 0.00794 | 0.00126 | -0.0011 |
| W-1.21(5) | 0.01073 | 0.00035 | -0.0003 |
| W-1.21(6) | 0.00600 | 0.00008 | -0.0001 |
| W-1.21(7) | 0.00675 | 0.00003 | 0.0000 |
| W-1.21(8) | 0.00147 | 0.00001 | 0.0000 |
| W-1.21(9) | -0.01525 | 0.00004 | 0.0000 |
| W-1.22(1) | -0.00101 | 0.00116 | -0.0005 |
| W-1.22(2) | 0.00987 | 0.00052 | -0.0017 |
| W-1.22(3) | 0.00871 | 0.00032 | -0.0019 |
| W-1.22(4) | 0.00217 | 0.00027 | -0.0021 |
| W-1.22(5) | 0.00196 | 0.00007 | -0.0015 |
| W-1.22(6) | 0.00269 | 0.00007 | -0.0015 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâã&áâæ | |
|-------------|------------------|-----------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| W-1.22(7) | -0.00893 | 0.00011 | -0.0011 |
| W-1.22(8) | -0.00421 | 0.00011 | -0.0003 |
| W-1.22(9) | 0.00111 | 0.00199 | -0.0007 |
| W-1.23(1) | -0.00604 | 0.00507 | -0.0001 |
| W-1.23(2) | 0.00527 | 0.00013 | -0.0001 |
| W-1.23(3) | -0.01444 | 0.00002 | -0.0001 |
| W-1.23(4) | -0.00035 | 0.00000 | 0.0000 |
| W-1.23(5) | -0.00646 | 0.00000 | 0.0000 |
| W-1.23(6) | -0.02109 | 0.00000 | 0.0000 |
| W-1.23(7) | -0.02784 | 0.00001 | 0.0000 |
| W-1.23(8) | 0.00355 | 0.00007 | 0.0000 |
| W-1.23(9) | 0.00281 | 0.00000 | -0.0001 |
| W-1.23(10) | 0.01315 | 0.00153 | -0.0008 |
| W-1.24_1(1) | -0.00290 | 0.00074 | -0.0031 |
| W-1.24_1(2) | -0.00544 | 0.00192 | -0.0015 |
| W-1.24_1(3) | -0.00510 | 0.00224 | -0.0012 |
| W-1.24_2(1) | -0.00071 | 0.00086 | -0.0018 |
| W-1.24_2(2) | 0.00047 | 0.00143 | -0.0012 |
| W-1.24_2(3) | 0.00011 | 0.00240 | -0.0009 |
| W-1.25(1) | 0.00183 | 0.00167 | -0.0007 |
| W-1.25(2) | 0.01051 | 0.00123 | -0.0008 |
| W-1.25(3) | 0.00944 | 0.00046 | -0.0007 |
| W-1.26_1(1) | 0.01763 | 0.00025 | -0.0021 |
| W-1.26_1(2) | 0.02540 | 0.00039 | -0.0034 |
| W-1.26_1(3) | 0.00576 | 0.00556 | -0.0001 |
| W-1.26_2(1) | 0.00143 | 0.00001 | -0.0034 |
| W-1.26_2(2) | 0.00071 | 0.00001 | -0.0031 |
| W-1.26_2(3) | -0.00100 | 0.00001 | -0.0029 |
| W-1.26_3(1) | 0.00000 | 0.00040 | -0.0019 |
| W-1.26_3(2) | -0.00116 | 0.00037 | -0.0014 |
| W-1.26_3(3) | 0.00414 | 0.00046 | -0.0011 |
| W-1.26_4(1) | 0.00000 | 0.00092 | -0.0001 |
| W-1.26_4(2) | -0.00060 | 0.00050 | -0.0001 |
| W-1.26_4(3) | -0.00028 | 0.00032 | -0.0004 |
| W-1.27(1) | -0.00826 | 0.00049 | -0.0013 |
| W-1.27(2) | 0.00531 | 0.00035 | -0.0001 |
| W-1.27(3) | 0.00277 | 0.00043 | -0.0002 |
| W-1.27(4) | 0.00959 | 0.00038 | -0.0001 |
| W-1.27(5) | 0.01333 | 0.00060 | -0.0002 |
| W-1.27(6) | 0.01260 | 0.00181 | -0.0006 |
| W-1.27(7) | -0.00128 | 0.00167 | -0.0009 |
| W-1.27(8) | 0.00371 | 0.00071 | -0.0015 |
| W-1.27(9) | -0.00784 | 0.00120 | -0.0045 |
| W-1.28(1) | 0.01154 | 0.00018 | 0.0000 |
| W-1.28(2) | -0.00110 | 0.00000 | -0.0001 |
| W-1.28(3) | -0.00112 | 0.00001 | -0.0002 |
| W-1.28(4) | 0.00189 | 0.00001 | -0.0003 |
| W-1.28(5) | 0.01316 | 0.00036 | -0.0006 |
| W-1.28(6) | 0.01004 | 0.00086 | -0.0008 |
| W-1.28(7) | -0.00064 | 0.00081 | -0.0020 |
| W-1.28(8) | 0.01213 | 0.00033 | -0.0018 |
| W-1.28(9) | 0.01754 | 0.00322 | -0.0006 |
| W-1.29(1) | -0.00406 | 0.00121 | -0.0009 |

| Position | in Dokumentation | ↔ [^] ÁQáb\fiâæã&áâæ | |
|----------------------|------------------|-------------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| W-1.29(2) | 0.00569 | 0.00109 | -0.0020 |
| W-1.29(3) | 0.00797 | 0.00160 | -0.0040 |
| W-1.30(1) | -0.00002 | 0.00262 | -0.0007 |
| W-1.30(2) | -0.01405 | 0.00116 | -0.0004 |
| W-1.30(3) | -0.01122 | 0.00213 | -0.0025 |
| W-1.31(1) | -0.00442 | 0.00311 | -0.0035 |
| W-1.31(2) | -0.00729 | 0.00094 | -0.0016 |
| W-1.31(3) | -0.01087 | 0.00004 | -0.0009 |
| W-1.32(1) | 0.00708 | 0.00156 | -0.0060 |
| W-1.32(2) | 0.00189 | 0.00302 | -0.0001 |
| W-1.32(3) | -0.00248 | 0.00001 | -0.0037 |
| W-1.33(1) | 0.04601 | 0.00193 | -0.0027 |
| W-1.33(2) | 0.05173 | 0.00086 | -0.0008 |
| W-1.33(3) | 0.03158 | 0.00056 | -0.0005 |
| W-1.33(4) | 0.01291 | 0.00037 | -0.0003 |
| W-1.33(5) | 0.01166 | 0.00024 | -0.0001 |
| W-1.33(6) | 0.01790 | 0.00019 | -0.0001 |
| W-1.33(7) | 0.01581 | 0.00015 | -0.0001 |
| W-1.33(8) | 0.00453 | 0.00014 | -0.0001 |
| W-1.33(9) | -0.00733 | 0.00123 | -0.0006 |
| W-1.34(1) | -0.02474 | 0.01265 | -0.0017 |
| W-1.34(2) | 0.01191 | 0.00277 | -0.0265 |
| W-1.34(3) | 0.00912 | 0.01633 | -0.0026 |
| WS-1.5_SA_W-1.5_2 | 0.00142 | 0.00000 | 0.00000 |
| WS-1.5_SE_W-1.5_1 | -0.27709 | 0.00000 | 0.00000 |
| WS-T-1.2_SA_WT-1.2_1 | -0.00334 | 0.00000 | 0.00000 |
| WS-T-1.2_SE_WT-1.2_2 | 0.00510 | 0.00000 | 0.00000 |
| WT-1.1(1) | -0.01028 | 0.00043 | -0.0012 |
| WT-1.1(2) | -0.00469 | 0.00158 | -0.0002 |
| WT-1.1(3) | 0.00652 | 0.00025 | -0.0001 |
| WT-1.1(4) | 0.01133 | 0.00042 | 0.0000 |
| WT-1.1(5) | 0.02659 | 0.00020 | 0.0000 |
| WT-1.1(6) | 0.03647 | 0.00009 | 0.0000 |
| WT-1.1(7) | 0.02293 | 0.00011 | 0.0000 |
| WT-1.1(8) | -0.00015 | 0.00050 | -0.0002 |
| WT-1.1(9) | 0.00055 | 0.00228 | -0.0013 |
| WT-1.2_1(1) | 0.00478 | 0.00272 | -0.0004 |
| WT-1.2_1(2) | 0.00580 | 0.00279 | -0.0005 |
| WT-1.2_1(3) | 0.00199 | 0.00283 | -0.0006 |
| WT-1.2_2(1) | -0.00187 | 0.00128 | -0.0009 |
| WT-1.2_2(2) | 0.00298 | 0.00097 | -0.0018 |
| WT-1.2_2(3) | 0.00400 | 0.00204 | -0.0041 |
| WT-1.3(1) | -0.00473 | 0.00015 | -0.0045 |
| WT-1.3(2) | 0.00043 | 0.00074 | -0.0016 |
| WT-1.3(3) | -0.00367 | 0.00102 | -0.0013 |

Folgende Linienlastanteile werden wegen ihres
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{æã[^]á[^]â→†bb↔&\í

Lastfall

Pt
[kN]

LF-3

-0.00212

D-417

Schulcampus EWK \ 10G-LP4

Lastfall

| | Pt [kN] |
|------------|------------|
| LF-4 | 0.00132 |
| LF-5 | 0.00135 |
| LF-6 | 0.00114 |
| LF-7 | -0.00782 |
| LF-8 | 0.00416 |
| LF-9 | -0.00051 |
| LF-10 | 0.00827 |
| LF-11 | -0.00102 |
| LF-12 | -0.00363 |
| LF-13 | 0.00284 |
| LF-14 | 0.00110 |
| LF-15 | 0.00128 |
| LF-16 | 0.00180 |
| LF-17 | -0.01599 |
| LF-18 | 0.00513 |
| LF-19 | 0.00263 |
| LF-20 | -0.00237 |
| LF-21 | -0.00153 |
| LF-22 | 0.00098 |
| #1 LF-3 | -0.00307 |
| #1 LF-4 | 0.00487 |
| #1 LF-5 | -0.00264 |
| #1 LF-6 | -0.00056 |
| #1 LF-7 | -0.00172 |
| #1 LF-8 | -0.00332 |
| #1 LF-9 | 0.00042 |
| #1 LF-10 | 0.00192 |
| #1 LF-11 | 0.00199 |
| #1 LF-12 | 0.00216 |
| #1 LF-13 | 0.00658 |
| #1 LF-14 | 0.00018 |
| #1 LF-15 | -0.00850 |
| #1 LF-16 | -0.00032 |
| #1 LF-17 | 0.00162 |
| #1 LF-18 | -0.00039 |
| #1 LF-19 | 0.00054 |
| #1 LF-20 | -0.00173 |
| #1 LF-21 | -0.00352 |
| #1 LF-22 | -0.00173 |
| #1 LF-23 | -0.00011 |
| #2 LF-1 | -0.00706 |
| #2 LF-2 | -0.00625 |
| #2 LF-3 | 0.00065 |
| #2 LF-4 | 0.00347 |
| #2 LF-5 | -0.00181 |
| #2 LF-6 | 0.00149 |
| #2 LF-7 | 0.00033 |
| #2 LF-8 | 0.00065 |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und Linienlast-Resultierenden, getrennt nach positiven und negativen Anteilen

Lasten aus Lastgruppen werden nicht berücksichtigt

| | Position | EW | Art | *b [kN] | ^a [kN] |
|--------------|--------------------|----------|-----|---------|---------|
| Punktlasten | S-1.1 | Gk | PGr | 323.74 | |
| | | Ö | PGr | 22.65 | |
| | | Qk.N_B1 | PGr | 3.30 | -57.33 |
| | | Qk.N_C1 | PGr | 0.03 | 0.00 |
| | | Qk.N_C5 | PGr | 73.16 | -14.65 |
| | | Qk.N_E1 | PGr | 0.12 | -19.52 |
| | | Qk.N_D A | PGr | 89.41 | -46.52 |
| | | Qk.N_T2 | PGr | 0.18 | -0.13 |
| | S-1.2 | Gk | PGr | 415.50 | |
| | | Ö | PGr | 57.96 | |
| | | Qk.N_B1 | PGr | 7.32 | -27.38 |
| | | Qk.N_C1 | PGr | 0.00 | -0.15 |
| | | Qk.N_C5 | PGr | 68.44 | -9.73 |
| | | Qk.N_E1 | PGr | 0.00 | -9.03 |
| | | Qk.N_D A | PGr | 89.01 | -17.62 |
| | | Qk.N_T2 | PGr | 0.50 | -0.04 |
| | S-1.7 | Gk | PGr | 204.91 | |
| | | Ö | PGr | 81.58 | |
| | | Qk.N_B1 | PGr | 44.64 | -0.60 |
| | | Qk.N_C5 | PGr | 0.32 | -1.06 |
| | | Qk.N_E1 | PGr | 9.33 | 0.00 |
| | | Qk.N_D A | PGr | 18.16 | -0.02 |
| | | Qk.N_T2 | PGr | 0.00 | -0.06 |
| Linienlasten | RL1 WS-T-2.4_BR | Gk | PGr | 0.00 | |
| | RL2 WS-T-2.3_BR | Gk | PGr | 0.00 | |
| | RL3 WS-T-2.1_BR | Gk | PGr | 0.00 | |
| | RL4 WS-2.30_2_BR | Gk | PGr | 0.00 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|------------------------|-------------|-----|------------------|------------------|
| RL5 WS- 2.27_2_BR | Gk | PGr | 0.00 | |
| RL6 WS- 2.27_1_BR | Gk | PGr | 0.00 | |
| RL7 WS- 2.18_3_BR | Gk | PGr | 0.00 | |
| RL8 WS- 2.18_2_BR | Gk | PGr | 0.00 | |
| RL9 WS- 2.18_1_BR | Gk | PGr | 0.00 | |
| RL10 WS- 2.5_BR | Gk | PGr | 0.00 | |
| W-1.1 | Gk | PGr | 380.24 | |
| | Ö← | PGr | 147.62 | |
| | Qk.N_B 1 | PGr | 45.31 | -4.26 |
| | Qk.N_C 1 | PGr | 0.00 | 0.00 |
| | Qk.N_C 5 | PGr | 0.02 | -0.04 |
| | Qk.N_E 1 | PGr | 0.03 | -0.02 |
| | Qk.N_D A | PGr | 34.08 | -5.51 |
| | Qk.N_T 2 | PGr | 0.43 | -0.93 |
| W-1.2 | Gk | PGr | 474.21 | |
| | Ö← | PGr | 188.29 | |
| | Qk.N_B 1 | PGr | 131.47 | 0.00 |
| | Qk.N_C 1 | PGr | 0.00 | -6.22 |
| | Qk.N_C 5 | PGr | 0.07 | -0.90 |
| | Qk.N_E 1 | PGr | 2.42 | 0.00 |
| | Qk.N_D A | PGr | 85.66 | -2.89 |
| | Qk.N_T 2 | PGr | 0.00 | -0.81 |
| W-1.3 | Gk | PGr | 385.63 | |
| | Ö← | PGr | 148.82 | |
| | Qk.N_B 1 | PGr | 7.49 | -0.57 |
| | Qk.N_C 1 | PGr | 32.98 | 0.00 |
| | Qk.N_C 5 | PGr | 0.21 | -0.30 |
| | Qk.N_E 1 | PGr | 48.79 | -0.29 |
| | Qk.N_D A | PGr | 80.79 | -1.51 |
| | Qk.N_T 2 | PGr | 0.27 | 0.00 |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|----------|-------------|-----|------------------|------------------|
| W-1.4 | Gk | PGr | 420.66 | |
| | Ö← | PGr | 165.27 | |
| | Qk.N_B 1 | PGr | 0.46 | -2.28 |
| | Qk.N_C 1 | PGr | 92.82 | 0.00 |
| | Qk.N_C 5 | PGr | 0.02 | -0.56 |
| | Qk.N_E 1 | PGr | 11.64 | -2.18 |
| | Qk.N_D A | PGr | 75.74 | -2.56 |
| | Qk.N_T 2 | PGr | 0.00 | -0.01 |
| W-1.5_1 | Gk | PGr | 392.31 | |
| | Ö← | PGr | 74.54 | |
| | Qk.N_B 1 | PGr | 88.76 | -13.96 |
| | Qk.N_C 1 | PGr | 0.03 | 0.00 |
| | Qk.N_C 5 | PGr | 0.78 | -1.74 |
| | Qk.N_E 1 | PGr | 0.12 | -7.12 |
| | Qk.N_D A | PGr | 69.51 | -8.89 |
| | Qk.N_T 2 | PGr | 0.08 | -5.65 |
| W-1.5_2 | Gk | PGr | 28.49 | |
| | Ö← | PGr | 4.78 | |
| | Qk.N_B 1 | PGr | 0.12 | -4.07 |
| | Qk.N_C 1 | PGr | 0.00 | -0.01 |
| | Qk.N_C 5 | PGr | 5.05 | 0.00 |
| | Qk.N_E 1 | PGr | 0.00 | -0.26 |
| | Qk.N_D A | PGr | 4.75 | -0.95 |
| | Qk.N_T 2 | PGr | 2.07 | 0.00 |
| W-1.6 | Gk | PGr | 1411.26 | |
| | Ö← | PGr | 384.12 | |
| | Qk.N_B 1 | PGr | 80.11 | -23.03 |
| | Qk.N_C 1 | PGr | 223.35 | -3.47 |
| | Qk.N_C 5 | PGr | 28.56 | -6.65 |
| | Qk.N_E 1 | PGr | 147.46 | -9.28 |
| | Qk.N_D A | PGr | 300.86 | -3.85 |
| | | | | |
| | | | | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_T 2 | PGr | 0.01 | -0.04 |
| W-1.7 | Gk | PGr | 624.45 | |
| | Ö← | PGr | 144.01 | |
| | Qk.N_B 1 | PGr | 98.27 | -16.09 |
| | Qk.N_C 5 | PGr | 7.95 | -7.76 |
| | Qk.N_E 1 | PGr | 64.68 | -0.02 |
| | Qk.N_D A | PGr | 56.20 | -14.23 |
| | Qk.N_T 2 | PGr | 1.43 | 0.00 |
| W-1.8 | Gk | PGr | 195.21 | |
| | Ö← | PGr | 12.71 | |
| | Qk.N_B 1 | PGr | 3.22 | -0.04 |
| | Qk.N_C 1 | PGr | 0.01 | -0.25 |
| | Qk.N_C 5 | PGr | 1.53 | -0.11 |
| | Qk.N_E 1 | PGr | 37.07 | -1.07 |
| | Qk.N_D A | PGr | 19.32 | -21.63 |
| W-1.9 | Gk | PGr | 168.33 | |
| | Ö← | PGr | 24.54 | |
| | Qk.N_B 1 | PGr | 12.35 | -1.92 |
| | Qk.N_C 1 | PGr | 0.00 | -0.06 |
| | Qk.N_C 5 | PGr | 5.07 | -2.24 |
| | Qk.N_E 1 | PGr | 33.62 | -0.13 |
| | Qk.N_D A | PGr | 13.15 | -6.19 |
| | Qk.N_T 2 | PGr | 0.00 | -0.38 |
| W-1.10 | Gk | PGr | 847.55 | |
| | Ö← | PGr | 218.75 | |
| | Qk.N_B 1 | PGr | 163.30 | -9.87 |
| | Qk.N_C 5 | PGr | 76.15 | -6.39 |
| | Qk.N_E 1 | PGr | 40.73 | -0.06 |
| | Qk.N_D A | PGr | 160.37 | -5.46 |
| | Qk.N_T 2 | PGr | 0.00 | -0.03 |
| W-1.11_1 | Gk | PGr | 1301.17 | |
| | Ö← | PGr | 345.92 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_B 1 | PGr | 179.94 | -3.76 |
| | Qk.N_C 5 | PGr | 188.54 | -0.14 |
| | Qk.N_E 1 | PGr | 0.45 | -2.08 |
| | Qk.N_D A | PGr | 301.13 | -7.88 |
| | Qk.N_T 2 | PGr | 0.06 | -4.12 |
| W-1.11_2 | Gk | PGr | 44.73 | |
| | Ö← | PGr | | -1.20 |
| | Qk.N_B 1 | PGr | 0.06 | -17.92 |
| | Qk.N_C 1 | PGr | 0.00 | 0.00 |
| | Qk.N_C 5 | PGr | 16.27 | -2.70 |
| | Qk.N_E 1 | PGr | 1.21 | -0.68 |
| | Qk.N_D A | PGr | 13.67 | -15.90 |
| | Qk.N_T 2 | PGr | 2.62 | -0.39 |
| W-1.12 | Gk | PGr | 311.85 | |
| | Ö← | PGr | 121.63 | |
| | Qk.N_B 1 | PGr | 71.86 | -0.66 |
| | Qk.N_C 5 | PGr | 3.95 | 0.00 |
| | Qk.N_E 1 | PGr | 0.00 | -0.33 |
| | Qk.N_D A | PGr | 51.36 | -0.41 |
| | Qk.N_T 2 | PGr | 0.04 | 0.00 |
| W-1.13 | Gk | PGr | 534.19 | |
| | Ö← | PGr | 205.23 | |
| | Qk.N_B 1 | PGr | 112.88 | -0.12 |
| | Qk.N_C 5 | PGr | 7.42 | -0.53 |
| | Qk.N_E 1 | PGr | 0.01 | -0.06 |
| | Qk.N_D A | PGr | 110.35 | -1.67 |
| | Qk.N_T 2 | PGr | 0.02 | -0.10 |
| W-1.14 | Gk | PGr | 347.84 | |
| | Ö← | PGr | 138.58 | |
| | Qk.N_B 1 | PGr | 95.11 | 0.00 |
| | Qk.N_C 5 | PGr | 4.59 | -0.78 |

| Position | EW | Art | *~b⇒\⇒{ [kN] | ^æ&á\⇒{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_E 1 | PGr | 0.05 | 0.00 |
| | Qk.N_D A | PGr | 54.12 | -3.05 |
| | Qk.N_T 2 | PGr | 0.00 | -1.05 |
| W-1.15 | Gk | PGr | 7.44 | |
| | Ö← | PGr | | -0.32 |
| | Qk.N_B 1 | PGr | 0.00 | -10.37 |
| | Qk.N_C 5 | PGr | 0.20 | -1.39 |
| | Qk.N_E 1 | PGr | 0.00 | -0.01 |
| | Qk.N_D A | PGr | 1.37 | -3.60 |
| | Qk.N_T 2 | PGr | 0.22 | 0.00 |
| W-1.16 | Gk | PGr | 647.59 | |
| | Ö← | PGr | 253.28 | |
| | Qk.N_B 1 | PGr | 114.42 | -31.25 |
| | Qk.N_C 1 | PGr | 0.00 | -0.01 |
| | Qk.N_C 5 | PGr | 0.81 | -0.91 |
| | Qk.N_E 1 | PGr | 0.03 | -0.02 |
| | Qk.N_D A | PGr | 80.52 | -21.71 |
| | Qk.N_T 2 | PGr | 0.61 | -1.13 |
| W-1.17 | Gk | PGr | 636.60 | |
| | Ö← | PGr | 254.20 | |
| | Qk.N_B 1 | PGr | 79.73 | -28.21 |
| | Qk.N_C 5 | PGr | 18.82 | -3.96 |
| | Qk.N_E 1 | PGr | 0.17 | -7.41 |
| | Qk.N_D A | PGr | 74.31 | -13.47 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| W-1.18 | Gk | PGr | 315.04 | |
| | Ö← | PGr | 122.67 | |
| | Qk.N_B 1 | PGr | 57.05 | -7.39 |
| | Qk.N_C 5 | PGr | 0.03 | -5.23 |
| | Qk.N_E 1 | PGr | 21.64 | 0.00 |
| | Qk.N_D A | PGr | 37.42 | -9.30 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|------------------|------------------|
| W-1.19 | Gk | PGr | 628.02 | |
| | Ö← | PGr | 244.65 | |
| | Qk.N_B 1 | PGr | 78.14 | -13.63 |
| | Qk.N_C 5 | PGr | 0.19 | -0.22 |
| | Qk.N_E 1 | PGr | 0.51 | -2.15 |
| | Qk.N_D A | PGr | 59.56 | -8.06 |
| | Qk.N_T 2 | PGr | 0.67 | -1.55 |
| W-1.20_1 | Gk | PGr | 294.84 | |
| | Ö← | PGr | 55.83 | |
| | Qk.N_B 1 | PGr | 59.22 | -46.92 |
| | Qk.N_C 5 | PGr | 57.97 | -15.56 |
| | Qk.N_E 1 | PGr | 35.01 | 0.00 |
| | Qk.N_D A | PGr | 61.65 | -36.01 |
| | Qk.N_T 2 | PGr | 0.05 | -0.02 |
| W-1.20_2 | Gk | PGr | 341.82 | |
| | Ö← | PGr | 76.91 | |
| | Qk.N_B 1 | PGr | 56.41 | -0.81 |
| | Qk.N_C 5 | PGr | 21.78 | -2.20 |
| | Qk.N_E 1 | PGr | 73.86 | 0.00 |
| | Qk.N_D A | PGr | 27.88 | -3.47 |
| | Qk.N_T 2 | PGr | 0.00 | -0.01 |
| W-1.20_3 | Gk | PGr | 48.23 | |
| | Ö← | PGr | 11.91 | |
| | Qk.N_B 1 | PGr | 8.14 | -0.04 |
| | Qk.N_C 5 | PGr | 3.23 | -0.25 |
| | Qk.N_E 1 | PGr | 11.63 | 0.00 |
| | Qk.N_D A | PGr | 4.68 | -0.51 |
| | Qk.N_T 2 | PGr | 0.00 | 0.00 |
| W-1.20_4 | Gk | PGr | 282.06 | |
| | Ö← | PGr | 51.34 | |
| | Qk.N_B 1 | PGr | 22.52 | -3.54 |
| | Qk.N_C 1 | PGr | 0.00 | -0.01 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_C 5 | PGr | 30.91 | -0.79 |
| | Qk.N_E 1 | PGr | 33.99 | -0.03 |
| | Qk.N_D A | PGr | 28.66 | -2.31 |
| | Qk.N_T 2 | PGr | 0.00 | -0.35 |
| W-1.21 | Gk | PGr | 746.52 | |
| | Ö← | PGr | 122.12 | |
| | Qk.N_B 1 | PGr | 95.65 | -30.43 |
| | Qk.N_C 1 | PGr | 0.01 | -0.18 |
| | Qk.N_C 5 | PGr | 8.00 | -2.41 |
| | Qk.N_E 1 | PGr | 0.64 | -0.97 |
| | Qk.N_D A | PGr | 153.75 | -38.89 |
| | Qk.N_T 2 | PGr | 53.62 | -0.31 |
| W-1.22 | Gk | PGr | 995.43 | |
| | Ö← | PGr | 222.67 | |
| | Qk.N_B 1 | PGr | 148.22 | -17.17 |
| | Qk.N_C 1 | PGr | 0.36 | -0.51 |
| | Qk.N_C 5 | PGr | 7.87 | -9.91 |
| | Qk.N_E 1 | PGr | 1.92 | -1.71 |
| | Qk.N_D A | PGr | 204.75 | -33.54 |
| | Qk.N_T 2 | PGr | 52.84 | -0.32 |
| W-1.23 | Gk | PGr | 1059.93 | |
| | Ö← | PGr | 119.28 | |
| | Qk.N_B 1 | PGr | 12.20 | -1.75 |
| | Qk.N_C 1 | PGr | 0.43 | -0.08 |
| | Qk.N_C 5 | PGr | 2.54 | -6.38 |
| | Qk.N_E 1 | PGr | 90.49 | -4.80 |
| | Qk.N_D A | PGr | 174.58 | -9.87 |
| | Qk.N_T 2 | PGr | 0.00 | -0.24 |
| W-1.24_1 | Gk | PGr | 98.73 | |
| | Ö← | PGr | 9.36 | |
| | Qk.N_B 1 | PGr | 0.26 | -5.71 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_C 1 | PGr | 0.00 | -1.29 |
| | Qk.N_C 5 | PGr | 14.05 | -0.17 |
| | Qk.N_E 1 | PGr | 4.96 | -0.81 |
| | Qk.N_D A | PGr | 12.41 | -5.44 |
| | Qk.N_T 2 | PGr | 0.04 | 0.00 |
| W-1.24_2 | Gk | PGr | 31.45 | |
| | Ö← | PGr | | -4.38 |
| | Qk.N_B 1 | PGr | 0.04 | -10.42 |
| | Qk.N_C 1 | PGr | 0.00 | -1.21 |
| | Qk.N_C 5 | PGr | 7.02 | 0.00 |
| | Qk.N_E 1 | PGr | 1.93 | -2.56 |
| | Qk.N_D A | PGr | 6.13 | -10.13 |
| | Qk.N_T 2 | PGr | 0.05 | 0.00 |
| W-1.25 | Gk | PGr | 175.23 | |
| | Ö← | PGr | 6.57 | |
| | Qk.N_B 1 | PGr | 3.54 | 0.00 |
| | Qk.N_C 1 | PGr | 0.03 | -0.44 |
| | Qk.N_C 5 | PGr | 1.11 | -6.31 |
| | Qk.N_E 1 | PGr | 31.36 | -4.28 |
| | Qk.N_D A | PGr | 17.37 | -15.33 |
| | Qk.N_T 2 | PGr | 0.00 | -0.02 |
| W-1.26_1 | Gk | PGr | 149.52 | |
| | Ö← | PGr | 0.07 | |
| | Qk.N_B 1 | PGr | 19.03 | -22.84 |
| | Qk.N_C 1 | PGr | 0.19 | 0.00 |
| | Qk.N_C 5 | PGr | 0.54 | -13.12 |
| | Qk.N_E 1 | PGr | 59.06 | -1.18 |
| | Qk.N_D A | PGr | 16.00 | -33.05 |
| | Qk.N_T 2 | PGr | 0.00 | -0.26 |
| W-1.26_2 | Gk | PGr | 75.92 | |
| | Ö← | PGr | 12.19 | |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|----------|-------------|-----|------------------|------------------|
| | Qk.N_B 1 | PGr | 3.22 | -0.34 |
| | Qk.N_C 1 | PGr | 0.00 | -0.07 |
| | Qk.N_C 5 | PGr | 1.19 | -0.01 |
| | Qk.N_E 1 | PGr | 19.30 | -0.13 |
| | Qk.N_D A | PGr | 9.27 | -5.34 |
| | Qk.N_T 2 | PGr | 0.00 | 0.00 |
| W-1.26_3 | Gk | PGr | 68.38 | |
| | Ö← | PGr | 7.09 | |
| | Qk.N_B 1 | PGr | 0.02 | -4.22 |
| | Qk.N_C 1 | PGr | 0.19 | 0.00 |
| | Qk.N_C 5 | PGr | 0.15 | -1.64 |
| | Qk.N_E 1 | PGr | 25.20 | -2.38 |
| | Qk.N_D A | PGr | 9.02 | -8.69 |
| W-1.26_4 | Gk | PGr | 18.08 | |
| | Ö← | PGr | 1.45 | |
| | Qk.N_B 1 | PGr | 0.11 | 0.00 |
| | Qk.N_C 1 | PGr | 0.00 | -0.01 |
| | Qk.N_C 5 | PGr | 0.04 | -0.02 |
| | Qk.N_E 1 | PGr | 3.02 | -0.01 |
| | Qk.N_D A | PGr | 1.23 | -0.81 |
| W-1.27 | Gk | PGr | 751.60 | |
| | Ö← | PGr | 125.89 | |
| | Qk.N_B 1 | PGr | 103.69 | -68.26 |
| | Qk.N_C 1 | PGr | 0.02 | 0.00 |
| | Qk.N_C 5 | PGr | 33.11 | -11.98 |
| | Qk.N_E 1 | PGr | 1.02 | -0.72 |
| | Qk.N_D A | PGr | 188.10 | -64.02 |
| | Qk.N_T 2 | PGr | 56.32 | -0.42 |
| W-1.28 | Gk | PGr | 1177.65 | |
| | Ö← | PGr | 269.65 | |
| | Qk.N_B 1 | PGr | 226.31 | -30.67 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_C 1 | PGr | 0.03 | -0.02 |
| | Qk.N_C 5 | PGr | 35.14 | -5.26 |
| | Qk.N_E 1 | PGr | 1.00 | -0.78 |
| | Qk.N_D A | PGr | 291.11 | -39.70 |
| | Qk.N_T 2 | PGr | 47.82 | 0.00 |
| W-1.29 | Gk | PGr | 458.40 | |
| | Ö← | PGr | 179.59 | |
| | Qk.N_B 1 | PGr | 116.10 | -2.12 |
| | Qk.N_C 1 | PGr | 0.04 | 0.00 |
| | Qk.N_C 5 | PGr | 0.86 | -0.26 |
| | Qk.N_E 1 | PGr | 0.06 | -0.15 |
| | Qk.N_D A | PGr | 84.26 | -0.55 |
| | Qk.N_T 2 | PGr | 0.00 | -0.62 |
| W-1.30 | Gk | PGr | 657.38 | |
| | Ö← | PGr | 256.90 | |
| | Qk.N_B 1 | PGr | 160.45 | -10.93 |
| | Qk.N_C 1 | PGr | 0.26 | 0.00 |
| | Qk.N_C 5 | PGr | 7.27 | -0.11 |
| | Qk.N_E 1 | PGr | 0.41 | -0.44 |
| | Qk.N_D A | PGr | 133.61 | -1.88 |
| | Qk.N_T 2 | PGr | 0.09 | -0.29 |
| W-1.31 | Gk | PGr | 377.21 | |
| | Ö← | PGr | 151.65 | |
| | Qk.N_B 1 | PGr | 83.09 | -6.21 |
| | Qk.N_C 1 | PGr | 0.00 | -12.87 |
| | Qk.N_C 5 | PGr | 4.92 | -0.16 |
| | Qk.N_E 1 | PGr | 19.22 | -1.59 |
| | Qk.N_D A | PGr | 64.63 | -10.31 |
| | Qk.N_T 2 | PGr | 0.06 | -0.01 |
| W-1.32 | Gk | PGr | 432.05 | |
| | Ö← | PGr | 110.29 | |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|-----------------------|-------------|-----|-----------------|-----------------|
| | Qk.N_B 1 | PGr | 73.20 | -2.00 |
| | Qk.N_C 1 | PGr | 0.00 | -0.99 |
| | Qk.N_C 5 | PGr | 41.41 | -1.01 |
| | Qk.N_E 1 | PGr | 6.15 | -3.74 |
| | Qk.N_D A | PGr | 101.87 | -3.79 |
| | Qk.N_T 2 | PGr | 0.01 | -0.08 |
| W-1.33 | Gk | PGr | 393.52 | |
| | Ö← | PGr | 232.91 | |
| | Qk.N_B 1 | PGr | 2.30 | -22.16 |
| | Qk.N_C 1 | PGr | 95.91 | -18.88 |
| | Qk.N_C 5 | PGr | 0.36 | -3.23 |
| | Qk.N_E 1 | PGr | 3.94 | -11.73 |
| | Qk.N_D A | PGr | 77.86 | -37.85 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| W-1.34 | Gk | PGr | 312.44 | |
| | Ö← | PGr | 80.74 | |
| | Qk.N_B 1 | PGr | 58.53 | -2.28 |
| | Qk.N_C 1 | PGr | 0.00 | -13.01 |
| | Qk.N_C 5 | PGr | 45.69 | -3.63 |
| | Qk.N_E 1 | PGr | 24.28 | -6.49 |
| | Qk.N_D A | PGr | 78.65 | -29.52 |
| | Qk.N_T 2 | PGr | 0.00 | 0.00 |
| WS-1.5_BR | Gk | PGr | 0.00 | |
| WS-1.5_SA_W- 1.5_2 | Gk | PGr | 27.37 | |
| | Ö← | PGr | 5.63 | |
| | Qk.N_B 1 | PGr | 0.82 | -1.09 |
| | Qk.N_C 1 | PGr | 0.00 | 0.00 |
| | Qk.N_C 5 | PGr | 3.24 | 0.00 |
| | Qk.N_E 1 | PGr | 0.01 | -0.22 |
| | Qk.N_D A | PGr | 4.71 | -0.28 |

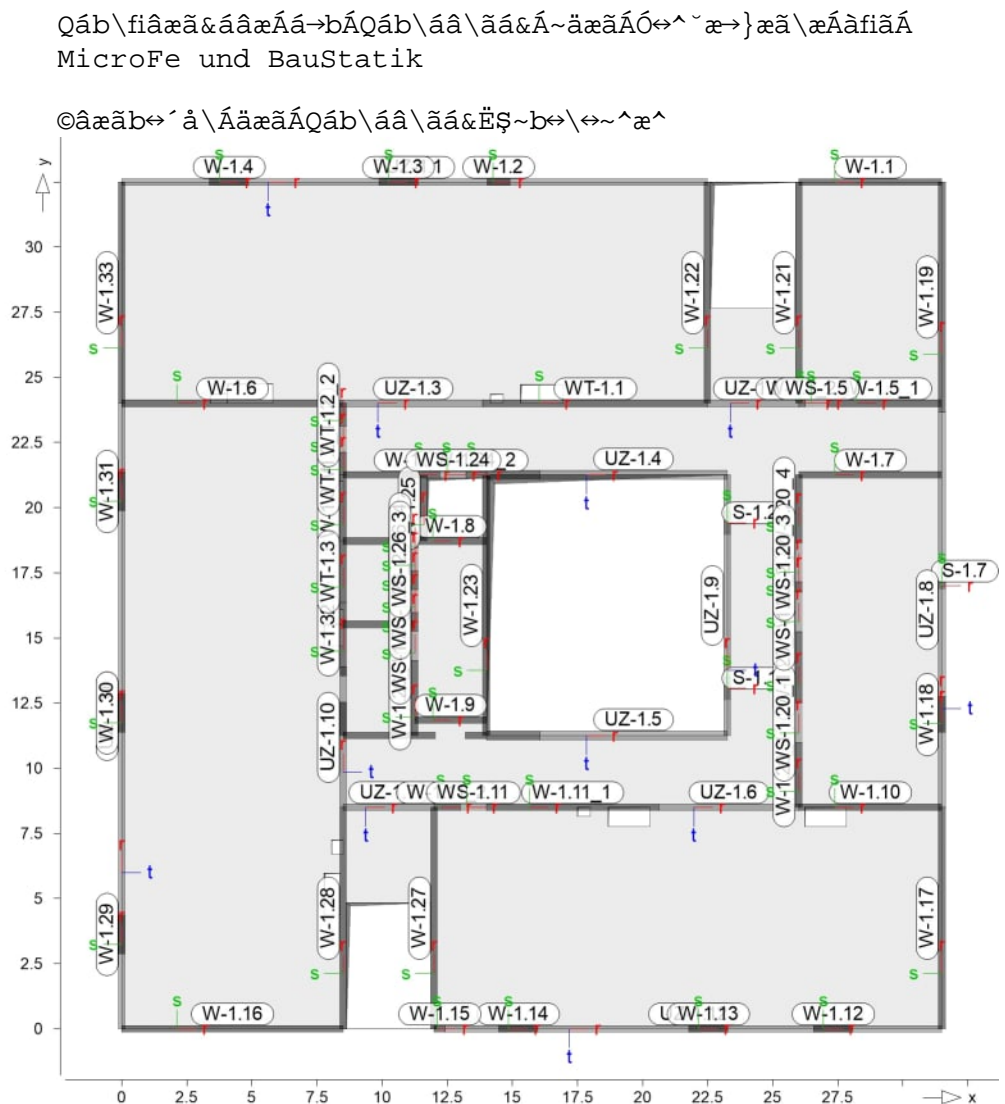
| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|------------------------------|-------------|-----|-----------------|-----------------|
| | Qk.N_T 2 | PGr | 0.15 | 0.00 |
| WS-1.5_SE_W- 1.5_1 | Gk | PGr | 24.45 | |
| | Ö← | PGr | 5.21 | |
| | Qk.N_B 1 | PGr | 2.90 | -1.04 |
| | Qk.N_C 1 | PGr | 0.01 | 0.00 |
| | Qk.N_C 5 | PGr | 1.75 | 0.00 |
| | Qk.N_E 1 | PGr | 0.02 | -0.20 |
| | Qk.N_D A | PGr | 4.18 | -0.13 |
| | Qk.N_T 2 | PGr | 0.00 | -0.66 |
| WS-T-1.2_BR | Gk | PGr | 0.00 | |
| WS-T- 1.2_SA_WT- 1.2_1 | Gk | PGr | | -20.63 |
| | Ö← | PGr | | -8.43 |
| | Qk.N_B 1 | PGr | 4.23 | -7.19 |
| | Qk.N_C 1 | PGr | 0.00 | -17.86 |
| | Qk.N_C 5 | PGr | 10.17 | 0.00 |
| | Qk.N_E 1 | PGr | 2.72 | -11.20 |
| | Qk.N_D A | PGr | 0.63 | -0.32 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| WS-T- 1.2_SE_WT- 1.2_2 | Gk | PGr | | -29.69 |
| | Ö← | PGr | | -11.80 |
| | Qk.N_B 1 | PGr | 2.88 | -7.47 |
| | Qk.N_C 1 | PGr | 0.00 | -20.64 |
| | Qk.N_C 5 | PGr | 9.74 | 0.00 |
| | Qk.N_E 1 | PGr | 2.18 | -12.12 |
| | Qk.N_D A | PGr | 0.25 | -0.28 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| WT-1.1 | Gk | PGr | 1565.34 | |
| | Ö← | PGr | 386.36 | |
| | Qk.N_B 1 | PGr | 269.82 | -13.30 |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_C 1 | PGr | 13.85 | -2.05 |
| | Qk.N_C 5 | PGr | 97.45 | -1.19 |
| | Qk.N_E 1 | PGr | 39.91 | -4.88 |
| | Qk.N_D A | PGr | 374.99 | -18.50 |
| | Qk.N_T 2 | PGr | 2.32 | -6.79 |
| WT-1.2_1 | Gk | PGr | 45.75 | |
| | Ö← | PGr | 8.17 | |
| | Qk.N_B 1 | PGr | 14.90 | -6.38 |
| | Qk.N_C 1 | PGr | 0.00 | -16.73 |
| | Qk.N_C 5 | PGr | 17.51 | 0.00 |
| | Qk.N_E 1 | PGr | 6.75 | -9.89 |
| | Qk.N_D A | PGr | 11.19 | -4.62 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| WT-1.2_2 | Gk | PGr | 99.66 | |
| | Ö← | PGr | 29.49 | |
| | Qk.N_B 1 | PGr | 21.35 | -3.71 |
| | Qk.N_C 1 | PGr | 10.45 | -8.92 |
| | Qk.N_C 5 | PGr | 14.14 | -1.07 |
| | Qk.N_E 1 | PGr | 25.47 | -2.92 |
| | Qk.N_D A | PGr | 2.71 | -1.04 |
| | Qk.N_T 2 | PGr | 0.00 | -0.02 |
| WT-1.3 | Gk | PGr | 393.02 | |
| | Ö← | PGr | 111.78 | |
| | Qk.N_B 1 | PGr | 87.66 | -1.77 |
| | Qk.N_C 1 | PGr | 0.00 | -5.54 |
| | Qk.N_C 5 | PGr | 53.06 | 0.00 |
| | Qk.N_E 1 | PGr | 20.72 | -4.17 |
| | Qk.N_D A | PGr | 65.92 | -4.62 |
| | Qk.N_T 2 | PGr | 0.00 | -0.02 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Lastabtrag / Einzelwerte

Positionsgrafik



Gh~ hnYb` U[Yf

↔æÁN| à→á&æã&á&↔\↔~^æ^Áæ↔^æãÁU\fi\ ~æ^→á&æã*~b↔\↔~^Á
}æã&æ^ÁÁ→bÁXá&→æ^}æã\æÁfiãÁÁ&æÁ&æã^á&↑æÁ&↔^Á&æãÁ
Ñá|U\á\↔~^Á~|ãÁÜæã&fi&|^&Á&æb\æ→\È

je Ei nwirkung

charakteristische Auflagerkraft je Einwirkung
&ÁKÁb\†^ä&æÁÓ↔^}↔ã←|^&

S-1.1

| | | Mr [kNm] | Ms [kNm] | Ft [kN] |
|---------|-----|-------------|-------------|------------|
| Gk | g | - | - | 303.38 |
| Ö← | g | - | - | 22.65 |
| Qk.N_B1 | min | - | - | -57.33 |
| | max | - | - | 3.30 |
| Qk.N_C1 | min | - | - | 0.00 |
| | max | - | - | 0.03 |
| Qk.N_C5 | min | - | - | -14.65 |
| | max | - | - | 73.16 |
| Qk.N_E1 | min | - | - | -19.52 |
| | max | - | - | 0.12 |
| Qk.N_DA | min | - | - | -46.53 |

D-433

| | | Mr [kNm] | Ms [kNm] | Ft [kN] |
|--------------|-----|-------------|-------------|------------|
| Qk.N_T2 | max | - | - | 89.41 |
| | min | - | - | -0.13 |
| | max | - | - | 0.18 |
| S-1.2 | | | | |
| | | Mr [kNm] | Ms [kNm] | Ft [kN] |
| Gk | g | - | - | 395.14 |
| Ö← | g | - | - | 57.96 |
| Qk.N_B1 | min | - | - | -27.38 |
| | max | - | - | 7.32 |
| Qk.N_C1 | min | - | - | -0.15 |
| | max | - | - | 0.00 |
| Qk.N_C5 | min | - | - | -9.73 |
| | max | - | - | 68.44 |
| Qk.N_E1 | min | - | - | -9.03 |
| | max | - | - | 0.00 |
| Qk.N_DA | min | - | - | -17.62 |
| | max | - | - | 89.01 |
| Qk.N_T2 | min | - | - | -0.04 |
| | max | - | - | 0.50 |
| S-1.7 | | | | |
| | | Mr [kNm] | Ms [kNm] | Ft [kN] |
| Gk | g | - | - | 199.25 |
| Ö← | g | - | - | 81.58 |
| Qk.N_B1 | min | - | - | -0.60 |
| | max | - | - | 44.64 |
| Qk.N_C1 | min | - | - | 0.00 |
| | max | - | - | 0.00 |
| Qk.N_C5 | min | - | - | -1.06 |
| | max | - | - | 0.32 |
| Qk.N_E1 | min | - | - | 0.00 |
| | max | - | - | 9.33 |
| Qk.N_DA | min | - | - | -0.02 |
| | max | - | - | 18.16 |
| Qk.N_T2 | min | - | - | -0.06 |
| | max | - | - | 0.00 |

Wandlager

Die Auflagerreaktionen entlang einer Wandlagerposition werden in eine Trapezlast $f_{\text{Wand}}(x)$ überführt, die in der Form $f_{\text{Wand}}(x) = \frac{M}{L} \cdot \frac{x}{L} \cdot (3 - \frac{x}{L})$ dargestellt werden kann, wobei M das Biegemoment am Auflager und L die Länge der Wand ist. Die Auflagerreaktionen R_A und R_E können dann durch Integration der Trapezlast über die Wandlänge L berechnet werden. Die Auflagerreaktionen R_A und R_E beschreiben die Kräfte, die an den Enden der Wand aufgebracht werden müssen, um das Gleichgewicht zu halten. Die Auflagerreaktionen R_A und R_E sind in der Form $R_A = \frac{M}{L}$ und $R_E = \frac{M}{L}$ dargestellt, wobei M das Biegemoment am Auflager und L die Länge der Wand ist.

Üa^ä→á&æã*~b⇔\↔~^Áb~→\æÁ^|ãÄfiãÄ^ää~|Ágeradlinige
Üa^ä→á&æãÄfiãä^~↑↑æ^Á}æääæ^ÈD

Abs Lastwert maximaler Lagerabschnitt
e Abstand der Resultierenden zur Mitte des
Polygonabschnitts
Res Resultierende Gesamtauflagerkraft

je Ei nwi rkung

charakteristische Trapez-Wandlagerkraft je Einwirkung
g b\†^ä↔&æÄÖ↔^}↔ä↔|^&
Reihenfolge Ausgabe min Anfang
max Anfang
min Mitte
max Mitte
min Ende
max Ende

W-1.1

Q†^&æÁKÁIÈI€Á↑

Kraft Ft

| | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|---------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 61.23 | 46.75 | 46.51 | 46.27 | 0.00 | 255.81 |
| Ö← | g | 32.51 | 25.15 | 26.84 | 28.53 | 0.06 | 147.62 |
| Qk.N_B1 | min | -0.02 | -0.01 | -0.01 | 0.00 | -0.38 | -0.04 |
| | max | 13.19 | 8.12 | 7.47 | 6.82 | -0.08 | 41.08 |
| | min | | -0.01 | -0.01 | 0.00 | -0.38 | -0.04 |
| | max | | 8.12 | 7.47 | 6.82 | -0.08 | 41.08 |
| | min | | -0.01 | -0.01 | 0.00 | -0.38 | -0.04 |
| | max | | 8.12 | 7.47 | 6.82 | -0.08 | 41.08 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.48 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.48 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.48 | 0.00 |
| Qk.N_C5 | min | -0.01 | -0.01 | 0.00 | 0.00 | -0.47 | -0.02 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | 0.00 | 0.00 | -0.47 | -0.02 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | 0.00 | 0.00 | -0.47 | -0.02 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 2.66 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | 0.00 | -0.48 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.05 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.05 | 0.01 |
| Qk.N_DA | min | -2.37 | -0.87 | -0.52 | -0.18 | -0.60 | -2.88 |
| | max | 10.03 | 5.97 | 5.72 | 5.46 | -0.04 | 31.44 |
| | min | | -0.87 | -0.52 | -0.18 | -0.60 | -2.88 |
| | max | | 5.97 | 5.72 | 5.46 | -0.04 | 31.44 |
| | min | | 0.75 | 0.19 | -0.36 | -2.64 | 1.06 |
| | max | | 4.36 | 5.00 | 5.64 | 0.12 | 27.50 |
| Qk.N_T2 | min | -0.32 | -0.11 | -0.09 | -0.07 | -0.22 | -0.50 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.11 | -0.09 | -0.07 | -0.22 | -0.50 |

D-435

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| min | | -0.11 | -0.09 | -0.07 | -0.22 | -0.50 |
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.2

Q \uparrow & AKA € È Ì Á ↑

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 578.74 | 397.45 | 507.22 | 617.00 | 0.03 | 453.96 |
| Ö← | g | 242.88 | 160.53 | 210.38 | 260.22 | 0.04 | 188.29 |
| Qk.N_B1 | min | -0.01 | 0.00 | -0.01 | -0.01 | 0.10 | -0.01 |
| | max | 183.53 | 90.97 | 146.90 | 202.83 | 0.06 | 131.47 |
| | min | | 0.00 | -0.01 | -0.01 | 0.10 | -0.01 |
| | max | | 90.97 | 146.90 | 202.83 | 0.06 | 131.47 |
| | min | | 0.00 | -0.01 | -0.01 | 0.10 | -0.01 |
| | max | | 90.97 | 146.90 | 202.83 | 0.06 | 131.47 |
| Qk.N_C1 | min | -8.61 | -9.30 | -6.96 | -4.61 | -0.05 | -6.23 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -9.30 | -6.96 | -4.61 | -0.05 | -6.23 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -9.30 | -6.96 | -4.61 | -0.05 | -6.23 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -1.32 | -0.51 | -1.00 | -1.49 | 0.07 | -0.90 |
| | max | 0.08 | 0.07 | 0.07 | 0.07 | 0.00 | 0.07 |
| | min | | -0.51 | -1.00 | -1.49 | 0.07 | -0.90 |
| | max | | 0.07 | 0.07 | 0.07 | 0.00 | 0.07 |
| | min | | -0.51 | -1.00 | -1.49 | 0.07 | -0.90 |
| | max | | 0.07 | 0.07 | 0.07 | 0.00 | 0.07 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | max | 3.68 | 4.11 | 2.70 | 1.29 | -0.08 | 2.42 |
| | min | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | max | | 4.11 | 2.70 | 1.29 | -0.08 | 2.42 |
| | min | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | max | | 4.11 | 2.70 | 1.29 | -0.08 | 2.42 |
| Qk.N_DA | min | -3.42 | -2.93 | -3.23 | -3.53 | 0.01 | -2.89 |
| | max | 97.92 | 92.18 | 95.71 | 99.24 | 0.01 | 85.66 |
| | min | | -2.93 | -3.23 | -3.53 | 0.01 | -2.89 |
| | max | | 92.18 | 95.71 | 99.24 | 0.01 | 85.66 |
| | min | | -2.93 | -3.23 | -3.53 | 0.01 | -2.89 |
| | max | | 92.18 | 95.71 | 99.24 | 0.01 | 85.66 |
| Qk.N_T2 | min | -1.31 | -0.27 | -0.90 | -1.53 | 0.10 | -0.81 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.27 | -0.90 | -1.53 | 0.10 | -0.81 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.27 | -0.90 | -1.53 | 0.10 | -0.81 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.3

Q \uparrow & AKA € È Ì Á ↑

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 292.00 | 315.27 | 234.46 | 153.65 | -0.09 | 351.69 |
| Ö← | g | 126.94 | 138.26 | 99.22 | 60.17 | -0.10 | 148.82 |
| Qk.N_B1 | min | -0.69 | -0.82 | -0.32 | 0.18 | -0.39 | -0.48 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | 7.12 | 8.15 | 4.93 | 1.71 | -0.16 | 7.40 |
| | | -0.81 | -0.38 | 0.05 | -0.28 | -0.57 |
| | | 8.14 | 4.99 | 1.85 | -0.16 | 7.49 |
| | | 0.01 | -0.06 | -0.13 | 0.28 | -0.09 |
| | | 7.32 | 4.67 | 2.03 | -0.14 | 7.01 |
| Qk.N_C1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 45.93 | 55.81 | 21.99 | -11.84 | -0.38 | 32.98 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 55.81 | 21.99 | -11.84 | -0.38 | 32.98 |
| | | 55.81 | 21.99 | -11.84 | -0.38 | 32.98 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | -0.38 | -0.45 | -0.20 | 0.05 | -0.32 | -0.30 |
| | 0.20 | 0.07 | 0.14 | 0.22 | 0.13 | 0.21 |
| | | -0.45 | -0.20 | 0.05 | -0.32 | -0.30 |
| | | 0.07 | 0.14 | 0.22 | 0.13 | 0.21 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.38 | -0.06 | 0.27 | -1.41 | -0.09 |
| Qk.N_E1 | -0.41 | -0.50 | -0.19 | 0.11 | -0.39 | -0.29 |
| | 44.48 | 49.33 | 32.52 | 15.72 | -0.13 | 48.79 |
| | | -0.50 | -0.19 | 0.11 | -0.39 | -0.29 |
| | | 49.33 | 32.52 | 15.72 | -0.13 | 48.79 |
| | | 0.00 | 0.00 | -0.01 | 1.76 | 0.00 |
| | | 48.83 | 32.33 | 15.83 | -0.13 | 48.50 |
| Qk.N_DA | -1.31 | -1.47 | -1.00 | -0.54 | -0.12 | -1.50 |
| | 54.13 | 53.74 | 53.86 | 53.97 | 0.00 | 80.79 |
| | | -1.47 | -1.01 | -0.55 | -0.11 | -1.51 |
| | | 53.74 | 53.86 | 53.98 | 0.00 | 80.79 |
| | | -1.46 | -1.01 | -0.55 | -0.11 | -1.51 |
| | | 53.74 | 53.86 | 53.98 | 0.00 | 80.79 |
| Qk.N_T2 | 0.00 | -0.03 | 0.18 | 0.39 | 0.28 | 0.27 |
| | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.03 | 0.18 | 0.39 | 0.28 | 0.27 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.03 | 0.18 | 0.39 | 0.28 | 0.27 |

W-1.4
 $Q_k^{\uparrow} \& \acute{a} K \acute{A} F \acute{E} I \in \acute{A} \uparrow$

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 313.01 | 180.82 | 257.82 | 334.82 | 0.07 | 386.72 |
| Ö← | 133.45 | 78.12 | 110.18 | 142.25 | 0.07 | 165.27 |
| Qk.N_B1 | -1.92 | -2.30 | -1.21 | -0.12 | -0.22 | -1.82 |
| | 0.01 | 0.00 | 0.00 | 0.00 | 0.09 | 0.00 |
| | | -2.29 | -1.21 | -0.13 | -0.22 | -1.82 |
| | | 0.00 | 0.00 | 0.01 | 0.68 | 0.00 |
| | | -0.53 | -1.03 | -1.52 | 0.12 | -1.54 |
| | | -1.77 | -0.18 | 1.40 | -2.16 | -0.27 |
| Qk.N_C1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 81.58 | 35.11 | 61.88 | 88.64 | 0.11 | 92.82 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 35.11 | 61.88 | 88.64 | 0.11 | 92.82 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 35.11 | 61.88 | 88.64 | 0.11 | 92.82 |

D-437

Schulcampus EWK \

10G-LP4

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Qk.N_C5 | min | -0.57 | -0.11 | -0.36 | -0.62 | 0.18 | -0.55 |
| | max | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.09 | -0.37 | -0.65 | 0.19 | -0.56 |
| | max | | -0.01 | 0.01 | 0.03 | 0.51 | 0.02 |
| | min | | -0.09 | -0.37 | -0.65 | 0.19 | -0.56 |
| | max | | -0.01 | 0.01 | 0.03 | 0.51 | 0.02 |
| Qk.N_E1 | min | -0.86 | -8.26 | 6.29 | 20.84 | 0.58 | 9.43 |
| | max | 17.48 | 0.00 | 0.01 | 0.02 | 0.16 | 0.02 |
| | min | | -0.36 | -0.65 | -0.95 | 0.11 | -0.98 |
| | max | | -7.89 | 6.96 | 21.80 | 0.53 | 10.43 |
| | min | | -0.36 | -0.65 | -0.95 | 0.11 | -0.98 |
| | max | | -7.89 | 6.96 | 21.80 | 0.53 | 10.43 |
| Qk.N_DA | min | -2.02 | -1.27 | -1.66 | -2.04 | 0.06 | -2.48 |
| | max | 56.21 | 41.96 | 50.44 | 58.93 | 0.04 | 75.67 |
| | min | | -1.23 | -1.70 | -2.18 | 0.07 | -2.56 |
| | max | | 41.92 | 50.49 | 59.07 | 0.04 | 75.74 |
| | min | | -1.23 | -1.70 | -2.18 | 0.07 | -2.56 |
| | max | | 41.92 | 50.49 | 59.07 | 0.04 | 75.74 |
| Qk.N_T2 | min | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.01 | -0.01 | -0.02 | 0.99 | -0.01 |
| | min | | 0.01 | -0.01 | -0.02 | 0.98 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.01 | -0.01 | -0.02 | 0.98 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.5_1 $Q_k^{\wedge} \& \acute{a} K \acute{A} H \acute{E} \check{G} W \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 78.25 | 74.99 | 67.25 | 59.51 | -0.08 | 293.55 |
| Ö← | g | 18.15 | 16.17 | 17.08 | 17.98 | 0.04 | 74.54 |
| Qk.N_B1 | min | -3.73 | -2.69 | -3.18 | -3.68 | 0.11 | -13.89 |
| | max | 27.14 | 25.57 | 20.32 | 15.07 | -0.19 | 88.69 |
| | min | | -2.69 | -3.18 | -3.68 | 0.11 | -13.89 |
| | max | | 25.57 | 20.32 | 15.07 | -0.19 | 88.69 |
| | min | | -0.01 | -2.15 | -4.30 | 0.72 | -9.40 |
| | max | | 22.89 | 19.29 | 15.69 | -0.14 | 84.20 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.02 | 0.02 | 0.01 | -0.01 | -1.15 | 0.03 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.02 | 0.01 | -0.01 | -1.15 | 0.03 |
| | min | | 0.02 | 0.01 | -0.01 | -1.15 | 0.03 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.91 | -1.03 | -0.39 | 0.25 | -1.19 | -1.71 |
| | max | 0.21 | 0.18 | 0.17 | 0.16 | -0.04 | 0.74 |
| | min | | -1.03 | -0.39 | 0.25 | -1.19 | -1.71 |
| | max | | 0.18 | 0.17 | 0.16 | -0.04 | 0.74 |
| | min | | 0.01 | 0.00 | 0.00 | -1.68 | 0.01 |
| | max | | -0.86 | -0.22 | 0.41 | -2.06 | -0.98 |
| Qk.N_E1 | min | -2.25 | -0.89 | -1.63 | -2.37 | 0.33 | -7.12 |
| | max | 0.07 | 0.07 | 0.03 | -0.02 | -1.16 | 0.12 |
| | min | | -0.89 | -1.63 | -2.37 | 0.33 | -7.12 |
| | max | | 0.07 | 0.03 | -0.02 | -1.16 | 0.12 |
| | min | | -0.82 | -1.60 | -2.39 | 0.36 | -7.00 |
| | | | | | | | |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 0.00 | 0.00 | 0.00 | -1.15 | 0.00 |
| Qk.N_DA | min | -2.67 | -2.71 | -2.01 | -1.31 | -0.25 | -8.77 |
| | max | 20.10 | 21.24 | 15.90 | 10.55 | -0.24 | 69.38 |
| | min | | -2.69 | -2.01 | -1.33 | -0.25 | -8.79 |
| | max | | 21.23 | 15.90 | 10.58 | -0.24 | 69.40 |
| | min | | 1.43 | -0.16 | -1.76 | 7.09 | -0.71 |
| | max | | 17.10 | 14.05 | 11.00 | -0.16 | 61.33 |
| Qk.N_T2 | min | -3.08 | -3.23 | -1.28 | 0.68 | -1.11 | -5.57 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -3.23 | -1.28 | 0.68 | -1.11 | -5.57 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -3.23 | -1.28 | 0.68 | -1.11 | -5.57 |

W-1.5_2

Qk.N_DA

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 94.79 | 96.52 | 91.34 | 86.17 | 0.00 | 22.84 |
| Ö← | g | 19.82 | 20.16 | 19.12 | 18.09 | 0.00 | 4.78 |
| Qk.N_B1 | min | -17.69 | -18.38 | -16.30 | -14.21 | -0.01 | -4.07 |
| | max | 0.51 | 0.52 | 0.50 | 0.47 | 0.00 | 0.12 |
| | min | | -18.38 | -16.30 | -14.21 | -0.01 | -4.07 |
| | max | | 0.52 | 0.50 | 0.47 | 0.00 | 0.12 |
| | min | | -18.38 | -16.30 | -14.21 | -0.01 | -4.07 |
| | max | | 0.52 | 0.50 | 0.47 | 0.00 | 0.12 |
| Qk.N_C1 | min | -0.04 | -0.04 | -0.03 | -0.02 | -0.01 | -0.01 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.04 | -0.03 | -0.02 | -0.01 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.04 | -0.03 | -0.02 | -0.01 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.02 | -0.02 | -0.02 | -0.02 | -0.01 | -0.01 |
| | max | 21.49 | 22.14 | 20.19 | 18.24 | 0.00 | 5.05 |
| | min | | -0.02 | -0.02 | -0.02 | -0.01 | -0.01 |
| | max | | 22.14 | 20.19 | 18.24 | 0.00 | 5.05 |
| | min | | -0.02 | -0.02 | -0.02 | -0.01 | -0.01 |
| | max | | 22.14 | 20.19 | 18.24 | 0.00 | 5.05 |
| Qk.N_E1 | min | -1.12 | -1.15 | -1.05 | -0.96 | 0.00 | -0.26 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | min | | -1.15 | -1.05 | -0.96 | 0.00 | -0.26 |
| | max | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | min | | -1.15 | -1.05 | -0.96 | 0.00 | -0.26 |
| | max | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| Qk.N_DA | min | -4.06 | -4.19 | -3.79 | -3.39 | 0.00 | -0.95 |
| | max | 19.66 | 19.99 | 18.99 | 17.99 | 0.00 | 4.75 |
| | min | | -4.19 | -3.79 | -3.39 | 0.00 | -0.95 |
| | max | | 19.99 | 18.99 | 17.99 | 0.00 | 4.75 |
| | min | | -4.19 | -3.79 | -3.39 | 0.00 | -0.95 |
| | max | | 19.99 | 18.99 | 17.99 | 0.00 | 4.75 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 9.13 | 9.56 | 8.26 | 6.97 | -0.01 | 2.07 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 9.56 | 8.26 | 6.97 | -0.01 | 2.07 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 9.56 | 8.26 | 6.97 | -0.01 | 2.07 |

W-1.6
 $Q \uparrow \wedge \& \acute{a} \acute{K} \acute{A} \acute{I} \acute{E} \acute{I} \in \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 217.50 | 96.55 | 143.41 | 190.26 | 0.46 | 1218.9 |
| Ö← | g | 76.90 | 25.46 | 45.19 | 64.92 | 0.62 | 384.12 |
| Qk.N_B1 | min | -0.01 | -7.52 | 3.70 | 14.93 | 4.30 | 31.47 |
| | max | 26.78 | 7.37 | 3.01 | -1.35 | -2.05 | 25.61 |
| | min | | 0.00 | 0.00 | 0.00 | -21.89 | 0.00 |
| | max | | -0.15 | 6.72 | 13.58 | 1.45 | 57.08 |
| | min | | 7.37 | 3.01 | -1.35 | -2.05 | 25.61 |
| | max | | -7.52 | 3.70 | 14.93 | 4.30 | 31.47 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 69.63 | 0.46 | 25.87 | 51.28 | 1.39 | 219.88 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.46 | 25.87 | 51.28 | 1.39 | 219.88 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.46 | 25.87 | 51.28 | 1.39 | 219.88 |
| Qk.N_C5 | min | 0.00 | -0.65 | 0.11 | 0.87 | 9.86 | 0.93 |
| | max | 8.02 | 0.41 | 2.47 | 4.52 | 1.18 | 20.98 |
| | min | | 0.00 | 0.00 | 0.00 | -3.22 | 0.00 |
| | max | | -0.24 | 2.58 | 5.39 | 1.55 | 21.91 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.24 | 2.58 | 5.39 | 1.55 | 21.91 |
| Qk.N_E1 | min | -0.20 | -13.01 | 7.98 | 28.98 | 3.73 | 67.86 |
| | max | 55.36 | 17.31 | 8.27 | -0.77 | -1.55 | 70.32 |
| | min | | -0.04 | -0.05 | -0.05 | 0.10 | -0.40 |
| | max | | 4.35 | 16.30 | 28.26 | 1.04 | 138.58 |
| | min | | 17.31 | 8.27 | -0.77 | -1.55 | 70.31 |
| | max | | -13.01 | 7.99 | 28.98 | 3.72 | 67.87 |
| Qk.N_DA | min | -0.17 | -0.19 | 0.77 | 1.73 | 1.77 | 6.53 |
| | max | 77.60 | 33.32 | 34.17 | 35.03 | 0.04 | 290.48 |
| | min | | -0.01 | -0.06 | -0.11 | 1.23 | -0.49 |
| | max | | 33.14 | 35.00 | 36.86 | 0.08 | 297.49 |
| | min | | 0.01 | -0.05 | -0.11 | 1.69 | -0.44 |
| | max | | 33.12 | 34.99 | 36.87 | 0.08 | 297.44 |
| Qk.N_T2 | min | -0.04 | 0.00 | 0.00 | 0.00 | -5.85 | -0.01 |
| | max | 0.00 | 0.01 | 0.00 | -0.01 | 5.29 | -0.03 |
| | min | | 0.00 | 0.00 | -0.01 | 3.17 | -0.03 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.01 | 0.00 | -0.01 | 5.29 | -0.03 |
| | max | | 0.00 | 0.00 | 0.00 | -5.85 | -0.01 |

W-1.7
 $Q \uparrow \wedge \& \acute{a} \acute{K} \acute{A} \acute{I} \acute{E} \acute{I} \in \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 202.16 | 18.81 | 90.91 | 163.01 | 0.73 | 500.02 |
| Ö← | g | 78.38 | -6.52 | 26.18 | 58.89 | 1.14 | 144.01 |
| Qk.N_B1 | min | -3.53 | -3.27 | 1.59 | 6.44 | 2.80 | 8.73 |
| | max | 25.19 | 4.46 | 13.36 | 22.25 | 0.61 | 73.45 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -3.06 | -2.84 | -2.62 | -0.07 | -15.61 |
| | max | | 4.25 | 17.78 | 31.30 | 0.70 | 97.78 |
| | min | | -2.99 | -2.81 | -2.63 | -0.06 | -15.46 |
| | max | | 4.18 | 17.75 | 31.32 | 0.70 | 97.64 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.08 | -0.01 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.08 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.08 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -2.66 | -0.96 | -0.73 | -0.50 | -0.29 | -4.01 |
| | max | 7.47 | 3.65 | 0.76 | -2.13 | -3.48 | 4.19 |
| | min | | -0.96 | -0.73 | -0.50 | -0.29 | -4.01 |
| | max | | 3.65 | 0.76 | -2.13 | -3.48 | 4.19 |
| | min | | 2.71 | 0.04 | -2.63 | -63.54 | 0.21 |
| | max | | -0.02 | -0.01 | 0.01 | -2.08 | -0.03 |
| Qk.N_E1 | min | -0.01 | 0.00 | 0.00 | 0.00 | -0.18 | -0.02 |
| | max | 18.78 | 14.90 | 11.76 | 8.62 | -0.24 | 64.67 |
| | min | | 0.00 | 0.00 | 0.00 | -0.18 | -0.02 |
| | max | | 14.90 | 11.76 | 8.62 | -0.24 | 64.67 |
| | min | | 0.00 | 0.00 | 0.00 | -0.18 | -0.02 |
| | max | | 14.90 | 11.76 | 8.62 | -0.24 | 64.67 |
| Qk.N_DA | min | -2.27 | -6.22 | 3.34 | 12.90 | 2.62 | 18.37 |
| | max | 22.32 | 3.72 | 4.29 | 4.86 | 0.12 | 23.59 |
| | min | | -1.50 | -1.96 | -2.41 | 0.21 | -10.77 |
| | max | | -1.00 | 9.59 | 20.17 | 1.01 | 52.74 |
| | min | | 0.22 | -1.60 | -3.42 | 1.04 | -8.82 |
| | max | | -2.72 | 9.23 | 21.18 | 1.19 | 50.78 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.34 | 0.38 | 0.26 | 0.14 | -0.42 | 1.44 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.38 | 0.26 | 0.14 | -0.42 | 1.44 |
| | min | | 0.00 | 0.00 | 0.00 | -1.40 | 0.00 |
| | max | | 0.38 | 0.26 | 0.14 | -0.42 | 1.44 |

W-1.8

Q⁺ & A K A G E I I A ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 54.33 | 57.21 | 48.36 | 39.51 | -0.08 | 133.00 |
| Ö← | g | 7.09 | 8.27 | 4.62 | 0.97 | -0.36 | 12.71 |
| Qk.N_B1 | min | 0.00 | -0.09 | 0.05 | 0.20 | 1.26 | 0.15 |
| | max | 1.93 | 2.41 | 1.10 | -0.20 | -0.54 | 3.04 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 2.32 | 1.16 | 0.00 | -0.46 | 3.19 |
| | min | | 2.41 | 1.10 | -0.20 | -0.54 | 3.04 |
| | max | | -0.09 | 0.05 | 0.20 | 1.26 | 0.15 |
| Qk.N_C1 | min | -0.18 | -0.21 | -0.09 | 0.04 | -0.66 | -0.24 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.21 | -0.09 | 0.04 | -0.66 | -0.24 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.21 | -0.09 | 0.04 | -0.66 | -0.24 |
| Qk.N_C5 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.74 | 0.00 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | 1.00 | 1.25 | 0.51 | -0.22 | -0.66 | 1.41 |
| | min | | 0.00 | 0.00 | 0.00 | -0.71 | 0.00 |
| | max | | 1.25 | 0.51 | -0.22 | -0.66 | 1.41 |
| | min | | 1.25 | 0.51 | -0.22 | -0.66 | 1.41 |
| | max | | 0.00 | 0.00 | 0.00 | -0.77 | 0.00 |
| Qk.N_E1 | min | -0.01 | -0.02 | 0.00 | 0.02 | 21.18 | 0.00 |
| | max | 16.83 | 14.49 | 13.09 | 11.69 | -0.05 | 36.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.62 | -0.01 |
| | max | | 14.47 | 13.09 | 11.72 | -0.05 | 36.01 |
| | min | | 2.26 | 0.37 | -1.52 | -2.35 | 1.01 |
| | max | | 12.21 | 12.72 | 13.24 | 0.02 | 34.99 |
| Qk.N_DA | min | -12.21 | -5.82 | -7.82 | -9.82 | 0.12 | -21.50 |
| | max | 9.32 | 8.97 | 6.98 | 4.98 | -0.13 | 19.18 |
| | min | | -5.81 | -7.86 | -9.91 | 0.12 | -21.62 |
| | max | | 8.97 | 7.02 | 5.07 | -0.13 | 19.31 |
| | min | | -5.81 | -7.86 | -9.91 | 0.12 | -21.62 |
| | max | | 8.97 | 7.02 | 5.07 | -0.13 | 19.31 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.53 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 1.85 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.69 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 1.85 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.53 | 0.00 |

W-1.9

Q₁⁺ & A_K G_E I_I A₁⁺

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 45.64 | 30.09 | 38.59 | 47.08 | 0.10 | 106.11 |
| Ö← | g | 10.57 | 7.49 | 8.92 | 10.35 | 0.07 | 24.54 |
| Qk.N_B1 | min | -1.49 | -0.53 | 0.49 | 1.52 | 0.95 | 1.35 |
| | max | 4.98 | 5.30 | 3.30 | 1.29 | -0.28 | 9.07 |
| | min | | -0.46 | -0.70 | -0.94 | 0.16 | -1.93 |
| | max | | 5.23 | 4.49 | 3.75 | -0.08 | 12.35 |
| | min | | -0.46 | -0.70 | -0.94 | 0.16 | -1.93 |
| | max | | 5.23 | 4.49 | 3.75 | -0.08 | 12.35 |
| Qk.N_C1 | min | -0.03 | -0.03 | -0.02 | -0.01 | -0.22 | -0.06 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.03 | -0.02 | -0.01 | -0.22 | -0.06 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.03 | -0.02 | -0.01 | -0.22 | -0.06 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -1.26 | -0.41 | 0.04 | 0.49 | 5.21 | 0.11 |
| | max | 1.67 | 1.51 | 0.99 | 0.47 | -0.24 | 2.73 |
| | min | | -0.41 | -0.47 | -0.53 | 0.06 | -1.28 |
| | max | | 1.51 | 1.50 | 1.48 | 0.00 | 4.12 |
| | min | | -0.41 | -0.47 | -0.53 | 0.06 | -1.28 |
| | max | | 1.51 | 1.50 | 1.48 | 0.00 | 4.12 |
| Qk.N_E1 | min | -0.02 | -0.04 | -0.01 | 0.03 | -3.24 | -0.01 |
| | max | 14.78 | 14.50 | 12.18 | 9.86 | -0.09 | 33.50 |
| | min | | -0.02 | -0.01 | -0.01 | -0.07 | -0.04 |
| | max | | 14.47 | 12.19 | 9.90 | -0.09 | 33.52 |
| | min | | 3.04 | 0.98 | -1.09 | -0.97 | 2.69 |
| | max | | 11.42 | 11.20 | 10.98 | -0.01 | 30.79 |

D-442

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_DA | min | -1.21 | -5.49 | -0.26 | 4.97 | -9.38 | -0.70 |
| | max | 6.91 | 3.43 | 2.78 | 2.14 | -0.11 | 7.66 |
| | min | | 0.03 | -0.62 | -1.26 | 0.48 | -1.69 |
| | max | | -2.08 | 3.14 | 8.37 | 0.76 | 8.65 |
| | min | | 0.06 | -0.61 | -1.28 | 0.50 | -1.68 |
| | max | | -2.11 | 3.14 | 8.39 | 0.77 | 8.63 |
| Qk.N_T2 | min | -0.18 | -0.13 | -0.14 | -0.15 | 0.05 | -0.38 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.13 | -0.14 | -0.15 | 0.05 | -0.38 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.13 | -0.14 | -0.15 | 0.05 | -0.38 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.10

Qk^&æÁKÁIÈI€Á↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 284.29 | 237.30 | 131.48 | 25.65 | -0.74 | 723.11 |
| Ö← | g | 90.94 | 72.56 | 39.77 | 6.99 | -0.76 | 218.75 |
| Qk.N_B1 | min | -0.01 | 0.00 | 0.00 | 0.01 | 2.13 | 0.01 |
| | max | 62.83 | 53.51 | 27.89 | 2.28 | -0.84 | 153.41 |
| | min | | 0.00 | 0.00 | 0.00 | 2.05 | -0.01 |
| | max | | 53.51 | 27.90 | 2.29 | -0.84 | 153.43 |
| | min | | 51.46 | 18.83 | -13.80 | -1.59 | 103.56 |
| | max | | 2.05 | 9.07 | 16.08 | 0.71 | 49.87 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -3.27 | -0.25 | -0.22 | -0.20 | -0.11 | -1.22 |
| | max | 35.69 | 27.83 | 12.91 | -2.02 | -1.06 | 70.98 |
| | min | | 0.24 | -0.57 | -1.38 | 1.29 | -3.15 |
| | max | | 27.34 | 13.26 | -0.83 | -0.97 | 72.92 |
| | min | | 27.61 | 12.70 | -2.21 | -1.08 | 69.84 |
| | max | | -0.03 | -0.01 | 0.00 | -1.05 | -0.08 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 15.22 | 8.24 | 7.39 | 6.55 | -0.10 | 40.67 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 8.24 | 7.39 | 6.55 | -0.10 | 40.67 |
| | min | | 0.00 | 0.00 | 0.00 | -1.31 | 0.00 |
| | max | | 8.24 | 7.39 | 6.55 | -0.10 | 40.67 |
| Qk.N_DA | min | -1.33 | -1.25 | 2.48 | 6.21 | 1.38 | 13.66 |
| | max | 72.17 | 60.49 | 25.68 | -9.12 | -1.24 | 141.26 |
| | min | | -0.85 | -0.48 | -0.10 | -0.72 | -2.61 |
| | max | | 60.09 | 28.64 | -2.80 | -1.01 | 157.52 |
| | min | | 60.45 | 25.66 | -9.13 | -1.24 | 141.15 |
| | max | | -1.21 | 2.50 | 6.22 | 1.36 | 13.76 |
| Qk.N_T2 | min | -0.03 | -0.02 | -0.01 | 0.01 | -2.62 | -0.03 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.02 | -0.01 | 0.01 | -2.62 | -0.03 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | | -0.02 | -0.01 | 0.01 | -2.62 | -0.03 |

W-1.11_1
 $Q \uparrow \& \acute{a} \acute{K} \acute{A} \acute{J} \acute{E} \acute{N} \acute{G} \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 483.86 | 29.91 | 173.78 | 317.65 | 0.91 | 1151.3 |
| Ö← | g | 153.01 | 7.10 | 52.22 | 97.33 | 0.95 | 345.92 |
| Qk.N_B1 | min | -2.02 | -0.03 | 26.09 | 52.22 | 1.11 | 172.87 |
| | max | 88.54 | 2.60 | 0.50 | -1.60 | -4.65 | 3.30 |
| | min | | 0.53 | -0.22 | -0.97 | 3.76 | -1.46 |
| | max | | 2.04 | 26.81 | 51.59 | 1.02 | 177.64 |
| | min | | 2.60 | 0.50 | -1.60 | -4.65 | 3.30 |
| | max | | -0.03 | 26.09 | 52.22 | 1.11 | 172.87 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.29 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.29 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.29 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | 0.00 | -0.12 | 0.03 | 0.19 | 5.08 | 0.22 |
| | max | 83.80 | 6.23 | 28.40 | 50.58 | 0.86 | 188.18 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 6.11 | 28.44 | 50.77 | 0.87 | 188.40 |
| | min | | 0.16 | 0.05 | -0.05 | -2.20 | 0.34 |
| | max | | 5.95 | 28.39 | 50.82 | 0.87 | 188.05 |
| Qk.N_E1 | min | -1.77 | -0.19 | -0.05 | 0.08 | -2.79 | -0.36 |
| | max | 0.02 | 0.50 | -0.19 | -0.89 | 3.99 | -1.27 |
| | min | | 0.30 | -0.25 | -0.80 | 2.41 | -1.66 |
| | max | | 0.02 | 0.01 | -0.01 | -2.13 | 0.03 |
| | min | | 0.50 | -0.19 | -0.89 | 3.97 | -1.28 |
| | max | | -0.19 | -0.05 | 0.08 | -2.82 | -0.35 |
| Qk.N_DA | min | -1.60 | -5.11 | 0.25 | 5.61 | 23.68 | 1.66 |
| | max | 120.04 | 10.83 | 44.02 | 77.21 | 0.83 | 291.60 |
| | min | | -1.34 | -0.58 | 0.18 | -1.46 | -3.83 |
| | max | | 7.06 | 44.84 | 82.63 | 0.93 | 297.09 |
| | min | | 2.04 | 0.75 | -0.53 | -1.89 | 4.98 |
| | max | | 3.68 | 43.51 | 83.35 | 1.01 | 288.28 |
| Qk.N_T2 | min | -2.04 | -1.64 | -0.61 | 0.42 | -1.86 | -4.06 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.64 | -0.61 | 0.42 | -1.85 | -4.06 |
| | max | | 0.00 | 0.00 | 0.00 | 3.88 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.64 | -0.61 | 0.42 | -1.86 | -4.06 |

W-1.11_2
 $Q \uparrow \& \acute{a} \acute{K} \acute{A} \acute{F} \acute{E} \acute{C} \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 38.43 | -2.75 | 22.11 | 46.96 | 0.19 | 22.11 |
| Ö← | g | -8.15 | -11.44 | -1.20 | 9.04 | -1.42 | -1.20 |
| Qk.N_B1 | min | -32.83 | -38.99 | -17.86 | 3.26 | -0.20 | -17.86 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -38.99 | -17.86 | 3.26 | -0.20 | -17.86 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -13.90 | -7.86 | -1.81 | -0.13 | -7.86 |
| | max | | -25.09 | -10.01 | 5.07 | -0.25 | -10.01 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.01 | 0.01 | 0.00 | 0.00 | -0.28 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.01 | 0.00 | 0.00 | -0.28 | 0.00 |
| | min | | 0.01 | 0.00 | 0.00 | -0.28 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -3.06 | -7.81 | -1.69 | 4.43 | -0.60 | -1.69 |
| | max | 16.52 | 21.06 | 15.26 | 9.46 | -0.06 | 15.26 |
| | min | | -3.59 | -1.76 | 0.08 | -0.17 | -1.76 |
| | max | | 16.84 | 15.32 | 13.81 | -0.02 | 15.32 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 13.25 | 13.57 | 13.89 | 0.00 | 13.57 |
| Qk.N_E1 | min | -0.69 | -0.70 | -0.68 | -0.65 | -0.01 | -0.68 |
| | max | 1.38 | 1.48 | 1.21 | 0.95 | -0.04 | 1.21 |
| | min | | -0.70 | -0.68 | -0.65 | -0.01 | -0.68 |
| | max | | 1.48 | 1.21 | 0.95 | -0.04 | 1.21 |
| | min | | -0.68 | -0.67 | -0.66 | 0.00 | -0.67 |
| | max | | 1.46 | 1.21 | 0.96 | -0.03 | 1.21 |
| Qk.N_DA | min | -20.23 | -22.99 | -15.82 | -8.64 | -0.08 | -15.82 |
| | max | 15.41 | 16.49 | 13.58 | 10.68 | -0.04 | 13.58 |
| | min | | -22.90 | -15.90 | -8.89 | -0.07 | -15.90 |
| | max | | 16.40 | 13.66 | 10.92 | -0.03 | 13.66 |
| | min | | -16.28 | -12.75 | -9.21 | -0.05 | -12.75 |
| | max | | 9.78 | 10.51 | 11.25 | 0.01 | 10.51 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 6.16 | 7.73 | 2.23 | -3.28 | -0.41 | 2.23 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 7.73 | 2.23 | -3.28 | -0.41 | 2.23 |
| | min | | 7.73 | 2.23 | -3.28 | -0.41 | 2.23 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.12

Q_z^ÄKÁFÈI€Á↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 190.36 | 191.31 | 185.28 | 179.24 | -0.01 | 277.91 |
| Ö← | g | 82.33 | 80.16 | 81.09 | 82.02 | 0.00 | 121.63 |
| Qk.N_B1 | min | -0.47 | -0.47 | -0.44 | -0.41 | -0.02 | -0.66 |
| | max | 49.57 | 49.39 | 47.91 | 46.43 | -0.01 | 71.86 |
| | min | | -0.47 | -0.44 | -0.41 | -0.02 | -0.66 |
| | max | | 49.39 | 47.91 | 46.43 | -0.01 | 71.86 |
| | min | | -0.42 | -0.42 | -0.41 | 0.00 | -0.63 |
| | max | | 49.34 | 47.89 | 46.43 | -0.01 | 71.83 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | 0.00 | -0.01 | 0.00 | 0.00 | -0.25 | 0.00 |
| | max | 3.38 | 3.74 | 2.63 | 1.53 | -0.11 | 3.95 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -0.01 | 0.00 | 0.00 | -0.25 | 0.00 |
| | max | | 3.74 | 2.63 | 1.53 | -0.11 | 3.95 |
| | min | | 0.12 | 0.06 | -0.01 | -0.31 | 0.08 |
| | max | | 3.61 | 2.57 | 1.54 | -0.10 | 3.86 |
| Qk.N_E1 | min | -0.24 | -0.26 | -0.22 | -0.18 | -0.04 | -0.33 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.24 | 0.00 |
| | min | | -0.26 | -0.22 | -0.18 | -0.04 | -0.33 |
| | max | | 0.00 | 0.00 | 0.00 | -0.24 | 0.00 |
| | min | | -0.26 | -0.22 | -0.18 | -0.04 | -0.33 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -0.32 | -0.38 | -0.26 | -0.15 | -0.11 | -0.40 |
| | max | 37.07 | 38.73 | 34.24 | 29.74 | -0.03 | 51.35 |
| | min | | -0.35 | -0.27 | -0.18 | -0.08 | -0.40 |
| | max | | 38.70 | 34.24 | 29.78 | -0.03 | 51.35 |
| | min | | -0.35 | -0.26 | -0.18 | -0.08 | -0.40 |
| | max | | 38.69 | 34.24 | 29.78 | -0.03 | 51.35 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.05 | 0.05 | 0.03 | 0.00 | -0.29 | 0.04 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.05 | 0.03 | 0.00 | -0.29 | 0.04 |
| | min | | 0.05 | 0.03 | 0.00 | -0.29 | 0.04 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.13
 $Q_k^{\wedge} \& \acute{A} \acute{K} \acute{A} \acute{F} \acute{E} \acute{I} \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 403.92 | 432.67 | 333.50 | 234.33 | -0.07 | 500.25 |
| Ö← | g | 167.81 | 180.32 | 136.82 | 93.33 | -0.08 | 205.23 |
| Qk.N_B1 | min | -0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 104.24 | 115.11 | 75.18 | 35.25 | -0.13 | 112.77 |
| | min | | 0.11 | -0.04 | -0.20 | 0.90 | -0.06 |
| | max | | 115.00 | 75.22 | 35.45 | -0.13 | 112.84 |
| | min | | 0.31 | 0.01 | -0.29 | -12.20 | 0.01 |
| | max | | 114.81 | 75.18 | 35.54 | -0.13 | 112.76 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.71 | -0.87 | -0.35 | 0.18 | -0.38 | -0.52 |
| | max | 6.51 | 7.05 | 4.95 | 2.84 | -0.11 | 7.42 |
| | min | | -0.87 | -0.35 | 0.18 | -0.38 | -0.52 |
| | max | | 7.05 | 4.95 | 2.84 | -0.11 | 7.42 |
| | min | | -0.02 | -0.02 | -0.01 | -0.07 | -0.03 |
| | max | | 6.20 | 4.62 | 3.03 | -0.09 | 6.92 |
| Qk.N_E1 | min | -0.08 | 0.00 | 0.00 | 0.00 | -0.73 | 0.00 |
| | max | 0.00 | 0.04 | -0.03 | -0.10 | 0.57 | -0.05 |
| | min | | 0.04 | -0.03 | -0.10 | 0.54 | -0.05 |
| | max | | 0.00 | 0.00 | 0.00 | -0.57 | 0.00 |
| | min | | 0.04 | -0.03 | -0.10 | 0.57 | -0.05 |
| | max | | 0.00 | 0.00 | 0.00 | -0.90 | 0.00 |
| Qk.N_DA | min | -1.55 | -1.75 | -1.12 | -0.48 | -0.14 | -1.68 |

Kraft Ft

| | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|---------|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| | 81.22 | 84.93 | 73.57 | 62.20 | -0.04 | 110.35 |
| | | -1.75 | -1.12 | -0.48 | -0.14 | -1.68 |
| | | 84.93 | 73.57 | 62.20 | -0.04 | 110.35 |
| | | -0.57 | -0.62 | -0.66 | 0.02 | -0.92 |
| | | 83.75 | 73.06 | 62.37 | -0.04 | 109.60 |
| Qk.N_T2 | -0.16 | -0.21 | -0.05 | 0.10 | -0.74 | -0.08 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.21 | -0.05 | 0.10 | -0.74 | -0.08 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.21 | -0.05 | 0.10 | -0.74 | -0.08 |

W-1.14

Q₁[^] & æ Å K Á F È I € Á ↑

Kraft Ft

| | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|---------|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | 316.30 | 55.56 | 209.27 | 362.97 | 0.18 | 313.90 |
| Ö← | 137.25 | 28.11 | 92.39 | 156.67 | 0.17 | 138.58 |
| Qk.N_B1 | 0.00 | -0.02 | 0.04 | 0.09 | 0.35 | 0.06 |
| | 100.77 | 10.38 | 63.37 | 116.36 | 0.21 | 95.05 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 10.36 | 63.41 | 116.45 | 0.21 | 95.11 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 10.36 | 63.41 | 116.45 | 0.21 | 95.11 |
| Qk.N_C1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | -0.88 | -0.28 | 2.52 | 5.32 | 0.28 | 3.78 |
| | 5.37 | 0.03 | 0.02 | 0.02 | -0.10 | 0.04 |
| | | 0.00 | -0.52 | -1.04 | 0.25 | -0.78 |
| | | -0.24 | 3.06 | 6.37 | 0.27 | 4.59 |
| | | 0.00 | -0.52 | -1.04 | 0.25 | -0.78 |
| | | -0.24 | 3.06 | 6.37 | 0.27 | 4.59 |
| Qk.N_E1 | 0.00 | 0.00 | 0.03 | 0.07 | 0.28 | 0.05 |
| | 0.06 | 0.00 | 0.00 | 0.00 | 0.12 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 |
| | | 0.00 | 0.04 | 0.08 | 0.26 | 0.06 |
| | | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 |
| | | 0.00 | 0.04 | 0.08 | 0.26 | 0.06 |
| Qk.N_DA | -2.86 | -0.83 | -1.83 | -2.82 | 0.14 | -2.74 |
| | 53.10 | 11.14 | 35.88 | 60.62 | 0.17 | 53.82 |
| | | -0.81 | -2.03 | -3.25 | 0.15 | -3.05 |
| | | 11.12 | 36.08 | 61.05 | 0.17 | 54.12 |
| | | -0.81 | -2.03 | -3.25 | 0.15 | -3.05 |
| | | 11.12 | 36.08 | 61.05 | 0.17 | 54.12 |
| Qk.N_T2 | -0.74 | -0.66 | -0.70 | -0.75 | 0.02 | -1.05 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.66 | -0.70 | -0.75 | 0.02 | -1.05 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.66 | -0.70 | -0.75 | 0.02 | -1.05 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.15
 $Q \uparrow \wedge \text{ÄKÄ} \in \text{EHGÄ} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -12.71 | -16.51 | -5.11 | 6.28 | -0.16 | -2.17 |
| Ö← | g | -4.23 | -5.96 | -0.76 | 4.44 | -0.48 | -0.32 |
| Qk.N_B1 | min | -30.37 | -33.35 | -24.41 | -15.47 | -0.03 | -10.37 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | min | | -33.35 | -24.41 | -15.47 | -0.03 | -10.37 |
| | max | | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | min | | -33.35 | -24.41 | -15.47 | -0.03 | -10.37 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -3.78 | -4.04 | -3.26 | -2.49 | -0.02 | -1.39 |
| | max | 0.56 | 0.60 | 0.48 | 0.36 | -0.02 | 0.20 |
| | min | | -4.04 | -3.26 | -2.49 | -0.02 | -1.39 |
| | max | | 0.60 | 0.48 | 0.36 | -0.02 | 0.20 |
| | min | | -4.04 | -3.26 | -2.49 | -0.02 | -1.39 |
| | max | | 0.60 | 0.48 | 0.36 | -0.02 | 0.20 |
| Qk.N_E1 | min | -0.02 | -0.02 | -0.02 | -0.01 | -0.01 | -0.01 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.10 | 0.00 |
| | min | | -0.02 | -0.02 | -0.02 | -0.01 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| | min | | -0.02 | -0.02 | -0.02 | -0.01 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| Qk.N_DA | min | -8.51 | -8.53 | -8.47 | -8.42 | 0.00 | -3.60 |
| | max | 3.47 | 3.58 | 3.24 | 2.89 | -0.01 | 1.38 |
| | min | | -8.53 | -8.47 | -8.42 | 0.00 | -3.60 |
| | max | | 3.58 | 3.24 | 2.89 | -0.01 | 1.38 |
| | min | | -8.53 | -8.47 | -8.42 | 0.00 | -3.60 |
| | max | | 3.58 | 3.24 | 2.89 | -0.01 | 1.38 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.80 | 0.94 | 0.52 | 0.10 | -0.06 | 0.22 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.94 | 0.52 | 0.10 | -0.06 | 0.22 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.94 | 0.52 | 0.10 | -0.06 | 0.22 |

W-1.16
 $Q \uparrow \wedge \text{ÄKÄ} \hat{=} \text{E} \in \text{Ä} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 77.81 | 50.28 | 53.56 | 56.85 | 0.09 | 455.28 |
| Ö← | g | 38.09 | 30.74 | 29.80 | 28.85 | -0.04 | 253.28 |
| Qk.N_B1 | min | -4.99 | -1.37 | -0.20 | 0.97 | -8.46 | -1.67 |
| | max | 18.74 | 6.51 | 9.98 | 13.45 | 0.49 | 84.84 |
| | min | | -1.33 | -0.23 | 0.87 | -6.75 | -1.96 |
| | max | | 6.47 | 10.02 | 13.56 | 0.50 | 85.13 |
| | min | | 0.00 | 0.00 | 0.00 | -3.55 | 0.01 |
| | max | | 5.14 | 9.78 | 14.43 | 0.67 | 83.17 |
| Qk.N_C1 | min | -0.01 | 0.00 | 0.00 | 0.00 | -17.58 | 0.00 |

D-448

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | -17.58 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | -17.58 | 0.00 |
| Qk.N_C5 | -0.58 | -0.15 | -0.01 | 0.13 | -21.06 | -0.08 |
| | 0.04 | 0.01 | 0.00 | -0.01 | 7.73 | -0.02 |
| | | -0.13 | -0.02 | 0.09 | -7.65 | -0.17 |
| | | -0.01 | 0.01 | 0.03 | 2.98 | 0.08 |
| | | 0.01 | 0.00 | -0.01 | 7.73 | -0.02 |
| | | -0.15 | -0.01 | 0.13 | -21.06 | -0.08 |
| Qk.N_E1 | -0.01 | -0.01 | 0.00 | 0.00 | -4.44 | -0.01 |
| | 0.03 | 0.01 | 0.00 | -0.01 | -4.91 | 0.02 |
| | | -0.01 | 0.00 | 0.00 | -3.97 | -0.01 |
| | | 0.01 | 0.00 | -0.01 | -4.69 | 0.03 |
| | | 0.01 | 0.00 | -0.01 | -4.93 | 0.02 |
| | | -0.01 | 0.00 | 0.00 | -4.50 | -0.01 |
| Qk.N_DA | -2.36 | -0.40 | 0.46 | 1.31 | 2.65 | 3.89 |
| | 14.82 | 7.17 | 6.46 | 5.75 | -0.16 | 54.92 |
| | | 0.07 | -0.38 | -0.83 | 1.67 | -3.26 |
| | | 6.70 | 7.30 | 7.90 | 0.12 | 62.07 |
| | | 0.13 | -0.37 | -0.87 | 1.94 | -3.11 |
| | | 6.64 | 7.28 | 7.93 | 0.13 | 61.92 |
| Qk.N_T2 | -0.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.05 | -0.06 | -0.17 | 2.48 | -0.53 |
| | | 0.05 | -0.06 | -0.17 | 2.48 | -0.53 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.05 | -0.06 | -0.17 | 2.48 | -0.53 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.17
 $Q_k^{\perp} \cdot \vec{e}_k \cdot \vec{A}_k \cdot \vec{e}_k \cdot \vec{A}_k$

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 76.82 | 74.57 | 52.27 | 29.96 | -0.60 | 444.28 |
| Ö← | 37.83 | 40.13 | 29.91 | 19.68 | -0.48 | 254.20 |
| Qk.N_B1 | -4.23 | 0.00 | 0.00 | 0.00 | 7.74 | 0.00 |
| | 17.46 | 14.08 | 6.06 | -1.96 | -1.88 | 51.51 |
| | | 1.23 | -1.10 | -3.42 | 3.00 | -9.34 |
| | | 12.86 | 7.16 | 1.46 | -1.13 | 60.85 |
| | | 1.23 | -1.10 | -3.42 | 3.00 | -9.34 |
| | | 12.86 | 7.16 | 1.46 | -1.13 | 60.85 |
| Qk.N_C1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | 0.00 | -1.00 | 1.75 | 4.50 | 2.22 | 14.87 |
| | 6.00 | 0.00 | 0.00 | 0.00 | 5.94 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 5.18 | 0.00 |
| | | -1.00 | 1.75 | 4.50 | 2.22 | 14.87 |
| | | 0.00 | 0.00 | 0.00 | 5.18 | 0.00 |
| | | -1.00 | 1.75 | 4.50 | 2.22 | 14.87 |

D-449

Schulcampus EWK \

10G-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_E1 | min | -3.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.98 | -0.85 | -2.69 | 3.05 | -7.24 |
| | min | | 0.98 | -0.85 | -2.69 | 3.05 | -7.24 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.98 | -0.85 | -2.69 | 3.05 | -7.24 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -1.06 | -0.03 | 0.03 | 0.09 | 2.72 | 0.26 |
| | max | 14.81 | 11.13 | 7.13 | 3.13 | -0.79 | 60.59 |
| | min | | 0.27 | -0.30 | -0.88 | 2.70 | -2.56 |
| | max | | 10.83 | 7.46 | 4.09 | -0.64 | 63.41 |
| | min | | 0.29 | -0.30 | -0.89 | 2.80 | -2.54 |
| | max | | 10.81 | 7.46 | 4.10 | -0.64 | 63.38 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 1.06 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 1.24 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 1.24 | 0.01 |

W-1.18
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} F \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 277.07 | 104.08 | 206.49 | 308.90 | 0.11 | 283.93 |
| Ö← | g | 116.44 | 49.88 | 89.21 | 128.55 | 0.10 | 122.67 |
| Qk.N_B1 | min | -9.00 | -10.73 | -5.34 | 0.05 | -0.23 | -7.34 |
| | max | 56.78 | 19.82 | 41.45 | 63.09 | 0.12 | 57.00 |
| | min | | -10.65 | -5.36 | -0.06 | -0.23 | -7.36 |
| | max | | 19.74 | 41.47 | 63.20 | 0.12 | 57.02 |
| | min | | 0.07 | -0.03 | -0.13 | 0.82 | -0.04 |
| | max | | 9.02 | 36.15 | 63.27 | 0.17 | 49.70 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -5.05 | -5.56 | -3.81 | -2.05 | -0.11 | -5.23 |
| | max | 0.03 | 0.00 | 0.02 | 0.04 | 0.23 | 0.03 |
| | min | | -5.56 | -3.81 | -2.05 | -0.11 | -5.23 |
| | max | | 0.00 | 0.02 | 0.04 | 0.23 | 0.03 |
| | min | | -5.56 | -3.81 | -2.05 | -0.11 | -5.23 |
| | max | | 0.00 | 0.02 | 0.04 | 0.23 | 0.03 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 |
| | max | 19.04 | 10.86 | 15.74 | 20.61 | 0.07 | 21.64 |
| | min | | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 |
| | max | | 10.86 | 15.74 | 20.61 | 0.07 | 21.64 |
| | min | | 0.00 | 0.00 | 0.00 | 0.22 | 0.00 |
| | max | | 10.86 | 15.74 | 20.61 | 0.07 | 21.64 |
| Qk.N_DA | min | -7.54 | -7.92 | -6.76 | -5.61 | -0.04 | -9.30 |
| | max | 32.36 | 19.64 | 27.21 | 34.78 | 0.06 | 37.42 |
| | min | | -7.92 | -6.76 | -5.61 | -0.04 | -9.30 |
| | max | | 19.64 | 27.21 | 34.78 | 0.06 | 37.42 |
| | min | | -7.91 | -6.76 | -5.61 | -0.04 | -9.30 |
| | max | | | | | | |

D-450

| Kraft Ft | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | 19.63 | 27.21 | 34.79 | 0.06 | 37.41 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | -0.27 | 0.00 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | -0.27 | 0.00 |
| | min | 0.00 | 0.00 | 0.00 | -0.96 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | -0.22 | 0.00 |

W-1.19

Qk.N_T2

| Kraft Ft | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 61.20 | 44.73 | 48.54 | 0.12 | 428.36 |
| Ö← | g | 32.47 | 25.32 | 27.72 | 0.13 | 244.65 |
| Qk.N_B1 | min | -3.67 | -1.11 | -0.24 | 0.64 | -2.08 |
| | max | 13.03 | 5.13 | 7.55 | 9.97 | 66.60 |
| | min | | -1.11 | -0.24 | 0.64 | -2.08 |
| | max | | 5.13 | 7.55 | 9.97 | 66.60 |
| | min | | 0.66 | 0.11 | -0.44 | 1.00 |
| | max | | 3.36 | 7.20 | 11.04 | 63.52 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 1.30 | 0.01 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 1.30 | 0.01 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 1.30 | 0.01 |
| Qk.N_C5 | min | -0.03 | 0.00 | 0.00 | -4.41 | -0.01 |
| | max | 0.11 | 0.03 | 0.00 | -0.03 | -0.03 |
| | min | 0.00 | -0.01 | -0.01 | 1.32 | -0.05 |
| | max | 0.02 | 0.00 | -0.02 | -12.36 | 0.02 |
| | min | 0.03 | 0.00 | -0.03 | 14.46 | -0.03 |
| | max | 0.00 | 0.00 | 0.00 | -4.48 | -0.01 |
| Qk.N_E1 | min | -2.17 | -0.78 | -0.19 | 0.40 | -1.66 |
| | max | 0.01 | 0.00 | 0.00 | 1.30 | 0.02 |
| | min | -0.78 | -0.19 | 0.40 | -4.61 | -1.66 |
| | max | 0.00 | 0.00 | 0.00 | 1.30 | 0.02 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | -0.78 | -0.19 | 0.41 | -4.67 | -1.65 |
| Qk.N_DA | min | -1.41 | -0.73 | -0.31 | 0.12 | -2.70 |
| | max | 10.06 | 4.90 | 6.14 | 7.39 | 54.20 |
| | min | -0.72 | -0.31 | 0.11 | -1.97 | -2.73 |
| | max | 4.89 | 6.15 | 7.40 | 0.30 | 54.23 |
| | min | 0.69 | 0.02 | -0.65 | -45.79 | 0.19 |
| | max | 3.48 | 5.81 | 8.15 | 0.59 | 51.31 |
| Qk.N_T2 | min | -0.37 | -0.01 | -0.10 | -0.19 | -0.88 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | -0.01 | -0.10 | -0.19 | 1.29 | -0.88 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | -0.01 | -0.10 | -0.19 | 1.29 | -0.88 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.20_1

Qk.N_T2

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 257.93 | 281.45 | 96.03 | -89.40 | -0.80 | 238.62 |
| Ö← | g | 78.18 | 85.58 | 22.47 | -40.64 | -1.16 | 55.83 |
| Qk.N_B1 | min | -32.54 | -5.20 | 8.75 | 22.69 | 0.66 | 21.74 |
| | max | 16.52 | 48.40 | -3.80 | -55.99 | 5.69 | -9.44 |
| | min | | 48.34 | -3.85 | -56.05 | 5.61 | -9.58 |
| | max | | -5.15 | 8.80 | 22.75 | 0.66 | 21.88 |
| | min | | 48.34 | -3.85 | -56.05 | 5.61 | -9.58 |
| | max | | -5.15 | 8.80 | 22.75 | 0.66 | 21.88 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | 0.00 | -0.16 | 0.46 | 1.08 | 0.56 | 1.14 |
| | max | 49.26 | 55.16 | 16.61 | -21.95 | -0.96 | 41.27 |
| | min | | 0.00 | 0.00 | 0.00 | 1.20 | 0.00 |
| | max | | 55.00 | 17.07 | -20.87 | -0.92 | 42.41 |
| | min | | 35.97 | 4.26 | -27.45 | -3.08 | 10.58 |
| | max | | 19.03 | 12.81 | 6.59 | -0.20 | 31.83 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | -0.01 |
| | max | 22.69 | 0.28 | 14.09 | 27.89 | 0.41 | 35.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.07 | -0.01 |
| | max | | 0.28 | 14.09 | 27.89 | 0.41 | 35.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.07 | -0.01 |
| | max | | 0.28 | 14.09 | 27.89 | 0.41 | 35.01 |
| Qk.N_DA | min | -0.03 | -0.06 | 0.01 | 0.07 | 3.97 | 0.02 |
| | max | 53.64 | 61.99 | 10.31 | -41.36 | -2.08 | 25.62 |
| | min | | 0.02 | -0.01 | -0.05 | 1.28 | -0.03 |
| | max | | 61.90 | 10.33 | -41.24 | -2.07 | 25.67 |
| | min | | 52.76 | 0.29 | -52.17 | -73.84 | 0.73 |
| | max | | 9.17 | 10.02 | 10.88 | 0.04 | 24.91 |
| Qk.N_T2 | min | 0.00 | -0.02 | 0.01 | 0.04 | 1.30 | 0.03 |
| | max | 0.03 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.02 | 0.01 | 0.05 | 1.05 | 0.03 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.02 | 0.01 | 0.05 | 1.05 | 0.03 |

W-1.20_2

Q†^&æÁKÁGÈÍHÁ↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 105.01 | 98.55 | 102.13 | 105.70 | 0.02 | 279.83 |
| Ö← | g | 29.04 | 26.36 | 28.07 | 29.78 | 0.03 | 76.91 |
| Qk.N_B1 | min | -0.86 | -1.05 | -0.17 | 0.70 | -2.32 | -0.47 |
| | max | 20.76 | 20.10 | 20.47 | 20.84 | 0.01 | 56.08 |
| | min | | -1.03 | -0.22 | 0.59 | -1.70 | -0.60 |
| | max | | 20.08 | 20.51 | 20.95 | 0.01 | 56.21 |
| | min | | 0.00 | -0.01 | -0.02 | 0.63 | -0.02 |
| | max | | 19.05 | 20.30 | 21.56 | 0.03 | 55.63 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.67 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

D-452

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 0.00 | 0.00 | 0.00 | 0.67 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.67 | 0.00 |
| Qk.N_C5 | min | -0.94 | -1.05 | -0.72 | -0.40 | -0.20 | -1.98 |
| | max | 8.04 | 7.80 | 7.87 | 7.93 | 0.00 | 21.56 |
| | min | | -1.01 | -0.80 | -0.60 | -0.12 | -2.20 |
| | max | | 7.76 | 7.95 | 8.13 | 0.01 | 21.78 |
| | min | | -0.27 | -0.55 | -0.82 | 0.23 | -1.49 |
| | max | | 7.03 | 7.69 | 8.35 | 0.04 | 21.07 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.67 | 0.00 |
| | max | 27.17 | 26.72 | 26.95 | 27.18 | 0.00 | 73.85 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 26.72 | 26.95 | 27.19 | 0.00 | 73.86 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 26.72 | 26.95 | 27.19 | 0.00 | 73.86 |
| Qk.N_DA | min | -1.83 | -2.01 | -1.11 | -0.20 | -0.37 | -3.03 |
| | max | 10.36 | 9.64 | 10.01 | 10.39 | 0.02 | 27.44 |
| | min | | -2.00 | -1.16 | -0.32 | -0.33 | -3.19 |
| | max | | 9.63 | 10.07 | 10.51 | 0.02 | 27.60 |
| | min | | -0.37 | -0.76 | -1.15 | 0.24 | -2.09 |
| | max | | 8.00 | 9.67 | 11.34 | 0.08 | 26.49 |
| Qk.N_T2 | min | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | -0.01 | 0.67 | -0.01 |
| | min | | 0.00 | 0.00 | -0.01 | 0.67 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | -0.01 | 0.67 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.20_3
 $Q_k^{\uparrow} + \Delta \sigma_k^{\uparrow} + \Delta \sigma_k^{\downarrow} + \Delta \sigma_k^{\uparrow}$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 98.09 | 98.15 | 97.96 | 97.77 | 0.00 | 39.18 |
| Ö← | g | 29.82 | 29.84 | 29.78 | 29.72 | 0.00 | 11.91 |
| Qk.N_B1 | min | -0.10 | -0.09 | -0.10 | -0.10 | 0.00 | -0.04 |
| | max | 20.38 | 20.40 | 20.34 | 20.28 | 0.00 | 8.14 |
| | min | | -0.09 | -0.10 | -0.10 | 0.00 | -0.04 |
| | max | | 20.40 | 20.34 | 20.28 | 0.00 | 8.14 |
| | min | | -0.09 | -0.10 | -0.10 | 0.00 | -0.04 |
| | max | | 20.40 | 20.34 | 20.28 | 0.00 | 8.14 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.62 | -0.62 | -0.62 | -0.62 | 0.00 | -0.25 |
| | max | 8.07 | 8.06 | 8.07 | 8.07 | 0.00 | 3.23 |
| | min | | -0.62 | -0.62 | -0.62 | 0.00 | -0.25 |
| | max | | 8.06 | 8.07 | 8.07 | 0.00 | 3.23 |
| | min | | -0.62 | -0.62 | -0.62 | 0.00 | -0.25 |
| | max | | 8.06 | 8.07 | 8.07 | 0.00 | 3.23 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 29.11 | 29.12 | 29.08 | 29.04 | 0.00 | 11.63 |

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 29.12 | 29.08 | 29.04 | 0.00 | 11.63 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 29.12 | 29.08 | 29.04 | 0.00 | 11.63 |
| Qk.N_DA | min | -1.28 | -1.27 | -1.27 | -1.28 | 0.00 | -0.51 |
| | max | 11.73 | 11.73 | 11.71 | 11.69 | 0.00 | 4.69 |
| | min | | -1.27 | -1.27 | -1.28 | 0.00 | -0.51 |
| | max | | 11.73 | 11.71 | 11.69 | 0.00 | 4.69 |
| | min | | -1.27 | -1.27 | -1.28 | 0.00 | -0.51 |
| | max | | 11.73 | 11.71 | 11.69 | 0.00 | 4.69 |
| Qk.N_T2 | min | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | -0.01 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.01 | -0.01 | 0.00 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.01 | -0.01 | 0.00 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.20_4

Qk^&æÁKÁGÈIĭÁ↑

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 93.46 | 79.02 | 86.28 | 93.54 | 0.04 | 223.46 |
| Ö← | g | 22.66 | 22.44 | 19.82 | 17.21 | -0.06 | 51.34 |
| Qk.N_B1 | min | -1.29 | -0.62 | -0.40 | -0.18 | -0.23 | -1.03 |
| | max | 15.58 | 21.63 | 7.73 | -6.18 | -0.78 | 20.01 |
| | min | | 0.02 | -0.75 | -1.51 | 0.44 | -1.94 |
| | max | | 21.00 | 8.08 | -4.85 | -0.69 | 20.92 |
| | min | | 19.81 | 6.65 | -6.52 | -0.86 | 17.21 |
| | max | | 1.20 | 0.68 | 0.16 | -0.33 | 1.77 |
| Qk.N_C1 | min | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | -0.01 | 1.03 | -0.01 |
| | min | | 0.00 | 0.00 | -0.01 | 1.03 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | -0.01 | 1.03 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | 0.00 | -5.30 | 3.24 | 11.78 | 1.14 | 8.39 |
| | max | 18.75 | 8.16 | 8.39 | 8.62 | 0.01 | 21.73 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 2.86 | 11.63 | 20.39 | 0.33 | 30.12 |
| | min | | 0.02 | 0.00 | -0.02 | 0.00 | 0.00 |
| | max | | 2.84 | 11.63 | 20.42 | 0.33 | 30.12 |
| Qk.N_E1 | min | -0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 21.01 | 24.90 | 13.11 | 1.32 | -0.39 | 33.96 |
| | min | | 0.02 | -0.01 | -0.04 | 1.02 | -0.03 |
| | max | | 24.89 | 13.12 | 1.36 | -0.39 | 33.98 |
| | min | | 0.02 | -0.01 | -0.04 | 1.02 | -0.03 |
| | max | | 24.89 | 13.12 | 1.36 | -0.39 | 33.98 |
| Qk.N_DA | min | -0.23 | -4.69 | 3.08 | 10.84 | 1.09 | 7.97 |
| | max | 13.75 | 10.63 | 7.10 | 3.58 | -0.21 | 18.39 |
| | min | | -0.17 | -0.20 | -0.22 | 0.06 | -0.51 |
| | max | | 6.10 | 10.37 | 14.64 | 0.18 | 26.86 |
| | min | | 0.96 | -0.03 | -1.02 | 13.19 | -0.08 |
| | max | | 4.98 | 10.21 | 15.44 | 0.22 | 26.44 |
| Qk.N_T2 | min | -0.22 | -0.17 | -0.13 | -0.10 | -0.12 | -0.35 |

D-454

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| min | | -0.17 | -0.13 | -0.10 | -0.12 | -0.35 |
| max | | 0.00 | 0.00 | 0.00 | 1.29 | 0.00 |
| min | | -0.17 | -0.13 | -0.10 | -0.12 | -0.35 |
| max | | 0.00 | 0.00 | 0.00 | 1.29 | 0.00 |

W-1.21

Q \uparrow & A \downarrow K \uparrow E \downarrow I \uparrow A \downarrow

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 90.02 | 81.87 | 65.20 | 48.53 | -0.36 | 554.21 |
| Ö← | g | 22.48 | 18.09 | 14.37 | 10.65 | -0.37 | 122.12 |
| Qk.N_B1 | min | -8.77 | -6.89 | -2.87 | 1.15 | -1.99 | -24.39 |
| | max | 19.87 | 13.67 | 10.54 | 7.42 | -0.42 | 89.60 |
| | min | | -6.89 | -2.87 | 1.15 | -1.99 | -24.39 |
| | max | | 13.67 | 10.54 | 7.42 | -0.42 | 89.60 |
| | min | | 0.71 | 0.26 | -0.20 | -2.49 | 2.19 |
| | max | | 6.06 | 7.42 | 8.77 | 0.26 | 63.03 |
| Qk.N_C1 | min | -0.07 | -0.05 | -0.02 | 0.01 | -1.84 | -0.17 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.05 | -0.02 | 0.01 | -1.84 | -0.17 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.05 | -0.02 | 0.01 | -1.84 | -0.17 |
| Qk.N_C5 | min | -0.26 | -0.06 | -0.03 | 0.01 | -1.76 | -0.24 |
| | max | 8.16 | 2.82 | 0.69 | -1.44 | -4.40 | 5.83 |
| | min | | -0.06 | -0.03 | 0.01 | -1.76 | -0.24 |
| | max | | 2.82 | 0.69 | -1.44 | -4.40 | 5.83 |
| | min | | 2.82 | 0.69 | -1.44 | -4.40 | 5.83 |
| | max | | -0.06 | -0.03 | 0.01 | -1.76 | -0.24 |
| Qk.N_E1 | min | -0.24 | -0.16 | -0.07 | 0.02 | -1.87 | -0.60 |
| | max | 0.26 | 0.01 | 0.03 | 0.05 | 0.87 | 0.27 |
| | min | | -0.16 | -0.07 | 0.02 | -1.87 | -0.60 |
| | max | | 0.01 | 0.03 | 0.05 | 0.87 | 0.27 |
| | min | | 0.00 | 0.00 | 0.00 | -1.80 | 0.00 |
| | max | | -0.15 | -0.04 | 0.07 | -4.08 | -0.33 |
| Qk.N_DA | min | -5.70 | -3.25 | -4.37 | -5.49 | 0.36 | -37.16 |
| | max | 22.84 | 17.94 | 17.88 | 17.82 | 0.00 | 152.01 |
| | min | | -3.25 | -4.37 | -5.49 | 0.36 | -37.16 |
| | max | | 17.94 | 17.88 | 17.82 | 0.00 | 152.01 |
| | min | | 0.13 | -3.45 | -7.04 | 1.47 | -29.36 |
| | max | | 14.56 | 16.97 | 19.37 | 0.20 | 144.21 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 18.68 | 13.59 | 6.27 | -1.05 | -1.65 | 53.31 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 13.59 | 6.27 | -1.05 | -1.65 | 53.31 |
| | min | | 13.59 | 6.27 | -1.05 | -1.65 | 53.31 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.22

Q \uparrow & A \downarrow K \uparrow E \downarrow I \uparrow A \downarrow

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----|---|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 189.94 | 48.69 | 94.48 | 140.28 | 0.69 | 803.12 |

| Kraft Ft | | F _{t, Abs} [kN/m] | F _{t, A} [kN/m] | F _{t, M} [kN/m] | F _{t, E} [kN/m] | e [m] | F _{t, Res} [kN] |
|----------|-----|-------------------------------|-----------------------------|-----------------------------|-----------------------------|----------|-----------------------------|
| Ö← | g | 71.39 | 6.78 | 26.20 | 45.62 | 1.05 | 222.68 |
| Qk.N_B1 | min | -4.08 | -3.25 | -1.31 | 0.62 | -2.08 | -11.17 |
| | max | 31.95 | 11.63 | 16.73 | 21.83 | 0.43 | 142.23 |
| | min | | -3.24 | -1.32 | 0.61 | -2.07 | -11.19 |
| | max | | 11.63 | 16.74 | 21.84 | 0.43 | 142.25 |
| | min | | 0.07 | 0.03 | -0.02 | -2.31 | 0.22 |
| | max | | 8.32 | 15.39 | 22.47 | 0.65 | 130.84 |
| Qk.N_C1 | min | -0.45 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.09 | -0.02 | -0.12 | 8.48 | -0.15 |
| | min | | 0.09 | -0.02 | -0.12 | 8.48 | -0.15 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.09 | -0.02 | -0.12 | 8.48 | -0.15 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -5.79 | -0.08 | -0.04 | 0.01 | -1.88 | -0.30 |
| | max | 0.02 | 0.57 | -0.21 | -0.98 | 5.36 | -1.74 |
| | min | | 0.49 | -0.24 | -0.98 | 4.29 | -2.06 |
| | max | | 0.00 | 0.00 | 0.01 | 2.84 | 0.02 |
| | min | | 0.56 | -0.21 | -0.99 | 5.11 | -1.82 |
| | max | | -0.07 | -0.03 | 0.02 | -2.36 | -0.22 |
| Qk.N_E1 | min | -1.43 | 0.00 | 0.00 | 0.01 | 3.88 | 0.01 |
| | max | 0.28 | 0.44 | 0.02 | -0.40 | -25.20 | 0.20 |
| | min | | 0.36 | 0.00 | -0.37 | 296.52 | -0.02 |
| | max | | 0.08 | 0.03 | -0.03 | -2.75 | 0.23 |
| | min | | 0.44 | 0.02 | -0.40 | -25.44 | 0.20 |
| | max | | 0.00 | 0.00 | 0.01 | 3.21 | 0.01 |
| Qk.N_DA | min | -9.07 | -4.10 | -2.78 | -1.47 | -0.67 | -23.65 |
| | max | 31.87 | 14.93 | 22.93 | 30.92 | 0.49 | 194.86 |
| | min | | -3.56 | -3.00 | -2.44 | -0.27 | -25.49 |
| | max | | 14.39 | 23.14 | 31.89 | 0.54 | 196.70 |
| | min | | -1.28 | -2.07 | -2.86 | 0.54 | -17.60 |
| | max | | 12.11 | 22.21 | 32.32 | 0.64 | 188.81 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 18.65 | 13.54 | 6.18 | -1.18 | -1.69 | 52.52 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 13.54 | 6.18 | -1.18 | -1.69 | 52.52 |
| | min | | 13.54 | 6.18 | -1.18 | -1.69 | 52.52 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.23

Q₁⁺ & A_K A_F E_B E_C A₁

| Kraft Ft | | F _{t, Abs} [kN/m] | F _{t, A} [kN/m] | F _{t, M} [kN/m] | F _{t, E} [kN/m] | e [m] | F _{t, Res} [kN] |
|----------|-----|-------------------------------|-----------------------------|-----------------------------|-----------------------------|----------|-----------------------------|
| Gk | g | 99.79 | 87.79 | 83.37 | 78.95 | -0.09 | 833.68 |
| Ö← | g | 16.18 | 14.63 | 11.93 | 9.23 | -0.38 | 119.28 |
| Qk.N_B1 | min | -0.37 | -1.15 | 0.51 | 2.17 | 5.44 | 5.09 |
| | max | 5.95 | 1.41 | 0.54 | -0.34 | -2.74 | 5.35 |
| | min | | -0.15 | -0.07 | 0.00 | -1.63 | -0.74 |
| | max | | 0.41 | 1.12 | 1.83 | 1.06 | 11.19 |
| | min | | 0.87 | 0.23 | -0.41 | -4.63 | 2.30 |
| | max | | -0.61 | 0.82 | 2.24 | 2.91 | 8.15 |
| Qk.N_C1 | min | 0.00 | -0.08 | 0.04 | 0.15 | 5.27 | 0.35 |
| | max | 0.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.08 | 0.04 | 0.15 | 5.27 | 0.35 |

D-456

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.08 | 0.04 | 0.15 | 5.27 | 0.35 |
| Qk.N_C5 | min | -3.61 | -0.78 | -0.24 | 0.30 | -3.78 | -2.39 |
| | max | 0.60 | 1.16 | -0.15 | -1.45 | 14.87 | -1.46 |
| | min | | -0.17 | -0.60 | -1.02 | 1.20 | -5.96 |
| | max | | 0.54 | 0.21 | -0.12 | -2.62 | 2.11 |
| | min | | 1.00 | -0.25 | -1.49 | 8.44 | -2.45 |
| | max | | -0.62 | -0.14 | 0.34 | -5.77 | -1.39 |
| Qk.N_E1 | min | -0.25 | -1.63 | 0.75 | 3.14 | 5.27 | 7.54 |
| | max | 14.61 | 13.46 | 7.82 | 2.17 | -1.20 | 78.15 |
| | min | | -0.26 | -0.12 | 0.01 | -1.82 | -1.24 |
| | max | | 12.09 | 8.69 | 5.30 | -0.65 | 86.92 |
| | min | | -0.02 | -0.03 | -0.05 | 0.70 | -0.32 |
| | max | | 11.85 | 8.60 | 5.35 | -0.63 | 86.00 |
| Qk.N_DA | min | -2.93 | -1.38 | 0.14 | 1.67 | 17.56 | 1.45 |
| | max | 22.45 | 19.57 | 16.33 | 13.08 | -0.33 | 163.27 |
| | min | | -0.35 | -0.51 | -0.67 | 0.52 | -5.13 |
| | max | | 18.55 | 16.98 | 15.42 | -0.15 | 169.84 |
| | min | | 7.12 | 2.38 | -2.36 | -3.32 | 23.79 |
| | max | | 11.08 | 14.09 | 17.11 | 0.36 | 140.92 |
| Qk.N_T2 | min | -0.12 | -0.07 | -0.02 | 0.03 | -3.98 | -0.19 |
| | max | 0.00 | 0.01 | 0.00 | -0.02 | 4.57 | -0.04 |
| | min | | -0.06 | -0.02 | 0.01 | -2.40 | -0.24 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.01 | 0.00 | -0.02 | 4.57 | -0.04 |
| | max | | -0.07 | -0.02 | 0.03 | -3.98 | -0.19 |

W-1.24_1
 $Q \uparrow \wedge \& \acute{a} \acute{K} \acute{A} \acute{F} \acute{E} \acute{F} \acute{E} \acute{C} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 79.77 | 84.92 | 67.13 | 49.34 | -0.05 | 73.84 |
| Ö← | g | 11.85 | 13.10 | 8.51 | 3.93 | -0.10 | 9.36 |
| Qk.N_B1 | min | -5.33 | -4.99 | -4.96 | -4.94 | 0.00 | -5.46 |
| | max | 0.39 | 0.00 | 0.00 | -0.01 | 7.17 | 0.00 |
| | min | | -4.73 | -5.13 | -5.54 | 0.01 | -5.65 |
| | max | | -0.26 | 0.17 | 0.60 | 0.46 | 0.19 |
| | min | | -4.72 | -5.13 | -5.54 | 0.01 | -5.64 |
| | max | | -0.26 | 0.17 | 0.60 | 0.46 | 0.19 |
| Qk.N_C1 | min | -1.19 | -1.20 | -1.17 | -1.15 | 0.00 | -1.29 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.20 | -1.17 | -1.15 | 0.00 | -1.29 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.20 | -1.17 | -1.15 | 0.00 | -1.29 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.44 | -0.52 | -0.12 | 0.28 | -0.60 | -0.14 |
| | max | 14.28 | 14.99 | 12.74 | 10.49 | -0.03 | 14.01 |
| | min | | -0.52 | -0.12 | 0.28 | -0.60 | -0.14 |
| | max | | 14.99 | 12.74 | 10.49 | -0.03 | 14.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 14.46 | 12.62 | 10.77 | -0.03 | 13.88 |
| Qk.N_E1 | min | -0.51 | -0.32 | -0.03 | 0.27 | -1.92 | -0.03 |
| | max | 6.02 | 6.67 | 3.81 | 0.94 | -0.14 | 4.19 |
| | min | | -0.19 | -0.35 | -0.52 | 0.09 | -0.39 |

D-457

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 6.53 | 4.13 | 1.73 | -0.11 | 4.54 |
| | min | | 5.77 | 1.53 | -2.71 | -0.51 | 1.69 |
| | max | | 0.57 | 2.24 | 3.91 | 0.14 | 2.47 |
| Qk.N_DA | min | -6.34 | -2.35 | -2.53 | -2.71 | 0.01 | -2.78 |
| | max | 11.24 | 12.69 | 8.87 | 5.05 | -0.08 | 9.76 |
| | min | | -1.14 | -4.33 | -7.51 | 0.13 | -4.76 |
| | max | | 11.48 | 10.67 | 9.86 | -0.01 | 11.73 |
| | min | | 0.68 | -4.28 | -9.24 | 0.21 | -4.71 |
| | max | | 9.66 | 10.62 | 11.58 | 0.02 | 11.68 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.04 | 0.04 | 0.03 | 0.03 | -0.02 | 0.04 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.04 | 0.03 | 0.03 | -0.02 | 0.04 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.04 | 0.03 | 0.03 | -0.01 | 0.04 |

W-1.24_2
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \in \acute{E} \acute{I} \acute{f} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 21.54 | 12.48 | 17.95 | 23.43 | 0.04 | 13.91 |
| Ö← | g | -6.29 | -6.75 | -5.65 | -4.56 | -0.03 | -4.38 |
| Qk.N_B1 | min | -15.40 | -10.44 | -13.45 | -16.46 | 0.03 | -10.42 |
| | max | 0.06 | 0.06 | 0.05 | 0.05 | -0.02 | 0.04 |
| | min | | -10.44 | -13.45 | -16.46 | 0.03 | -10.42 |
| | max | | 0.06 | 0.05 | 0.05 | -0.02 | 0.04 |
| | min | | -10.44 | -13.45 | -16.46 | 0.03 | -10.42 |
| | max | | 0.06 | 0.05 | 0.05 | -0.02 | 0.04 |
| Qk.N_C1 | min | -1.69 | -1.38 | -1.57 | -1.76 | 0.02 | -1.22 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.38 | -1.57 | -1.76 | 0.02 | -1.22 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.38 | -1.57 | -1.76 | 0.02 | -1.22 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 |
| | max | 9.84 | 7.84 | 9.06 | 10.29 | 0.02 | 7.02 |
| | min | | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 |
| | max | | 7.84 | 9.06 | 10.29 | 0.02 | 7.02 |
| | min | | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 |
| | max | | 7.84 | 9.06 | 10.29 | 0.02 | 7.02 |
| Qk.N_E1 | min | -3.53 | -2.96 | -3.31 | -3.66 | 0.01 | -2.57 |
| | max | 2.99 | 3.30 | 2.49 | 1.69 | -0.04 | 1.93 |
| | min | | -2.96 | -3.31 | -3.66 | 0.01 | -2.57 |
| | max | | 3.30 | 2.49 | 1.69 | -0.04 | 1.93 |
| | min | | -2.94 | -3.30 | -3.66 | 0.01 | -2.56 |
| | max | | 3.28 | 2.49 | 1.69 | -0.04 | 1.93 |
| Qk.N_DA | min | -16.29 | -18.38 | -12.94 | -7.51 | -0.05 | -10.03 |
| | max | 8.40 | 8.88 | 7.79 | 6.70 | -0.02 | 6.04 |
| | min | | -18.38 | -12.95 | -7.51 | -0.05 | -10.03 |
| | max | | 8.88 | 7.79 | 6.70 | -0.02 | 6.04 |
| | min | | -11.65 | -10.39 | -9.13 | -0.02 | -8.05 |
| | max | | 2.15 | 5.23 | 8.32 | 0.08 | 4.06 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.08 | 0.05 | 0.07 | 0.08 | 0.04 | 0.05 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 0.05 | 0.07 | 0.08 | 0.04 | 0.05 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 0.05 | 0.07 | 0.08 | 0.04 | 0.05 |

W-1.25
 $Q^+ \wedge \text{ÄKÄGÈIHÁ} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 50.29 | 49.35 | 46.50 | 43.65 | -0.03 | 117.88 |
| Ö← | g | 5.17 | 5.64 | 2.59 | -0.46 | -0.50 | 6.57 |
| Qk.N_B1 | min | 0.00 | 0.00 | 0.00 | 0.01 | 0.43 | 0.01 |
| | max | 1.49 | 1.69 | 1.39 | 1.10 | -0.09 | 3.53 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 1.69 | 1.40 | 1.11 | -0.09 | 3.54 |
| | min | | 0.05 | 0.02 | -0.01 | -0.57 | 0.06 |
| | max | | 1.64 | 1.38 | 1.11 | -0.08 | 3.49 |
| Qk.N_C1 | min | -0.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.13 | -0.16 | -0.45 | 0.77 | -0.40 |
| | min | | 0.13 | -0.16 | -0.45 | 0.77 | -0.40 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.13 | -0.16 | -0.45 | 0.77 | -0.40 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -3.82 | -0.87 | -2.49 | -4.11 | 0.28 | -6.31 |
| | max | 0.57 | 0.57 | 0.44 | 0.31 | -0.12 | 1.11 |
| | min | | -0.87 | -2.49 | -4.11 | 0.28 | -6.31 |
| | max | | 0.57 | 0.44 | 0.31 | -0.12 | 1.11 |
| | min | | -0.87 | -2.49 | -4.11 | 0.28 | -6.31 |
| | max | | 0.57 | 0.44 | 0.31 | -0.12 | 1.11 |
| Qk.N_E1 | min | -2.33 | -1.31 | -0.71 | -0.11 | -0.36 | -1.80 |
| | max | 16.02 | 12.77 | 11.39 | 10.02 | -0.05 | 28.89 |
| | min | | -0.55 | -1.50 | -2.44 | 0.27 | -3.79 |
| | max | | 12.01 | 12.18 | 12.35 | 0.01 | 30.88 |
| | min | | -0.53 | -1.49 | -2.44 | 0.27 | -3.77 |
| | max | | 11.98 | 12.17 | 12.36 | 0.01 | 30.85 |
| Qk.N_DA | min | -7.84 | -4.88 | -2.96 | -1.05 | -0.27 | -7.51 |
| | max | 7.24 | 8.59 | 3.76 | -1.06 | -0.54 | 9.54 |
| | min | | -4.48 | -5.61 | -6.75 | 0.09 | -14.23 |
| | max | | 8.19 | 6.42 | 4.64 | -0.12 | 16.26 |
| | min | | -0.45 | -4.26 | -8.07 | 0.38 | -10.80 |
| | max | | 4.16 | 5.06 | 5.96 | 0.08 | 12.84 |
| Qk.N_T2 | min | -0.02 | 0.00 | 0.00 | 0.00 | -0.46 | 0.00 |
| | max | 0.00 | 0.00 | -0.01 | -0.02 | 0.43 | -0.02 |
| | min | | 0.00 | -0.01 | -0.02 | 0.41 | -0.02 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | -0.01 | -0.02 | 0.43 | -0.02 |
| | max | | 0.00 | 0.00 | 0.00 | -0.46 | 0.00 |

W-1.26_1
 $Q^+ \wedge \text{ÄKÄGÈÎÎÁ} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----|---|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 35.09 | 30.69 | 29.29 | 27.89 | -0.02 | 84.36 |
| Ö← | g | -2.94 | 0.12 | 0.02 | -0.07 | -1.81 | 0.07 |

D-459

Schulcampus EWK \ 10G-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_B1 | min | -10.88 | -2.29 | -7.14 | -11.99 | 0.33 | -20.57 |
| | max | 8.00 | 3.55 | 5.82 | 8.09 | 0.19 | 16.76 |
| | min | | -2.19 | -7.93 | -13.67 | 0.35 | -22.84 |
| | max | | 3.45 | 6.61 | 9.76 | 0.23 | 19.03 |
| | min | | -2.19 | -7.93 | -13.67 | 0.35 | -22.84 |
| | max | | 3.45 | 6.61 | 9.76 | 0.23 | 19.03 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.10 | 0.03 | 0.07 | 0.10 | 0.24 | 0.19 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.03 | 0.07 | 0.10 | 0.24 | 0.19 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.03 | 0.07 | 0.10 | 0.24 | 0.19 |
| Qk.N_C5 | min | -7.10 | -1.86 | -4.56 | -7.26 | 0.28 | -13.12 |
| | max | 0.30 | 0.22 | 0.19 | 0.15 | -0.09 | 0.54 |
| | min | | -1.86 | -4.56 | -7.26 | 0.28 | -13.12 |
| | max | | 0.22 | 0.19 | 0.16 | -0.08 | 0.54 |
| | min | | -1.86 | -4.56 | -7.26 | 0.28 | -13.12 |
| | max | | 0.22 | 0.19 | 0.16 | -0.08 | 0.54 |
| Qk.N_E1 | min | -0.62 | -0.78 | 5.34 | 11.46 | 0.55 | 15.38 |
| | max | 28.41 | 7.49 | 14.76 | 22.03 | 0.24 | 42.51 |
| | min | | 0.33 | -0.31 | -0.95 | 1.00 | -0.89 |
| | max | | 6.38 | 20.41 | 34.43 | 0.33 | 58.77 |
| | min | | 0.33 | -0.31 | -0.95 | 1.00 | -0.89 |
| | max | | 6.38 | 20.41 | 34.43 | 0.33 | 58.77 |
| Qk.N_DA | min | -13.97 | -6.30 | -9.88 | -13.46 | 0.17 | -28.45 |
| | max | 6.18 | 5.17 | 3.96 | 2.75 | -0.15 | 11.40 |
| | min | | -4.36 | -10.89 | -17.42 | 0.29 | -31.36 |
| | max | | 3.23 | 4.97 | 6.71 | 0.17 | 14.31 |
| | min | | -4.24 | -10.84 | -17.44 | 0.29 | -31.22 |
| | max | | 3.11 | 4.92 | 6.73 | 0.18 | 14.17 |
| Qk.N_T2 | min | -0.14 | -0.18 | -0.09 | -0.01 | -0.46 | -0.26 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.18 | -0.09 | -0.01 | -0.46 | -0.26 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.18 | -0.09 | -0.01 | -0.46 | -0.26 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.26_2

Qk.N_E1

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 84.50 | 85.26 | 83.56 | 81.87 | 0.00 | 59.75 |
| Ö← | g | 17.16 | 17.28 | 17.05 | 16.81 | 0.00 | 12.19 |
| Qk.N_B1 | min | -0.91 | -0.02 | -0.01 | 0.00 | -0.08 | -0.01 |
| | max | 4.71 | 5.38 | 4.03 | 2.68 | -0.04 | 2.88 |
| | min | | 0.44 | -0.41 | -1.25 | 0.25 | -0.29 |
| | max | | 4.93 | 4.43 | 3.93 | -0.01 | 3.17 |
| | min | | 0.44 | -0.41 | -1.25 | 0.25 | -0.29 |
| | max | | 4.93 | 4.43 | 3.93 | -0.01 | 3.17 |
| Qk.N_C1 | min | -0.14 | -0.16 | -0.10 | -0.04 | -0.07 | -0.07 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.16 | -0.10 | -0.04 | -0.07 | -0.07 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_C5 | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | -0.02 | -0.02 | -0.02 | -0.01 | -0.05 | -0.01 |
| | max | 1.82 | 1.92 | 1.67 | 1.43 | -0.02 | 1.20 |
| | min | | -0.02 | -0.02 | -0.01 | -0.05 | -0.01 |
| | max | | 1.92 | 1.67 | 1.43 | -0.02 | 1.20 |
| | min | | -0.02 | -0.02 | -0.01 | -0.05 | -0.01 |
| Qk.N_E1 | max | | 1.92 | 1.67 | 1.43 | -0.02 | 1.20 |
| | min | -0.18 | -0.13 | -0.17 | -0.20 | 0.02 | -0.12 |
| | max | 27.99 | 25.44 | 26.99 | 28.53 | 0.01 | 19.29 |
| | min | | -0.13 | -0.17 | -0.20 | 0.02 | -0.12 |
| | max | | 25.44 | 26.99 | 28.53 | 0.01 | 19.29 |
| | min | | -0.02 | -0.15 | -0.27 | 0.10 | -0.10 |
| Qk.N_DA | max | | 25.33 | 26.97 | 28.61 | 0.01 | 19.28 |
| | min | -7.75 | -7.06 | -7.19 | -7.31 | 0.00 | -5.14 |
| | max | 13.14 | 12.90 | 12.69 | 12.47 | 0.00 | 9.07 |
| | min | | -6.94 | -7.45 | -7.97 | 0.01 | -5.33 |
| | max | | 12.78 | 12.95 | 13.13 | 0.00 | 9.26 |
| | min | | -6.80 | -7.42 | -8.03 | 0.01 | -5.30 |
| Qk.N_T2 | max | | 12.64 | 12.92 | 13.19 | 0.00 | 9.24 |
| | min | -0.01 | 0.00 | -0.01 | -0.01 | 0.04 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | -0.01 | -0.01 | 0.04 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | -0.01 | -0.01 | 0.04 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.26_3
 $Q \uparrow \wedge \& \acute{a} K \acute{A} \in \acute{E} \acute{I} F \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 73.91 | 73.77 | 73.01 | 72.26 | 0.00 | 52.21 |
| Ö← | g | 10.35 | 10.58 | 9.91 | 9.24 | -0.01 | 7.09 |
| Qk.N_B1 | min | -5.97 | -6.02 | -5.89 | -5.76 | 0.00 | -4.21 |
| | max | 0.07 | 0.08 | 0.02 | -0.04 | -0.37 | 0.01 |
| | min | | -6.02 | -5.89 | -5.76 | 0.00 | -4.21 |
| | max | | 0.08 | 0.02 | -0.04 | -0.37 | 0.01 |
| | min | | -5.96 | -5.88 | -5.81 | 0.00 | -4.21 |
| | max | | 0.03 | 0.02 | 0.01 | -0.06 | 0.01 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.30 | 0.31 | 0.27 | 0.23 | -0.02 | 0.19 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.31 | 0.27 | 0.23 | -0.02 | 0.19 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.31 | 0.27 | 0.23 | -0.02 | 0.19 |
| Qk.N_C5 | min | -2.33 | -2.28 | -2.29 | -2.30 | 0.00 | -1.64 |
| | max | 0.24 | 0.15 | 0.21 | 0.26 | 0.03 | 0.15 |
| | min | | -2.28 | -2.29 | -2.30 | 0.00 | -1.64 |
| | max | | 0.15 | 0.21 | 0.26 | 0.03 | 0.15 |
| | min | | -2.28 | -2.29 | -2.30 | 0.00 | -1.64 |
| | max | | 0.15 | 0.21 | 0.26 | 0.03 | 0.15 |
| Qk.N_E1 | min | -3.43 | -3.13 | -3.33 | -3.53 | 0.01 | -2.38 |
| | max | 36.20 | 36.86 | 35.25 | 33.64 | -0.01 | 25.21 |
| | min | | -3.13 | -3.33 | -3.53 | 0.01 | -2.38 |
| | max | | 36.86 | 35.25 | 33.64 | -0.01 | 25.21 |

D-461

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -3.13 | -3.33 | -3.53 | 0.01 | -2.38 |
| | max | | 36.86 | 35.25 | 33.64 | -0.01 | 25.21 |
| Qk.N_DA | min | -12.24 | -12.55 | -11.99 | -11.43 | -0.01 | -8.58 |
| | max | 12.72 | 12.88 | 12.46 | 12.05 | 0.00 | 8.91 |
| | min | | -11.91 | -12.00 | -12.09 | 0.00 | -8.58 |
| | max | | 12.23 | 12.47 | 12.71 | 0.00 | 8.92 |
| | min | | -11.91 | -12.00 | -12.09 | 0.00 | -8.58 |
| | max | | 12.23 | 12.47 | 12.71 | 0.00 | 8.92 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.51 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.22 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.22 | 0.00 |

W-1.26_4
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \in \grave{E} \grave{G} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 49.84 | 49.50 | 49.70 | 49.91 | 0.00 | 12.43 |
| Ö← | g | 5.87 | 5.90 | 5.80 | 5.71 | 0.00 | 1.45 |
| Qk.N_B1 | min | -0.02 | -0.03 | -0.02 | -0.01 | -0.02 | -0.01 |
| | max | 0.53 | 0.30 | 0.44 | 0.58 | 0.01 | 0.11 |
| | min | | -0.03 | -0.02 | -0.01 | -0.01 | -0.01 |
| | max | | 0.29 | 0.44 | 0.58 | 0.01 | 0.11 |
| | min | | -0.03 | -0.02 | -0.01 | -0.01 | -0.01 |
| | max | | 0.29 | 0.44 | 0.58 | 0.01 | 0.11 |
| Qk.N_C1 | min | -0.07 | -0.07 | -0.05 | -0.03 | -0.02 | -0.01 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.07 | -0.05 | -0.03 | -0.02 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.07 | -0.05 | -0.03 | -0.02 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.15 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | max | 0.18 | 0.11 | 0.06 | 0.01 | -0.03 | 0.02 |
| | min | | 0.00 | -0.09 | -0.18 | 0.04 | -0.02 |
| | max | | 0.11 | 0.15 | 0.19 | 0.01 | 0.04 |
| | min | | 0.00 | -0.09 | -0.18 | 0.04 | -0.02 |
| | max | | 0.11 | 0.15 | 0.19 | 0.01 | 0.04 |
| Qk.N_E1 | min | -0.04 | -0.03 | -0.03 | -0.04 | 0.00 | -0.01 |
| | max | 12.25 | 12.34 | 12.08 | 11.81 | 0.00 | 3.02 |
| | min | | -0.03 | -0.03 | -0.04 | 0.00 | -0.01 |
| | max | | 12.34 | 12.08 | 11.81 | 0.00 | 3.02 |
| | min | | -0.03 | -0.03 | -0.04 | 0.00 | -0.01 |
| | max | | 12.34 | 12.08 | 11.81 | 0.00 | 3.02 |
| Qk.N_DA | min | -3.33 | -3.36 | -3.25 | -3.15 | 0.00 | -0.81 |
| | max | 4.97 | 5.00 | 4.91 | 4.82 | 0.00 | 1.23 |
| | min | | -3.36 | -3.25 | -3.15 | 0.00 | -0.81 |
| | max | | 5.00 | 4.91 | 4.82 | 0.00 | 1.23 |
| | min | | -3.36 | -3.25 | -3.15 | 0.00 | -0.81 |
| | max | | 4.99 | 4.91 | 4.82 | 0.00 | 1.23 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.27
 $Q \uparrow \wedge \text{ÄKÄI} \hat{E} I \in \hat{A} \uparrow$

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 109.29 | 75.82 | 65.80 | 55.78 | -0.22 | 559.29 |
| Ö← | g | 29.98 | 19.41 | 14.81 | 10.21 | -0.44 | 125.89 |
| Qk.N_B1 | min | -23.51 | 0.00 | 0.00 | 0.00 | 2.68 | 0.00 |
| | max | 25.23 | 15.16 | 4.17 | -6.82 | -3.74 | 35.43 |
| | min | | 5.43 | -5.65 | -16.74 | 2.78 | -48.06 |
| | max | | 9.73 | 9.82 | 9.91 | 0.01 | 83.49 |
| | min | | 5.43 | -5.65 | -16.74 | 2.78 | -48.06 |
| | max | | 9.73 | 9.82 | 9.91 | 0.01 | 83.49 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.01 | 3.64 | 0.02 |
| | max | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.01 | 3.64 | 0.02 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.01 | 3.64 | 0.02 |
| Qk.N_C5 | min | -2.80 | -2.54 | 2.98 | 8.49 | 2.62 | 25.30 |
| | max | 8.28 | 0.64 | -0.49 | -1.62 | 3.26 | -4.18 |
| | min | | 0.64 | -0.49 | -1.62 | 3.26 | -4.18 |
| | max | | -2.54 | 2.98 | 8.49 | 2.62 | 25.30 |
| | min | | 0.64 | -0.49 | -1.62 | 3.26 | -4.18 |
| | max | | -2.54 | 2.98 | 8.49 | 2.62 | 25.30 |
| Qk.N_E1 | min | -0.36 | -0.13 | 0.05 | 0.23 | 5.16 | 0.43 |
| | max | 0.75 | 0.06 | -0.01 | -0.09 | 7.71 | -0.12 |
| | min | | 0.06 | -0.01 | -0.09 | 7.71 | -0.12 |
| | max | | -0.13 | 0.05 | 0.23 | 5.16 | 0.43 |
| | min | | 0.06 | -0.01 | -0.09 | 7.71 | -0.12 |
| | max | | -0.13 | 0.05 | 0.23 | 5.16 | 0.43 |
| Qk.N_DA | min | -12.56 | -3.60 | -6.35 | -9.11 | 0.61 | -54.00 |
| | max | 31.79 | 25.20 | 20.95 | 16.70 | -0.29 | 178.09 |
| | min | | -2.48 | -6.54 | -10.60 | 0.88 | -55.58 |
| | max | | 24.09 | 21.14 | 18.19 | -0.20 | 179.67 |
| | min | | -2.47 | -6.54 | -10.61 | 0.88 | -55.58 |
| | max | | 24.08 | 21.14 | 18.20 | -0.20 | 179.67 |
| Qk.N_T2 | min | 0.00 | -1.21 | 6.58 | 14.36 | 1.68 | 55.90 |
| | max | 19.52 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.21 | 6.58 | 14.36 | 1.68 | 55.90 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.21 | 6.58 | 14.36 | 1.68 | 55.90 |

W-1.28
 $Q \uparrow \wedge \text{ÄKÄI} \hat{E} I \in \hat{A} \uparrow$

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 342.17 | -12.41 | 115.92 | 244.26 | 1.57 | 985.34 |
| Ö← | g | 108.06 | -10.64 | 31.72 | 74.08 | 1.89 | 269.65 |
| Qk.N_B1 | min | -4.63 | -13.61 | 24.70 | 63.01 | 2.20 | 209.93 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | 83.02 | 0.45 | -1.68 | -3.81 | 1.80 | -14.29 |
| | min | | 0.45 | -1.68 | -3.81 | 1.80 | -14.29 |
| | max | | -13.61 | 24.70 | 63.01 | 2.20 | 209.93 |
| | min | | 0.45 | -1.68 | -3.81 | 1.80 | -14.29 |
| | max | | -13.61 | 24.70 | 63.01 | 2.20 | 209.93 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | 0.00 | -3.42 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -3.42 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | -3.42 | 0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -1.19 | -7.07 | 3.99 | 15.05 | 3.93 | 33.92 |
| | max | 33.41 | 0.20 | -0.48 | -1.15 | 2.01 | -4.04 |
| | min | | 0.20 | -0.48 | -1.15 | 2.01 | -4.04 |
| | max | | -7.07 | 3.99 | 15.05 | 3.93 | 33.92 |
| | min | | 0.20 | -0.48 | -1.15 | 2.01 | -4.04 |
| | max | | -7.07 | 3.99 | 15.05 | 3.93 | 33.92 |
| Qk.N_E1 | min | -0.54 | -0.18 | 0.09 | 0.36 | 4.29 | 0.76 |
| | max | 0.82 | 0.12 | -0.06 | -0.25 | 4.14 | -0.54 |
| | min | | 0.11 | -0.07 | -0.24 | 3.91 | -0.55 |
| | max | | -0.17 | 0.09 | 0.36 | 4.13 | 0.77 |
| | min | | 0.12 | -0.06 | -0.25 | 4.11 | -0.55 |
| | max | | -0.18 | 0.09 | 0.36 | 4.27 | 0.77 |
| Qk.N_DA | min | -5.83 | -10.93 | 22.70 | 56.32 | 2.10 | 192.91 |
| | max | 90.27 | 8.78 | 6.88 | 4.99 | -0.39 | 58.50 |
| | min | | -5.50 | -4.00 | -2.51 | -0.53 | -34.02 |
| | max | | 3.35 | 33.58 | 63.81 | 1.28 | 285.44 |
| | min | | -5.50 | -4.00 | -2.51 | -0.53 | -34.02 |
| | max | | 3.35 | 33.58 | 63.81 | 1.28 | 285.43 |
| Qk.N_T2 | min | 0.00 | -0.64 | 5.63 | 11.90 | 1.58 | 47.82 |
| | max | 15.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.64 | 5.63 | 11.90 | 1.58 | 47.82 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.64 | 5.63 | 11.90 | 1.58 | 47.82 |

W-1.29
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{F} \acute{E} \acute{I} \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 437.56 | 61.88 | 282.97 | 504.07 | 0.20 | 424.46 |
| Ö← | g | 181.80 | 31.47 | 119.73 | 207.99 | 0.18 | 179.59 |
| Qk.N_B1 | min | 0.00 | -10.22 | 6.57 | 23.36 | 0.64 | 9.85 |
| | max | 132.70 | 6.26 | 69.42 | 132.58 | 0.23 | 104.13 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -3.96 | 75.99 | 155.94 | 0.26 | 113.99 |
| | min | | 0.01 | 0.00 | -0.01 | -2.46 | 0.00 |
| | max | | -3.97 | 75.99 | 155.95 | 0.26 | 113.99 |
| Qk.N_C1 | min | 0.00 | -0.02 | 0.03 | 0.07 | 0.44 | 0.04 |
| | max | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.02 | 0.03 | 0.07 | 0.44 | 0.04 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.02 | 0.03 | 0.07 | 0.44 | 0.04 |

| Kraft | Ft | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|---------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Qk.N_C5 | min | -0.13 | -0.77 | 0.46 | 1.68 | 0.67 | 0.69 |
| | max | 1.31 | 0.05 | -0.06 | -0.16 | 0.45 | -0.09 |
| | min | | 0.05 | -0.06 | -0.16 | 0.45 | -0.09 |
| | max | | -0.77 | 0.46 | 1.68 | 0.67 | 0.69 |
| | min | | 0.05 | -0.06 | -0.16 | 0.45 | -0.09 |
| | max | | -0.77 | 0.46 | 1.68 | 0.67 | 0.69 |
| Qk.N_E1 | min | -0.21 | -0.03 | 0.02 | 0.07 | 0.68 | 0.03 |
| | max | 0.06 | 0.10 | -0.07 | -0.25 | 0.60 | -0.11 |
| | min | | 0.10 | -0.08 | -0.26 | 0.56 | -0.12 |
| | max | | -0.03 | 0.03 | 0.08 | 0.53 | 0.04 |
| | min | | 0.10 | -0.08 | -0.26 | 0.56 | -0.12 |
| | max | | -0.03 | 0.03 | 0.08 | 0.53 | 0.04 |
| Qk.N_DA | min | -0.56 | -0.09 | -0.36 | -0.62 | 0.19 | -0.53 |
| | max | 80.81 | 20.04 | 56.16 | 92.28 | 0.16 | 84.24 |
| | min | | -0.09 | -0.37 | -0.65 | 0.19 | -0.55 |
| | max | | 20.03 | 56.17 | 92.32 | 0.16 | 84.26 |
| | min | | -0.09 | -0.37 | -0.65 | 0.19 | -0.55 |
| | max | | 20.03 | 56.17 | 92.32 | 0.16 | 84.26 |
| Qk.N_T2 | min | -0.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.14 | -0.41 | -0.96 | 0.33 | -0.62 |
| | min | | 0.14 | -0.41 | -0.96 | 0.33 | -0.62 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.14 | -0.41 | -0.96 | 0.33 | -0.62 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.30

Q‡ ^&æÁKÁFÈI€Á↑

| Kraft | Ft | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|---------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 533.69 | 258.01 | 415.63 | 573.25 | 0.09 | 623.44 |
| Ö← | g | 214.29 | 115.07 | 171.27 | 227.46 | 0.08 | 256.90 |
| Qk.N_B1 | min | -0.17 | -0.04 | -0.12 | -0.19 | 0.16 | -0.17 |
| | max | 108.42 | 104.99 | 99.79 | 94.59 | -0.01 | 149.69 |
| | min | | -0.04 | -0.12 | -0.19 | 0.16 | -0.17 |
| | max | | 104.99 | 99.79 | 94.59 | -0.01 | 149.69 |
| | min | | 77.09 | 17.52 | -42.04 | -0.85 | 26.28 |
| | max | | 27.87 | 82.16 | 136.44 | 0.17 | 123.23 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.26 | 0.06 | 0.18 | 0.29 | 0.17 | 0.26 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.06 | 0.18 | 0.29 | 0.17 | 0.26 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.06 | 0.18 | 0.29 | 0.17 | 0.26 |
| Qk.N_C5 | min | -0.12 | -0.16 | -0.05 | 0.06 | -0.54 | -0.08 |
| | max | 7.49 | 1.26 | 4.83 | 8.40 | 0.18 | 7.24 |
| | min | | -0.15 | -0.05 | 0.05 | -0.49 | -0.08 |
| | max | | 1.25 | 4.83 | 8.41 | 0.19 | 7.24 |
| | min | | 0.12 | 0.03 | -0.07 | -0.97 | 0.04 |
| | max | | 0.97 | 4.75 | 8.53 | 0.20 | 7.13 |
| Qk.N_E1 | min | -0.22 | -0.79 | -0.02 | 0.75 | -10.10 | -0.03 |
| | max | 0.59 | 0.22 | 0.00 | -0.21 | -16.69 | 0.01 |
| | min | | 0.10 | -0.09 | -0.28 | 0.52 | -0.14 |
| | max | | -0.67 | 0.07 | 0.82 | 2.50 | 0.11 |
| | min | | 0.19 | -0.08 | -0.36 | 0.83 | -0.12 |

D-465

Schulcampus EWK \

10G-LP4

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Qk.N_DA | max | | -0.76 | 0.07 | 0.90 | 3.13 | 0.10 |
| | min | -1.71 | -0.60 | -1.22 | -1.85 | 0.13 | -1.83 |
| | max | 128.79 | 32.09 | 89.04 | 145.99 | 0.16 | 133.56 |
| | min | | -0.58 | -1.25 | -1.93 | 0.13 | -1.88 |
| | max | | 32.07 | 89.07 | 146.07 | 0.16 | 133.61 |
| | min | | -0.57 | -1.25 | -1.93 | 0.14 | -1.88 |
| Qk.N_T2 | max | | 32.06 | 89.07 | 146.08 | 0.16 | 133.60 |
| | min | -0.46 | -0.62 | -0.13 | 0.35 | -0.91 | -0.20 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.62 | -0.13 | 0.35 | -0.91 | -0.20 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.62 | -0.13 | 0.35 | -0.91 | -0.20 |

W-1.31

Q_z & A_K A_F E_I € A_↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 297.97 | 322.28 | 228.85 | 135.42 | -0.10 | 343.28 |
| Ö← | g | 135.27 | 147.57 | 101.10 | 54.62 | -0.11 | 151.65 |
| Qk.N_B1 | min | -9.15 | -11.30 | -3.61 | 4.08 | -0.53 | -5.42 |
| | max | 115.08 | 139.23 | 54.86 | -29.51 | -0.38 | 82.29 |
| | min | | -11.30 | -3.61 | 4.08 | -0.53 | -5.42 |
| | max | | 139.23 | 54.86 | -29.51 | -0.38 | 82.29 |
| | min | | 138.94 | 54.48 | -29.98 | -0.39 | 81.72 |
| | max | | -11.01 | -3.23 | 4.55 | -0.60 | -4.84 |
| Qk.N_C1 | min | -13.11 | -1.99 | -8.58 | -15.17 | 0.19 | -12.87 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.99 | -8.58 | -15.17 | 0.19 | -12.87 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.99 | -8.58 | -15.17 | 0.19 | -12.87 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.06 | -0.07 | -0.04 | -0.01 | -0.21 | -0.06 |
| | max | 7.08 | 8.64 | 3.21 | -2.22 | -0.42 | 4.82 |
| | min | | -0.07 | -0.04 | -0.01 | -0.21 | -0.06 |
| | max | | 8.64 | 3.21 | -2.22 | -0.42 | 4.82 |
| | min | | 8.59 | 3.18 | -2.23 | -0.43 | 4.77 |
| | max | | -0.02 | -0.01 | 0.01 | -0.54 | -0.01 |
| Qk.N_E1 | min | -1.22 | -0.85 | -1.06 | -1.27 | 0.05 | -1.59 |
| | max | 16.32 | 7.77 | 12.81 | 17.85 | 0.10 | 19.22 |
| | min | | -0.85 | -1.06 | -1.27 | 0.05 | -1.59 |
| | max | | 7.77 | 12.81 | 17.85 | 0.10 | 19.22 |
| | min | | -0.63 | -0.97 | -1.32 | 0.09 | -1.46 |
| | max | | 7.55 | 12.73 | 17.90 | 0.10 | 19.09 |
| Qk.N_DA | min | -9.78 | -2.53 | -6.85 | -11.18 | 0.16 | -10.28 |
| | max | 48.38 | 35.81 | 43.06 | 50.31 | 0.04 | 64.60 |
| | min | | -2.52 | -6.88 | -11.23 | 0.16 | -10.31 |
| | max | | 35.81 | 43.09 | 50.37 | 0.04 | 64.63 |
| | min | | -2.51 | -6.87 | -11.24 | 0.16 | -10.31 |
| | max | | 35.80 | 43.08 | 50.37 | 0.04 | 64.63 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.09 | 0.11 | 0.04 | -0.04 | -0.54 | 0.05 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.11 | 0.04 | -0.04 | -0.54 | 0.05 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| min | | 0.11 | 0.04 | -0.04 | -0.55 | 0.05 |
| max | | 0.00 | 0.00 | 0.00 | -0.08 | 0.00 |

W-1.32
 $Q \uparrow \wedge \text{ÄKÄGÈI} \in \text{Ä} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 206.03 | 194.26 | 150.19 | 106.13 | -0.12 | 375.49 |
| Ö← | g | 62.28 | 57.53 | 44.12 | 30.70 | -0.13 | 110.29 |
| Qk.N_B1 | min | -0.08 | -1.05 | -0.03 | 0.99 | -13.46 | -0.08 |
| | max | 48.14 | 46.72 | 28.51 | 10.30 | -0.27 | 71.28 |
| | min | | -0.10 | -0.04 | 0.02 | -0.57 | -0.10 |
| | max | | 45.77 | 28.52 | 11.28 | -0.25 | 71.31 |
| | min | | 9.94 | 2.84 | -4.27 | -1.04 | 7.09 |
| | max | | 35.72 | 25.65 | 15.57 | -0.16 | 64.11 |
| Qk.N_C1 | min | -0.60 | -0.60 | -0.39 | -0.19 | -0.22 | -0.99 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.60 | -0.39 | -0.19 | -0.22 | -0.99 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.60 | -0.39 | -0.19 | -0.22 | -0.99 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -1.15 | -1.29 | -0.39 | 0.52 | -0.97 | -0.97 |
| | max | 24.97 | 22.65 | 16.55 | 10.45 | -0.15 | 41.38 |
| | min | | -1.29 | -0.39 | 0.52 | -0.97 | -0.97 |
| | max | | 22.65 | 16.55 | 10.45 | -0.15 | 41.38 |
| | min | | -0.02 | -0.01 | 0.00 | -0.29 | -0.03 |
| | max | | 21.38 | 16.18 | 10.97 | -0.13 | 40.44 |
| Qk.N_E1 | min | -1.21 | -4.91 | -0.10 | 4.70 | -19.30 | -0.26 |
| | max | 3.18 | 3.04 | 1.07 | -0.90 | -0.77 | 2.68 |
| | min | | -1.49 | -0.45 | 0.60 | -0.97 | -1.11 |
| | max | | -0.38 | 1.41 | 3.20 | 0.53 | 3.53 |
| | min | | 2.03 | 0.36 | -1.31 | -1.94 | 0.90 |
| | max | | -3.90 | 0.61 | 5.11 | 3.09 | 1.52 |
| Qk.N_DA | min | -1.80 | -3.04 | -0.48 | 2.08 | -2.20 | -1.21 |
| | max | 50.22 | 48.96 | 39.72 | 30.48 | -0.10 | 99.29 |
| | min | | -1.90 | -1.16 | -0.42 | -0.27 | -2.90 |
| | max | | 47.82 | 40.39 | 32.97 | -0.08 | 100.98 |
| | min | | 7.82 | 2.15 | -3.53 | -1.10 | 5.37 |
| | max | | 38.09 | 37.08 | 36.08 | -0.01 | 92.71 |
| Qk.N_T2 | min | -0.08 | -0.08 | -0.03 | 0.03 | -0.82 | -0.07 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.08 | -0.03 | 0.03 | -0.82 | -0.07 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.08 | -0.03 | 0.03 | -0.82 | -0.07 |

W-1.33
 $Q \uparrow \wedge \text{ÄKÄÎÈI} \in \text{Ä} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 75.89 | 22.64 | 46.30 | 69.96 | 0.72 | 393.52 |
| Ö← | g | 37.41 | 16.43 | 27.40 | 38.37 | 0.57 | 232.91 |
| Qk.N_B1 | min | -14.07 | -7.80 | -2.28 | 3.24 | -3.43 | -19.39 |
| | max | 0.54 | 0.32 | -0.06 | -0.43 | 9.61 | -0.47 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -7.68 | -2.38 | 2.92 | -3.15 | -20.26 |
| | max | | 0.19 | 0.05 | -0.10 | -4.38 | 0.40 |
| | min | | 0.32 | -0.06 | -0.43 | 9.61 | -0.47 |
| | max | | -7.80 | -2.28 | 3.24 | -3.43 | -19.39 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 17.94 | 7.07 | 9.06 | 11.05 | 0.31 | 77.03 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 7.07 | 9.06 | 11.05 | 0.31 | 77.03 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 7.07 | 9.06 | 11.05 | 0.31 | 77.03 |
| Qk.N_C5 | min | -1.60 | -1.13 | -0.34 | 0.45 | -3.27 | -2.90 |
| | max | 0.02 | 0.02 | 0.00 | -0.01 | -4.69 | 0.03 |
| | min | | -1.13 | -0.34 | 0.45 | -3.27 | -2.90 |
| | max | | 0.02 | 0.00 | -0.01 | -4.68 | 0.03 |
| | min | | 0.02 | 0.00 | -0.01 | -4.69 | 0.03 |
| | max | | -1.13 | -0.34 | 0.45 | -3.27 | -2.90 |
| Qk.N_E1 | min | -3.84 | -1.93 | -0.70 | 0.54 | -2.51 | -5.93 |
| | max | 0.06 | 0.60 | -0.22 | -1.04 | 5.27 | -1.87 |
| | min | | -1.37 | -0.93 | -0.49 | -0.68 | -7.90 |
| | max | | 0.04 | 0.01 | -0.02 | -3.32 | 0.10 |
| | min | | 0.60 | -0.22 | -1.04 | 5.27 | -1.87 |
| | max | | -1.93 | -0.70 | 0.54 | -2.51 | -5.93 |
| Qk.N_DA | min | -8.34 | -7.66 | -2.53 | 2.59 | -2.87 | -21.53 |
| | max | 15.09 | 5.82 | 7.24 | 8.66 | 0.28 | 61.55 |
| | min | | -7.64 | -2.54 | 2.56 | -2.85 | -21.59 |
| | max | | 5.81 | 7.25 | 8.69 | 0.28 | 61.61 |
| | min | | 0.05 | 0.00 | -0.04 | -21.61 | 0.03 |
| | max | | -1.89 | 4.71 | 11.30 | 1.99 | 39.99 |
| Qk.N_T2 | min | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -4.57 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 2.83 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-1.34

Q⁺ & A K G E I H A ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 131.56 | 143.99 | 100.63 | 57.26 | -0.18 | 255.09 |
| Ö← | g | 44.87 | 50.18 | 31.85 | 13.53 | -0.24 | 80.75 |
| Qk.N_B1 | min | -1.27 | -0.35 | -0.88 | -1.40 | 0.25 | -2.22 |
| | max | 38.74 | 43.44 | 23.06 | 2.69 | -0.37 | 58.47 |
| | min | | -0.35 | -0.88 | -1.41 | 0.26 | -2.22 |
| | max | | 43.44 | 23.06 | 2.69 | -0.37 | 58.47 |
| | min | | -0.17 | -0.85 | -1.53 | 0.34 | -2.15 |
| | max | | 43.26 | 23.04 | 2.82 | -0.37 | 58.40 |
| Qk.N_C1 | min | -5.29 | -4.77 | -5.13 | -5.49 | 0.03 | -13.01 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -4.77 | -5.13 | -5.49 | 0.03 | -13.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -4.77 | -5.13 | -5.49 | 0.03 | -13.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -1.94 | -0.42 | -1.43 | -2.45 | 0.30 | -3.63 |

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | 24.52 | 26.70 | 18.02 | 9.35 | -0.20 | 45.69 |
| | min | | -0.42 | -1.43 | -2.45 | 0.30 | -3.63 |
| | max | | 26.70 | 18.02 | 9.35 | -0.20 | 45.69 |
| | min | | -0.41 | -1.43 | -2.45 | 0.30 | -3.62 |
| | max | | 26.69 | 18.02 | 9.35 | -0.20 | 45.68 |
| | min | -2.70 | -2.43 | -2.56 | -2.69 | 0.02 | -6.49 |
| | max | 11.73 | 11.23 | 9.58 | 7.93 | -0.07 | 24.28 |
| | min | | -2.43 | -2.56 | -2.70 | 0.02 | -6.49 |
| | max | | 11.22 | 9.58 | 7.93 | -0.07 | 24.28 |
| | min | | -2.42 | -2.56 | -2.70 | 0.02 | -6.49 |
| Qk.N_E1 | max | | 11.22 | 9.58 | 7.93 | -0.07 | 24.28 |
| | min | | -4.80 | -11.26 | -17.72 | 0.24 | -28.54 |
| | max | -15.35 | 25.84 | 30.64 | 35.44 | 0.07 | 77.67 |
| | min | 33.73 | -4.65 | -11.40 | -18.14 | 0.25 | -28.89 |
| | max | | 25.69 | 30.77 | 35.86 | 0.07 | 78.01 |
| | min | | -2.78 | -10.71 | -18.64 | 0.31 | -27.15 |
| | max | | 23.83 | 30.09 | 36.36 | 0.09 | 76.28 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.60 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.60 | 0.00 |
| Qk.N_DA | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.39 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -6.40 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WS-1.5
 $Q_k^{\uparrow} \& \acute{A} \acute{K} \acute{A} \in \acute{E} \acute{I} \acute{I} \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 57.71 | 62.53 | 52.62 | 42.72 | -0.03 | 46.57 |
| Ö← | g | 12.98 | 13.65 | 12.25 | 10.85 | -0.02 | 10.84 |
| Qk.N_B1 | min | -2.48 | -5.74 | 1.42 | 8.58 | 0.74 | 1.26 |
| | max | 7.72 | 0.33 | 0.37 | 0.41 | 0.02 | 0.33 |
| | min | | -2.56 | -2.40 | -2.25 | -0.01 | -2.13 |
| | max | | -2.86 | 4.19 | 11.24 | 0.25 | 3.71 |
| | min | | -2.49 | -2.38 | -2.27 | -0.01 | -2.10 |
| | max | | -2.93 | 4.17 | 11.26 | 0.25 | 3.69 |
| | min | 0.00 | 0.00 | 0.01 | 0.02 | 0.15 | 0.01 |
| | max | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.01 | 0.02 | 0.15 | 0.01 |
| Qk.N_C1 | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.01 | 0.02 | 0.15 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.01 | 0.02 | 0.15 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.01 | 0.02 | 0.15 | 0.01 |
| | min | -0.01 | -0.01 | 0.00 | 0.00 | -0.31 | 0.00 |
| | max | 8.18 | 10.68 | 5.64 | 0.61 | -0.13 | 5.00 |
| | min | | -0.01 | 0.00 | 0.00 | -0.31 | 0.00 |
| | max | | 10.68 | 5.64 | 0.61 | -0.13 | 5.00 |
| Qk.N_C5 | min | | 0.10 | 0.04 | -0.02 | -0.22 | 0.04 |
| | max | | 10.57 | 5.60 | 0.63 | -0.13 | 4.96 |
| | min | -0.52 | -0.55 | -0.44 | -0.33 | -0.04 | -0.39 |
| | max | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.55 | -0.48 | -0.41 | -0.02 | -0.43 |
| | max | | 0.00 | 0.04 | 0.08 | 0.16 | 0.04 |
| | min | | -0.55 | -0.48 | -0.41 | -0.02 | -0.43 |
| | max | | 0.00 | 0.04 | 0.08 | 0.16 | 0.04 |
| | min | | 0.00 | 0.04 | 0.08 | 0.16 | 0.04 |
| | max | | 0.00 | 0.04 | 0.08 | 0.16 | 0.04 |

D-469

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_DA | min | -0.71 | -1.59 | 1.62 | 4.82 | 0.29 | 1.43 |
| | max | 10.98 | 12.47 | 7.98 | 3.49 | -0.08 | 7.06 |
| | min | | -1.04 | -0.39 | 0.26 | -0.24 | -0.35 |
| | max | | 11.91 | 9.99 | 8.06 | -0.03 | 8.84 |
| | min | | 0.63 | -0.06 | -0.75 | 1.70 | -0.05 |
| | max | | 10.24 | 9.65 | 9.06 | -0.01 | 8.54 |
| Qk.N_T2 | min | -1.96 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 2.18 | -0.57 | -3.32 | 0.71 | -0.51 |
| | min | | 2.18 | -0.57 | -3.32 | 0.71 | -0.51 |
| | max | | 0.00 | 0.00 | 0.00 | -0.22 | 0.00 |
| | min | | 2.18 | -0.57 | -3.32 | 0.71 | -0.51 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WS-1.11

Qk^&æÁKÁFÈ€€Á↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 81.61 | 60.08 | 74.39 | 88.69 | 0.03 | 74.39 |
| Ö← | g | 22.49 | 14.17 | 19.70 | 25.23 | 0.05 | 19.70 |
| Qk.N_B1 | min | 0.00 | -0.01 | 0.02 | 0.04 | 0.21 | 0.02 |
| | max | 11.66 | 6.73 | 9.99 | 13.26 | 0.05 | 9.99 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 6.72 | 10.01 | 13.30 | 0.05 | 10.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 6.72 | 10.01 | 13.30 | 0.05 | 10.01 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.05 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.05 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.05 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.01 | 0.00 | 0.00 | 0.00 | 0.14 | 0.00 |
| | max | 17.47 | 15.34 | 16.76 | 18.17 | 0.01 | 16.76 |
| | min | | 0.00 | 0.00 | -0.01 | 0.17 | 0.00 |
| | max | | 15.34 | 16.76 | 18.18 | 0.01 | 16.76 |
| | min | | 0.00 | 0.00 | -0.01 | 0.17 | 0.00 |
| | max | | 15.34 | 16.76 | 18.18 | 0.01 | 16.76 |
| Qk.N_E1 | min | -0.50 | -0.56 | -0.43 | -0.30 | -0.05 | -0.43 |
| | max | 0.47 | 0.62 | 0.32 | 0.01 | -0.16 | 0.32 |
| | min | | -0.56 | -0.44 | -0.31 | -0.05 | -0.44 |
| | max | | 0.62 | 0.32 | 0.02 | -0.15 | 0.32 |
| | min | | -0.51 | -0.42 | -0.32 | -0.04 | -0.42 |
| | max | | 0.57 | 0.30 | 0.04 | -0.15 | 0.30 |
| Qk.N_DA | min | -4.00 | -5.04 | -2.93 | -0.82 | -0.12 | -2.93 |
| | max | 17.83 | 12.44 | 16.02 | 19.59 | 0.04 | 16.02 |
| | min | | -5.04 | -2.93 | -0.82 | -0.12 | -2.93 |
| | max | | 12.44 | 16.02 | 19.59 | 0.04 | 16.02 |
| | min | | -1.35 | -2.32 | -3.29 | 0.07 | -2.32 |
| | max | | 8.75 | 15.41 | 22.07 | 0.07 | 15.41 |
| Qk.N_T2 | min | -3.57 | -3.69 | -3.42 | -3.16 | -0.01 | -3.42 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -3.69 | -3.42 | -3.16 | -0.01 | -3.42 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -3.69 | -3.42 | -3.16 | -0.01 | -3.42 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

D-470

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WS-1.20_1
 $Q \uparrow \& \acute{a} K \acute{A} F \grave{E} I G \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 60.38 | 31.42 | 50.70 | 69.98 | 0.10 | 76.81 |
| Ö← | g | 16.93 | 5.78 | 13.17 | 20.57 | 0.14 | 19.96 |
| Qk.N_B1 | min | -8.74 | -11.16 | -6.17 | -1.19 | -0.20 | -9.35 |
| | max | 19.78 | 18.04 | 19.18 | 20.32 | 0.01 | 29.06 |
| | min | | -11.16 | -6.17 | -1.19 | -0.20 | -9.35 |
| | max | | 18.04 | 19.18 | 20.32 | 0.01 | 29.06 |
| | min | | -11.16 | -6.17 | -1.19 | -0.20 | -9.35 |
| | max | | 18.04 | 19.18 | 20.32 | 0.01 | 29.06 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -4.04 | -5.04 | -2.98 | -0.92 | -0.17 | -4.52 |
| | max | 8.46 | 8.71 | 8.20 | 7.69 | -0.02 | 12.43 |
| | min | | -5.04 | -2.98 | -0.92 | -0.17 | -4.52 |
| | max | | 8.71 | 8.20 | 7.69 | -0.02 | 12.43 |
| | min | | 0.46 | -0.29 | -1.05 | 0.65 | -0.44 |
| | max | | 3.21 | 5.51 | 7.82 | 0.11 | 8.35 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | max | 11.64 | 10.47 | 11.34 | 12.20 | 0.02 | 17.18 |
| | min | | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | max | | 10.47 | 11.34 | 12.20 | 0.02 | 17.18 |
| | min | | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| | max | | 10.47 | 11.34 | 12.20 | 0.02 | 17.18 |
| Qk.N_DA | min | -10.12 | -13.34 | -6.68 | -0.01 | -0.25 | -10.11 |
| | max | 6.55 | 6.78 | 6.22 | 5.67 | -0.02 | 9.43 |
| | min | | -13.34 | -6.68 | -0.01 | -0.25 | -10.11 |
| | max | | 6.78 | 6.22 | 5.67 | -0.02 | 9.43 |
| | min | | -0.04 | -0.04 | -0.04 | 0.01 | -0.06 |
| | max | | -6.53 | -0.42 | 5.70 | -3.72 | -0.63 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.01 | 0.02 | 0.01 | 0.00 | -0.18 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.02 | 0.01 | 0.00 | -0.18 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.02 | 0.01 | 0.00 | -0.18 | 0.01 |

WS-1.20_2
 $Q \uparrow \& \acute{a} K \acute{A} F \grave{E} I F \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 74.35 | 67.40 | 71.98 | 76.56 | 0.02 | 108.69 |
| Ö← | g | 23.94 | 21.48 | 23.11 | 24.73 | 0.02 | 34.89 |
| Qk.N_B1 | min | -0.06 | -0.02 | -0.05 | -0.07 | 0.14 | -0.07 |
| | max | 20.97 | 21.07 | 20.85 | 20.64 | 0.00 | 31.49 |
| | min | | -0.02 | -0.05 | -0.07 | 0.14 | -0.07 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 21.07 | 20.85 | 20.64 | 0.00 | 31.49 |
| | min | | -0.02 | -0.05 | -0.07 | 0.14 | -0.07 |
| | max | | 21.07 | 20.85 | 20.64 | 0.00 | 31.49 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 |
| Qk.N_C5 | min | -0.63 | -0.64 | -0.63 | -0.61 | -0.01 | -0.95 |
| | max | 8.06 | 8.04 | 8.05 | 8.07 | 0.00 | 12.16 |
| | min | | -0.64 | -0.63 | -0.61 | -0.01 | -0.95 |
| | max | | 8.04 | 8.05 | 8.07 | 0.00 | 12.16 |
| | min | | -0.64 | -0.63 | -0.61 | -0.01 | -0.95 |
| | max | | 8.04 | 8.05 | 8.07 | 0.00 | 12.16 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 17.43 | 12.35 | 15.71 | 19.07 | 0.05 | 23.72 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 12.35 | 15.71 | 19.07 | 0.05 | 23.72 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 12.35 | 15.71 | 19.07 | 0.05 | 23.72 |
| Qk.N_DA | min | -0.95 | -0.74 | -0.88 | -1.02 | 0.04 | -1.33 |
| | max | 7.04 | 4.96 | 6.34 | 7.71 | 0.05 | 9.57 |
| | min | | -0.74 | -0.88 | -1.02 | 0.04 | -1.33 |
| | max | | 4.96 | 6.34 | 7.71 | 0.05 | 9.57 |
| | min | | -0.74 | -0.88 | -1.02 | 0.04 | -1.33 |
| | max | | 4.96 | 6.34 | 7.71 | 0.05 | 9.57 |
| Qk.N_T2 | min | -0.01 | -0.01 | -0.01 | -0.01 | 0.07 | -0.01 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.01 | -0.01 | 0.07 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.01 | -0.01 | 0.07 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WS-1.20_3

Q_t ^ & æ Á K Á F È I F Á ^

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 72.01 | 76.52 | 67.45 | 58.37 | -0.03 | 101.84 |
| Ö← | g | 23.10 | 24.70 | 21.47 | 18.23 | -0.04 | 32.41 |
| Qk.N_B1 | min | -0.26 | -0.11 | -0.21 | -0.31 | 0.12 | -0.31 |
| | max | 19.73 | 20.34 | 19.09 | 17.85 | -0.02 | 28.83 |
| | min | | -0.11 | -0.21 | -0.31 | 0.12 | -0.31 |
| | max | | 20.34 | 19.09 | 17.85 | -0.02 | 28.83 |
| | min | | -0.11 | -0.21 | -0.31 | 0.12 | -0.31 |
| | max | | 20.34 | 19.09 | 17.85 | -0.02 | 28.83 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| Qk.N_C5 | min | -0.74 | -0.60 | -0.70 | -0.79 | 0.03 | -1.05 |
| | max | 8.16 | 8.09 | 8.14 | 8.18 | 0.00 | 12.29 |

D-472

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -0.60 | -0.70 | -0.79 | 0.03 | -1.05 |
| | max | | 8.09 | 8.14 | 8.18 | 0.00 | 12.29 |
| | min | | -0.60 | -0.70 | -0.79 | 0.03 | -1.05 |
| | max | | 8.09 | 8.14 | 8.18 | 0.00 | 12.29 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 17.18 | 19.41 | 14.94 | 10.46 | -0.08 | 22.56 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 19.41 | 14.94 | 10.46 | -0.08 | 22.56 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 19.41 | 14.94 | 10.46 | -0.08 | 22.56 |
| Qk.N_DA | min | -1.06 | -1.01 | -1.03 | -1.05 | 0.01 | -1.55 |
| | max | 6.90 | 7.74 | 6.05 | 4.36 | -0.07 | 9.14 |
| | min | | -1.00 | -1.04 | -1.08 | 0.01 | -1.57 |
| | max | | 7.74 | 6.06 | 4.38 | -0.07 | 9.15 |
| | min | | -1.00 | -1.04 | -1.08 | 0.01 | -1.57 |
| | max | | 7.74 | 6.06 | 4.38 | -0.07 | 9.15 |
| Qk.N_T2 | min | -0.04 | -0.01 | -0.03 | -0.05 | 0.16 | -0.04 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.03 | -0.05 | 0.16 | -0.04 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.03 | -0.05 | 0.16 | -0.04 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WS-1.24
 $Q_k^{\perp} \cdot \vec{e}_x \cdot \vec{e}_y \cdot \vec{e}_z$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 20.75 | 26.46 | 14.94 | 3.43 | -0.13 | 14.94 |
| Ö← | g | -3.63 | 1.43 | -1.93 | -5.30 | 0.29 | -1.93 |
| Qk.N_B1 | min | -7.00 | -4.94 | -6.31 | -7.68 | 0.04 | -6.31 |
| | max | 0.25 | 0.32 | 0.19 | 0.06 | -0.11 | 0.19 |
| | min | | -4.94 | -6.31 | -7.68 | 0.04 | -6.31 |
| | max | | 0.32 | 0.19 | 0.06 | -0.11 | 0.19 |
| | min | | -4.94 | -6.31 | -7.68 | 0.04 | -6.31 |
| | max | | 0.31 | 0.19 | 0.06 | -0.11 | 0.19 |
| Qk.N_C1 | min | -1.16 | -1.10 | -1.14 | -1.18 | 0.01 | -1.14 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.10 | -1.14 | -1.18 | 0.01 | -1.14 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.10 | -1.14 | -1.18 | 0.01 | -1.14 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 7.53 | 7.91 | 7.14 | 6.37 | -0.02 | 7.14 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 7.91 | 7.14 | 6.37 | -0.02 | 7.14 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 7.91 | 7.14 | 6.37 | -0.02 | 7.14 |
| Qk.N_E1 | min | -2.56 | -2.43 | -2.52 | -2.61 | 0.01 | -2.52 |
| | max | 2.51 | 2.54 | 2.48 | 2.42 | 0.00 | 2.48 |
| | min | | -2.43 | -2.52 | -2.61 | 0.01 | -2.52 |
| | max | | 2.54 | 2.48 | 2.42 | 0.00 | 2.48 |
| | min | | -2.34 | -2.49 | -2.64 | 0.01 | -2.49 |
| | max | | 2.45 | 2.45 | 2.45 | 0.00 | 2.45 |
| Qk.N_DA | min | -12.27 | -7.08 | -10.24 | -13.39 | 0.05 | -10.24 |

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | 7.05 | 7.47 | 6.47 | 5.46 | -0.03 | 6.47 |
| min | | -6.98 | -10.50 | -14.01 | 0.06 | -10.50 |
| max | | 7.37 | 6.72 | 6.08 | -0.02 | 6.72 |
| min | | -6.98 | -10.49 | -14.01 | 0.06 | -10.49 |
| max | | 7.37 | 6.72 | 6.08 | -0.02 | 6.72 |
| Qk.N_T2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 |

WS-1.26_1

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Kraft Ft

| Kraft Ft | | F _{t,Abs} | F _{t,A} | F _{t,M} | F _{t,E} | e | F _{t,Res} |
|----------|-----|--------------------|------------------|------------------|------------------|-------|--------------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 75.85 | 52.51 | 67.90 | 83.29 | 0.04 | 77.06 |
| Ö← | g | 14.33 | 7.04 | 11.84 | 16.65 | 0.08 | 13.44 |
| Qk.N_B1 | min | -4.12 | -6.71 | -1.35 | 4.02 | -0.75 | -1.53 |
| | max | 5.74 | 6.97 | 4.43 | 1.89 | -0.11 | 5.03 |
| | min | | -6.71 | -1.35 | 4.02 | -0.75 | -1.53 |
| | max | | 6.97 | 4.43 | 1.89 | -0.11 | 5.03 |
| | min | | 0.00 | -0.01 | -0.02 | 0.15 | -0.01 |
| | max | | 0.27 | 3.10 | 5.93 | 0.17 | 3.51 |
| Qk.N_C1 | min | -0.13 | -0.01 | -0.09 | -0.17 | 0.17 | -0.10 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.09 | -0.17 | 0.17 | -0.10 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.09 | -0.17 | 0.17 | -0.10 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -1.53 | -2.53 | -0.46 | 1.62 | -0.86 | -0.52 |
| | max | 0.01 | 0.02 | 0.01 | 0.00 | -0.19 | 0.01 |
| | min | | -2.53 | -0.46 | 1.62 | -0.86 | -0.52 |
| | max | | 0.02 | 0.01 | 0.00 | -0.19 | 0.01 |
| | min | | 0.01 | -0.01 | -0.02 | 0.38 | -0.01 |
| | max | | -2.52 | -0.44 | 1.64 | -0.90 | -0.50 |
| Qk.N_E1 | min | -0.04 | -0.54 | 0.12 | 0.79 | 1.01 | 0.14 |
| | max | 26.56 | 27.60 | 25.80 | 24.01 | -0.01 | 29.29 |
| | min | | -0.05 | -0.04 | -0.03 | -0.04 | -0.04 |
| | max | | 27.11 | 25.96 | 24.82 | -0.01 | 29.47 |
| | min | | 1.12 | 0.45 | -0.22 | -0.28 | 0.51 |
| | max | | 25.94 | 25.48 | 25.01 | 0.00 | 28.92 |
| Qk.N_DA | min | -10.49 | -11.79 | -9.11 | -6.42 | -0.06 | -10.34 |
| | max | 10.62 | 8.13 | 9.77 | 11.42 | 0.03 | 11.09 |
| | min | | -11.79 | -9.11 | -6.42 | -0.06 | -10.34 |
| | max | | 8.13 | 9.77 | 11.42 | 0.03 | 11.09 |
| | min | | -4.77 | -6.03 | -7.30 | 0.04 | -6.85 |
| | max | | 1.11 | 6.70 | 12.30 | 0.16 | 7.61 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.01 | 0.02 | 0.01 | 0.00 | -0.17 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.02 | 0.01 | 0.00 | -0.17 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.02 | 0.01 | 0.00 | -0.17 | 0.01 |

WS-1.26_2
 $Q \uparrow \& \acute{a} \acute{A} \acute{K} \acute{A} \in \hat{E} \hat{I} \hat{I} \hat{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 66.74 | 68.40 | 65.31 | 62.21 | -0.01 | 57.80 |
| Ö← | g | 13.37 | 14.36 | 12.41 | 10.46 | -0.02 | 10.99 |
| Qk.N_B1 | min | -3.70 | -1.41 | -1.21 | -1.01 | -0.02 | -1.07 |
| | max | 0.37 | 1.76 | -0.98 | -3.72 | 0.41 | -0.87 |
| | min | | -0.08 | -2.50 | -4.91 | 0.14 | -2.21 |
| | max | | 0.43 | 0.31 | 0.19 | -0.06 | 0.27 |
| | min | | -0.08 | -2.50 | -4.91 | 0.14 | -2.21 |
| | max | | 0.43 | 0.31 | 0.19 | -0.06 | 0.27 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.22 | 0.07 | 0.17 | 0.28 | 0.09 | 0.15 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.07 | 0.17 | 0.28 | 0.09 | 0.15 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.07 | 0.17 | 0.28 | 0.09 | 0.15 |
| Qk.N_C5 | min | -1.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.09 | 0.53 | -0.54 | -1.60 | 0.29 | -0.47 |
| | min | | 0.48 | -0.61 | -1.71 | 0.26 | -0.54 |
| | max | | 0.05 | 0.08 | 0.10 | 0.06 | 0.07 |
| | min | | 0.48 | -0.61 | -1.71 | 0.26 | -0.54 |
| | max | | 0.05 | 0.08 | 0.10 | 0.06 | 0.07 |
| Qk.N_E1 | min | -1.85 | -0.56 | -1.42 | -2.29 | 0.09 | -1.26 |
| | max | 31.99 | 28.76 | 30.90 | 33.05 | 0.01 | 27.35 |
| | min | | -0.56 | -1.42 | -2.29 | 0.09 | -1.26 |
| | max | | 28.76 | 30.90 | 33.05 | 0.01 | 27.35 |
| | min | | -0.56 | -1.42 | -2.29 | 0.09 | -1.26 |
| | max | | 28.76 | 30.90 | 33.05 | 0.01 | 27.35 |
| Qk.N_DA | min | -9.35 | -7.22 | -8.64 | -10.05 | 0.02 | -7.64 |
| | max | 10.42 | 10.31 | 10.37 | 10.43 | 0.00 | 9.18 |
| | min | | -7.22 | -8.64 | -10.05 | 0.02 | -7.64 |
| | max | | 10.31 | 10.37 | 10.43 | 0.00 | 9.18 |
| | min | | -7.22 | -8.64 | -10.05 | 0.02 | -7.64 |
| | max | | 10.31 | 10.37 | 10.43 | 0.00 | 9.17 |
| Qk.N_T2 | min | -0.01 | -0.01 | -0.01 | 0.00 | -0.07 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.01 | 0.00 | -0.07 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.01 | 0.00 | -0.07 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WS-1.26_3
 $Q \uparrow \& \acute{a} \acute{A} \acute{K} \acute{A} \in \hat{E} \hat{I} \hat{I} \hat{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 54.40 | 57.70 | 51.16 | 44.61 | -0.02 | 45.28 |
| Ö← | g | 7.35 | 7.85 | 6.85 | 5.86 | -0.02 | 6.07 |
| Qk.N_B1 | min | -3.76 | -4.88 | -2.63 | -0.38 | -0.13 | -2.33 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -4.88 | -2.63 | -0.38 | -0.13 | -2.33 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -4.71 | -2.55 | -0.40 | -0.12 | -2.26 |
| | max | | -0.18 | -0.08 | 0.02 | -0.19 | -0.07 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

D-475

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | 0.07 | 0.13 | 0.01 | -0.12 | -2.87 | 0.01 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.13 | 0.01 | -0.12 | -2.87 | 0.01 |
| | | 0.13 | 0.01 | -0.12 | -2.87 | 0.01 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | -1.47 | -1.92 | -1.01 | -0.11 | -0.13 | -0.90 |
| | 0.33 | 0.37 | 0.31 | 0.25 | -0.03 | 0.27 |
| | | -1.92 | -1.01 | -0.11 | -0.13 | -0.90 |
| | | 0.37 | 0.31 | 0.25 | -0.03 | 0.27 |
| | | -1.92 | -1.01 | -0.11 | -0.13 | -0.90 |
| | | 0.36 | 0.30 | 0.25 | -0.03 | 0.27 |
| Qk.N_E1 | -2.27 | -3.39 | -1.10 | 1.20 | -0.31 | -0.97 |
| | 24.31 | 28.47 | 20.09 | 11.72 | -0.06 | 17.78 |
| | | -3.03 | -1.52 | -0.01 | -0.15 | -1.35 |
| | | 28.11 | 20.52 | 12.92 | -0.05 | 18.16 |
| | | -1.80 | -1.00 | -0.19 | -0.12 | -0.88 |
| | | 26.88 | 19.99 | 13.11 | -0.05 | 17.69 |
| Qk.N_DA | -7.75 | -9.47 | -6.29 | -3.11 | -0.07 | -5.57 |
| | 8.34 | 9.85 | 7.09 | 4.34 | -0.06 | 6.28 |
| | | -9.21 | -6.30 | -3.39 | -0.07 | -5.57 |
| | | 9.58 | 7.10 | 4.61 | -0.05 | 6.28 |
| | | -8.79 | -6.16 | -3.54 | -0.06 | -5.45 |
| | | 9.17 | 6.97 | 4.76 | -0.05 | 6.16 |
| Qk.N_T2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | -0.05 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | -0.05 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | -0.05 | 0.00 |

WS-T-1.2
 $Q_k^{\perp} \cdot \vec{e}_k \cdot \vec{A}_k \cdot \vec{F}_k \cdot \vec{e}_k \cdot \vec{F}_k \cdot \vec{A}_k$

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | -69.57 | -28.85 | -55.76 | -82.67 | 0.08 | -56.32 |
| Ö← | -25.18 | -10.00 | -20.03 | -30.06 | 0.08 | -20.23 |
| Qk.N_B1 | -14.98 | -13.68 | -14.52 | -15.36 | 0.01 | -14.67 |
| | 9.06 | 11.05 | 7.04 | 3.02 | -0.10 | 7.11 |
| | | -13.68 | -14.52 | -15.36 | 0.01 | -14.67 |
| | | 11.05 | 7.04 | 3.02 | -0.10 | 7.11 |
| | | -13.68 | -14.52 | -15.36 | 0.01 | -14.67 |
| | | 11.05 | 7.04 | 3.02 | -0.10 | 7.11 |
| Qk.N_C1 | -42.34 | -29.87 | -38.12 | -46.36 | 0.04 | -38.50 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -29.87 | -38.12 | -46.36 | 0.04 | -38.50 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -29.87 | -38.12 | -46.36 | 0.04 | -38.50 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 20.35 | 20.98 | 19.71 | 18.43 | -0.01 | 19.90 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 20.98 | 19.71 | 18.43 | -0.01 | 19.90 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 20.98 | 19.71 | 18.43 | -0.01 | 19.90 |

D-476

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_E1 | min | -24.51 | -20.38 | -23.09 | -25.79 | 0.02 | -23.32 |
| | max | 5.67 | 6.47 | 4.85 | 3.23 | -0.06 | 4.90 |
| | min | | -20.38 | -23.09 | -25.79 | 0.02 | -23.32 |
| | max | | 6.47 | 4.85 | 3.23 | -0.06 | 4.90 |
| | min | | -20.35 | -23.09 | -25.82 | 0.02 | -23.32 |
| | max | | 6.44 | 4.85 | 3.25 | -0.06 | 4.90 |
| Qk.N_DA | min | -0.74 | -1.06 | -0.43 | 0.20 | -0.25 | -0.43 |
| | max | 1.52 | 2.33 | 0.71 | -0.92 | -0.39 | 0.71 |
| | min | | -1.06 | -0.43 | 0.20 | -0.25 | -0.43 |
| | max | | 2.33 | 0.71 | -0.92 | -0.39 | 0.71 |
| | min | | 1.29 | 0.04 | -1.21 | -5.32 | 0.04 |
| | max | | -0.02 | 0.24 | 0.49 | 0.18 | 0.24 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 |

WT-1.1

Q_z⁺ & æ Á Á Î È Ñ Á ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 530.75 | 293.68 | 158.86 | 24.05 | -1.22 | 1370.2 |
| Ö← | g | 171.50 | 94.26 | 44.80 | -4.67 | -1.59 | 386.36 |
| Qk.N_B1 | min | -1.19 | -0.47 | -0.07 | 0.33 | -7.88 | -0.63 |
| | max | 105.14 | 67.58 | 29.81 | -7.96 | -1.82 | 257.15 |
| | min | | -0.38 | -0.14 | 0.10 | -2.49 | -1.20 |
| | max | | 67.49 | 29.88 | -7.73 | -1.81 | 257.72 |
| | min | | 67.58 | 29.55 | -8.48 | -1.85 | 254.88 |
| | max | | -0.47 | 0.19 | 0.85 | 4.97 | 1.64 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 14.23 | 5.57 | 1.37 | -2.83 | -4.41 | 11.81 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 5.57 | 1.37 | -2.83 | -4.41 | 11.81 |
| | min | | 5.57 | 1.37 | -2.83 | -4.41 | 11.81 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -1.12 | -0.60 | -0.02 | 0.57 | -55.13 | -0.13 |
| | max | 24.74 | 11.22 | 11.18 | 11.13 | -0.01 | 96.40 |
| | min | | -0.41 | -0.11 | 0.20 | -4.19 | -0.91 |
| | max | | 11.03 | 11.27 | 11.50 | 0.03 | 97.17 |
| | min | | 0.01 | 0.00 | -0.02 | 4.14 | -0.03 |
| | max | | 10.61 | 11.17 | 11.72 | 0.07 | 96.30 |
| Qk.N_E1 | min | -1.36 | -0.54 | -0.13 | 0.27 | -4.37 | -1.16 |
| | max | 38.98 | 16.51 | 4.20 | -8.12 | -4.22 | 36.19 |
| | min | | -0.40 | -0.19 | 0.02 | -1.56 | -1.64 |
| | max | | 16.36 | 4.25 | -7.86 | -4.09 | 36.67 |
| | min | | 16.51 | 4.20 | -8.12 | -4.22 | 36.19 |
| | max | | -0.54 | -0.13 | 0.27 | -4.37 | -1.16 |
| Qk.N_DA | min | -3.23 | -5.83 | 0.74 | 7.32 | 12.72 | 6.41 |
| | max | 162.21 | 93.21 | 40.59 | -12.03 | -1.86 | 350.08 |
| | min | | -2.05 | -0.55 | 0.95 | -3.90 | -4.77 |
| | max | | 89.43 | 41.89 | -5.65 | -1.63 | 361.26 |
| | min | | 82.82 | 31.09 | -20.63 | -2.39 | 268.18 |
| | | | | | | | |

D-477

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_T2 | max | | 4.55 | 10.24 | 15.93 | 0.80 | 88.31 |
| | min | -2.91 | -0.36 | -0.52 | -0.67 | 0.43 | -4.46 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.36 | -0.52 | -0.67 | 0.43 | -4.47 |
| | max | | 0.00 | 0.00 | 0.00 | 4.20 | 0.00 |
| | min | | -0.36 | -0.52 | -0.67 | 0.43 | -4.47 |
| | max | | 0.00 | 0.00 | 0.00 | 4.20 | 0.00 |

WT-1.2_1
 $Q_t^{\wedge} \& \acute{a} \acute{K} \acute{A} \in \acute{E} \acute{f} \acute{f} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 49.82 | 59.26 | 29.96 | 0.66 | -0.14 | 26.07 |
| Ö← | g | 15.46 | 18.44 | 9.39 | 0.34 | -0.14 | 8.17 |
| Qk.N_B1 | min | -9.07 | -4.69 | -7.33 | -9.97 | 0.05 | -6.38 |
| | max | 18.87 | 19.86 | 17.13 | 14.40 | -0.02 | 14.90 |
| | min | | -4.69 | -7.33 | -9.97 | 0.05 | -6.38 |
| | max | | 19.86 | 17.13 | 14.40 | -0.02 | 14.90 |
| | min | | -4.69 | -7.33 | -9.97 | 0.05 | -6.38 |
| | max | | 19.86 | 17.13 | 14.40 | -0.02 | 14.90 |
| | min | -22.36 | -14.46 | -19.23 | -23.99 | 0.04 | -16.73 |
| Qk.N_C1 | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -14.46 | -19.23 | -23.99 | 0.04 | -16.73 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -14.46 | -19.23 | -23.99 | 0.04 | -16.73 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -14.46 | -19.23 | -23.99 | 0.04 | -16.73 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | 0.00 | -0.34 | 1.76 | 3.86 | 0.17 | 1.53 |
| | max | 20.63 | 19.57 | 18.36 | 17.16 | -0.01 | 15.97 |
| | min | | 0.00 | 0.00 | 0.00 | -0.08 | 0.00 |
| | max | | 19.23 | 20.12 | 21.02 | 0.01 | 17.51 |
| | min | | 0.00 | 0.00 | 0.00 | -0.08 | 0.00 |
| | max | | 19.23 | 20.12 | 21.02 | 0.01 | 17.51 |
| | min | -14.01 | -7.30 | -11.36 | -15.42 | 0.05 | -9.89 |
| Qk.N_E1 | max | 8.02 | 8.22 | 7.76 | 7.31 | -0.01 | 6.75 |
| | min | | -7.30 | -11.36 | -15.42 | 0.05 | -9.89 |
| | max | | 8.22 | 7.76 | 7.31 | -0.01 | 6.75 |
| | min | | -7.25 | -11.35 | -15.45 | 0.05 | -9.87 |
| | max | | 8.16 | 7.75 | 7.33 | -0.01 | 6.74 |
| | min | -7.79 | -8.76 | -5.31 | -1.86 | -0.09 | -4.62 |
| | max | 18.48 | 20.75 | 12.86 | 4.97 | -0.09 | 11.19 |
| Qk.N_DA | min | | -8.76 | -5.31 | -1.86 | -0.09 | -4.62 |
| | max | | 20.75 | 12.86 | 4.97 | -0.09 | 11.19 |
| | min | | -8.73 | -5.30 | -1.86 | -0.09 | -4.61 |
| | max | | 20.72 | 12.85 | 4.97 | -0.09 | 11.18 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.01 | 0.00 | 0.01 | 0.01 | 0.08 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_T2 | max | | 0.00 | 0.01 | 0.01 | 0.08 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.01 | 0.01 | 0.08 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.01 | 0.01 | 0.08 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.01 | 0.01 | 0.08 | 0.01 |

WT-1.2_2
 $Q_t^{\wedge} \& \acute{a} \acute{K} \acute{A} \in \acute{E} \acute{f} \acute{f} \acute{A} \uparrow$

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 206.83 | -72.36 | 91.93 | 256.22 | 0.26 | 79.98 |
| Ö← | g | 76.37 | -26.80 | 33.89 | 94.58 | 0.26 | 29.49 |
| Qk.N_B1 | min | -8.44 | -10.38 | 24.53 | 59.45 | 0.21 | 21.34 |
| | max | 48.75 | 1.83 | -4.26 | -10.34 | 0.21 | -3.70 |
| | min | | 1.83 | -4.26 | -10.35 | 0.21 | -3.71 |
| | max | | -10.38 | 24.54 | 59.46 | 0.21 | 21.35 |
| | min | | 1.83 | -4.26 | -10.35 | 0.21 | -3.71 |
| | max | | -10.38 | 24.54 | 59.46 | 0.21 | 21.35 |
| Qk.N_C1 | min | 0.00 | -46.93 | 1.76 | 50.45 | 4.01 | 1.53 |
| | max | 36.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -46.93 | 1.76 | 50.45 | 4.01 | 1.53 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -46.93 | 1.76 | 50.45 | 4.01 | 1.53 |
| Qk.N_C5 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 16.65 | 17.48 | 15.03 | 12.58 | -0.02 | 13.07 |
| | min | | 0.00 | 0.00 | 0.00 | 0.46 | 0.00 |
| | max | | 17.48 | 15.03 | 12.58 | -0.02 | 13.08 |
| | min | | 6.23 | 0.31 | -5.61 | -2.79 | 0.27 |
| | max | | 11.25 | 14.72 | 18.19 | 0.03 | 12.81 |
| Qk.N_E1 | min | -4.62 | -21.08 | 27.35 | 75.78 | 0.26 | 23.79 |
| | max | 61.69 | 2.33 | -1.42 | -5.18 | 0.38 | -1.24 |
| | min | | 1.66 | -2.07 | -5.78 | 0.26 | -1.80 |
| | max | | -20.41 | 27.99 | 76.39 | 0.25 | 24.35 |
| | min | | 1.66 | -2.07 | -5.79 | 0.26 | -1.80 |
| | max | | -20.41 | 27.99 | 76.39 | 0.25 | 24.35 |
| Qk.N_DA | min | -1.42 | -0.89 | -1.19 | -1.50 | 0.04 | -1.04 |
| | max | 4.70 | 0.84 | 3.11 | 5.39 | 0.11 | 2.71 |
| | min | | -0.88 | -1.20 | -1.51 | 0.04 | -1.04 |
| | max | | 0.83 | 3.12 | 5.41 | 0.11 | 2.71 |
| | min | | -0.88 | -1.20 | -1.51 | 0.04 | -1.04 |
| | max | | 0.83 | 3.12 | 5.41 | 0.11 | 2.71 |
| Qk.N_T2 | min | -0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.03 | -0.02 | -0.06 | 0.40 | -0.01 |
| | min | | 0.03 | -0.02 | -0.06 | 0.40 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| | min | | 0.03 | -0.02 | -0.06 | 0.40 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |

WT-1.3

Q†^&æÁKÁGÈĜHÁ↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 177.45 | 182.17 | 145.33 | 108.49 | -0.10 | 340.08 |
| Ö← | g | 56.43 | 57.37 | 47.77 | 38.17 | -0.08 | 111.78 |
| Qk.N_B1 | min | -1.16 | -1.23 | -0.76 | -0.29 | -0.24 | -1.77 |
| | max | 39.35 | 37.22 | 37.46 | 37.71 | 0.00 | 87.66 |
| | min | | -1.23 | -0.76 | -0.29 | -0.24 | -1.77 |
| | max | | 37.22 | 37.46 | 37.71 | 0.00 | 87.66 |
| | min | | 0.87 | 0.14 | -0.59 | -2.01 | 0.33 |
| | max | | 35.12 | 36.56 | 38.01 | 0.02 | 85.56 |
| Qk.N_C1 | min | -3.81 | -0.44 | -2.37 | -4.29 | 0.32 | -5.54 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.44 | -2.37 | -4.29 | 0.32 | -5.54 |

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| Kraft | Ft | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|---------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Qk.N_C5 | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.44 | -2.37 | -4.29 | 0.32 | -5.54 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 23.74 | 22.24 | 22.68 | 23.11 | 0.01 | 53.06 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 22.24 | 22.68 | 23.11 | 0.01 | 53.06 |
| | min | | 0.03 | 0.01 | -0.01 | -0.90 | 0.02 |
| Qk.N_E1 | max | | 22.21 | 22.67 | 23.12 | 0.01 | 53.04 |
| | min | -2.04 | -1.70 | -1.77 | -1.85 | 0.02 | -4.15 |
| | max | 9.65 | 10.25 | 8.85 | 7.44 | -0.06 | 20.70 |
| | min | | -1.70 | -1.77 | -1.85 | 0.02 | -4.15 |
| | max | | 10.25 | 8.85 | 7.44 | -0.06 | 20.70 |
| | min | | 0.48 | -0.83 | -2.14 | 0.62 | -1.94 |
| Qk.N_DA | max | | 8.07 | 7.90 | 7.73 | -0.01 | 18.49 |
| | min | -2.19 | -2.45 | -1.59 | -0.72 | -0.21 | -3.71 |
| | max | 41.95 | 45.49 | 27.78 | 10.08 | -0.25 | 65.01 |
| | min | | -1.80 | -1.90 | -1.99 | 0.02 | -4.44 |
| | max | | 44.84 | 28.09 | 11.35 | -0.23 | 65.73 |
| | min | | 0.25 | -0.98 | -2.22 | 0.49 | -2.30 |
| Qk.N_T2 | max | | 42.78 | 27.18 | 11.57 | -0.22 | 63.60 |
| | min | -0.01 | -0.02 | -0.01 | 0.00 | -0.47 | -0.02 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.32 | 0.00 |
| | min | | -0.02 | -0.01 | 0.00 | -0.47 | -0.02 |
| | max | | 0.00 | 0.00 | 0.00 | 0.32 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.02 | -0.01 | 0.00 | -0.54 | -0.01 |

Detail nachweise

©âæã&áâæÁá→bÁÆæ\á↔^á'å}æ↔bæÁâfiãÁÑá|U\á\↔

Details

Details aus Positionen

Positionsgrafik



S310.de

Stahlbeton-Sturz

Kombinationen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á^áÁÆØSÁÓSÁFïï€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

Æ↔æÁÑæ\æ↔↔&|^&Áæ↔^~æ↔æääQáb\à†↔æÁ↔^æääá→âÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

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Grundkombinationen

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------------|-------------|-------------|-------------|
| 1-2 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 |
| 3 | | 1.35 | 1.35 | 1.50 | . | 1.05 |
| 4-5 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 |
| 6 | | 1.00 | 1.00 | 1.50 | . | 1.05 |
| 7-8 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 |
| 9-10 | | 1.00 | 1.00 | 1.05 | . | 1.50 |
| 11-16 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 |
| 17-19 | | 1.35 | 1.35 | 1.05 | . | 1.05 |
| 20-22 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 |
| 23-29 | | 1.35 | 1.35 | 1.05 | . | 1.05 |
| 30-37 | | 1.00 | 1.00 | 1.05 | . | 1.05 |
| 38-42 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 |

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Schulcampus EWK \

10G-LP4

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 43-44 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 45-46 | | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 47-51 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 52-53 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|-------|-------------|---------|---------|
| 1-2 | | . | . |
| 3 | | . | 1.20 |
| 4-5 | | . | . |
| 6 | | . | 1.20 |
| 7-8 | | . | . |
| 9-10 | | . | 1.20 |
| 11-16 | 1.50 | | 1.20 |
| 17-19 | 1.50 | | . |
| 20-22 | 1.50 | | . |
| 23-29 | 1.50 | | 1.20 |
| 30-37 | 1.50 | | 1.20 |
| 38-42 | 1.50 | | . |
| 43-44 | 1.50 | | . |
| 45-46 | 1.50 | | 1.20 |
| 47-51 | 1.50 | | 1.20 |
| 52-53 | 1.50 | | . |

Daten

| | Q _z [^] [m] | Breite [cm] | Komb | Komm. | q _{li} [kN/m] | q _{re} [kN/m] | Lkn |
|-----------|------------------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-1.11 | 1.00 | 25.00 | GK | min A | 67.35 | 114.44 | 11 |
| | | | GK | max A | 151.02 | 224.22 | 17 |
| | | | GK | min M | 67.36 | 114.37 | 12 |
| | | | GK | max M | 151.02 | 224.29 | 18 |
| | | | GK | min E | 72.97 | 110.64 | 13 |
| | | | GK | max E | 145.40 | 228.02 | 19 |
| WS-1.20_1 | 1.52 | 25.00 | GK | min A | 6.11 | 94.25 | 20 |
| | | | GK | max A | 112.21 | 186.48 | 23 |
| | | | GK | min M | 6.11 | 94.25 | 20 |
| | | | GK | max M | 112.21 | 186.48 | 23 |
| | | | GK | min E | 26.88 | 93.60 | 1 |
| | | | GK | max E | 104.39 | 187.25 | 3 |
| WS-1.20_2 | 1.51 | 25.00 | GK | min A | 93.00 | 104.97 | 30 |
| | | | GK | max A | 186.57 | 212.79 | 4 |
| | | | GK | min M | 93.00 | 104.97 | 30 |
| | | | GK | max M | 184.53 | 215.07 | 38 |
| | | | GK | min E | 93.00 | 104.97 | 30 |
| | | | GK | max E | 184.53 | 215.07 | 38 |
| WS-1.20_3 | 1.51 | 25.00 | GK | min A | 104.89 | 79.76 | 31 |
| | | | GK | max A | 215.24 | 161.00 | 39 |
| | | | GK | min M | 104.90 | 79.72 | 32 |
| | | | GK | max M | 215.23 | 161.04 | 40 |
| | | | GK | min E | 104.90 | 79.72 | 33 |
| | | | GK | max E | 212.78 | 162.50 | 5 |
| WS-1.24 | 1.00 | 25.00 | GK | min A | 16.36 | -26.11 | 21 |
| | | | GK | max A | 73.57 | 28.32 | 24 |
| | | | GK | min M | 17.00 | -28.89 | 43 |
| | | | GK | max M | 72.92 | 31.10 | 45 |
| | | | GK | min E | 17.14 | -28.92 | 44 |
| | | | GK | max E | 72.78 | 31.14 | 46 |

| | Q _{st} [m] | Breite [cm] | Komb | Komm. | Q _{li} [kN/m] | Q _{re} [kN/m] | Lkn |
|-----------|------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-1.26_1 | 1.14 | 25.00 | GK | min A | 37.29 | 103.15 | 14 |
| | | | GK | max A | 149.37 | 198.04 | 25 |
| | | | GK | min M | 38.03 | 101.93 | 15 |
| | | | GK | max M | 148.63 | 199.26 | 26 |
| | | | GK | min E | 60.02 | 94.36 | 16 |
| | | | GK | max E | 126.64 | 206.83 | 27 |
| WS-1.26_2 | 0.89 | 25.00 | GK | min A | 75.53 | 59.05 | 34 |
| | | | GK | max A | 180.81 | 166.04 | 41 |
| | | | GK | min M | 77.44 | 53.15 | 35 |
| | | | GK | max M | 178.91 | 171.93 | 47 |
| | | | GK | min E | 77.44 | 53.15 | 36 |
| | | | GK | max E | 178.91 | 171.93 | 48 |
| WS-1.26_3 | 0.89 | 25.00 | GK | min A | 45.05 | 53.03 | 52 |
| | | | GK | max A | 154.51 | 100.37 | 49 |
| | | | GK | min M | 45.99 | 50.80 | 53 |
| | | | GK | max M | 153.57 | 102.60 | 50 |
| | | | GK | min E | 48.79 | 50.16 | 22 |
| | | | GK | max E | 150.77 | 103.24 | 28 |
| WS-1.5 | 0.89 | 25.00 | GK | min A | 72.66 | 71.92 | 2 |
| | | | GK | max A | 143.73 | 82.66 | 29 |
| | | | GK | min M | 80.06 | 51.54 | 6 |
| | | | GK | max M | 136.93 | 105.01 | 51 |
| | | | GK | min E | 82.34 | 51.38 | 37 |
| | | | GK | max E | 134.25 | 106.56 | 42 |
| WS-T-1.2 | 1.01 | 25.00 | GK | min A | -134.19 | -268.51 | 7 |
| | | | GK | max A | 19.89 | -71.10 | 9 |
| | | | GK | min M | -134.19 | -268.51 | 7 |
| | | | GK | max M | 19.89 | -71.10 | 9 |
| | | | GK | min E | -134.14 | -268.55 | 8 |
| | | | GK | max E | 19.85 | -71.06 | 10 |

Q_{li} Belastung am Sturzanfang (A)
Q_{re} Belastung am Sturzende (E)

S340.de

U\ää→âæ\~^Ë|ä'â→ä|ä\ä†&æä

Kombi nati onen

Ráß&æâæ^äæÄP~↑â↔^á\↔~^æ^Ä^á'äÄØSÁÓSÁFïï€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔æÄÑæ\æ↔↔&|^&Äæ↔^~æ→æäÄQáb\â†→æÄ↔^æäää→äÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

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Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|-------------|-------------|-------------|---------|
| 1-2 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 3 | | 1.35 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 4-5 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 6 | | 1.00 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 7-8 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 9-10 | | 1.00 | 1.00 | 1.05 | . | 1.50 | 1.50 |
| 11-16 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------------|---------|---------|---------|
| 17-19 | | 1.35 | 1.35 | 1.05 | . | 1.05 |
| 20-22 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 |
| 23-29 | | 1.35 | 1.35 | 1.05 | . | 1.05 |
| 30-37 | | 1.00 | 1.00 | 1.05 | . | 1.05 |
| 38-42 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 |
| 43-44 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 |
| 45-46 | | 1.35 | 1.00 | 1.05 | . | 1.05 |
| 47-51 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 |
| 52-53 | | 1.00 | 1.00 | 1.05 | . | 1.05 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|-------|-------------|---------|---------|
| 1-2 | | . | . |
| 3 | | . | 1.20 |
| 4-5 | | . | . |
| 6 | | . | 1.20 |
| 7-8 | | . | . |
| 9-10 | | . | 1.20 |
| 11-16 | 1.50 | | 1.20 |
| 17-19 | 1.50 | | . |
| 20-22 | 1.50 | | . |
| 23-29 | 1.50 | | 1.20 |
| 30-37 | 1.50 | | 1.20 |
| 38-42 | 1.50 | | . |
| 43-44 | 1.50 | | . |
| 45-46 | 1.50 | | 1.20 |
| 47-51 | 1.50 | | 1.20 |
| 52-53 | 1.50 | | . |

Brand

P~↑â↔^á\↔~^æ^ÀàfiãÁSá^`â}æ↔bÃ↔↑ÃÑãá^ääá→

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|--------|----|------|------------|---------|---------|---------|
| 54-64 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 |
| 65-69 | | 1.00 | 1.00 | 0.30 | . | 0.60 |
| 70-82 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 |
| 83-101 | | 1.00 | 1.00 | 0.30 | . | 0.60 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|--------|----|---------|---------|
| 54-64 | | . | 0.50 |
| 65-69 | | . | . |
| 70-82 | | . | . |
| 83-101 | | . | 0.50 |

Daten

WS-1.11

| Q†^&æ [m] | Breite [cm] | Komb | Komm. | q _{li} [kN/m] | q _{re} [kN/m] | Lkn |
|--------------|----------------|------|-------|---------------------------|---------------------------|-----|
| 1.00 | 25.00 | GK | min A | 67.35 | 114.44 | 11 |
| | | GK | max A | 151.02 | 224.22 | 17 |
| | | GK | min M | 67.36 | 114.37 | 12 |
| | | GK | max M | 151.02 | 224.29 | 18 |
| | | GK | min E | 72.97 | 110.64 | 13 |
| | | GK | max E | 145.40 | 228.02 | 19 |
| | | BR | min A | 77.89 | 118.05 | 54 |
| | | BR | min A | 91.91 | 134.75 | 65 |
| | | BR | min A | 77.89 | 118.03 | 55 |
| | | BR | min A | 91.91 | 134.78 | 66 |
| | | BR | min A | 77.94 | 118.02 | 56 |
| | | BR | min A | 91.87 | 134.78 | 67 |

| | Q _z [m] | Breite [cm] | Komb | Komm. | Q _{li} [kN/m] | Q _{re} [kN/m] | Lkn |
|-----------|-----------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-1.20_1 | 1.52 | 25.00 | GK | min A | 6.11 | 94.25 | 20 |
| | | | GK | max A | 112.21 | 186.48 | 23 |
| | | | GK | min M | 6.11 | 94.25 | 20 |
| | | | GK | max M | 112.21 | 186.48 | 23 |
| | | | GK | min E | 26.88 | 93.60 | 1 |
| | | | GK | max E | 104.39 | 187.25 | 3 |
| | | | BR | min A | 36.76 | 95.57 | 70 |
| | | | BR | min A | 62.16 | 116.96 | 83 |
| | | | BR | min A | 36.76 | 95.57 | 70 |
| | | | BR | min A | 62.16 | 116.96 | 83 |
| | | | BR | min A | 40.06 | 95.50 | 71 |
| | | | BR | min A | 58.86 | 117.03 | 84 |
| WS-1.20_2 | 1.51 | 25.00 | GK | min A | 93.00 | 104.97 | 30 |
| | | | GK | max A | 186.57 | 212.79 | 4 |
| | | | GK | min M | 93.00 | 104.97 | 30 |
| | | | GK | max M | 184.53 | 215.07 | 38 |
| | | | GK | min E | 93.00 | 104.97 | 30 |
| | | | GK | max E | 184.53 | 215.07 | 38 |
| | | | BR | min A | 94.42 | 106.83 | 85 |
| | | | BR | min A | 115.84 | 133.52 | 72 |
| | | | BR | min A | 94.42 | 106.83 | 85 |
| | | | BR | min A | 115.84 | 133.52 | 72 |
| | | | BR | min A | 94.42 | 106.83 | 85 |
| | | | BR | min A | 115.84 | 133.52 | 72 |
| WS-1.20_3 | 1.51 | 25.00 | GK | min A | 104.89 | 79.76 | 31 |
| | | | GK | max A | 215.24 | 161.00 | 39 |
| | | | GK | min M | 104.90 | 79.72 | 32 |
| | | | GK | max M | 215.23 | 161.04 | 40 |
| | | | GK | min E | 104.90 | 79.72 | 33 |
| | | | GK | max E | 212.78 | 162.50 | 5 |
| | | | BR | min A | 106.76 | 81.95 | 86 |
| | | | BR | min A | 133.64 | 101.18 | 73 |
| | | | BR | min A | 106.76 | 81.95 | 86 |
| | | | BR | min A | 133.64 | 101.18 | 73 |
| | | | BR | min A | 106.76 | 81.95 | 87 |
| | | | BR | min A | 133.64 | 101.18 | 74 |
| WS-1.24 | 1.00 | 25.00 | GK | min A | 16.36 | -26.11 | 21 |
| | | | GK | max A | 73.57 | 28.32 | 24 |
| | | | GK | min M | 17.00 | -28.89 | 43 |
| | | | GK | max M | 72.92 | 31.10 | 45 |
| | | | GK | min E | 17.14 | -28.92 | 44 |
| | | | GK | max E | 72.78 | 31.14 | 46 |
| | | | BR | min A | 32.87 | 2.10 | 75 |
| | | | BR | min A | 43.84 | 12.99 | 88 |
| | | | BR | min A | 32.87 | 2.10 | 75 |
| | | | BR | min A | 43.84 | 12.99 | 88 |
| | | | BR | min A | 32.95 | 2.08 | 76 |
| | | | BR | min A | 43.76 | 13.01 | 89 |
| WS-1.26_1 | 1.14 | 25.00 | GK | min A | 37.29 | 103.15 | 14 |
| | | | GK | max A | 149.37 | 198.04 | 25 |
| | | | GK | min M | 38.03 | 101.93 | 15 |
| | | | GK | max M | 148.63 | 199.26 | 26 |
| | | | GK | min E | 60.02 | 94.36 | 16 |
| | | | GK | max E | 126.64 | 206.83 | 27 |

| | $Q_{\perp}^{\wedge \& \ae}$ [m] | Breite [cm] | Komb | Komm. | q_{li} [kN/m] | q_{re} [kN/m] | Lkn |
|-----------|------------------------------------|----------------|------|-------|--------------------|--------------------|-----|
| WS-1.26_2 | 0.89 | 25.00 | BR | min A | 61.52 | 108.57 | 57 |
| | | | BR | min A | 89.68 | 125.64 | 90 |
| | | | BR | min A | 61.92 | 107.92 | 58 |
| | | | BR | min A | 89.29 | 126.29 | 91 |
| | | | BR | min A | 66.38 | 105.57 | 59 |
| | | | BR | min A | 84.82 | 128.64 | 92 |
| | | | GK | min A | 75.53 | 59.05 | 34 |
| | | | GK | max A | 180.81 | 166.04 | 41 |
| | | | GK | min M | 77.44 | 53.15 | 35 |
| | | | GK | max M | 178.91 | 171.93 | 47 |
| | | | GK | min E | 77.44 | 53.15 | 36 |
| | | | GK | max E | 178.91 | 171.93 | 48 |
| | | | BR | min A | 87.82 | 76.48 | 93 |
| | | | BR | min A | 112.59 | 103.14 | 77 |
| | | | BR | min A | 88.51 | 74.28 | 94 |
| | | | BR | min A | 111.90 | 105.33 | 60 |
| | | | BR | min A | 88.51 | 74.28 | 95 |
| | | | BR | min A | 111.90 | 105.33 | 61 |
| WS-1.26_3 | 0.89 | 25.00 | GK | min A | 45.05 | 53.03 | 52 |
| | | | GK | max A | 154.51 | 100.37 | 49 |
| | | | GK | min M | 45.99 | 50.80 | 53 |
| | | | GK | max M | 153.57 | 102.60 | 50 |
| | | | GK | min E | 48.79 | 50.16 | 22 |
| | | | GK | max E | 150.77 | 103.24 | 28 |
| | | | BR | min A | 66.16 | 57.19 | 68 |
| | | | BR | min A | 94.56 | 65.86 | 62 |
| | | | BR | min A | 66.44 | 56.22 | 69 |
| | | | BR | min A | 94.28 | 66.83 | 63 |
| | | | BR | min A | 67.56 | 56.00 | 78 |
| | | | BR | min A | 93.16 | 67.05 | 96 |
| WS-1.5 | 0.89 | 25.00 | GK | min A | 72.66 | 71.92 | 2 |
| | | | GK | max A | 143.73 | 82.66 | 29 |
| | | | GK | min M | 80.06 | 51.54 | 6 |
| | | | GK | max M | 136.93 | 105.01 | 51 |
| | | | GK | min E | 82.34 | 51.38 | 37 |
| | | | GK | max E | 134.25 | 106.56 | 42 |
| | | | BR | min A | 79.94 | 61.84 | 79 |
| | | | BR | min A | 89.71 | 58.33 | 97 |
| | | | BR | min A | 81.99 | 56.85 | 98 |
| | | | BR | min A | 87.66 | 63.32 | 64 |
| | | | BR | min A | 82.08 | 56.83 | 99 |
| | | | BR | min A | 87.58 | 63.34 | 80 |
| WS-T-1.2 | 1.01 | 25.00 | GK | min A | -134.19 | -268.51 | 7 |
| | | | GK | max A | 19.89 | -71.10 | 9 |
| | | | GK | min M | -134.19 | -268.51 | 7 |
| | | | GK | max M | 19.89 | -71.10 | 9 |
| | | | GK | min E | -134.14 | -268.55 | 8 |
| | | | GK | max E | 19.85 | -71.06 | 10 |
| | | | BR | min A | -71.25 | -159.84 | 81 |
| | | | BR | min A | -11.83 | -92.23 | 100 |
| | | | BR | min A | -71.25 | -159.84 | 81 |
| | | | BR | min A | -11.83 | -92.23 | 100 |
| | | | BR | min A | -71.23 | -159.87 | 82 |
| | | | BR | min A | -11.85 | -92.21 | 101 |

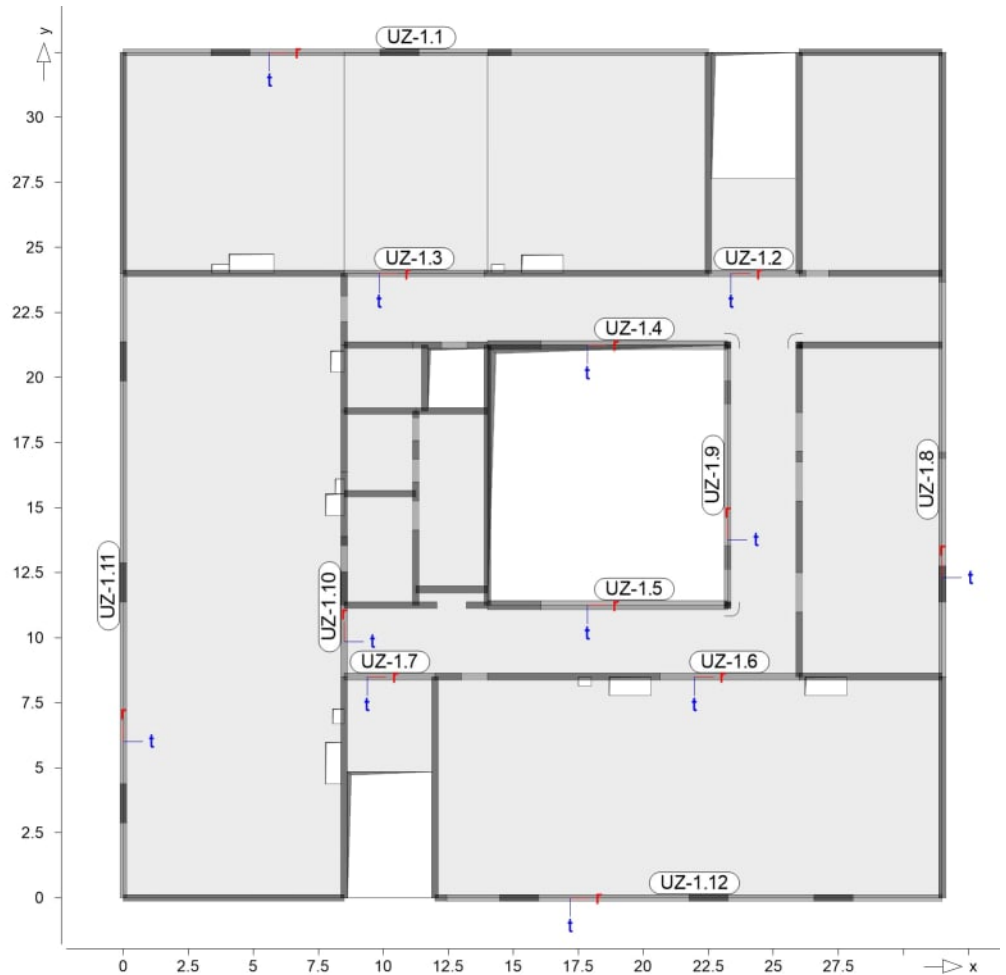
q_{li} $\tilde{N} \rightarrow \tilde{a} b \setminus \mid \wedge \& \tilde{A} \tilde{a} \uparrow \tilde{A} \tilde{U} \tilde{a} \dagger \& \tilde{a} \tilde{a} \wedge \tilde{a} \tilde{a} \wedge \& \tilde{A} \tilde{C} \tilde{N} \tilde{D}$
 q_{re} $\tilde{N} \rightarrow \tilde{a} b \setminus \mid \wedge \& \tilde{A} \tilde{a} \uparrow \tilde{A} \tilde{U} \tilde{a} \dagger \& \tilde{a} \tilde{a} \wedge \tilde{a} \tilde{a} \tilde{A} \tilde{C} \tilde{O} \tilde{D}$

Lastmodel I Bal ken

$N \rightarrow \setminus \tilde{a} \tilde{a} \wedge \tilde{a} \setminus \Leftrightarrow \{ \wedge \tilde{a} \tilde{a} \tilde{a} \} \tilde{a} \Leftrightarrow b \tilde{A} \tilde{a} \tilde{f} i \tilde{a} \tilde{A} \tilde{C} \mid \tilde{a} \tilde{a} \rightarrow \tilde{a} \mid \tilde{a} \setminus \tilde{a} \dagger \& \tilde{a} \tilde{a}$

S340. de

$U \setminus \tilde{a} \tilde{a} \rightarrow \tilde{a} \tilde{a} \setminus \sim \wedge \tilde{E} \tilde{C} \mid \tilde{a} \tilde{a} \rightarrow \tilde{a} \mid \tilde{a} \setminus \tilde{a} \dagger \& \tilde{a} \tilde{a}$



UZ-1.1

Unterzug

• $\tilde{a} \tilde{a} \wedge \tilde{A} \tilde{C} \tilde{C} \setminus$

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

Gk

| Nr. | a | s | q |
|-----|------|------|--------|
| | [m] | [m] | [kN/m] |
| 1 | 0.00 | 0.98 | -11.33 |
| 2 | 0.98 | 0.98 | 16.05 |
| 3 | 1.96 | 0.98 | 29.79 |
| 4 | 2.93 | 0.98 | 100.27 |
| 5 | 3.91 | 0.98 | 142.98 |
| 6 | 4.89 | 0.98 | 60.82 |
| 7 | 5.87 | 0.98 | 24.43 |
| 8 | 6.85 | 0.98 | 22.44 |
| 9 | 7.83 | 0.98 | 23.45 |
| 10 | 8.80 | 0.98 | 53.09 |
| 11 | 9.78 | 0.98 | 134.09 |

D-487

Schulcampus EWK \ 10G-LP4

POSITION

10G-LP4

Ö←

Qk .N_B1

| Nr . | a [m] | s [m] | q [kN/m] |
|------|----------|----------|-------------|
| 12 | 10.76 | 0.98 | 103.62 |
| 13 | 11.74 | 0.98 | 33.10 |
| 14 | 12.72 | 0.98 | 47.18 |
| 15 | 13.70 | 0.98 | 158.69 |
| 16 | 14.67 | 0.98 | 123.46 |
| 17 | 15.65 | 0.98 | 34.36 |
| 18 | 16.63 | 0.98 | 22.72 |
| 19 | 17.61 | 0.98 | 23.10 |
| 20 | 18.59 | 0.98 | 21.82 |
| 21 | 19.57 | 0.98 | 19.98 |
| 22 | 20.54 | 0.98 | 25.04 |
| 23 | 21.52 | 0.98 | 32.61 |
| 1 | 0.00 | 0.98 | 1.94 |
| 2 | 0.98 | 0.98 | 10.02 |
| 3 | 1.96 | 0.98 | 15.24 |
| 4 | 2.93 | 0.98 | 42.74 |
| 5 | 3.91 | 0.98 | 58.75 |
| 6 | 4.89 | 0.98 | 27.03 |
| 7 | 5.87 | 0.98 | 13.24 |
| 8 | 6.85 | 0.98 | 12.68 |
| 9 | 7.83 | 0.98 | 13.43 |
| 10 | 8.80 | 0.98 | 25.11 |
| 11 | 9.78 | 0.98 | 56.23 |
| 12 | 10.76 | 0.98 | 44.49 |
| 13 | 11.74 | 0.98 | 16.92 |
| 14 | 12.72 | 0.98 | 21.76 |
| 15 | 13.70 | 0.98 | 62.88 |
| 16 | 14.67 | 0.98 | 49.19 |
| 17 | 15.65 | 0.98 | 16.54 |
| 18 | 16.63 | 0.98 | 12.47 |
| 19 | 17.61 | 0.98 | 12.64 |
| 20 | 18.59 | 0.98 | 12.20 |
| 21 | 19.57 | 0.98 | 11.54 |
| 22 | 20.54 | 0.98 | 12.71 |
| 23 | 21.52 | 0.98 | 13.01 |
| 1 | 0.00 | 0.98 | -0.57 |
| 2 | 0.98 | 0.98 | -0.07 |
| 3 | 1.96 | 0.98 | -0.13 |
| 4 | 2.93 | 0.98 | -0.21 |
| 5 | 3.91 | 0.98 | -0.25 |
| 6 | 4.89 | 0.98 | -0.26 |
| 7 | 5.87 | 0.98 | -0.17 |
| 8 | 6.85 | 0.98 | 0.08 |
| 9 | 7.83 | 0.98 | 0.65 |
| 10 | 8.80 | 0.98 | 1.80 |
| 11 | 9.78 | 0.98 | 4.23 |
| 12 | 10.76 | 0.98 | 8.88 |
| 13 | 11.74 | 0.98 | 13.57 |
| 14 | 12.72 | 0.98 | 16.11 |
| 15 | 13.70 | 0.98 | 17.33 |
| 16 | 14.67 | 0.98 | 18.02 |
| 17 | 15.65 | 0.98 | 18.22 |
| 18 | 16.63 | 0.98 | 18.08 |
| 19 | 17.61 | 0.98 | 17.53 |

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POSITION

10G-LP4

| | Nr . | a | s | q |
|----------|------|-------|------|--------|
| | | [m] | [m] | [kN/m] |
| Qk .N_C1 | 20 | 18.59 | 0.98 | 16.54 |
| | 21 | 19.57 | 0.98 | 15.26 |
| | 22 | 20.54 | 0.98 | 12.81 |
| | 23 | 21.52 | 0.98 | -7.97 |
| | 1 | 0.00 | 0.98 | -9.35 |
| | 2 | 0.98 | 0.98 | 12.93 |
| | 3 | 1.96 | 0.98 | 16.29 |
| | 4 | 2.93 | 0.98 | 17.40 |
| | 5 | 3.91 | 0.98 | 17.90 |
| | 6 | 4.89 | 0.98 | 17.67 |
| | 7 | 5.87 | 0.98 | 16.71 |
| | 8 | 6.85 | 0.98 | 14.51 |
| | 9 | 7.83 | 0.98 | 10.16 |
| | 10 | 8.80 | 0.98 | 5.14 |
| | 11 | 9.78 | 0.98 | 2.27 |
| | 12 | 10.76 | 0.98 | 0.90 |
| | 13 | 11.74 | 0.98 | 0.22 |
| | 14 | 12.72 | 0.98 | -0.10 |
| | 15 | 13.70 | 0.98 | -0.24 |
| | 16 | 14.67 | 0.98 | -0.26 |
| | 17 | 15.65 | 0.98 | -0.24 |
| | 18 | 16.63 | 0.98 | -0.20 |
| | 19 | 17.61 | 0.98 | -0.16 |
| | 20 | 18.59 | 0.98 | -0.12 |
| | 21 | 19.57 | 0.98 | -0.08 |
| | 22 | 20.54 | 0.98 | -0.04 |
| | 23 | 21.52 | 0.98 | -0.14 |
| Qk .N_E1 | 1 | 0.00 | 0.98 | -1.42 |
| | 2 | 0.98 | 0.98 | 0.06 |
| | 3 | 1.96 | 0.98 | 0.11 |
| | 4 | 2.93 | 0.98 | 0.19 |
| | 5 | 3.91 | 0.98 | 0.47 |
| | 6 | 4.89 | 0.98 | 1.00 |
| | 7 | 5.87 | 0.98 | 2.02 |
| | 8 | 6.85 | 0.98 | 4.13 |
| | 9 | 7.83 | 0.98 | 8.43 |
| | 10 | 8.80 | 0.98 | 12.88 |
| | 11 | 9.78 | 0.98 | 13.33 |
| | 12 | 10.76 | 0.98 | 9.41 |
| | 13 | 11.74 | 0.98 | 4.73 |
| | 14 | 12.72 | 0.98 | 2.26 |
| | 15 | 13.70 | 0.98 | 1.08 |
| | 16 | 14.67 | 0.98 | 0.47 |
| | 17 | 15.65 | 0.98 | 0.13 |
| | 18 | 16.63 | 0.98 | -0.04 |
| | 19 | 17.61 | 0.98 | -0.11 |
| | 20 | 18.59 | 0.98 | -0.13 |
| | 21 | 19.57 | 0.98 | -0.10 |
| | 22 | 20.54 | 0.98 | -0.04 |
| | 23 | 21.52 | 0.98 | -0.43 |
| Qk .N_DA | 1 | 0.00 | 0.98 | -4.00 |
| | 2 | 0.98 | 0.98 | -0.32 |
| | 3 | 1.96 | 0.98 | 2.62 |
| | 4 | 2.93 | 0.98 | 24.80 |

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| Nr. | a [m] | s [m] | q [kN/m] |
|-----|----------|----------|-------------|
| 5 | 3.91 | 0.98 | 40.14 |
| 6 | 4.89 | 0.98 | 12.62 |
| 7 | 5.87 | 0.98 | -0.08 |
| 8 | 6.85 | 0.98 | -0.77 |
| 9 | 7.83 | 0.98 | -0.37 |
| 10 | 8.80 | 0.98 | 9.97 |
| 11 | 9.78 | 0.98 | 38.14 |
| 12 | 10.76 | 0.98 | 27.50 |
| 13 | 11.74 | 0.98 | 2.94 |
| 14 | 12.72 | 0.98 | 8.15 |
| 15 | 13.70 | 0.98 | 47.79 |
| 16 | 14.67 | 0.98 | 33.02 |
| 17 | 15.65 | 0.98 | 2.42 |
| 18 | 16.63 | 0.98 | -0.68 |
| 19 | 17.61 | 0.98 | -0.17 |
| 20 | 18.59 | 0.98 | -0.03 |
| 21 | 19.57 | 0.98 | -0.08 |
| 22 | 20.54 | 0.98 | -0.03 |
| 23 | 21.52 | 0.98 | 2.28 |

a: Nâb\á^äÄäæbÄU\ää* | ^←\æbÄ~ | ↑Ä→↔^←æ^ÄÜä†&æäää^ä
s: Q†^&æÄäæääQáb\

UZ-1. 10

Unterzug

•æ}ää^Äææ}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.90 | 126.68 |
| | 2 | 0.90 | 0.90 | 97.46 |
| | 3 | 1.79 | 0.90 | 129.84 |
| | 4 | 2.69 | 0.90 | 185.14 |
| | 5 | 3.58 | 0.90 | 168.32 |
| | 6 | 4.48 | 0.90 | 155.02 |
| Ö← | 1 | 0.00 | 0.90 | 44.43 |
| | 2 | 0.90 | 0.90 | 35.89 |
| | 3 | 1.79 | 0.90 | 44.26 |
| | 4 | 2.69 | 0.90 | 58.53 |
| | 5 | 3.58 | 0.90 | 52.35 |
| | 6 | 4.48 | 0.90 | 48.00 |
| Qk.N_B1 | 1 | 0.00 | 0.90 | 52.47 |
| | 2 | 0.90 | 0.90 | 42.06 |
| | 3 | 1.79 | 0.90 | 41.89 |
| | 4 | 2.69 | 0.90 | 43.13 |
| | 5 | 3.58 | 0.90 | 38.21 |
| | 6 | 4.48 | 0.90 | 37.29 |
| Qk.N_C1 | 1 | 0.00 | 0.90 | -0.02 |
| | 2 | 0.90 | 0.90 | -0.04 |
| | 3 | 1.79 | 0.90 | -0.09 |
| | 4 | 2.69 | 0.90 | -0.11 |
| | 5 | 3.58 | 0.90 | -0.12 |
| | 6 | 4.48 | 0.90 | -0.24 |
| Qk.N_C5 | 1 | 0.00 | 0.90 | 16.42 |

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| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Qk.N_El | 2 | 0.90 | 0.90 | 21.41 |
| | 3 | 1.79 | 0.90 | 21.64 |
| | 4 | 2.69 | 0.90 | 19.03 |
| | 5 | 3.58 | 0.90 | 17.11 |
| | 6 | 4.48 | 0.90 | 17.79 |
| | 1 | 0.90 | 0.90 | -0.02 |
| Qk.N_DA | 2 | 1.79 | 0.90 | 0.03 |
| | 3 | 2.69 | 0.90 | 0.46 |
| | 4 | 3.58 | 0.90 | 1.32 |
| | 5 | 4.48 | 0.90 | 1.94 |
| | 1 | 0.00 | 0.90 | 18.74 |
| | 2 | 0.90 | 0.90 | 5.88 |
| | 3 | 1.79 | 0.90 | 21.22 |
| | 4 | 2.69 | 0.90 | 50.85 |
| | 5 | 3.58 | 0.90 | 45.98 |
| | 6 | 4.48 | 0.90 | 38.22 |

a: Nâb\á^äÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^æ^ÄÜä†&æäää^ä
s: Q†^æÄäæääQáb\

UZ-1. 11

Unterzug

•æ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Einzellasten

| | Nr. | a [m] | F [kN] |
|---------|-----|----------|-----------|
| Gk | 1 | 12.75 | 372.26 |
| | 2 | 21.25 | 184.45 |
| | 3 | 4.25 | 247.50 |
| Ö← | 1 | 12.75 | 130.29 |
| | 2 | 21.25 | 65.20 |
| | 3 | 4.25 | 86.24 |
| Qk.N_El | 1 | 12.75 | 0.05 |
| | 2 | 21.25 | 0.02 |
| | 3 | 4.25 | 0.00 |
| Qk.N_DA | 1 | 12.75 | 132.40 |
| | 2 | 21.25 | 63.83 |
| | 3 | 4.25 | 86.34 |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|----|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 1.00 | -12.06 |
| | 2 | 1.00 | 1.00 | 18.88 |
| | 3 | 2.00 | 1.00 | 23.33 |
| | 4 | 3.00 | 1.00 | 24.97 |
| | 5 | 4.00 | 1.00 | 25.85 |
| | 6 | 5.00 | 1.00 | 26.04 |
| | 7 | 6.00 | 1.00 | 25.81 |
| | 8 | 7.00 | 1.00 | 25.40 |
| | 9 | 8.00 | 1.00 | 24.97 |
| | 10 | 9.00 | 1.00 | 24.63 |
| | 11 | 10.00 | 1.00 | 24.46 |
| | 12 | 11.00 | 1.00 | 24.38 |
| | 13 | 12.00 | 1.00 | 24.56 |

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POSITION

10G-LP4

Ö←

Qk.N_B1

| Nr . | a [m] | s [m] | q [kN/m] |
|------|----------|----------|-------------|
| 14 | 13.00 | 1.00 | 24.60 |
| 15 | 14.00 | 1.00 | 24.81 |
| 16 | 15.00 | 1.00 | 24.85 |
| 17 | 16.00 | 1.00 | 24.73 |
| 18 | 17.00 | 1.00 | 24.30 |
| 19 | 18.00 | 1.00 | 23.34 |
| 20 | 19.00 | 1.00 | 21.39 |
| 21 | 20.00 | 1.00 | 19.63 |
| 22 | 21.00 | 1.00 | 21.93 |
| 23 | 22.00 | 1.00 | 9.58 |
| 24 | 23.00 | 1.00 | -12.07 |
| 1 | 0.00 | 1.00 | 1.61 |
| 2 | 1.00 | 1.00 | 11.11 |
| 3 | 2.00 | 1.00 | 14.18 |
| 4 | 3.00 | 1.00 | 17.55 |
| 5 | 4.00 | 1.00 | 15.95 |
| 6 | 5.00 | 1.00 | 13.85 |
| 7 | 6.00 | 1.00 | 13.57 |
| 8 | 7.00 | 1.00 | 13.47 |
| 9 | 8.00 | 1.00 | 13.33 |
| 10 | 9.00 | 1.00 | 13.20 |
| 11 | 10.00 | 1.00 | 13.62 |
| 12 | 11.00 | 1.00 | 16.38 |
| 13 | 12.00 | 1.00 | 17.10 |
| 14 | 13.00 | 1.00 | 14.17 |
| 15 | 14.00 | 1.00 | 13.33 |
| 16 | 15.00 | 1.00 | 13.36 |
| 17 | 16.00 | 1.00 | 13.35 |
| 18 | 17.00 | 1.00 | 13.18 |
| 19 | 18.00 | 1.00 | 12.93 |
| 20 | 19.00 | 1.00 | 13.77 |
| 21 | 20.00 | 1.00 | 15.93 |
| 22 | 21.00 | 1.00 | 14.31 |
| 23 | 22.00 | 1.00 | 7.27 |
| 24 | 23.00 | 1.00 | -0.81 |
| 1 | 0.00 | 1.00 | -11.30 |
| 2 | 1.00 | 1.00 | 13.55 |
| 3 | 2.00 | 1.00 | 16.82 |
| 4 | 3.00 | 1.00 | 17.92 |
| 5 | 4.00 | 1.00 | 18.49 |
| 6 | 5.00 | 1.00 | 18.56 |
| 7 | 6.00 | 1.00 | 18.29 |
| 8 | 7.00 | 1.00 | 17.85 |
| 9 | 8.00 | 1.00 | 17.37 |
| 10 | 9.00 | 1.00 | 16.95 |
| 11 | 10.00 | 1.00 | 16.68 |
| 12 | 11.00 | 1.00 | 16.48 |
| 13 | 12.00 | 1.00 | 16.51 |
| 14 | 13.00 | 1.00 | 16.47 |
| 15 | 14.00 | 1.00 | 16.57 |
| 16 | 15.00 | 1.00 | 16.58 |
| 17 | 16.00 | 1.00 | 16.49 |
| 18 | 17.00 | 1.00 | 16.21 |
| 19 | 18.00 | 1.00 | 15.56 |

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Schulcampus EWK \

10G-LP4

POSITION

10G-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| | 20 | 19.00 | 1.00 | 14.15 |
| | 21 | 20.00 | 1.00 | 10.92 |
| | 22 | 21.00 | 1.00 | 5.25 |
| | 23 | 22.00 | 1.00 | -0.59 |
| | 24 | 23.00 | 1.00 | -4.28 |
| Qk.N_C1 | 1 | 7.00 | 1.00 | 0.01 |
| | 2 | 8.00 | 1.00 | 0.02 |
| | 3 | 9.00 | 1.00 | 0.02 |
| | 4 | 10.00 | 1.00 | 0.03 |
| | 5 | 11.00 | 1.00 | 0.04 |
| | 6 | 12.00 | 1.00 | 0.04 |
| | 7 | 13.00 | 1.00 | 0.04 |
| | 8 | 14.00 | 1.00 | 0.02 |
| | 9 | 15.00 | 1.00 | -0.02 |
| | 10 | 16.00 | 1.00 | -0.10 |
| | 11 | 17.00 | 1.00 | -0.26 |
| | 12 | 18.00 | 1.00 | -0.55 |
| | 13 | 19.00 | 1.00 | -1.03 |
| | 14 | 20.00 | 1.00 | -1.96 |
| | 15 | 21.00 | 1.00 | -3.63 |
| | 16 | 22.00 | 1.00 | -6.55 |
| | 17 | 23.00 | 1.00 | -8.22 |
| Qk.N_C5 | 1 | 0.00 | 1.00 | -0.29 |
| | 2 | 1.00 | 1.00 | 0.01 |
| | 3 | 3.00 | 1.00 | 0.01 |
| | 4 | 4.00 | 1.00 | 0.04 |
| | 5 | 5.00 | 1.00 | 0.10 |
| | 6 | 6.00 | 1.00 | 0.19 |
| | 7 | 7.00 | 1.00 | 0.32 |
| | 8 | 8.00 | 1.00 | 0.47 |
| | 9 | 9.00 | 1.00 | 0.62 |
| | 10 | 10.00 | 1.00 | 0.76 |
| | 11 | 11.00 | 1.00 | 0.88 |
| | 12 | 12.00 | 1.00 | 0.96 |
| | 13 | 13.00 | 1.00 | 1.02 |
| | 14 | 14.00 | 1.00 | 1.06 |
| | 15 | 15.00 | 1.00 | 1.08 |
| | 16 | 16.00 | 1.00 | 1.07 |
| | 17 | 17.00 | 1.00 | 1.04 |
| | 18 | 18.00 | 1.00 | 0.98 |
| | 19 | 19.00 | 1.00 | 0.87 |
| | 20 | 20.00 | 1.00 | 0.66 |
| | 21 | 21.00 | 1.00 | 0.32 |
| | 22 | 22.00 | 1.00 | -0.20 |
| | 23 | 23.00 | 1.00 | -0.67 |
| Qk.N_E1 | 1 | 6.00 | 1.00 | -0.01 |
| | 2 | 7.00 | 1.00 | -0.02 |
| | 3 | 8.00 | 1.00 | -0.02 |
| | 4 | 9.00 | 1.00 | -0.03 |
| | 5 | 10.00 | 1.00 | -0.04 |
| | 6 | 11.00 | 1.00 | -0.05 |
| | 7 | 12.00 | 1.00 | -0.05 |
| | 8 | 13.00 | 1.00 | -0.04 |
| | 9 | 15.00 | 1.00 | 0.06 |

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Schulcampus EWK \

10G-LP4

| Nr. | a [m] | s [m] | q [kN/m] |
|---------|----------|----------|-------------|
| 10 | 16.00 | 1.00 | 0.20 |
| 11 | 17.00 | 1.00 | 0.47 |
| 12 | 18.00 | 1.00 | 0.95 |
| 13 | 19.00 | 1.00 | 1.89 |
| 14 | 20.00 | 1.00 | 4.18 |
| 15 | 21.00 | 1.00 | 7.67 |
| 16 | 22.00 | 1.00 | 7.76 |
| 17 | 23.00 | 1.00 | 2.14 |
| Qk.N_DA | 1 | 0.00 | 1.00 -3.37 |
| | 2 | 1.00 | 1.00 0.19 |
| | 3 | 2.00 | 1.00 0.18 |
| | 4 | 3.00 | 1.00 0.06 |
| | 5 | 4.00 | 1.00 0.04 |
| | 6 | 5.00 | 1.00 0.05 |
| | 7 | 6.00 | 1.00 0.06 |
| | 8 | 7.00 | 1.00 0.07 |
| | 9 | 8.00 | 1.00 0.08 |
| | 10 | 9.00 | 1.00 0.09 |
| | 11 | 10.00 | 1.00 0.11 |
| | 12 | 11.00 | 1.00 0.12 |
| | 13 | 12.00 | 1.00 0.13 |
| | 14 | 13.00 | 1.00 0.14 |
| | 15 | 14.00 | 1.00 0.14 |
| | 16 | 15.00 | 1.00 0.15 |
| | 17 | 16.00 | 1.00 0.14 |
| | 18 | 17.00 | 1.00 0.14 |
| | 19 | 18.00 | 1.00 0.13 |
| | 20 | 19.00 | 1.00 0.12 |
| | 21 | 20.00 | 1.00 0.12 |
| | 22 | 21.00 | 1.00 0.21 |
| | 23 | 22.00 | 1.00 0.34 |
| | 24 | 23.00 | 1.00 -1.78 |

a: Nâb\á^äÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^←æ^ÄÜä†&æäää^ä
s: Q†^æÄäæääQáb\

UZ-1.12

Unterzug

•æ}ää^Äæc^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Einzellasten

| Nr. | a [m] | F [kN] |
|---------|----------|-------------|
| Gk | 1 | 3.43 145.78 |
| Ö← | 1 | 3.43 50.93 |
| Qk.N_E1 | 1 | 3.43 0.03 |
| Qk.N_DA | 1 | 3.43 50.60 |

Blocklasten

| Nr. | a [m] | s [m] | q [kN/m] |
|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.95 19.70 |
| | 2 | 0.95 | 0.95 19.40 |
| | 3 | 1.91 | 0.95 21.04 |
| | 4 | 2.86 | 0.95 22.95 |
| | 5 | 3.82 | 0.95 24.27 |

D-494

Schulcampus EWK \

10G-LP4

POSITION

10G-LP4

Ö←

Qk.N_B1

| Nr. | a [m] | s [m] | q [kN/m] |
|-----|----------|----------|-------------|
| 6 | 4.77 | 0.95 | 24.90 |
| 7 | 5.72 | 0.95 | 24.77 |
| 8 | 6.68 | 0.95 | 23.40 |
| 9 | 7.63 | 0.95 | 29.90 |
| 10 | 8.58 | 0.95 | 104.38 |
| 11 | 9.54 | 0.95 | 188.33 |
| 12 | 10.49 | 0.95 | 100.20 |
| 13 | 11.45 | 0.95 | 29.73 |
| 14 | 12.40 | 0.95 | 24.28 |
| 15 | 13.35 | 0.95 | 57.20 |
| 16 | 14.31 | 0.95 | 107.64 |
| 17 | 15.26 | 0.95 | 70.80 |
| 18 | 16.21 | 0.95 | 26.66 |
| 19 | 17.17 | 0.95 | 16.22 |
| 20 | 18.12 | 0.95 | -8.45 |
| 1 | 0.00 | 0.95 | 10.35 |
| 2 | 0.95 | 0.95 | 12.37 |
| 3 | 1.91 | 0.95 | 15.81 |
| 4 | 2.86 | 0.95 | 16.16 |
| 5 | 3.82 | 0.95 | 13.73 |
| 6 | 4.77 | 0.95 | 13.32 |
| 7 | 5.72 | 0.95 | 13.29 |
| 8 | 6.68 | 0.95 | 12.80 |
| 9 | 7.63 | 0.95 | 15.21 |
| 10 | 8.58 | 0.95 | 42.98 |
| 11 | 9.54 | 0.95 | 74.76 |
| 12 | 10.49 | 0.95 | 41.91 |
| 13 | 11.45 | 0.95 | 15.21 |
| 14 | 12.40 | 0.95 | 13.15 |
| 15 | 13.35 | 0.95 | 26.21 |
| 16 | 14.31 | 0.95 | 46.42 |
| 17 | 15.26 | 0.95 | 31.84 |
| 18 | 16.21 | 0.95 | 14.12 |
| 19 | 17.17 | 0.95 | 10.15 |
| 20 | 18.12 | 0.95 | 2.92 |
| 1 | 0.00 | 0.95 | 6.64 |
| 2 | 0.95 | 0.95 | 13.80 |
| 3 | 1.91 | 0.95 | 15.11 |
| 4 | 2.86 | 0.95 | 16.05 |
| 5 | 3.82 | 0.95 | 16.74 |
| 6 | 4.77 | 0.95 | 17.10 |
| 7 | 5.72 | 0.95 | 17.27 |
| 8 | 6.68 | 0.95 | 17.31 |
| 9 | 7.63 | 0.95 | 17.28 |
| 10 | 8.58 | 0.95 | 17.24 |
| 11 | 9.54 | 0.95 | 17.17 |
| 12 | 10.49 | 0.95 | 17.15 |
| 13 | 11.45 | 0.95 | 17.18 |
| 14 | 12.40 | 0.95 | 17.17 |
| 15 | 13.35 | 0.95 | 17.09 |
| 16 | 14.31 | 0.95 | 16.76 |
| 17 | 15.26 | 0.95 | 16.15 |
| 18 | 16.21 | 0.95 | 15.21 |
| 19 | 17.17 | 0.95 | 12.03 |

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Schulcampus EWK \

10G-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Qk.N_C5 | 20 | 18.12 | 0.95 | -9.71 |
| | 1 | 0.00 | 0.95 | 0.04 |
| | 2 | 0.95 | 0.95 | 0.52 |
| | 3 | 1.91 | 0.95 | 0.61 |
| | 4 | 2.86 | 0.95 | 0.74 |
| | 5 | 3.82 | 0.95 | 0.86 |
| | 6 | 4.77 | 0.95 | 0.94 |
| | 7 | 5.72 | 0.95 | 0.99 |
| | 8 | 6.68 | 0.95 | 1.00 |
| | 9 | 7.63 | 0.95 | 0.99 |
| | 10 | 8.58 | 0.95 | 0.98 |
| | 11 | 9.54 | 0.95 | 0.97 |
| | 12 | 10.49 | 0.95 | 0.96 |
| | 13 | 11.45 | 0.95 | 0.96 |
| | 14 | 12.40 | 0.95 | 0.96 |
| | 15 | 13.35 | 0.95 | 0.95 |
| | 16 | 14.31 | 0.95 | 0.90 |
| | 17 | 15.26 | 0.95 | 0.82 |
| | 18 | 16.21 | 0.95 | 0.72 |
| | 19 | 17.17 | 0.95 | 0.48 |
| Qk.N_DA | 20 | 18.12 | 0.95 | -1.56 |
| | 1 | 0.00 | 0.95 | 0.51 |
| | 2 | 0.95 | 0.95 | 0.35 |
| | 3 | 1.91 | 0.95 | 0.10 |
| | 4 | 2.86 | 0.95 | 0.05 |
| | 5 | 3.82 | 0.95 | 0.04 |
| | 6 | 5.72 | 0.95 | -0.17 |
| | 7 | 6.68 | 0.95 | -0.69 |
| | 8 | 7.63 | 0.95 | 1.57 |
| | 9 | 8.58 | 0.95 | 27.56 |
| | 10 | 9.54 | 0.95 | 57.25 |
| | 11 | 10.49 | 0.95 | 26.62 |
| | 12 | 11.45 | 0.95 | 1.67 |
| | 13 | 12.40 | 0.95 | -0.25 |
| | 14 | 13.35 | 0.95 | 11.17 |
| | 15 | 14.31 | 0.95 | 27.50 |
| | 16 | 15.26 | 0.95 | 14.80 |
| | 17 | 16.21 | 0.95 | 1.60 |
| | 18 | 17.17 | 0.95 | -0.21 |
| | 19 | 18.12 | 0.95 | -2.54 |

a: Nâb\á^ãÄäæbÄU\ää*|^←\æbÄ~|↑Ä→↔^←æ^ÄÜä†&æäää^ä
s: Q†^&æÄäæääQáb\

UZ-1.2

Unterzug

• cē} ää ^Äæ c^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|----|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.88 | 19.64 |
| | 2 | 0.88 | 0.88 | 11.97 |
| | 3 | 1.75 | 0.88 | 15.82 |
| | 4 | 2.63 | 0.88 | 26.40 |

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Ö← | 1 | 0.00 | 0.88 | 4.32 |
| | 2 | 0.88 | 0.88 | 4.48 |
| | 3 | 1.75 | 0.88 | 5.55 |
| | 4 | 2.63 | 0.88 | 6.45 |
| Qk.N_B1 | 1 | 0.88 | 0.88 | 0.02 |
| | 2 | 1.75 | 0.88 | 0.06 |
| | 3 | 2.63 | 0.88 | 0.11 |
| Qk.N_C1 | 1 | 0.00 | 0.88 | -0.06 |
| | 2 | 0.88 | 0.88 | -0.05 |
| | 3 | 1.75 | 0.88 | -0.03 |
| Qk.N_C5 | 1 | 0.00 | 0.88 | 9.66 |
| | 2 | 0.88 | 0.88 | 10.00 |
| | 3 | 1.75 | 0.88 | 9.34 |
| | 4 | 2.63 | 0.88 | 6.97 |
| Qk.N_DA | 1 | 0.00 | 0.88 | 5.27 |
| | 2 | 0.88 | 0.88 | 1.17 |
| | 3 | 1.75 | 0.88 | 1.59 |
| | 4 | 2.63 | 0.88 | 5.80 |
| Qk.N_T2 | 1 | 0.00 | 0.88 | 3.50 |
| | 2 | 0.88 | 0.88 | 7.85 |
| | 3 | 1.75 | 0.88 | 7.82 |
| | 4 | 2.63 | 0.88 | 3.44 |

a: Nâb\á^äääbÁU\ää*| ^←\æbÁ~| ↑Á→^←æ^ÁÜä+æäää^ä
s: Q†^æÄäæääQáb\

UZ-1.3

Unterzug

•æ}ää^Äææ^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.90 | 76.16 |
| | 2 | 0.90 | 0.90 | 68.69 |
| | 3 | 1.79 | 0.90 | 64.38 |
| | 4 | 2.69 | 0.90 | 64.98 |
| | 5 | 3.58 | 0.90 | 84.61 |
| | 6 | 4.48 | 0.90 | 157.28 |
| Ö← | 1 | 0.00 | 0.90 | 29.57 |
| | 2 | 0.90 | 0.90 | 26.87 |
| | 3 | 1.79 | 0.90 | 25.17 |
| | 4 | 2.69 | 0.90 | 25.04 |
| | 5 | 3.58 | 0.90 | 30.60 |
| | 6 | 4.48 | 0.90 | 51.20 |
| Qk.N_B1 | 1 | 0.00 | 0.90 | 12.68 |
| | 2 | 0.90 | 0.90 | 13.06 |
| | 3 | 1.79 | 0.90 | 16.69 |
| | 4 | 2.69 | 0.90 | 23.53 |
| | 5 | 3.58 | 0.90 | 30.74 |
| | 6 | 4.48 | 0.90 | 36.29 |
| Qk.N_C1 | 1 | 0.00 | 0.90 | 29.19 |
| | 2 | 0.90 | 0.90 | 16.56 |
| | 3 | 1.79 | 0.90 | 7.78 |
| | 4 | 2.69 | 0.90 | 3.83 |

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| | Nr. | a [m] | s [m] | q [kN/m] |
|---|-----|----------|----------|-------------|
| Qk.N_C5 | 5 | 3.58 | 0.90 | 2.28 |
| | 6 | 4.48 | 0.90 | 1.54 |
| | 1 | 0.00 | 0.90 | 2.16 |
| | 2 | 0.90 | 0.90 | 5.38 |
| | 3 | 1.79 | 0.90 | 6.82 |
| | 4 | 2.69 | 0.90 | 7.18 |
| Qk.N_E1 | 5 | 3.58 | 0.90 | 7.35 |
| | 6 | 4.48 | 0.90 | 7.51 |
| | 1 | 0.00 | 0.90 | 28.52 |
| | 2 | 0.90 | 0.90 | 27.20 |
| | 3 | 1.79 | 0.90 | 22.00 |
| | 4 | 2.69 | 0.90 | 15.13 |
| Qk.N_DA | 5 | 3.58 | 0.90 | 9.65 |
| | 6 | 4.48 | 0.90 | 6.32 |
| | 1 | 0.00 | 0.90 | -0.82 |
| | 2 | 0.90 | 0.90 | -0.45 |
| | 3 | 1.79 | 0.90 | -0.85 |
| | 4 | 2.69 | 0.90 | -0.37 |
| | 5 | 3.58 | 0.90 | 10.08 |
| | 6 | 4.48 | 0.90 | 50.76 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä+&æäää^ä | | | | |
| s: Q†^&æÄäæääÄQáb\ | | | | |

UZ-1.4

Unterzug

•æ}ää^Äææ^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.90 | 60.49 |
| | 2 | 0.90 | 0.90 | 1.08 |
| | 3 | 1.80 | 0.90 | -4.22 |
| | 4 | 2.70 | 0.90 | -1.54 |
| | 5 | 3.60 | 0.90 | 1.31 |
| | 6 | 4.50 | 0.90 | 3.70 |
| | 7 | 5.40 | 0.90 | 5.49 |
| | 8 | 6.30 | 0.90 | 14.39 |
| Ö← | 1 | 0.00 | 0.90 | 11.04 |
| | 2 | 0.90 | 0.90 | 0.50 |
| | 3 | 1.80 | 0.90 | -0.57 |
| | 4 | 2.70 | 0.90 | 0.08 |
| | 5 | 3.60 | 0.90 | 0.97 |
| | 6 | 4.50 | 0.90 | 1.78 |
| | 7 | 5.40 | 0.90 | 2.47 |
| | 8 | 6.30 | 0.90 | 6.27 |
| Qk.N_B1 | 1 | 3.60 | 0.90 | 0.01 |
| | 2 | 4.50 | 0.90 | 0.08 |
| | 3 | 5.40 | 0.90 | 0.28 |
| | 4 | 6.30 | 0.90 | -0.35 |
| Qk.N_C1 | 1 | 0.00 | 0.90 | -0.15 |
| | 2 | 0.90 | 0.90 | -0.11 |
| | 3 | 1.80 | 0.90 | -0.10 |
| | 4 | 2.70 | 0.90 | -0.08 |

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Qk.N_C5 | 5 | 3.60 | 0.90 | -0.05 |
| | 6 | 4.50 | 0.90 | -0.02 |
| | 1 | 0.00 | 0.90 | 6.57 |
| | 2 | 0.90 | 0.90 | 6.46 |
| | 3 | 1.80 | 0.90 | 6.35 |
| | 4 | 2.70 | 0.90 | 6.25 |
| | 5 | 3.60 | 0.90 | 6.10 |
| | 6 | 4.50 | 0.90 | 5.69 |
| Qk.N_DA | 7 | 5.40 | 0.90 | 5.32 |
| | 8 | 6.30 | 0.90 | 11.45 |
| | 1 | 0.00 | 0.90 | 26.09 |
| | 2 | 0.90 | 0.90 | 1.34 |
| | 3 | 1.80 | 0.90 | -0.81 |
| | 4 | 2.70 | 0.90 | -0.15 |
| | 5 | 3.60 | 0.90 | 0.15 |
| | 6 | 4.50 | 0.90 | 0.27 |
| Qk.N_T2 | 7 | 5.40 | 0.90 | 0.28 |
| | 8 | 6.30 | 0.90 | 0.41 |
| | 1 | 0.00 | 0.90 | 0.08 |
| | 2 | 0.90 | 0.90 | 0.14 |
| | 3 | 1.80 | 0.90 | 0.20 |
| | 4 | 2.70 | 0.90 | 0.25 |
| | 5 | 3.60 | 0.90 | 0.25 |
| | 6 | 4.50 | 0.90 | 0.17 |
| | 7 | 5.40 | 0.90 | -0.02 |
| | 8 | 6.30 | 0.90 | -0.65 |

a: Nâb\á^ääæbÁU\ää*| ^←\æbÁ~| ↑Á↔↔^æ^ÁÚä+&æääá^ä
s: Q†^æÄääæääQáb\

UZ-1.5

Unterzug

•æ}ää^Äææ}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.90 | 56.30 |
| | 2 | 0.90 | 0.90 | -0.58 |
| | 3 | 1.80 | 0.90 | -3.65 |
| | 4 | 2.70 | 0.90 | -0.63 |
| | 5 | 3.60 | 0.90 | -1.05 |
| | 6 | 4.50 | 0.90 | -4.34 |
| | 7 | 5.40 | 0.90 | -7.95 |
| | 8 | 6.30 | 0.90 | -21.42 |
| Ö← | 1 | 0.00 | 0.90 | 9.17 |
| | 2 | 0.90 | 0.90 | -0.30 |
| | 3 | 1.80 | 0.90 | -0.54 |
| | 4 | 2.70 | 0.90 | 0.23 |
| | 5 | 3.60 | 0.90 | -0.06 |
| | 6 | 4.50 | 0.90 | -1.23 |
| | 7 | 5.40 | 0.90 | -2.45 |
| | 8 | 6.30 | 0.90 | -6.91 |
| Qk.N_C5 | 1 | 0.00 | 0.90 | 6.34 |
| | 2 | 0.90 | 0.90 | 6.45 |

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| | 3 | 1.80 | 0.90 | 6.55 |
| | 4 | 2.70 | 0.90 | 6.60 |
| | 5 | 3.60 | 0.90 | 6.51 |
| | 6 | 4.50 | 0.90 | 6.11 |
| | 7 | 5.40 | 0.90 | 5.77 |
| | 8 | 6.30 | 0.90 | 11.83 |
| Qk.N_E1 | 1 | 0.00 | 0.90 | 0.16 |
| | 2 | 0.90 | 0.90 | 0.02 |
| | 3 | 4.50 | 0.90 | -0.04 |
| | 4 | 5.40 | 0.90 | -0.13 |
| | 5 | 6.30 | 0.90 | 0.19 |
| Qk.N_DA | 1 | 0.00 | 0.90 | 26.84 |
| | 2 | 0.90 | 0.90 | 1.36 |
| | 3 | 1.80 | 0.90 | -0.83 |
| | 4 | 2.70 | 0.90 | -0.14 |
| | 5 | 3.60 | 0.90 | 0.10 |
| | 6 | 4.50 | 0.90 | 0.06 |
| | 7 | 5.40 | 0.90 | -0.04 |
| | 8 | 6.30 | 0.90 | -0.08 |
| Qk.N_T2 | 1 | 0.00 | 0.90 | 0.20 |
| | 2 | 0.90 | 0.90 | 0.14 |
| | 3 | 1.80 | 0.90 | 0.09 |
| | 4 | 2.70 | 0.90 | 0.05 |
| | 5 | 3.60 | 0.90 | 0.03 |
| | 6 | 4.50 | 0.90 | 0.02 |
| | 7 | 5.40 | 0.90 | 0.02 |
| | 8 | 6.30 | 0.90 | 0.03 |

a: Nâb\á^ãÄæbÄU\ää*|^←\æbÄ~|↑Ä→*^←æ^ÄÜä+&æäää^ä
s: Q†^æÄääääQáb\

UZ-1.6

Unterzug

•æ}ää^Äæc^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.90 | 143.10 |
| | 2 | 0.90 | 0.90 | 82.29 |
| | 3 | 1.79 | 0.90 | 62.15 |
| | 4 | 2.69 | 0.90 | 62.05 |
| | 5 | 3.58 | 0.90 | 82.12 |
| | 6 | 4.48 | 0.90 | 136.08 |
| Ö← | 1 | 0.00 | 0.90 | 47.92 |
| | 2 | 0.90 | 0.90 | 30.87 |
| | 3 | 1.79 | 0.90 | 24.86 |
| | 4 | 2.69 | 0.90 | 24.86 |
| | 5 | 3.58 | 0.90 | 30.87 |
| | 6 | 4.48 | 0.90 | 45.73 |
| Qk.N_B1 | 1 | 0.00 | 0.90 | 29.75 |
| | 2 | 0.90 | 0.90 | 26.66 |
| | 3 | 1.79 | 0.90 | 24.08 |
| | 4 | 2.69 | 0.90 | 25.44 |
| | 5 | 3.58 | 0.90 | 32.81 |

D-500

Schulcampus EWK \

10G-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Qk.N_C5 | 6 | 4.48 | 0.90 | 41.41 |
| | 1 | 0.00 | 0.90 | 24.71 |
| | 2 | 0.90 | 0.90 | 23.38 |
| | 3 | 1.79 | 0.90 | 22.83 |
| | 4 | 2.69 | 0.90 | 23.54 |
| | 5 | 3.58 | 0.90 | 24.44 |
| Qk.N_DA | 6 | 4.48 | 0.90 | 23.19 |
| | 1 | 0.00 | 0.90 | 36.38 |
| | 2 | 0.90 | 0.90 | 6.87 |
| | 3 | 1.79 | 0.90 | -1.31 |
| | 4 | 2.69 | 0.90 | -1.87 |
| | 5 | 3.58 | 0.90 | 3.76 |
| | 6 | 4.48 | 0.90 | 26.75 |

a: Nâb\á^ãÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^æ^ÄÜä†&æäää^ä
s: Q†^æÄääääQáb\

UZ-1.7

Unterzug

•æ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.88 | 12.07 |
| | 2 | 0.88 | 0.88 | -56.77 |
| | 3 | 1.75 | 0.88 | -24.54 |
| | 4 | 2.63 | 0.88 | 4.46 |
| Ö← | 1 | 0.00 | 0.88 | 0.93 |
| | 2 | 0.88 | 0.88 | -21.73 |
| | 3 | 1.75 | 0.88 | -9.91 |
| | 4 | 2.63 | 0.88 | -1.76 |
| Qk.N_C1 | 1 | 0.00 | 0.88 | 0.03 |
| | 2 | 0.88 | 0.88 | 0.04 |
| | 3 | 1.75 | 0.88 | 0.01 |
| Qk.N_C5 | 1 | 0.00 | 0.88 | 3.19 |
| | 2 | 0.88 | 0.88 | 6.52 |
| | 3 | 1.75 | 0.88 | 8.09 |
| | 4 | 2.63 | 0.88 | 8.50 |
| Qk.N_E1 | 1 | 0.00 | 0.88 | 0.15 |
| | 2 | 0.88 | 0.88 | 0.07 |
| | 3 | 1.75 | 0.88 | 0.15 |
| | 4 | 2.63 | 0.88 | 0.51 |
| Qk.N_DA | 1 | 0.00 | 0.88 | 21.51 |
| | 2 | 0.88 | 0.88 | 2.99 |
| | 3 | 1.75 | 0.88 | -1.63 |
| | 4 | 2.63 | 0.88 | -1.09 |
| Qk.N_T2 | 1 | 0.00 | 0.88 | 4.01 |
| | 2 | 0.88 | 0.88 | 9.36 |
| | 3 | 1.75 | 0.88 | 8.74 |
| | 4 | 2.63 | 0.88 | 3.70 |

a: Nâb\á^ãÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^æ^ÄÜä†&æäää^ä
s: Q†^æÄääääQáb\

UZ-1.8

Unterzug

•œ} åã ^/Šæ c^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Einzellasten

| Nr. | a [m] | F [kN] |
|---------|----------|-----------|
| Gk | 1 | 107.18 |
| Ö← | 1 | 37.66 |
| Qk.N_E1 | 1 | 10.45 |
| Qk.N_DA | 1 | 19.73 |

Blocklasten

| Nr. | a [m] | s [m] | q [kN/m] |
|---------|----------|----------|-------------|
| Gk | 1 | 0.00 | -8.78 |
| | 2 | 0.95 | -0.77 |
| | 3 | 1.90 | 27.77 |
| | 4 | 2.85 | 95.91 |
| | 5 | 3.79 | 99.42 |
| | 6 | 4.74 | 41.78 |
| | 7 | 5.69 | 18.90 |
| | 8 | 6.64 | 16.01 |
| | 9 | 7.59 | 21.72 |
| | 10 | 8.54 | 31.22 |
| | 11 | 9.48 | 22.73 |
| | 12 | 10.43 | 12.04 |
| | 13 | 11.38 | 17.00 |
| | 14 | 12.33 | 36.82 |
| | 15 | 13.28 | 22.29 |
| | 16 | 14.23 | 8.85 |
| Ö← | 1 | 0.00 | 0.11 |
| | 2 | 0.95 | 3.41 |
| | 3 | 1.90 | 15.18 |
| | 4 | 2.85 | 42.19 |
| | 5 | 3.79 | 41.55 |
| | 6 | 4.74 | 18.46 |
| | 7 | 5.69 | 10.78 |
| | 8 | 6.64 | 10.05 |
| | 9 | 7.59 | 11.69 |
| | 10 | 8.54 | 14.32 |
| | 11 | 9.48 | 11.83 |
| | 12 | 10.43 | 8.54 |
| | 13 | 11.38 | 9.63 |
| | 14 | 12.33 | 15.13 |
| | 15 | 13.28 | 10.48 |
| | 16 | 14.23 | 6.93 |
| Qk.N_B1 | 1 | 0.00 | 0.39 |
| | 2 | 0.95 | 6.43 |
| | 3 | 1.90 | 9.92 |
| | 4 | 2.85 | 11.30 |
| | 5 | 3.79 | 11.80 |
| | 6 | 4.74 | 11.94 |
| | 7 | 5.69 | 11.96 |
| | 8 | 6.64 | 11.95 |
| | 9 | 7.59 | 11.82 |
| | 10 | 8.54 | 11.44 |

D-502

Schulcampus EWK \

10G-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| | 11 | 9.48 | 0.95 | 10.33 |
| | 12 | 10.43 | 0.95 | 7.49 |
| | 13 | 11.38 | 0.95 | 1.87 |
| | 14 | 12.33 | 0.95 | -2.30 |
| | 15 | 13.28 | 0.95 | 0.63 |
| | 16 | 14.23 | 0.95 | 2.62 |
| Qk.N_C5 | 1 | 7.59 | 0.95 | -0.01 |
| | 2 | 8.54 | 0.95 | -0.02 |
| | 3 | 9.48 | 0.95 | -0.03 |
| | 4 | 10.43 | 0.95 | -0.02 |
| | 5 | 12.33 | 0.95 | 0.04 |
| | 6 | 13.28 | 0.95 | 0.04 |
| | 7 | 14.23 | 0.95 | 0.02 |
| Qk.N_E1 | 1 | 0.00 | 0.95 | -1.10 |
| | 2 | 0.95 | 0.95 | -0.02 |
| | 3 | 1.90 | 0.95 | 2.35 |
| | 4 | 2.85 | 0.95 | 9.75 |
| | 5 | 3.79 | 0.95 | 9.12 |
| | 6 | 4.74 | 0.95 | 1.53 |
| | 7 | 5.69 | 0.95 | -0.08 |
| | 8 | 6.64 | 0.95 | -0.02 |
| | 9 | 7.59 | 0.95 | 0.04 |
| | 10 | 8.54 | 0.95 | 0.06 |
| | 11 | 9.48 | 0.95 | 0.09 |
| | 12 | 10.43 | 0.95 | 0.12 |
| | 13 | 11.38 | 0.95 | 0.24 |
| | 14 | 12.33 | 0.95 | 0.45 |
| | 15 | 13.28 | 0.95 | 0.07 |
| | 16 | 14.23 | 0.95 | -0.70 |
| Qk.N_DA | 1 | 0.00 | 0.95 | 0.36 |
| | 2 | 0.95 | 0.95 | 0.13 |
| | 3 | 1.90 | 0.95 | 4.15 |
| | 4 | 2.85 | 0.95 | 17.02 |
| | 5 | 3.79 | 0.95 | 15.28 |
| | 6 | 4.74 | 0.95 | 2.42 |
| | 7 | 5.69 | 0.95 | -0.22 |
| | 8 | 6.64 | 0.95 | -0.12 |
| | 9 | 7.59 | 0.95 | -0.02 |
| | 10 | 8.54 | 0.95 | -0.02 |
| | 11 | 9.48 | 0.95 | -0.06 |
| | 12 | 10.43 | 0.95 | 0.11 |
| | 13 | 11.38 | 0.95 | 1.87 |
| | 14 | 12.33 | 0.95 | 4.37 |
| | 15 | 13.28 | 0.95 | 1.66 |
| | 16 | 14.23 | 0.95 | -0.26 |
| Qk.N_T2 | 1 | 10.43 | 0.95 | -0.03 |
| | 2 | 11.38 | 0.95 | -0.05 |
| | 3 | 12.33 | 0.95 | -0.03 |
| | 4 | 13.28 | 0.95 | 0.10 |
| | 5 | 14.23 | 0.95 | 0.24 |

a: Nâb\á^ãÄäæbÄU\áã* | ^←\æbÄ~ | ↑Ä→↔^æ^ÄÜä†&æãäá^ää
s: Q†^æÄÄäãäÄQáb\

UZ-1.9

Unterzug

• cē } åã ^ Ñæ c ^ }

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Einzellasten

| Nr. | a | F |
|---------|-----|------|
| | [m] | [kN] |
| Gk | 1 | 0.68 |
| | 2 | 9.33 |
| Ö← | 1 | 0.68 |
| | 2 | 9.33 |
| Qk.N_DA | 1 | 0.68 |
| | 2 | 9.33 |

Blocklasten

| Nr. | a | s | q |
|---------|-----|------|--------|
| | [m] | [m] | [kN/m] |
| Gk | 1 | 0.00 | 1.00 |
| | 2 | 1.00 | 1.00 |
| | 3 | 2.00 | 1.00 |
| | 4 | 3.00 | 1.00 |
| | 5 | 4.00 | 1.00 |
| | 6 | 5.00 | 1.00 |
| | 7 | 6.00 | 1.00 |
| | 8 | 7.00 | 1.00 |
| | 9 | 8.00 | 1.00 |
| | 10 | 9.00 | 1.00 |
| Ö← | 1 | 0.00 | 1.00 |
| | 2 | 1.00 | 1.00 |
| | 3 | 2.00 | 1.00 |
| | 4 | 3.00 | 1.00 |
| | 5 | 4.00 | 1.00 |
| | 6 | 5.00 | 1.00 |
| | 7 | 6.00 | 1.00 |
| | 8 | 7.00 | 1.00 |
| | 9 | 8.00 | 1.00 |
| | 10 | 9.00 | 1.00 |
| Qk.N_B1 | 1 | 4.00 | 1.00 |
| | 2 | 5.00 | 1.00 |
| | 3 | 6.00 | 1.00 |
| | 4 | 7.00 | 1.00 |
| | 5 | 8.00 | 1.00 |
| | 6 | 9.00 | 1.00 |
| Qk.N_C5 | 1 | 0.00 | 1.00 |
| | 2 | 1.00 | 1.00 |
| | 3 | 2.00 | 1.00 |
| | 4 | 3.00 | 1.00 |
| | 5 | 4.00 | 1.00 |
| | 6 | 5.00 | 1.00 |
| | 7 | 6.00 | 1.00 |
| | 8 | 7.00 | 1.00 |
| | 9 | 8.00 | 1.00 |
| | 10 | 9.00 | 1.00 |
| Qk.N_E1 | 1 | 9.00 | 1.00 |
| Qk.N_DA | 1 | 0.00 | 1.00 |
| | 2 | 2.00 | 1.00 |
| | 3 | 3.00 | 1.00 |

D-504

Schulcampus EWK \

10G-LP4

| Nr . | a [m] | s [m] | q [kN/m] |
|------|----------|----------|-------------|
| 4 | 4.00 | 1.00 | 0.02 |
| 5 | 5.00 | 1.00 | 0.02 |
| 6 | 6.00 | 1.00 | 0.01 |
| 7 | 7.00 | 1.00 | 0.02 |
| 8 | 8.00 | 1.00 | 0.02 |
| 9 | 9.00 | 1.00 | 0.19 |

a: Nâb\á^ääæbÁU\áä* | ^←\æbÁ~ | ↑Á→^←æ^ÁÚä†&æääá^ä
s: Q†^&æÁääääQáb\

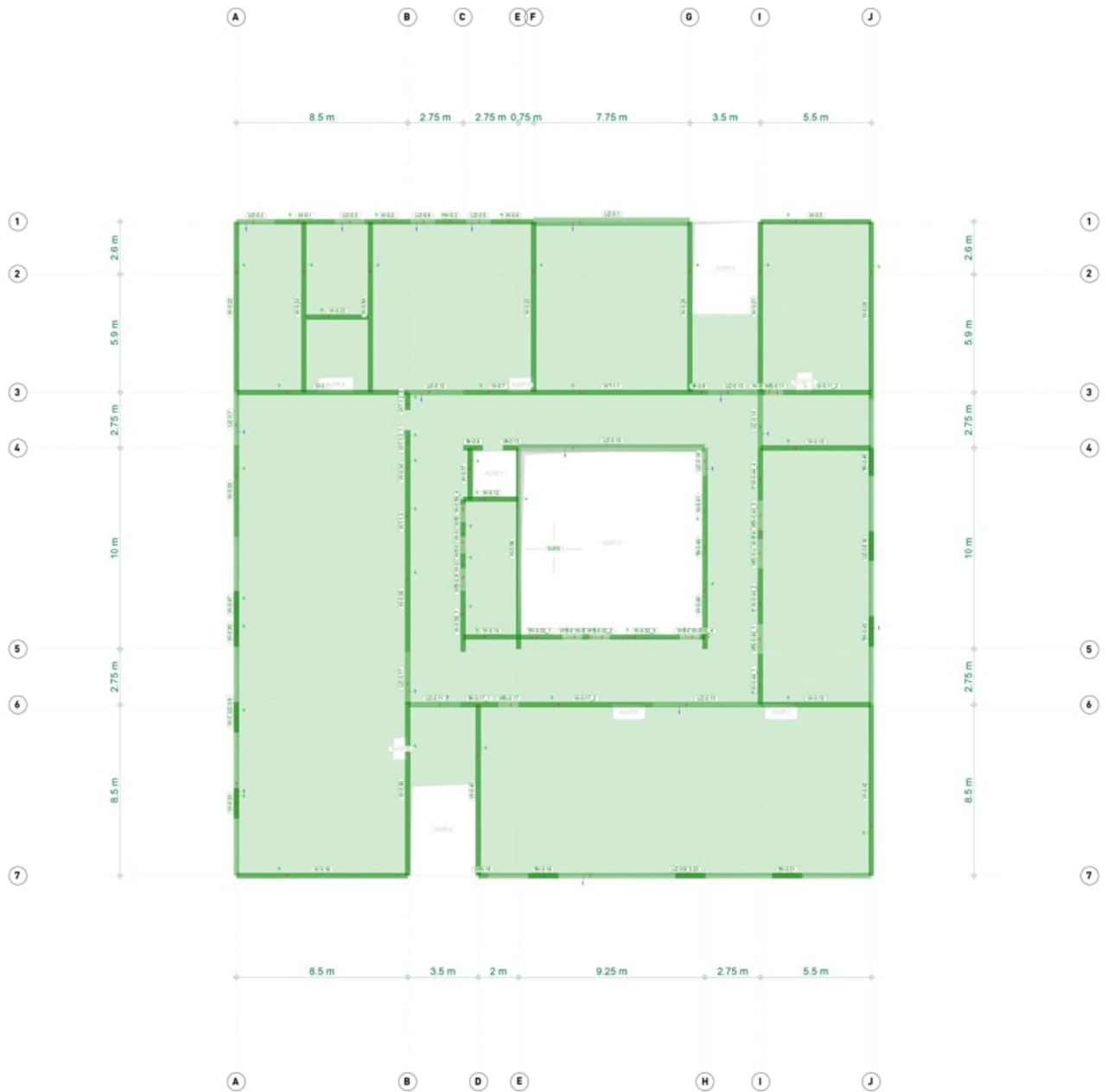
7 Decke ü. Erdgeschoss (Geschossdecke)

| | |
|--|--------|
| Decke ü. Erdgeschoss | |
| Ausgangswerte | D-507 |
| Übersicht der Deckenstärken / Positionsplan | D-510 |
| Einwirkungen / Lastfälle / Lastgruppen / Lastkombinationen / Lastpläne | D-520 |
| Statik-Protokoll | D-589 |
| Auswertung | D-594 |
| Verformungen (Zustand II) | D-595 |
| Biegebemessung | D-599 |
| Bemessungsparameter | D-599 |
| Biegebemessung (erf. a_s) | D-613 |
| Biegebemessung (Δa_s) | D-621a |
| Querkraftbemessung | D-626 |
| Bemessungsparameter | D-626 |
| Querkraftausnutzung – $V_{Ed,res}/ V_{Rd,max}$ | D-629 |
| Querkraftbemessung – erf. a_{sw} | D-631 |
| DS-Nachweise | D-632 |
| V_{Ed} | D-632 |
| DS-Positionen | D-633 |
| Lastübergabe | D-638 |
| Auflagerreaktionen (Lastfallweise) | D-639 |
| Lastsummen | D-731 |
| Lastabtrag (Einwirkungsweise) | D-751 |
| Lasten auf Detailpositionen (Sturz / Unterzug) | D-809 |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Stat. System:



Material:

Dicke: 28 cm
Betonstahl: B500B
Beton: C30/37
Expositionsklasse: XC1, W0
Betondeckung: $c_{nom} = 3,0 \text{ cm}$
Grundbewehrung: #Ø14/10

| D-EG

| Geschossdecke - Innenbereich
| Geschossdecke - Innenbereich
| # 15,39 cm^2/m

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Belastung:

Eigenlast:

- Wird automatisch, programmintern, generiert:
 - $g_k = 7,00 \text{ kN/m}^2$ $= 0,28 \text{ m} * 25 \text{ kN/m}^2$ | Lastfall 1

Flächenlasten:

- Ausbaulasten
 - $\Delta g_k = 2,50 \text{ kN/m}^2$ | Lastfall 2
- Nutzlasten
 - $q_k = 5,00 \text{ kN/m}^2$ | Lastfall 13 - 14 (Kat. B1)
 - $q_k = 6,00 \text{ kN/m}^2$ | Lastfall 3 - 5 / 23 (Kat. E)
 - $q_k = 5,00 \text{ kN/m}^2$ | Lastfall 15 - 19 (Kat. C5)
 - $q_k = 5,00 \text{ kN/m}^2$ | Lastfall 20 - 22 (Kat. T2)
 - $q_k = 5,00 \text{ kN/m}^2$ | Lastfall 6 - 12 (Kat. C1)

Hinweis: Die Anordnung der Nutzlasten erfolgt feldweise. Die Lastkombination erfolgt abhängig vom geforderten Nachweis programmintern.

Linienlasten:

- Fassadenlast
 - $\Delta g_k = 9,25 \text{ kN/m}$ | Lastfall 2 (Außenwand tragend)
 - $\Delta g_k = 7,75 \text{ kN/m}$ | Lastfall 2 (Wand nicht-tragend)
 - $\Delta g_k = 2,08 \text{ kN/m}$ | Lastfall 2 (Unterzug)
 - $\Delta g_k = 2,33 \text{ kN/m}$ | Lastfall 2 (Glas)

Hinweis: Die nicht-tragenden Außenwände werden von der darunterliegenden Decke abgefugt und als zusätzliche Last auf den darüberliegenden Unterzug eingepreßt.

- Treppenlauf
 - $g_k = 3,4 * 7,67/2 = 13,04 \text{ kN/m}$ | Lastfall 1
 - $\Delta g_k = 3,4 * 2,5/2 = 4,25 \text{ kN/m}$ | Lastfall 2
 - $q_k = 3,4 * 5/2 = 8,5 \text{ kN/m}$ | Lastfall 20/21

Lastübernahme aus 1. Obergeschoss:

Die Lasten aus dem 1. Obergeschoss werden mit dem mB Modul M161 Lastübergabe / Lastübernahme auf die Decke über 1. Obergeschoss eingepreßt.

Hinweis wandartige Träger:

Die wandartigen Träger im 1. Obergeschoss wurden in der Decke über Erdgeschoss als normale Wandlager abgebildet. Sie werden in der Weitergabe der Lasten an die Bodenplatte nicht mitberücksichtigt. Die entstehenden Auflagerlasten werden für die Bemessung der wandartigen Träger verwendet.

AZ: 20206208

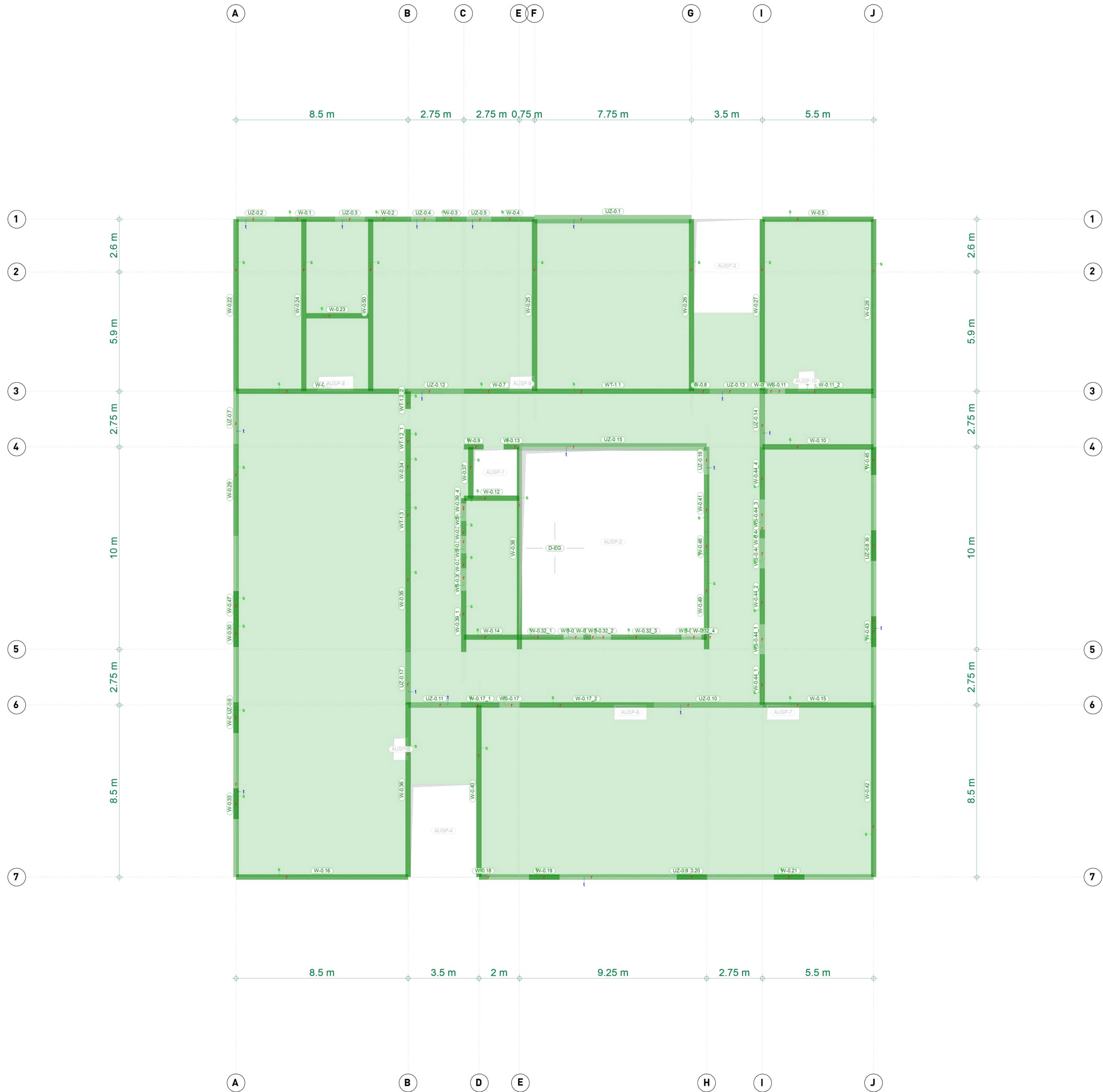
Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Hinweis LP5 zur Abfugung von WT-1.1:

Im Bereich der Decke unter dem wandartigen Träger WT-1.1 ist die Decke in C45/55 herzustellen. Dafür ist dieser Bereich bei der Betonage der restlichen Decke auszusparen und mit Betonage des WT-1.1 zu füllen. Es muss zu den angrenzenden Deckenbereichen eine verzahnte Fuge hergestellt werden.

Bemessung:

Siehe folgende Seiten.



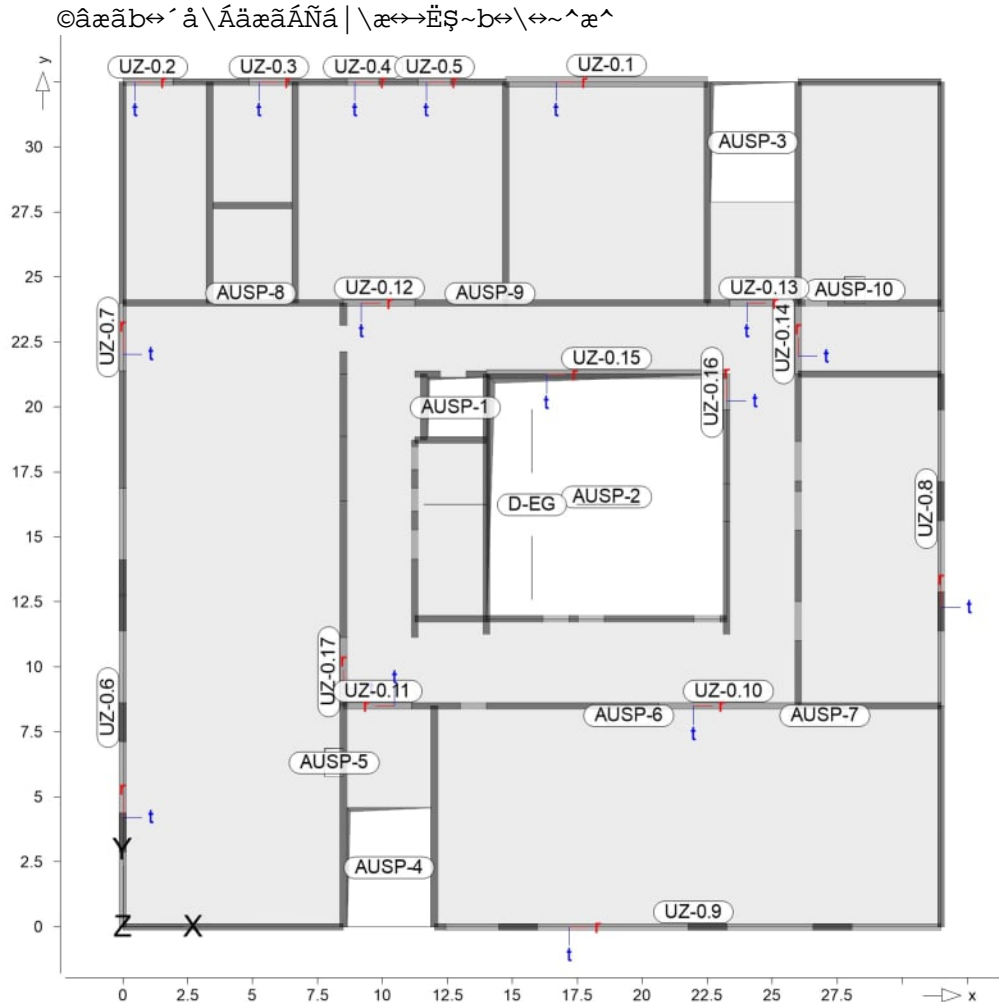
Positionenplan

Positionsplan

Bauteile

Bauteil-Positionen

Positionsgrafik



Platten

Platten-Positionen

Stahlbeton

| Position | Winkel Yfl | Art | Material Quer | Dicke [cm] |
|----------|---------------|-----|------------------------------|---------------|
| D-EG | 0.0 | iso | C 30/37 Q B 500SA B 500SA | 28.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: 0.0

Expositionsklasse

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|------------------------------|
| D-EG | umlaufend | XC1 | trocken oder b\+^ä=&A^abb |

Aussparungen

| Position | Öberfläche [m²] | x [m] | y [m] |
|----------|--------------------|----------|----------|
| AUSP-1 | 4.88 | 11.73 | 21.13 |
| | | 11.73 | 18.85 |
| | | 13.88 | 18.85 |
| | | 13.88 | 21.13 |
| AUSP-2 | 86.95 | 14.00 | 21.25 |
| | | 14.00 | 11.85 |
| | | 23.25 | 11.85 |
| | | 23.25 | 21.25 |
| AUSP-3 | 15.03 | 25.88 | 32.50 |
| | | 22.63 | 32.50 |
| | | 22.63 | 27.88 |
| | | 25.88 | 27.88 |
| AUSP-4 | 14.87 | 8.63 | 0.00 |
| | | 11.88 | 0.00 |
| | | 11.88 | 4.58 |
| | | 8.63 | 4.58 |
| AUSP-5 | 0.80 | 7.78 | 5.78 |
| | | 8.50 | 5.78 |
| | | 8.50 | 6.88 |
| | | 7.78 | 6.88 |
| AUSP-6 | 1.16 | 18.68 | 7.78 |
| | | 20.28 | 7.78 |
| | | 20.28 | 8.50 |
| | | 18.68 | 8.50 |
| AUSP-7 | 1.16 | 26.23 | 7.78 |
| | | 27.83 | 7.78 |
| | | 27.83 | 8.50 |
| | | 26.23 | 8.50 |
| AUSP-8 | 1.31 | 5.80 | 24.00 |
| | | 5.80 | 24.75 |
| | | 4.06 | 24.75 |
| | | 4.06 | 24.00 |
| AUSP-9 | 0.92 | 13.53 | 24.75 |
| | | 13.53 | 24.00 |
| | | 14.75 | 24.00 |
| | | 14.75 | 24.75 |
| AUSP-10 | 0.80 | 27.78 | 25.00 |
| | | 27.78 | 24.00 |
| | | 28.58 | 24.00 |
| | | 28.58 | 25.00 |

Unterzug-Positionen

Stahl beton

| Position | Querschnitt [m] | Betonstahl | | Beton | |
|----------------|--------------------|-------------|---------|---------|-------------|
| | | Querschnitt | Stahl | Stärke | Verankerung |
| UZ-0.1 | 7.75 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-0.2 | 1.93 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-0.3 | 1.50 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-0.4, UZ-0.5 | 1.25 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-0.6 | 16.88 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-0.7 | 2.63 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-0.8 | 15.18 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-0.9 | 19.08 | B 500SB | B 500SB | C 30/37 | Q |
| UZ-0.10 | 5.38 | B 500SB | B 500SB | C 30/37 | Q |

| Position | Q _z [m] | Betonstahl | | Beton |
|----------|-----------------------|----------------|---------|-----------|
| | | Q _z | Ñfi | |
| UZ-0.11 | 2.63 | B 500SB | B 500SB | C 30/37 Q |
| UZ-0.12 | 2.75 | B 500SB | B 500SB | C 30/37 Q |
| UZ-0.13 | 2.63 | B 500SB | B 500SB | C 30/37 Q |
| UZ-0.14 | 2.75 | B 500SB | B 500SB | C 30/37 Q |
| UZ-0.15 | 9.25 | B 500SB | B 500SB | C 30/37 Q |
| UZ-0.16 | 1.38 | B 500SB | B 500SB | C 30/37 Q |
| UZ-0.17 | 2.63 | B 500SB | B 500SB | C 30/37 Q |

Q: Öæb\æ↔^b↔=ä^|^&ÄT|ää~↔\

Abminderung

| Position | F _D | F _{S,s} | F _{S,t} | F _T | F _{B,s} | F _{B,t} |
|-----------------|----------------|------------------|------------------|----------------|------------------|------------------|
| UZ-0.1..UZ-0.17 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |

F_D: Nâ↑↔^äæä|^&bää↔~äÄâfiäÄä↔æÄæä^b\æ↔ä↔æ↔\
F_{S,s}: Nâ↑↔^äæä|^&bää↔~äÄâfiäÄä↔æÄU'ä|âb\æ↔ä↔æ↔\Ä↔^ÄbËb↔'ä|^&
F_{S,t}: Nâ↑↔^äæä|^&bää↔~äÄâfiäÄä↔æÄU'ä|âb\æ↔ä↔æ↔\Ä↔^Ä\Ëb↔'ä|^&
F_T: Nâ↑↔^äæä|^&bää↔~äÄâfiäÄä↔æÄU'ä~âb↔~^bb\æ↔ä↔æ↔\
F_{B,s}: Nâ↑↔^äæä|^&bää↔~äÄâfiäÄä↔æÄÑ↔æ&æb\æ↔ä↔æ↔\Ä|↑ÄbËN'äbæ
F_{B,t}: Nâ↑↔^äæä|^&bää↔~äÄâfiäÄä↔æÄÑ↔æ&æb\æ↔ä↔æ↔\Ä|↑Ä\ËN'äbæ

Querschnitt

| Position | Exz. | b _{p1} | h _f | b _w | h |
|------------------|------|-----------------|----------------|----------------|-------------|
| | [cm] | [cm] | [cm] | [cm] | [cm] |
| UZ-0.1 | UZ | 40.0 | 28.0 | 40.0 | 78.0 |
| UZ-0.2..UZ-0.9 | UZ | 25.0 | 28.0 | 25.0 | 83.0 |
| UZ-0.10 | UZ | 200.0 | 28.0 | 25.0 | 78.0 |
| UZ-0.11..UZ-0.14 | UZ | 25.0 | 28.0 | 25.0 | 78.0 |
| UZ-0.15 | UZ | 35.0 | 28.0 | 35.0 | 78.0 |
| UZ-0.16, UZ-0.17 | UZ | 25.0 | 28.0 | 25.0 | 78.0 |

UZ: Unterzug

Expositionsklasse

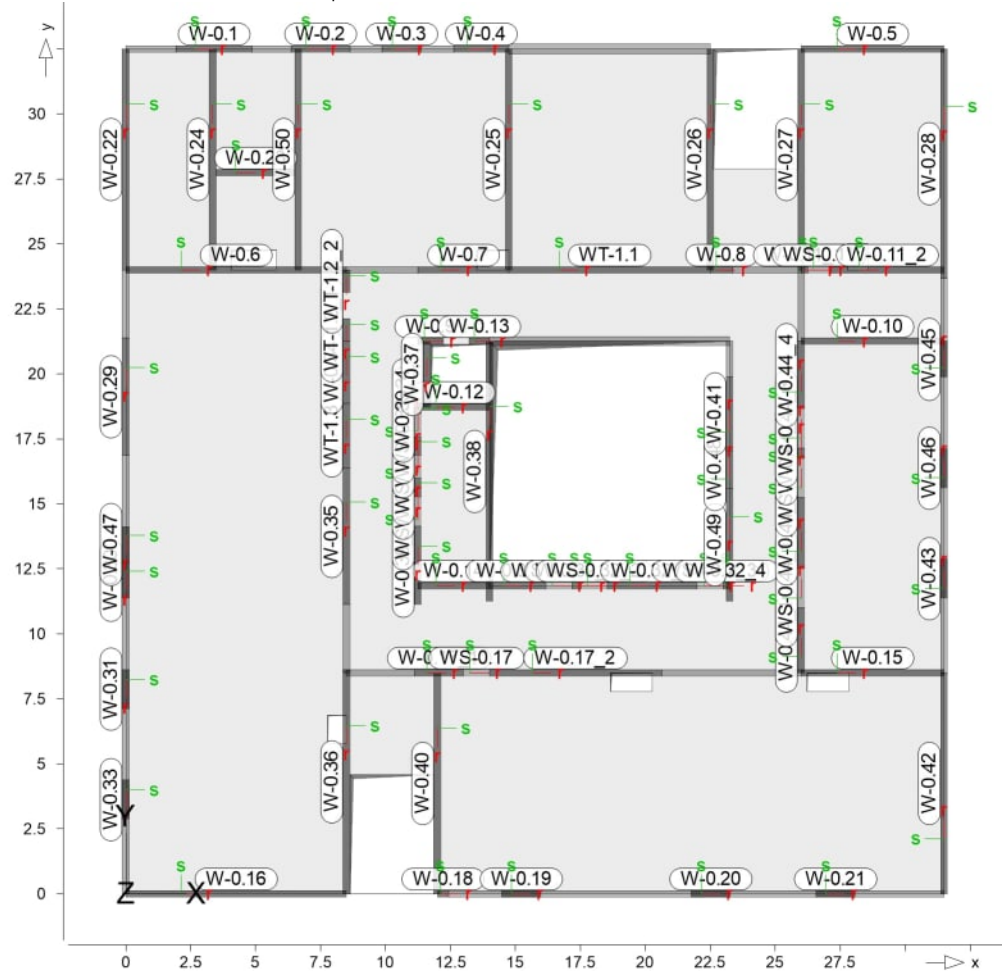
| Position | Seite | Kl | Kommentar |
|-----------------|-----------|-----|------------------------------|
| UZ-0.1..UZ-0.17 | umlaufend | XC1 | trocken oder b\‡^ä↔&Ä^äbb |

Auflager

Auflager-Positionen

Posi ti onsgrafi k

©âæãb↔´ ¨ ¸\ÁäæãÁN| à→á&æãËŞ~b↔\↔~^æ^



Wandl ager

Wandlager-Positionen

Stahl beton

| Position | $\bar{O}=\bar{a}$ [m] | $Q\ddagger^{\wedge}\&$ [m] | Material | Dicke [cm] |
|----------|--------------------------|-------------------------------|----------------------|---------------|
| W-0.1 | 3.62 | 2.95 | C 25/30 Q B 500SB | 25.0 |
| W-0.2 | 3.62 | 2.25 | C 25/30 Q B 500SB | 25.0 |
| W-0.3 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.4 | 3.62 | 2.13 | C 25/30 Q B 500SB | 25.0 |
| W-0.5 | 3.62 | 5.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.6 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.7 | 3.62 | 3.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.8 | 3.62 | 0.88 | C 25/30 Q B 500SB | 25.0 |
| W-0.9 | 3.62 | 0.98 | C 25/30 Q B 500SB | 25.0 |

| Position | Ø=â™ [m] | Q†^™ [m] | Material | Dicke [cm] |
|----------------|--------------------|--------------------|----------------------|---------------|
| W-0.10 | 3.62 | 5.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.11_1 | 3.62 | 0.25 | C 25/30 Q B 500SB | 25.0 |
| W-0.11_2 | 3.62 | 4.37 | C 25/30 Q B 500SB | 25.0 |
| W-0.12 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |
| W-0.13 | 3.62 | 0.77 | C 25/30 Q B 500SB | 25.0 |
| W-0.14 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |
| W-0.15 | 3.62 | 5.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.16 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.17_1 | 3.62 | 1.88 | C 25/30 Q B 500SB | 25.0 |
| W-0.17_2 | 3.62 | 6.63 | C 25/30 Q B 500SB | 25.0 |
| W-0.18 | 3.62 | 0.43 | C 25/30 Q B 500SB | 25.0 |
| W-0.19..W-0.21 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.22 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.23 | 3.62 | 3.05 | C 25/30 Q B 500SB | 25.0 |
| W-0.24..W-0.27 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.28 | 3.62 | 8.83 | C 25/30 Q B 500SB | 25.0 |
| W-0.29 | 3.62 | 4.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.30 | 3.62 | 1.38 | C 25/30 Q B 500SB | 25.0 |
| W-0.31 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.32_1 | 3.62 | 2.17 | C 25/30 Q B 500SB | 25.0 |
| W-0.32_2 | 3.62 | 0.35 | C 25/30 Q B 500SB | 25.0 |
| W-0.32_3 | 3.62 | 3.47 | C 25/30 Q B 500SB | 25.0 |
| W-0.32_4 | 3.62 | 0.25 | C 25/30 Q B 500SB | 25.0 |
| W-0.33 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.34 | 3.62 | 2.38 | C 25/30 Q B 500SB | 25.0 |
| W-0.35 | 3.62 | 5.25 | C 25/30 Q B 500SB | 25.0 |
| W-0.36 | 3.62 | 8.63 | C 25/30 Q B 500SB | 25.0 |

| Position | Ø=â™ [m] | Q†^™ [m] | Material | Dicke [cm] |
|----------------------|-------------------|-------------------|----------------------|---------------|
| W-0.37 | 3.62 | 2.54 | C 25/30 Q B 500SB | 25.0 |
| W-0.38 | 3.62 | 10.00 | C 25/30 Q B 500SB | 25.0 |
| W-0.39_1 | 3.62 | 3.01 | C 25/30 Q B 500SB | 25.0 |
| W-0.39_2, W-0.39_3 | 3.62 | 0.72 | C 25/30 Q B 500SB | 25.0 |
| W-0.39_4 | 3.62 | 0.25 | C 25/30 Q B 500SB | 25.0 |
| W-0.40 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.41 | 3.62 | 2.83 | C 25/30 Q B 500SB | 25.0 |
| W-0.42 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.43 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.44_1 | 3.62 | 2.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.44_2 | 3.62 | 2.74 | C 25/30 Q B 500SB | 25.0 |
| W-0.44_3 | 3.62 | 0.40 | C 25/30 Q B 500SB | 25.0 |
| W-0.44_4 | 3.62 | 2.59 | C 25/30 Q B 500SB | 25.0 |
| W-0.45 | 3.62 | 1.38 | C 25/30 Q B 500SB | 25.0 |
| W-0.46 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-0.47 | 3.62 | 1.38 | C 25/30 Q B 500SB | 25.0 |
| W-0.48 | 3.62 | 1.45 | C 25/30 Q B 500SB | 25.0 |
| W-0.49 | 3.62 | 4.35 | C 25/30 Q B 500SB | 25.0 |
| W-0.50 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| WS-0.11 | 3.62 | 0.89 | C 25/30 Q B 500SB | 25.0 |
| WS-0.17 | 3.62 | 1.00 | C 25/30 Q B 500SB | 25.0 |
| WS-0.32_1, WS-0.32_2 | 3.62 | 1.01 | C 25/30 Q B 500SB | 25.0 |
| WS-0.32_3 | 3.62 | 1.00 | C 25/30 Q B 500SB | 25.0 |
| WS-0.39_1 | 3.62 | 1.14 | C 25/30 Q B 500SB | 25.0 |
| WS-0.39_2, WS-0.39_3 | 3.62 | 0.89 | C 25/30 Q B 500SB | 25.0 |

| Position | $\bar{O}=\bar{a}\bar{a}$ [m] | $Q\ddagger\wedge\&\bar{a}$ [m] | Material | Dicke [cm] |
|----------------------|---------------------------------|-----------------------------------|----------------------|---------------|
| WS-0.44_1 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| WS-0.44_2, WS-0.44_3 | 3.62 | 1.51 | C 25/30 Q B 500SB | 25.0 |
| WT-1.1 | <i>fctÄdgtknkgigpf</i> 3.62 | 7.75 | C 25/30 Q B 500SB | 25.0 |
| WT-1.2_1, WT-1.2_2 | <i>fctÄdgtknkgigpf</i> 3.62 | 0.87 | C 25/30 Q B 500SB | 25.0 |
| WT-1.3 | <i>fctÄdgtknkgigpf</i> 3.62 | 2.50 | C 25/30 Q B 500SB | 25.0 |

Q: $\bar{O}\bar{a}\bar{b}\backslash\bar{a}\leftrightarrow\wedge\bar{b}\leftarrow\bar{a}\wedge|\wedge\&\bar{A}\bar{T}|\bar{a}\bar{a}\sim\leftrightarrow\backslash$

Exposi ti onskl asse

 $\&\bar{a}\ddagger\ddagger\bar{B}\bar{A}\bar{E}\bar{O}\bar{S}\bar{A}\bar{O}\bar{S}\bar{A}\bar{F}\bar{I}\bar{I}\bar{G}\bar{E}\bar{F}\bar{E}\bar{F}\bar{E}\bar{A}\bar{U}\bar{a}\bar{a}\bar{E}\bar{A}\bar{H}\bar{E}\bar{F}$

| Position | Seite | Kl | Kommentar |
|--|-------|----|---|
| W-0.1..W-0.10, W-0.11_1, W-0.11_2, W-0.12..W-0.16, W-0.17_1, W-0.17_2, W-0.18..W-0.31, W-0.32_1..W-0.32_4, W-0.33..W-0.38, W-0.39_1..W-0.39_4, W-0.40..W-0.43, W-0.44_1..W-0.44_4, W-0.45..W-0.50, WS-0.11, WS-0.17, WS-0.32_1..WS-0.32_3, WS-0.39_1..WS-0.39_3, WS-0.44_1..WS-0.44_3, WT-1.1, WT-1.2_1, WT-1.2_2, WT-1.3 | | | umlaufend XC1 trocken oder b\ddagger\bar{a}\leftrightarrow\&\bar{A}\bar{a}\bar{b}\bar{b} |

Federstei fi gkei ten

| Position | $K_{R,r}$ [kNm/rad/m] | $K_{R,s}$ [kNm/rad/m] | $K_{T,t}$ [kN/m/m] |
|--|--------------------------|--------------------------|-----------------------|
| W-0.1..W-0.10, W-0.11_1, W-0.11_2, W-0.12..W-0.16, W-0.17_1, W-0.17_2, W-0.18..W-0.31, W-0.32_1..W-0.32_4, W-0.33..W-0.38, W-0.39_1..W-0.39_4, W-0.40..W-0.43, W-0.44_1..W-0.44_4, W-0.45..W-0.50, WS-0.11, WS-0.17, WS-0.32_1..WS-0.32_3, WS-0.39_1..WS-0.39_3, WS-0.44_1..WS-0.44_3, WT-1.1, WT-1.2_1, WT-1.2_2, WT-1.3 | frei | frei +/- | 2140884 |

Materi al

Materialkennwerte

Stahl beton

DIN EN 1992-1-1

| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|--|----------|--------|--|-----------------------|
| W-0.1..W-0.10, W-0.11_1, W-0.11_2, W-0.12..W-0.16, W-0.17_1, W-0.17_2, W-0.18..W-0.31, W-0.32_1..W-0.32_4, W-0.33..W-0.38, W-0.39_1..W-0.39_4, W-0.40..W-0.43, W-0.44_1..W-0.44_4, W-0.45..W-0.50, WS-0.11, WS-0.17, WS-0.32_1..WS-0.32_3, WS-0.39_1..WS-0.39_3, WS-0.44_1..WS-0.44_3, | | | $Y\leftarrow S\bar{D}\ddagger z\ddot{Y}$ $Y\bar{S}\bar{D}\ddagger\ddagger\bar{Y}\ddot{Y}$ $Y\bar{S}\bar{D}\ddagger\ddagger\bar{Y}\ddot{Y}$ | |

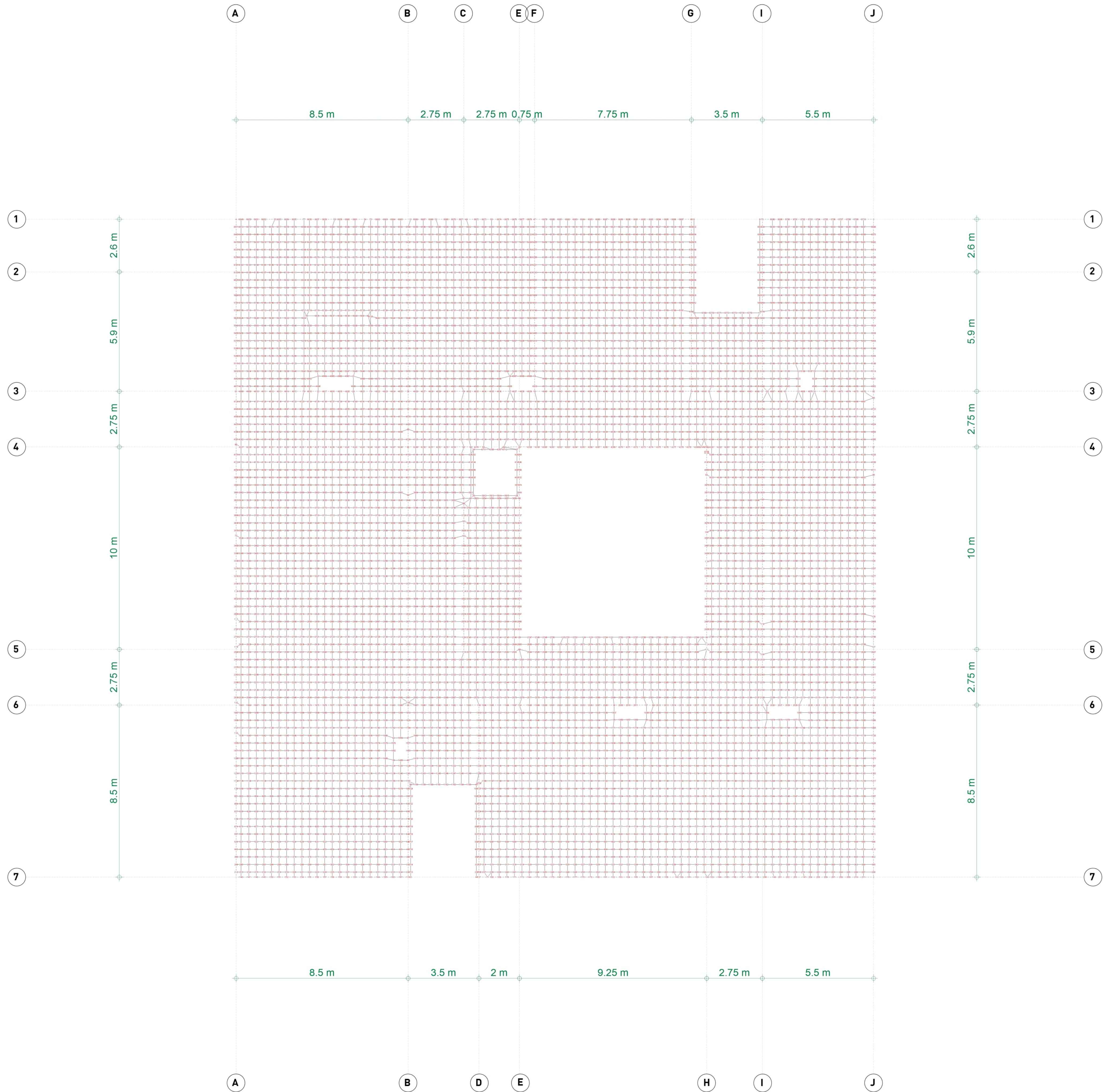
| Position | Material | Wichte | E_{cm} | f_{ck} |
|------------------------------------|-----------|--------|--------------------------------------|--------------------------------------|
| | | | G | f_{ctm} |
| | | | $Y \leftarrow S \uparrow z \ddot{Y}$ | $Y \uparrow S \downarrow z \ddot{Y}$ |
| WT-1.1, WT-1.2_1, WT-1.2_2, WT-1.3 | C 25/30 Q | 25.00 | 31000 | 25.00 |
| | | | 12900 | 2.60 |
| D-EG, UZ-0.1..UZ-0.17 | C 30/37 Q | 25.00 | 33000 | 30.00 |
| | | | 13750 | 2.90 |

Q: 0æb\æ↔^b↔=ä^|^&ÄT|ää~↔\

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte | E_s | f_{yk} |
|--|----------|--------|--------------------------------------|--------------------------------------|
| | | | G | $f_{tk,cal}$ |
| | | | $Y \leftarrow S \uparrow z \ddot{Y}$ | $Y \uparrow S \downarrow z \ddot{Y}$ |
| D-EG | B 500SA | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |
| UZ-0.1..UZ-0.17, W-0.1..W-0.10, W-0.11_1, W-0.11_2, W-0.12..W-0.16, W-0.17_1, W-0.17_2, W-0.18..W-0.31, W-0.32_1..W-0.32_4, W-0.33..W-0.38, W-0.39_1..W-0.39_4, W-0.40..W-0.43, W-0.44_1..W-0.44_4, W-0.45..W-0.50, WS-0.11, WS-0.17, WS-0.32_1..WS-0.32_3, WS-0.39_1..WS-0.39_3, WS-0.44_1..WS-0.44_3, WT-1.1, WT-1.2_1, WT-1.2_2, WT-1.3 | B 500SB | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |



Belastungen

Einwirkungen

DIN EN 1990

Einwirkungen nach DIN EN 1990

| Pfiã~æ→ | Beschreibung Typisierung |
|---------|---|
| Gk | Eigenlasten U\†^ä↔æÁÖ↔^}↔ä← ^æ^ |
| Ö← | Ausbaulasten U\†^ä↔æÁÖ↔^}↔ä← ^æ^ |
| Qk.N_E1 | Nutzlast Kategorie E: Lager, Archiv, Bib., Technik Pá\æ&~ä↔æÁÖÁËÁQá&æã† †æ |
| Qk.N_B1 | S \~→áb\ÁPá\æ&~ä↔æÁÑFíÁÑfiã~ã† †æÊÁ Sæâæ^ã† †æ Pá\æ&~ä↔æÁÑÁËÁÑfiã~b |
| Qk.N_C5 | Nutzlast Kategorie C5: Forum mit angrenzenden Fluren Pá\æ&~ä↔æÁÖÁËÁÜæãbá†↑↑ ^æbã† †æ |
| Qk.N_C1 | S \~→áb\ÁPá\æ&~ä↔æÁÖFíÁU'á → ^æbã† †æÊÁ Öã **æ^ã† †æÊÁŞà→æ&æã† †æ Pá\æ&~ä↔æÁÖÁËÁÜæãbá†↑↑ ^æbã† †æ |
| Qk.N_DA | Nutzlast Kategorie H: Dach Pá\æ&~ä↔æÁÖÁËÁÆ†'áæã |
| Qk.N_T2 | S \~→áb\ÁPá\æ&~ä↔æÁÜGíÁÜãæ**æ^á† bæã U~^b\↔æ&ÁÜæã†^äæã↔'áæÁÖ↔^}↔ä← ^æ^ |

@UghZ} ``Y

Qáb\à†→æÁ|^äÄäæãæ^ÁX|^äã|^æÁ~|Ääæ^ÁÖ↔^}↔ä←|^æ^

Gk

LF-1, #1|LF-1, #2|LF-1, #3|LF-1

Ö←

LF-2, #1|LF-2, #2|LF-2, #3|LF-2

Qk.N_E1

LF-3, LF-4, LF-5, LF-23, #1|LF-11, #1|LF-12, #1|LF-13, #1|LF-14, #2|LF-17, #2|LF-18, #2|LF-19, #2|LF-20, #2|LF-21, #2|LF-22, #2|LF-23, #3|LF-8

Qk.N_B1

LF-13, LF-14, #1|LF-3, #1|LF-4, #1|LF-5, #1|LF-6, #1|LF-7, #1|LF-8, #1|LF-9, #1|LF-10

Qk.N_C5

LF-15, LF-16, LF-17, LF-18, LF-19, #1|LF-15, #1|LF-16, #1|LF-17, #1|LF-18, #1|LF-19

Qk.N_C1

LF-6, LF-7, LF-8, LF-9, LF-10, LF-11, LF-12, #1|LF-22

Qk.N_DA

#2|LF-3, #2|LF-4, #2|LF-5, #2|LF-6, #2|LF-7, #2|LF-8, #2|LF-9, #2|LF-10, #2|LF-11, #2|LF-12, #2|LF-13, #2|LF-14, #2|LF-15, #2|LF-16, #3|LF-3, #3|LF-4, #3|LF-5, #3|LF-6, #3|LF-7

Qk.N_T2

LF-20, LF-21, LF-22, #1|LF-20, #1|LF-21

@UghZ} ``Y #
Lastgruppen
@UghZ} ``Y

@æãb↔'á\ÁQáb\à†→æÁ|^äÁQáb\&ã|**æ^

| Lastfall | Typ | Beschreibung |
|----------|-----|-------------------------------|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbau |
| LF-3 | v | Nutzlast Lager/Archiv/Technik |
| LF-4 | v | Nutzlast Lager/Archiv/Technik |
| LF-5 | v | Nutzlast Lager/Archiv/Technik |
| LF-6 | v | S \~→áb\ÁU'á → ^æbã† †æ |
| LF-7 | v | S \~→áb\ÁU'á → ^æbã† †æ |

| Lastfall | Typ | Beschreibung |
|------------|-----|--|
| LF-8 | v | S \~→áb\ÄU'â →^&bã† ↑æ |
| LF-9 | v | S \~→áb\ÄU'â →^&bã† ↑æ |
| LF-10 | v | S \~→áb\ÄU'â →^&bã† ↑æ |
| LF-11 | v | S \~→áb\ÄU'â →^&bã† ↑æ |
| LF-12 | v | S \~→áb\ÄU'â →^&bã† ↑æ |
| LF-13 | v | S \~→áb\ÄÑfiã~ |
| LF-14 | v | S \~→áb\ÄÑfiã~ |
| LF-15 | v | Nutzlast Flur |
| LF-16 | v | Nutzlast Flur |
| LF-17 | v | Nutzlast Flur |
| LF-18 | v | Nutzlast Flur |
| LF-19 | v | Nutzlast Flur |
| LF-20 | v | Nutzlast Treppe |
| LF-21 | v | Nutzlast Treppe |
| LF-22 | v | Nutzlast Treppe |
| LF-23 | v | Nutzlast Lager/Archiv/Technik |
| #1 LF-1 | s | aus '10G-LP4 - U'â →'á†* bíQáb\fiâæã&ââæC |
| #1 LF-2 | s | Ausbau |
| #1 LF-3 | v | S \~→áb\ÄÑfiã~ |
| #1 LF-4 | v | S \~→áb\ÄÑfiã~ |
| #1 LF-5 | v | S \~→áb\ÄÑfiã~ |
| #1 LF-6 | v | S \~→áb\ÄÑfiã~ |
| #1 LF-7 | v | S \~→áb\ÄÑfiã~ |
| #1 LF-8 | v | S \~→áb\ÄÑfiã~ |
| #1 LF-9 | v | S \~→áb\ÄÑfiã~ |
| #1 LF-10 | v | S \~→áb\ÄÑfiã~ |
| #1 LF-11 | v | Nutzlast Lager/Archiv/Technik |
| #1 LF-12 | v | Nutzlast Lager/Archiv/Technik |
| #1 LF-13 | v | Nutzlast Lager/Archiv/Technik |
| #1 LF-14 | v | Nutzlast Lager/Archiv/Technik |
| #1 LF-15 | v | Nutzlast Flur |
| #1 LF-16 | v | Nutzlast Flur |
| #1 LF-17 | v | Nutzlast Flur |
| #1 LF-18 | v | Nutzlast Flur |
| #1 LF-19 | v | Nutzlast Flur |
| #1 LF-20 | v | Nutzlast Treppe |
| #1 LF-21 | v | Nutzlast Treppe |
| #1 LF-22 | v | Nutzlast Lesesaal |
| #2 LF-1 | s | aus '20G-LP4 - U'â →'á†* bíQáb\fiâæã&ââæC |
| #2 LF-2 | s | Ausbau |
| #2 LF-3 | v | Nutzlast Dach |
| #2 LF-4 | v | Nutzlast Dach |
| #2 LF-5 | v | Nutzlast Dach |
| #2 LF-6 | v | Nutzlast Dach |
| #2 LF-7 | v | Nutzlast Dach |
| #2 LF-8 | v | Nutzlast Dach |
| #2 LF-9 | v | Nutzlast Dach |
| #2 LF-10 | v | Nutzlast Dach |
| #2 LF-11 | v | Nutzlast Dach |
| #2 LF-12 | v | Nutzlast Dach |
| #2 LF-13 | v | Nutzlast Dach |
| #2 LF-14 | v | Nutzlast Dach |
| #2 LF-15 | v | Nutzlast Dach |

| Lastfall | Typ | Beschreibung |
|------------|-----|--|
| #2 LF-16 | v | Nutzlast Dach |
| #2 LF-17 | v | Nutzlast Technik |
| #2 LF-18 | v | Nutzlast Technik |
| #2 LF-19 | v | Nutzlast Technik |
| #2 LF-20 | v | Nutzlast Technik |
| #2 LF-21 | v | Nutzlast Technik |
| #2 LF-22 | v | Nutzlast Technik |
| #2 LF-23 | v | Nutzlast Technik |
| #3 LF-1 | s | aus 'TG-LP4 - U'â → 'á↑* bÍQáb\fiâæã&áâæC |
| #3 LF-2 | s | Ausbau |
| #3 LF-3 | v | Nutzlast Dach |
| #3 LF-4 | v | Nutzlast Dach |
| #3 LF-5 | v | Nutzlast Dach |
| #3 LF-6 | v | Nutzlast Dach |
| #3 LF-7 | v | Nutzlast Dach |
| #3 LF-8 | v | Nutzlast Aufzug |

s: b\†^â↔&æãÁQáb\ää→
v: {æã†^âæã↔→'áæãÁQáb\ää→

Lastkombinationen

Qáb\←~↑â↔^á\↔~^æ^ÁâfiãÁ↔~^æãæÃÑæã'â^ | ^&

Kombinationen

Manuell vorgegebene Lastkombinationen

| Ew | Einwirkungsname | | | | | |
|------|-----------------|------------|-----------|------------|-----------|-----------|
| Lg | Lastgruppenname | | | | | |
| Lf | Lastfallname | | | | | |
| | Ew | Gk | Gk | Gk | Gk | Ö← |
| | Lg | . | . | . | . | . |
| | Lf | LF-1 | #1 LF-1 | #2 LF-1 | #3 LF-1 | LF-2 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Ö← | Ö← | Ö← | Qk.N_B1 | Qk.N_B1 |
| | Lg | . | . | . | . | . |
| | Lf | #1 LF-2 | #2 LF-2 | #3 LF-2 | LF-13 | LF-14 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 |
| | Lg | . | . | . | . | . |
| | Lf | #1 LF-3 | #1 LF-4 | #1 LF-5 | #1 LF-6 | #1 LF-7 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_C1 | Qk.N_C1 |
| | Lg | . | . | . | . | . |
| | Lf | #1 LF-8 | #1 LF-9 | #1 LF-10 | LF-6 | LF-7 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_C1 | Qk.N_C1 | Qk.N_C1 | Qk.N_C1 | Qk.N_C1 |
| | Lg | . | . | . | . | . |
| | Lf | LF-8 | LF-9 | LF-10 | LF-11 | LF-12 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_C1 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 |
| | Lg | . | . | . | . | . |
| | Lf | #1 LF-22 | LF-15 | LF-16 | LF-17 | LF-18 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

| | | | | | | |
|------|----|---------------|----------|----------|----------|---------|
| | Ew | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 |
| | Lg | . | . | . | . | . |
| | Lf | LF-19 #1 | LF-15 #1 | LF-16 #1 | LF-17 #1 | LF-18 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_C5 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| | Lg | . | . | . | . | . |
| | Lf | #1 LF-19 | LF-3 | LF-4 | LF-5 | LF-23 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| | Lg | . | . | . | . | . |
| | Lf | #1 LF-11 #1 | LF-12 #1 | LF-13 #1 | LF-14 #2 | LF-17 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| | Lg | . | . | . | . | . |
| | Lf | #2 LF-18 #2 | LF-19 #2 | LF-20 #2 | LF-21 #2 | LF-22 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | #2 LF-23 #3 | LF-8 #2 | LF-3 #2 | LF-4 #2 | LF-5 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | #2 LF-6 #2 | LF-7 #2 | LF-8 #2 | LF-9 #2 | LF-10 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | #2 LF-11 #2 | LF-12 #2 | LF-13 #2 | LF-14 #2 | LF-15 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | #2 LF-16 #3 | LF-3 #3 | LF-4 #3 | LF-5 #3 | LF-6 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_T2 | Qk.N_T2 | Qk.N_T2 | Qk.N_T2 |
| | Lg | . | . | . | . | . |
| | Lf | #3 LF-7 | LF-20 | LF-21 | LF-22 #1 | LF-20 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_T2 | | | | |
| | Lg | . | | | | |
| | Lf | #1 LF-21 | | | | |
| LK-1 | | 1.00 | | | | |

Lastplan

Lasten des FE-Modells

Bauteil lasten

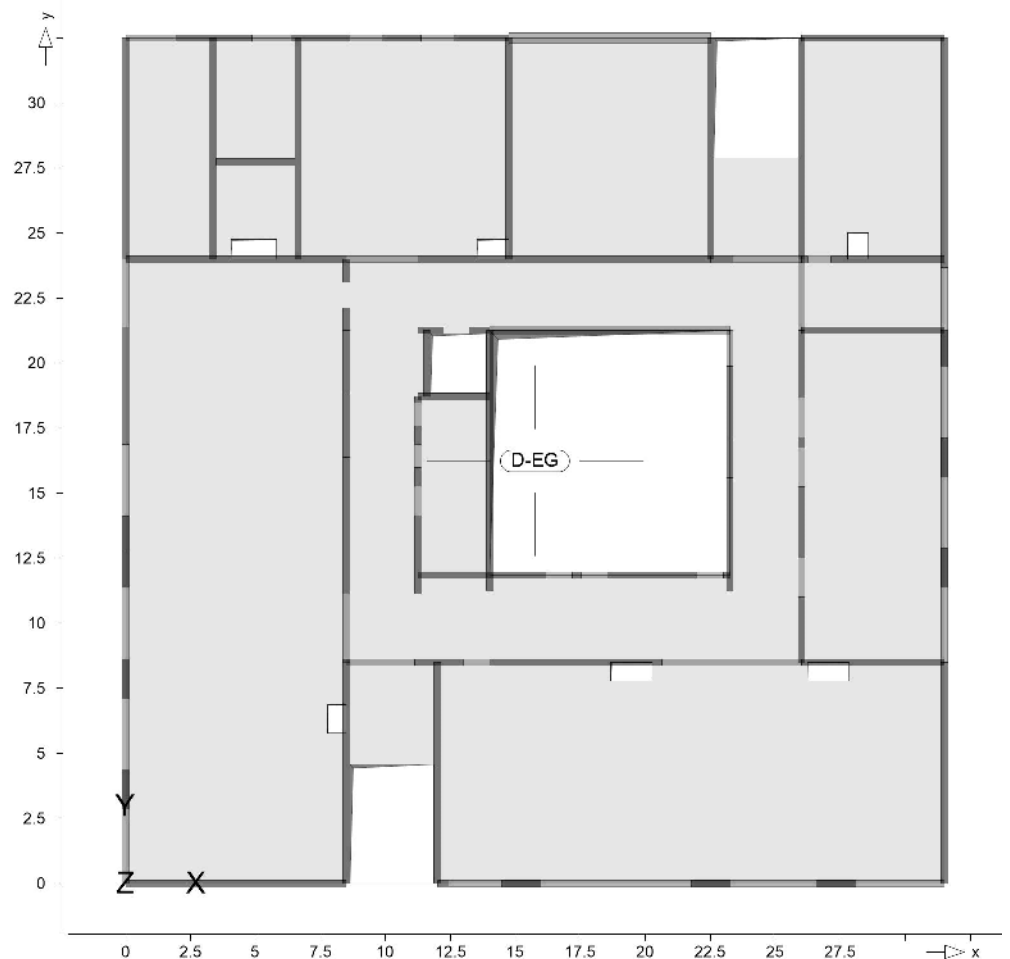
: ` } W\Ybdcg] h] cbYb

Posi ti onsgrafi k

Bauteilbezogene Lasten

Ô→† ' âæ^â=ã↑↔&æÃÑá | \æ↔→Ë\$~b↔\↔~^æ^

©âæãb↔' â\ÃäæãÃâ→† ' âæ^â=ã↑↔&æ^ÃÑá | \æ↔→Ë\$~b↔\↔~^æ^



Ei gengewi cht

| Position | EW | Lastfall | Art | g [kN/m²] |
|----------|----|----------|-----|--------------|
| D-EG | Gk | LF-1 | PGr | 7.00 |

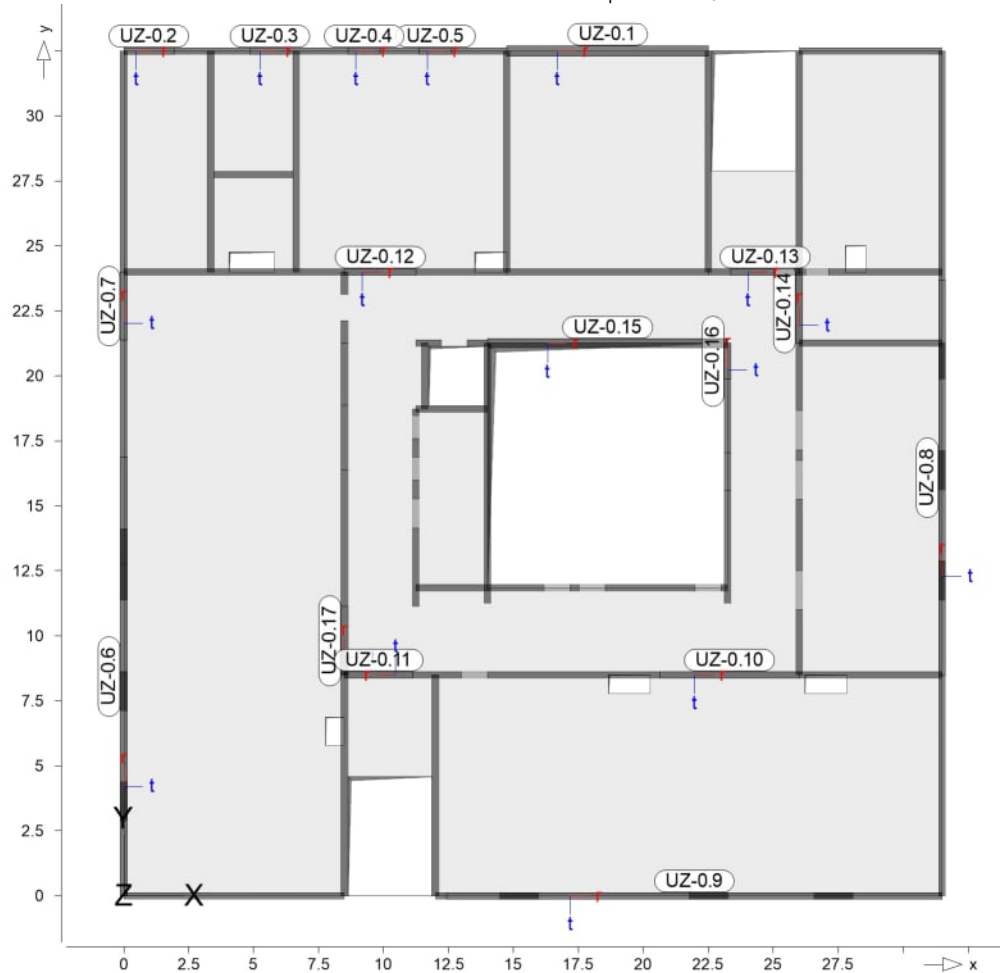
PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Streckenpositionen

Q⁺æ⁺â=ã↑↔&æÃÑá | \æ↔→Ë§~b↔\↔~^æ^

Positionsgrafik

©âæãb↔' â\ÃäæãÃ→↔^↔æ^â=ã↑↔&æ^ÃÑá | \æ↔→Ë§~b↔\↔~^æ^



Eigengewicht

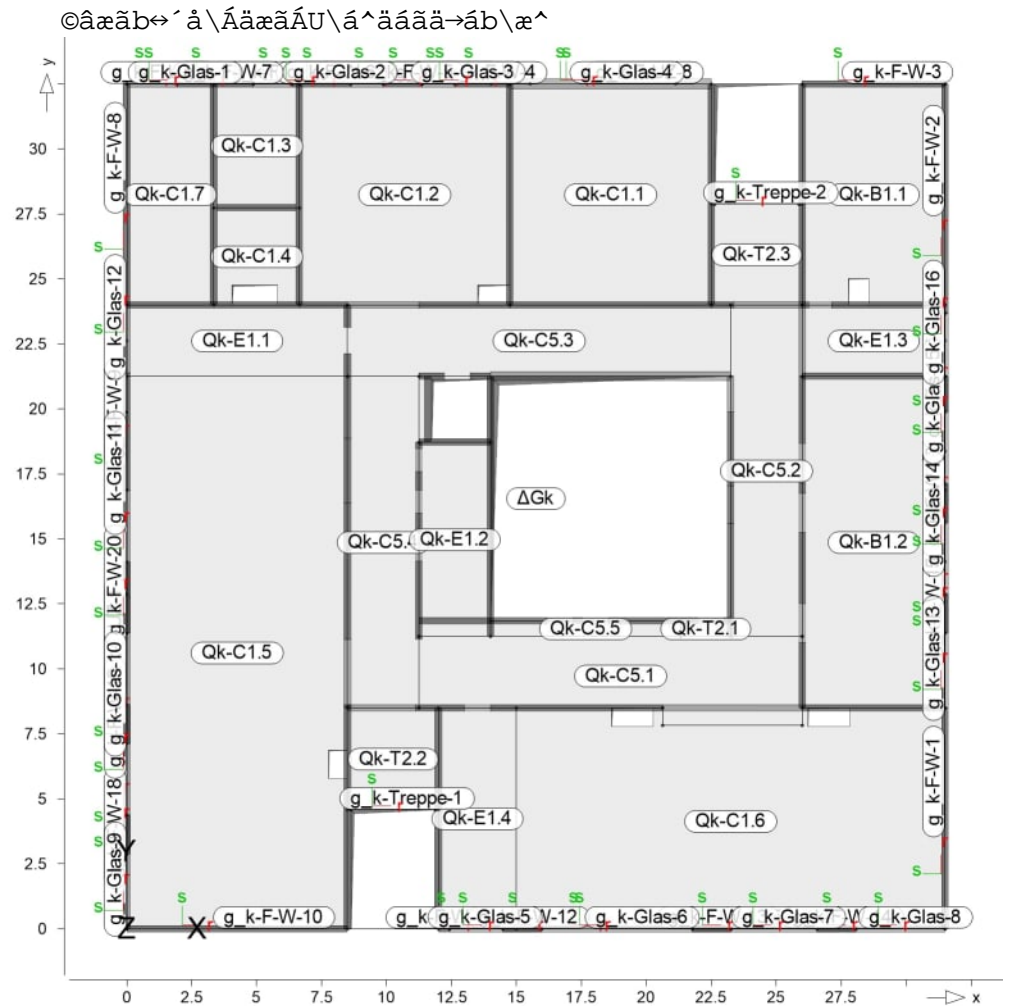
| Position | EW | Lastfall | Art | g [kN/m] |
|------------------|----|----------|-----|-------------|
| UZ-0.1 | Gk | LF-1 | PGr | 5.00 |
| UZ-0.2..UZ-0.9 | Gk | LF-1 | PGr | 3.44 |
| UZ-0.10..UZ-0.14 | Gk | LF-1 | PGr | 3.13 |
| UZ-0.15 | Gk | LF-1 | PGr | 4.38 |
| UZ-0.16, UZ-0.17 | Gk | LF-1 | PGr | 3.13 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Standardlasten

Standardlasten im FE-Modell

Positionsgrafik



Linienlasten

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|------------|-----------------------|----------|-----|-------------------------------|-------------------------------|
| g_k-F-UZ-1 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-2 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-3 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-4 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-5 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-6 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-7 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-UZ-8 | Fassadenlast Unterzug | Ö← LF-2 | pGr | 2.08 | 2.08 |
| g_k-F-W-1 | Fassadenlast Wand | Ö← LF-2 | pGr | 1.95 | 1.95 |
| g_k-F-W-2 | Fassadenlast Wand | Ö← LF-2 | pGr | 9.25 | 9.25 |

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E |
|------------|--------------|----------|-----|-------------------------------|------------|
| g_k-F-W-3 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-4 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-5 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-6 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-7 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-8 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-9 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-10 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-11 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 9.25 | 9.25 |
| g_k-F-W-12 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-13 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-14 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-15 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-16 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-17 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-18 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-19 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-F-W-20 | Fassadenlast | Wand | | | |
| | Ö← | LF-2 | pGr | 7.75 | 7.75 |
| g_k-Glas-1 | Glaslast | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-2 | Glaslast | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-3 | Glaslast | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-4 | Glaslast | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-5 | Glaslast | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-6 | Glaslast | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-7 | Glaslast | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-8 | Glaslast | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-9 | Glaslast | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E |
|--------------|--------------------|----------|-----|-------------------------------|------------|
| g_k-Glas-10 | <i>Glaslast</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-11 | <i>Glaslast</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-12 | <i>Glaslast</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-13 | <i>Glaslast</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-14 | <i>Glaslast</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-15 | <i>Glaslast</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Glas-16 | <i>Glaslast</i> | | | | |
| | Ö← | LF-2 | pGr | 2.33 | 2.33 |
| g_k-Treppe-1 | <i>Treppenlast</i> | | | | |
| | Gk | LF-1 | pGr | 13.04 | 13.04 |
| | Qk.N_T | LF-20 | pGr | 8.50 | 8.50 |
| | 2 | | | | |
| | Ö← | LF-2 | pGr | 4.25 | 4.25 |
| g_k-Treppe-2 | <i>Treppenlast</i> | | | | |
| | Gk | LF-1 | pGr | 13.04 | 13.04 |
| | Qk.N_T | LF-21 | pGr | 8.50 | 8.50 |
| | 2 | | | | |
| | Ö← | LF-2 | pGr | 4.25 | 4.25 |

pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

;\`Y] W\Z` } W\Yb` UghYb

| Position | EW | Lastfall | Art | p [kN/m²] |
|----------|--------|----------|-----|--------------|
| Qk-B1.1 | Qk.N_B | LF-13 | PGr | 5.00 |
| | 1 | | | |
| Qk-B1.2 | Qk.N_B | LF-14 | PGr | 5.00 |
| | 1 | | | |
| Qk-C1.1 | Qk.N_C | LF-6 | PGr | 5.00 |
| | 1 | | | |
| Qk-C1.2 | Qk.N_C | LF-7 | PGr | 5.00 |
| | 1 | | | |
| Qk-C1.3 | Qk.N_C | LF-8 | PGr | 5.00 |
| | 1 | | | |
| Qk-C1.4 | Qk.N_C | LF-9 | PGr | 5.00 |
| | 1 | | | |
| Qk-C1.5 | Qk.N_C | LF-10 | PGr | 5.00 |
| | 1 | | | |
| Qk-C1.6 | Qk.N_C | LF-11 | PGr | 5.00 |
| | 1 | | | |
| Qk-C1.7 | Qk.N_C | LF-12 | PGr | 5.00 |
| | 1 | | | |
| Qk-C5.1 | Qk.N_C | LF-15 | PGr | 5.00 |
| | 5 | | | |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-C5.2 | Qk.N_C | LF-16 | PGr | 5.00 |
| | 5 | | | |
| | Ö← | LF-2 | PGr | 0.50 |

| Position | EW | Lastfall | Art | p [kN/m ²] |
|----------|-------------------|----------|-----|----------------------------|
| Qk-C5.3 | Qk.N_C LF-17 5 | | PGr | 5.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-C5.4 | Qk.N_C LF-18 5 | | PGr | 5.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-C5.5 | Qk.N_C LF-19 5 | | PGr | 5.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-E1.1 | Qk.N_E LF-3 1 | | PGr | 6.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-E1.2 | Qk.N_E LF-4 1 | | PGr | 6.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-E1.3 | Qk.N_E LF-5 1 | | PGr | 6.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-E1.4 | Qk.N_E LF-23 1 | | PGr | 6.00 |
| Qk-T2.1 | Qk.N_T LF-22 2 | | PGr | 5.00 |
| Qk-T2.2 | Qk.N_T LF-20 2 | | PGr | 5.00 |
| Qk-T2.3 | Qk.N_T LF-21 2 | | PGr | 5.00 |
| Ö← | Ö← | LF-2 | PGr | 2.50 |

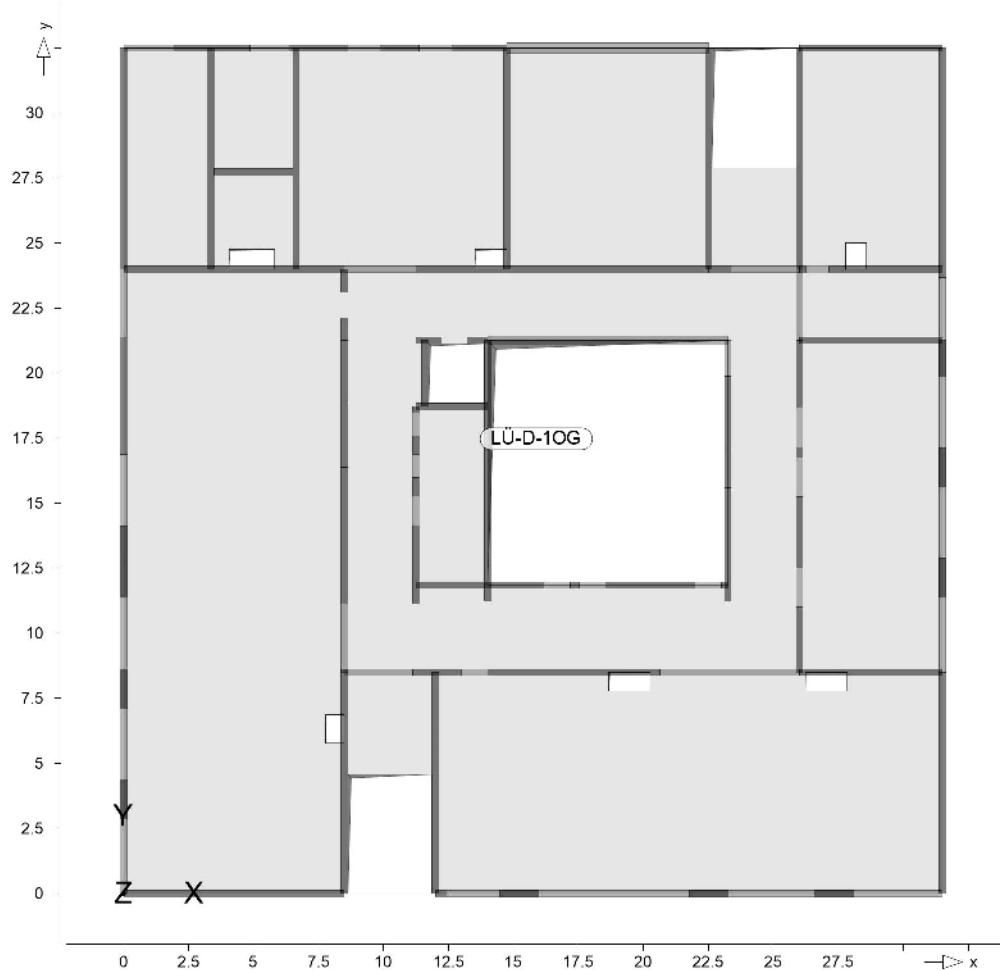
PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

@Ugh~ VYf bU\ aYb

Posi ti onsgrafi k

Qáb\fiâæã^áâ↑æÁá | bÁR↔'ã~ÔæËR~äæ→→æ^

©âæãb↔'â\ÁäæãÁQáb\fiâæã^áâ↑æ^

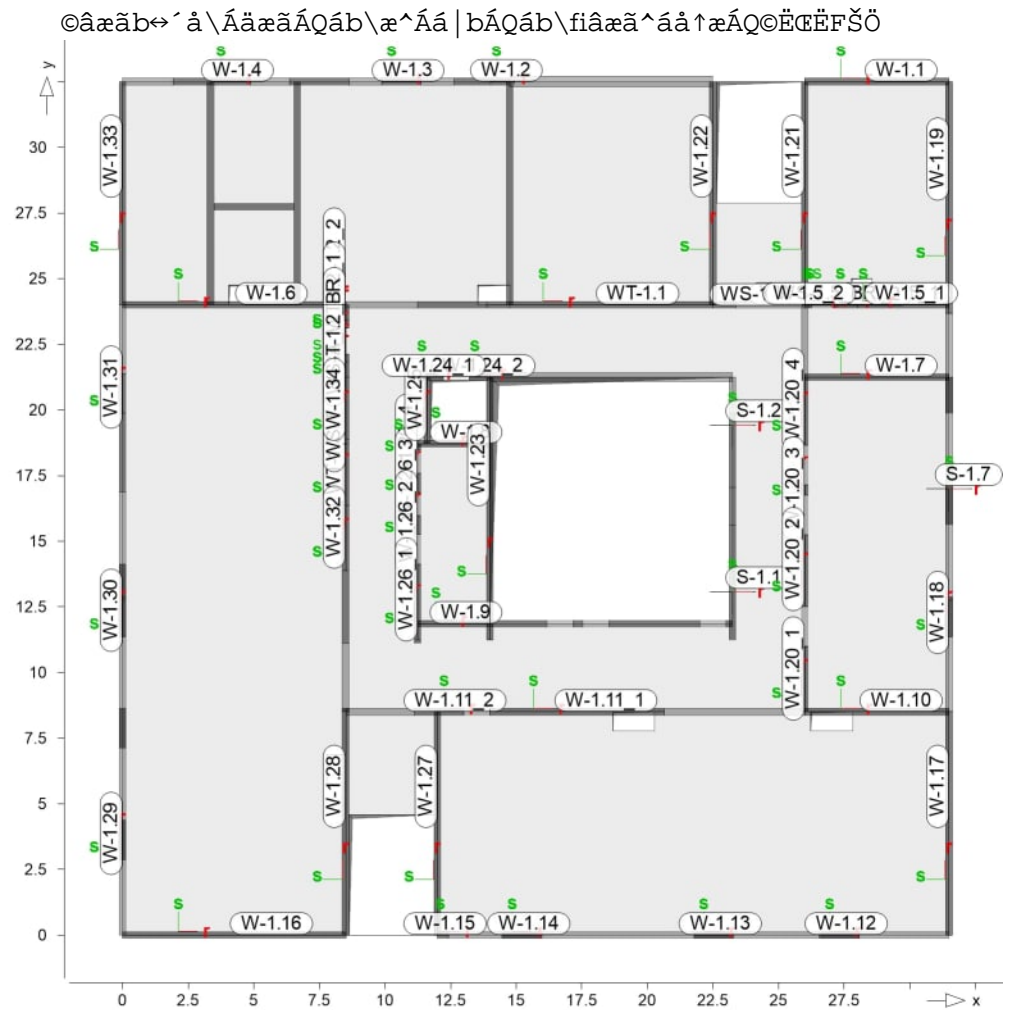


@y! 8! %C;

Qáb\fiâæã^áâ↑æÁCU'â | →'á↑* | bîQáb\fiâæã&áâæCÁá | bÁR~äæ→→Á
'10G-LP4'

↔æÁQáb\fiâæã^áâ↑æÁæãà~&\Á→áb\ää→→\ãæ | È
↔æÁQáb\á^æ↔→æÁá | bÁb\†^ä↔&æ^ÁQáb\æ^ÁäæãÁU\fi\~æ^ËÁund
Ûá^ä→á&æãÁ}æãäæ^Áäæãfi'←b↔'â\↔&\È

Positionsgrafik



Punktlasten

| Position | EW | Lastfall | Art | P [kN] |
|------------|--------|------------|-----|-----------|
| (g1) S-1.1 | Gk | #1 LF-1 | PGr | 20.36 |
| | Gk | #1 LF-1 | PGr | 116.65 |
| | Gk | #2 LF-1 | PGr | 186.74 |
| | Gk | #3 LF-1 | PGr | -0.01 |
| | Qk.N_B | #1 LF-3 | PGr | -30.66 |
| | | 1 | | |
| | Qk.N_B | #1 LF-4 | PGr | -0.14 |
| | | 1 | | |
| | Qk.N_B | #1 LF-5 | PGr | -0.04 |
| | | 1 | | |
| | Qk.N_B | #1 LF-7 | PGr | 3.24 |
| | | 1 | | |
| | Qk.N_B | #1 LF-9 | PGr | 0.06 |
| | | 1 | | |
| | Qk.N_B | #1 LF-10 | PGr | -26.49 |
| | | 1 | | |
| | Qk.N_C | #1 LF-22 | PGr | 0.03 |
| | | 1 | | |
| | Qk.N_C | #1 LF-15 | PGr | -8.41 |
| | | 5 | | |
| | Qk.N_C | #1 LF-16 | PGr | 31.98 |
| | | 5 | | |

| Position | EW | Lastfall | Art | P [kN] |
|------------|---------------|----------|-----|-----------|
| | Qk.N_C #1 5 | LF-17 | PGr | -6.22 |
| | Qk.N_C #1 5 | LF-18 | PGr | 41.17 |
| | Qk.N_C #1 5 | LF-19 | PGr | -0.01 |
| | Qk.N_D #2 A | LF-3 | PGr | -40.28 |
| | Qk.N_D #2 A | LF-4 | PGr | 0.20 |
| | Qk.N_D #2 A | LF-5 | PGr | -0.30 |
| | Qk.N_D #2 A | LF-6 | PGr | 2.71 |
| | Qk.N_D #2 A | LF-7 | PGr | -0.04 |
| | Qk.N_D #2 A | LF-8 | PGr | -0.04 |
| | Qk.N_D #2 A | LF-9 | PGr | 0.06 |
| | Qk.N_D #2 A | LF-10 | PGr | 36.41 |
| | Qk.N_D #2 A | LF-11 | PGr | -5.86 |
| | Qk.N_D #2 A | LF-12 | PGr | 23.44 |
| | Qk.N_D #2 A | LF-13 | PGr | 26.60 |
| | Qk.N_E #1 1 | LF-11 | PGr | 0.12 |
| | Qk.N_E #2 1 | LF-17 | PGr | -19.52 |
| | Qk.N_T #1 2 | LF-20 | PGr | 0.18 |
| | Qk.N_T #1 2 | LF-21 | PGr | -0.13 |
| | Ö← #1 | LF-2 | PGr | 7.87 |
| | Ö← #2 | LF-2 | PGr | 14.78 |
| (g1) S-1.2 | Gk #1 | LF-1 | PGr | 20.36 |
| | Gk #1 | LF-1 | PGr | 159.65 |
| | Gk #2 | LF-1 | PGr | 235.49 |
| | Qk.N_B #1 1 | LF-3 | PGr | 7.06 |
| | Qk.N_B #1 1 | LF-4 | PGr | 0.03 |
| | Qk.N_B #1 1 | LF-5 | PGr | 0.01 |
| | Qk.N_B #1 1 | LF-7 | PGr | -14.54 |
| | Qk.N_B #1 1 | LF-8 | PGr | -0.44 |
| | Qk.N_B #1 1 | LF-9 | PGr | 0.21 |
| | Qk.N_B #1 | LF-10 | PGr | -12.40 |

D-532

| Position | EW | Lastfall | Art | P [kN] |
|------------|-----------|----------|-----|-----------|
| | 1 | | | |
| | Qk.N_C #1 | LF-22 | PGr | -0.15 |
| | 1 | | | |
| | Qk.N_C #1 | LF-15 | PGr | 36.10 |
| | 5 | | | |
| | Qk.N_C #1 | LF-16 | PGr | 31.17 |
| | 5 | | | |
| | Qk.N_C #1 | LF-17 | PGr | 1.16 |
| | 5 | | | |
| | Qk.N_C #1 | LF-18 | PGr | -9.73 |
| | 5 | | | |
| | Qk.N_D #2 | LF-3 | PGr | 8.48 |
| | A | | | |
| | Qk.N_D #2 | LF-4 | PGr | -0.04 |
| | A | | | |
| | Qk.N_D #2 | LF-5 | PGr | 0.08 |
| | A | | | |
| | Qk.N_D #2 | LF-6 | PGr | -12.90 |
| | A | | | |
| | Qk.N_D #2 | LF-7 | PGr | 0.15 |
| | A | | | |
| | Qk.N_D #2 | LF-8 | PGr | -0.08 |
| | A | | | |
| | Qk.N_D #2 | LF-9 | PGr | 0.13 |
| | A | | | |
| | Qk.N_D #2 | LF-10 | PGr | 33.79 |
| | A | | | |
| | Qk.N_D #2 | LF-11 | PGr | 28.94 |
| | A | | | |
| | Qk.N_D #2 | LF-12 | PGr | -4.59 |
| | A | | | |
| | Qk.N_D #2 | LF-13 | PGr | 17.45 |
| | A | | | |
| | Qk.N_E #1 | LF-11 | PGr | -0.54 |
| | 1 | | | |
| | Qk.N_E #2 | LF-17 | PGr | -8.50 |
| | 1 | | | |
| | Qk.N_T #1 | LF-20 | PGr | -0.04 |
| | 2 | | | |
| | Qk.N_T #1 | LF-21 | PGr | 0.50 |
| | 2 | | | |
| | Ö← | #1 LF-2 | PGr | 25.07 |
| | Ö← | #2 LF-2 | PGr | 32.89 |
| (g1) S-1.7 | Gk | #1 LF-1 | PGr | 5.66 |
| | Gk | #1 LF-1 | PGr | 103.26 |
| | Gk | #2 LF-1 | PGr | 95.99 |
| | Qk.N_B #1 | LF-3 | PGr | 0.66 |
| | 1 | | | |
| | Qk.N_B #1 | LF-7 | PGr | 0.04 |
| | 1 | | | |
| | Qk.N_B #1 | LF-8 | PGr | 0.72 |
| | 1 | | | |
| | Qk.N_B #1 | LF-9 | PGr | -0.60 |
| | 1 | | | |

| Position | EW | Lastfall | Art | P [kN] |
|----------|-----------|----------|-----|-----------|
| | Qk.N_B #1 | LF-10 | PGr | 43.22 |
| | 1 | | | |
| | Qk.N_C #1 | LF-15 | PGr | -0.03 |
| | 5 | | | |
| | Qk.N_C #1 | LF-16 | PGr | -1.03 |
| | 5 | | | |
| | Qk.N_C #1 | LF-17 | PGr | 0.31 |
| | 5 | | | |
| | Qk.N_D #2 | LF-3 | PGr | 0.54 |
| | A | | | |
| | Qk.N_D #2 | LF-6 | PGr | 0.02 |
| | A | | | |
| | Qk.N_D #2 | LF-7 | PGr | -0.02 |
| | A | | | |
| | Qk.N_D #2 | LF-8 | PGr | 0.25 |
| | A | | | |
| | Qk.N_D #2 | LF-9 | PGr | 0.04 |
| | A | | | |
| | Qk.N_D #2 | LF-10 | PGr | 0.02 |
| | A | | | |
| | Qk.N_D #2 | LF-13 | PGr | 17.29 |
| | A | | | |
| | Qk.N_E #2 | LF-17 | PGr | 9.33 |
| | 1 | | | |
| | Qk.N_T #1 | LF-21 | PGr | -0.06 |
| | 2 | | | |
| | Ö← #1 | LF-2 | PGr | 47.92 |
| | Ö← #2 | LF-2 | PGr | 33.66 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

(g1)

á|bÁÓ↔&æ^&æ}↔´å\ÄäæãÁU\fi\`æ

Li ni enl asten

Blocklasten der einzelnen Abschnitte in
Gravitationsrichtung

W-1.1

| | Lastfall | Lasten (6 Abschnitte je 0.92m) | [kN/m] |
|---------|-------------|-------------------------------------|--------|
| Gk | #1 LF-1 (g) | 20.80 38.44 40.52 40.68 38.30 18.85 | |
| | #2 LF-1 | 27.82 36.97 41.89 43.18 40.07 27.30 | |
| Ö← | #1 LF-2 (g) | 7.04 14.99 15.69 15.71 14.86 7.91 | |
| | #2 LF-2 | 9.42 14.66 16.45 16.80 15.79 11.72 | |
| Qk.N_E1 | #1 LF-7 | -0.12 0.20 0.20 0.17 0.12 -0.15 | |
| | #1 LF-8 | -1.46 11.45 12.91 13.00 11.27 -2.79 | |
| | #1 LF-9 | 0.02 -0.02 -0.02 -0.02 -0.02 0.02 | |
| | #1 LF-10 | -0.02 0.02 0.02 0.02 0.02 -0.03 | |
| | #1 LF-11 | 0.00 0.01 0.01 0.00 0.00 0.00 | |
| | #1 LF-15 | 0.01 -0.01 -0.01 -0.01 -0.01 0.01 | |
| | #1 LF-22 | 0.00 0.00 0.00 0.00 0.00 0.00 | |
| | #2 LF-17 | -0.01 0.00 0.00 0.01 0.00 -0.01 | |
| Qk.N_DA | #2 LF-6 | 0.56 2.11 1.07 0.52 0.22 -0.32 | |
| | #2 LF-7 | 0.77 -2.30 -1.09 -0.46 -0.19 0.27 | |
| | #2 LF-8 | -0.88 5.81 8.74 9.50 7.55 -0.59 | |
| | #2 LF-9 | 0.01 0.00 -0.01 -0.01 -0.01 0.01 | |
| | #2 LF-10 | -0.01 -0.02 -0.02 -0.01 0.00 0.01 | |
| | #2 LF-11 | -0.01 -0.04 -0.02 -0.01 -0.01 0.01 | |

| | | | | | | | | |
|---------|----|---|-------|-------|-------|-------|-------|--------|
| | | Lastfall Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
| Qk.N_T2 | #1 | LF-21 | 0.25 | -0.32 | -0.29 | -0.24 | -0.16 | 0.22 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.30m) | | | | | | [kN/m] |
| W-1.2 | #1 | LF-1 (g) | 199.3 | 269.6 | 332.3 | | | |
| Gk | #2 | LF-1 | 255.7 | 263.5 | 269.1 | | | |
| | #3 | LF-1 | 0.01 | 0.01 | 0.02 | | | |
| Ö← | #1 | LF-2 (g) | 86.66 | 119.2 | 148.3 | | | |
| | #2 | LF-2 | 89.79 | 92.57 | 94.56 | | | |
| | #3 | LF-2 | 0.01 | 0.01 | 0.01 | | | |
| Qk.N_E1 | #1 | LF-5 | 0.18 | 0.17 | 0.16 | | | |
| | #1 | LF-7 | 108.6 | 147.7 | 182.9 | | | |
| | #1 | LF-8 | 0.16 | 0.30 | 0.43 | | | |
| | #1 | LF-9 | 0.00 | -0.01 | -0.01 | | | |
| | #1 | LF-10 | 0.00 | 0.01 | 0.01 | | | |
| | #1 | LF-11 | 3.56 | 2.49 | 1.68 | | | |
| | #1 | LF-12 | 0.11 | 0.10 | 0.10 | | | |
| | #1 | LF-13 | 0.00 | 0.00 | 0.00 | | | |
| | #1 | LF-15 | -0.66 | -1.00 | -1.31 | | | |
| | #1 | LF-16 | 0.00 | -0.01 | -0.01 | | | |
| | #1 | LF-18 | 0.00 | 0.00 | -0.01 | | | |
| | #1 | LF-19 | 0.07 | 0.07 | 0.07 | | | |
| | #1 | LF-22 | -8.61 | -6.76 | -5.49 | | | |
| | #2 | LF-17 | 0.01 | 0.01 | 0.02 | | | |
| Qk.N_DA | #2 | LF-3 | -0.01 | -0.01 | -0.01 | | | |
| | #2 | LF-5 | 0.34 | 0.37 | 0.40 | | | |
| | #2 | LF-6 | 91.84 | 94.51 | 96.37 | | | |
| | #2 | LF-7 | -2.07 | -2.16 | -2.22 | | | |
| | #2 | LF-8 | 1.02 | 1.09 | 1.13 | | | |
| | #2 | LF-9 | -0.01 | -0.01 | -0.01 | | | |
| | #2 | LF-10 | -0.30 | -0.36 | -0.41 | | | |
| | #2 | LF-11 | -0.63 | -0.69 | -0.74 | | | |
| | #2 | LF-13 | -0.01 | -0.02 | -0.03 | | | |
| | #3 | LF-4 | 0.02 | 0.02 | 0.02 | | | |
| Qk.N_T2 | #1 | LF-21 | -0.47 | -0.92 | -1.31 | | | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | | | | [kN/m] |
| W-1.3 | #1 | LF-1 (g) | 163.1 | 100.2 | 52.80 | | | |
| Gk | #2 | LF-1 | 151.5 | 150.7 | 152.9 | | | |
| | #3 | LF-1 | 0.01 | 0.00 | 0.00 | | | |
| Ö← | #1 | LF-2 (g) | 74.39 | 44.07 | 21.22 | | | |
| | #2 | LF-2 | 52.55 | 52.30 | 53.12 | | | |
| | #3 | LF-2 | 0.00 | 0.00 | 0.00 | | | |
| Qk.N_E1 | #1 | LF-4 | 0.00 | 0.00 | 0.00 | | | |
| | #1 | LF-5 | -0.67 | -0.29 | 0.00 | | | |
| | #1 | LF-7 | 7.11 | 4.99 | 2.87 | | | |
| | #1 | LF-8 | -0.02 | -0.06 | -0.11 | | | |
| | #1 | LF-10 | 0.00 | 0.00 | 0.00 | | | |
| | #1 | LF-11 | 44.47 | 31.24 | 21.84 | | | |
| | #1 | LF-12 | -0.41 | -0.17 | 0.00 | | | |
| | #1 | LF-13 | 0.01 | 0.00 | 0.00 | | | |
| | #1 | LF-14 | 0.00 | 0.00 | 0.00 | | | |
| | #1 | LF-15 | 0.09 | 0.13 | 0.19 | | | |
| | #1 | LF-16 | 0.00 | 0.00 | 0.00 | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| Qk.N_DA | #1 | LF-19 | -0.38 | -0.18 | -0.04 |
| | #1 | LF-22 | 45.93 | 19.65 | 0.38 |
| | #2 | LF-17 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-5 | -1.07 | -0.83 | -0.60 |
| | #2 | LF-6 | 53.28 | 52.97 | 53.87 |
| | #2 | LF-7 | 0.45 | 0.31 | 0.12 |
| | #2 | LF-8 | -0.24 | -0.18 | -0.09 |
| | #2 | LF-9 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-10 | 0.05 | 0.04 | 0.03 |
| | #2 | LF-11 | 0.19 | 0.14 | 0.09 |
| | #2 | LF-13 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-14 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-4 | 0.00 | 0.01 | 0.01 |
| Qk.N_T2 | #1 | LF-21 | 0.05 | 0.17 | 0.33 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-1.4 | | | | | |
| Gk | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
| | #1 | LF-1 (g) | 91.91 | 121.3 | 172.8 |
| | #2 | LF-1 | 140.6 | 151.9 | 162.8 |
| | #3 | LF-1 | 0.02 | 0.02 | 0.02 |
| Ö← | #1 | LF-2 (g) | 40.85 | 53.18 | 76.50 |
| | #2 | LF-2 | 49.67 | 53.39 | 56.96 |
| Qk.N_E1 | #1 | LF-4 | 0.00 | 0.00 | -0.01 |
| | #1 | LF-5 | -0.72 | -0.98 | -1.38 |
| | #1 | LF-7 | -1.20 | -0.27 | 0.91 |
| | #1 | LF-8 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-11 | -2.41 | 5.77 | 17.47 |
| | #1 | LF-12 | -0.47 | -0.63 | -0.86 |
| | #1 | LF-13 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-14 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-15 | 0.00 | 0.01 | 0.02 |
| | #1 | LF-19 | -0.20 | -0.35 | -0.57 |
| | #1 | LF-22 | 45.76 | 58.30 | 81.58 |
| | #2 | LF-18 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | #2 | LF-5 | -1.39 | -1.69 | -1.99 |
| | #2 | LF-6 | 44.67 | 50.47 | 56.03 |
| | #2 | LF-7 | -0.01 | 0.03 | 0.08 |
| | #2 | LF-8 | 0.00 | -0.01 | -0.04 |
| | #2 | LF-10 | 0.01 | 0.01 | 0.02 |
| | #2 | LF-11 | 0.02 | 0.05 | 0.08 |
| | #2 | LF-14 | 0.00 | 0.00 | 0.00 |
| Qk.N_T2 | #1 | LF-21 | 0.01 | 0.00 | -0.02 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-1.5_1 | | | | | |
| Gk | Lastfall | Lasten (5 Abschnitte je 0.87m) | [kN/m] | | |
| | #1 | LF-1 (g) | 46.25 | 52.31 | 53.78 |
| | #2 | LF-1 | 38.76 | 45.48 | 47.09 |
| Ö← | #1 | LF-2 (g) | 8.66 | 10.53 | 10.71 |
| | #2 | LF-2 | 6.49 | 7.20 | 7.44 |
| Qk.N_E1 | #1 | LF-3 | 0.02 | 0.02 | 0.01 |
| | #1 | LF-7 | 2.59 | 1.49 | 0.74 |
| | #1 | LF-8 | 13.81 | 18.62 | 19.40 |
| | #1 | LF-9 | 1.60 | 4.68 | 6.99 |
| | #1 | LF-10 | -2.64 | -3.25 | -3.37 |
| | #1 | LF-11 | 0.07 | 0.04 | 0.02 |

| | | Lastfall Lasten (5 Abschnitte je 0.87m) | | | | | | [kN/m] |
|---|---|---|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | #1 | LF-15 | -0.89 | -0.76 | -0.24 | -0.04 | 0.04 | |
| | #1 | LF-16 | 0.14 | 0.20 | 0.21 | 0.15 | 0.15 | |
| | #1 | LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 | LF-18 | -0.03 | -0.02 | -0.01 | 0.00 | 0.00 | |
| | #1 | LF-22 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #2 | LF-17 | -0.98 | -1.42 | -1.72 | -1.78 | -2.25 | |
| | #2 | LF-3 | 0.00 | 0.01 | 0.01 | 0.00 | -0.04 | |
| | #2 | LF-6 | 1.66 | 1.40 | 0.88 | 0.46 | -0.04 | |
| | #2 | LF-7 | -1.17 | -1.22 | -0.78 | -0.39 | 0.04 | |
| | #2 | LF-8 | 9.55 | 12.18 | 13.48 | 11.02 | 2.81 | |
| | #2 | LF-9 | 5.14 | 5.69 | 5.74 | 5.37 | 4.16 | |
| | #2 | LF-10 | -0.30 | -0.12 | -0.03 | -0.01 | -0.01 | |
| | #2 | LF-11 | -0.24 | -0.48 | -0.19 | -0.02 | 0.02 | |
| Qk.N_T2 | #2 | LF-12 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | |
| | #2 | LF-13 | -0.65 | -0.85 | -1.03 | -1.08 | -1.51 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.08m) | | | | | | [kN/m] |
| W-1.5_2 Gk | #1 | LF-1 (g) | 61.35 | 59.56 | 57.77 | | | |
| | #2 | LF-1 | 56.06 | 54.41 | 52.75 | | | |
| Ö← | #1 | LF-2 (g) | 12.40 | 11.89 | 11.38 | | | |
| | #2 | LF-2 | 7.42 | 7.23 | 7.05 | | | |
| Qk.N_E1 | #1 | LF-3 | -0.17 | -0.15 | -0.14 | | | |
| | #1 | LF-7 | -5.60 | -4.91 | -4.21 | | | |
| | #1 | LF-8 | -9.01 | -8.37 | -7.73 | | | |
| | #1 | LF-9 | 0.51 | 0.49 | 0.48 | | | |
| | #1 | LF-10 | -2.91 | -2.87 | -2.83 | | | |
| | #1 | LF-11 | -0.13 | -0.11 | -0.10 | | | |
| | #1 | LF-15 | 20.26 | 19.03 | 17.79 | | | |
| | #1 | LF-16 | 0.99 | 0.94 | 0.89 | | | |
| | #1 | LF-17 | -0.02 | -0.02 | -0.02 | | | |
| | #1 | LF-18 | 0.24 | 0.22 | 0.20 | | | |
| | #1 | LF-22 | -0.04 | -0.03 | -0.03 | | | |
| | #2 | LF-17 | -0.98 | -0.94 | -0.89 | | | |
| Qk.N_DA | #2 | LF-3 | 0.11 | 0.10 | 0.09 | | | |
| | #2 | LF-6 | -2.57 | -2.42 | -2.28 | | | |
| | #2 | LF-7 | 4.77 | 4.63 | 4.49 | | | |
| | #2 | LF-8 | -1.45 | -1.33 | -1.22 | | | |
| | #2 | LF-9 | 3.57 | 3.57 | 3.57 | | | |
| | #2 | LF-10 | 1.45 | 1.30 | 1.15 | | | |
| | #2 | LF-11 | 8.86 | 8.59 | 8.31 | | | |
| | #2 | LF-12 | -0.03 | -0.03 | -0.03 | | | |
| | #2 | LF-13 | 0.90 | 0.81 | 0.72 | | | |
| Qk.N_T2 | #1 | LF-21 | 9.13 | 8.26 | 7.40 | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
| W-1.6 Gk | #1 | LF-1 (g) | 22.55 | 75.96 | 111.8 | 111.7 | 33.89 | 37.43 |
| | | | 99.89 | 229.1 | | | | 104.3 |
| | #2 | LF-1 | 46.49 | 68.23 | 86.85 | 98.29 | 70.32 | 148.9 |
| | | | 15.19 | -1.50 | | | | 136.2 |
| | #3 | LF-1 | 0.05 | -0.05 | -0.13 | -0.14 | -0.06 | -0.30 |
| | | | -0.24 | 0.02 | | | | -0.43 |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---------|---------------|---|-------|-------|-------|-------|-------|-------|--------|
| Ö← | #1 LF-2 (g) | 3.72 | 20.32 | 33.43 | 33.33 | 4.80 | 6.03 | 30.86 | |
| | | 29.33 | 77.19 | | | | | | |
| | | 12.00 | 15.32 | 20.40 | 24.10 | 15.08 | 38.54 | 38.20 | |
| | | 4.43 | -0.30 | | | | | | |
| | #3 LF-2 | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 | -0.02 | -0.03 | |
| | | 0.00 | 0.00 | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Qk.N_E1 | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-4 | 0.78 | 0.07 | 0.00 | 0.00 | -0.02 | -0.02 | -0.02 | |
| | | -0.02 | -0.02 | | | | | | |
| | #1 LF-5 | -9.30 | 8.09 | 15.21 | 11.77 | 2.54 | 2.26 | 6.04 | |
| | | -0.21 | -10.0 | | | | | | |
| | #1 LF-6 | 0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.01 | | | | | | |
| | #1 LF-7 | -0.24 | -0.03 | 0.10 | -0.04 | -0.46 | -1.87 | -2.07 | |
| | | 1.10 | 36.82 | | | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.01 | | | | | | |
| | #1 LF-11 | -0.64 | 0.15 | 1.02 | 1.56 | -0.87 | -2.49 | 1.95 | |
| | | 10.69 | 60.57 | | | | | | |
| | #1 LF-12 | 8.62 | 13.41 | 17.24 | 15.11 | 9.56 | 8.13 | 6.86 | |
| | | 1.03 | -5.20 | | | | | | |
| | #1 LF-13 | 0.01 | -0.01 | -0.03 | -0.02 | -0.01 | -0.02 | -0.03 | |
| | | 0.08 | 0.01 | | | | | | |
| | #1 LF-14 | 0.01 | -0.01 | -0.03 | -0.03 | 0.00 | -0.01 | -0.03 | |
| | | -0.01 | 0.04 | | | | | | |
| | #1 LF-15 | 0.00 | -0.01 | -0.04 | -0.02 | 0.00 | -0.12 | -1.03 | |
| | | -2.40 | 4.59 | | | | | | |
| | #1 LF-19 | -0.92 | 0.92 | 2.36 | 1.96 | 0.80 | 2.83 | 9.05 | |
| | | 7.71 | -2.50 | | | | | | |
| | #1 LF-22 | -1.67 | 17.66 | 31.14 | 36.21 | -2.01 | 2.89 | 39.38 | |
| | | 39.58 | 69.63 | | | | | | |
| | #2 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.13 | -0.15 | |
| | | -0.04 | 0.00 | | | | | | |
| | #2 LF-21 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | 0.01 | |
| | | 0.00 | 0.01 | | | | | | |
| | #2 LF-22 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.02 | -0.01 | | | | | | |
| Qk.N_DA | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-5 | 6.42 | 15.60 | 21.63 | 23.33 | 15.46 | 14.36 | 10.18 | |
| | | 1.26 | -0.81 | | | | | | |
| | #2 LF-6 | -2.09 | 11.57 | 20.05 | 25.73 | 15.18 | 59.55 | 62.66 | |
| | | 7.39 | 0.12 | | | | | | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | |
| | | 0.02 | -0.04 | | | | | | |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #2 LF-11 | -0.03 | -0.07 | -0.12 | -0.16 | -0.18 | 3.68 | 3.99 |
| | | 0.26 | 0.03 | | | | | |
| | #2 LF-14 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.11 | -0.12 |
| | | -0.03 | -0.01 | | | | | |
| | #2 LF-15 | 0.00 | -0.01 | -0.02 | -0.02 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | -0.01 | | | | | |
| | #3 LF-4 | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.01 | | | | | |
| | #3 LF-5 | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 | -0.05 | -0.06 |
| | | -0.02 | 0.00 | | | | | |
| | #3 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-20 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.00 | -0.04 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | | Lastfall Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
|---------|----|---|-------|-------|-------|-------|-------|--------|
| W-1.7 | Gk | #1 LF-1 (g) | 42.69 | 37.70 | 47.36 | 50.00 | 52.73 | 101.9 |
| | | #2 LF-1 | 43.43 | 33.17 | 41.29 | 45.32 | 62.73 | 122.9 |
| Ö← | | #1 LF-2 (g) | 7.29 | 5.78 | 8.69 | 9.08 | 11.07 | 40.46 |
| | | #2 LF-2 | 5.11 | 4.43 | 6.30 | 7.07 | 13.90 | 37.91 |
| Qk.N_E1 | | #1 LF-3 | -0.09 | 0.00 | -0.03 | -0.03 | -0.02 | 0.02 |
| | | #1 LF-7 | -0.40 | 0.16 | -0.14 | -0.22 | -0.16 | -0.08 |
| | | #1 LF-8 | -2.34 | -2.57 | -3.21 | -3.27 | -2.54 | -2.09 |
| | | #1 LF-9 | 0.37 | 1.12 | 4.08 | 6.74 | 7.17 | 7.08 |
| | | #1 LF-10 | -0.35 | 11.49 | 17.25 | 18.45 | 16.40 | 16.88 |
| | | #1 LF-11 | -0.01 | 0.01 | 0.00 | -0.01 | 0.00 | 0.00 |
| | | #1 LF-15 | 7.33 | -1.56 | -1.10 | -0.30 | -0.04 | 0.03 |
| | | #1 LF-16 | 0.93 | -2.66 | -1.58 | -0.80 | -0.39 | 0.15 |
| | | #1 LF-17 | -0.01 | 0.00 | -0.01 | -0.01 | -0.01 | 0.01 |
| | | #1 LF-18 | 0.14 | -0.01 | 0.01 | 0.02 | 0.01 | 0.03 |
| | | #2 LF-17 | 7.45 | 16.10 | 18.78 | 14.60 | 8.22 | 5.40 |
| Qk.N_DA | | #2 LF-3 | -0.03 | -0.18 | -0.11 | -0.08 | 0.03 | 0.42 |
| | | #2 LF-6 | -0.05 | 0.05 | -0.19 | -0.21 | -0.16 | -0.15 |
| | | #2 LF-7 | 0.14 | 0.19 | 0.18 | 0.15 | 0.13 | 0.12 |
| | | #2 LF-8 | -1.15 | -1.51 | -1.87 | -1.97 | -1.82 | -2.07 |
| | | #2 LF-9 | 2.36 | 2.71 | 3.39 | 4.44 | 5.18 | 5.05 |
| | | #2 LF-10 | 0.22 | -0.81 | -0.15 | 0.02 | 0.03 | 0.05 |
| | | #2 LF-11 | 3.48 | -0.93 | -0.88 | -0.24 | 0.00 | 0.05 |
| | | #2 LF-12 | 0.03 | 0.08 | 0.04 | 0.02 | 0.01 | 0.02 |
| | | #2 LF-13 | 0.48 | -0.96 | 1.60 | 4.96 | 9.00 | 16.65 |
| Qk.N_T2 | | #1 LF-21 | 0.32 | 0.29 | 0.34 | 0.31 | 0.20 | 0.10 |
| | | | | | | | | |
| | | | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | | Lastfall Lasten (3 Abschnitte je 0.92m) | | | | | | [kN/m] |
|-------|----|---|--|--|-------|-------|-------|--------|
| W-1.8 | Gk | #1 LF-1 (g) | | | 31.74 | 32.96 | 28.10 | |
| | | #2 LF-1 | | | 28.95 | 31.28 | 26.53 | |
| | | #3 LF-1 | | | 16.27 | 7.30 | 9.83 | |
| Ö← | | #1 LF-2 (g) | | | 3.69 | 4.25 | 2.26 | |

| | Lastfall | Lasten (3 Abschnitte je 0.92m) | [kN/m] | | |
|---------|----------|--------------------------------|--------|-------|-------|
| Qk.N_E1 | #2 | LF-2 | 2.54 | 2.87 | 1.23 |
| | #3 | LF-2 | 0.86 | -2.34 | -1.49 |
| | #1 | LF-4 | 0.02 | 0.02 | 0.00 |
| | #1 | LF-5 | 1.92 | 1.18 | 0.14 |
| | #1 | LF-6 | 0.03 | 0.01 | 0.00 |
| | #1 | LF-7 | -0.04 | 0.03 | 0.17 |
| | #1 | LF-11 | -0.01 | 0.00 | 0.02 |
| | #1 | LF-12 | 0.19 | 0.11 | 0.01 |
| | #1 | LF-13 | 0.43 | -0.40 | -0.01 |
| | #1 | LF-14 | 3.40 | 6.23 | 3.64 |
| Qk.N_DA | #1 | LF-15 | 0.15 | 0.08 | -0.12 |
| | #1 | LF-19 | 0.84 | 0.52 | 0.06 |
| | #1 | LF-22 | -0.17 | -0.09 | 0.01 |
| | #2 | LF-18 | 0.98 | -0.21 | -0.08 |
| | #2 | LF-21 | 0.52 | -0.32 | -0.13 |
| | #2 | LF-22 | 3.43 | 5.66 | 2.98 |
| | #2 | LF-23 | 0.00 | -0.01 | 0.00 |
| | #3 | LF-8 | 2.97 | 5.75 | 4.10 |
| | #2 | LF-5 | 1.78 | 2.04 | 0.31 |
| | #2 | LF-6 | -0.12 | -0.05 | -0.11 |
| | #2 | LF-10 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-11 | -0.02 | 0.11 | 0.03 |
| | #2 | LF-14 | -0.05 | -0.11 | -0.01 |
| | #2 | LF-15 | -0.13 | -0.21 | -0.05 |
| | #3 | LF-3 | 1.74 | 2.82 | 1.86 |
| | #3 | LF-4 | -3.78 | -11.8 | -7.11 |
| | #3 | LF-5 | 3.12 | 3.12 | 1.72 |
| | #3 | LF-6 | 0.60 | 0.84 | 0.36 |
| | #3 | LF-7 | 0.03 | 0.38 | 0.19 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (3 Abschnitte je 0.92m) | [kN/m] | | |
|-------------|----------|--------------------------------|--------|-------|-------|
| W-1.9 Gk | #1 | LF-1 (g) | 36.51 | 44.64 | 34.89 |
| | #2 | LF-1 | 14.57 | 9.93 | 13.32 |
| | #3 | LF-1 | 6.82 | 2.89 | 20.05 |
| Ö← | #1 | LF-2 (g) | 5.59 | 9.12 | 4.99 |
| | #2 | LF-2 | 1.41 | 1.74 | 1.26 |
| | #3 | LF-2 | 0.27 | -0.30 | 2.67 |
| Qk.N_E1 | #1 | LF-3 | 0.61 | 0.68 | 2.29 |
| | #1 | LF-4 | 1.19 | 0.83 | 0.38 |
| | #1 | LF-5 | 3.09 | 3.46 | 0.94 |
| | #1 | LF-6 | -0.22 | -1.48 | -0.40 |
| | #1 | LF-7 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-11 | 0.00 | -0.01 | 0.00 |
| | #1 | LF-12 | 0.04 | 0.05 | 0.01 |
| | #1 | LF-14 | 6.28 | 11.55 | 6.81 |
| | #1 | LF-17 | 0.30 | 0.25 | 0.97 |
| | #1 | LF-18 | -1.18 | 1.04 | -1.26 |
| | #1 | LF-19 | 1.18 | 1.42 | 0.38 |
| | #1 | LF-22 | -0.02 | -0.03 | -0.01 |
| | #2 | LF-19 | 1.42 | 0.33 | 0.05 |
| | #2 | LF-20 | 0.13 | 0.14 | 0.01 |
| | #2 | LF-21 | 0.00 | -0.02 | 0.00 |
| | #2 | LF-22 | 3.21 | 2.71 | 2.63 |
| | #2 | LF-23 | 1.27 | 0.00 | -0.10 |

| Lastfall Lasten (3 Abschnitte je 0.92m) | | [kN/m] | | |
|---|----------|--------|-------|-------|
| Qk.N_DA | #3 LF-8 | 0.00 | 0.00 | 0.03 |
| | #2 LF-3 | 0.04 | -1.01 | -0.52 |
| | #2 LF-4 | -0.03 | 0.05 | 0.05 |
| | #2 LF-5 | -1.12 | 0.99 | 0.43 |
| | #2 LF-6 | 0.00 | -0.02 | -0.01 |
| | #2 LF-10 | 0.02 | -0.04 | -0.19 |
| | #2 LF-12 | 0.80 | 1.87 | 1.08 |
| | #2 LF-15 | 0.00 | -0.01 | 0.00 |
| | #2 LF-16 | 0.12 | -0.14 | -0.06 |
| | #3 LF-3 | 0.00 | 0.00 | 0.01 |
| | #3 LF-4 | -1.45 | -2.10 | 3.93 |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 |
| | #3 LF-6 | -0.02 | 0.01 | 0.00 |
| | #3 LF-7 | 2.02 | 1.49 | 1.41 |
| Qk.N_T2 | #1 LF-20 | -0.16 | -0.08 | -0.18 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| Lastfall Lasten (6 Abschnitte je 0.92m) | | [kN/m] | | | | | |
|---|---|--------|-------|-------|-------|-------|-------|
| W-1.10 Gk | #1 LF-1 (g) | 167.9 | 33.30 | 96.65 | 85.65 | 66.28 | 26.02 |
| | #2 LF-1 | 139.0 | 63.89 | 77.94 | 77.81 | 60.17 | 29.98 |
| Ö← | #1 LF-2 (g) | 54.84 | 4.40 | 28.14 | 23.63 | 16.75 | 6.25 |
| | #2 LF-2 | 36.09 | 13.73 | 18.14 | 17.77 | 12.75 | 6.13 |
| Qk.N_E1 | #1 LF-3 | 68.31 | 2.64 | 24.00 | 15.71 | 7.49 | -5.23 |
| | #1 LF-4 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-5 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-7 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | #1 LF-10 | -5.52 | 6.63 | 15.43 | 17.62 | 14.56 | 5.67 |
| | #1 LF-15 | -0.01 | -0.04 | -0.02 | 0.00 | 0.00 | 0.00 |
| | #1 LF-16 | 0.14 | -0.30 | -0.54 | -0.42 | -0.22 | 0.10 |
| | #1 LF-17 | 35.69 | 2.95 | 16.45 | 13.21 | 9.75 | 1.50 |
| | #1 LF-18 | 3.28 | -2.92 | -1.61 | -0.66 | -0.20 | 0.00 |
| | #2 LF-17 | 0.35 | 8.73 | 15.22 | 13.35 | 6.78 | -0.07 |
| Qk.N_DA | #2 LF-3 | 70.99 | 23.88 | 25.77 | 22.42 | 12.77 | -1.39 |
| | #2 LF-4 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-5 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-6 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.04 |
| | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 |
| | #2 LF-10 | -1.00 | -0.69 | -0.43 | -0.17 | -0.04 | 0.02 |
| | #2 LF-11 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.00 |
| | #2 LF-12 | 0.90 | -0.62 | -0.45 | -0.20 | -0.06 | 0.01 |
| | #2 LF-13 | 1.12 | -0.76 | 1.70 | 5.14 | 6.52 | 3.54 |
| Qk.N_T2 | #1 LF-20 | -0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |

| Lastfall Lasten (7 Abschnitte je 0.95m) | | [kN/m] | | | | | |
|---|-------------|--------|-------|-------|-------|-------|-------|
| W-1.11_1 Gk | #1 LF-1 (g) | 66.23 | 74.53 | 85.21 | 82.16 | 91.89 | 30.49 |
| | #2 LF-1 | 55.98 | 63.80 | 73.61 | 85.98 | 84.91 | 74.28 |
| Ö← | #3 LF-1 | -0.35 | -0.27 | -0.12 | -0.02 | 0.01 | 0.01 |
| | #1 LF-2 (g) | 17.91 | 20.91 | 24.59 | 23.22 | 26.78 | 3.71 |
| | #2 LF-2 | 11.36 | 13.83 | 16.43 | 19.64 | 18.85 | 15.42 |

| | Lastfall | Lasten (7 Abschnitte je 0.95m) | | | | | | | [kN/m] |
|---------|----------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| Qk.N_E1 | #3 LF-2 | -0.13 | -0.05 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-3 | 11.84 | 16.65 | 21.98 | 20.66 | 25.04 | -1.89 | 88.38 | |
| | #1 LF-4 | 2.04 | 0.88 | 0.45 | 0.21 | 0.13 | -0.05 | 0.13 | |
| | #1 LF-5 | 0.74 | 0.26 | 0.12 | 0.05 | 0.03 | -0.01 | 0.03 | |
| | #1 LF-6 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | -0.07 | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-10 | 0.02 | 0.04 | 0.04 | 0.04 | 0.07 | 0.25 | -1.95 | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-14 | -0.05 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-15 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | -0.02 | 0.19 | |
| | #1 LF-16 | -0.01 | -0.02 | -0.02 | -0.01 | 0.00 | -0.04 | 0.19 | |
| | #1 LF-17 | 12.40 | 13.61 | 14.74 | 13.67 | 15.79 | 1.74 | 54.39 | |
| | #1 LF-18 | 6.73 | 7.14 | 7.82 | 7.70 | 7.83 | 5.87 | 29.02 | |
| | #1 LF-19 | 0.22 | 0.08 | 0.03 | 0.01 | 0.01 | 0.00 | 0.01 | |
| | #2 LF-17 | 0.03 | 0.05 | 0.06 | 0.07 | 0.08 | 0.11 | -1.77 | |
| | #2 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-20 | -0.05 | -0.06 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-22 | -0.16 | -0.06 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | |
| | #2 LF-23 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | #2 LF-3 | 18.30 | 23.54 | 27.60 | 32.26 | 29.92 | 22.96 | 94.20 | |
| | #2 LF-4 | -1.34 | -0.86 | -0.54 | -0.37 | -0.19 | -0.01 | -0.12 | |
| | #2 LF-5 | 2.21 | 1.49 | 0.86 | 0.56 | 0.27 | 0.01 | 0.17 | |
| | #2 LF-6 | -0.01 | 0.00 | 0.01 | 0.02 | 0.03 | 0.05 | 0.16 | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | #2 LF-10 | -1.44 | -1.50 | -0.79 | 0.12 | 0.58 | 0.09 | 4.31 | |
| | #2 LF-11 | -0.01 | -0.02 | -0.02 | -0.03 | -0.03 | -0.04 | -0.16 | |
| | #2 LF-12 | 5.21 | 5.10 | 5.65 | 6.54 | 6.95 | 7.55 | 17.08 | |
| | #2 LF-13 | -0.05 | -0.09 | -0.09 | -0.10 | -0.08 | 0.16 | 4.10 | |
| | #2 LF-16 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-4 | -0.28 | -0.07 | 0.01 | 0.02 | 0.02 | 0.00 | 0.01 | |
| | #3 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Qk.N_T2 | #3 LF-7 | 0.03 | -0.02 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-20 | -2.04 | -1.05 | -0.61 | -0.29 | -0.18 | 0.06 | -0.18 | |
| | #1 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (3 Abschnitte je 0.33m) | | | [kN/m] |
|----------------|-------------|--------------------------------|-------|-------|--------|
| W-1.11_2 Gk | #1 LF-1 (g) | | 7.62 | 22.85 | 34.32 |
| | #2 LF-1 | | 19.22 | 21.68 | 26.36 |
| | #3 LF-1 | | 1.07 | 0.69 | 0.37 |
| Ö← | #1 LF-2 (g) | | -5.45 | 0.69 | 5.31 |
| | #2 LF-2 | | -2.51 | -1.43 | 0.40 |
| | #3 LF-2 | | -0.19 | -0.21 | -0.22 |
| Qk.N_E1 | #1 LF-3 | | -11.6 | -7.41 | -3.81 |
| | #1 LF-4 | | -12.6 | -4.70 | 0.19 |
| | #1 LF-5 | | -8.24 | -3.75 | -0.92 |
| | #1 LF-6 | | -0.39 | -0.23 | -0.12 |
| | #1 LF-12 | | -0.02 | -0.01 | 0.00 |
| | #1 LF-14 | | -0.17 | -0.16 | -0.15 |
| | #1 LF-16 | | 0.00 | 0.00 | 0.00 |
| | #1 LF-17 | | -2.83 | 0.13 | 2.88 |
| | #1 LF-18 | | 19.34 | 14.82 | 11.61 |
| | #1 LF-19 | | -3.06 | -1.59 | -0.61 |

| | | Lastfall Lasten (3 Abschnitte je 0.33m) | | | [kN/m] |
|---|----|---|-------|-------|--------|
| Qk.N_DA | #1 | LF-22 | 0.01 | 0.00 | 0.00 |
| | #2 | LF-17 | -0.01 | 0.00 | 0.00 |
| | #2 | LF-19 | -0.15 | -0.12 | -0.10 |
| | #2 | LF-20 | 1.37 | 1.24 | 1.02 |
| | #2 | LF-22 | -0.19 | -0.26 | -0.30 |
| | #2 | LF-23 | -0.16 | -0.13 | -0.10 |
| | #3 | LF-8 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-3 | -5.33 | -3.39 | -0.71 |
| | #2 | LF-4 | 4.01 | 2.89 | 1.66 |
| | #2 | LF-5 | -14.0 | -12.2 | -9.15 |
| | #2 | LF-6 | 0.01 | 0.01 | 0.00 |
| | #2 | LF-10 | 0.03 | -0.07 | -0.20 |
| | #2 | LF-12 | 10.92 | 10.53 | 9.75 |
| | #2 | LF-13 | 0.01 | 0.01 | 0.01 |
| | #2 | LF-16 | -0.12 | -0.09 | -0.06 |
| | #3 | LF-4 | -0.82 | -0.80 | -0.77 |
| | #3 | LF-6 | 0.00 | 0.00 | -0.01 |
| | #3 | LF-7 | 0.45 | 0.39 | 0.34 |
| Qk.N_T2 | #1 | LF-20 | 6.16 | 1.70 | -1.18 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-1.12 | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
| Gk | #1 | LF-1 (g) | 105.6 | 101.4 | 104.3 |
| | #2 | LF-1 | 107.4 | 104.5 | 100.6 |
| Ö← | #1 | LF-2 (g) | 43.93 | 43.40 | 46.99 |
| | #2 | LF-2 | 37.21 | 36.40 | 35.34 |
| Qk.N_E1 | #1 | LF-3 | 49.57 | 46.62 | 47.54 |
| | #1 | LF-4 | -0.03 | -0.02 | 0.00 |
| | #1 | LF-5 | -0.01 | 0.00 | 0.00 |
| | #1 | LF-10 | -0.43 | -0.41 | -0.42 |
| | #1 | LF-16 | 0.01 | 0.01 | 0.01 |
| | #1 | LF-17 | 3.26 | 2.56 | 1.87 |
| | #1 | LF-18 | 0.10 | 0.05 | 0.01 |
| | #2 | LF-17 | -0.24 | -0.22 | -0.19 |
| Qk.N_DA | #2 | LF-3 | 36.88 | 34.34 | 30.94 |
| | #2 | LF-4 | 0.17 | 0.13 | 0.09 |
| | #2 | LF-5 | -0.19 | -0.16 | -0.12 |
| | #2 | LF-10 | -0.02 | 0.00 | 0.02 |
| | #2 | LF-12 | 0.04 | 0.05 | 0.06 |
| | #2 | LF-13 | -0.13 | -0.11 | -0.09 |
| Qk.N_T2 | #1 | LF-20 | 0.05 | 0.02 | 0.01 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-1.13 | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
| Gk | #1 | LF-1 (g) | 196.6 | 140.9 | 108.0 |
| | #2 | LF-1 | 229.9 | 207.7 | 185.2 |
| Ö← | #1 | LF-2 (g) | 87.30 | 60.74 | 44.81 |
| | #2 | LF-2 | 80.51 | 72.57 | 64.54 |
| Qk.N_E1 | #1 | LF-3 | 104.1 | 70.61 | 50.82 |
| | #1 | LF-4 | 0.12 | 0.03 | -0.04 |
| | #1 | LF-5 | 0.03 | 0.01 | -0.01 |
| | #1 | LF-10 | 0.06 | -0.04 | -0.15 |
| | #1 | LF-15 | -0.01 | 0.00 | 0.00 |
| | #1 | LF-16 | -0.02 | -0.02 | -0.01 |
| | #1 | LF-17 | 6.50 | 4.65 | 3.68 |

| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|---|----|---|-------|-------|--------|
| Qk.N_DA | #1 | LF-18 | -0.68 | -0.30 | 0.00 |
| | #1 | LF-19 | 0.01 | 0.00 | 0.00 |
| | #2 | LF-17 | 0.02 | -0.03 | -0.08 |
| | #2 | LF-3 | 80.70 | 73.27 | 65.88 |
| | #2 | LF-4 | -0.45 | -0.21 | 0.00 |
| | #2 | LF-5 | 0.51 | 0.27 | 0.05 |
| | #2 | LF-6 | -0.01 | 0.00 | 0.00 |
| | #2 | LF-10 | -0.49 | -0.39 | -0.30 |
| | #2 | LF-11 | 0.01 | 0.00 | 0.00 |
| | #2 | LF-12 | -0.50 | -0.41 | -0.31 |
| | #2 | LF-13 | -0.10 | -0.09 | -0.08 |
| | #3 | LF-4 | 0.00 | 0.00 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | -0.16 | -0.05 | 0.05 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-1.14 | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
| Gk | #1 | LF-1 (g) | 71.69 | 121.7 | 189.1 |
| | #2 | LF-1 | 60.57 | 102.8 | 149.8 |
| | #3 | LF-1 | 0.00 | 0.00 | 0.00 |
| Ö← | #1 | LF-2 (g) | 29.68 | 53.09 | 84.73 |
| | #2 | LF-2 | 21.15 | 35.99 | 52.52 |
| Qk.N_E1 | #1 | LF-3 | 28.94 | 59.33 | 100.1 |
| | #1 | LF-4 | 0.45 | 0.46 | 0.52 |
| | #1 | LF-5 | 0.11 | 0.11 | 0.13 |
| | #1 | LF-10 | 0.00 | 0.04 | 0.08 |
| | #1 | LF-14 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-15 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-16 | 0.00 | -0.01 | -0.01 |
| | #1 | LF-17 | 0.90 | 2.85 | 5.34 |
| | #1 | LF-18 | -0.19 | -0.48 | -0.86 |
| | #1 | LF-19 | 0.03 | 0.03 | 0.04 |
| | #2 | LF-17 | 0.01 | 0.03 | 0.06 |
| Qk.N_DA | #2 | LF-3 | 18.19 | 33.97 | 50.96 |
| | #2 | LF-4 | -1.06 | -1.56 | -2.11 |
| | #2 | LF-5 | 1.31 | 1.66 | 2.12 |
| | #2 | LF-6 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-10 | -0.06 | -0.18 | -0.31 |
| | #2 | LF-11 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-12 | -0.11 | -0.25 | -0.40 |
| | #2 | LF-13 | 0.00 | -0.02 | -0.04 |
| | #3 | LF-4 | 0.00 | 0.01 | 0.01 |
| | #3 | LF-7 | 0.00 | 0.00 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | -0.68 | -0.68 | -0.74 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-1.15 | | Lastfall Lasten (3 Abschnitte je 0.14m) | | | [kN/m] |
| Gk | #1 | LF-1 (g) | -20.8 | -11.9 | -2.99 |
| | #2 | LF-1 | 30.75 | 29.42 | 28.10 |
| Ö← | #1 | LF-2 (g) | -13.7 | -9.92 | -6.20 |
| | #2 | LF-2 | 9.42 | 9.16 | 8.90 |
| Qk.N_E1 | #1 | LF-3 | -29.8 | -24.1 | -18.3 |
| | #1 | LF-4 | -0.43 | -0.27 | -0.11 |
| | #1 | LF-5 | -0.11 | -0.07 | -0.03 |
| | #1 | LF-10 | -0.01 | -0.01 | -0.02 |
| | #1 | LF-16 | 0.01 | 0.01 | 0.01 |

| | | Lastfall Lasten (3 Abschnitte je 0.14m) | | | | | | | [kN/m] |
|---|---------------|---|-------|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | #1 LF-17 | -3.75 | -3.24 | -2.74 | | | | | |
| | #1 LF-18 | 0.55 | 0.47 | 0.39 | | | | | |
| | #1 LF-19 | -0.03 | -0.02 | -0.01 | | | | | |
| | #2 LF-17 | -0.02 | -0.01 | -0.01 | | | | | |
| | #2 LF-3 | -8.50 | -8.47 | -8.43 | | | | | |
| | #2 LF-4 | 1.92 | 1.36 | 0.79 | | | | | |
| | #2 LF-5 | 0.97 | 1.33 | 1.68 | | | | | |
| | #2 LF-10 | 0.24 | 0.23 | 0.22 | | | | | |
| | #2 LF-12 | 0.30 | 0.29 | 0.29 | | | | | |
| | #2 LF-13 | 0.03 | 0.03 | 0.02 | | | | | |
| Qk.N_T2 | #1 LF-20 | 0.80 | 0.52 | 0.24 | | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | | |
| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
| W-1.16 Gk | #1 LF-1 (g) | -9.11 | 43.93 | 47.69 | 49.37 | 49.65 | 48.19 | 45.44 | |
| | | 42.52 | 11.22 | | | | | | |
| | #2 LF-1 | 15.62 | 44.61 | 49.73 | 51.07 | 50.60 | 48.00 | 43.16 | |
| | | 35.14 | 18.81 | | | | | | |
| Ö← | #3 LF-1 | 0.04 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.01 | | | | | | |
| | #1 LF-2 (g) | 0.91 | 16.65 | 18.12 | 18.80 | 18.91 | 18.40 | 17.45 | |
| | | 16.45 | 3.64 | | | | | | |
| Qk.N_E1 | #2 LF-2 | 8.38 | 17.31 | 18.85 | 19.30 | 19.16 | 18.34 | 16.85 | |
| | | 14.10 | 6.57 | | | | | | |
| | #1 LF-3 | -0.21 | 0.04 | 0.05 | 0.06 | 0.09 | 0.12 | 0.14 | |
| | | 0.15 | -0.12 | | | | | | |
| | #1 LF-4 | -19.63 | 14.60 | 17.20 | 18.37 | 18.65 | 17.80 | 16.05 | |
| | | 14.02 | -7.24 | | | | | | |
| | #1 LF-5 | -4.99 | 0.71 | 0.71 | 0.69 | 0.63 | 0.48 | 0.31 | |
| | | 0.28 | -0.90 | | | | | | |
| | #1 LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-12 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-17 | -0.06 | 0.01 | 0.01 | 0.02 | 0.02 | 0.03 | 0.04 | |
| | | 0.04 | -0.03 | | | | | | |
| | #1 LF-18 | 0.05 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | |
| | | -0.01 | 0.02 | | | | | | |
| | #1 LF-19 | -0.62 | 0.10 | 0.11 | 0.11 | 0.11 | 0.08 | 0.06 | |
| | | 0.05 | -0.17 | | | | | | |
| Qk.N_DA | #1 LF-22 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-23 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-3 | -0.30 | 0.04 | 0.11 | 0.17 | 0.27 | 0.47 | 0.99 | |
| | | 2.09 | 0.42 | | | | | | |
| | #2 LF-4 | 0.25 | -0.03 | -0.09 | -0.14 | -0.24 | -0.42 | -1.02 | |
| | | -2.31 | 0.81 | | | | | | |
| | #2 LF-5 | -11.89 | 9.78 | 14.02 | 14.66 | 14.31 | 12.63 | 9.58 | |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---|---------------|---|-------|-------|-------|-------|-------|-------|--------|
| | | 4.64 | -6.29 | | | | | | |
| Qk.N_T2 | #2 LF-6 | -0.14 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | | -0.01 | 0.00 | | | | | | |
| | #2 LF-12 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.02 | |
| | | -0.03 | -0.01 | | | | | | |
| | #2 LF-16 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #3 LF-7 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-20 | 0.36 | -0.06 | -0.08 | -0.11 | -0.16 | -0.21 | -0.26 | |
| | | -0.30 | 0.28 | | | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | | |
| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
| W-1.17 Gk | #1 LF-1 (g) | 13.69 | 42.70 | 46.89 | 48.49 | 47.81 | 44.36 | 37.40 | |
| | | 25.27 | 2.16 | | | | | | |
| | #2 LF-1 | 40.38 | 44.51 | 49.02 | 50.96 | 50.44 | 47.41 | 41.09 | |
| Ö← | | 29.11 | 12.35 | | | | | | |
| | #1 LF-2 (g) | 11.57 | 16.10 | 17.85 | 18.57 | 18.40 | 17.30 | 15.04 | |
| | | 10.51 | 1.94 | | | | | | |
| Qk.N_E1 | #2 LF-2 | 17.20 | 17.28 | 18.59 | 19.26 | 19.09 | 18.12 | 16.08 | |
| | | 11.85 | 4.40 | | | | | | |
| | #1 LF-3 | -8.27 | 14.04 | 16.69 | 17.46 | 16.51 | 13.08 | 6.22 | |
| | | -1.02 | -10.3 | | | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | -0.01 | | | | | | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.01 | | | | | | |
| | #1 LF-10 | 0.40 | -0.08 | -0.11 | -0.18 | -0.35 | -0.70 | -1.48 | |
| | | -3.16 | -4.22 | | | | | | |
| Qk.N_DA | #1 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-16 | -0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.05 | |
| | | 0.10 | 0.25 | | | | | | |
| | #1 LF-17 | -3.01 | 0.67 | 0.87 | 1.22 | 1.82 | 3.10 | 5.66 | |
| | | 5.78 | -1.14 | | | | | | |
| | #1 LF-18 | -0.01 | 0.00 | -0.01 | 0.00 | 0.00 | 0.02 | 0.06 | |
| | | 0.12 | 0.16 | | | | | | |
| | #2 LF-17 | 0.18 | -0.02 | -0.08 | -0.13 | -0.25 | -0.49 | -0.98 | |
| | | -2.09 | -3.83 | | | | | | |
| | #2 LF-3 | -3.97 | 9.88 | 13.94 | 14.84 | 14.54 | 12.82 | 9.35 | |
| | | 2.80 | -7.37 | | | | | | |
| | #2 LF-4 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-5 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | -0.05 | | | | | | |
| | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|----------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | 0.00 | 0.04 | | | | | |
| Qk.N_T2 | #2 LF-10 | 0.07 | -0.01 | -0.02 | -0.02 | -0.02 | 0.00 | 0.02 |
| | | 0.04 | 0.07 | | | | | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-12 | 0.04 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.02 |
| | | 0.04 | 0.06 | | | | | |
| | #2 LF-13 | 0.09 | -0.01 | -0.04 | -0.06 | -0.10 | -0.21 | -0.49 |
| | | -1.05 | -0.76 | | | | | |
| | #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| Lastfall | | Lasten (3 Abschnitte je 0.46m) | | | [kN/m] |
|----------|----|---|-------|-------|--------|
| W-1.18 | Gk | #1 LF-1 (g) | 57.73 | 95.89 | 142.6 |
| | | #2 LF-1 | 104.5 | 129.6 | 157.1 |
| Ö← | | #1 LF-2 (g) | 26.64 | 41.56 | 60.57 |
| | | #2 LF-2 | 36.99 | 46.01 | 55.87 |
| Qk.N_E1 | | #1 LF-3 | -8.99 | -5.12 | -1.81 |
| | | #1 LF-7 | 0.00 | -0.01 | -0.01 |
| | | #1 LF-8 | -0.05 | -0.03 | 0.01 |
| | | #1 LF-9 | 0.04 | -0.01 | -0.09 |
| | | #1 LF-10 | 27.61 | 40.02 | 56.78 |
| | | #1 LF-15 | 0.01 | 0.02 | 0.03 |
| | | #1 LF-16 | -0.29 | -0.76 | -1.33 |
| | | #1 LF-17 | -4.39 | -2.55 | -0.98 |
| | | #1 LF-18 | -0.37 | -0.37 | -0.38 |
| | | #2 LF-17 | 12.50 | 15.68 | 19.04 |
| Qk.N_DA | | #2 LF-3 | -7.29 | -6.43 | -5.54 |
| | | #2 LF-6 | -0.01 | 0.00 | 0.00 |
| | | #2 LF-7 | -0.01 | -0.01 | -0.02 |
| | | #2 LF-8 | 0.10 | 0.20 | 0.31 |
| | | #2 LF-9 | -0.14 | -0.21 | -0.29 |
| | | #2 LF-10 | -0.03 | -0.03 | -0.04 |
| | | #2 LF-11 | 0.03 | 0.04 | 0.05 |
| | | #2 LF-12 | -0.07 | -0.07 | -0.09 |
| | | #2 LF-13 | 22.07 | 26.83 | 32.00 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |

| Lastfall | | Lasten (9 Abschnitte je 0.98m) | | | | | | [kN/m] |
|----------|----|--------------------------------|-------|-------|-------|-------|-------|--------|
| W-1.19 | Gk | #1 LF-1 (g) | 20.61 | 27.69 | 35.32 | 38.58 | 40.03 | 39.88 |
| | | | 37.73 | 19.56 | | | | |
| | | #2 LF-1 | 30.48 | 32.30 | 39.13 | 42.23 | 43.25 | 42.86 |
| | | | 39.75 | 27.25 | | | | |
| Ö← | | #1 LF-2 (g) | 7.90 | 10.67 | 13.78 | 14.96 | 15.48 | 15.42 |
| | | | 14.65 | 8.16 | | | | |
| | | #2 LF-2 | 10.43 | 12.76 | 15.47 | 16.49 | 16.81 | 16.67 |
| | | | 15.68 | 11.70 | | | | |
| Qk.N_E1 | | #1 LF-3 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | |
| | | #1 LF-7 | -0.33 | -0.02 | 0.18 | 0.28 | 0.27 | 0.13 |
| | | | 0.08 | -0.16 | | | | |
| | | #1 LF-8 | -5.65 | 4.50 | 9.41 | 11.61 | 12.60 | 12.40 |

| | | Lastfall Lasten (9 Abschnitte je 0.98m) | | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | #1 LF-9 | 10.84 | -2.28 | | | | | | |
| | | 2.74 | -1.09 | -0.42 | -0.14 | -0.05 | -0.02 | -0.01 | |
| | | 0.00 | 0.03 | | | | | | |
| | #1 LF-10 | -3.66 | 0.94 | 0.41 | 0.15 | 0.06 | 0.02 | 0.01 | |
| | | 0.00 | -0.03 | | | | | | |
| | #1 LF-11 | -0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-15 | 0.06 | -0.01 | -0.03 | -0.03 | -0.02 | -0.01 | -0.01 | |
| | | 0.00 | 0.01 | | | | | | |
| | #1 LF-16 | 0.11 | -0.06 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-17 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-17 | -2.17 | 0.14 | 0.24 | 0.07 | 0.02 | 0.01 | 0.00 | |
| | | 0.00 | -0.01 | | | | | | |
| | #2 LF-3 | -0.06 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-6 | -0.32 | -0.08 | 0.17 | 0.33 | 0.42 | 0.43 | 0.39 | |
| | | 0.24 | -0.30 | | | | | | |
| | #2 LF-7 | 0.26 | 0.06 | -0.14 | -0.27 | -0.34 | -0.36 | -0.33 | |
| | | -0.21 | 0.25 | | | | | | |
| | #2 LF-8 | -2.23 | 3.34 | 7.33 | 8.99 | 9.58 | 9.64 | 9.30 | |
| | | 7.33 | -0.62 | | | | | | |
| | #2 LF-9 | 2.41 | -0.44 | -0.43 | -0.15 | -0.05 | -0.02 | 0.00 | |
| | | 0.00 | 0.02 | | | | | | |
| | #2 LF-10 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | |
| | | 0.00 | 0.01 | | | | | | |
| | #2 LF-11 | 0.03 | 0.00 | -0.01 | -0.02 | -0.02 | -0.01 | -0.01 | |
| | | -0.01 | 0.01 | | | | | | |
| | #2 LF-13 | -1.64 | -0.11 | 0.13 | 0.04 | 0.01 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| Qk.N_T2 | #1 LF-21 | 0.44 | 0.03 | -0.24 | -0.37 | -0.37 | -0.29 | -0.19 | |
| | | -0.12 | 0.22 | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | | Lastfall Lasten (3 Abschnitte je 0.83m) | | | [kN/m] |
|----------------|---------------|---|-------|-------|--------|
| W-1.20_1 Gk | #1 LF-1 (g) | 159.0 | -0.81 | 18.59 | |
| | #2 LF-1 | 121.6 | 34.09 | 23.53 | |
| Ö← | #1 LF-2 (g) | 50.15 | -9.64 | -2.46 | |
| | #2 LF-2 | 28.03 | 1.57 | -0.25 | |
| Qk.N_E1 | #1 LF-3 | 43.18 | -32.5 | -22.1 | |
| | #1 LF-4 | 0.01 | -0.02 | -0.02 | |
| | #1 LF-5 | 0.00 | -0.01 | 0.00 | |
| | #1 LF-7 | -0.05 | -0.05 | -0.06 | |
| | #1 LF-10 | -1.89 | 11.78 | 16.52 | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-15 | 0.15 | 0.13 | 0.16 | |
| | #1 LF-16 | 0.28 | 0.00 | 1.09 | |
| | #1 LF-17 | 31.56 | -9.91 | -8.87 | |
| | #1 LF-18 | 17.27 | 11.06 | 8.27 | |
| | #2 LF-17 | 3.75 | 15.83 | 22.69 | |
| Qk.N_DA | #2 LF-3 | 44.27 | -17.3 | -26.0 | |
| | #2 LF-4 | -0.02 | 0.02 | 0.02 | |
| | #2 LF-5 | 0.02 | -0.02 | -0.02 | |
| | #2 LF-6 | 0.02 | 0.00 | -0.01 | |

| | Lastfall | Lasten (3 Abschnitte je 0.83m) | [kN/m] | | |
|----------------|---|--------------------------------|--------|-------|-------|
| Qk.N_T2 | #2 | LF-8 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-9 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-10 | 0.81 | 0.85 | 0.91 |
| | #2 | LF-11 | -0.03 | 0.02 | 0.03 |
| | #2 | LF-12 | 3.05 | 1.79 | 0.87 |
| | #2 | LF-13 | 5.54 | 7.46 | 8.76 |
| | #1 | LF-20 | -0.02 | 0.03 | 0.02 |
| | #1 | LF-21 | 0.00 | 0.00 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | Lastfall | Lasten (3 Abschnitte je 0.91m) | [kN/m] | | |
| W-1.20_2 Gk | #1 | LF-1 (g) | 59.73 | 61.44 | 62.04 |
| | #2 | LF-1 | 61.06 | 66.19 | 63.79 |
| Ö← | #1 | LF-2 (g) | 13.81 | 14.72 | 15.02 |
| | #2 | LF-2 | 12.89 | 13.74 | 14.02 |
| Qk.N_E1 | #1 | LF-3 | -0.86 | 0.00 | 0.23 |
| | #1 | LF-7 | 0.00 | 0.03 | 0.06 |
| | #1 | LF-8 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-9 | 0.00 | -0.01 | -0.01 |
| | #1 | LF-10 | 20.17 | 20.57 | 20.68 |
| | #1 | LF-11 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-15 | 0.00 | -0.08 | -0.16 |
| | #1 | LF-16 | 7.79 | 8.04 | 8.02 |
| | #1 | LF-17 | -0.63 | -0.15 | 0.00 |
| | #1 | LF-18 | -0.31 | -0.57 | -0.51 |
| | #2 | LF-17 | 26.67 | 27.17 | 27.02 |
| Qk.N_DA | #2 | LF-3 | -1.36 | -0.16 | 0.31 |
| | #2 | LF-5 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-6 | 0.01 | 0.04 | 0.06 |
| | #2 | LF-8 | 0.00 | 0.01 | 0.02 |
| | #2 | LF-9 | 0.00 | -0.01 | -0.02 |
| | #2 | LF-10 | -0.20 | -0.46 | -0.56 |
| | #2 | LF-11 | -0.03 | -0.09 | -0.16 |
| | #2 | LF-12 | -0.23 | -0.27 | -0.23 |
| | #2 | LF-13 | 9.71 | 10.08 | 10.28 |
| Qk.N_T2 | #1 | LF-20 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-21 | 0.00 | 0.00 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | Lastfall | Lasten (3 Abschnitte je 0.13m) | [kN/m] | | |
| W-1.20_3 Gk | #1 | LF-1 (g) | 61.19 | 61.13 | 61.07 |
| | #2 | LF-1 | 59.52 | 59.46 | 59.39 |
| Ö← | #1 | LF-2 (g) | 14.71 | 14.68 | 14.66 |
| | #2 | LF-2 | 15.11 | 15.09 | 15.08 |
| Qk.N_E1 | #1 | LF-3 | 0.20 | 0.20 | 0.20 |
| | #1 | LF-7 | 0.12 | 0.12 | 0.13 |
| | #1 | LF-8 | 0.09 | 0.09 | 0.10 |
| | #1 | LF-9 | -0.09 | -0.10 | -0.10 |
| | #1 | LF-10 | 19.96 | 19.92 | 19.88 |
| | #1 | LF-15 | -0.35 | -0.36 | -0.36 |
| | #1 | LF-16 | 8.02 | 8.03 | 8.03 |
| | #1 | LF-17 | 0.04 | 0.04 | 0.04 |
| | #1 | LF-18 | -0.27 | -0.26 | -0.26 |
| | #2 | LF-17 | 29.10 | 29.08 | 29.05 |
| Qk.N_DA | #2 | LF-3 | 0.33 | 0.33 | 0.32 |

| Lastfall | | Lasten (3 Abschnitte je 0.13m) | | | [kN/m] |
|---|------------|--------------------------------|-------|-------|--------|
| Qk.N_T2 | #2 LF-6 | 0.10 | 0.10 | 0.10 | |
| | #2 LF-8 | 0.09 | 0.09 | 0.09 | |
| | #2 LF-9 | -0.13 | -0.14 | -0.14 | |
| | #2 LF-10 | -0.63 | -0.62 | -0.62 | |
| | #2 LF-11 | -0.34 | -0.34 | -0.34 | |
| | #2 LF-12 | -0.17 | -0.17 | -0.17 | |
| | #2 LF-13 | 11.20 | 11.19 | 11.18 | |
| | #1 LF-21 | -0.01 | -0.01 | -0.01 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| Lastfall | | Lasten (3 Abschnitte je 0.86m) | | | [kN/m] |
|----------|---|--------------------------------|-------|-------|--------|
| W-1.20_4 | #1 LF-1 (g) | 53.24 | 47.74 | 53.76 | |
| | #2 LF-1 | 54.90 | 54.73 | 62.33 | |
| Gk | #1 LF-2 (g) | 11.65 | 9.19 | 10.40 | |
| | #2 LF-2 | 11.02 | 8.93 | 8.28 | |
| Ö← | #1 LF-3 | 0.05 | -0.02 | -0.17 | |
| | #1 LF-7 | 0.11 | -0.07 | -0.95 | |
| Qk.N_E1 | #1 LF-8 | 0.71 | 1.23 | 0.11 | |
| | #1 LF-9 | -0.44 | -0.58 | -0.18 | |
| | #1 LF-10 | 14.88 | 8.99 | -1.68 | |
| | #1 LF-11 | 0.00 | 0.00 | -0.03 | |
| | #1 LF-15 | -0.85 | 0.38 | 9.93 | |
| | #1 LF-16 | 8.27 | 8.33 | 8.57 | |
| | #1 LF-17 | 0.01 | 0.00 | -0.02 | |
| | #1 LF-18 | -0.05 | 0.05 | 0.26 | |
| | #1 LF-22 | 0.00 | 0.00 | -0.01 | |
| | #2 LF-17 | 21.01 | 13.55 | 4.80 | |
| Qk.N_DA | #2 LF-3 | 0.15 | 0.12 | 0.24 | |
| | #2 LF-6 | 0.19 | 0.25 | -0.31 | |
| | #2 LF-7 | -0.09 | -0.18 | -0.11 | |
| | #2 LF-8 | 0.40 | 0.32 | -0.36 | |
| | #2 LF-9 | -0.60 | -0.30 | 1.07 | |
| | #2 LF-10 | -0.33 | 0.11 | 1.98 | |
| | #2 LF-11 | -0.20 | 1.83 | 6.24 | |
| | #2 LF-12 | -0.07 | -0.05 | -0.09 | |
| | #2 LF-13 | 8.57 | 6.85 | 4.89 | |
| Qk.N_T2 | #1 LF-21 | -0.10 | -0.22 | -0.07 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|----------|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| W-1.21 | #1 LF-1 (g) | 45.54 | 41.39 | 54.09 | 65.11 | 48.14 | 40.15 | 40.90 | |
| | | 38.97 | 17.11 | | | | | | |
| | #2 LF-1 | 47.23 | 39.76 | 43.55 | 47.53 | 49.23 | 49.44 | 48.51 | |
| | | 43.23 | 30.55 | | | | | | |
| Gk | #3 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-2 (g) | 7.25 | 6.63 | 11.10 | 14.55 | 8.82 | 6.29 | 6.49 | |
| | | 5.73 | -0.45 | | | | | | |
| Ö← | #2 LF-2 | 6.05 | 5.48 | 6.82 | 7.93 | 8.42 | 8.47 | 8.07 | |
| | | 6.66 | 5.02 | | | | | | |
| Qk.N_E1 | #1 LF-3 | -0.06 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | | | | | | | | |

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|------------|--|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | 0.00 | 0.00 | | | | | |
| #1 LF-7 | | -4.82 | -3.34 | -5.90 | -8.60 | -2.37 | 0.65 | 0.22 |
| | | 0.07 | -0.29 | | | | | |
| #1 LF-8 | | -0.67 | 11.12 | 18.31 | 19.66 | 12.88 | 12.24 | 12.62 |
| | | 11.07 | -4.68 | | | | | |
| #1 LF-9 | | -0.23 | -0.59 | -0.40 | -0.18 | -0.03 | -0.01 | -0.01 |
| | | -0.01 | 0.03 | | | | | |
| #1 LF-10 | | 0.23 | 1.27 | 0.62 | 0.21 | 0.02 | 0.01 | 0.01 |
| | | 0.01 | -0.04 | | | | | |
| #1 LF-11 | | -0.11 | -0.08 | -0.16 | -0.24 | -0.07 | 0.02 | 0.01 |
| | | 0.00 | -0.01 | | | | | |
| #1 LF-15 | | 8.07 | -1.30 | -0.80 | 0.06 | 0.09 | -0.01 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| #1 LF-16 | | 0.12 | -0.26 | -0.11 | -0.02 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-17 | | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-18 | | 0.09 | -0.03 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-19 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-22 | | -0.03 | -0.02 | -0.05 | -0.07 | -0.02 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #2 LF-17 | | -0.36 | 0.26 | 0.21 | 0.09 | 0.05 | 0.03 | 0.01 |
| | | 0.00 | -0.01 | | | | | |
| #2 LF-3 | | 0.01 | -0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #2 LF-5 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #2 LF-6 | | -2.75 | -2.78 | -3.72 | -4.92 | -5.71 | -5.54 | -4.85 |
| | | -4.68 | -4.38 | | | | | |
| #2 LF-7 | | 5.80 | 6.14 | 6.33 | 6.77 | 7.18 | 7.26 | 7.33 |
| | | 8.30 | 8.56 | | | | | |
| #2 LF-8 | | 0.73 | 7.03 | 11.69 | 14.00 | 15.16 | 15.39 | 14.44 |
| | | 9.93 | 0.05 | | | | | |
| #2 LF-9 | | 1.93 | -0.13 | -0.45 | -0.24 | -0.10 | -0.04 | -0.02 |
| | | 0.00 | 0.02 | | | | | |
| #2 LF-10 | | 0.33 | -0.28 | 0.01 | 0.19 | 0.15 | 0.08 | 0.05 |
| | | 0.04 | 0.04 | | | | | |
| #2 LF-11 | | 5.98 | 0.86 | -0.39 | -0.05 | 0.18 | 0.15 | 0.09 |
| | | 0.07 | 0.07 | | | | | |
| #2 LF-12 | | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #2 LF-13 | | 0.32 | -0.10 | 0.00 | 0.05 | 0.03 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-21 | | 9.29 | 8.23 | 11.60 | 18.68 | 7.22 | -0.33 | 0.24 |
| | | 0.54 | 0.98 | | | | | |

Qk.N_DA

Qk.N_T2

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.22
Gk

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------------|--|--------------------------------|-------|-------|-------|-------|-------|--------|
| #1 LF-1 (g) | | 39.08 | 39.43 | 67.76 | 88.14 | 55.24 | 44.55 | 44.51 |
| | | 38.42 | 93.21 | | | | | |
| #2 LF-1 | | 41.11 | 25.43 | 42.69 | 57.28 | 65.16 | 66.05 | 60.56 |
| | | 65.96 | 119.4 | | | | | |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|---------------|---|-------|-------|-------|-------|-------|--------|
| Ö← | #3 LF-1 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-2 (g) | 5.18 | 6.80 | 16.46 | 23.18 | 11.41 | 7.81 | 7.56 |
| Qk.N_E1 | | 5.00 | 35.32 | | | | | |
| | #2 LF-2 | 4.27 | 3.30 | 7.79 | 11.58 | 13.75 | 13.89 | 11.88 |
| | | 14.51 | 36.07 | | | | | |
| | #1 LF-3 | -0.06 | 0.08 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-7 | -5.78 | 14.12 | 27.46 | 31.88 | 16.90 | 15.85 | 16.11 |
| | | 12.64 | 21.13 | | | | | |
| | #1 LF-8 | -2.41 | -1.72 | -2.83 | -4.00 | -1.01 | 0.31 | 0.11 |
| | | 0.04 | -0.03 | | | | | |
| | #1 LF-9 | 0.06 | 0.04 | 0.06 | 0.07 | 0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-10 | -0.10 | -0.05 | -0.06 | -0.08 | -0.02 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-11 | -0.28 | 0.05 | 0.36 | 0.53 | 0.15 | 0.15 | 0.23 |
| | | 0.24 | -1.43 | | | | | |
| | #1 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #1 LF-15 | 7.98 | -5.45 | -3.07 | -1.11 | -0.12 | -0.07 | -0.09 |
| | | -0.06 | 0.15 | | | | | |
| | #1 LF-16 | 0.07 | -0.23 | -0.09 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-17 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-18 | 0.09 | -0.11 | -0.05 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-22 | -0.09 | -0.01 | 0.08 | 0.13 | 0.02 | 0.03 | 0.06 |
| | | 0.07 | -0.45 | | | | | |
| | #2 LF-17 | -0.03 | 0.28 | 0.05 | -0.01 | -0.03 | -0.01 | -0.01 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_DA | #2 LF-3 | 0.00 | -0.13 | -0.05 | -0.02 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-5 | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.02 |
| | | 0.00 | 0.06 | | | | | |
| | #2 LF-6 | -1.93 | 9.45 | 16.28 | 20.79 | 23.98 | 24.71 | 22.11 |
| | | 16.86 | 14.05 | | | | | |
| | #2 LF-7 | 5.71 | 6.10 | 6.27 | 6.67 | 7.04 | 7.15 | 7.29 |
| | | 7.72 | 7.61 | | | | | |
| | #2 LF-8 | -1.39 | -1.47 | -1.85 | -2.32 | -2.62 | -2.50 | -2.17 |
| | | -1.79 | -0.98 | | | | | |
| | #2 LF-9 | 0.07 | 0.06 | 0.05 | 0.04 | 0.04 | 0.02 | 0.01 |
| | | 0.01 | 0.00 | | | | | |
| | #2 LF-10 | -0.09 | -3.70 | -1.98 | -0.72 | -0.27 | -0.18 | -0.12 |
| | | -0.05 | 0.10 | | | | | |
| | #2 LF-11 | 6.10 | -3.09 | -2.83 | -1.18 | -0.46 | -0.30 | -0.21 |
| | | -0.08 | 0.12 | | | | | |
| | #2 LF-12 | 0.00 | 0.05 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---|---------------|--|-------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #2 LF-13 | 0.21 | -0.67 | -0.24 | -0.06 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-21 | 9.28 | 8.12 | 11.47 | 18.65 | 6.98 | -0.34 | 0.22 | |
| | | 0.53 | 0.70 | | | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | | |
| | | Lastfall Lasten (10 Abschnitte je 1.00m) | | | | | | | [kN/m] |
| W-1.23 Gk | #1 LF-1 (g) | 24.29 | 28.18 | 31.76 | 32.07 | 31.77 | 31.54 | 29.23 | |
| | | 21.94 | 23.09 | 27.50 | | | | | |
| | #2 LF-1 | 20.49 | 27.68 | 31.21 | 31.49 | 30.67 | 29.67 | 27.68 | |
| | | 23.31 | 23.88 | 17.58 | | | | | |
| Ö← | #3 LF-1 | 41.27 | 54.68 | 52.84 | 58.85 | 58.81 | 51.30 | 52.28 | |
| | | 29.62 | 58.15 | 57.11 | | | | | |
| | #1 LF-2 (g) | 0.67 | 2.28 | 3.86 | 4.00 | 3.88 | 3.78 | 2.81 | |
| | | -0.28 | 0.12 | 1.67 | | | | | |
| Qk.N_E1 | #2 LF-2 | 1.01 | 2.27 | 2.79 | 2.83 | 2.59 | 2.29 | 1.65 | |
| | | 0.19 | 0.40 | -1.08 | | | | | |
| | #3 LF-2 | 6.47 | 9.99 | 9.53 | 9.34 | 8.40 | 7.22 | 7.48 | |
| | | 3.94 | 9.91 | 9.26 | | | | | |
| | #1 LF-3 | 1.73 | 0.80 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | #1 LF-4 | 0.09 | 0.13 | 0.13 | 0.09 | 0.03 | 0.01 | 0.00 | |
| | | -0.01 | 0.00 | 0.00 | | | | | |
| | #1 LF-5 | -0.29 | 0.27 | 0.75 | 0.67 | 0.51 | 0.44 | 0.25 | |
| | | -0.25 | -0.05 | 0.03 | | | | | |
| | #1 LF-6 | 0.16 | -0.13 | -0.37 | -0.30 | -0.13 | -0.01 | 0.02 | |
| | | 0.02 | 0.00 | 0.00 | | | | | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | |
| | | -0.16 | 0.11 | 5.90 | | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.02 | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | |
| | | -0.02 | 0.03 | 0.63 | | | | | |
| | #1 LF-12 | -0.01 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 | 0.02 | |
| | | -0.02 | 0.00 | 0.02 | | | | | |
| | #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | -0.01 | |
| | | 0.01 | 0.00 | 0.06 | | | | | |
| | #1 LF-14 | 0.32 | 4.44 | 6.93 | 7.19 | 7.07 | 6.91 | 5.27 | |
| | | -0.43 | -0.37 | 0.02 | | | | | |
| | #1 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | | 0.11 | -0.07 | -3.61 | | | | | |
| | #1 LF-17 | 0.73 | 0.37 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | #1 LF-18 | -1.07 | -1.21 | -0.14 | 0.02 | 0.02 | 0.01 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | #1 LF-19 | -0.13 | 0.11 | 0.31 | 0.28 | 0.21 | 0.19 | 0.11 | |
| | | -0.11 | -0.02 | 0.05 | | | | | |
| | #1 LF-22 | 0.00 | 0.00 | -0.01 | -0.01 | -0.02 | -0.02 | -0.02 | |
| | | 0.00 | 0.02 | 0.41 | | | | | |
| | #2 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.02 | |
| | | 0.02 | 0.01 | 0.02 | | | | | |

Qk.N_DA

| Lastfall | Lasten | (10 Abschnitte je 1.00m) | | | | | | [kN/m] |
|------------|--------|--------------------------|-------|-------|-------|-------|-------|--------|
| #2 LF-19 | -0.02 | 0.06 | 0.05 | -0.01 | -0.03 | -0.01 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-20 | -0.06 | -0.09 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-21 | 0.01 | 0.00 | -0.02 | -0.06 | -0.11 | -0.12 | -0.05 | |
| | -0.02 | 0.01 | 0.00 | | | | | |
| #2 LF-22 | 2.42 | 5.64 | 7.30 | 7.48 | 7.00 | 6.29 | 4.60 | |
| | 0.39 | -0.46 | 0.01 | | | | | |
| #2 LF-23 | -0.05 | -0.15 | -0.21 | -0.18 | -0.09 | -0.03 | -0.01 | |
| | 0.01 | 0.00 | 0.00 | | | | | |
| #3 LF-8 | 0.08 | 0.04 | -0.04 | -0.06 | -0.16 | -0.77 | -1.04 | |
| | 1.68 | 5.39 | 2.94 | | | | | |
| #2 LF-3 | 0.49 | 1.61 | 0.23 | -0.02 | -0.02 | -0.01 | 0.00 | |
| | 0.00 | 0.00 | -0.01 | | | | | |
| #2 LF-4 | 0.00 | -0.08 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-5 | 0.11 | 0.85 | 1.05 | 0.97 | 0.78 | 0.64 | 0.31 | |
| | -0.20 | -0.10 | 0.02 | | | | | |
| #2 LF-6 | -0.01 | 0.00 | -0.01 | -0.02 | -0.04 | -0.05 | 0.00 | |
| | -0.01 | 1.15 | -1.74 | | | | | |
| #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | -0.01 | -0.01 | | | | | |
| #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.01 | | | | | |
| #2 LF-10 | -0.63 | 0.12 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | -0.01 | 0.05 | -0.59 | | | | | |
| #2 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.03 | -0.52 | -0.58 | | | | | |
| #2 LF-12 | 0.21 | -1.57 | -0.30 | 0.02 | 0.03 | 0.01 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.01 | 0.00 | 0.01 | | | | | |
| #2 LF-15 | 0.00 | 0.01 | 0.00 | -0.03 | -0.07 | -0.08 | -0.04 | |
| | 0.01 | 0.01 | 0.00 | | | | | |
| #2 LF-16 | 0.00 | -0.08 | -0.14 | -0.11 | -0.05 | -0.01 | 0.00 | |
| | 0.01 | 0.00 | 0.00 | | | | | |
| #3 LF-3 | 0.02 | 0.01 | -0.01 | -0.02 | -0.06 | -0.24 | -0.30 | |
| | 0.78 | 2.54 | 1.99 | | | | | |
| #3 LF-4 | 11.62 | 14.37 | 11.96 | 12.81 | 12.34 | 11.10 | 12.34 | |
| | 6.75 | 17.79 | 16.63 | | | | | |
| #3 LF-5 | -0.01 | -0.01 | -0.02 | -0.07 | 0.08 | 0.94 | 1.50 | |
| | 0.57 | -0.20 | -0.12 | | | | | |
| #3 LF-6 | -0.03 | -0.18 | -0.18 | 0.98 | 2.84 | 2.95 | 1.76 | |
| | -0.04 | -0.22 | -0.04 | | | | | |
| #3 LF-7 | 1.33 | 5.80 | 7.31 | 4.98 | 1.58 | -0.30 | -0.35 | |
| | -0.19 | -0.10 | 0.06 | | | | | |
| #1 LF-20 | -0.12 | -0.07 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #1 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | -0.04 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.24_1
Gk

| Lastfall | Lasten | (3 Abschnitte je 0.37m) | | | [kN/m] |
|---------------|--------|-------------------------|-------|-------|--------|
| #1 LF-1 (g) | | | 37.72 | 33.42 | 30.34 |
| #2 LF-1 | | | 39.58 | 33.89 | 29.44 |

D-554

Schulcampus EWK \

EG-LP4

| | | Lastfall Lasten (3 Abschnitte je 0.37m) | | | [kN/m] |
|-----------------|---|---|-------|-------|--------|
| Ö← | #3 | LF-1 | 25.09 | 21.34 | 18.45 |
| | #1 | LF-2 (g) | 6.31 | 4.55 | 3.34 |
| | #2 | LF-2 | 4.69 | 3.46 | 2.68 |
| | #3 | LF-2 | 0.85 | 0.06 | -0.42 |
| Qk.N_E1 | #1 | LF-5 | -0.19 | 0.31 | 0.39 |
| | #1 | LF-7 | -4.78 | -5.26 | -5.31 |
| | #1 | LF-8 | -0.01 | -0.01 | -0.01 |
| | #1 | LF-11 | -0.03 | -0.21 | -0.53 |
| | #1 | LF-12 | -0.23 | -0.03 | 0.03 |
| | #1 | LF-13 | 2.31 | -0.23 | -0.88 |
| | #1 | LF-14 | -0.01 | 0.10 | 0.11 |
| | #1 | LF-15 | 14.28 | 12.73 | 11.20 |
| | #1 | LF-19 | -0.44 | -0.02 | 0.10 |
| | #1 | LF-22 | -1.19 | -1.18 | -1.15 |
| | #2 | LF-18 | 2.55 | 1.12 | 0.50 |
| | #2 | LF-21 | -0.03 | -0.01 | -0.01 |
| | #2 | LF-22 | 0.01 | 0.05 | 0.05 |
| | #3 | LF-8 | 1.16 | 2.56 | 2.99 |
| Qk.N_DA | #2 | LF-5 | -1.46 | 0.43 | 0.91 |
| | #2 | LF-6 | 0.28 | -2.16 | -3.36 |
| | #2 | LF-7 | 0.02 | 0.02 | 0.02 |
| | #2 | LF-8 | -0.01 | -0.01 | -0.01 |
| | #2 | LF-10 | -0.05 | -0.04 | -0.04 |
| | #2 | LF-11 | 8.58 | 7.73 | 7.34 |
| | #2 | LF-14 | 0.22 | -0.13 | -0.22 |
| | #2 | LF-15 | -0.02 | -0.01 | 0.00 |
| | #3 | LF-3 | 1.07 | 1.89 | 2.13 |
| | #3 | LF-4 | -0.94 | -2.73 | -3.61 |
| | #3 | LF-5 | 1.55 | 0.93 | 0.59 |
| | #3 | LF-6 | 0.01 | 0.05 | 0.06 |
| | #3 | LF-7 | 0.00 | -0.01 | -0.01 |
| Qk.N_T2 | #1 | LF-21 | 0.03 | 0.03 | 0.03 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-1.24_2 | | Lastfall Lasten (3 Abschnitte je 0.26m) | | | [kN/m] |
| Gk | #1 | LF-1 (g) | 13.82 | 11.35 | 9.05 |
| | #2 | LF-1 | 11.02 | 12.97 | 14.45 |
| | #3 | LF-1 | 12.02 | 16.38 | 20.67 |
| Ö← | #1 | LF-2 (g) | -2.57 | -3.37 | -4.11 |
| | #2 | LF-2 | -2.22 | -2.08 | -1.74 |
| | #3 | LF-2 | -1.49 | -0.40 | 1.03 |
| Qk.N_E1 | #1 | LF-5 | 0.06 | 0.05 | 0.05 |
| | #1 | LF-7 | -11.4 | -13.5 | -15.4 |
| | #1 | LF-8 | -0.02 | -0.02 | -0.03 |
| | #1 | LF-11 | -2.88 | -3.19 | -3.42 |
| | #1 | LF-12 | 0.04 | 0.03 | 0.03 |
| | #1 | LF-13 | -0.03 | -0.03 | -0.04 |
| | #1 | LF-14 | 0.01 | 0.01 | 0.00 |
| | #1 | LF-15 | 8.17 | 9.11 | 9.82 |
| | #1 | LF-19 | 0.04 | 0.02 | 0.02 |
| | #1 | LF-22 | -1.43 | -1.58 | -1.69 |
| | #2 | LF-18 | -0.14 | -0.10 | -0.07 |
| | #2 | LF-22 | -0.01 | -0.01 | 0.00 |
| | #3 | LF-8 | 2.94 | 2.54 | 1.88 |
| Qk.N_DA | #2 | LF-3 | -0.01 | -0.01 | -0.01 |

| | | Lastfall Lasten (3 Abschnitte je 0.26m) | | | [kN/m] |
|---|-------------|---|-------|-------|--------|
| Qk.N_T2 | #2 LF-5 | 0.12 | 0.09 | 0.06 | |
| | #2 LF-6 | -10.1 | -9.46 | -7.91 | |
| | #2 LF-7 | 0.04 | 0.03 | 0.03 | |
| | #2 LF-8 | -0.02 | -0.02 | -0.01 | |
| | #2 LF-10 | -0.76 | -1.02 | -1.35 | |
| | #2 LF-11 | 5.86 | 5.70 | 5.07 | |
| | #2 LF-14 | -0.02 | -0.01 | -0.01 | |
| | #3 LF-3 | 2.28 | 2.09 | 1.70 | |
| | #3 LF-4 | -5.17 | -2.83 | 0.37 | |
| | #3 LF-5 | -0.19 | -0.16 | -0.11 | |
| | #3 LF-6 | 0.02 | 0.01 | 0.00 | |
| | #3 LF-7 | 0.08 | 0.09 | 0.09 | |
| | #1 LF-21 | 0.05 | 0.07 | 0.08 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.84m) | | | [kN/m] |
| W-1.25 Gk | #1 LF-1 (g) | 27.74 | 24.81 | 22.07 | |
| | #2 LF-1 | 25.80 | 17.38 | 20.76 | |
| | #3 LF-1 | 19.37 | 24.35 | 25.10 | |
| Ö← | #1 LF-2 (g) | 2.03 | 0.99 | -0.04 | |
| | #2 LF-2 | 1.11 | -1.44 | -0.60 | |
| | #3 LF-2 | 2.03 | 2.38 | 1.32 | |
| Qk.N_E1 | #1 LF-4 | 0.02 | 0.01 | 0.00 | |
| | #1 LF-5 | 1.33 | 0.57 | 0.56 | |
| | #1 LF-6 | 0.03 | 0.01 | 0.00 | |
| | #1 LF-7 | 0.04 | 0.90 | 0.73 | |
| | #1 LF-8 | 0.00 | 0.00 | 0.01 | |
| | #1 LF-11 | -0.04 | -0.57 | -1.32 | |
| | #1 LF-12 | 0.13 | 0.12 | 0.23 | |
| | #1 LF-13 | 2.94 | 5.37 | 3.14 | |
| | #1 LF-14 | -1.08 | -0.95 | -0.10 | |
| | #1 LF-15 | -0.36 | -3.82 | -3.29 | |
| | #1 LF-19 | 0.57 | 0.32 | 0.43 | |
| | #1 LF-22 | -0.08 | 0.04 | -0.44 | |
| | #2 LF-18 | 2.58 | 3.82 | 2.64 | |
| | #2 LF-21 | 0.03 | -0.24 | -0.08 | |
| | #2 LF-22 | 0.54 | -0.57 | -0.10 | |
| | #2 LF-23 | 0.02 | 0.01 | 0.00 | |
| | #3 LF-8 | 4.44 | 6.70 | 4.41 | |
| Qk.N_DA | #2 LF-5 | 1.19 | -0.03 | 0.11 | |
| | #2 LF-6 | -0.52 | -2.55 | -4.79 | |
| | #2 LF-7 | 0.00 | -0.01 | 0.00 | |
| | #2 LF-8 | 0.00 | 0.01 | 0.00 | |
| | #2 LF-10 | 0.00 | 0.04 | 0.05 | |
| | #2 LF-11 | -0.97 | -3.06 | 1.28 | |
| | #2 LF-14 | 0.14 | 0.32 | 0.10 | |
| | #2 LF-15 | -0.19 | -0.14 | -0.04 | |
| | #2 LF-16 | 0.01 | 0.00 | 0.00 | |
| | #3 LF-3 | 2.41 | 3.34 | 2.52 | |
| | #3 LF-4 | -1.42 | -1.62 | -1.91 | |
| | #3 LF-5 | 3.38 | 3.39 | 2.05 | |
| | #3 LF-6 | -0.41 | -0.45 | -0.04 | |
| | #3 LF-7 | 0.10 | 0.09 | 0.01 | |
| | #1 LF-21 | 0.00 | -0.01 | -0.02 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

W-1.26_1

| | Lastfall | Lasten (3 Abschnitte je 0.96m) | [kN/m] | | |
|---------|---|--------------------------------|--------|-------|-------|
| Gk | #1 | LF-1 (g) | 22.67 | 16.45 | 22.78 |
| | #2 | LF-1 | 20.18 | 14.32 | 22.91 |
| | #3 | LF-1 | 14.86 | 10.49 | 11.09 |
| Ö← | #1 | LF-2 (g) | 0.02 | -2.34 | 0.35 |
| | #2 | LF-2 | 0.50 | -1.60 | 0.23 |
| | #3 | LF-2 | 0.94 | 1.01 | 0.96 |
| Qk.N_E1 | #1 | LF-3 | 0.35 | 0.52 | 0.16 |
| | #1 | LF-4 | -0.06 | -0.91 | -1.39 |
| | #1 | LF-5 | -2.81 | -9.13 | -9.49 |
| | #1 | LF-6 | 3.51 | 7.43 | 7.84 |
| | #1 | LF-7 | 0.00 | 0.01 | 0.01 |
| | #1 | LF-11 | 0.01 | 0.02 | 0.01 |
| | #1 | LF-12 | -0.04 | -0.14 | -0.12 |
| | #1 | LF-13 | 0.00 | 0.00 | 0.02 |
| | #1 | LF-14 | 1.07 | 5.78 | 9.39 |
| | #1 | LF-17 | 0.17 | 0.30 | 0.09 |
| | #1 | LF-18 | -0.33 | -3.17 | -0.93 |
| | #1 | LF-19 | -1.38 | -3.93 | -3.93 |
| | #1 | LF-22 | 0.03 | 0.10 | 0.08 |
| | #2 | LF-18 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-19 | 2.09 | 5.46 | 3.56 |
| | #2 | LF-20 | 0.30 | -0.40 | -0.19 |
| | #2 | LF-21 | 0.00 | -0.07 | -0.26 |
| | #2 | LF-22 | 3.59 | 7.20 | 9.95 |
| | #2 | LF-23 | 2.58 | 5.02 | 5.41 |
| | #3 | LF-8 | 0.00 | 0.01 | 0.05 |
| Qk.N_DA | #2 | LF-3 | 0.30 | 0.88 | 0.38 |
| | #2 | LF-4 | -0.09 | -0.05 | 0.00 |
| | #2 | LF-5 | -5.47 | -10.9 | -10.1 |
| | #2 | LF-6 | 0.04 | 0.10 | 0.07 |
| | #2 | LF-10 | 0.02 | 0.05 | 0.03 |
| | #2 | LF-12 | 1.62 | -2.72 | -1.34 |
| | #2 | LF-14 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-15 | 0.01 | -0.03 | -0.15 |
| | #2 | LF-16 | 0.54 | 1.54 | 1.68 |
| | #3 | LF-3 | 0.00 | 0.00 | 0.02 |
| | #3 | LF-4 | -1.08 | -0.26 | -2.04 |
| | #3 | LF-5 | 0.00 | -0.01 | -0.07 |
| | #3 | LF-6 | -0.06 | -0.07 | 0.45 |
| | #3 | LF-7 | 3.02 | 2.36 | 3.56 |
| Qk.N_T2 | #1 | LF-20 | -0.14 | -0.13 | -0.01 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

W-1.26_2

| | Lastfall | Lasten (3 Abschnitte je 0.24m) | [kN/m] | | |
|---------|----------|--------------------------------|--------|-------|-------|
| Gk | #1 | LF-1 (g) | 47.34 | 46.94 | 46.30 |
| | #2 | LF-1 | 35.89 | 34.90 | 33.56 |
| | #3 | LF-1 | 23.89 | 24.75 | 24.98 |
| Ö← | #1 | LF-2 (g) | 10.13 | 10.04 | 9.85 |
| | #2 | LF-2 | 4.80 | 4.91 | 4.90 |
| | #3 | LF-2 | 2.23 | 2.19 | 2.09 |
| Qk.N_E1 | #1 | LF-3 | 0.01 | 0.01 | 0.01 |
| | #1 | LF-4 | 0.37 | 0.43 | 0.44 |
| | #1 | LF-5 | 4.33 | 4.09 | 3.58 |
| | #1 | LF-6 | 0.22 | -0.51 | -0.91 |
| | #1 | LF-7 | -0.01 | -0.01 | -0.01 |

| | Lastfall | Lasten (3 Abschnitte je 0.24m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| Qk.N_DA | #1 | LF-11 | -0.03 | -0.02 | -0.01 |
| | #1 | LF-12 | 0.19 | 0.14 | 0.09 |
| | #1 | LF-13 | 0.05 | 0.03 | 0.01 |
| | #1 | LF-14 | 13.07 | 13.96 | 14.74 |
| | #1 | LF-15 | -0.02 | -0.02 | -0.01 |
| | #1 | LF-18 | 0.05 | 0.05 | 0.04 |
| | #1 | LF-19 | 1.76 | 1.66 | 1.44 |
| | #1 | LF-22 | -0.14 | -0.10 | -0.06 |
| | #2 | LF-18 | -0.02 | -0.05 | -0.07 |
| | #2 | LF-19 | -0.09 | -0.10 | -0.10 |
| | #2 | LF-21 | 1.59 | 2.21 | 2.62 |
| | #2 | LF-22 | 9.60 | 9.85 | 10.05 |
| | #2 | LF-23 | 1.34 | 0.83 | 0.50 |
| | #3 | LF-8 | 0.08 | 0.02 | -0.04 |
| | #2 | LF-3 | 0.01 | 0.01 | 0.01 |
| | #2 | LF-5 | 1.25 | 1.20 | 0.92 |
| | #2 | LF-6 | -0.08 | -0.03 | 0.01 |
| | #2 | LF-11 | 0.00 | 0.01 | 0.02 |
| | #2 | LF-12 | 0.04 | 0.04 | 0.04 |
| | #2 | LF-14 | -0.01 | -0.01 | -0.02 |
| | #2 | LF-15 | 0.00 | 0.15 | 0.27 |
| | #2 | LF-16 | 0.01 | -0.14 | -0.22 |
| | #3 | LF-3 | 0.02 | 0.00 | -0.02 |
| | #3 | LF-4 | -6.99 | -7.35 | -7.52 |
| | #3 | LF-5 | 0.10 | 0.30 | 0.47 |
| | #3 | LF-6 | 3.90 | 4.26 | 4.46 |
| | #3 | LF-7 | 7.43 | 7.17 | 6.79 |
| Qk.N_T2 | #1 | LF-20 | 0.00 | -0.01 | -0.01 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-1.26_3 | | | | | |
| Gk | #1 | LF-1 (g) | 32.45 | 31.35 | 30.81 |
| | #2 | LF-1 | 25.77 | 25.90 | 24.99 |
| | #3 | LF-1 | 37.50 | 39.29 | 38.86 |
| Ö← | #1 | LF-2 (g) | 4.74 | 4.27 | 4.03 |
| | #2 | LF-2 | 3.41 | 3.29 | 3.07 |
| | #3 | LF-2 | 2.20 | 2.35 | 2.37 |
| Qk.N_E1 | #1 | LF-4 | 0.04 | 0.00 | -0.03 |
| | #1 | LF-5 | -5.28 | -5.49 | -5.38 |
| | #1 | LF-6 | -0.65 | -0.48 | -0.37 |
| | #1 | LF-7 | 0.02 | 0.02 | 0.01 |
| | #1 | LF-11 | 0.08 | 0.08 | 0.08 |
| | #1 | LF-12 | -0.42 | -0.41 | -0.38 |
| | #1 | LF-13 | -0.70 | -0.89 | -1.02 |
| | #1 | LF-14 | 18.68 | 18.07 | 17.43 |
| | #1 | LF-15 | 0.15 | 0.20 | 0.23 |
| | #1 | LF-18 | 0.01 | 0.01 | 0.01 |
| | #1 | LF-19 | -2.26 | -2.33 | -2.28 |
| | #1 | LF-22 | 0.30 | 0.27 | 0.24 |
| | #2 | LF-18 | -0.53 | -0.55 | -0.52 |
| | #2 | LF-19 | -0.02 | -0.02 | -0.01 |
| | #2 | LF-21 | 6.01 | 6.14 | 5.95 |
| | #2 | LF-22 | 11.42 | 11.23 | 10.58 |
| | #2 | LF-23 | -0.42 | -0.39 | -0.34 |
| | #3 | LF-8 | -1.06 | -1.15 | -1.15 |

| | Lastfall | Lasten (3 Abschnitte je 0.24m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| Qk.N_DA | #2 | LF-5 | -5.78 | -6.09 | -6.03 |
| | #2 | LF-6 | 0.62 | 0.66 | 0.67 |
| | #2 | LF-11 | 0.25 | 0.28 | 0.29 |
| | #2 | LF-12 | 0.01 | 0.01 | 0.01 |
| | #2 | LF-14 | -0.21 | -0.23 | -0.23 |
| | #2 | LF-15 | 1.35 | 1.38 | 1.33 |
| | #2 | LF-16 | -0.28 | -0.25 | -0.21 |
| | #3 | LF-3 | -0.32 | -0.34 | -0.33 |
| | #3 | LF-4 | -5.70 | -5.26 | -4.73 |
| | #3 | LF-5 | 3.54 | 3.86 | 3.90 |
| | #3 | LF-6 | 6.41 | 6.52 | 6.30 |
| | #3 | LF-7 | 0.46 | -0.08 | -0.40 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.08m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| W-1.26_4 Gk | #1 | LF-1 (g) | 29.47 | 29.41 | 29.36 |
| | #2 | LF-1 | 22.44 | 22.69 | 22.95 |
| | #3 | LF-1 | 20.29 | 20.22 | 20.16 |
| Ö← | #1 | LF-2 (g) | 2.90 | 2.87 | 2.84 |
| | #2 | LF-2 | 1.24 | 1.19 | 1.13 |
| | #3 | LF-2 | 1.72 | 1.74 | 1.77 |
| Qk.N_El | #1 | LF-5 | 0.32 | 0.41 | 0.50 |
| | #1 | LF-6 | 0.02 | 0.02 | 0.02 |
| | #1 | LF-7 | -0.02 | -0.02 | -0.02 |
| | #1 | LF-11 | -0.02 | -0.03 | -0.03 |
| | #1 | LF-12 | 0.06 | 0.06 | 0.06 |
| | #1 | LF-13 | 1.56 | 1.92 | 2.27 |
| | #1 | LF-14 | 3.76 | 3.27 | 2.78 |
| | #1 | LF-15 | -0.03 | -0.09 | -0.15 |
| | #1 | LF-19 | 0.12 | 0.15 | 0.18 |
| | #1 | LF-22 | -0.06 | -0.05 | -0.04 |
| | #2 | LF-18 | 1.84 | 1.95 | 2.07 |
| | #2 | LF-21 | 2.18 | 2.11 | 2.03 |
| | #2 | LF-22 | 2.29 | 2.12 | 1.94 |
| | #2 | LF-23 | -0.01 | -0.01 | 0.00 |
| | #3 | LF-8 | 0.55 | 0.65 | 0.75 |
| Qk.N_DA | #2 | LF-5 | -2.29 | -2.28 | -2.28 |
| | #2 | LF-6 | 0.14 | 0.12 | 0.10 |
| | #2 | LF-11 | -0.17 | -0.19 | -0.22 |
| | #2 | LF-14 | 0.20 | 0.22 | 0.24 |
| | #2 | LF-15 | 0.33 | 0.32 | 0.30 |
| | #3 | LF-3 | 0.53 | 0.58 | 0.63 |
| | #3 | LF-4 | -0.45 | -0.38 | -0.31 |
| | #3 | LF-5 | 2.69 | 2.70 | 2.72 |
| | #3 | LF-6 | 1.09 | 0.98 | 0.86 |
| | #3 | LF-7 | -0.41 | -0.39 | -0.37 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | [kN/m] | | | | | |
|--------------|----------|--------------------------------|--------|-------|-------|-------|-------|-------|
| W-1.27 Gk | #1 | LF-1 (g) | 4.13 | 44.08 | 47.19 | 45.63 | 55.27 | 79.62 |
| | | | 34.90 | 4.22 | | | | 61.23 |
| | #2 | LF-1 | 36.07 | 52.00 | 61.53 | 63.07 | 59.77 | 52.26 |
| | | | 31.16 | 20.82 | | | | 42.82 |
| | #3 | LF-1 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 |
| | | | | | | | | -0.01 |
| | | | | | | | | |
| | | | | | | | | |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---------|---------------|---|-------|-------|-------|-------|-------|-------|--------|
| | | -0.22 | 0.20 | | | | | | |
| Ö← | #1 LF-2 (g) | -6.50 | 7.68 | 8.84 | 8.31 | 11.53 | 20.32 | 14.41 | |
| | | 4.73 | -7.33 | | | | | | |
| | #2 LF-2 | 7.42 | 9.61 | 12.33 | 12.96 | 11.98 | 9.64 | 6.58 | |
| | | 2.44 | -1.79 | | | | | | |
| | #3 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | |
| Qk.N_E1 | | 0.07 | -0.01 | | | | | | |
| | #1 LF-3 | -12.52 | 14.32 | 16.55 | 15.50 | 16.13 | 25.23 | 17.03 | |
| | | 3.69 | -7.52 | | | | | | |
| | #1 LF-4 | -0.34 | 0.09 | 0.24 | 0.67 | -1.70 | -7.64 | -6.85 | |
| | | -6.45 | -14.9 | | | | | | |
| | #1 LF-5 | -0.08 | 0.02 | 0.05 | 0.14 | -0.15 | -1.34 | -1.67 | |
| | | -2.50 | -8.49 | | | | | | |
| | #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | |
| | | 0.07 | -0.17 | | | | | | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | -0.01 | -0.02 | | | | | | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | | 0.04 | 0.00 | | | | | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-17 | -1.92 | 0.52 | 0.68 | 0.69 | 1.23 | 5.27 | 9.24 | |
| | | 8.79 | 1.31 | | | | | | |
| | #1 LF-18 | 0.29 | -0.07 | -0.09 | -0.08 | -0.16 | -0.88 | -2.04 | |
| | | -2.96 | 6.97 | | | | | | |
| | #1 LF-19 | -0.02 | 0.01 | 0.01 | 0.04 | -0.03 | -0.36 | -0.49 | |
| | | -0.77 | -2.81 | | | | | | |
| | #1 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.01 | | | | | | |
| | #2 LF-17 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | |
| | | 0.00 | 0.00 | | | | | | |
| | #2 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | |
| | | 0.03 | -0.05 | | | | | | |
| | #2 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.05 | -0.18 | |
| | | -0.14 | 0.75 | | | | | | |
| | #2 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.07 | |
| | | 0.03 | -0.22 | | | | | | |
| | #2 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | |
| | | 0.03 | -0.07 | | | | | | |
| Qk.N_DA | #2 LF-3 | -1.50 | 14.73 | 23.00 | 24.85 | 23.55 | 20.10 | 15.16 | |
| | | 7.76 | -2.17 | | | | | | |
| | #2 LF-4 | 7.48 | 8.17 | 7.25 | 7.20 | 7.24 | 6.93 | 6.57 | |
| | | 6.41 | 5.95 | | | | | | |
| | #2 LF-5 | -3.22 | -4.47 | -4.80 | -5.56 | -6.21 | -6.57 | -6.56 | |
| | | -8.10 | -12.7 | | | | | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.01 | | | | | | |
| | #2 LF-10 | 0.12 | -0.05 | -0.10 | -0.13 | -0.14 | -0.18 | -0.13 | |
| | | 0.02 | 0.13 | | | | | | |
| | | #2 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | | 0.00 | 0.00 | | | | | | |
| Qk.N_T2 | #2 LF-12 | 0.17 | -0.08 | -0.20 | -0.27 | -0.41 | -0.92 | -1.84 | |
| | | -1.10 | 5.80 | | | | | | |
| | #2 LF-13 | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.01 | |
| | | 0.00 | 0.01 | | | | | | |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | |
| | | 0.02 | -0.06 | | | | | | |
| | #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.12 | |
| | | 0.26 | -0.04 | | | | | | |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | |
| | | -0.12 | 0.02 | | | | | | |
| | #1 LF-20 | 1.04 | 0.50 | 0.17 | -0.44 | 7.56 | 19.52 | 12.23 | |
| | | 8.60 | 10.02 | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.28
Gk

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|--|---------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | | | | | | | | | |
| | #1 LF-1 (g) | 0.61 | 43.39 | 45.53 | 46.70 | 59.01 | 53.58 | 87.32 | |
| | | 83.50 | 200.4 | | | | | | |
| | #2 LF-1 | 21.87 | 48.49 | 63.14 | 72.38 | 61.84 | 36.81 | 57.43 | |
| | | 100.76 | 166.0 | | | | | | |
| | #3 LF-1 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.07 | 0.09 | |
| | | -0.38 | -1.71 | | | | | | |

Ö←

| | | | | | | | | | |
|--|---------------|-------|-------|-------|-------|-------|-------|-------|--|
| | #1 LF-2 (g) | -6.40 | 7.30 | 8.13 | 8.60 | 12.71 | 10.51 | 22.95 | |
| | | 21.75 | 64.04 | | | | | | |
| | #2 LF-2 | 2.20 | 8.36 | 12.79 | 15.86 | 12.53 | 4.56 | 11.15 | |
| | | 24.47 | 44.20 | | | | | | |
| | #3 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | | -0.03 | -0.18 | | | | | | |

Qk.N_E1

| | | | | | | | | | |
|--|------------|--------|-------|-------|-------|-------|-------|-------|--|
| | #1 LF-3 | -0.27 | 0.06 | 0.15 | 0.22 | -2.13 | -4.64 | -4.16 | |
| | | -1.71 | -1.46 | | | | | | |
| | #1 LF-4 | -14.65 | 14.16 | 16.04 | 17.10 | 19.91 | 12.63 | 38.17 | |
| | | 28.36 | 48.04 | | | | | | |
| | #1 LF-5 | -1.54 | 0.08 | -0.08 | -0.19 | 0.64 | -0.35 | 2.73 | |
| | | 6.26 | 34.97 | | | | | | |
| | #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.06 | |
| | | -0.05 | -1.23 | | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | |
| | | -0.01 | 0.04 | | | | | | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | | 0.01 | 0.19 | | | | | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-17 | -0.07 | 0.02 | 0.04 | 0.06 | -0.44 | -1.10 | -1.19 | |
| | | -0.66 | -0.92 | | | | | | |
| | #1 LF-18 | 0.03 | 0.00 | 0.00 | -0.01 | 0.00 | 0.01 | -0.43 | |
| | | 0.66 | 11.10 | | | | | | |
| | #1 LF-19 | -0.29 | 0.00 | -0.05 | -0.09 | 0.09 | -0.31 | 0.12 | |
| | | 2.78 | 22.31 | | | | | | |
| | #1 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | | 0.01 | -0.02 | | | | | | |
| | #2 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

D-561

Schulcampus EWK \

EG-LP4

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| | | 0.00 | 0.00 | | | | | |
| Qk.N_DA | #2 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | -0.01 | -0.11 | | | | | |
| | #2 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.07 |
| | | 0.08 | 0.56 | | | | | |
| | #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #2 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.02 | 0.08 | | | | | |
| | #2 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 |
| | | -0.06 | -0.46 | | | | | |
| | #2 LF-3 | -4.70 | -4.54 | -4.73 | -5.83 | -5.07 | -2.93 | -2.90 |
| | | -2.56 | -1.79 | | | | | |
| | #2 LF-4 | 8.92 | 8.37 | 7.35 | 7.50 | 6.74 | 5.21 | 5.63 |
| | | 6.32 | 6.49 | | | | | |
| | #2 LF-5 | -5.15 | 12.84 | 23.28 | 29.93 | 23.24 | 7.00 | 19.87 |
| | | 43.23 | 75.14 | | | | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 |
| | | 0.01 | 0.00 | | | | | |
| | #2 LF-10 | 0.03 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 |
| | | 0.03 | 0.03 | | | | | |
| | #2 LF-12 | 0.07 | 0.06 | 0.08 | 0.11 | 0.07 | -0.19 | -0.55 |
| | | 1.66 | 8.57 | | | | | |
| | #2 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.03 |
| | | -0.09 | -0.51 | | | | | |
| | #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.03 | | | | | |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.03 |
| | | -0.07 | -0.40 | | | | | |
| Qk.N_T2 | #1 LF-20 | 1.06 | 0.53 | 0.29 | 0.15 | 7.44 | 15.07 | 10.82 |
| | | 7.17 | 8.11 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-1.29

Gk

Ö←

Qk.N_E1

| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|---------|---------------|---|-------|-------|--------|
| Gk | #1 LF-1 (g) | 65.70 | 135.3 | 233.2 | |
| | #2 LF-1 | 96.40 | 159.2 | 227.0 | |
| | #3 LF-1 | -0.01 | -0.01 | -0.01 | |
| Ö← | #1 LF-2 (g) | 28.96 | 59.04 | 102.9 | |
| | #2 LF-2 | 33.87 | 55.51 | 78.90 | |
| Qk.N_E1 | #1 LF-3 | 0.03 | 0.22 | 0.47 | |
| | #1 LF-4 | 29.26 | 64.69 | 114.3 | |
| | #1 LF-5 | -4.23 | 5.29 | 17.91 | |
| | #1 LF-6 | 0.01 | 0.00 | -0.01 | |
| | #1 LF-7 | 0.00 | 0.00 | 0.01 | |
| | #1 LF-11 | 0.00 | 0.01 | 0.03 | |
| | #1 LF-12 | 0.04 | -0.06 | -0.20 | |
| | #1 LF-13 | 0.00 | 0.00 | 0.01 | |

D-562

Schulcampus EWK \

EG-LP4

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| Qk.N_DA | #1 | LF-14 | -0.01 | 0.01 | 0.02 |
| | #1 | LF-15 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-17 | 0.01 | 0.06 | 0.13 |
| | #1 | LF-18 | 0.01 | -0.05 | -0.13 |
| | #1 | LF-19 | -0.34 | 0.33 | 1.18 |
| | #1 | LF-22 | 0.00 | 0.02 | 0.06 |
| | #2 | LF-21 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-23 | 0.00 | -0.01 | -0.01 |
| | #2 | LF-3 | 0.18 | 0.39 | 0.60 |
| | #2 | LF-4 | -0.16 | -0.33 | -0.51 |
| | #2 | LF-5 | 31.61 | 54.92 | 79.54 |
| | #2 | LF-6 | 0.19 | 0.40 | 0.64 |
| | #2 | LF-10 | 0.00 | 0.00 | -0.01 |
| | #2 | LF-11 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-12 | -0.01 | -0.01 | -0.02 |
| | #2 | LF-15 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-16 | -0.01 | -0.01 | -0.01 |
| | #3 | LF-4 | 0.00 | 0.00 | 0.01 |
| | #3 | LF-7 | 0.00 | -0.01 | -0.01 |
| Qk.N_T2 | #1 | LF-20 | -0.06 | -0.38 | -0.79 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-1.30 | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
| Gk | #1 | LF-1 (g) | 198.7 | 172.1 | 195.8 |
| | #2 | LF-1 | 146.4 | 241.8 | 361.1 |
| | #3 | LF-1 | -0.17 | -0.36 | -0.60 |
| Ö← | #1 | LF-2 (g) | 87.90 | 76.06 | 88.05 |
| | #2 | LF-2 | 51.08 | 84.51 | 126.3 |
| | #3 | LF-2 | -0.01 | -0.03 | -0.05 |
| Qk.N_E1 | #1 | LF-3 | 0.28 | 0.08 | -0.11 |
| | #1 | LF-4 | 57.95 | 16.08 | -21.4 |
| | #1 | LF-5 | 50.15 | 73.56 | 122.8 |
| | #1 | LF-6 | -0.07 | -0.10 | -0.17 |
| | #1 | LF-7 | 0.03 | 0.00 | -0.03 |
| | #1 | LF-11 | 0.06 | 0.01 | -0.05 |
| | #1 | LF-12 | -0.48 | -0.01 | 0.59 |
| | #1 | LF-13 | 0.01 | 0.00 | -0.03 |
| | #1 | LF-14 | 0.05 | -0.01 | -0.08 |
| | #1 | LF-15 | 0.01 | 0.00 | -0.01 |
| | #1 | LF-17 | 0.08 | 0.02 | -0.03 |
| | #1 | LF-18 | -0.13 | -0.05 | 0.02 |
| | #1 | LF-19 | 2.61 | 4.28 | 7.52 |
| | #1 | LF-22 | 0.11 | 0.16 | 0.26 |
| | #2 | LF-18 | 0.00 | 0.00 | -0.01 |
| | #2 | LF-19 | 0.00 | 0.00 | -0.01 |
| | #2 | LF-21 | 0.00 | -0.01 | -0.03 |
| | #2 | LF-22 | 0.01 | 0.03 | 0.05 |
| | #2 | LF-23 | -0.03 | -0.05 | -0.07 |
| Qk.N_DA | #2 | LF-3 | 0.13 | 0.13 | 0.14 |
| | #2 | LF-4 | -0.10 | -0.11 | -0.13 |
| | #2 | LF-5 | 52.09 | 86.07 | 128.6 |
| | #2 | LF-6 | -0.63 | -0.97 | -1.29 |
| | #2 | LF-11 | -0.01 | -0.02 | -0.03 |
| | #2 | LF-12 | 0.00 | 0.00 | -0.01 |
| | #2 | LF-14 | 0.00 | -0.01 | -0.01 |

| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|--------------|---|---|-------|-------|--------|
| Qk.N_T2 | #2 | LF-15 | -0.01 | -0.03 | -0.04 |
| | #2 | LF-16 | -0.03 | -0.06 | -0.09 |
| | #3 | LF-4 | 0.00 | -0.01 | -0.02 |
| | #3 | LF-5 | 0.00 | -0.01 | -0.01 |
| | #3 | LF-7 | -0.03 | -0.04 | -0.06 |
| | #1 | LF-20 | -0.46 | -0.12 | 0.19 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
| W-1.31 Gk | #1 | LF-1 (g) | 213.0 | 116.1 | 53.55 |
| | #2 | LF-1 | 107.9 | 122.1 | 142.4 |
| | #3 | LF-1 | -0.30 | -0.20 | -0.15 |
| Ö← | #1 | LF-2 (g) | 97.30 | 51.92 | 23.10 |
| | #2 | LF-2 | 37.99 | 42.96 | 50.07 |
| | #3 | LF-2 | -0.02 | -0.01 | -0.01 |
| Qk.N_E1 | #1 | LF-3 | -0.06 | -0.02 | 0.01 |
| | #1 | LF-4 | -8.70 | -2.42 | 1.56 |
| | #1 | LF-5 | 115.1 | 47.41 | 2.09 |
| | #1 | LF-6 | -0.07 | -0.02 | 0.02 |
| | #1 | LF-7 | -0.33 | -0.37 | -0.45 |
| | #1 | LF-11 | -0.71 | -0.91 | -1.20 |
| | #1 | LF-12 | 9.52 | 12.56 | 16.30 |
| | #1 | LF-13 | -0.06 | -0.03 | -0.01 |
| | #1 | LF-14 | -0.11 | -0.04 | 0.01 |
| | #1 | LF-15 | -0.04 | -0.03 | -0.02 |
| | #1 | LF-17 | -0.02 | 0.00 | 0.00 |
| | #1 | LF-18 | 0.02 | 0.01 | 0.00 |
| | #1 | LF-19 | 7.06 | 2.75 | -0.20 |
| | #1 | LF-22 | -4.27 | -8.36 | -13.1 |
| | #2 | LF-18 | -0.01 | -0.01 | -0.01 |
| | #2 | LF-21 | -0.02 | -0.02 | -0.01 |
| | #2 | LF-22 | 0.02 | 0.01 | 0.01 |
| | #2 | LF-23 | -0.02 | -0.01 | -0.01 |
| Qk.N_DA | #2 | LF-3 | -0.01 | -0.03 | -0.05 |
| | #2 | LF-4 | 0.01 | 0.03 | 0.04 |
| | #2 | LF-5 | 38.52 | 42.33 | 48.34 |
| | #2 | LF-6 | -3.76 | -6.75 | -9.59 |
| | #2 | LF-11 | -0.04 | -0.05 | -0.06 |
| | #2 | LF-12 | -0.01 | 0.00 | 0.00 |
| | #2 | LF-14 | -0.01 | -0.01 | -0.01 |
| | #2 | LF-15 | -0.03 | -0.03 | -0.03 |
| | #2 | LF-16 | -0.02 | -0.02 | -0.02 |
| | #3 | LF-4 | -0.02 | -0.01 | -0.01 |
| | #3 | LF-5 | -0.02 | -0.01 | -0.01 |
| | #3 | LF-7 | -0.01 | -0.01 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | 0.09 | 0.03 | -0.01 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.83m) | | | [kN/m] |
| W-1.32 Gk | #1 | LF-1 (g) | 122.4 | 54.57 | 81.18 |
| | #2 | LF-1 | 99.28 | 69.64 | 84.99 |
| | #3 | LF-1 | 6.96 | 0.11 | -0.69 |
| Ö← | #1 | LF-2 (g) | 37.60 | 12.30 | 22.86 |
| | #2 | LF-2 | 24.00 | 15.00 | 20.05 |
| | #3 | LF-2 | 0.69 | 0.00 | -0.14 |

| | Lastfall | Lasten (3 Abschnitte je 0.83m) | | | | | | [kN/m] |
|--------------|---|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_E1 | #1 LF-3 | -0.03 | -0.01 | 0.01 | | | | |
| | #1 LF-4 | -0.44 | -0.39 | 0.86 | | | | |
| | #1 LF-5 | 40.29 | 12.95 | 23.69 | | | | |
| | #1 LF-6 | 8.29 | 1.74 | -1.43 | | | | |
| | #1 LF-7 | -0.05 | -0.03 | -0.02 | | | | |
| | #1 LF-11 | -0.11 | -0.06 | -0.04 | | | | |
| | #1 LF-12 | 0.92 | 0.46 | 0.50 | | | | |
| | #1 LF-13 | 0.01 | 0.04 | -0.02 | | | | |
| | #1 LF-14 | -1.80 | -0.42 | 3.21 | | | | |
| | #1 LF-15 | -0.02 | -0.02 | 0.00 | | | | |
| | #1 LF-18 | -1.13 | -0.04 | 0.05 | | | | |
| | #1 LF-19 | 24.96 | 8.83 | 15.85 | | | | |
| | #1 LF-22 | -0.60 | -0.31 | -0.27 | | | | |
| | #2 LF-18 | 0.01 | 0.01 | -0.05 | | | | |
| | #2 LF-19 | 0.11 | -0.03 | -0.05 | | | | |
| | #2 LF-20 | -0.06 | 0.00 | 0.01 | | | | |
| | #2 LF-21 | -0.38 | -0.33 | 0.26 | | | | |
| | #2 LF-22 | -0.67 | 0.04 | 0.04 | | | | |
| | #2 LF-23 | 1.61 | 0.12 | -0.48 | | | | |
| | #3 LF-8 | 0.01 | 0.02 | 0.01 | | | | |
| Qk.N_DA | #2 LF-3 | -0.03 | -0.01 | 0.02 | | | | |
| | #2 LF-4 | -0.08 | 0.00 | -0.01 | | | | |
| | #2 LF-5 | 43.71 | 28.24 | 38.64 | | | | |
| | #2 LF-6 | -0.61 | -0.53 | -0.96 | | | | |
| | #2 LF-11 | -0.03 | -0.02 | 0.00 | | | | |
| | #2 LF-12 | -0.72 | -0.02 | 0.04 | | | | |
| | #2 LF-14 | -0.01 | 0.00 | -0.07 | | | | |
| | #2 LF-15 | -0.36 | 0.29 | 2.02 | | | | |
| | #2 LF-16 | 5.17 | 1.87 | 0.07 | | | | |
| | #3 LF-3 | 0.01 | 0.01 | 0.00 | | | | |
| | #3 LF-4 | -0.03 | -0.13 | 0.11 | | | | |
| | #3 LF-5 | -0.07 | -0.07 | 0.00 | | | | |
| | #3 LF-6 | -0.22 | -0.09 | 0.08 | | | | |
| | #3 LF-7 | 1.70 | 0.29 | -0.47 | | | | |
| Qk.N_T2 | #1 LF-20 | -0.08 | 0.01 | -0.01 | | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| W-1.33 Gk | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
| | #1 LF-1 | -30.86 | -1.63 | 12.59 | 20.54 | 24.40 | 25.29 | 23.93 |
| | | 20.07 | -14.4 | | | | | |
| | #2 LF-1 | 12.12 | 20.12 | 37.46 | 45.67 | 49.52 | 50.59 | 49.34 |
| | | 43.67 | 27.95 | | | | | |
| | #3 LF-1 | 0.12 | 0.06 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 |
| | | 0.00 | -0.02 | | | | | |
| | #1 LF-2 | -2.98 | 8.22 | 13.58 | 16.52 | 17.95 | 18.28 | 17.70 |
| | | 16.13 | 8.80 | | | | | |
| | #2 LF-2 | 4.65 | 8.87 | 14.91 | 17.56 | 18.79 | 19.13 | 18.70 |
| | | 16.98 | 12.82 | | | | | |
| Ö← | #3 LF-2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| Qk.N_E1 | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-4 | 0.52 | -0.08 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-5 | -13.77 | -3.27 | -1.91 | -1.11 | -0.63 | -0.37 | -0.23 |

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|----------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | #1 LF-6 | -0.18 | 0.93 | | | | | |
| | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-7 | 0.00 | 0.00 | | | | | |
| | | -0.30 | -0.13 | -0.03 | 0.09 | 0.17 | 0.22 | 0.24 |
| | #1 LF-11 | 0.24 | -1.43 | | | | | |
| | | -0.89 | -0.23 | 0.14 | 0.46 | 0.66 | 0.73 | 0.74 |
| | #1 LF-12 | 0.73 | -4.43 | | | | | |
| | | -0.65 | -3.01 | -1.51 | -0.76 | -0.42 | -0.24 | -0.15 |
| | #1 LF-13 | -0.11 | 0.59 | | | | | |
| | | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-14 | 0.00 | 0.00 | | | | | |
| | | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-15 | 0.00 | 0.00 | | | | | |
| | | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | #1 LF-19 | 0.00 | -0.01 | | | | | |
| | | -1.60 | -0.66 | -0.43 | -0.28 | -0.18 | -0.12 | -0.08 |
| | #1 LF-22 | -0.06 | 0.33 | | | | | |
| | | -9.29 | 6.01 | 12.63 | 16.24 | 17.86 | 17.94 | 16.78 |
| | #2 LF-18 | 14.08 | -10.7 | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-21 | 0.00 | 0.00 | | | | | |
| | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-22 | 0.00 | 0.00 | | | | | |
| | | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-23 | 0.00 | 0.00 | | | | | |
| | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-3 | 0.00 | 0.00 | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-4 | 0.00 | 0.00 | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-5 | -8.34 | -7.72 | -3.60 | -1.97 | -1.17 | -0.71 | -0.47 |
| | | -0.14 | 1.31 | | | | | |
| | #2 LF-6 | -7.04 | 3.88 | 10.05 | 13.25 | 14.84 | 15.09 | 14.31 |
| | | 9.60 | -8.84 | | | | | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | | 0.00 | -0.06 | | | | | |
| | #2 LF-14 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-15 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-16 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-4 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-5 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | [kN/m] |
|------------|---|--------|
| #1 LF-21 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.00 0.00 | |

W-1.34

Gk

| Lastfall | Lasten (3 Abschnitte je 0.84m) | [kN/m] |
|----------|--------------------------------|--------|
|----------|--------------------------------|--------|

| | |
|---------------|-------------------|
| #1 LF-1 (g) | 110.5 75.43 46.55 |
| #2 LF-1 | 43.77 45.31 48.32 |
| #3 LF-1 | -0.11 0.32 -0.36 |

Ö←

| | |
|---------------|-------------------|
| #1 LF-2 (g) | 34.54 21.31 10.10 |
| #2 LF-2 | 10.34 9.97 9.30 |

Qk.N_E1

| | |
|------------|-------------------|
| #1 LF-4 | 0.14 -0.02 -0.05 |
| #1 LF-5 | 38.60 20.45 10.07 |
| #1 LF-6 | -0.01 0.01 0.00 |
| #1 LF-7 | -0.67 -0.69 -1.27 |
| #1 LF-11 | -1.32 -1.44 -2.08 |
| #1 LF-12 | 6.15 5.06 4.20 |
| #1 LF-13 | 3.30 5.94 2.76 |
| #1 LF-14 | -0.91 -0.90 -0.17 |
| #1 LF-15 | -0.54 -1.82 -1.94 |
| #1 LF-18 | 0.00 0.00 0.00 |
| #1 LF-19 | 24.52 17.60 11.95 |
| #1 LF-22 | -5.28 -4.83 -5.29 |
| #2 LF-18 | 0.29 0.63 0.14 |
| #2 LF-21 | -0.28 -0.31 -0.17 |
| #2 LF-22 | 0.08 0.09 0.08 |
| #2 LF-23 | 0.00 0.00 0.00 |
| #3 LF-8 | -0.03 -0.05 -0.02 |

Qk.N_DA

| | |
|------------|-------------------|
| #2 LF-5 | 24.06 29.58 31.39 |
| #2 LF-6 | -4.71 -10.9 -15.6 |
| #2 LF-10 | 0.00 0.01 0.01 |
| #2 LF-11 | -0.88 -1.77 0.62 |
| #2 LF-12 | 0.00 0.00 0.00 |
| #2 LF-14 | 1.71 2.78 2.24 |
| #2 LF-15 | 0.14 -0.29 -0.24 |
| #2 LF-16 | -0.01 0.00 0.00 |
| #3 LF-3 | -0.01 -0.02 -0.01 |
| #3 LF-4 | -0.11 -0.09 -0.07 |
| #3 LF-5 | 0.11 0.19 0.05 |
| #3 LF-6 | -0.10 -0.11 -0.04 |
| #3 LF-7 | 0.07 0.08 0.04 |

Qk.N_T2

| | |
|------------|----------------|
| #1 LF-20 | 0.00 0.00 0.00 |
|------------|----------------|

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WS-1.5_BR

á|bÁÛUËFÈIÁÓ↔&æ^&æ}↔´â\ÃÑãfib\|^&

| Lastfall | Lasten (1 Abschnitte je 0.89m) | [kN/m] |
|----------|--------------------------------|--------|
|----------|--------------------------------|--------|

Gk

| | |
|-----------|------|
| #1 LF-1 | 0.00 |
|-----------|------|

WS-1.5_SA_W-1.5_2

aus WS-1.5 Sturzanfang

| Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|----------|--------------------------------|--------|
|----------|--------------------------------|--------|

Gk

| | |
|-----------|-------|
| #1 LF-1 | 31.53 |
| | 120.1 |
| #2 LF-1 | 176.9 |
| #3 LF-1 | 0.00 |

Ö←

| | |
|-----------|-------|
| #1 LF-2 | 42.01 |
| #2 LF-2 | 25.51 |
| #3 LF-2 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|--------------------------|----------|--------------------------------|--------|
| Qk.N_E1 | #1 | LF-3 | -0.21 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 4.31 |
| | #1 | LF-8 | 3.58 |
| | #1 | LF-9 | 1.90 |
| | #1 | LF-10 | -12.8 |
| | #1 | LF-11 | 0.14 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 36.30 |
| | #1 | LF-16 | 2.27 |
| | #1 | LF-17 | -0.02 |
| | #1 | LF-18 | 0.32 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-22 | 0.04 |
| | #2 | LF-17 | -2.68 |
| | #2 | LF-18 | 0.00 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| | #2 | LF-22 | 0.00 |
| | #2 | LF-23 | 0.00 |
| | #3 | LF-8 | 0.00 |
| Qk.N_DA | #2 | LF-3 | 0.05 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | -3.30 |
| | #2 | LF-7 | 11.28 |
| | #2 | LF-8 | 6.21 |
| | #2 | LF-9 | 16.14 |
| | #2 | LF-10 | 0.77 |
| | #2 | LF-11 | 21.99 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.08 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 1.83 |
| WS-1.5_SE_W-1.5_1 | | aus WS-1.5 Sturzende | |
| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
| Gk | #1 | LF-1 | 3.01 |
| | | | 10.38 |
| | #2 | LF-1 | 14.62 |
| | #3 | LF-1 | 0.00 |
| Ö← | #1 | LF-2 | 3.75 |
| | | | D-568 |

| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
|-------------|--------------------------------------|--------------------------------|--------|
| Qk.N_E1 | #2 | LF-2 | 2.23 |
| | #3 | LF-2 | 0.00 |
| | #1 | LF-3 | -0.01 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 1.01 |
| | #1 | LF-8 | 2.11 |
| | #1 | LF-9 | 0.20 |
| | #1 | LF-10 | -1.19 |
| | #1 | LF-11 | 0.03 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 1.85 |
| | #1 | LF-16 | 0.15 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.01 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-22 | 0.01 |
| | #2 | LF-17 | -0.23 |
| | #2 | LF-18 | 0.00 |
| | #2 | LF-19 | 0.00 |
| Qk.N_DA | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| | #2 | LF-22 | 0.00 |
| | #2 | LF-23 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.01 |
| | #2 | LF-7 | 0.58 |
| | #2 | LF-8 | 1.35 |
| | #2 | LF-9 | 1.55 |
| | #2 | LF-10 | -0.05 |
| | #2 | LF-11 | 1.31 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | -0.10 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | -0.75 |
| WS-T-1.2_BR | á bÁÛÜËÜËËËËGÁÓ↔&æ^&æ}↔´å\ÁÑñfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 1.01m) | [kN/m] |
| | #1 | LF-1 | 0.00 |

WS-T-1.2_SA_WT-1.2_1 aus WS-T-1.2 Sturzanfang

| | Lastfall | Lasten (1 Abschnitte je 0.29m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Gk | #1 | LF-1 | 10.34 |
| | | | -85.3 |
| | #2 | LF-1 | 3.46 |
| Ö← | #3 | LF-1 | 0.39 |
| | #1 | LF-2 | -29.5 |
| | #2 | LF-2 | 0.47 |
| Qk.N_E1 | #3 | LF-2 | -0.01 |
| | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | -0.02 |
| | #1 | LF-5 | 14.58 |
| | #1 | LF-6 | -0.01 |
| | #1 | LF-7 | -24.8 |
| | #1 | LF-8 | -0.01 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | -36.7 |
| | #1 | LF-12 | 9.28 |
| | #1 | LF-13 | -1.84 |
| | #1 | LF-14 | 0.06 |
| | #1 | LF-15 | 12.17 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 22.88 |
| | #1 | LF-22 | -61.6 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | -0.02 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | -0.02 |
| | #2 | LF-22 | 0.04 |
| | #2 | LF-23 | 0.00 |
| | #3 | LF-8 | -0.08 |
| Qk.N_DA | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.81 |
| | #2 | LF-6 | -1.03 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.02 |
| | #2 | LF-11 | 1.25 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.06 |
| | #2 | LF-15 | -0.02 |
| | #2 | LF-16 | 0.00 |
| | #3 | LF-3 | -0.03 |
| | #3 | LF-4 | -0.02 |
| | #3 | LF-5 | 0.02 |
| | #3 | LF-6 | 0.01 |
| | #3 | LF-7 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.04 |

| WS-T-1.2_SE_WT-1.2_2 | | aus WS-T-1.2 Sturzende | |
|----------------------|----|---|--------|
| | | Lastfall Lasten (1 Abschnitte je 0.29m) | [kN/m] |
| Gk | #1 | LF-1 | 10.34 |
| | | | -113 |
| | #2 | LF-1 | 0.33 |
| Ö← | #3 | LF-1 | 0.42 |
| | #1 | LF-2 | -40.6 |
| | #2 | LF-2 | -0.12 |
| Qk.N_E1 | #3 | LF-2 | -0.01 |
| | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | -0.02 |
| | #1 | LF-5 | 9.92 |
| | #1 | LF-6 | -0.01 |
| | #1 | LF-7 | -25.7 |
| | #1 | LF-8 | -0.02 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | -40.2 |
| | #1 | LF-12 | 7.41 |
| | #1 | LF-13 | -1.51 |
| | #1 | LF-14 | 0.06 |
| | #1 | LF-15 | 14.79 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 18.78 |
| | #1 | LF-22 | -71.2 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | 0.02 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | -0.02 |
| | #2 | LF-22 | 0.03 |
| | #2 | LF-23 | 0.00 |
| | #3 | LF-8 | -0.08 |
| Qk.N_DA | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | -0.57 |
| | #2 | LF-6 | -0.31 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.01 |
| | #2 | LF-11 | 0.83 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | -0.01 |
| | #2 | LF-15 | -0.01 |
| | #2 | LF-16 | 0.00 |
| | #3 | LF-3 | -0.03 |
| | #3 | LF-4 | -0.03 |
| | #3 | LF-5 | 0.02 |
| | #3 | LF-6 | 0.01 |
| | #3 | LF-7 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.05 |
| | | | D-571 |

WT-1.1

Gk

Lastfall Lasten (9 Abschnitte je 0.96m) [kN/m]

| | | | | | | | | |
|---------------|--------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-1 (g) | | | | | | | | |
| | 272.15 | 75.63 | 24.02 | 91.78 | 91.24 | 75.91 | 64.00 | |
| | 50.72 | 52.29 | | | | | | |
| #2 LF-1 | 282.46 | 95.46 | 29.88 | 72.07 | 83.32 | 75.24 | 66.29 | |
| | 61.26 | 71.45 | | | | | | |
| #3 LF-1 | -1.24 | -0.49 | -0.06 | 0.00 | 0.01 | 0.01 | 0.00 | |
| | 0.00 | -0.01 | | | | | | |

Ö←

| | | | | | | | | |
|---------------|-------|-------|------|-------|-------|-------|-------|--|
| #1 LF-2 (g) | | | | | | | | |
| | 92.16 | 19.97 | 1.04 | 25.46 | 25.17 | 19.58 | 15.26 | |
| | 10.10 | 8.51 | | | | | | |
| #2 LF-2 | 79.70 | 23.23 | 2.91 | 15.51 | 18.39 | 15.39 | 12.29 | |
| | 9.70 | 9.20 | | | | | | |
| #3 LF-2 | -0.36 | -0.09 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |

Qk.N_E1

| | | | | | | | | |
|------------|--------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-3 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | -0.04 | -0.23 | | | | | | |
| #1 LF-5 | -1.19 | 0.13 | 0.08 | 0.02 | 0.01 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-7 | 105.07 | 31.87 | -1.33 | 40.41 | 39.31 | 29.40 | 21.85 | |
| | 10.39 | -10.7 | | | | | | |
| #1 LF-8 | 0.07 | 0.05 | -0.03 | 0.10 | 0.21 | 0.35 | 0.71 | |
| | 1.21 | -0.30 | | | | | | |
| #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | |
| | -0.03 | 0.00 | | | | | | |
| #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.03 | |
| | 0.11 | 0.12 | | | | | | |
| #1 LF-11 | 38.94 | 0.21 | -2.32 | 1.09 | 0.80 | 0.21 | -0.04 | |
| | -0.20 | -0.47 | | | | | | |
| #1 LF-12 | -0.70 | 0.07 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-13 | -0.32 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-14 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-15 | 24.76 | 6.90 | 5.52 | 7.61 | 8.35 | 8.18 | 8.14 | |
| | 9.74 | 21.42 | | | | | | |
| #1 LF-16 | -0.01 | -0.02 | -0.02 | -0.01 | 0.00 | 0.01 | 0.01 | |
| | 0.04 | 0.40 | | | | | | |
| #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | -0.01 | -0.03 | | | | | | |
| #1 LF-18 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | 0.06 | 0.33 | | | | | | |
| #1 LF-19 | -1.12 | 0.10 | 0.07 | 0.02 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-22 | 14.23 | -0.76 | -1.07 | 0.10 | 0.12 | -0.01 | -0.06 | |
| | -0.09 | -0.14 | | | | | | |
| #2 LF-17 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | |
| | 0.00 | -0.62 | | | | | | |
| #2 LF-18 | -0.27 | -0.04 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-21 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #3 LF-8 | -0.08 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |

Qk.N_DA

| | | | | | | | | |
|-----------|-------|-------|------|------|------|------|------|--|
| #2 LF-3 | -0.02 | -0.01 | 0.01 | 0.03 | 0.06 | 0.10 | 0.15 | |
|-----------|-------|-------|------|------|------|------|------|--|

D-572

| Lastfall | | Lasten (9 Abschnitte je 0.96m) | | | | | | | [kN/m] |
|----------|-------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | | 0.16 | 0.29 | | | | | | |
| #2 | LF-5 | -2.10 | -0.35 | 0.13 | 0.02 | 0.00 | 0.01 | 0.01 | |
| | | 0.01 | 0.01 | | | | | | |
| #2 | LF-6 | 143.20 | 41.07 | 3.33 | 25.70 | 29.40 | 22.29 | 14.99 | |
| | | 5.73 | -5.28 | | | | | | |
| #2 | LF-7 | -0.25 | -0.13 | -0.02 | -0.26 | -0.51 | -0.80 | -1.23 | |
| | | -0.67 | 2.77 | | | | | | |
| #2 | LF-8 | 0.14 | 0.08 | 0.01 | 0.15 | 0.29 | 0.43 | 0.65 | |
| | | 0.57 | -0.52 | | | | | | |
| #2 | LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 | |
| | | -0.08 | -0.06 | | | | | | |
| #2 | LF-10 | -2.02 | -1.68 | -1.27 | -0.32 | 0.55 | 1.42 | 2.38 | |
| | | 3.66 | 5.88 | | | | | | |
| #2 | LF-11 | 20.91 | 7.67 | 3.78 | 5.64 | 6.86 | 7.25 | 7.60 | |
| | | 9.75 | 14.21 | | | | | | |
| #2 | LF-12 | 0.00 | -0.01 | -0.02 | -0.03 | -0.04 | -0.06 | -0.08 | |
| | | -0.08 | -0.11 | | | | | | |
| #2 | LF-13 | -0.04 | -0.05 | -0.04 | -0.03 | -0.01 | 0.00 | 0.01 | |
| | | 0.23 | 1.58 | | | | | | |
| #2 | LF-14 | -0.14 | -0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| #2 | LF-15 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| #3 | LF-3 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| #3 | LF-4 | -0.63 | -0.15 | 0.01 | 0.03 | 0.01 | 0.01 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| #3 | LF-5 | -0.09 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| #3 | LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| Qk.N_T2 | #1 | LF-21 | -0.20 | -0.15 | 0.09 | -0.29 | -0.61 | -0.99 | -1.94 |
| | | | -2.91 | 2.33 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| Lastfall | | Lasten (3 Abschnitte je 0.29m) | | | [kN/m] |
|-----------------|--|--------------------------------|----------|-------|--------|
| WT-1.2_1 | | | | | |
| Gk | | #1 | LF-1 (g) | 45.02 | 33.27 |
| | | #2 | LF-1 | 27.76 | 18.81 |
| | | #3 | LF-1 | -0.34 | -0.14 |
| Ö← | | #1 | LF-2 (g) | 10.16 | 5.77 |
| | | #2 | LF-2 | 5.33 | 3.57 |
| | | #3 | LF-2 | -0.03 | -0.02 |
| Qk.N_E1 | | #1 | LF-4 | -0.02 | -0.01 |
| | | #1 | LF-5 | 18.87 | 17.29 |
| | | #1 | LF-6 | -0.01 | -0.01 |
| | | #1 | LF-7 | -5.52 | -7.34 |
| | | #1 | LF-11 | -7.97 | -10.4 |
| | | #1 | LF-12 | 7.97 | 7.81 |
| | | #1 | LF-13 | -0.33 | -0.86 |
| | | #1 | LF-14 | -0.04 | -0.01 |
| | | #1 | LF-15 | 0.34 | 1.81 |
| | | #1 | LF-19 | 19.10 | 18.50 |
| | | #1 | LF-22 | -16.0 | -19.3 |
| | | #2 | LF-18 | -0.17 | -0.14 |
| | | #2 | LF-21 | -0.05 | -0.04 |

| | Lastfall | Lasten (3 Abschnitte je 0.29m) | [kN/m] | | |
|---|---|--------------------------------|--------|-------|-------|
| Qk.N_DA | #2 | LF-22 | 0.04 | 0.04 | 0.03 |
| | #3 | LF-8 | -0.02 | -0.03 | -0.04 |
| | #2 | LF-5 | 15.04 | 9.43 | 5.87 |
| | #2 | LF-6 | -7.64 | -4.85 | -3.11 |
| | #2 | LF-7 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-10 | 0.01 | 0.01 | 0.01 |
| | #2 | LF-11 | 2.68 | 2.23 | 1.77 |
| | #2 | LF-14 | 0.73 | 0.46 | 0.29 |
| | #2 | LF-15 | -0.07 | -0.05 | -0.03 |
| | #3 | LF-3 | -0.01 | -0.02 | -0.02 |
| | #3 | LF-4 | -0.03 | -0.02 | -0.02 |
| | #3 | LF-5 | -0.03 | -0.01 | -0.01 |
| | #3 | LF-6 | 0.00 | 0.01 | 0.01 |
| | #3 | LF-7 | 0.01 | 0.00 | 0.00 |
| Qk.N_T2 | #1 | LF-21 | 0.00 | 0.01 | 0.01 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| WT-1.2_2 | Lastfall Lasten (3 Abschnitte je 0.29m) | | [kN/m] | | |
| Gk | #1 | LF-1 (g) | 9.01 | 100.4 | 223.3 |
| | #2 | LF-1 | 1.04 | 3.18 | 5.78 |
| | #3 | LF-1 | 0.28 | 0.32 | 0.38 |
| Ö← | #1 | LF-2 (g) | -4.87 | 28.97 | 74.69 |
| | #2 | LF-2 | 0.31 | 0.93 | 1.70 |
| | #3 | LF-2 | -0.02 | -0.02 | -0.02 |
| Qk.N_E1 | #1 | LF-4 | -0.01 | -0.01 | -0.01 |
| | #1 | LF-5 | -0.31 | -4.02 | -8.43 |
| | #1 | LF-6 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-7 | 2.18 | 22.69 | 48.73 |
| | #1 | LF-8 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-11 | -2.94 | 25.05 | 61.58 |
| | #1 | LF-12 | 0.94 | -1.38 | -4.10 |
| | #1 | LF-13 | -0.54 | -0.48 | -0.45 |
| | #1 | LF-14 | 0.04 | 0.05 | 0.07 |
| | #1 | LF-15 | 12.43 | 14.67 | 17.06 |
| | #1 | LF-19 | 4.22 | 0.39 | -3.68 |
| | #1 | LF-22 | -28.9 | -1.88 | 36.05 |
| | #2 | LF-18 | 0.03 | 0.03 | 0.03 |
| | #2 | LF-22 | 0.01 | 0.01 | 0.01 |
| | #3 | LF-8 | -0.05 | -0.06 | -0.07 |
| Qk.N_DA | #2 | LF-5 | -0.89 | -1.03 | -1.22 |
| | #2 | LF-6 | 1.16 | 2.33 | 3.79 |
| | #2 | LF-7 | 0.00 | 0.00 | -0.01 |
| | #2 | LF-10 | -0.03 | -0.07 | -0.11 |
| | #2 | LF-11 | 0.47 | 0.66 | 0.88 |
| | #2 | LF-14 | -0.03 | -0.02 | -0.01 |
| | #3 | LF-3 | -0.02 | -0.02 | -0.02 |
| | #3 | LF-4 | -0.03 | -0.04 | -0.04 |
| | #3 | LF-5 | 0.01 | 0.01 | 0.02 |
| | #3 | LF-6 | 0.00 | 0.01 | 0.01 |
| Qk.N_T2 | #1 | LF-21 | 0.01 | -0.01 | -0.04 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| WT-1.3 | Lastfall Lasten (3 Abschnitte je 0.78m) | | [kN/m] | | |
| Gk | #1 | LF-1 (g) | 115.4 | 105.2 | 111.8 |
| | #2 | LF-1 | 82.02 | 46.74 | 37.02 |

| Lastfall Lasten (3 Abschnitte je 0.78m) | | [kN/m] | | |
|---|---|--------|-------|-------|
| Ö← | #3 LF-1 | 2.64 | 2.47 | 0.61 |
| | #1 LF-2 (g) | 36.21 | 32.34 | 34.81 |
| | #2 LF-2 | 20.13 | 11.17 | 8.43 |
| | #3 LF-2 | 0.09 | 0.12 | 0.02 |
| Qk.N_E1 | #1 LF-3 | 0.01 | 0.00 | 0.00 |
| | #1 LF-4 | 0.79 | 0.26 | 0.17 |
| | #1 LF-5 | 38.15 | 33.82 | 39.18 |
| | #1 LF-6 | -1.05 | -0.34 | -0.07 |
| | #1 LF-7 | -0.11 | -0.23 | -0.46 |
| | #1 LF-11 | -0.22 | -0.42 | -0.84 |
| | #1 LF-12 | 1.78 | 2.77 | 4.68 |
| | #1 LF-13 | -0.48 | -1.11 | -0.81 |
| | #1 LF-14 | 6.77 | 6.28 | 2.77 |
| | #1 LF-15 | 0.07 | 0.19 | 0.20 |
| | #1 LF-18 | 0.02 | 0.00 | 0.00 |
| | #1 LF-19 | 22.99 | 21.00 | 23.55 |
| | #1 LF-22 | -1.21 | -2.09 | -3.81 |
| | #2 LF-18 | -0.15 | -0.11 | 0.00 |
| | #2 LF-19 | -0.03 | -0.01 | 0.00 |
| | #2 LF-21 | 0.88 | 0.60 | 0.02 |
| | #2 LF-22 | -0.29 | -0.18 | 0.03 |
| | #2 LF-23 | -0.38 | -0.18 | -0.04 |
| | #3 LF-8 | -0.02 | -0.05 | -0.04 |
| Qk.N_DA | #2 LF-3 | 0.01 | 0.01 | 0.00 |
| | #2 LF-4 | -0.01 | 0.00 | 0.00 |
| | #2 LF-5 | 38.19 | 20.91 | 17.16 |
| | #2 LF-6 | -1.19 | -0.78 | -1.79 |
| | #2 LF-11 | 0.05 | -0.02 | -0.28 |
| | #2 LF-12 | 0.01 | 0.00 | 0.00 |
| | #2 LF-14 | -0.17 | 0.05 | 0.79 |
| | #2 LF-15 | 3.12 | 1.98 | 0.75 |
| | #2 LF-16 | -0.37 | -0.22 | -0.06 |
| | #3 LF-3 | -0.01 | -0.02 | -0.02 |
| | #3 LF-4 | 0.42 | 0.26 | -0.02 |
| | #3 LF-5 | 0.13 | 0.14 | 0.10 |
| | #3 LF-6 | 0.24 | 0.17 | 0.01 |
| | #3 LF-7 | -0.59 | -0.32 | -0.04 |
| Qk.N_T2 | #1 LF-20 | -0.01 | 0.00 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und Linienlast-Resultierenden, getrennt nach positiven und negativen Anteilen

Lasten aus Lastgruppen werden nicht

| Position | EW | Art | *~b↔\↔{ [kN] | ^æ&á\↔{ [kN] |
|-------------|-------|--------|--------------|--------------|
| Punktlasten | S-1.1 | Gk | PGr | 323.74 |
| | | Ö← | PGr | 22.65 |
| | | Qk.N_B | PGr | 3.30 -57.33 |
| | | 1 | | |
| | | Qk.N_C | PGr | 0.03 0.00 |
| | | 1 | | |

POSITION

EG-LP4

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|--------------|-------------|-----|-----------------|-----------------|
| | Qk.N_C 5 | PGr | 73.16 | -14.65 |
| | Qk.N_E 1 | PGr | 0.12 | -19.52 |
| | Qk.N_D A | PGr | 89.41 | -46.52 |
| | Qk.N_T 2 | PGr | 0.18 | -0.13 |
| S-1.2 | Gk | PGr | 415.50 | |
| | Ö← | PGr | 57.96 | |
| | Qk.N_B 1 | PGr | 7.32 | -27.38 |
| | Qk.N_C 1 | PGr | 0.00 | -0.15 |
| | Qk.N_C 5 | PGr | 68.44 | -9.73 |
| | Qk.N_E 1 | PGr | 0.00 | -9.03 |
| | Qk.N_D A | PGr | 89.01 | -17.62 |
| | Qk.N_T 2 | PGr | 0.50 | -0.04 |
| S-1.7 | Gk | PGr | 204.91 | |
| | Ö← | PGr | 81.58 | |
| | Qk.N_B 1 | PGr | 44.64 | -0.60 |
| | Qk.N_C 5 | PGr | 0.32 | -1.06 |
| | Qk.N_E 1 | PGr | 9.33 | 0.00 |
| | Qk.N_D A | PGr | 18.16 | -0.02 |
| | Qk.N_T 2 | PGr | 0.00 | -0.06 |
| Linienlasten | W-1.1 | Gk | 380.24 | |
| | Ö← | PGr | 147.62 | |
| | Qk.N_B 1 | PGr | 45.31 | -4.26 |
| | Qk.N_C 1 | PGr | 0.00 | 0.00 |
| | Qk.N_C 5 | PGr | 0.02 | -0.04 |
| | Qk.N_E 1 | PGr | 0.03 | -0.02 |
| | Qk.N_D A | PGr | 34.08 | -5.51 |
| | Qk.N_T 2 | PGr | 0.43 | -0.93 |
| | W-1.2 | Gk | 474.21 | |
| | Ö← | PGr | 188.29 | |
| | Qk.N_B 1 | PGr | 131.47 | 0.00 |
| | Qk.N_C 1 | PGr | 0.00 | -6.22 |

D-576

Schulcampus EWK \

EG-LP4

| | | POSITION | | EG-LP4 |
|----------|-------------|----------|------------------|------------------|
| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
| | Qk.N_C 5 | PGr | 0.07 | -0.90 |
| | Qk.N_E 1 | PGr | 2.42 | 0.00 |
| | Qk.N_D A | PGr | 85.66 | -2.89 |
| | Qk.N_T 2 | PGr | 0.00 | -0.81 |
| W-1.3 | Gk | PGr | 385.63 | |
| | Ö← | PGr | 148.82 | |
| | Qk.N_B 1 | PGr | 7.49 | -0.57 |
| | Qk.N_C 1 | PGr | 32.98 | 0.00 |
| | Qk.N_C 5 | PGr | 0.21 | -0.30 |
| | Qk.N_E 1 | PGr | 48.79 | -0.29 |
| | Qk.N_D A | PGr | 80.79 | -1.51 |
| | Qk.N_T 2 | PGr | 0.27 | 0.00 |
| W-1.4 | Gk | PGr | 420.66 | |
| | Ö← | PGr | 165.27 | |
| | Qk.N_B 1 | PGr | 0.46 | -2.28 |
| | Qk.N_C 1 | PGr | 92.82 | 0.00 |
| | Qk.N_C 5 | PGr | 0.02 | -0.56 |
| | Qk.N_E 1 | PGr | 11.64 | -2.18 |
| | Qk.N_D A | PGr | 75.74 | -2.56 |
| | Qk.N_T 2 | PGr | 0.00 | -0.01 |
| W-1.5_1 | Gk | PGr | 392.31 | |
| | Ö← | PGr | 74.54 | |
| | Qk.N_B 1 | PGr | 88.76 | -13.96 |
| | Qk.N_C 1 | PGr | 0.03 | 0.00 |
| | Qk.N_C 5 | PGr | 0.78 | -1.74 |
| | Qk.N_E 1 | PGr | 0.12 | -7.12 |
| | Qk.N_D A | PGr | 69.51 | -8.89 |
| | Qk.N_T 2 | PGr | 0.08 | -5.65 |
| W-1.5_2 | Gk | PGr | 28.49 | |
| | Ö← | PGr | 4.78 | |
| | Qk.N_B 1 | PGr | 0.12 | -4.07 |

POSITION

EG-LP4

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&ā\⇔{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_C 1 | PGr | 0.00 | -0.01 |
| | Qk.N_C 5 | PGr | 5.05 | 0.00 |
| | Qk.N_E 1 | PGr | 0.00 | -0.26 |
| | Qk.N_D A | PGr | 4.75 | -0.95 |
| | Qk.N_T 2 | PGr | 2.07 | 0.00 |
| W-1.6 | Gk | PGr | 1411.26 | |
| | Ö← | PGr | 384.12 | |
| | Qk.N_B 1 | PGr | 80.11 | -23.03 |
| | Qk.N_C 1 | PGr | 223.35 | -3.47 |
| | Qk.N_C 5 | PGr | 28.56 | -6.65 |
| | Qk.N_E 1 | PGr | 147.46 | -9.28 |
| | Qk.N_D A | PGr | 300.86 | -3.85 |
| | Qk.N_T 2 | PGr | 0.01 | -0.04 |
| W-1.7 | Gk | PGr | 624.45 | |
| | Ö← | PGr | 144.01 | |
| | Qk.N_B 1 | PGr | 98.27 | -16.09 |
| | Qk.N_C 5 | PGr | 7.95 | -7.76 |
| | Qk.N_E 1 | PGr | 64.68 | -0.02 |
| | Qk.N_D A | PGr | 56.20 | -14.23 |
| | Qk.N_T 2 | PGr | 1.43 | 0.00 |
| W-1.8 | Gk | PGr | 195.21 | |
| | Ö← | PGr | 12.71 | |
| | Qk.N_B 1 | PGr | 3.22 | -0.04 |
| | Qk.N_C 1 | PGr | 0.01 | -0.25 |
| | Qk.N_C 5 | PGr | 1.53 | -0.11 |
| | Qk.N_E 1 | PGr | 37.07 | -1.07 |
| | Qk.N_D A | PGr | 19.32 | -21.63 |
| W-1.9 | Gk | PGr | 168.33 | |
| | Ö← | PGr | 24.54 | |
| | Qk.N_B 1 | PGr | 12.35 | -1.92 |
| | Qk.N_C 1 | PGr | 0.00 | -0.06 |

D-578

Schulcampus EWK \

EG-LP4

| | | POSITION | | EG-LP4 |
|----------|-------------|----------|-----------------|-----------------|
| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
| | Qk.N_C 5 | PGr | 5.07 | -2.24 |
| | Qk.N_E 1 | PGr | 33.62 | -0.13 |
| | Qk.N_D A | PGr | 13.15 | -6.19 |
| | Qk.N_T 2 | PGr | 0.00 | -0.38 |
| W-1.10 | Gk | PGr | 847.55 | |
| | Ö← | PGr | 218.75 | |
| | Qk.N_B 1 | PGr | 163.30 | -9.87 |
| | Qk.N_C 5 | PGr | 76.15 | -6.39 |
| | Qk.N_E 1 | PGr | 40.73 | -0.06 |
| | Qk.N_D A | PGr | 160.37 | -5.46 |
| | Qk.N_T 2 | PGr | 0.00 | -0.03 |
| W-1.11_1 | Gk | PGr | 1301.17 | |
| | Ö← | PGr | 345.92 | |
| | Qk.N_B 1 | PGr | 179.94 | -3.76 |
| | Qk.N_C 5 | PGr | 188.54 | -0.14 |
| | Qk.N_E 1 | PGr | 0.45 | -2.08 |
| | Qk.N_D A | PGr | 301.13 | -7.88 |
| | Qk.N_T 2 | PGr | 0.06 | -4.12 |
| W-1.11_2 | Gk | PGr | 44.73 | |
| | Ö← | PGr | | -1.20 |
| | Qk.N_B 1 | PGr | 0.06 | -17.92 |
| | Qk.N_C 1 | PGr | 0.00 | 0.00 |
| | Qk.N_C 5 | PGr | 16.27 | -2.70 |
| | Qk.N_E 1 | PGr | 1.21 | -0.68 |
| | Qk.N_D A | PGr | 13.67 | -15.90 |
| | Qk.N_T 2 | PGr | 2.62 | -0.39 |
| W-1.12 | Gk | PGr | 311.85 | |
| | Ö← | PGr | 121.63 | |
| | Qk.N_B 1 | PGr | 71.86 | -0.66 |
| | Qk.N_C 5 | PGr | 3.95 | 0.00 |
| | Qk.N_E 1 | PGr | 0.00 | -0.33 |

POSITION

EG-LP4

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&ā\⇔{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_D A | PGr | 51.36 | -0.41 |
| | Qk.N_T 2 | PGr | 0.04 | 0.00 |
| W-1.13 | Gk | PGr | 534.19 | |
| | Ö← | PGr | 205.23 | |
| | Qk.N_B 1 | PGr | 112.88 | -0.12 |
| | Qk.N_C 5 | PGr | 7.42 | -0.53 |
| | Qk.N_E 1 | PGr | 0.01 | -0.06 |
| | Qk.N_D A | PGr | 110.35 | -1.67 |
| | Qk.N_T 2 | PGr | 0.02 | -0.10 |
| W-1.14 | Gk | PGr | 347.84 | |
| | Ö← | PGr | 138.58 | |
| | Qk.N_B 1 | PGr | 95.11 | 0.00 |
| | Qk.N_C 5 | PGr | 4.59 | -0.78 |
| | Qk.N_E 1 | PGr | 0.05 | 0.00 |
| | Qk.N_D A | PGr | 54.12 | -3.05 |
| | Qk.N_T 2 | PGr | 0.00 | -1.05 |
| W-1.15 | Gk | PGr | 7.44 | |
| | Ö← | PGr | | -0.32 |
| | Qk.N_B 1 | PGr | 0.00 | -10.37 |
| | Qk.N_C 5 | PGr | 0.20 | -1.39 |
| | Qk.N_E 1 | PGr | 0.00 | -0.01 |
| | Qk.N_D A | PGr | 1.37 | -3.60 |
| | Qk.N_T 2 | PGr | 0.22 | 0.00 |
| W-1.16 | Gk | PGr | 647.59 | |
| | Ö← | PGr | 253.28 | |
| | Qk.N_B 1 | PGr | 114.42 | -31.25 |
| | Qk.N_C 1 | PGr | 0.00 | -0.01 |
| | Qk.N_C 5 | PGr | 0.81 | -0.91 |
| | Qk.N_E 1 | PGr | 0.03 | -0.02 |
| | Qk.N_D A | PGr | 80.52 | -21.71 |
| | Qk.N_T 2 | PGr | 0.61 | -1.13 |

| | | POSITION | | EG-LP4 | |
|----------|-------------|----------|-----------------|-----------------|--|
| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] | |
| W-1.17 | Gk | PGr | 636.60 | | |
| | Ö← | PGr | 254.20 | | |
| | Qk.N_B 1 | PGr | 79.73 | -28.21 | |
| | Qk.N_C 5 | PGr | 18.82 | -3.96 | |
| | Qk.N_E 1 | PGr | 0.17 | -7.41 | |
| | Qk.N_D A | PGr | 74.31 | -13.47 | |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 | |
| W-1.18 | Gk | PGr | 315.04 | | |
| | Ö← | PGr | 122.67 | | |
| | Qk.N_B 1 | PGr | 57.05 | -7.39 | |
| | Qk.N_C 5 | PGr | 0.03 | -5.23 | |
| | Qk.N_E 1 | PGr | 21.64 | 0.00 | |
| | Qk.N_D A | PGr | 37.42 | -9.30 | |
| W-1.19 | Gk | PGr | 628.02 | | |
| | Ö← | PGr | 244.65 | | |
| | Qk.N_B 1 | PGr | 78.14 | -13.63 | |
| | Qk.N_C 5 | PGr | 0.19 | -0.22 | |
| | Qk.N_E 1 | PGr | 0.51 | -2.15 | |
| | Qk.N_D A | PGr | 59.56 | -8.06 | |
| | Qk.N_T 2 | PGr | 0.67 | -1.55 | |
| W-1.20_1 | Gk | PGr | 294.84 | | |
| | Ö← | PGr | 55.83 | | |
| | Qk.N_B 1 | PGr | 59.22 | -46.92 | |
| | Qk.N_C 5 | PGr | 57.97 | -15.56 | |
| | Qk.N_E 1 | PGr | 35.01 | 0.00 | |
| | Qk.N_D A | PGr | 61.65 | -36.01 | |
| | Qk.N_T 2 | PGr | 0.05 | -0.02 | |
| W-1.20_2 | Gk | PGr | 341.82 | | |
| | Ö← | PGr | 76.91 | | |
| | Qk.N_B 1 | PGr | 56.41 | -0.81 | |
| | Qk.N_C 5 | PGr | 21.78 | -2.20 | |
| | Qk.N_E 1 | PGr | 73.86 | 0.00 | |

| | | POSITION | | EG-LP4 |
|----------|-------------|----------|-----------------|-----------------|
| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
| | Qk.N_D A | PGr | 27.88 | -3.47 |
| | Qk.N_T 2 | PGr | 0.00 | -0.01 |
| W-1.20_3 | Gk | PGr | 48.23 | |
| | Ö← | PGr | 11.91 | |
| | Qk.N_B 1 | PGr | 8.14 | -0.04 |
| | Qk.N_C 5 | PGr | 3.23 | -0.25 |
| | Qk.N_E 1 | PGr | 11.63 | 0.00 |
| | Qk.N_D A | PGr | 4.68 | -0.51 |
| | Qk.N_T 2 | PGr | 0.00 | 0.00 |
| | | | | |
| W-1.20_4 | Gk | PGr | 282.06 | |
| | Ö← | PGr | 51.34 | |
| | Qk.N_B 1 | PGr | 22.52 | -3.54 |
| | Qk.N_C 1 | PGr | 0.00 | -0.01 |
| | Qk.N_C 5 | PGr | 30.91 | -0.79 |
| | Qk.N_E 1 | PGr | 33.99 | -0.03 |
| | Qk.N_D A | PGr | 28.66 | -2.31 |
| | Qk.N_T 2 | PGr | 0.00 | -0.35 |
| | | | | |
| W-1.21 | Gk | PGr | 746.52 | |
| | Ö← | PGr | 122.12 | |
| | Qk.N_B 1 | PGr | 95.65 | -30.43 |
| | Qk.N_C 1 | PGr | 0.01 | -0.18 |
| | Qk.N_C 5 | PGr | 8.00 | -2.41 |
| | Qk.N_E 1 | PGr | 0.64 | -0.97 |
| | Qk.N_D A | PGr | 153.75 | -38.89 |
| | Qk.N_T 2 | PGr | 53.62 | -0.31 |
| | | | | |
| W-1.22 | Gk | PGr | 995.43 | |
| | Ö← | PGr | 222.67 | |
| | Qk.N_B 1 | PGr | 148.22 | -17.17 |
| | Qk.N_C 1 | PGr | 0.36 | -0.51 |
| | Qk.N_C 5 | PGr | 7.87 | -9.91 |
| | Qk.N_E 1 | PGr | 1.92 | -1.71 |

| | | POSITION | | EG-LP4 |
|----------|-------------|----------|-----------------|-----------------|
| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&ā\⇔{ [kN] |
| | Qk.N_D A | PGr | 204.75 | -33.54 |
| | Qk.N_T 2 | PGr | 52.84 | -0.32 |
| W-1.23 | Gk | PGr | 1059.93 | |
| | Ö← | PGr | 119.28 | |
| | Qk.N_B 1 | PGr | 12.20 | -1.75 |
| | Qk.N_C 1 | PGr | 0.43 | -0.08 |
| | Qk.N_C 5 | PGr | 2.54 | -6.38 |
| | Qk.N_E 1 | PGr | 90.49 | -4.80 |
| | Qk.N_D A | PGr | 174.58 | -9.87 |
| | Qk.N_T 2 | PGr | 0.00 | -0.24 |
| W-1.24_1 | Gk | PGr | 98.73 | |
| | Ö← | PGr | 9.36 | |
| | Qk.N_B 1 | PGr | 0.26 | -5.71 |
| | Qk.N_C 1 | PGr | 0.00 | -1.29 |
| | Qk.N_C 5 | PGr | 14.05 | -0.17 |
| | Qk.N_E 1 | PGr | 4.96 | -0.81 |
| | Qk.N_D A | PGr | 12.41 | -5.44 |
| | Qk.N_T 2 | PGr | 0.04 | 0.00 |
| W-1.24_2 | Gk | PGr | 31.45 | |
| | Ö← | PGr | | -4.38 |
| | Qk.N_B 1 | PGr | 0.04 | -10.42 |
| | Qk.N_C 1 | PGr | 0.00 | -1.21 |
| | Qk.N_C 5 | PGr | 7.02 | 0.00 |
| | Qk.N_E 1 | PGr | 1.93 | -2.56 |
| | Qk.N_D A | PGr | 6.13 | -10.13 |
| | Qk.N_T 2 | PGr | 0.05 | 0.00 |
| W-1.25 | Gk | PGr | 175.23 | |
| | Ö← | PGr | 6.57 | |
| | Qk.N_B 1 | PGr | 3.54 | 0.00 |
| | Qk.N_C 1 | PGr | 0.03 | -0.44 |
| | Qk.N_C 5 | PGr | 1.11 | -6.31 |

| | | POSITION | | EG-LP4 |
|----------|-------------|----------|-----------------|-----------------|
| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
| | Qk.N_E 1 | PGr | 31.36 | -4.28 |
| | Qk.N_D A | PGr | 17.37 | -15.33 |
| | Qk.N_T 2 | PGr | 0.00 | -0.02 |
| W-1.26_1 | Gk | PGr | 149.52 | |
| | Ö← | PGr | 0.07 | |
| | Qk.N_B 1 | PGr | 19.03 | -22.84 |
| | Qk.N_C 1 | PGr | 0.19 | 0.00 |
| | Qk.N_C 5 | PGr | 0.54 | -13.12 |
| | Qk.N_E 1 | PGr | 59.06 | -1.18 |
| | Qk.N_D A | PGr | 16.00 | -33.05 |
| | Qk.N_T 2 | PGr | 0.00 | -0.26 |
| W-1.26_2 | Gk | PGr | 75.92 | |
| | Ö← | PGr | 12.19 | |
| | Qk.N_B 1 | PGr | 3.22 | -0.34 |
| | Qk.N_C 1 | PGr | 0.00 | -0.07 |
| | Qk.N_C 5 | PGr | 1.19 | -0.01 |
| | Qk.N_E 1 | PGr | 19.30 | -0.13 |
| | Qk.N_D A | PGr | 9.27 | -5.34 |
| | Qk.N_T 2 | PGr | 0.00 | 0.00 |
| W-1.26_3 | Gk | PGr | 68.38 | |
| | Ö← | PGr | 7.09 | |
| | Qk.N_B 1 | PGr | 0.02 | -4.22 |
| | Qk.N_C 1 | PGr | 0.19 | 0.00 |
| | Qk.N_C 5 | PGr | 0.15 | -1.64 |
| | Qk.N_E 1 | PGr | 25.20 | -2.38 |
| | Qk.N_D A | PGr | 9.02 | -8.69 |
| W-1.26_4 | Gk | PGr | 18.08 | |
| | Ö← | PGr | 1.45 | |
| | Qk.N_B 1 | PGr | 0.11 | 0.00 |
| | Qk.N_C 1 | PGr | 0.00 | -0.01 |
| | Qk.N_C 5 | PGr | 0.04 | -0.02 |

| | | POSITION | | EG-LP4 |
|----------|-------------|----------|-----------------|-----------------|
| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&ā\⇔{ [kN] |
| | Qk.N_E 1 | PGr | 3.02 | -0.01 |
| | Qk.N_D A | PGr | 1.23 | -0.81 |
| W-1.27 | Gk | PGr | 751.60 | |
| | Ö← | PGr | 125.89 | |
| | Qk.N_B 1 | PGr | 103.69 | -68.26 |
| | Qk.N_C 1 | PGr | 0.02 | 0.00 |
| | Qk.N_C 5 | PGr | 33.11 | -11.98 |
| | Qk.N_E 1 | PGr | 1.02 | -0.72 |
| | Qk.N_D A | PGr | 188.10 | -64.02 |
| | Qk.N_T 2 | PGr | 56.32 | -0.42 |
| W-1.28 | Gk | PGr | 1177.65 | |
| | Ö← | PGr | 269.65 | |
| | Qk.N_B 1 | PGr | 226.31 | -30.67 |
| | Qk.N_C 1 | PGr | 0.03 | -0.02 |
| | Qk.N_C 5 | PGr | 35.14 | -5.26 |
| | Qk.N_E 1 | PGr | 1.00 | -0.78 |
| | Qk.N_D A | PGr | 291.11 | -39.70 |
| | Qk.N_T 2 | PGr | 47.82 | 0.00 |
| W-1.29 | Gk | PGr | 458.40 | |
| | Ö← | PGr | 179.59 | |
| | Qk.N_B 1 | PGr | 116.10 | -2.12 |
| | Qk.N_C 1 | PGr | 0.04 | 0.00 |
| | Qk.N_C 5 | PGr | 0.86 | -0.26 |
| | Qk.N_E 1 | PGr | 0.06 | -0.15 |
| | Qk.N_D A | PGr | 84.26 | -0.55 |
| | Qk.N_T 2 | PGr | 0.00 | -0.62 |
| W-1.30 | Gk | PGr | 657.38 | |
| | Ö← | PGr | 256.90 | |
| | Qk.N_B 1 | PGr | 160.45 | -10.93 |
| | Qk.N_C 1 | PGr | 0.26 | 0.00 |
| | Qk.N_C 5 | PGr | 7.27 | -0.11 |

| | | POSITION | | EG-LP4 |
|----------|-------------|----------|-----------------|-----------------|
| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
| | Qk.N_E 1 | PGr | 0.41 | -0.44 |
| | Qk.N_D A | PGr | 133.61 | -1.88 |
| | Qk.N_T 2 | PGr | 0.09 | -0.29 |
| W-1.31 | Gk | PGr | 377.21 | |
| | Ö← | PGr | 151.65 | |
| | Qk.N_B 1 | PGr | 83.09 | -6.21 |
| | Qk.N_C 1 | PGr | 0.00 | -12.87 |
| | Qk.N_C 5 | PGr | 4.92 | -0.16 |
| | Qk.N_E 1 | PGr | 19.22 | -1.59 |
| | Qk.N_D A | PGr | 64.63 | -10.31 |
| | Qk.N_T 2 | PGr | 0.06 | -0.01 |
| W-1.32 | Gk | PGr | 432.05 | |
| | Ö← | PGr | 110.29 | |
| | Qk.N_B 1 | PGr | 73.20 | -2.00 |
| | Qk.N_C 1 | PGr | 0.00 | -0.99 |
| | Qk.N_C 5 | PGr | 41.41 | -1.01 |
| | Qk.N_E 1 | PGr | 6.15 | -3.74 |
| | Qk.N_D A | PGr | 101.87 | -3.79 |
| | Qk.N_T 2 | PGr | 0.01 | -0.08 |
| W-1.33 | Gk | PGr | 393.52 | |
| | Ö← | PGr | 232.91 | |
| | Qk.N_B 1 | PGr | 2.30 | -22.16 |
| | Qk.N_C 1 | PGr | 95.91 | -18.88 |
| | Qk.N_C 5 | PGr | 0.36 | -3.23 |
| | Qk.N_E 1 | PGr | 3.94 | -11.73 |
| | Qk.N_D A | PGr | 77.86 | -37.85 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| W-1.34 | Gk | PGr | 312.44 | |
| | Ö← | PGr | 80.74 | |
| | Qk.N_B 1 | PGr | 58.53 | -2.28 |
| | Qk.N_C 1 | PGr | 0.00 | -13.01 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|------------------------------|-------------|-----|-----------------|-----------------|
| | Qk.N_C 5 | PGr | 45.69 | -3.63 |
| | Qk.N_E 1 | PGr | 24.28 | -6.49 |
| | Qk.N_D A | PGr | 78.65 | -29.52 |
| | Qk.N_T 2 | PGr | 0.00 | 0.00 |
| WS-1.5_BR | Gk | PGr | 0.00 | |
| WS-1.5_SA_W- 1.5_2 | Gk | PGr | 27.37 | |
| | Ö← | PGr | 5.63 | |
| | Qk.N_B 1 | PGr | 0.82 | -1.09 |
| | Qk.N_C 1 | PGr | 0.00 | 0.00 |
| | Qk.N_C 5 | PGr | 3.24 | 0.00 |
| | Qk.N_E 1 | PGr | 0.01 | -0.22 |
| | Qk.N_D A | PGr | 4.71 | -0.28 |
| | Qk.N_T 2 | PGr | 0.15 | 0.00 |
| WS-1.5_SE_W- 1.5_1 | Gk | PGr | 24.45 | |
| | Ö← | PGr | 5.21 | |
| | Qk.N_B 1 | PGr | 2.90 | -1.04 |
| | Qk.N_C 1 | PGr | 0.01 | 0.00 |
| | Qk.N_C 5 | PGr | 1.75 | 0.00 |
| | Qk.N_E 1 | PGr | 0.02 | -0.20 |
| | Qk.N_D A | PGr | 4.18 | -0.13 |
| | Qk.N_T 2 | PGr | 0.00 | -0.66 |
| WS-T-1.2_BR | Gk | PGr | 0.00 | |
| WS-T- 1.2_SA_WT- 1.2_1 | Gk | PGr | | -20.63 |
| | Ö← | PGr | | -8.43 |
| | Qk.N_B 1 | PGr | 4.23 | -7.19 |
| | Qk.N_C 1 | PGr | 0.00 | -17.86 |
| | Qk.N_C 5 | PGr | 10.17 | 0.00 |
| | Qk.N_E 1 | PGr | 2.72 | -11.20 |
| | Qk.N_D A | PGr | 0.63 | -0.32 |

| | | POSITION | | EG-LP4 |
|------------------------------|-------------|----------|-----------------|-----------------|
| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&ā\⇌{ [kN] |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| WS-T- 1.2_SE_WT- 1.2_2 | Gk | PGr | | -29.69 |
| | Ö← | PGr | | -11.80 |
| | Qk.N_B 1 | PGr | 2.88 | -7.47 |
| | Qk.N_C 1 | PGr | 0.00 | -20.64 |
| | Qk.N_C 5 | PGr | 9.74 | 0.00 |
| | Qk.N_E 1 | PGr | 2.18 | -12.12 |
| | Qk.N_D A | PGr | 0.25 | -0.28 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| WT-1.1 | Gk | PGr | 1565.34 | |
| | Ö← | PGr | 386.36 | |
| | Qk.N_B 1 | PGr | 269.82 | -13.30 |
| | Qk.N_C 1 | PGr | 13.85 | -2.05 |
| | Qk.N_C 5 | PGr | 97.45 | -1.19 |
| | Qk.N_E 1 | PGr | 39.91 | -4.88 |
| | Qk.N_D A | PGr | 374.99 | -18.50 |
| | Qk.N_T 2 | PGr | 2.32 | -6.79 |
| WT-1.2_1 | Gk | PGr | 45.75 | |
| | Ö← | PGr | 8.17 | |
| | Qk.N_B 1 | PGr | 14.90 | -6.38 |
| | Qk.N_C 1 | PGr | 0.00 | -16.73 |
| | Qk.N_C 5 | PGr | 17.51 | 0.00 |
| | Qk.N_E 1 | PGr | 6.75 | -9.89 |
| | Qk.N_D A | PGr | 11.19 | -4.62 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| WT-1.2_2 | Gk | PGr | 99.66 | |
| | Ö← | PGr | 29.49 | |
| | Qk.N_B 1 | PGr | 21.35 | -3.71 |
| | Qk.N_C 1 | PGr | 10.45 | -8.92 |
| | Qk.N_C 5 | PGr | 14.14 | -1.07 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Qk.N_E 1 | PGr | 25.47 | -2.92 |
| | Qk.N_D A | PGr | 2.71 | -1.04 |
| | Qk.N_T 2 | PGr | 0.00 | -0.02 |
| WT-1.3 | Gk | PGr | 393.02 | |
| | Ö← | PGr | 111.78 | |
| | Qk.N_B 1 | PGr | 87.66 | -1.77 |
| | Qk.N_C 1 | PGr | 0.00 | -5.54 |
| | Qk.N_C 5 | PGr | 53.06 | 0.00 |
| | Qk.N_E 1 | PGr | 20.72 | -4.17 |
| | Qk.N_D A | PGr | 65.92 | -4.62 |
| | Qk.N_T 2 | PGr | 0.00 | -0.02 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Statik-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 7407 | 6741 | 20223 | 1695997 | 12 MB |

Berechnung

Statische Berechnung

| Öä}ÈÁŠ*\⇌~^æ^ÄfiäÄä⇌æÄÑæäæ'â^ ^& | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à‡→æÁíÁíŮ

Speicher

Speicherplatzbedarf

| | | |
|-------------------|----------|-----------|
| Arbeitsspeicher | âæ^=\⇌&\ | vorhanden |
| Standardverfahren | 45 MB | ja |

| | | | |
|---------|----------|-----------|-----------------------|
| Festpl. | âæ^=\⇌&\ | vorhanden | Laufwerk:\Pfad |
| Ergebn. | 112 MB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÄäæäÄb\á\⇌b'âæ^ÄN|^&áâæ

Berechnungszeit : 0 sec

Belastung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|-----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | -6703.14 |
| | 0.00 | 0.00 | 6703.14 |
| LF-2 | 0.00 | 0.00 | -3254.89 |
| | 0.00 | 0.00 | 3254.89 |
| LF-3 | 0.00 | 0.00 | -140.25 |
| | 0.00 | 0.00 | 140.25 |
| LF-4 | 0.00 | 0.00 | -123.17 |
| | 0.00 | 0.00 | 123.17 |
| LF-5 | 0.00 | 0.00 | -90.75 |
| | 0.00 | 0.00 | 90.75 |
| LF-6 | 0.00 | 0.00 | -329.38 |
| | 0.00 | 0.00 | 329.38 |
| LF-7 | 0.00 | 0.00 | -339.66 |
| | 0.00 | 0.00 | 339.66 |
| LF-8 | 0.00 | 0.00 | -78.70 |
| | 0.00 | 0.00 | 78.71 |
| LF-9 | 0.00 | 0.00 | -55.02 |
| | 0.00 | 0.00 | 55.02 |
| LF-10 | 0.00 | 0.00 | -899.14 |
| | 0.00 | 0.00 | 899.14 |
| LF-11 | 0.00 | 0.00 | -671.51 |
| | 0.00 | 0.00 | 671.51 |
| LF-12 | 0.00 | 0.00 | -142.38 |
| | 0.00 | 0.00 | 142.37 |
| LF-13 | 0.00 | 0.00 | -229.75 |
| | 0.00 | 0.00 | 229.75 |
| LF-14 | 0.00 | 0.00 | -350.63 |
| | 0.00 | 0.00 | 350.62 |
| LF-15 | 0.00 | 0.00 | -220.95 |
| | 0.00 | 0.00 | 220.95 |
| LF-16 | 0.00 | 0.00 | -175.31 |
| | 0.00 | 0.00 | 175.31 |
| LF-17 | 0.00 | 0.00 | -202.81 |
| | 0.00 | 0.00 | 202.81 |
| LF-18 | 0.00 | 0.00 | -175.31 |
| | 0.00 | 0.00 | 175.31 |
| LF-19 | 0.00 | 0.00 | -21.97 |
| | 0.00 | 0.00 | 21.97 |
| LF-20 | 0.00 | 0.00 | -96.31 |
| | 0.00 | 0.00 | 96.31 |
| LF-21 | 0.00 | 0.00 | -95.43 |
| | 0.00 | 0.00 | 95.43 |
| LF-22 | 0.00 | 0.00 | -5.77 |
| | 0.00 | 0.00 | 5.77 |
| LF-23 | 0.00 | 0.00 | -153.00 |
| | 0.00 | 0.00 | 153.00 |
| #1 LF-1 | 0.00 | 0.00 | -10495.53 |
| | 0.00 | 0.00 | 10495.53 |
| #1 LF-2 | 0.00 | 0.00 | -3122.32 |
| | 0.00 | 0.00 | 3122.32 |
| #1 LF-3 | 0.00 | 0.00 | -635.43 |
| | 0.00 | 0.00 | 635.43 |
| #1 LF-4 | 0.00 | 0.00 | -346.74 |

D-590

POSITION

EG-LP4

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|------------|------------------|------------------|------------------|
| | 0.00 | 0.00 | 346.74 |
| #1 LF-5 | 0.00 | 0.00 | -460.25 |
| | 0.00 | 0.00 | 460.25 |
| #1 LF-6 | 0.00 | 0.00 | -19.26 |
| | 0.00 | 0.00 | 19.26 |
| #1 LF-7 | 0.00 | 0.00 | -523.78 |
| | 0.00 | 0.00 | 523.78 |
| #1 LF-8 | 0.00 | 0.00 | -233.60 |
| | 0.00 | 0.00 | 233.60 |
| #1 LF-9 | 0.00 | 0.00 | -45.76 |
| | 0.00 | 0.00 | 45.76 |
| #1 LF-10 | 0.00 | 0.00 | -261.84 |
| | 0.00 | 0.00 | 261.84 |
| #1 LF-11 | 0.00 | 0.00 | -145.65 |
| | 0.00 | 0.00 | 145.65 |
| #1 LF-12 | 0.00 | 0.00 | -114.49 |
| | 0.00 | 0.00 | 114.49 |
| #1 LF-13 | 0.00 | 0.00 | -16.08 |
| | 0.00 | 0.00 | 16.08 |
| #1 LF-14 | 0.00 | 0.00 | -121.17 |
| | 0.00 | 0.00 | 121.17 |
| #1 LF-15 | 0.00 | 0.00 | -178.50 |
| | 0.00 | 0.00 | 178.50 |
| #1 LF-16 | 0.00 | 0.00 | -105.44 |
| | 0.00 | 0.00 | 105.44 |
| #1 LF-17 | 0.00 | 0.00 | -246.17 |
| | 0.00 | 0.00 | 246.17 |
| #1 LF-18 | 0.00 | 0.00 | -144.26 |
| | 0.00 | 0.00 | 144.26 |
| #1 LF-19 | 0.00 | 0.00 | -211.31 |
| | 0.00 | 0.00 | 211.31 |
| #1 LF-20 | 0.00 | 0.00 | -98.92 |
| | 0.00 | 0.00 | 98.92 |
| #1 LF-21 | 0.00 | 0.00 | -96.85 |
| | 0.00 | 0.00 | 96.85 |
| #1 LF-22 | 0.00 | 0.00 | -339.54 |
| | 0.00 | 0.00 | 339.54 |
| #2 LF-1 | 0.00 | 0.00 | -10846.25 |
| | 0.00 | 0.00 | 10846.25 |
| #2 LF-2 | 0.00 | 0.00 | -2772.28 |
| | 0.00 | 0.00 | 2772.28 |
| #2 LF-3 | 0.00 | 0.00 | -699.17 |
| | 0.00 | 0.00 | 699.17 |
| #2 LF-4 | 0.00 | 0.00 | -112.68 |
| | 0.00 | 0.00 | 112.68 |
| #2 LF-5 | 0.00 | 0.00 | -783.31 |
| | 0.00 | 0.00 | 783.31 |
| #2 LF-6 | 0.00 | 0.00 | -797.13 |
| | 0.00 | 0.00 | 797.13 |
| #2 LF-7 | 0.00 | 0.00 | -112.08 |
| | 0.00 | 0.00 | 112.08 |
| #2 LF-8 | 0.00 | 0.00 | -184.38 |
| | 0.00 | 0.00 | 184.38 |
| #2 LF-9 | 0.00 | 0.00 | -49.97 |

D-591

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|------------|------------------|------------------|------------------|
| | 0.00 | 0.00 | 49.97 |
| #2 LF-10 | 0.00 | 0.00 | -70.01 |
| | 0.00 | 0.00 | 70.01 |
| #2 LF-11 | 0.00 | 0.00 | -137.33 |
| | 0.00 | 0.00 | 137.33 |
| #2 LF-12 | 0.00 | 0.00 | -92.16 |
| | 0.00 | 0.00 | 92.16 |
| #2 LF-13 | 0.00 | 0.00 | -206.90 |
| | 0.00 | 0.00 | 206.90 |
| #2 LF-14 | 0.00 | 0.00 | -6.32 |
| | 0.00 | 0.00 | 6.32 |
| #2 LF-15 | 0.00 | 0.00 | -5.83 |
| | 0.00 | 0.00 | 5.83 |
| #2 LF-16 | 0.00 | 0.00 | -7.61 |
| | 0.00 | 0.00 | 7.61 |
| #2 LF-17 | 0.00 | 0.00 | -244.45 |
| | 0.00 | 0.00 | 244.45 |
| #2 LF-18 | 0.00 | 0.00 | -9.86 |
| | 0.00 | 0.00 | 9.86 |
| #2 LF-19 | 0.00 | 0.00 | -12.04 |
| | 0.00 | 0.00 | 12.04 |
| #2 LF-20 | 0.00 | 0.00 | -1.73 |
| | 0.00 | 0.00 | 1.73 |
| #2 LF-21 | 0.00 | 0.00 | -5.57 |
| | 0.00 | 0.00 | 5.57 |
| #2 LF-22 | 0.00 | 0.00 | -93.93 |
| | 0.00 | 0.00 | 93.93 |
| #2 LF-23 | 0.00 | 0.00 | -13.18 |
| | 0.00 | 0.00 | 13.18 |
| #3 LF-1 | 0.00 | 0.00 | -757.60 |
| | 0.00 | 0.00 | 757.60 |
| #3 LF-2 | 0.00 | 0.00 | -92.16 |
| | 0.00 | 0.00 | 92.16 |
| #3 LF-3 | 0.00 | 0.00 | -20.84 |
| | 0.00 | 0.00 | 20.84 |
| #3 LF-4 | 0.00 | 0.00 | -84.91 |
| | 0.00 | 0.00 | 84.91 |
| #3 LF-5 | 0.00 | 0.00 | -22.23 |
| | 0.00 | 0.00 | 22.23 |
| #3 LF-6 | 0.00 | 0.00 | -16.90 |
| | 0.00 | 0.00 | 16.90 |
| #3 LF-7 | 0.00 | 0.00 | -39.48 |
| | 0.00 | 0.00 | 39.48 |
| #3 LF-8 | 0.00 | 0.00 | -36.45 |
| | 0.00 | 0.00 | 36.45 |
| Summe | | | |
| | 0.00 | 0.00 | -50852.84 |
| | 0.00 | 0.00 | 50852.84 |

Aufbau der Ergebnisse : 2 sec

Ende der statischen Analyse
Gesamtdauer : 3 sec

*** Berechnung erfolgreich abgeschlossen ***

Auswertung

| | Begrenzung Durchbiegungen EG | | |
|--|------------------------------|---------------------------------|---------------------------------------|
| | Feld 3-7/A-B | Feld 6-7/D-J | Hinweise |
| Deckendicke [cm] | 28 | 28 | r-Richtung liegt außen |
| Maßgebende Spannweite [m] | 8,5 | 8,5 | |
| Grundbewehrung | 14/10 | 14/10 | |
| Zulagebewehrung maßgebender Bereich | 14/20 in 1. Lage unten | 14/20 in 1. Lage oben und unten | |
| Max Differenzverformung [mm] GA (Feldmitte) | 30 | 30 | GA = gleitender Anschluss Wand |
| Max Endverformung [mm] l/250 | 34 | 34 | |
| Max Überhöhung [mm] l/250 | 34 | 34 | |
| Vorh. Differenzverformung ohne Überhöhung [mm] | 25,6 | 27,1 | |
| Vorh. Endverformung ohne Überhöhung [mm] | 37,7 | 39,2 | |
| Gewählte Überhöhung [mm] | 10 | 10 | |
| Vorh. Differenzverformung [mm] | 25,6 | 27,1 | |
| Vorh. Endverformung mit Überhöhung [mm] | 27,7 | 29,2 | |
| Anmerkungen | 1 cm Überhöhung | 1 cm Überhöhung | |

Betondeckung

| Position | | c_{min} [mm] | $\#_{def}$ [mm] | c_{nom} [mm] | c_v [mm] | d'_r [mm] | d'_s [mm] |
|----------|---|-------------------|--------------------|-------------------|---------------|----------------|----------------|
| D-EG | o | 10 | 10 | 20 | - | 37 | 37 |
| | u | 10 | 10 | 20 | - | 37 | 37 |

Bemessungsparameter

1992-1-1

Belegung

| Position | Mindestbewehrung |
|----------|------------------|
| D-EG | ja |

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

D-EG

Erf. Bewehrung

Erforderliche Bewehrung

Kombinationen

Ew Einwirkungsname
Lkn Lastkombinationsnummer

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------------|----|------|------------|-------------|-------------|-------------|
| 1-1137 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 |
| 1138-1775 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 |
| 1776-1805 | | 1.00 | 1.35 | 1.50 | 1.05 | 1.05 |
| 1806-1843 | | 1.35 | 1.00 | 1.50 | 1.05 | 1.05 |
| 1844-1846 | | 1.00 | 1.00 | 1.50 | 1.05 | . |
| 1847-1859 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 |
| 1860-1867 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 |
| 1868-7909 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 |
| 7910-9694 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 |
| 9695-9908 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 |
| 9909-9984 | | 1.35 | 1.00 | 1.05 | 1.50 | 1.05 |
| 9985-9994 | | 1.00 | 1.00 | 1.05 | 1.50 | . |
| 9995-10040 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 |
| 10041-10135 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 |
| 10136-10172 | | 1.35 | 1.35 | 1.05 | 1.50 | . |
| 10173 | | 1.00 | 1.35 | 1.05 | 1.50 | . |
| 10174-10178 | | 1.35 | 1.35 | . | 1.50 | 1.05 |
| 10179-10181 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 |
| 10182-11570 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 |
| 11571-12174 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 |
| 12175-12272 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.50 |
| 12273-12292 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.50 |
| 12293-12297 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 |
| 12298-12300 | | 1.00 | 1.00 | . | 1.05 | 1.50 |
| 12301-12311 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 |
| 12312-13263 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 |
| 13264-13603 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 |
| 13604-13642 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 |
| 13643-13648 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 |
| 13649 | | 1.00 | 1.00 | 1.05 | 1.05 | . |

D-600

Schulcampus EWK \ EG-LP4-o.Bw.

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------------|------|------|------------|---------|---------|---------|
| 13650-13672 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 13673 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 13674-14113 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 14114-14152 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 14153-14158 | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 14159-14161 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |

| Lkn | Ew Qk.N_DA | Qk.N_T2 |
|-------------|-------------|-------------|
| 1-1137 | . | 1.20 |
| 1138-1775 | . | 1.20 |
| 1776-1805 | . | 1.20 |
| 1806-1843 | . | 1.20 |
| 1844-1846 | . | 1.20 |
| 1847-1859 | . | . |
| 1860-1867 | . | . |
| 1868-7909 | . | 1.20 |
| 7910-9694 | . | 1.20 |
| 9695-9908 | . | . |
| 9909-9984 | . | 1.20 |
| 9985-9994 | . | 1.20 |
| 9995-10040 | . | . |
| 10041-10135 | . | 1.20 |
| 10136-10172 | . | 1.20 |
| 10173 | . | 1.20 |
| 10174-10178 | . | 1.20 |
| 10179-10181 | . | . |
| 10182-11570 | . | 1.20 |
| 11571-12174 | . | 1.20 |
| 12175-12272 | . | 1.20 |
| 12273-12292 | . | 1.20 |
| 12293-12297 | . | . |
| 12298-12300 | . | 1.20 |
| 12301-12311 | . | . |
| 12312-13263 | 1.50 | 1.20 |
| 13264-13603 | 1.50 | 1.20 |
| 13604-13642 | 1.50 | 1.20 |
| 13643-13648 | 1.50 | . |
| 13649 | 1.50 | 1.20 |
| 13650-13672 | 1.50 | 1.20 |
| 13673 | 1.50 | . |
| 13674-14113 | . | 1.50 |
| 14114-14152 | . | 1.50 |
| 14153-14158 | . | 1.50 |
| 14159-14161 | . | 1.50 |

Alle Nachweise

Óã~ãäæã↔´åæÁQ†^&bâæ}æã | ^&Áá | bÁá↔æ^ÁSá´á}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ $Y' \uparrow Y \downarrow \ddot{Y}$ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|---|
| 18 | 12317 | 2.36 | -22.39 | 1.03 | 2.41 | 3.47 |
| 31 | 1892 | 15.58 | -200.5 | 16.00 | 16.86 | 3.47 |

D-601

Schulcampus EWK \ EG-LP4-o.Bw.

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ↓ ↗ ↘ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 46 | 1920 | 34.77 | -14.50 | -31.98 | 66.75 | 6.25 |
| 50 | 13272 | 29.85 | 4.40 | -7.88 | 37.74 | 3.48 |
| 51 | 13274 | 27.70 | 5.33 | 13.31 | 41.01 | 3.79 |
| 57 | 1932 | 14.98 | -39.00 | 5.95 | 15.89 | 3.47 |
| 64 | 1937 | 24.36 | -159.1 | 31.25 | 30.50 | 3.47 |
| 69 | 1946 | 19.87 | 4.12 | -59.31 | 79.18 | 7.46 |
| 73 | 1951 | -16.83 | -1.73 | 14.59 | 0.00 | 3.47 |
| 123 | 1999 | 39.27 | 10.39 | -5.46 | 44.73 | 4.14 |
| 143 | 2017 | 22.23 | -0.30 | -54.65 | 76.88 | 7.23 |
| 150 | 13688 | 0.19 | 0.03 | -10.81 | 11.00 | 3.47 |
| 157 | 13287 | 1.05 | 0.07 | 22.81 | 23.86 | 3.47 |
| 164 | 9704 | 28.89 | -1.94 | 48.85 | 77.75 | 7.32 |
| 173 | 12352 | 0.28 | 0.00 | -6.49 | 6.77 | 3.47 |
| 179 | 9705 | 14.50 | 0.08 | -14.12 | 28.63 | 3.47 |
| 199 | 1172 | -1.72 | -0.04 | 13.88 | 12.16 | 3.47 |
| 220 | 2110 | 8.10 | 9.31 | -1.80 | 9.90 | 3.47 |
| 307 | 2003 | 13.70 | 12.36 | 50.43 | 64.13 | 5.99 |
| 312 | 1947 | 10.09 | 14.84 | -51.65 | 61.74 | 5.76 |
| 361 | 2294 | 6.30 | 11.53 | 55.08 | 61.38 | 5.73 |
| 383 | 2223 | 16.87 | 18.52 | 46.97 | 63.84 | 5.96 |
| 387 | 2009 | -0.14 | 6.97 | -46.20 | 46.06 | 4.27 |
| 390 | 2229 | 10.81 | 21.42 | -47.60 | 58.41 | 5.44 |
| 417 | 2360 | 12.06 | 58.41 | 3.16 | 15.23 | 3.47 |
| 436 | 2385 | 16.07 | 22.27 | 48.39 | 64.45 | 6.02 |
| 468 | 2411 | 14.95 | 30.72 | -41.57 | 56.52 | 5.26 |
| 512 | 2286 | 22.27 | 32.66 | 42.46 | 64.74 | 6.05 |
| 713 | 2654 | 36.93 | 96.92 | -10.39 | 47.33 | 4.39 |
| 823 | 2746 | 0.32 | 0.46 | 21.08 | 21.40 | 3.47 |
| 847 | 2481 | -4.97 | -0.37 | 15.56 | 10.58 | 3.47 |
| 848 | 8016 | -0.14 | -1.90 | -2.60 | 2.46 | 3.47 |
| 922 | 8023 | 1.85 | 7.87 | 8.11 | 9.96 | 3.47 |
| 976 | 2824 | 14.76 | 16.19 | 5.37 | 20.13 | 3.47 |
| 1001 | 2910 | -12.34 | -12.06 | -14.36 | 2.02 | 3.47 |
| 1005 | 2917 | 11.68 | 19.22 | 3.54 | 15.21 | 3.47 |
| 1008 | 2780 | 28.53 | 39.15 | 1.04 | 29.58 | 3.47 |
| 1051 | 2889 | 28.51 | 37.21 | -1.94 | 30.45 | 3.47 |
| 1078 | 2993 | 24.47 | -39.63 | 68.74 | 93.21 | 8.85 |
| 1106 | 3025 | 39.97 | 112.21 | -3.12 | 43.09 | 3.99 |
| 1159 | 13715 | 5.40 | 0.45 | 0.29 | 5.69 | 3.47 |
| 1214 | 3124 | 0.32 | 0.41 | -17.87 | 18.18 | 3.47 |
| 1320 | 8085 | -0.63 | 0.62 | 4.05 | 3.42 | 3.47 |
| 1380 | 3122 | 25.23 | 35.79 | -27.12 | 52.35 | 4.86 |
| 1423 | 3384 | 23.07 | 35.75 | 25.62 | 48.69 | 4.52 |
| 1468 | 10223 | 0.01 | 0.79 | -7.22 | 7.23 | 3.47 |
| 1548 | 3450 | 16.67 | 18.51 | -37.76 | 54.42 | 5.06 |
| 1574 | 3596 | 19.98 | -40.28 | 33.64 | 48.07 | 4.23 |
| 1831 | 13808 | -2.02 | 1.17 | 3.59 | 1.57 | 3.47 |
| 1852 | 1896 | -13.04 | -69.15 | 31.95 | 1.73 | 3.47 |
| 1910 | 4005 | -13.93 | 16.49 | 9.02 | 0.00 | 3.47 |
| 1934 | 1896 | 11.91 | -129.5 | 37.02 | 22.49 | 3.47 |
| 1935 | 1938 | 51.71 | -114.8 | -43.47 | 68.17 | 6.38 |
| 1951 | 8172 | -0.14 | -101.0 | 41.45 | 16.86 | 3.47 |
| 1952 | 4062 | 8.58 | -115.4 | -39.24 | 21.92 | 3.47 |
| 1957 | 12464 | -2.77 | -24.70 | -13.33 | 4.42 | 3.47 |

D-602

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ↓ ↗ ↘ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 1961 | 1276 | 0.42 | -7.84 | -10.91 | 11.33 | 3.47 |
| 1984 | 4103 | 20.91 | 118.94 | -27.12 | 48.03 | 4.45 |
| 1989 | 10363 | -1.55 | 7.39 | 1.72 | 0.17 | 3.47 |
| 1995 | 12476 | -1.75 | -29.88 | 8.79 | 0.84 | 3.47 |
| 2008 | 12481 | -15.86 | 21.87 | 31.04 | 15.18 | 3.47 |
| 2024 | 1847 | -22.74 | -2.61 | -27.04 | 4.30 | 3.47 |
| 2045 | 3045 | 117.06 | 26.96 | 1.63 | 118.69 | 11.59 |
| 2061 | 10381 | -4.70 | 11.31 | -4.53 | 0.00 | 3.47 |
| 2089 | 12497 | -8.22 | -26.76 | 17.11 | 2.73 | 3.47 |
| 2214 | 4094 | 117.16 | 26.41 | 1.22 | 118.39 | 11.56 |
| 2308 | 4359 | 9.92 | 6.50 | -0.87 | 10.79 | 3.47 |
| 2652 | 10699 | -1.08 | -2.84 | -2.53 | 1.16 | 3.47 |
| 2795 | 4740 | 116.47 | 26.02 | -0.22 | 116.69 | 11.37 |
| 2875 | 4847 | 8.22 | 0.03 | -2.45 | 10.67 | 3.47 |
| 2946 | 13349 | 4.19 | 231.57 | 49.91 | 54.10 | 5.03 |
| 3008 | 13360 | 7.64 | 31.68 | -34.82 | 42.46 | 3.67 |
| 3030 | 4965 | 0.14 | -7.58 | 3.41 | 1.67 | 3.47 |
| 3069 | 13367 | 2.94 | -37.54 | -10.25 | 5.74 | 3.47 |
| 3270 | 359 | 45.52 | 14.47 | 0.45 | 45.97 | 4.26 |
| 3334 | 355 | 18.96 | 3.17 | 1.14 | 20.10 | 3.47 |
| 3390 | 379 | 46.21 | 14.49 | -0.54 | 46.74 | 4.33 |
| 3451 | 448 | 45.36 | 13.98 | -1.31 | 46.67 | 4.32 |
| 3840 | 12917 | -1.23 | 3.25 | -6.91 | 5.68 | 3.47 |
| 3866 | 642 | -3.38 | 2.31 | 11.52 | 8.14 | 3.47 |
| 3973 | 13446 | 16.38 | 226.66 | 37.40 | 53.78 | 5.00 |
| 4087 | 12969 | -2.24 | -0.14 | 10.81 | 8.57 | 3.47 |
| 4291 | 802 | -3.42 | -23.59 | 5.67 | 0.00 | 3.47 |
| 4651 | 6156 | 13.70 | -13.43 | -8.07 | 18.55 | 3.47 |
| 4675 | 11409 | 0.23 | 2.50 | -1.22 | 1.45 | 3.47 |
| 4729 | 6183 | -1.08 | -46.59 | 19.58 | 7.15 | 3.47 |
| 4765 | 12290 | -4.90 | -4.66 | 6.64 | 1.74 | 3.47 |
| 4770 | 13142 | 0.37 | -12.92 | -0.51 | 0.39 | 3.47 |
| 4815 | 8621 | 1.19 | -46.31 | 5.33 | 1.81 | 3.47 |
| 4838 | 13537 | 103.35 | -11.92 | 50.44 | 153.79 | 15.55 |
| 4844 | 13170 | 0.91 | -17.68 | -2.78 | 1.35 | 3.47 |
| 4857 | 6284 | -0.47 | -22.21 | 7.51 | 2.07 | 3.47 |
| 4884 | 13182 | 0.02 | -36.18 | 4.28 | 0.53 | 3.47 |
| 4887 | 6310 | 10.63 | -112.4 | -1.49 | 10.65 | 3.47 |
| 4908 | 13542 | 6.98 | -26.59 | 32.58 | 39.55 | 3.47 |
| 4909 | 8703 | 4.68 | -32.84 | -12.56 | 9.49 | 3.47 |
| 4932 | 1675 | -2.43 | -10.69 | 2.77 | 0.00 | 3.47 |
| 4944 | 867 | 1.89 | -30.51 | 1.29 | 1.94 | 3.47 |
| 5335 | 6585 | 26.45 | 12.37 | 1.07 | 27.52 | 3.47 |
| 5420 | 6753 | 31.87 | 18.21 | 0.58 | 32.45 | 3.47 |
| 5768 | 7096 | -30.89 | 7.27 | -7.57 | 0.00 | 3.47 |
| 5774 | 14145 | -1.49 | 3.40 | 13.78 | 12.29 | 3.47 |
| 5797 | 7113 | 7.26 | 2.74 | 0.67 | 7.93 | 3.47 |
| 5851 | 6390 | 20.62 | -26.51 | 37.83 | 58.45 | 5.45 |
| 5852 | 1038 | 15.83 | -22.54 | -26.52 | 42.36 | 3.66 |
| 5857 | 1015 | 30.93 | 17.20 | 0.16 | 31.09 | 3.47 |
| 5861 | 1 | 42.79 | 22.43 | 1.25 | 44.04 | 4.08 |
| 5892 | 9897 | 29.23 | 21.22 | 1.51 | 30.74 | 3.47 |
| 5896 | 7211 | 44.19 | 32.56 | 0.49 | 44.68 | 4.14 |
| 5938 | 15 | 42.51 | 23.49 | 1.16 | 43.67 | 4.04 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ¥ ↯ ↑ Y'' |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|------------------------------|
| 5997 | 7230 | 49.12 | 31.95 | -0.58 | 49.70 | 4.61 |
| 6076 | 7374 | 48.29 | 31.67 | -0.84 | 49.13 | 4.56 |
| 6287 | 7588 | 33.87 | 27.29 | -0.27 | 34.14 | 3.47 |
| 6530 | 9627 | -16.85 | -19.88 | -11.83 | 0.00 | 3.47 |
| 6622 | 7800 | 23.66 | 8.82 | -0.83 | 24.49 | 3.47 |
| 6631 | 7910 | 0.18 | -19.21 | -11.00 | 6.49 | 3.47 |
| 6676 | 13598 | 19.88 | -0.98 | -59.92 | 79.80 | 7.43 |
| 6684 | 7882 | 15.42 | 0.18 | 16.23 | 31.66 | 3.47 |
| 6693 | 9569 | 5.90 | 0.02 | -5.59 | 11.49 | 3.47 |
| 6714 | 7897 | -0.15 | 6.65 | 46.41 | 46.27 | 4.29 |
| 6723 | 7903 | 12.47 | -30.72 | -59.37 | 71.84 | 6.62 |

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Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ¥ ↯ ↑ Y'' |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|------------------------------|
| 6 | 7911 | -0.15 | -0.85 | -6.28 | 5.42 | 3.47 |
| 15 | 13267 | -43.13 | 99.06 | 3.98 | 99.43 | 9.50 |
| 28 | 11576 | 4.36 | 111.06 | -5.66 | 116.72 | 11.37 |
| 38 | 7930 | -71.13 | -6.24 | -22.58 | 0.92 | 3.47 |
| 44 | 1916 | -174.2 | -2.32 | -105.9 | 62.04 | 5.52 |
| 58 | 1934 | 0.15 | 14.03 | 38.45 | 52.48 | 4.88 |
| 60 | 10191 | -13.04 | 1.20 | 1.63 | 1.41 | 3.47 |
| 62 | 1148 | 0.06 | -6.18 | -6.29 | 0.11 | 3.47 |
| 68 | 1945 | -120.0 | 0.80 | 2.84 | 0.86 | 3.47 |
| 69 | 1947 | 19.86 | 4.12 | -59.32 | 63.44 | 5.93 |
| 70 | 1949 | -1.09 | 40.74 | 23.60 | 64.34 | 6.01 |
| 80 | 16 | 1.05 | 0.78 | 9.80 | 10.58 | 3.47 |
| 150 | 2028 | 0.31 | 0.08 | -23.82 | 23.91 | 3.47 |
| 156 | 2033 | 0.23 | 0.09 | 19.47 | 19.56 | 3.47 |
| 180 | 2053 | 14.29 | 0.08 | -14.30 | 14.38 | 3.47 |
| 188 | 2062 | -12.92 | 0.35 | -2.10 | 0.69 | 3.47 |
| 194 | 2066 | 2.76 | 0.08 | 14.71 | 14.79 | 3.47 |
| 220 | 2109 | 8.10 | 9.31 | -1.80 | 11.12 | 3.47 |
| 233 | 2125 | 0.29 | 29.46 | -27.95 | 57.41 | 5.35 |
| 285 | 2191 | 0.67 | 16.90 | 54.40 | 71.30 | 6.69 |
| 361 | 2191 | 6.09 | 11.85 | 55.33 | 67.19 | 6.15 |
| 444 | 2396 | 29.18 | 21.61 | -44.35 | 65.95 | 6.17 |
| 522 | 2477 | 39.40 | 28.68 | -37.17 | 65.85 | 6.16 |
| 535 | 2320 | 30.94 | 32.44 | 36.30 | 68.74 | 6.44 |
| 611 | 9736 | 39.71 | 38.49 | 30.95 | 69.44 | 6.51 |
| 618 | 13697 | 0.00 | -0.23 | -12.18 | 11.96 | 3.47 |
| 687 | 2317 | 49.20 | 43.10 | 25.77 | 68.86 | 6.45 |
| 823 | 2681 | 0.32 | 0.49 | 21.17 | 21.66 | 3.47 |
| 849 | 2767 | -1.26 | 6.85 | -5.46 | 12.32 | 3.47 |
| 880 | 2806 | 37.82 | 116.21 | 2.41 | 118.62 | 11.58 |
| 950 | 2800 | 37.96 | 119.48 | -4.67 | 124.16 | 12.19 |
| 978 | 13295 | 0.07 | 5.37 | -22.15 | 27.51 | 3.47 |
| 1002 | 8041 | -2.16 | -4.92 | 8.38 | 3.45 | 3.47 |
| 1005 | 2918 | 6.62 | 24.26 | 4.09 | 28.35 | 3.47 |
| 1054 | 2975 | 0.32 | 0.45 | -3.03 | 3.48 | 3.47 |
| 1075 | 2989 | -16.67 | 6.01 | 10.66 | 12.83 | 3.47 |
| 1080 | 2995 | -10.63 | 9.52 | 14.19 | 23.71 | 3.47 |
| 1160 | 14118 | -21.25 | 0.46 | -1.39 | 0.56 | 3.47 |

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| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ↓ ↗ ↘ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 1214 | 3125 | 0.32 | 0.48 | -18.15 | 18.62 | 3.47 |
| 1235 | 8072 | -3.59 | 3.11 | 9.59 | 12.70 | 3.47 |
| 1561 | 3461 | 110.65 | 34.94 | 0.11 | 35.05 | 3.47 |
| 1656 | 13778 | -67.48 | 5.09 | -6.41 | 5.70 | 3.47 |
| 1697 | 3769 | 28.60 | 10.13 | 0.51 | 10.64 | 3.47 |
| 1759 | 3843 | 1.81 | -18.20 | 29.10 | -47.30 | 3.47 |
| 1768 | 3855 | -16.01 | -6.11 | 21.96 | 15.85 | 3.47 |
| 1770 | 3857 | 5.20 | 5.96 | 8.22 | 14.17 | 3.47 |
| 1773 | 12393 | -2.38 | -2.46 | -5.73 | 3.27 | 3.47 |
| 1788 | 11600 | -6.59 | 3.71 | -0.16 | 3.71 | 3.47 |
| 1789 | 3869 | -7.28 | 5.85 | -13.92 | 19.77 | 3.47 |
| 1791 | 3778 | 4.67 | 5.52 | -19.73 | 25.25 | 3.47 |
| 1793 | 3783 | -10.19 | -4.77 | -35.93 | 31.16 | 3.47 |
| 1796 | 10310 | 0.19 | -9.90 | -16.95 | 7.06 | 3.47 |
| 1802 | 3885 | 0.49 | 4.60 | -41.65 | 46.25 | 4.05 |
| 1825 | 12420 | -57.80 | -0.69 | -8.56 | 0.57 | 3.47 |
| 1829 | 12425 | -6.92 | 0.93 | 2.18 | 1.62 | 3.47 |
| 1874 | 3971 | -21.11 | 10.09 | -36.51 | 46.60 | 4.32 |
| 1880 | 10335 | -0.03 | -12.30 | -16.57 | 4.27 | 3.47 |
| 1881 | 10336 | 0.47 | -9.62 | -16.61 | 6.99 | 3.47 |
| 1907 | 12450 | -68.37 | 4.64 | -18.07 | 9.41 | 3.47 |
| 1914 | 4011 | -17.26 | 11.22 | 10.32 | 17.39 | 3.47 |
| 1984 | 9817 | 20.88 | 118.80 | -27.15 | 145.95 | 14.64 |
| 2006 | 4130 | -69.87 | 40.37 | -58.25 | 88.94 | 8.38 |
| 2008 | 13303 | -45.87 | 46.16 | 44.63 | 89.59 | 8.49 |
| 2023 | 4147 | -98.27 | 21.13 | -68.24 | 68.52 | 6.26 |
| 2026 | 4151 | -44.61 | 25.49 | 60.40 | 85.89 | 8.06 |
| 2107 | 1301 | -16.10 | -16.30 | -9.27 | 0.00 | 3.47 |
| 2520 | 10651 | 4.27 | -3.60 | 3.88 | 0.27 | 3.47 |
| 2657 | 8263 | 4.09 | 0.57 | -0.57 | 1.14 | 3.47 |
| 2762 | 8268 | -2.61 | 1.21 | 1.84 | 2.50 | 3.47 |
| 2887 | 13343 | 2.35 | 10.50 | 13.36 | 23.85 | 3.47 |
| 2946 | 13342 | 4.19 | 231.57 | 49.91 | 281.48 | 32.09 |
| 3058 | 10856 | -3.99 | -0.70 | 1.63 | 0.00 | 3.47 |
| 3071 | 13654 | 5.66 | 0.95 | -2.71 | 3.66 | 3.47 |
| 3076 | 12651 | -13.54 | 0.20 | -1.13 | 0.30 | 3.47 |
| 3114 | 13617 | -61.22 | 6.84 | -0.13 | 6.84 | 3.47 |
| 3172 | 12688 | -17.80 | 0.33 | -1.50 | 0.46 | 3.47 |
| 3364 | 12783 | -6.12 | 0.03 | 0.63 | 0.10 | 3.47 |
| 3664 | 12880 | -4.36 | 0.10 | 0.95 | 0.30 | 3.47 |
| 3917 | 12939 | 3.21 | 0.82 | 12.04 | 12.86 | 3.47 |
| 3938 | 5730 | 0.76 | -18.89 | 29.38 | 10.48 | 3.47 |
| 3973 | 13447 | 14.69 | 237.59 | 38.48 | 276.08 | 31.30 |
| 4030 | 13452 | -0.20 | 8.54 | -6.65 | 15.18 | 3.47 |
| 4052 | 744 | -0.15 | 64.06 | 38.26 | 102.32 | 9.81 |
| 4066 | 5840 | 59.76 | 30.24 | -13.86 | 44.10 | 4.08 |
| 4115 | 5871 | 51.50 | 26.79 | 26.14 | 52.93 | 4.92 |
| 4125 | 5886 | 48.40 | 26.23 | -18.06 | 44.29 | 4.10 |
| 4158 | 778 | 4.87 | -4.28 | 8.67 | 4.39 | 3.47 |
| 4172 | 5910 | 39.85 | 22.45 | 30.70 | 53.15 | 4.94 |
| 4277 | 11894 | 3.93 | -2.02 | -13.01 | 10.99 | 3.47 |
| 4278 | 8438 | 2.20 | 3.69 | -6.00 | 9.68 | 3.47 |
| 4361 | 11952 | -0.32 | 34.48 | -12.78 | 47.26 | 4.38 |
| 4446 | 12017 | 11.30 | 24.02 | -7.27 | 31.29 | 3.47 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ¥ ↯ ↑ Y |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|----------------------------|
| 4484 | 13046 | 17.01 | 10.73 | -11.50 | 22.23 | 3.47 |
| 4725 | 1935 | 2.03 | -14.18 | 30.34 | 16.16 | 3.47 |
| 4762 | 13523 | 33.05 | 7.66 | 20.20 | 27.85 | 3.47 |
| 4816 | 6242 | -35.72 | 22.41 | 25.31 | 40.34 | 3.73 |
| 4819 | 1879 | -10.29 | 14.78 | -42.32 | 57.11 | 5.32 |
| 4820 | 13168 | 6.92 | -9.56 | -10.74 | 1.18 | 3.47 |
| 4837 | 8648 | 61.00 | 2.79 | -1.38 | 4.17 | 3.47 |
| 4869 | 856 | -12.84 | -1.24 | -9.59 | 5.93 | 3.47 |
| 4908 | 13543 | 7.11 | -18.97 | 28.87 | 9.89 | 3.47 |
| 4910 | 8703 | -6.69 | -8.59 | -4.69 | 0.00 | 3.47 |
| 4966 | 6364 | -11.71 | 7.63 | 10.85 | 17.68 | 3.47 |
| 5009 | 6398 | -11.95 | -8.00 | 7.67 | 0.00 | 3.47 |
| 5262 | 930 | -10.40 | -3.43 | 3.00 | 0.00 | 3.47 |
| 5354 | 14038 | -21.00 | -4.08 | -1.67 | 0.00 | 3.47 |
| 5440 | 967 | -10.93 | -0.27 | -11.11 | 10.84 | 3.47 |
| 5640 | 9213 | -14.63 | -0.76 | 0.80 | 0.00 | 3.47 |
| 6113 | 9455 | 0.51 | -0.23 | -1.25 | 1.02 | 3.47 |
| 6346 | 9547 | -4.25 | -2.38 | -3.33 | 0.23 | 3.47 |
| 6530 | 9628 | -16.81 | -17.01 | -21.46 | 4.45 | 3.47 |
| 6612 | 7840 | 2.17 | -15.40 | 25.32 | 9.92 | 3.47 |
| 6676 | 13597 | 19.87 | -0.98 | -59.96 | 58.98 | 5.31 |
| 6678 | 13600 | 4.32 | 13.60 | 30.53 | 44.14 | 3.84 |
| 6712 | 1911 | 0.35 | 29.18 | 26.70 | 55.88 | 5.20 |
| 6718 | 13262 | 0.00 | -0.91 | 12.32 | 11.41 | 3.47 |
| 6736 | 7908 | -41.48 | -3.60 | 48.41 | 44.81 | 3.90 |

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Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ¥ ↯ ↑ Y |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|----------------------------|
| 5 | 12312 | -0.02 | -0.82 | 3.96 | 3.94 | 3.47 |
| 6 | 7910 | -0.15 | -0.86 | -6.19 | 6.05 | 3.47 |
| 7 | 1873 | -102.3 | 3.68 | 31.46 | -133.8 | 13.27 |
| 8 | 4 | -79.11 | 4.88 | -20.82 | -99.92 | 9.55 |
| 14 | 13265 | -68.42 | -35.82 | 14.23 | -82.65 | 7.80 |
| 15 | 13266 | -44.65 | 97.24 | 1.90 | -44.68 | 4.14 |
| 19 | 1881 | -25.69 | -29.13 | -14.20 | -39.89 | 3.68 |
| 24 | 11571 | -52.12 | -14.61 | 1.14 | -53.26 | 4.95 |
| 29 | 1888 | -54.34 | -24.08 | 19.64 | -73.98 | 6.95 |
| 30 | 1890 | -51.22 | -74.28 | -53.97 | -105.2 | 10.12 |
| 32 | 1894 | -92.89 | -236.0 | -105.4 | -198.3 | 20.88 |
| 33 | 1896 | -51.82 | -65.15 | 42.91 | -94.72 | 9.00 |
| 34 | 1898 | -59.62 | -40.21 | -30.45 | -90.07 | 8.53 |
| 35 | 1900 | -90.30 | -271.2 | 71.09 | -161.4 | 16.43 |
| 38 | 1904 | -170.3 | -16.20 | -50.03 | -220.3 | 23.67 |
| 39 | 1906 | -191.0 | -17.01 | 20.92 | -212.0 | 22.60 |
| 41 | 12323 | -0.15 | -2.01 | 6.91 | 6.77 | 3.47 |
| 42 | 12324 | -0.13 | -0.82 | -6.05 | 5.92 | 3.47 |
| 43 | 1912 | -153.8 | 18.99 | 43.14 | -197.0 | 20.71 |
| 44 | 1914 | -174.2 | -1.91 | -105.9 | -280.1 | 31.88 |
| 52 | 7941 | -4.73 | 2.97 | 4.98 | 0.25 | 3.47 |
| 58 | 1933 | -0.76 | 9.91 | 40.08 | -40.84 | 3.77 |
| 61 | 12326 | -1.52 | -95.76 | -15.07 | 0.85 | 3.47 |
| 66 | 1941 | -40.65 | -14.93 | 4.50 | -45.15 | 4.18 |

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Schulcampus EWK \ EG-LP4-o.Bw.

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↗ ↘ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 74 | 1952 | -27.98 | -59.40 | -25.84 | -53.82 | 5.00 |
| 75 | 13276 | -31.25 | -8.32 | -20.59 | -51.84 | 4.81 |
| 82 | 9696 | -47.65 | -41.92 | -17.53 | -65.18 | 6.09 |
| 86 | 10198 | -0.21 | 1.80 | 0.03 | 0.00 | 3.47 |
| 88 | 10200 | -2.16 | -4.11 | -1.87 | 0.00 | 3.47 |
| 127 | 2000 | -206.5 | -52.99 | 52.89 | -259.4 | 28.92 |
| 129 | 13680 | -1.41 | -4.33 | 1.93 | 0.00 | 3.47 |
| 144 | 2018 | 4.13 | 0.42 | -58.98 | -54.86 | 4.84 |
| 146 | 2023 | 7.94 | -0.25 | -51.37 | -43.43 | 4.02 |
| 152 | 13690 | 0.14 | 0.04 | -3.94 | 4.08 | 3.47 |
| 153 | 12348 | 0.22 | 0.04 | -0.46 | 0.68 | 3.47 |
| 161 | 9702 | 2.58 | 0.13 | 47.68 | -45.10 | 4.18 |
| 163 | 1911 | 6.12 | 0.78 | 53.11 | -46.99 | 4.35 |
| 165 | 1947 | 0.51 | 0.26 | -55.84 | -55.33 | 5.15 |
| 180 | 12353 | 7.88 | 0.03 | -4.91 | 12.79 | 3.47 |
| 286 | 2193 | 0.59 | 2.61 | -53.86 | -53.27 | 4.95 |
| 350 | 2275 | 10.60 | 33.29 | 24.31 | 34.91 | 3.47 |
| 362 | 2295 | 0.29 | 7.72 | 56.67 | -56.38 | 5.06 |
| 536 | 9727 | 26.73 | 28.31 | 38.81 | 65.53 | 3.47 |
| 596 | 2304 | 21.83 | 14.50 | -43.77 | 65.60 | 3.47 |
| 618 | 13697 | 0.00 | -0.23 | -12.18 | 12.18 | 3.47 |
| 826 | 2551 | 27.94 | 14.37 | -32.19 | 60.12 | 3.47 |
| 848 | 8016 | -0.14 | -1.90 | -2.60 | 2.46 | 3.47 |
| 977 | 2893 | 0.33 | 0.57 | 5.41 | 5.73 | 3.47 |
| 1132 | 3045 | 13.75 | 10.97 | -20.54 | 34.29 | 3.47 |
| 1150 | 13711 | 6.66 | 4.76 | 7.95 | 14.61 | 3.47 |
| 1488 | 8112 | -2.64 | 7.68 | 2.45 | 0.00 | 3.47 |
| 1579 | 13771 | -3.60 | -2.65 | 1.41 | 0.00 | 3.47 |
| 1625 | 3680 | 12.87 | 31.62 | -20.18 | 33.05 | 3.47 |
| 1635 | 3694 | 0.32 | 1.29 | -43.12 | -42.80 | 3.96 |
| 1654 | 3709 | 1.53 | 0.68 | 2.64 | 4.16 | 3.47 |
| 1688 | 13297 | 2.84 | 16.71 | -4.07 | 6.91 | 3.47 |
| 1689 | 3753 | 4.43 | 13.56 | -10.21 | 14.64 | 3.47 |
| 1703 | 10307 | 0.42 | 10.62 | -2.49 | 2.91 | 3.47 |
| 1705 | 3677 | 10.23 | 20.16 | -16.31 | 26.54 | 3.47 |
| 1770 | 3857 | 5.20 | 5.96 | 8.22 | 13.42 | 3.47 |
| 1787 | 3867 | -8.13 | -8.08 | 5.67 | 0.00 | 3.47 |
| 1834 | 8162 | -3.43 | 1.53 | 5.27 | 1.83 | 3.47 |
| 1872 | 3677 | 5.30 | -0.14 | -19.28 | 24.58 | 3.47 |
| 1920 | 4019 | -10.29 | -30.38 | 28.17 | -38.46 | 3.55 |
| 1939 | 8171 | 3.69 | -70.09 | -4.53 | 3.99 | 3.47 |
| 1953 | 4064 | -14.24 | -103.4 | -28.42 | -42.66 | 3.95 |
| 1985 | 8175 | -8.37 | 52.88 | 1.87 | 0.00 | 3.47 |
| 1988 | 10361 | -3.25 | 5.96 | 0.37 | 0.00 | 3.47 |
| 2006 | 4129 | -69.91 | 40.37 | -58.25 | -128.2 | 12.64 |
| 2026 | 4149 | -44.61 | 25.49 | 60.40 | -105.0 | 10.10 |
| 2028 | 4152 | -22.84 | -116.9 | -14.87 | -37.70 | 3.48 |
| 2066 | 8182 | -0.47 | -1.11 | 3.58 | 3.11 | 3.47 |
| 2085 | 4214 | -27.00 | -80.16 | -23.85 | -50.85 | 4.72 |
| 2199 | 1339 | 0.28 | -21.01 | 0.54 | 0.29 | 3.47 |
| 2483 | 4570 | -130.3 | -18.71 | 3.97 | -134.3 | 13.32 |
| 2530 | 8221 | 4.46 | 3.70 | -6.85 | 11.31 | 3.47 |
| 2647 | 4691 | -164.8 | -65.48 | 1.45 | -166.2 | 17.00 |
| 2653 | 4699 | 5.66 | 2.80 | -7.39 | 13.05 | 3.47 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↗ ↘ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 2739 | 10735 | 1.72 | -9.00 | -0.30 | 1.73 | 3.47 |
| 2832 | 182 | -49.07 | -16.06 | -5.55 | -54.62 | 5.08 |
| 2936 | 12604 | -0.68 | -1.86 | -0.74 | 0.00 | 3.47 |
| 2991 | 4940 | -152.8 | -39.82 | -0.15 | -153.0 | 15.45 |
| 3007 | 13358 | -11.08 | -63.84 | -53.95 | -65.03 | 6.08 |
| 3137 | 319 | -48.43 | -6.96 | -1.94 | -50.36 | 4.67 |
| 3152 | 5070 | 0.08 | -2.00 | 7.05 | 7.13 | 3.47 |
| 3244 | 10906 | -7.59 | -5.64 | 0.11 | 0.00 | 3.47 |
| 3299 | 5186 | -143.4 | -34.55 | -1.85 | -145.2 | 14.56 |
| 3313 | 13383 | 0.09 | 0.17 | 0.60 | 0.69 | 3.47 |
| 3365 | 10938 | -0.45 | 2.50 | 0.84 | 0.38 | 3.47 |
| 3382 | 409 | -62.00 | -21.04 | 0.48 | -62.48 | 5.83 |
| 3456 | 454 | 0.28 | -7.29 | -3.49 | 1.94 | 3.47 |
| 3659 | 5516 | -128.2 | -26.99 | -4.87 | -133.1 | 13.19 |
| 3760 | 5601 | 13.44 | 2.04 | 20.67 | 34.11 | 3.47 |
| 3806 | 609 | -51.65 | -17.47 | 6.79 | -58.44 | 5.45 |
| 3857 | 11127 | -0.50 | -24.20 | -3.67 | 0.06 | 3.47 |
| 3940 | 5735 | 31.00 | 3.73 | 31.42 | 62.43 | 3.47 |
| 3956 | 5764 | 17.24 | 13.94 | -18.06 | 35.31 | 3.47 |
| 3996 | 5777 | -0.44 | -25.23 | 53.10 | -53.54 | 4.98 |
| 4038 | 723 | -33.16 | -6.12 | 10.48 | -43.64 | 4.04 |
| 4108 | 767 | 11.64 | -0.87 | -13.56 | 25.20 | 3.47 |
| 4110 | 1544 | -0.44 | 10.90 | 5.72 | 5.28 | 3.47 |
| 4225 | 1578 | -2.00 | -2.96 | -6.86 | 4.86 | 3.47 |
| 4272 | 8436 | 2.12 | 0.08 | -1.87 | 4.00 | 3.47 |
| 4280 | 11814 | -0.31 | 40.87 | 15.50 | 15.20 | 3.47 |
| 4385 | 5994 | -0.14 | 1.07 | 41.93 | -42.07 | 3.89 |
| 4468 | 13042 | 0.92 | 0.54 | -1.63 | 2.55 | 3.47 |
| 4486 | 6022 | 14.77 | 4.91 | -27.54 | 42.31 | 3.47 |
| 4737 | 13131 | 8.36 | -4.23 | -9.69 | 18.05 | 3.47 |
| 4816 | 6241 | -35.72 | 22.41 | 25.31 | -61.03 | 5.69 |
| 4819 | 6243 | -12.09 | 14.17 | -43.09 | -55.18 | 4.94 |
| 4824 | 9867 | 6.07 | 10.25 | -20.71 | 26.78 | 3.47 |
| 4886 | 8679 | -5.43 | -85.13 | 4.61 | 0.00 | 3.47 |
| 4888 | 8681 | 0.38 | -27.41 | 0.54 | 0.39 | 3.47 |
| 4988 | 6383 | -27.45 | 6.74 | 14.39 | -41.85 | 3.87 |
| 5023 | 880 | -2.17 | -12.42 | 1.93 | 0.00 | 3.47 |
| 5377 | 6698 | -1.38 | 2.89 | 4.26 | 2.88 | 3.47 |
| 5596 | 6931 | 12.33 | 8.63 | 14.06 | 26.38 | 3.47 |
| 5679 | 9247 | 4.39 | 2.54 | 4.76 | 9.15 | 3.47 |
| 5694 | 14084 | -2.31 | 0.29 | -3.28 | 0.97 | 3.47 |
| 5722 | 7042 | 0.29 | 2.07 | 1.23 | 1.52 | 3.47 |
| 5769 | 14089 | 9.93 | -0.38 | -7.46 | 17.39 | 3.47 |
| 5811 | 9315 | -1.67 | 2.04 | 0.17 | 0.00 | 3.47 |
| 5854 | 9338 | 0.36 | 2.22 | -2.89 | 3.25 | 3.47 |
| 5867 | 1047 | 0.32 | 0.13 | 2.04 | 2.36 | 3.47 |
| 5908 | 6987 | -96.36 | -18.71 | -3.31 | -99.67 | 9.53 |
| 6024 | 7320 | 0.09 | 0.44 | 1.32 | 1.40 | 3.47 |
| 6240 | 14160 | -0.72 | -0.35 | 0.69 | 0.00 | 3.47 |
| 6358 | 7646 | 6.86 | 12.98 | 15.70 | 22.56 | 3.47 |
| 6478 | 1104 | 9.54 | 8.15 | 18.70 | 28.24 | 3.47 |
| 6498 | 7754 | 5.34 | 2.12 | -2.92 | 8.25 | 3.47 |
| 6551 | 7911 | 4.05 | -3.94 | -7.23 | 11.28 | 3.47 |
| 6553 | 9633 | -0.17 | -5.64 | -7.86 | 7.69 | 3.47 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↗ ↘ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 6568 | 1 | 8.56 | 7.75 | -21.25 | 29.81 | 3.47 |
| 6571 | 7487 | 3.09 | -3.01 | 8.12 | 11.21 | 3.47 |
| 6577 | 9636 | -2.42 | 1.35 | -3.96 | 1.54 | 3.47 |
| 6600 | 7827 | 10.20 | 9.07 | -8.86 | 19.06 | 3.47 |
| 6610 | 7787 | -97.06 | -77.11 | -9.17 | -106.2 | 10.23 |
| 6627 | 9569 | 7.31 | 1.16 | -7.10 | 14.41 | 3.47 |
| 6630 | 1919 | -16.07 | -33.18 | -28.95 | -45.02 | 3.92 |
| 6651 | 13640 | 0.79 | 0.74 | -0.96 | 1.76 | 3.47 |
| 6662 | 7433 | -2.04 | 0.16 | 23.60 | 21.55 | 3.47 |
| 6664 | 7869 | -16.33 | 0.43 | 22.96 | -39.29 | 3.63 |
| 6667 | 9984 | 1.16 | 0.60 | 4.77 | 5.93 | 3.47 |
| 6675 | 13575 | -66.25 | 0.50 | -45.51 | -111.8 | 10.83 |
| 6684 | 7882 | 15.42 | 0.18 | 16.23 | 31.66 | 3.47 |
| 6693 | 9569 | 5.90 | 0.02 | -5.59 | 11.49 | 3.47 |
| 6696 | 7910 | 2.70 | 3.18 | -13.07 | 15.77 | 3.47 |
| 6703 | 13601 | 0.48 | 0.16 | 0.16 | 0.64 | 3.47 |
| 6714 | 7897 | -0.15 | 6.65 | 46.41 | -46.56 | 4.31 |
| 6718 | 14161 | 0.00 | -1.12 | 13.57 | 13.57 | 3.47 |
| 6724 | 7419 | -74.12 | -13.54 | -2.19 | -76.30 | 7.18 |
| 6727 | 7904 | -0.93 | 8.94 | -45.82 | -46.75 | 4.33 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 11 | 5 | -7.95 | -42.16 | -10.53 | -52.69 | 4.90 |
| 17 | 1879 | 6.98 | -103.6 | -33.72 | -137.3 | 13.66 |
| 20 | 1884 | -19.05 | -153.4 | 31.48 | -184.9 | 19.23 |
| 27 | 11575 | -18.19 | -38.08 | -12.57 | -50.65 | 4.70 |
| 31 | 1893 | 14.25 | -206.2 | 15.46 | -221.6 | 23.84 |
| 32 | 1895 | -92.67 | -236.1 | -105.5 | -341.6 | 41.69 |
| 35 | 1900 | -90.30 | -271.2 | 71.09 | -342.3 | 41.82 |
| 36 | 1901 | 5.36 | -225.2 | -39.83 | -265.0 | 29.72 |
| 38 | 1905 | -170.2 | -16.37 | -50.06 | -66.43 | 6.07 |
| 40 | 1910 | -79.38 | -30.35 | -27.70 | -58.05 | 5.41 |
| 41 | 1911 | -0.50 | -5.04 | 15.88 | 10.84 | 3.47 |
| 42 | 12325 | -0.13 | -0.81 | -6.05 | 5.23 | 3.47 |
| 44 | 1915 | -174.1 | -2.69 | -105.9 | -108.6 | 10.49 |
| 61 | 13275 | -2.40 | -120.4 | -16.88 | -137.2 | 13.66 |
| 74 | 1953 | -26.69 | -62.29 | -25.03 | -87.32 | 8.26 |
| 82 | 1957 | -46.05 | -41.86 | -18.08 | -59.94 | 5.59 |
| 83 | 1958 | -68.81 | -25.58 | -16.37 | -41.95 | 3.88 |
| 85 | 12332 | 12.76 | 1.83 | -2.71 | 4.54 | 3.47 |
| 88 | 10201 | -2.05 | -5.73 | -1.80 | 0.00 | 3.47 |
| 114 | 13281 | 0.06 | 4.77 | -3.08 | 7.85 | 3.47 |
| 127 | 2001 | -204.1 | -52.34 | 54.30 | -106.6 | 10.28 |
| 140 | 7973 | -5.45 | -0.25 | 4.63 | 3.69 | 3.47 |
| 144 | 2019 | 5.87 | 0.37 | -59.26 | -58.90 | 5.49 |
| 153 | 2031 | 0.32 | 0.09 | -1.54 | 1.63 | 3.47 |
| 163 | 1911 | 6.12 | 0.78 | 53.11 | -52.33 | 4.86 |
| 165 | 1947 | 0.51 | 0.26 | -55.84 | -55.58 | 5.17 |
| 185 | 2061 | 4.06 | 0.07 | -14.46 | 14.54 | 3.47 |
| 208 | 2090 | 2.22 | -1.05 | 53.39 | -54.44 | 4.87 |
| 210 | 2093 | 12.05 | -0.33 | -54.83 | -55.16 | 5.13 |

D-609

Schulcampus EWK \ EG-LP4-o.Bw.

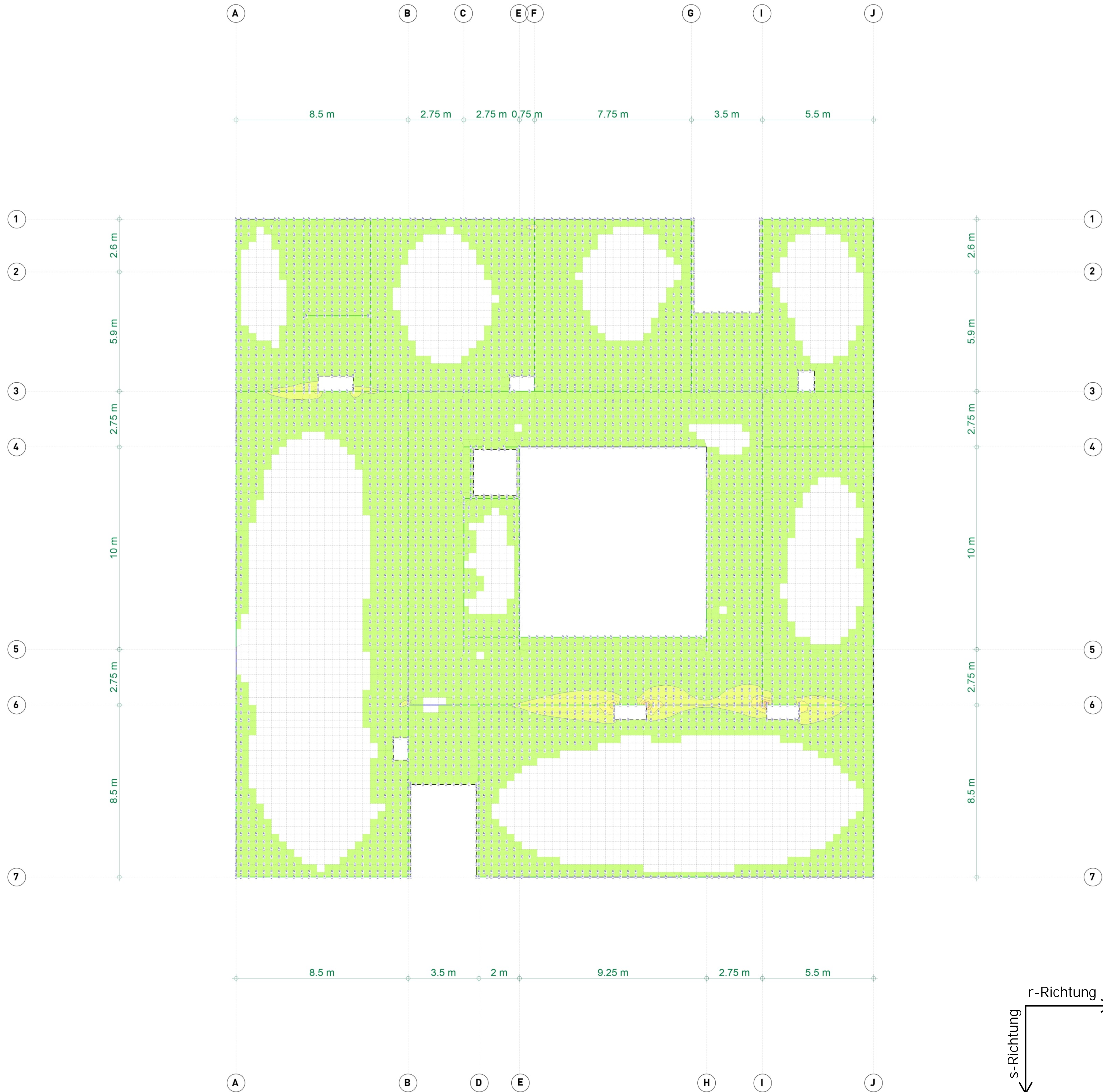
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 247 | 2150 | 10.76 | 13.49 | -19.43 | 32.92 | 3.47 |
| 273 | 2175 | 3.22 | 14.46 | 24.90 | 39.36 | 3.47 |
| 286 | 2016 | 0.59 | 2.62 | -53.86 | -51.23 | 4.76 |
| 316 | 2235 | 5.99 | 23.50 | -42.75 | 66.25 | 3.47 |
| 387 | 2323 | -0.14 | 6.98 | -46.19 | -39.22 | 3.62 |
| 439 | 2191 | 0.35 | 4.50 | 53.85 | -49.35 | 4.58 |
| 541 | 2490 | 0.01 | -0.95 | -37.11 | -38.05 | 3.51 |
| 543 | 2493 | 9.08 | 18.13 | -36.39 | 54.52 | 3.47 |
| 597 | 2300 | 31.65 | 20.53 | -41.45 | 61.98 | 3.47 |
| 614 | 2103 | 22.93 | 24.33 | 36.43 | 60.76 | 3.47 |
| 669 | 9742 | 13.03 | 14.72 | 35.56 | 50.28 | 3.47 |
| 977 | 2893 | 0.33 | 0.57 | 5.41 | 5.97 | 3.47 |
| 1004 | 13707 | -6.31 | 5.13 | 5.56 | 10.02 | 3.47 |
| 1078 | 2994 | 24.47 | -39.63 | 68.74 | -108.4 | 10.47 |
| 1151 | 3065 | -0.57 | 7.53 | 14.08 | 21.61 | 3.47 |
| 1465 | 3449 | 16.07 | 17.95 | -35.26 | 53.21 | 3.47 |
| 1469 | 10223 | 7.09 | 2.75 | -7.03 | 9.78 | 3.47 |
| 1489 | 3477 | 5.21 | 4.79 | 5.09 | 9.88 | 3.47 |
| 1572 | 10294 | -7.29 | -0.57 | -0.89 | 0.00 | 3.47 |
| 1574 | 3350 | 20.00 | -40.41 | 33.64 | -74.05 | 6.96 |
| 1596 | 3637 | 10.59 | 20.35 | 21.44 | 41.80 | 3.47 |
| 1628 | 3684 | 11.04 | 22.18 | -31.95 | 54.12 | 3.47 |
| 1654 | 3709 | 1.53 | 0.68 | 2.64 | 3.32 | 3.47 |
| 1683 | 3742 | -1.67 | 14.09 | 10.97 | 25.06 | 3.47 |
| 1690 | 10304 | 5.61 | 3.98 | -7.02 | 11.00 | 3.47 |
| 1707 | 3781 | 3.54 | 16.92 | -21.88 | 38.80 | 3.47 |
| 1717 | 3794 | 0.34 | 1.27 | -44.50 | -43.23 | 3.72 |
| 1770 | 3857 | 5.20 | 5.96 | 8.22 | 14.17 | 3.47 |
| 1789 | 3869 | -7.28 | 5.85 | -13.92 | 19.77 | 3.47 |
| 1790 | 3870 | 5.56 | 7.03 | -18.36 | 25.39 | 3.47 |
| 1994 | 4112 | -18.89 | -66.87 | 19.20 | -86.07 | 8.14 |
| 2007 | 12479 | -64.32 | -9.79 | 2.00 | 0.00 | 3.47 |
| 2025 | 10377 | -29.66 | -2.35 | 0.02 | 0.00 | 3.47 |
| 2066 | 8183 | -2.17 | 0.50 | 3.95 | 4.45 | 3.47 |
| 2119 | 1779 | 0.20 | 0.02 | 1.71 | 1.73 | 3.47 |
| 2205 | 13310 | 0.15 | 2.29 | 3.51 | 5.80 | 3.47 |
| 2363 | 1376 | -1.27 | -6.03 | -9.68 | 3.65 | 3.47 |
| 2407 | 8214 | 10.11 | -0.51 | -1.09 | 0.57 | 3.47 |
| 2498 | 4590 | 3.31 | -1.13 | -3.58 | 2.45 | 3.47 |
| 2647 | 4692 | -164.6 | -65.46 | 1.63 | -67.09 | 6.28 |
| 2806 | 13886 | -34.80 | -12.54 | 0.16 | 0.00 | 3.47 |
| 2885 | 13342 | 6.94 | -52.47 | 33.14 | -85.61 | 8.09 |
| 2991 | 4941 | -152.7 | -39.85 | -0.17 | -40.01 | 3.70 |
| 3007 | 13359 | -11.08 | -63.92 | -53.92 | -117.8 | 11.50 |
| 3151 | 339 | 0.32 | 2.20 | 5.02 | 7.22 | 3.47 |
| 3184 | 13619 | 11.42 | 0.20 | -1.10 | 1.30 | 3.47 |
| 3215 | 1994 | 15.88 | 3.98 | 8.31 | 12.29 | 3.47 |
| 3252 | 13380 | 0.07 | 0.69 | 1.08 | 1.77 | 3.47 |
| 3456 | 8372 | 0.10 | -4.28 | -1.05 | 0.00 | 3.47 |
| 3518 | 5385 | 12.76 | 12.18 | 10.92 | 23.10 | 3.47 |
| 3577 | 12845 | 0.28 | -7.43 | 0.17 | 0.00 | 3.47 |
| 3696 | 574 | 0.35 | 6.10 | -8.75 | 14.85 | 3.47 |
| 3760 | 5542 | 13.44 | 2.04 | 20.67 | 22.71 | 3.47 |
| 3915 | 13435 | 0.77 | -98.62 | 31.50 | -130.1 | 12.86 |

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↗ ↘ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 3941 | 5737 | 42.78 | 13.25 | 28.84 | 42.08 | 3.47 |
| 3996 | 5777 | -0.44 | -25.23 | 53.10 | -78.33 | 7.37 |
| 4111 | 5818 | 8.65 | 17.57 | 31.83 | 49.39 | 3.47 |
| 4143 | 8416 | -0.54 | -1.40 | -2.72 | 1.31 | 3.47 |
| 4168 | 5905 | -1.05 | -7.58 | 33.39 | -40.96 | 3.52 |
| 4202 | 11847 | 9.74 | -51.69 | -9.44 | -60.85 | 5.68 |
| 4226 | 5951 | 7.60 | 8.96 | 37.41 | 46.37 | 3.47 |
| 4229 | 5957 | 35.31 | 19.43 | 32.44 | 51.87 | 3.47 |
| 4265 | 11873 | 7.04 | 0.19 | 6.54 | 6.73 | 3.47 |
| 4279 | 11892 | -5.78 | -41.55 | -28.42 | -69.98 | 6.56 |
| 4295 | 807 | -9.15 | -38.09 | -2.03 | -40.12 | 3.71 |
| 4298 | 13010 | 9.44 | 0.54 | -3.84 | 4.38 | 3.47 |
| 4338 | 11918 | -4.67 | 6.14 | 12.23 | 18.37 | 3.47 |
| 4360 | 11949 | 1.69 | 9.43 | -14.17 | 23.60 | 3.47 |
| 4469 | 6040 | 0.17 | 1.21 | 42.27 | -41.05 | 3.79 |
| 4478 | 11316 | 11.80 | 2.59 | 3.69 | 6.28 | 3.47 |
| 4491 | 11318 | -24.83 | -0.97 | -18.51 | 12.83 | 3.47 |
| 4493 | 11321 | -20.12 | -0.76 | -4.45 | 0.23 | 3.47 |
| 4723 | 6172 | -0.74 | -0.22 | 30.89 | 30.68 | 3.47 |
| 4736 | 8567 | 5.00 | -2.34 | -6.26 | 3.92 | 3.47 |
| 4738 | 9863 | 13.62 | -23.00 | -24.83 | -47.83 | 4.20 |
| 4744 | 6164 | -6.26 | -25.39 | -34.27 | -59.66 | 5.39 |
| 4749 | 8575 | -1.89 | -5.63 | 1.43 | 0.00 | 3.47 |
| 4830 | 6260 | -4.43 | -46.65 | 3.21 | -49.86 | 4.63 |
| 4832 | 6262 | -24.81 | -63.41 | 7.85 | -71.25 | 6.68 |
| 4835 | 6265 | -14.45 | -51.24 | 14.03 | -65.27 | 6.10 |
| 4838 | 11447 | 48.95 | -3.66 | 23.41 | 19.74 | 3.47 |
| 4839 | 8650 | -7.27 | -6.82 | -1.74 | 0.00 | 3.47 |
| 4842 | 6268 | -22.51 | -54.05 | -7.73 | -61.77 | 5.77 |
| 4851 | 6278 | -13.94 | -67.74 | 4.13 | -71.87 | 6.74 |
| 4858 | 12153 | -21.02 | -50.62 | -0.99 | -51.61 | 4.79 |
| 4871 | 858 | -6.07 | -39.03 | 2.85 | -41.87 | 3.87 |
| 4908 | 6333 | 5.89 | -37.44 | 30.41 | -67.85 | 6.21 |
| 4909 | 13544 | 6.72 | -56.58 | -39.28 | -95.86 | 9.12 |
| 5023 | 1698 | -1.25 | -3.10 | 0.60 | 0.00 | 3.47 |
| 5061 | 6422 | 9.57 | -2.22 | 3.32 | 1.10 | 3.47 |
| 5106 | 13209 | 8.21 | -0.08 | -2.57 | 2.49 | 3.47 |
| 5555 | 9165 | -4.21 | 0.44 | -0.32 | 0.46 | 3.47 |
| 5851 | 7175 | 20.55 | -27.39 | 38.26 | -65.65 | 5.99 |
| 5852 | 1037 | 15.66 | -22.61 | -26.64 | -49.25 | 4.35 |
| 5867 | 1857 | 0.32 | 0.14 | 1.88 | 2.02 | 3.47 |
| 5882 | 9348 | 3.39 | 0.44 | 0.55 | 0.98 | 3.47 |
| 5927 | 7250 | 4.01 | 7.19 | 9.63 | 16.82 | 3.47 |
| 5932 | 14146 | 0.81 | 2.54 | -4.05 | 6.59 | 3.47 |
| 5946 | 7253 | 0.07 | 0.35 | 0.86 | 1.21 | 3.47 |
| 6472 | 7910 | 8.25 | 0.49 | -4.83 | 5.32 | 3.47 |
| 6478 | 1105 | 9.21 | 8.35 | 17.83 | 26.18 | 3.47 |
| 6568 | 1117 | 8.51 | 7.77 | -21.48 | 29.25 | 3.47 |
| 6571 | 7636 | 3.09 | -3.01 | 8.12 | 5.11 | 3.47 |
| 6597 | 10132 | 18.38 | -0.77 | -0.40 | 0.00 | 3.47 |
| 6610 | 13590 | -95.44 | -82.64 | -7.15 | -89.80 | 8.51 |
| 6631 | 7863 | 0.46 | -36.63 | -27.66 | -64.28 | 6.01 |
| 6651 | 13640 | 0.79 | 0.74 | -0.96 | 1.70 | 3.47 |
| 6667 | 9669 | 1.01 | 0.55 | 4.84 | 5.40 | 3.47 |

D-611

| Knoten | Lkn | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | $a_{s,so}$ |
|--------|-------|------------|------------|-------------|----------|----------------|
| | | [kNm/m] | [kNm/m] | [kNm/m] | [kNm/m] | Y' ↑ ↗ ↘ ↓ Y'' |
| 6669 | 7872 | -4.34 | 1.01 | -1.52 | 1.54 | 3.47 |
| 6680 | 7790 | 6.82 | 0.85 | 27.92 | 28.77 | 3.47 |
| 6689 | 7889 | 18.08 | 0.18 | -2.19 | 2.37 | 3.47 |
| 6703 | 1135 | 0.42 | 0.18 | 0.27 | 0.46 | 3.47 |
| 6714 | 7897 | -0.15 | 6.65 | 46.41 | -39.77 | 3.67 |
| 6716 | 7898 | 0.02 | -0.09 | 40.60 | -40.69 | 3.76 |
| 6726 | 14112 | 0.32 | 5.10 | -18.83 | 23.92 | 3.47 |
| 6728 | 13693 | -1.00 | 3.63 | -17.95 | 21.58 | 3.47 |
| 6737 | 7909 | -94.98 | -12.44 | 43.11 | -55.55 | 5.17 |

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r-Richtung → Biegebemessung:
s-Richtung ↓
erf. Bewehrung
- obere Lage s-Richtung -

| | | | | |
|--|--|---|--|--|
| : } W Yb VYa Yggi b[Erforderliche Bewehrung as,erf Max = 41.82 (Kn. 35), Min = 0 (Kn. 220), Step = 7.5 Bew.-Abstand d' = 37 mm Beton C 30/37 Bauteildicke h = 28.00 cm | | aus allen Nachweisen • 配筋图 • 钢筋图 • 配筋图 | Modell Bauvorhaben Schulcampus EWK Schwesternschule KREBS+KIEFER Ingenieure GmbH | Tafel • 钢筋图 D-616 MicroFe 2025.015 |
|--|--|---|--|--|

Bemessung (GZT)

Bemessungsparameter Biegebemessung der Platten (Stahlbeton) nach DIN EN
Bi egung 1992-1-1

Posi ti onsgrafi k ©âæãb↔´â\ÄäæãÄ\$→á\\æ^ÄÇU\áâ→âæ\~^DÄ|^äÄX|→á&æâæ}æää|^&



Mat. /Querschni tt

| Position | Winkel | Art | Material | Dicke |
|----------|--------|-----|---------------------------|-------|
| | YflŸ | | Q†^&b Quer | [cm] |
| D-EG | 0.0 | iso | C 30/37 Q B 500SA B 500SA | 28.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ↔^b←=ä^|^&ÄT|ää~↔\

Exposi ti onskl asse

&æ†+BÄÇØSÁÓSÁFİİGËFËFÊÁÚáâÈÄHÈF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|------------------------------|
| D-EG | umlaufend | XC1 | trocken oder b\†^ä↔&Ä^ább |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung
Position

| Position | ro YflY | so YflY | ru YflY | su YflY |
|----------|------------|------------|------------|------------|
| D-EG | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

Position

| Position | | C_{min} [mm] | $\#_{def}'$ [mm] | C_{nom} [mm] | C_v [mm] | d'_r [mm] | d'_s [mm] |
|----------|---|-------------------|---------------------|-------------------|---------------|----------------|----------------|
| D-EG | o | 14 | 10 | 24 | 30 | 37 | 51 |
| | u | 14 | 10 | 24 | 30 | 37 | 51 |

Grundbewehrung

Position

| Position | | Rá\\æÊÁU\\tâæ ~Y↑↑ÿĐbY'↑ÿ | d' _r [mm] | a _{sg,r} [cm ² /m] | d' _s [mm] | a _{sg,s} [cm ² /m] |
|----------|---|------------------------------|-------------------------|---|-------------------------|---|
| D-EG | u | r | 37 | 15.39 | | |
| | u | s | | | 51 | 15.39 |
| | o | r | 37 | 15.39 | | |
| | o | s | | | 51 | 15.39 |

Zul agebewehrung

Position

| <u>Zul agebewehrung</u> | Position | R\Å\æ | Ä\U\†âæ | d' _r | a _{sz,r} | d' _s | a _{sz,s} |
|-------------------------|----------|-------|---------|-----------------|-------------------|-----------------|-------------------|
| | | ~Y↑↑ | ÿDbY'↑ÿ | [mm] | [cm²/m] | [mm] | [cm²/m] |
| D-EG | ZULAGE-1 | u | r | 03614202 | 37 | 7.70 | |
| | ZULAGE-2 | u | s | 03614202 | | 37 | 7.70 |
| | ZULAGE-3 | o | s | 03614202 | | 37 | 7.70 |

Bemessungsparameter

äïäÄäæ^ÄÖäæ^~ | b\á^äÄäæäÜüä&à‡â↔&←æ↔\Á^á^äÄØSÄÓSÄ
1992-1-1

Bi egung

Position

Mindestbewehrung

| | |
|---|----|
| D-EG | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | |

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

D-EG

Ñæ↑æbb | ^&ÃàfiãÃ\$→á\\æÁÇU\`áâ→âæ\~^DÁĖĖÓÖ

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á'ăÁĖøSÁÓSÁFïï€

| | |
|----|-----------------|
| Ew | Einwirkungsname |
|----|-----------------|

Lkn Lastkombinationsnummer

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#j cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← Qk . N_B1 | Qk . N_C1 | Qk . N_C5 | Qk . N_E1 | |
|-------------|----|------|--------------|-------------|-------------|-----------|------|
| 1-1609 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 1610-1995 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 1996-2015 | | 1.00 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 2016-2057 | | 1.35 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 2058-2059 | | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 2060-2082 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 2083-2085 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 2086-9805 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 9806-11016 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 11017-11304 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 11305-11342 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 11343-11423 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |

D-618

Schulcampus EWK \

EG-LP4

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------------|------|------|------|-------------|-------------|---------|---------|
| 11424-11505 | 1.35 | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 11506-11534 | 1.35 | 1.35 | 1.05 | 1.50 | . | 1.50 | 1.50 |
| 11535-11539 | 1.00 | 1.00 | 1.05 | 1.50 | . | 1.50 | 1.50 |
| 11540-11542 | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 | 1.50 |
| 11543-11547 | 1.35 | 1.35 | . | 1.50 | 1.05 | 1.50 | 1.50 |
| 11548-12433 | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 | 1.50 |
| 12434-13386 | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 | 1.50 |
| 13387-13404 | 1.35 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 | 1.50 |
| 13405-13464 | 1.00 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 | 1.50 |
| 13465-13497 | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 | 1.50 |
| 13498-13499 | 1.00 | 1.00 | . | 1.05 | 1.50 | 1.50 | 1.50 |
| 13500-13504 | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 | 1.50 |
| 13505-14080 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 14081-14567 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 14568-14582 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 14583-14609 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 14610-14670 | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 14671 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 14672-14673 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 14674-14675 | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 14676-14750 | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 14751-15042 | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 15043-15050 | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |
| 15051-15052 | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 | 1.50 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|-------------|-------------|---------|---------|
| 1-1609 | . | 1.20 | |
| 1610-1995 | . | 1.20 | |
| 1996-2015 | . | 1.20 | |
| 2016-2057 | . | 1.20 | |
| 2058-2059 | . | 1.20 | |
| 2060-2082 | . | . | |
| 2083-2085 | . | . | |
| 2086-9805 | . | 1.20 | |
| 9806-11016 | . | 1.20 | |
| 11017-11304 | . | . | |
| 11305-11342 | . | . | |
| 11343-11423 | . | 1.20 | |
| 11424-11505 | . | 1.20 | |
| 11506-11534 | . | 1.20 | |
| 11535-11539 | . | 1.20 | |
| 11540-11542 | . | . | |
| 11543-11547 | . | 1.20 | |
| 11548-12433 | . | 1.20 | |
| 12434-13386 | . | 1.20 | |
| 13387-13404 | . | 1.20 | |
| 13405-13464 | . | 1.20 | |
| 13465-13497 | . | . | |
| 13498-13499 | . | 1.20 | |
| 13500-13504 | . | . | |
| 13505-14080 | 1.50 | 1.20 | |
| 14081-14567 | 1.50 | 1.20 | |
| 14568-14582 | 1.50 | . | |
| 14583-14609 | 1.50 | 1.20 | |
| 14610-14670 | 1.50 | 1.20 | |

| Lkn | Ew Qk.N_DA | Qk.N_T2 |
|-------------|-------------|-------------|
| 14671 | 1.50 | . |
| 14672-14673 | 1.50 | . |
| 14674-14675 | 1.50 | . |
| 14676-14750 | . | 1.50 |
| 14751-15042 | . | 1.50 |
| 15043-15050 | . | 1.50 |
| 15051-15052 | . | 1.50 |

Alle Nachweise

Öã~ããã~>~'ã&Q†^&bâæ}æãã|^&Áá|bÁá->æ^ÁSá'â}æ~bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$ (Differenzbew.)

ÓbÁ~b\Á~æ~^æÁ~|b†\~>~'ã&Ñæ}æãã|^&Áæã~ããã~>~'âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$ (Differenzbew.)

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y'↑¥Đ↑Ÿ |
|--------|-------|-----------------------|-----------------------|------------------------|---------------------|-----------------------|
| 33 | 2122 | 14.25 | -206.2 | 15.46 | -221.6 | 0.67 |
| 67 | 2187 | -19.90 | -219.7 | -46.18 | -265.9 | 0.28 |
| 1987 | 11171 | 20.88 | 118.80 | -27.15 | 145.95 | 0.42 |
| 2948 | 13647 | 4.19 | 231.57 | 49.91 | 281.48 | 18.10 |
| 3975 | 13829 | 14.75 | 237.62 | 38.37 | 275.99 | 17.35 |

as, r, oben

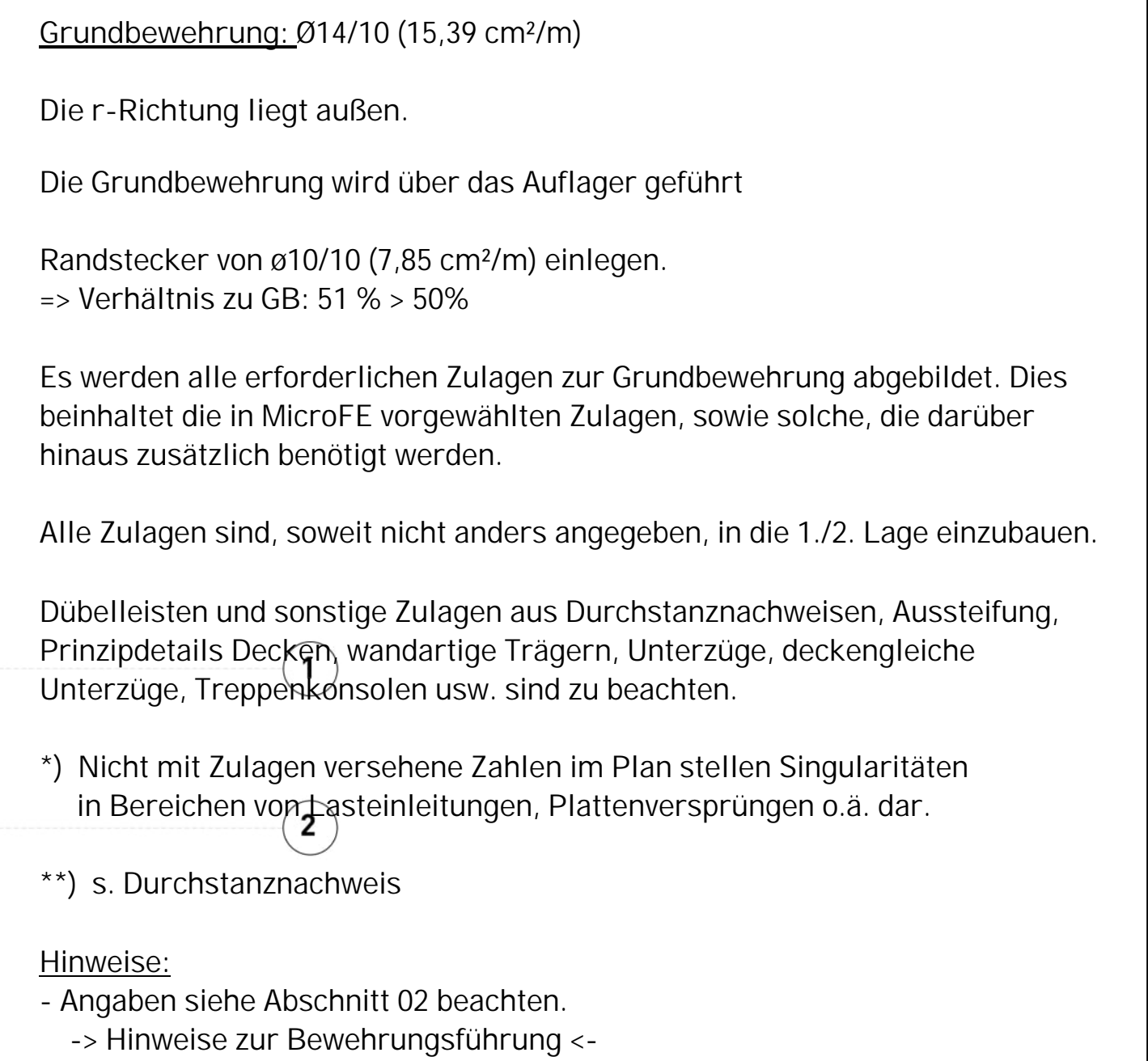
Erforderliche obere Bewehrung $a_{s,ro}$ (Differenzbew.)


| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y'↑¥Đ↑Ÿ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|-----------------------|
| 34 | 2123 | -92.67 | -236.1 | -105.5 | -198.2 | 4.94 |
| 37 | 2128 | -90.30 | -271.2 | 71.09 | -161.4 | 0.86 |
| 40 | 2135 | -170.3 | -16.20 | -50.03 | -220.3 | 7.34 |
| 41 | 2137 | -191.0 | -17.01 | 20.92 | -212.0 | 6.41 |
| 45 | 2143 | -153.8 | 19.18 | 43.03 | -196.9 | 4.79 |
| 46 | 2144 | -174.2 | -1.91 | -105.9 | -280.1 | 14.32 |
| 130 | 2264 | -206.5 | -52.99 | 52.89 | -259.4 | 11.72 |
| 2650 | 5423 | -164.7 | -65.43 | 1.37 | -166.1 | 1.35 |

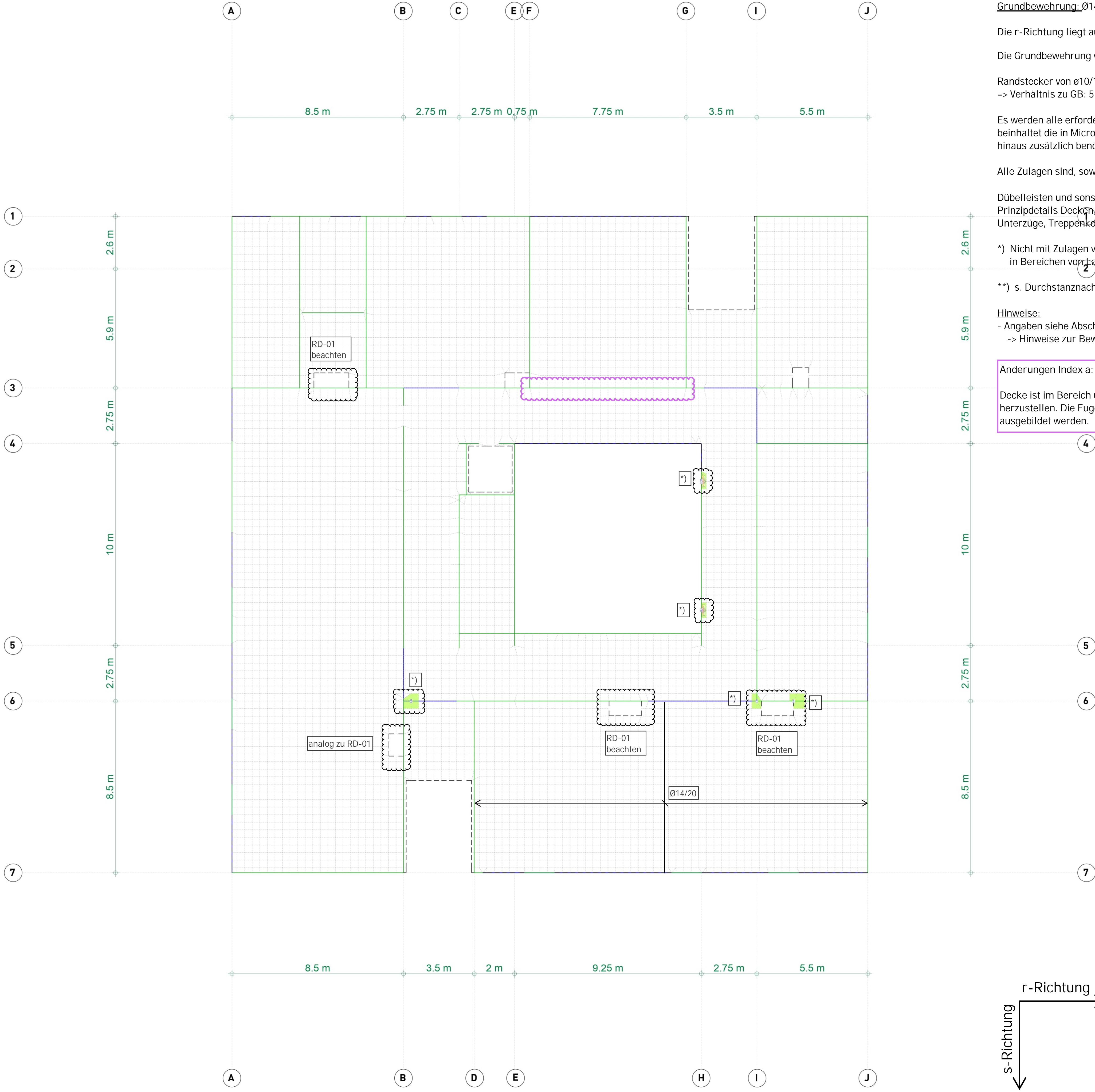
as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$ (Differenzbew.)

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y'↑¥Đ↑Ÿ |
|--------|------|-----------------------|-----------------------|------------------------|---------------------|-----------------------|
| 23 | 2110 | -19.05 | -153.4 | 31.48 | -184.9 | 5.35 |
| 33 | 2120 | 15.56 | -200.5 | 16.01 | -216.5 | 0.71 |
| 34 | 2123 | -92.67 | -236.1 | -105.5 | -341.6 | 16.97 |
| 37 | 2128 | -90.30 | -271.2 | 71.09 | -342.3 | 17.07 |
| 38 | 2131 | 5.36 | -225.2 | -39.83 | -265.0 | 6.89 |




 r-Richtung
 s-Richtung
Biegebemessung:
 erf. Zulagen
 - untere Lage r-Richtung -



Grundbewehrung: Ø14/10 (15,39 cm²/m)

Die r-Richtung liegt außen.

Die Grundbewehrung wird über das Auflager geführt

Randstecker von Ø10/10 (7,85 cm²/m) einlegen.
=> Verhältnis zu GB: 51 % > 50%

Es werden alle erforderlichen Zulagen zur Grundbewehrung abgebildet. Dies beinhaltet die in MicroFE vorgewählten Zulagen, sowie solche, die darüber hinaus zusätzlich benötigt werden.

Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.

Dübelleisten und sonstige Zulagen aus Durchstanznachweisen, Aussteifung, Prinzipdetails Decken, wandartige Trägern, Unterzüge, deckengleiche Unterzüge, Treppenkonsolen usw. sind zu beachten.

*) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von 1.2. dar.

**) s. Durchstanznachweis

Hinweise:
- Angaben siehe Abschnitt 02 beachten.
-> Hinweise zur Bewehrungsführung <-

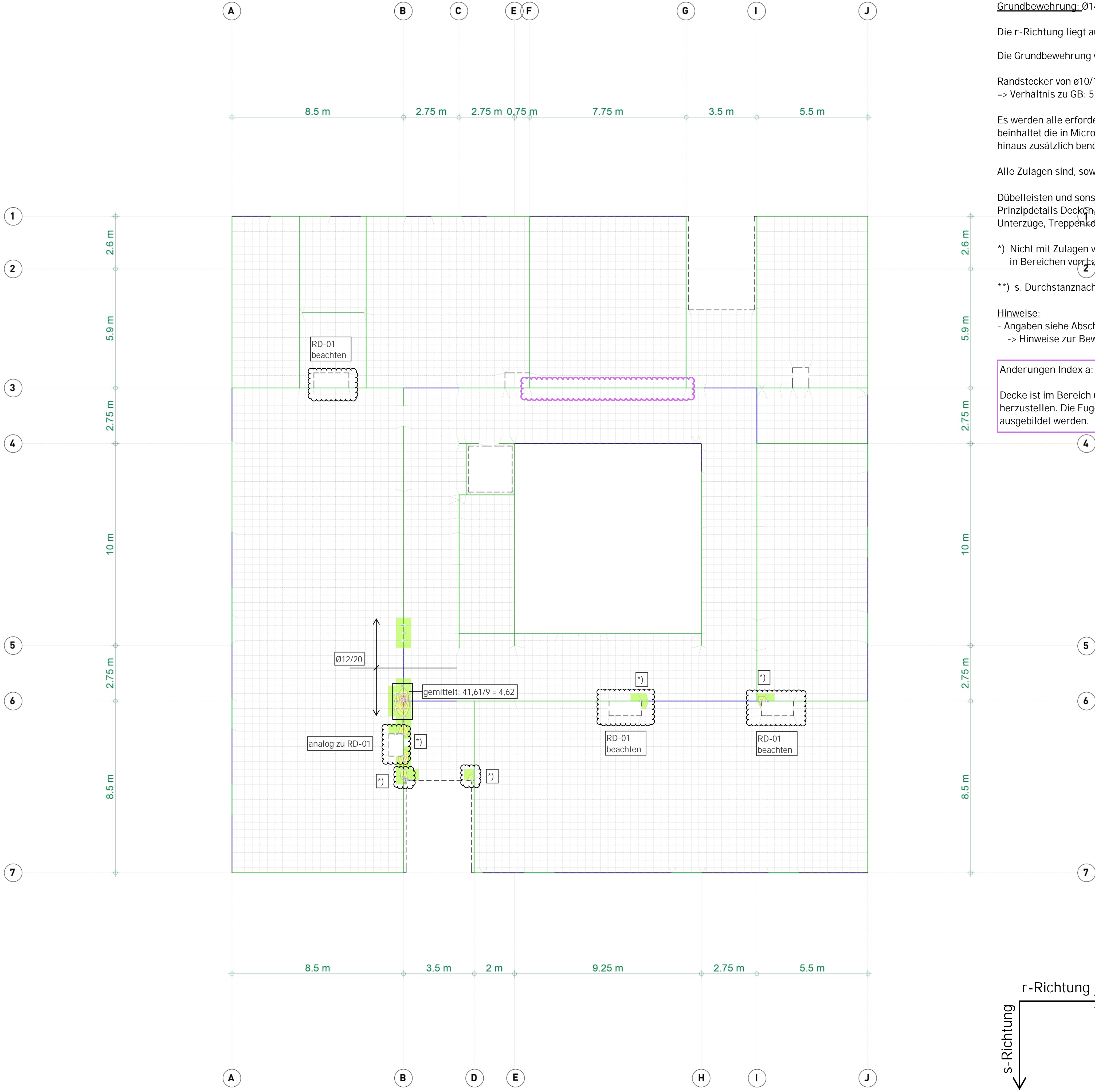
Änderungen Index a:

Decke ist im Bereich unter dem wandartigen Träger abgefugt in C45/55 herzustellen. Die Fuge muss verzahnt zu den angrenzenden Bereichen ausgebildet werden.

r-Richtung → **Biegebemessung:**

s-Richtung ↓

erf. Zulagen
- untere Lage s-Richtung -



Grundbewehrung: Ø14/10 (15,39 cm²/m)

Die r-Richtung liegt außen.

Die Grundbewehrung wird über das Auflager geführt

Randstecker von Ø10/10 (7,85 cm²/m) einlegen.
=> Verhältnis zu GB: 51 % > 50%

Es werden alle erforderlichen Zulagen zur Grundbewehrung abgebildet. Dies beinhaltet die in MicroFE vorgewählten Zulagen, sowie solche, die darüber hinaus zusätzlich benötigt werden.

Alle Zulagen sind, soweit nicht anders angegeben, in die 1./2. Lage einzubauen.

Dübelleisten und sonstige Zulagen aus Durchstanznachweisen, Aussteifung, Prinzipdetails Decken, wandartige Trägern, Unterzüge, deckengleiche Unterzüge, Treppenkonsolen usw. sind zu beachten.

*) Nicht mit Zulagen versehene Zahlen im Plan stellen Singularitäten in Bereichen von 1) Stabteinleitungen, Plattenversprüngen o.ä. dar.

**) s. Durchstanznachweis

Hinweise:
- Angaben siehe Abschnitt 02 beachten.
-> Hinweise zur Bewehrungsführung <-

Änderungen Index a:

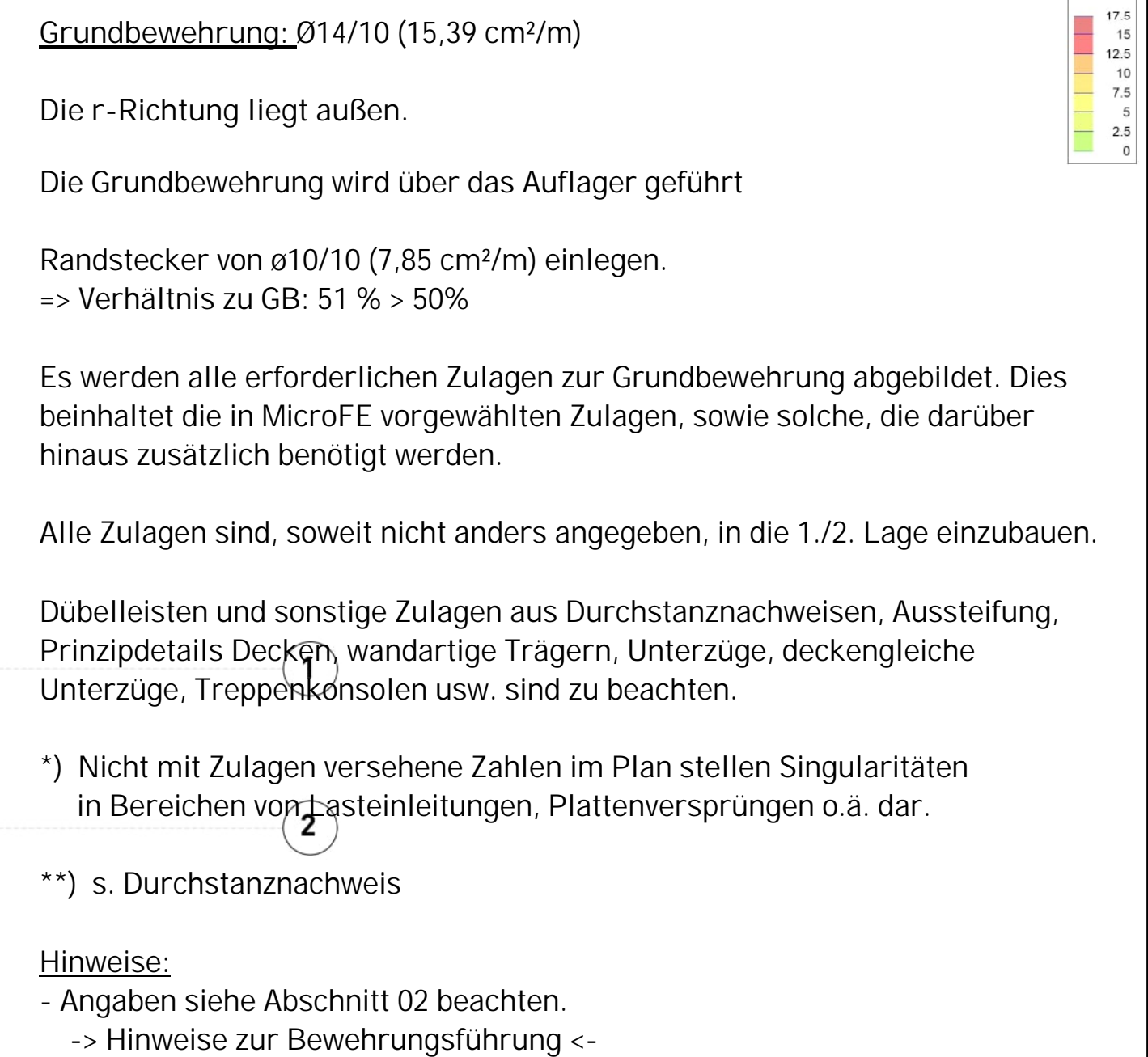
Decke ist im Bereich unter dem wandartigen Träger abgefugt in C45/55 herzustellen. Die Fuge muss verzahnt zu den angrenzenden Bereichen ausgebildet werden.

r-Richtung → Biegebemessung:

s-Richtung ↓

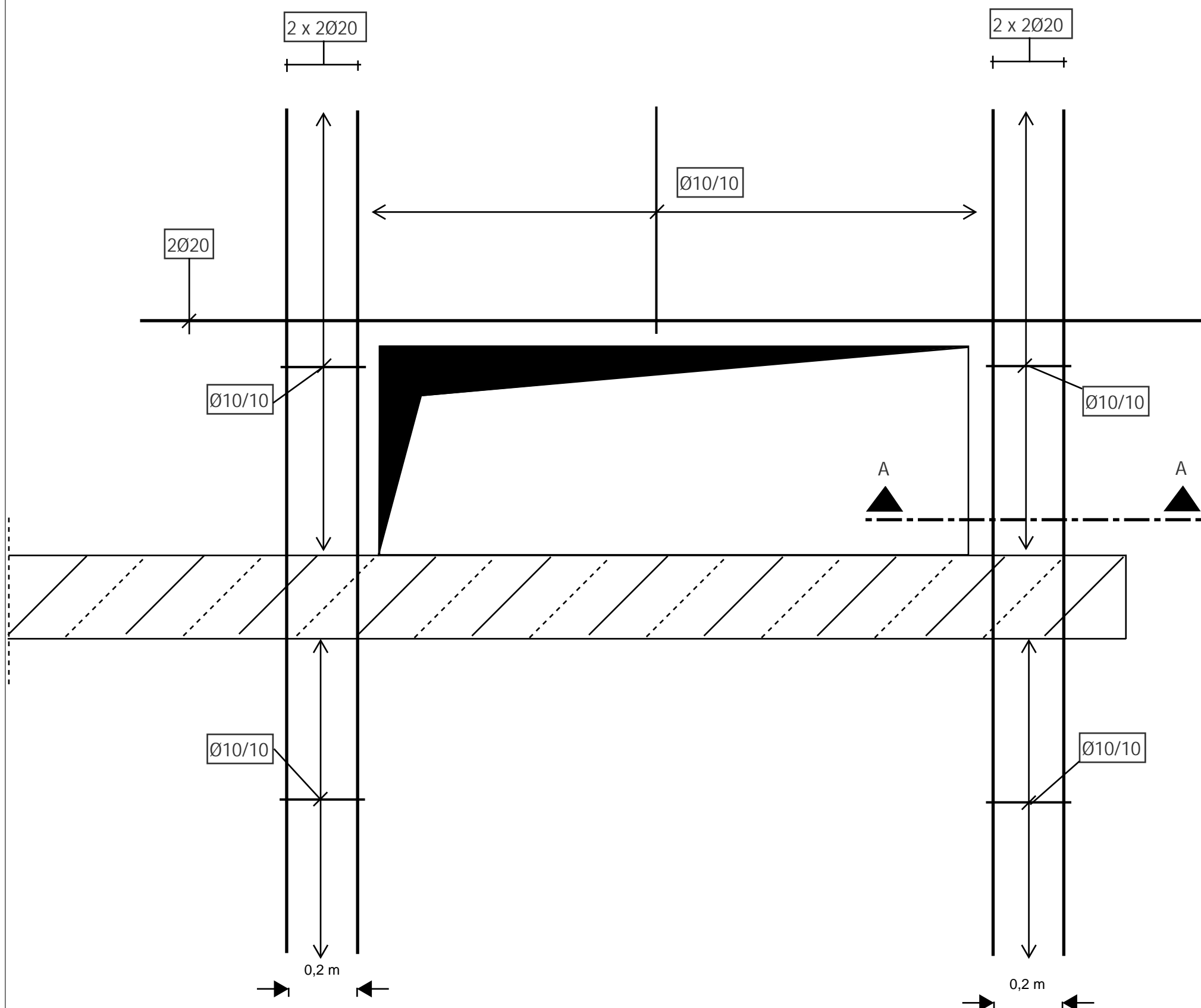
erf. Zulagen
- obere Lage r-Richtung -

| | | | | | | | |
|---|--|---|--|--|-------------|-------------------------------------|-----------------|
| :) W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf | | <div> KREBS+KIEFER</div> | Modell | 00E5U A0aA000 | T a • anfertige |
| Vorhandene Bew. as,vorh = 15.39 (Grund+Zulagen) | | aus allen Nachweisen (Differenzbew.) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Bew.-Abstand d = 37 mm | | : 14,32 (Kn. 46), Min = 0 (Kn. 1), Step = 2 | | KREBS+KIEFER Ingenieure GmbH | | D-6238 MicroFE 2025.015 | |
| Beton C 30/37 | | | | | | | |
| Bauteldicke h = 28.00 cm | | | | | | | |

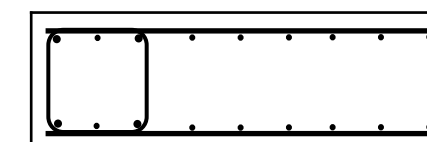


r-Richtung → Biegebemessung:

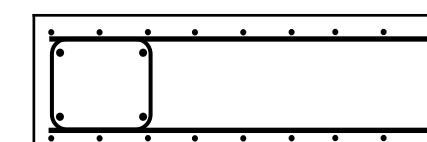
s-Richtung ↓ erf. Zulagen
- obere Lage s-Richtung -



Schnitt A-A Fall 1: Bügel liegt in 1. Lage



Schnitt A-A Fall 2: Bügel liegt in 2. Lage



Vorhandene Querkraftbewehrung: Ø10/10/20

$$a_{s,vorh} = 7,85 \text{ cm}^2/\text{m} * 5 \text{ St/m} = 39,25 \text{ cm}^2/\text{m}^2$$

Hinweis: In der Skizze ist nur die statisch erforderliche Bewehrung dargestellt.
Die konstruktive Bewehrung ist zu ergänzen.

Schulcampus Neubau

Bewehrungsskizze zu
Regeldetail RD-01

Bemessungsparameter
Querkraft
Bemessungsparameter

Ö→†´ää^@|æã←ääà\âæ↑æbb| ^&Á^á´ääÆØSÁÓSÁFİİĞĖĖĖF
ääfiääÄäæ^ÁÖöæ^~ ~|b\á^ääÄäääÜää&à†â&←æ↔\Á^á´ääÆØSÁÓSÁ
1992-1-1

Querkraft

Position Druckstrebenneigung Mindestbewehrung
D-EG automatisch nein
Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

D-EG

Ñæ↑æbb| ^&ÁääfiääŞ→á\\æÁÇU\ää→âæ\~^DÁĖĖÖÖ

Kombi nati onen

Ráß&æâæ^ääÁP~↑â↔^á\↔~^æ^Á^á´ääÆØSÁÓSÁFİİ€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

Œ↔æÁÑæ\æ↔→&| ^&Áæ↔^~æ→^æääQáb\à†→æÁ↔^~æääá→âÁeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------------|-------------|-------------|---------|
| 1 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 |
| 2-42 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 |
| 43-47 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|-------|----|-------------|---------|
| 1 | | . | 1.20 |
| 2-42 | | . | 1.20 |
| 43-47 | | 1.50 | 1.20 |

Hf U[Z} \] [_Y] h

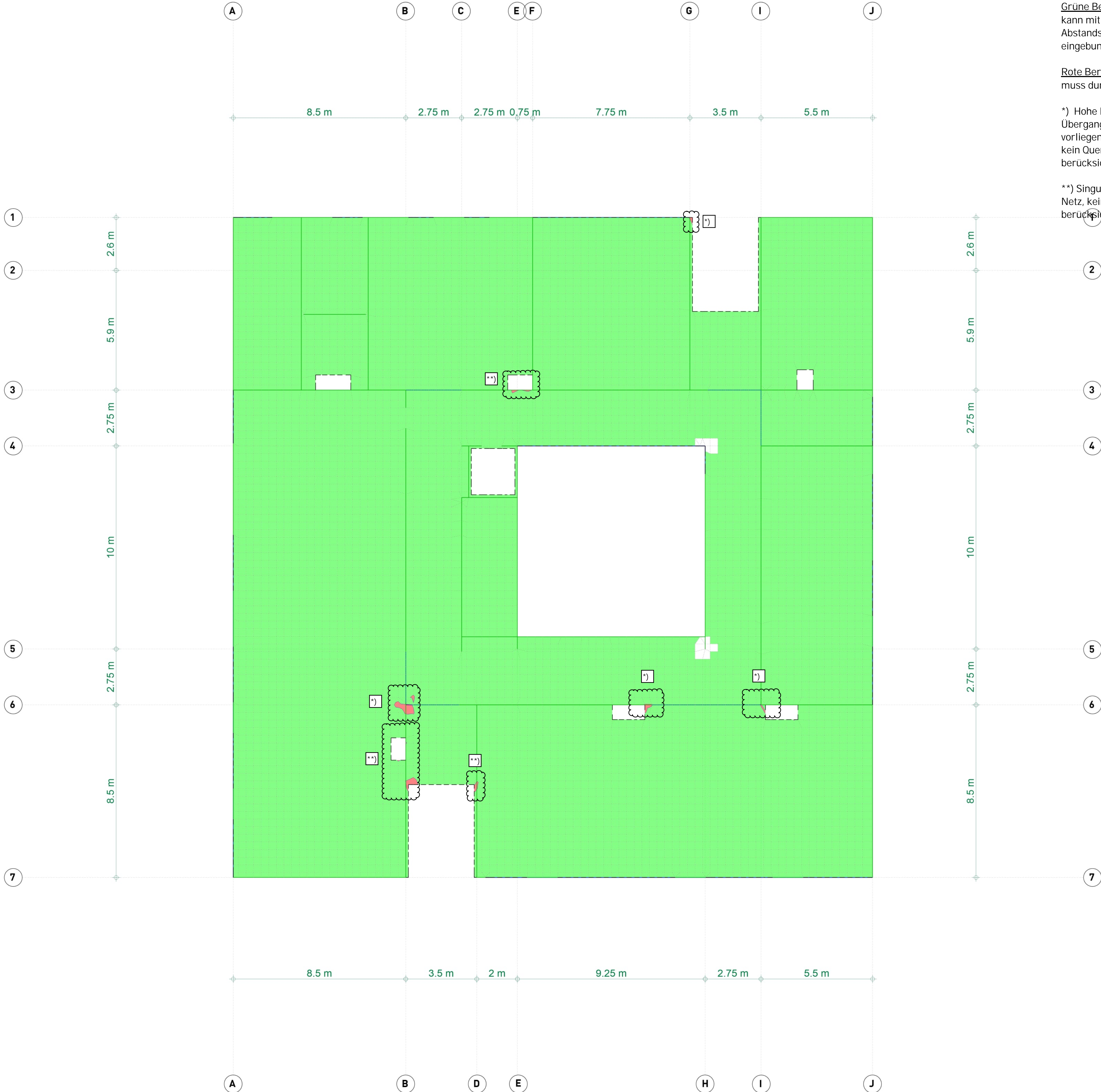
Erforderliche Querkraftbewehrung aus
Úää&à†â&←æ↔\b^á^á}æ↔b

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | V _{Ed,r} | V _{Rd,c} | Z | V _{Rd,max} | a _{sw,r} | a _{sw} |
|--------|-----|-------------------|-------------------|-------|---------------------|-------------------|-----------------|
| | | V _{Ed,s} | | | | a _{sw,s} | |
| | | [kN/m] | [kN/m] | [mm] | YflŸ [kN/m] | Y´↑ŸĐ↑ŸŸ | |
| 9 | 2 | -570.2 | 123.7 | 195 | 32 | 1114 | 41.8 |
| | | 144.48 | 120.6 | 181 | 18 | 692.3 | 6.12 |
| 27 | 43 | 91.22 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -283.3 | 120.6 | 181 | 24 | 845.9 | 15.7 |
| 32 | 17 | -115.6 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -230.4 | 139.2 | 186 | 18 | 710.2 | 9.51 |
| 33 | 18 | 176.69 | 123.7 | 195 | 18 | 745.9 | 6.95 |
| | | 252.09 | 140.6 | 186 | 21 | 779.2 | 11.7 |
| 43 | 5 | -248.0 | 123.7 | 195 | 19 | 765.9 | 10.1 |
| | | 123.57 | 120.6 | 181 | 18 | 692.3 | 5.23 |
| 48 | 3 | -305.6 | 123.7 | 195 | 24 | 911.9 | 15.7 |
| | | 82.01 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 59 | 42 | -145.6 | 123.7 | 195 | 18 | 745.9 | 5.72 |
| | | -11.12 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 63 | 44 | -81.61 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -583.1 | 120.6 | 181 | 33 | 1048 | 47.5 |

| Knoten | Lkn | $V_{Ed,r}$ $V_{Ed,s}$ [kN/m] | $V_{Rd,c}$ [kN/m] | Z [mm] | $V_{Rd,max}$ [kN/m] | $a_{sw,r}$ $a_{sw,s}$ Y' ↑ | a_{sw} Y' ↑ |
|--------|-----|------------------------------------|----------------------|-----------|------------------------|----------------------------------|------------------|
| 66 | 41 | 272.14 | 123.7 | 195 | 21 | 838.5 | 12.5 |
| | | 55.23 | 139.2 | 186 | 18 | 710.2 | 0.00 |
| 70 | 40 | -3.62 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -148.1 | 120.6 | 181 | 18 | 692.3 | 6.27 |
| 72 | 24 | 1.63 | 141.6 | 195 | 18 | 745.9 | 0.00 |
| | | -273.8 | 120.6 | 181 | 23 | 827.4 | 14.7 |
| 137 | 23 | 126.31 | 123.7 | 195 | 18 | 745.9 | 4.97 |
| | | 73.28 | 139.2 | 186 | 18 | 710.2 | 0.00 |
| 1081 | 6 | -585.2 | 123.7 | 195 | 32 | 1118 | 43.2 |
| | | 147.24 | 120.6 | 181 | 18 | 692.3 | 6.24 |
| 1158 | 7 | 627.69 | 125.3 | 195 | 33 | 1129 | 47.4 |
| | | 159.64 | 120.6 | 181 | 18 | 692.3 | 6.76 |
| 1240 | 39 | -154.9 | 123.7 | 195 | 18 | 745.9 | 6.09 |
| | | -11.35 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 1324 | 38 | -157.8 | 123.7 | 195 | 18 | 745.9 | 6.21 |
| | | -7.69 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 1327 | 37 | 150.93 | 123.7 | 195 | 18 | 745.9 | 5.93 |
| | | 17.09 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 1409 | 9 | -282.2 | 123.7 | 195 | 22 | 863.4 | 13.4 |
| | | 29.95 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 1576 | 12 | 39.46 | 141.6 | 195 | 18 | 745.9 | 0.00 |
| | | -138.2 | 120.6 | 181 | 18 | 692.3 | 5.86 |
| 1577 | 10 | -237.1 | 123.7 | 195 | 18 | 745.9 | 9.32 |
| | | 8.96 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 1659 | 11 | -189.7 | 124.3 | 195 | 18 | 745.9 | 7.46 |
| | | -38.64 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 1660 | 36 | 172.13 | 123.7 | 195 | 18 | 745.9 | 6.77 |
| | | -67.42 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 1855 | 35 | -23.12 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -146.1 | 139.2 | 186 | 18 | 710.2 | 6.03 |
| 1856 | 13 | 148.39 | 123.7 | 195 | 18 | 745.9 | 5.83 |
| | | 20.44 | 139.2 | 186 | 18 | 710.2 | 0.00 |
| 1859 | 34 | 99.78 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -195.2 | 139.2 | 186 | 18 | 710.2 | 8.06 |
| 1908 | 33 | -148.9 | 123.7 | 195 | 18 | 745.9 | 5.85 |
| | | -17.45 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 1911 | 32 | 298.22 | 123.7 | 195 | 23 | 897.9 | 15.0 |
| | | 232.96 | 120.6 | 181 | 19 | 720.4 | 10.4 |
| 1937 | 16 | 18.30 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -292.4 | 139.2 | 186 | 24 | 870.9 | 15.9 |
| 1938 | 14 | -290.0 | 123.7 | 195 | 23 | 880.9 | 14.2 |
| | | -445.4 | 139.2 | 186 | 30 | 1022 | 31.7 |
| 1940 | 31 | 10.12 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -146.3 | 139.2 | 186 | 18 | 710.2 | 6.04 |
| 1954 | 20 | -303.1 | 123.7 | 195 | 23 | 907.3 | 15.5 |
| | | -518.2 | 139.2 | 186 | 31 | 1053 | 39.2 |
| 1986 | 30 | -484.1 | 127.7 | 195 | 30 | 1082 | 33.3 |
| | | 201.24 | 120.6 | 181 | 18 | 692.3 | 8.52 |
| 1993 | 29 | 128.06 | 123.7 | 195 | 18 | 745.9 | 5.03 |
| | | 2.52 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 2009 | 15 | -76.55 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -277.0 | 120.6 | 181 | 23 | 833.7 | 15.0 |
| 2029 | 19 | 161.29 | 123.7 | 195 | 18 | 745.9 | 6.34 |

| Knoten | Lkn | $V_{Ed,r}$ $V_{Ed,s}$ [kN/m] | $V_{Rd,c}$ [kN/m] | z [mm] | $V_{Rd,max}$ [kN/m] | $a_{sw,r}$ $a_{sw,s}$ mm | a_{sw} mm |
|--------|-----|------------------------------------|----------------------|-------------|------------------------|--------------------------------|----------------|
| | | -316.3 | 120.6 | 181 | 26 | 897.6 | 19.2 |
| 2062 | 28 | 335.47 | 123.7 | 195 | 25 | 959.8 | 18.7 |
| | | -196.8 | 120.6 | 181 | 18 | 692.3 | 8.34 |
| 2088 | 27 | 48.43 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | 161.57 | 139.2 | 186 | 18 | 710.2 | 6.67 |
| 2732 | 26 | -128.9 | 123.7 | 195 | 18 | 745.9 | 5.07 |
| | | -2.45 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 2888 | 47 | 21.19 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | 161.89 | 120.6 | 181 | 18 | 692.3 | 6.86 |
| 4735 | 25 | 48.62 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -122.4 | 120.6 | 181 | 18 | 692.3 | 5.18 |
| 4837 | 45 | 369.04 | 123.7 | 195 | 27 | 1000 | 22.0 |
| | | -1.75 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 4888 | 22 | 6.10 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | 282.55 | 120.6 | 181 | 24 | 844.4 | 15.6 |
| 4889 | 21 | 16.73 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | 164.17 | 120.6 | 181 | 18 | 692.3 | 6.95 |
| 4910 | 46 | -47.09 | 123.7 | 195 | 18 | 745.9 | 0.00 |
| | | -344.9 | 120.6 | 181 | 27 | 931.0 | 22.2 |
| 5769 | 4 | 165.32 | 123.7 | 195 | 18 | 745.9 | 6.50 |
| | | 34.95 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 5853 | 1 | -168.5 | 123.7 | 195 | 18 | 745.9 | 6.62 |
| | | 5.41 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 6632 | 3 | 218.93 | 123.7 | 195 | 18 | 745.9 | 8.61 |
| | | 39.25 | 120.6 | 181 | 18 | 692.3 | 0.00 |
| 6724 | 8 | 479.28 | 123.7 | 195 | 30 | 1079 | 32.8 |
| | | 14.17 | 120.6 | 181 | 18 | 692.3 | 0.00 |

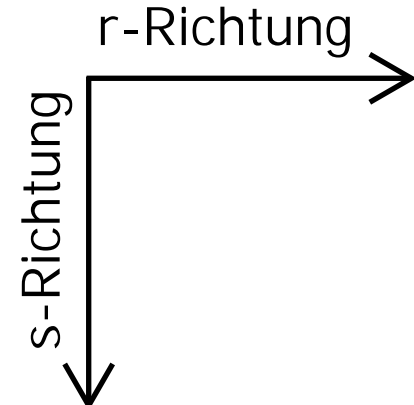


Grüne Bereiche: $V_{Ed} / V_{Rd,max} < 0,3 \rightarrow$ Querkraftbewehrung kann mit Hilfe von Abstandshaltern abgedeckt werden. Die Abstandshalter müssen in die Lagen der Längsbewehrung eingebunden und bis in die Zugzone geführt werden.

Rote Bereiche: $V_{Ed} / V_{Rd,max} > 0,3 \rightarrow$ Querkraftbewehrung muss durch zusätzliche Bügel realisiert werden.

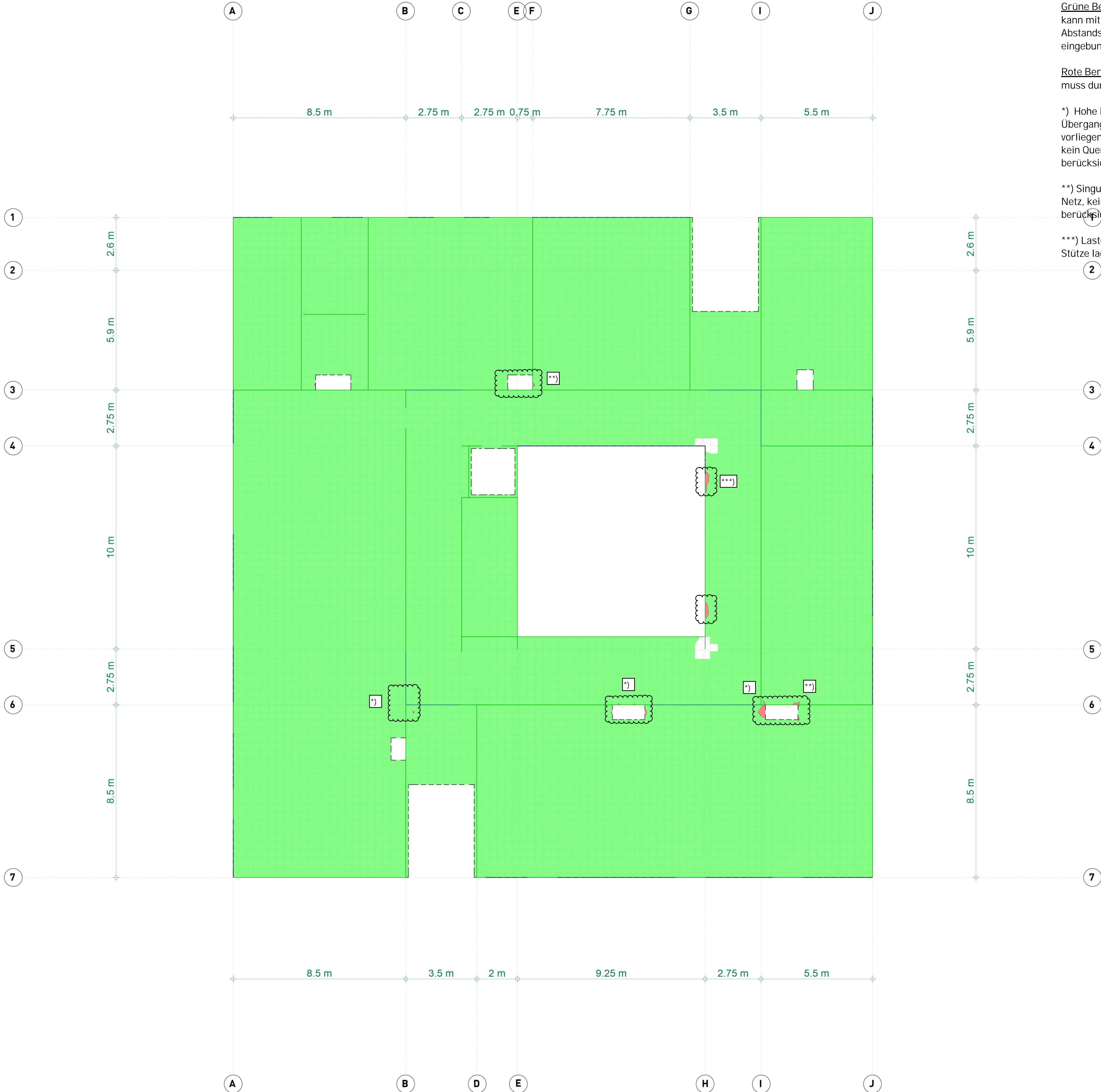
*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke \rightarrow nicht zu berücksichtigen

**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand \rightarrow nicht zu berücksichtigen



Verhältnis:

- $V_{Ed} / V_{Rd,max}$ -



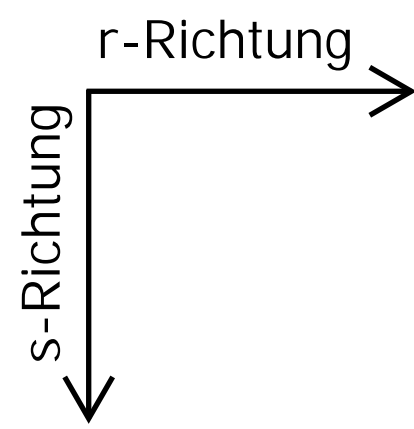
Grüne Bereiche: $V_{Ed} / V_{Rd,max} < 0,3 \rightarrow$ Querkraftbewehrung kann mit Hilfe von Abstandshaltern abgedeckt werden. Die Abstandshalter müssen in die Lagen der Längsbewehrung eingebunden und bis in die Zugzone geführt werden.

Rote Bereiche: $V_{Ed} / V_{Rd,max} > 0,3 \rightarrow$ Querkraftbewehrung muss durch zusätzliche Bügel realisiert werden.

*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke \rightarrow nicht zu berücksichtigen

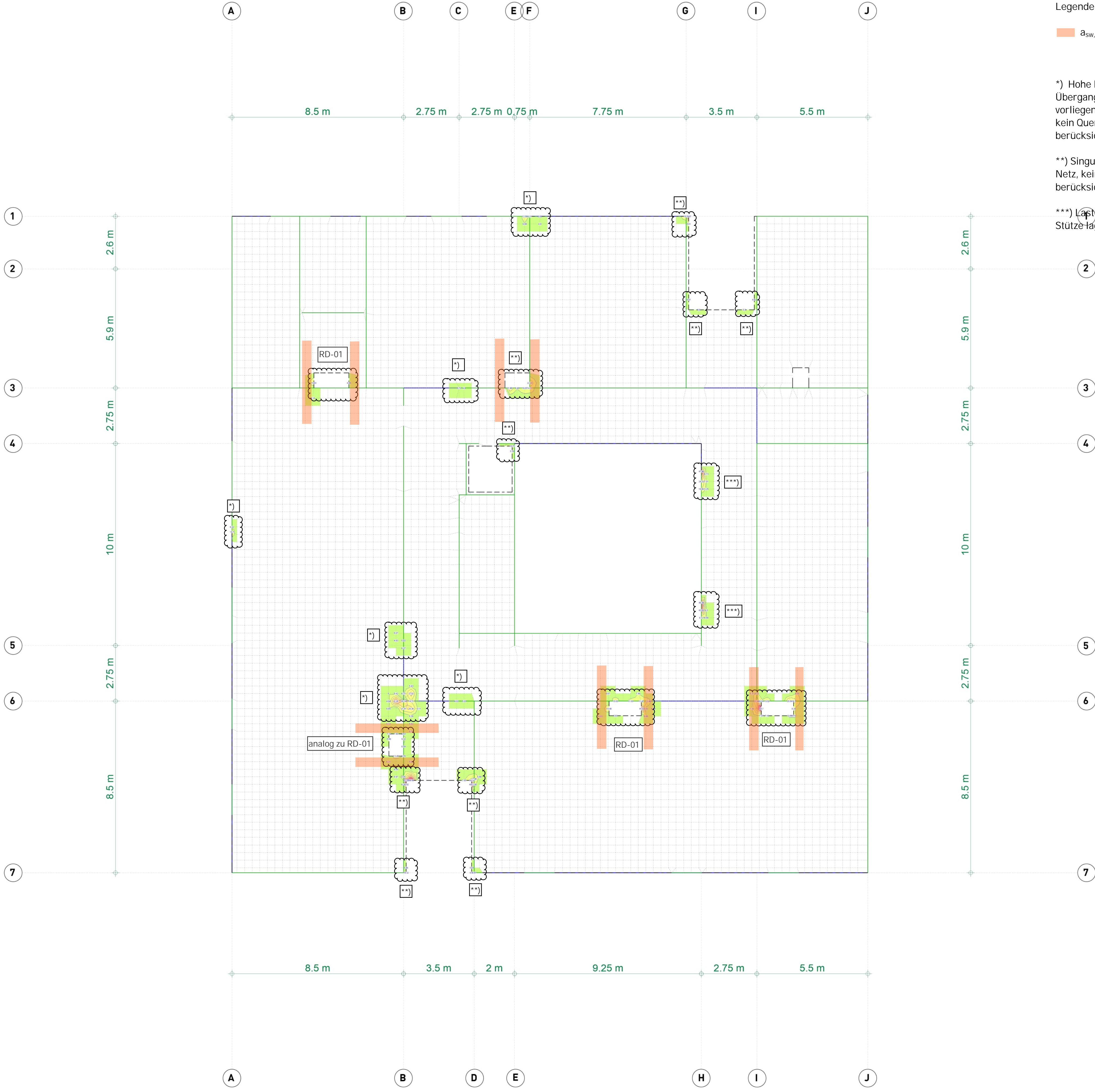
**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand \rightarrow nicht zu berücksichtigen

***) Lasteinleitung Stützenlast erzeugt Singularität \rightarrow Stütze lagert auf Wand, kein Querkraftproblem für Decke



Verhältnis:

- $V_{Ed} / V_{Rd,max}$ -



Legende:

$a_{sw, gew} = 39,25 \text{ cm}^2/\text{m}^2$ (aus RD-01)

*) Hohe Lastkonzentration im FE-Modell aufgrund von Übergang von "weichem" Unterzug zu "steifem" Wandlager, vorliegendes durchgehendes Linienlager erzeugt jedoch kein Querkraftproblem in der Decke -> nicht zu berücksichtigen

**) Singularitäten aufgrund von stark unregelmäßigem FE-Netz, keine Querkraft am freien Rand -> nicht zu berücksichtigen

**) Lasteinleitung Stützenlast erzeugt Singularität -> Stütze lagert auf Wand, kein Querkraftproblem für Decke

| Decke ü. 2.OG: Durchstanznachweise - Übersicht | | | | | | | | | | | | | |
|--|------------|------------------------|-------|------|-------------------|-----|-----------------|---------------------|----------------------------|---------|-------------|----------------------------|-----------|
| DS-Typ | DS-Bereich | Querschnitt (b x l) | Decke | | maßg. β-Faktor | d' | V _{Ed} | β * V _{ed} | angesetzte Bewehrung | | | erforderliche Dübelleisten | Bemerkung |
| | | | h | d | | | | | | | | | |
| | | | [cm] | [cm] | | | | | Grundbewehrung | Zulagen | SUMME Σ | | |
| DS_28_01 | Wandecke | 25,0 | 28,0 | 23,6 | 1,20 | 4,4 | ≤ 100 | 120,0 | Ø10/10 (= 15,39 cm²/m) | - | 15,39 cm²/m | - | |
| DS_28_02 | Wandende | 25,0 | 28,0 | 23,6 | 1,35 | 4,4 | ≤ 240 | 324,0 | Ø10/10 (= 15,39 cm²/m) | - | 15,39 cm²/m | - | |

HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71



Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Innenecke (Ortbetonplatte)

| | | | |
|--|-------------------------|---|-------------------------------------|
| Bemessungswert Durchstanzlast | V_{Ed} | = | 100,0 kN |
| Lasterhöhungsfaktor | β | = | 1,20 |
| Plattendicke | h | = | 28 cm |
| statische Nutzhöhe | d | = | 23,6 cm |
| Wanddicke | b | = | 25 cm |
| Einflussbreite | a | = | 35,4 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = | 3 cm / 3 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = | C30/37 / B500 / B500 |
| Durchmesser / Abstand | | = | Ø14 / 100 mm ($\rho_x = 0,65 \%$) |
| Durchmesser / Abstand | | = | Ø14 / 100 mm ($\rho_y = 0,65 \%$) |
| Längsbewehrungsgrad | ρ_l | = | 0,65 % < 1,95 % |

am kritischen Rundschnitt u_1

Rundschnittführung analog Innenstütze

| | | | |
|--|------------|---|--------------------------|
| bezogener Stützenumfang | u_0 / d | = | 6 |
| u_1 | | = | 144,9 cm |
| $k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ | | = | 1,92 |
| Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 | $C_{Rd,c}$ | = | 0,12 |
| $v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ | | = | 620,97 kN/m ² |
| $v_{Rd,c,2} = v_{min} = 0,0525/\gamma_C \cdot k^{3/2} \cdot f_{ck}^{1/2}$ | | = | 510,24 kN/m ² |
| $v_{Rd,c} = \max \{ v_{Rd,c,1} ; v_{Rd,c,2} \} \cdot u_1 \cdot d = 212,4 \text{ kN} > 120,0 \text{ kN} = V_{Ed} \cdot \beta$ | | | |

Keine Durchstanzbewehrung erforderlich

Hinweis: Für die Abreißbewehrung ist DIN EN 1992-1-1/NA:2013-04 zu berücksichtigen:

$$A_s = V_{Ed} / (1,4 \cdot f_{yk}) = 1,4 \text{ cm}^2$$

HALFEN HDB Durchstanzbewehrung, ETA-12/0454 (für die Anwendung mit DIN EN 1992-1-1/NA:2013-04 + A1:2015-12)
HALFEN Bemessungsprogramm HDB, Version 13.71

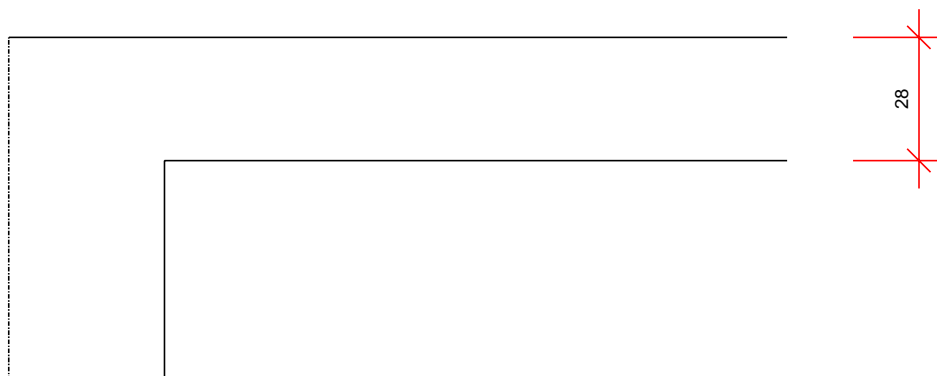


Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene HALFEN-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

Schnitt

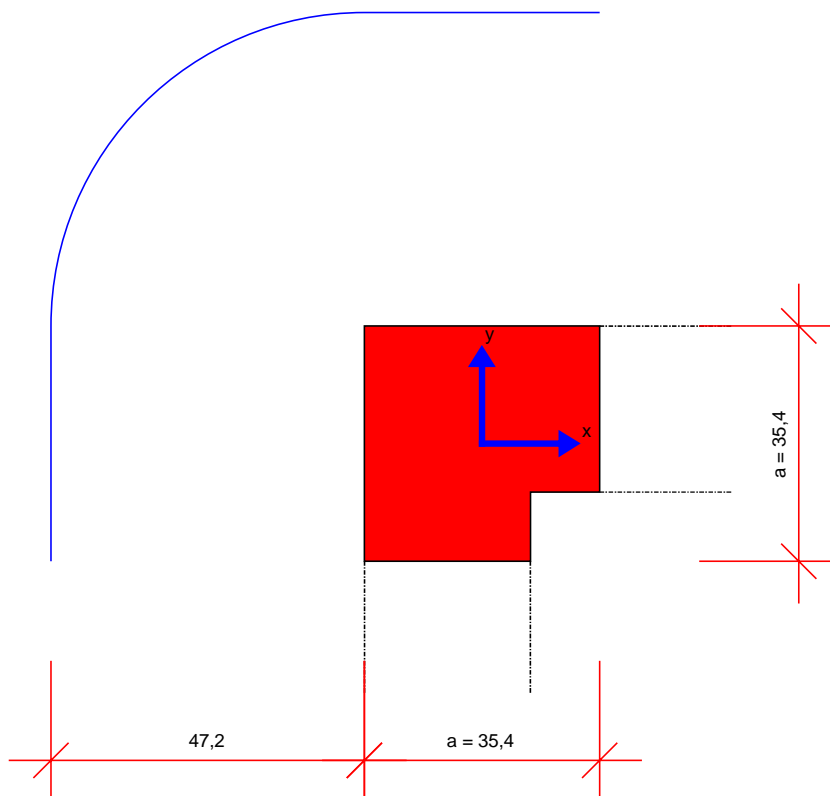
M 1:17



[cm]

Grundriss

M 1:11



Mindeststablängen: $l_{\text{bar,min,x}} = 106,2 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 106,2 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

Die Stäbe sind beginnend vom Anschnitt der Wand mindestens $70,8 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Wandende (Ortbetonplatte)

| | | | |
|--|-------------------------|---|-------------------------------------|
| Bemessungswert Durchstanzlast | V_{Ed} | = | 240,0 kN |
| Lasterhöhungsfaktor | β | = | 1,35 |
| Plattendicke | h | = | 28 cm |
| statische Nutzhöhe | d | = | 23,6 cm |
| Einflussbreite | a | = | 25 cm |
| Wanddicke | b | = | 25 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = | 3 cm / 3 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = | C30/37 / B500 / B500 |
| Durchmesser / Abstand | | = | Ø14 / 100 mm ($\rho_x = 0,65 \%$) |
| Durchmesser / Abstand | | = | Ø14 / 100 mm ($\rho_y = 0,65 \%$) |
| Längsbewehrungsgrad | ρ_l | = | 0,65 % < 1,95 % |

am kritischen Rundschnitt u_1

Rundschnittführung analog Innenstütze

| | | | |
|--|------------|---|--------------------------|
| bezogener Stützenumfang | u_0 / d | = | 4,2 |
| u_1 | | = | 223,3 cm |
| $k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ | | = | 1,92 |
| Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 | $C_{Rd,c}$ | = | 0,12 |
| $v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ | | = | 620,97 kN/m ² |
| $v_{Rd,c,2} = v_{min} = 0,0525 \gamma_C \cdot k^{3/2} \cdot f_{ck}^{1/2}$ | | = | 510,24 kN/m ² |
| $V_{Rd,c} = \max \{ v_{Rd,c,1} ; v_{Rd,c,2} \} \cdot u_1 \cdot d = 327,2 \text{ kN} > 324,0 \text{ kN} = V_{Ed} \cdot \beta$ | | | |

Keine Durchstanzbewehrung erforderlich

Hinweis: Für die Abreißbewehrung ist DIN EN 1992-1-1/NA:2013-04 zu berücksichtigen:

$$A_s = V_{Ed} / (1,4 \cdot f_{yk}) = 3,4 \text{ cm}^2$$

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

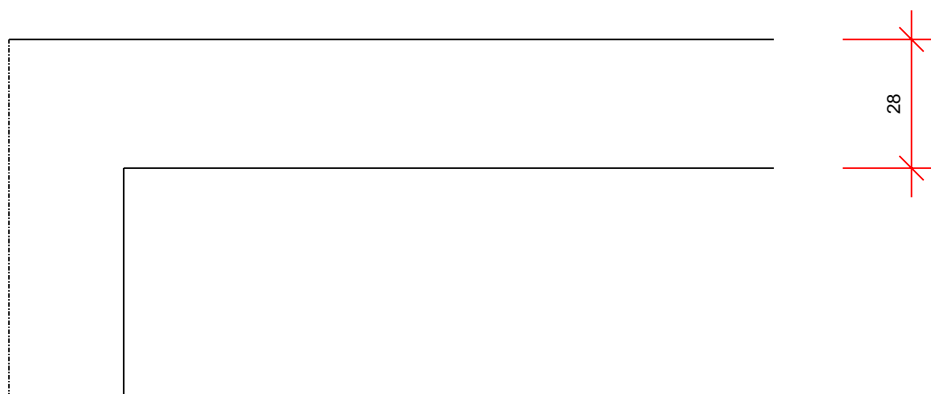
Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

Schnitt

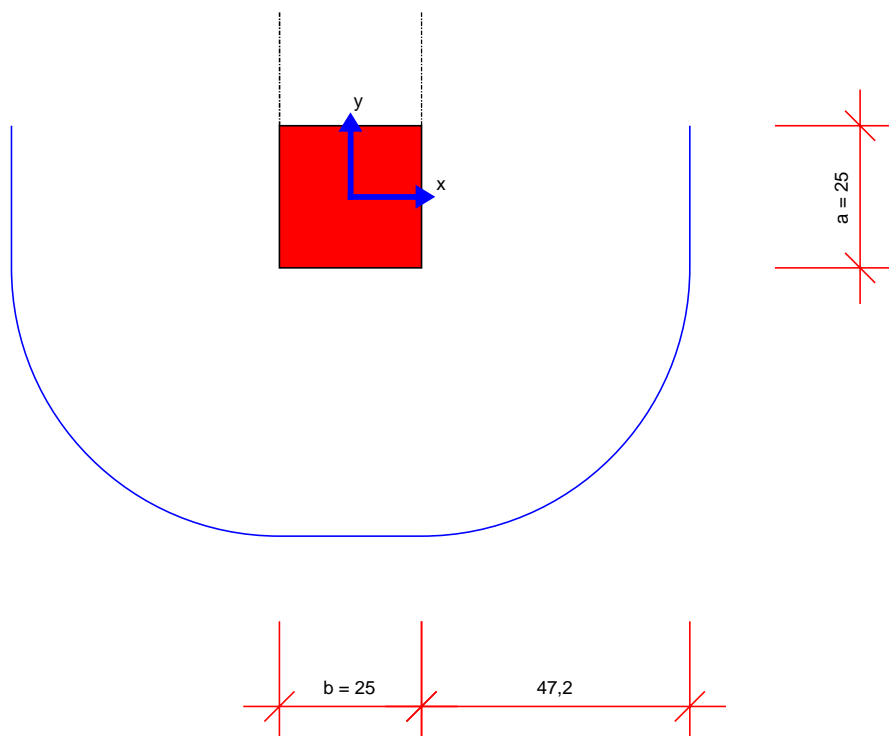
M 1:16



[cm]

Grundriss

M 1:13



Mindeststablängen: $l_{\text{bar,min,x}} = 166,6 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 95,8 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

In y-Richtung sind die Stäbe vom Anschnitt der Wand beginnend $70,8 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

Lastübergabe

y Vyf[UVY

@Ugh~ VYf[UVY

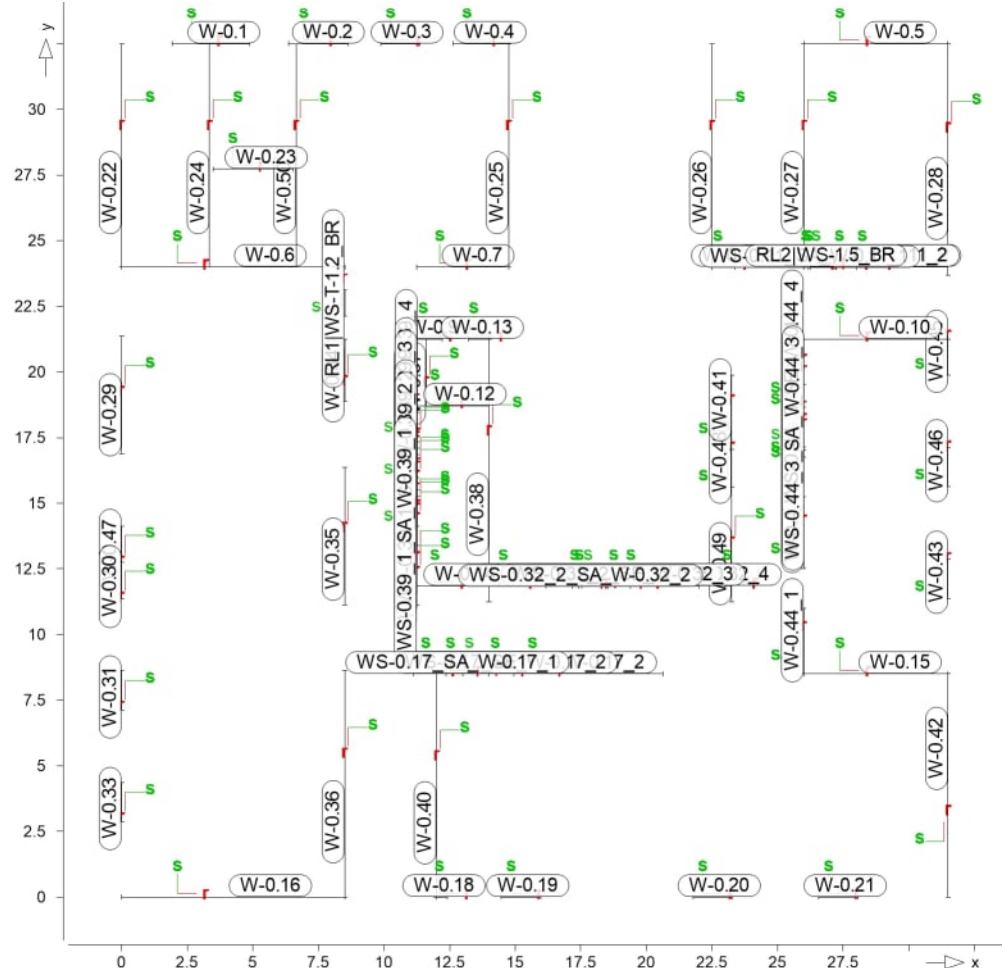
Mi croFe

Posi ti onsgrafi k

§ã~\~<~>→ÄäæãÄQáb\fiâæã&áâæ

Qáb\fiâæã&áâæÄâfiãÄR↔´ã~Ôæ

©âæãb↔´â\ÄäæãÄfiâæã&æâæ^æ^ÄQáb\æ^



Die vertikalen Auflagerreaktionen werden
→áb\âá→→}æ↔bæÄ~|ãÄQáb\fiâæã^áâ↑æÄâæã↔\&æb\æ→\ÈÄ
Ó↔^b*á^↑~↑æ^æÄâ→æ↔âæ^Ä|^âæãfi'↔b↔´â\↔&\È

Kleine Lasten (< 0.01 kN bzw. kN/m) werden nicht lastfallweise ausgegeben, sondern als Lastsumme zusammengefasst.

Lasten bis zu einer Summe von 0.01 kN pro Position
}æãäæ^Ä{æã^á^â→↑bb↔&\iÄä↔æÄN|b}æã\|^Äæãä~→&\Ä
getrennt nach positiver und negativer Wirkungsrichtung.

Linienlasten

Blocklasten der einzelnen Abschnitte in
Gravitationsrichtung

| | Lastfall | Lasten (3 Abschnitte je 0.98m) | [kN/m] | | |
|---|----------|--------------------------------|--------------------------------|--------|-------|
| W-0.1 | Gk | LF-1 (g) | 39.37 | 22.86 | 28.09 |
| | | #1 LF-1 | -2.56 | 45.35 | 133.4 |
| | | #2 LF-1 | -1.56 | 62.27 | 146.1 |
| | | #3 LF-1 | 0.00 | 0.01 | 0.02 |
| Ö← | | LF-2 | 19.79 | 8.51 | 12.86 |
| | | #1 LF-2 | -0.83 | 19.98 | 58.89 |
| | | #2 LF-2 | -0.49 | 21.94 | 51.24 |
| Qk.N_E1 | | LF-3 | 0.00 | 0.00 | 0.00 |
| | | LF-6 | -0.14 | -0.09 | 0.45 |
| | | LF-7 | 1.46 | 0.92 | -4.86 |
| | | LF-8 | -2.14 | 0.04 | 8.89 |
| | | LF-9 | 0.03 | 0.01 | 0.00 |
| | | LF-10 | 0.00 | 0.00 | -0.01 |
| | | LF-12 | 10.44 | -0.69 | -2.38 |
| | | LF-13 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-4 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-5 | 0.04 | -0.36 | -1.06 |
| | | #1 LF-7 | -0.05 | -0.34 | 0.18 |
| | | #1 LF-11 | -0.35 | 0.54 | 9.64 |
| | | #1 LF-12 | 0.02 | -0.24 | -0.67 |
| | | #1 LF-13 | 0.00 | 0.00 | 0.01 |
| | | #1 LF-14 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-15 | 0.00 | 0.00 | 0.02 |
| | | #1 LF-19 | 0.01 | -0.12 | -0.40 |
| | | #1 LF-22 | -1.30 | 22.20 | 63.64 |
| Qk.N_DA | | #2 LF-5 | 0.06 | -0.66 | -1.68 |
| | | #2 LF-6 | -0.93 | 20.25 | 49.15 |
| | | #2 LF-7 | 0.00 | 0.00 | 0.04 |
| | | #2 LF-8 | 0.00 | 0.00 | -0.02 |
| | | #2 LF-10 | 0.00 | 0.00 | 0.01 |
| | | #2 LF-11 | 0.00 | 0.01 | 0.06 |
| Qk.N_T2 | | #2 LF-14 | 0.00 | 0.00 | 0.00 |
| | | LF-21 | 0.00 | 0.00 | -0.01 |
| | | #1 LF-21 | 0.00 | 0.00 | -0.01 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-0.2 | | Lastfall | Lasten (3 Abschnitte je 0.75m) | [kN/m] | |
| | Gk | LF-1 (g) | 16.34 | 24.47 | 46.40 |
| | | #1 LF-1 | 3.76 | -2.74 | 7.70 |
| | | #2 LF-1 | 3.44 | -2.86 | 6.44 |
| Ö← | | #3 LF-1 | 0.00 | 0.00 | 0.00 |
| | | LF-2 | 8.44 | 11.74 | 22.33 |
| | | #1 LF-2 | 1.66 | -1.21 | 3.55 |
| Qk.N_E1 | | #2 LF-2 | 1.20 | -1.00 | 2.23 |
| | | LF-6 | 1.08 | 0.56 | 0.15 |
| | | LF-7 | -9.24 | 1.87 | 16.12 |
| | | LF-8 | 1.93 | -1.59 | -1.41 |
| | | LF-9 | 0.03 | 0.03 | 0.02 |
| | | LF-10 | -0.02 | -0.01 | 0.00 |
| | | LF-12 | 0.15 | 0.31 | 0.25 |
| | | LF-13 | 0.01 | 0.00 | 0.00 |
| | | LF-16 | 0.00 | 0.00 | 0.00 |

| | | Lastfall Lasten (3 Abschnitte je 0.75m) | | | [kN/m] |
|-------------|---|---|-------|-------|--------|
| Qk.N_DA | LF-17 | -0.01 | -0.01 | -0.01 | |
| | LF-18 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-5 | -0.03 | 0.02 | -0.03 | |
| | #1 LF-7 | 0.05 | -0.02 | 0.38 | |
| | #1 LF-11 | 0.27 | -0.45 | 2.17 | |
| | #1 LF-12 | -0.02 | 0.01 | -0.02 | |
| | #1 LF-15 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-19 | -0.01 | 0.01 | -0.02 | |
| | #1 LF-22 | 1.83 | -1.12 | 2.12 | |
| | #2 LF-5 | -0.04 | 0.03 | -0.05 | |
| | #2 LF-6 | 1.19 | -0.99 | 2.27 | |
| Qk.N_T2 | #2 LF-7 | 0.00 | 0.00 | 0.02 | |
| | #2 LF-8 | 0.00 | 0.00 | -0.01 | |
| | #2 LF-11 | 0.00 | 0.00 | 0.01 | |
| | LF-21 | -0.02 | -0.01 | 0.00 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
| W-0.3 Gk | LF-1 (g) | 59.97 | 52.37 | 58.73 | |
| | #1 LF-1 | 130.0 | 104.8 | 67.48 | |
| | #2 LF-1 | 143.7 | 150.5 | 142.5 | |
| | #3 LF-1 | 0.00 | 0.00 | 0.00 | |
| Ö← | LF-2 | 25.69 | 21.67 | 25.27 | |
| | #1 LF-2 | 58.68 | 46.32 | 28.60 | |
| | #2 LF-2 | 49.85 | 52.25 | 49.46 | |
| | #3 LF-2 | 0.00 | 0.00 | 0.00 | |
| Qk.N_E1 | LF-3 | 0.00 | 0.00 | 0.00 | |
| | LF-6 | -1.05 | -1.93 | -4.36 | |
| | LF-7 | 25.78 | 21.91 | 27.80 | |
| | LF-8 | -0.51 | -0.24 | -0.11 | |
| | LF-9 | -0.02 | -0.02 | -0.02 | |
| | LF-10 | 0.02 | 0.02 | 0.02 | |
| | LF-12 | 0.10 | 0.05 | 0.03 | |
| | LF-13 | -0.01 | -0.01 | -0.03 | |
| | LF-16 | 0.00 | 0.01 | 0.01 | |
| | LF-17 | 0.01 | 0.04 | 0.12 | |
| | LF-18 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-5 | -0.49 | -0.32 | -0.12 | |
| | #1 LF-7 | 5.87 | 4.77 | 2.61 | |
| | #1 LF-8 | -0.03 | -0.06 | -0.08 | |
| | #1 LF-11 | 37.09 | 32.44 | 24.54 | |
| | #1 LF-12 | -0.30 | -0.19 | -0.07 | |
| | #1 LF-13 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-15 | 0.10 | 0.13 | 0.16 | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-19 | -0.29 | -0.21 | -0.10 | |
| | #1 LF-22 | 33.29 | 22.01 | 8.25 | |
| | #2 LF-17 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | #2 LF-5 | -0.92 | -0.84 | -0.66 | |
| | #2 LF-6 | 50.51 | 52.95 | 50.14 | |
| | #2 LF-7 | 0.37 | 0.30 | 0.20 | |
| | #2 LF-8 | -0.20 | -0.17 | -0.13 | |
| | #2 LF-10 | 0.04 | 0.04 | 0.04 | |
| | #2 LF-11 | 0.16 | 0.14 | 0.10 | |
| | #2 LF-13 | 0.00 | 0.01 | 0.01 | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|---------|---|--------------------------------|--------|------|------|
| Qk.N_T2 | #2 | LF-14 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-4 | 0.01 | 0.01 | 0.01 |
| | | LF-21 | 0.02 | 0.04 | 0.08 |
| | #1 | LF-21 | 0.10 | 0.18 | 0.25 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.71m) | [kN/m] | | |
|-------------|----------|--------------------------------|--------|-------|-------|
| W-0.4 Gk | | LF-1 (g) | 37.84 | 8.77 | 29.69 |
| | #1 | LF-1 | -1.17 | 48.19 | 179.6 |
| | #2 | LF-1 | 5.89 | 54.29 | 175.8 |
| | #3 | LF-1 | 0.00 | 0.01 | 0.01 |
| Ö← | | LF-2 | 18.64 | 4.39 | 13.29 |
| | #1 | LF-2 | -0.67 | 21.15 | 79.43 |
| | #2 | LF-2 | 2.05 | 19.09 | 61.78 |
| | #3 | LF-2 | 0.00 | 0.00 | 0.01 |

| | | | | | |
|---------|----|-------|-------|-------|-------|
| Qk.N_E1 | | LF-3 | 0.00 | 0.00 | 0.00 |
| | | LF-6 | -10.5 | -14.5 | 7.68 |
| | | LF-7 | 20.37 | 6.31 | -9.63 |
| | | LF-8 | -0.01 | 0.02 | 0.11 |
| | | LF-9 | -0.01 | 0.00 | 0.02 |
| | | LF-10 | 0.01 | 0.00 | -0.02 |
| | | LF-12 | 0.00 | -0.01 | -0.02 |
| | | LF-13 | -0.06 | -0.08 | -0.01 |
| | | LF-16 | 0.02 | 0.02 | 0.00 |
| | | LF-17 | 0.26 | 0.26 | 0.12 |
| | | LF-18 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-5 | 0.00 | 0.04 | 0.12 |
| | #1 | LF-7 | -1.53 | 26.75 | 98.70 |
| | #1 | LF-8 | -0.01 | 0.05 | 0.20 |
| | #1 | LF-9 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-10 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-11 | 0.95 | 0.48 | 1.59 |
| | #1 | LF-12 | 0.00 | 0.02 | 0.08 |
| | #1 | LF-15 | 0.02 | -0.17 | -0.66 |
| | #1 | LF-16 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-18 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-19 | 0.00 | 0.02 | 0.06 |
| | #1 | LF-22 | -0.29 | -1.80 | -4.71 |
| | #2 | LF-17 | 0.00 | 0.00 | 0.01 |

| | | | | | |
|---|----|-------|-------|-------|-------|
| Qk.N_DA | #2 | LF-3 | 0.00 | 0.00 | -0.01 |
| | #2 | LF-5 | -0.03 | 0.08 | 0.25 |
| | #2 | LF-6 | 2.10 | 19.60 | 63.13 |
| | #2 | LF-7 | 0.01 | -0.48 | -1.47 |
| | #2 | LF-8 | -0.01 | 0.23 | 0.73 |
| | #2 | LF-9 | 0.00 | 0.00 | -0.01 |
| | #2 | LF-10 | 0.01 | -0.07 | -0.24 |
| | #2 | LF-11 | 0.01 | -0.14 | -0.46 |
| | #2 | LF-13 | 0.00 | 0.00 | -0.01 |
| | #3 | LF-4 | 0.00 | 0.01 | 0.01 |
| | | LF-21 | 0.17 | 0.22 | 0.04 |
| | #1 | LF-21 | 0.03 | -0.15 | -0.62 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

| | Lastfall | Lasten (6 Abschnitte je 0.92m) | [kN/m] | | | |
|-------------|----------|--------------------------------|--------|-------|-------|-------|
| W-0.5 Gk | | LF-1 (g) | 20.99 | 38.21 | 40.30 | 40.51 |
| | | | 38.15 | 19.13 | | |

| | | Lastfall Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| Ö← | #1 LF-1 | 22.65 | 35.84 | 40.55 | 40.58 | 35.40 | 21.90 | |
| | #2 LF-1 | 29.44 | 36.28 | 41.45 | 42.65 | 38.48 | 29.19 | |
| | LF-2 | 7.11 | 14.90 | 15.62 | 15.65 | 14.80 | 8.01 | |
| | #1 LF-2 | 7.00 | 13.81 | 15.75 | 15.69 | 13.82 | 9.02 | |
| Qk.N_E1 | #2 LF-2 | 9.53 | 14.11 | 16.31 | 16.65 | 15.29 | 12.34 | |
| | LF-5 | 0.03 | -0.03 | -0.03 | -0.03 | -0.03 | 0.03 | |
| | LF-6 | -0.10 | 0.17 | 0.17 | 0.14 | 0.10 | -0.13 | |
| | LF-7 | 0.01 | -0.02 | -0.02 | -0.01 | -0.01 | 0.01 | |
| | LF-13 | -1.37 | 11.38 | 12.85 | 12.95 | 11.21 | -2.65 | |
| | LF-14 | -0.01 | 0.01 | 0.02 | 0.02 | 0.01 | -0.02 | |
| | LF-17 | 0.01 | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | |
| | #1 LF-7 | -0.10 | 0.14 | 0.19 | 0.16 | 0.07 | -0.11 | |
| | #1 LF-8 | -0.19 | 9.55 | 12.95 | 12.94 | 9.18 | -0.59 | |
| | #1 LF-9 | 0.01 | -0.01 | -0.02 | -0.02 | -0.01 | 0.02 | |
| | #1 LF-10 | -0.01 | 0.01 | 0.02 | 0.02 | 0.01 | -0.02 | |
| | #1 LF-11 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | #1 LF-15 | 0.01 | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | |
| | #2 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-6 | 0.03 | 1.69 | 1.20 | 0.57 | 0.17 | -0.23 | |
| | #2 LF-7 | 1.53 | -1.62 | -1.27 | -0.54 | -0.15 | 0.19 | |
| | #2 LF-8 | 0.11 | 5.20 | 8.51 | 9.19 | 6.53 | 0.60 | |
| | #2 LF-9 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | 0.01 | |
| | #2 LF-10 | 0.00 | -0.02 | -0.02 | -0.01 | 0.00 | 0.00 | |
| | #2 LF-11 | 0.00 | -0.03 | -0.03 | -0.01 | -0.01 | 0.01 | |
| Qk.N_T2 | LF-21 | 0.19 | -0.32 | -0.32 | -0.26 | -0.18 | 0.23 | |
| | #1 LF-21 | 0.28 | -0.22 | -0.30 | -0.24 | -0.11 | 0.15 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.6

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|-----------|---|-------|-------|-------|-------|-------|--------|
| Gk | LF-1 (g) | 36.42 | 66.63 | 88.47 | 106.4 | 65.49 | 36.77 | 65.59 |
| | | 57.54 | 69.59 | | | | | |
| | #1 LF-1 | 22.54 | 73.40 | 97.13 | 76.13 | 43.58 | 46.07 | 70.55 |
| | | 105.09 | 166.5 | | | | | |
| | #2 LF-1 | 45.92 | 67.98 | 78.18 | 71.73 | 85.21 | 132.3 | 99.34 |
| | | 26.62 | -0.63 | | | | | |
| | #3 LF-1 | 0.04 | -0.06 | -0.13 | -0.15 | -0.14 | -0.29 | -0.41 |
| | | -0.30 | -0.02 | | | | | |
| Ö← | LF-2 | 8.28 | 16.96 | 25.12 | 32.14 | 16.71 | 5.88 | 17.03 |
| | | 13.67 | 16.29 | | | | | |
| | #1 LF-2 | 6.31 | 20.17 | 28.46 | 21.77 | 8.91 | 9.33 | 19.60 |
| | | 32.48 | 54.28 | | | | | |
| | #2 LF-2 | 12.06 | 15.93 | 18.39 | 17.07 | 20.07 | 34.19 | 27.24 |
| | | 7.57 | 0.02 | | | | | |
| | #3 LF-2 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.02 | -0.02 |
| | | -0.01 | 0.00 | | | | | |
| Qk.N_E1 | LF-3 | 8.36 | 14.46 | 21.67 | 28.29 | 17.46 | 10.09 | 20.97 |
| | | 16.48 | 2.49 | | | | | |
| | LF-4 | -0.01 | 0.02 | 0.05 | 0.08 | 0.04 | 0.01 | 0.06 |
| | | 0.05 | -0.01 | | | | | |
| | LF-6 | 0.00 | -0.03 | -0.07 | -0.03 | 0.06 | 0.14 | 0.53 |
| | | 0.14 | -2.09 | | | | | |
| | LF-7 | 0.01 | 0.39 | 0.79 | 0.16 | -0.88 | -2.28 | -7.49 |
| | | 1.96 | 34.84 | | | | | |
| | LF-8 | 0.00 | 0.01 | 0.06 | 0.05 | -0.02 | -0.01 | 0.03 |
| | | 0.09 | -0.13 | | | | | |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| LF-9 | -0.04 | -0.88 | -1.71 | 0.41 | 2.94 | 1.90 | 3.49 |
| | -1.16 | -1.76 | | | | | |
| LF-10 | -2.92 | 10.72 | 24.06 | 37.01 | 16.67 | 2.55 | 18.89 |
| | 12.28 | -3.04 | | | | | |
| LF-12 | 3.58 | 9.30 | 6.43 | -0.35 | -2.24 | -0.37 | -0.49 |
| | 0.18 | 0.33 | | | | | |
| LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | -0.02 | | | | | |
| LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.01 | | | | | |
| LF-17 | 0.02 | -0.04 | -0.14 | -0.27 | -0.13 | -0.09 | -0.73 |
| | -1.31 | 1.88 | | | | | |
| LF-18 | 0.08 | -0.13 | -0.40 | -0.74 | -0.35 | -0.12 | -0.90 |
| | -0.91 | -0.14 | | | | | |
| #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #1 LF-4 | 0.60 | 0.20 | 0.01 | -0.01 | -0.02 | -0.02 | -0.02 |
| | -0.02 | -0.02 | | | | | |
| #1 LF-5 | -6.40 | 6.19 | 12.16 | 8.80 | 3.82 | 3.06 | 4.00 |
| | -0.64 | -6.32 | | | | | |
| #1 LF-6 | 0.01 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.01 | | | | | |
| #1 LF-7 | -0.21 | -0.02 | 0.08 | -0.15 | -0.76 | -2.07 | -2.12 |
| | 7.23 | 26.03 | | | | | |
| #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.01 | | | | | |
| #1 LF-11 | -0.54 | 0.24 | 0.93 | 0.64 | -0.93 | -2.07 | 0.66 |
| | 16.23 | 40.94 | | | | | |
| #1 LF-12 | 7.77 | 13.22 | 14.87 | 11.53 | 9.42 | 8.20 | 5.44 |
| | 0.78 | -2.88 | | | | | |
| #1 LF-13 | 0.00 | -0.01 | -0.02 | -0.01 | -0.01 | -0.02 | -0.03 |
| | -0.05 | -0.21 | | | | | |
| #1 LF-14 | 0.01 | -0.01 | -0.02 | -0.02 | -0.01 | -0.01 | -0.02 |
| | 0.01 | 0.04 | | | | | |
| #1 LF-15 | 0.01 | -0.02 | -0.04 | -0.05 | -0.06 | -0.33 | -0.89 |
| | 0.49 | 6.70 | | | | | |
| #1 LF-19 | -0.68 | 0.88 | 1.87 | 1.63 | 1.40 | 3.62 | 6.70 |
| | 5.11 | 0.72 | | | | | |
| #1 LF-22 | 0.49 | 16.92 | 27.10 | 21.16 | 4.81 | 7.73 | 24.32 |
| | 34.68 | 42.11 | | | | | |
| #2 LF-18 | 0.00 | 0.00 | -0.01 | -0.01 | -0.03 | -0.11 | -0.12 |
| | -0.06 | -0.01 | | | | | |
| #2 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-21 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | -0.01 | -0.03 | | | | | |
| #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Qk.N_DA

D-644

Schulcampus EWK \

EG-LP4

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | 0.00 | 0.00 | | | | | | |
| #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-5 | 6.07 | 15.19 | 19.30 | 17.17 | 15.45 | 13.84 | 8.38 | |
| | 2.07 | -0.97 | | | | | | |
| #2 LF-6 | -0.53 | 10.50 | 17.37 | 17.65 | 24.54 | 52.02 | 43.69 | |
| | 12.43 | 0.87 | | | | | | |
| #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | |
| | 0.00 | -0.03 | | | | | | |
| #2 LF-11 | -0.03 | -0.09 | -0.14 | -0.11 | 0.60 | 3.03 | 2.74 | |
| | 0.73 | 0.16 | | | | | | |
| #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | -0.09 | -0.07 | |
| | -0.03 | -0.03 | | | | | | |
| #2 LF-15 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | -0.01 | -0.02 | | | | | | |
| #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.01 | 0.01 | | | | | | |
| #3 LF-5 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.04 | -0.05 | |
| | -0.03 | 0.00 | | | | | | |
| #3 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| Qk.N_T2 | LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | 0.00 | 0.04 | | | | | |
| | #1 LF-20 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.02 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| W-0.7 | | Lastfall | Lasten (4 Abschnitte je 0.88m) | | | | [kN/m] |
|---------|--|-----------|--------------------------------|-------|-------|-------|--------|
| Gk | | LF-1 (g) | 112.3 | 59.83 | 35.21 | 27.85 | |
| | | #1 LF-1 | 3.22 | 1.24 | 51.52 | 165.5 | |
| | | #2 LF-1 | -3.07 | 2.12 | 54.33 | 173.8 | |
| | | #3 LF-1 | 0.49 | 0.08 | -0.27 | -0.74 | |
| Ö← | | LF-2 | 31.97 | 14.03 | 5.35 | 2.45 | |
| | | #1 LF-2 | 0.85 | 0.42 | 17.51 | 55.54 | |
| | | #2 LF-2 | -0.97 | 0.57 | 15.37 | 48.71 | |
| | | #3 LF-2 | -0.01 | -0.05 | -0.11 | -0.23 | |
| Qk.N_E1 | | LF-3 | -2.71 | -0.04 | 0.23 | 0.05 | |
| | | LF-4 | -0.01 | 0.01 | 0.00 | 0.00 | |
| | | LF-6 | -6.77 | -6.24 | -5.23 | -4.80 | |
| | | LF-7 | 56.73 | 22.82 | 5.42 | -0.78 | |
| | | LF-8 | -0.26 | -0.07 | 0.02 | 0.01 | |
| | | LF-9 | -0.28 | -0.03 | 0.02 | 0.01 | |
| | | LF-10 | -4.12 | 0.32 | 0.54 | 0.09 | |

| Lastfall Lasten (4 Abschnitte je 0.88m) | | [kN/m] | | | |
|---|------------|--------|-------|-------|-------|
| LF-12 | | 0.11 | 0.02 | -0.01 | 0.00 |
| LF-13 | | -0.05 | -0.05 | -0.04 | -0.04 |
| LF-14 | | 0.00 | 0.00 | 0.00 | 0.00 |
| LF-16 | | 0.02 | 0.00 | -0.01 | 0.03 |
| LF-17 | | 17.43 | 9.68 | 8.26 | 8.59 |
| LF-18 | | 0.53 | -0.15 | -0.14 | -0.02 |
| Qk.N_DA | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-5 | -0.33 | -0.03 | -0.21 | -0.68 |
| | #1 LF-7 | 0.02 | 0.39 | 19.88 | 64.10 |
| | #1 LF-8 | 0.00 | 0.00 | 0.02 | 0.05 |
| | #1 LF-11 | 1.29 | 0.19 | 7.37 | 22.71 |
| | #1 LF-12 | -0.14 | -0.02 | -0.13 | -0.40 |
| | #1 LF-13 | -0.04 | -0.02 | -0.07 | -0.19 |
| | #1 LF-14 | 0.01 | 0.00 | 0.01 | 0.01 |
| | #1 LF-15 | 1.05 | 0.39 | 4.81 | 15.11 |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | -0.01 |
| | #1 LF-18 | 0.00 | 0.00 | 0.00 | -0.01 |
| | #1 LF-19 | -0.03 | -0.07 | -0.24 | -0.64 |
| | #1 LF-22 | -0.28 | -0.02 | 2.71 | 8.22 |
| | #2 LF-17 | 0.00 | 0.00 | 0.00 | 0.01 |
| | #2 LF-18 | 0.04 | 0.00 | -0.06 | -0.17 |
| | #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.01 |
| | #2 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #3 LF-8 | 0.00 | 0.01 | 0.00 | -0.04 |
| | #2 LF-3 | 0.00 | 0.00 | 0.00 | -0.01 |
| | #2 LF-5 | -0.27 | -0.06 | -0.40 | -1.26 |
| | #2 LF-6 | -1.75 | 0.96 | 27.56 | 87.44 |
| | #2 LF-7 | 0.00 | 0.00 | -0.05 | -0.16 |
| | #2 LF-8 | 0.00 | 0.00 | 0.03 | 0.09 |
| | #2 LF-10 | 0.03 | -0.01 | -0.39 | -1.34 |
| | #2 LF-11 | 0.07 | 0.28 | 4.08 | 12.94 |
| | #2 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-13 | 0.00 | 0.00 | -0.01 | -0.02 |
| | #2 LF-14 | -0.01 | -0.01 | -0.03 | -0.08 |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 | 0.01 |
| | #3 LF-3 | 0.02 | 0.02 | 0.01 | 0.00 |
| | #3 LF-4 | -0.07 | -0.11 | -0.21 | -0.41 |
| | #3 LF-5 | 0.02 | 0.00 | -0.02 | -0.06 |
| | #3 LF-6 | 0.00 | 0.00 | 0.00 | 0.01 |
| Qk.N_T2 | LF-21 | 0.13 | 0.12 | 0.10 | 0.11 |
| | #1 LF-21 | 0.00 | 0.00 | -0.04 | -0.14 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| Lastfall Lasten (3 Abschnitte je 0.29m) | | [kN/m] | | | |
| W-0.8 | LF-1 (g) | 66.59 | 78.57 | 92.69 | |
| | #1 LF-1 | 23.05 | 17.33 | 14.11 | |
| | #2 LF-1 | 28.88 | 20.98 | 16.23 | |
| | #3 LF-1 | 0.09 | 0.08 | 0.07 | |
| Ö← | LF-2 | 15.02 | 18.97 | 23.63 | |
| | #1 LF-2 | 3.32 | 2.42 | 1.97 | |
| | #2 LF-2 | 3.39 | 2.37 | 1.77 | |
| | #3 LF-2 | 0.02 | 0.02 | 0.02 | |
| Qk.N_E1 | LF-5 | -0.03 | 0.11 | 0.34 | |
| | LF-6 | -13.9 | -17.5 | -20.8 | |
| | LF-7 | 1.53 | 1.76 | 2.00 | |

| Lastfall | | Lasten (3 Abschnitte je 0.29m) | | | [kN/m] | |
|---|------------|--------------------------------|-------|-------|--------------------------------|--------|
| Qk.N_DA | LF-8 | | -0.01 | -0.01 | -0.01 | |
| | LF-9 | | 0.00 | 0.00 | 0.00 | |
| | LF-12 | | 0.00 | 0.00 | 0.00 | |
| | LF-13 | | -1.56 | -3.73 | -6.31 | |
| | LF-14 | | -0.40 | -0.61 | -0.87 | |
| | LF-16 | | 12.19 | 17.85 | 24.33 | |
| | LF-17 | | 19.71 | 20.37 | 21.05 | |
| | LF-18 | | 0.00 | 0.00 | 0.00 | |
| | #1 LF-3 | | -0.04 | -0.02 | 0.00 | |
| | #1 LF-7 | | -4.64 | -3.60 | -2.84 | |
| | #1 LF-8 | | -0.79 | -0.81 | -0.87 | |
| | #1 LF-9 | | -0.01 | -0.04 | -0.06 | |
| | #1 LF-10 | | -0.15 | -0.20 | -0.27 | |
| | #1 LF-11 | | -0.17 | -0.11 | -0.07 | |
| | #1 LF-15 | | 7.53 | 5.27 | 3.84 | |
| | #1 LF-16 | | 0.37 | 0.39 | 0.42 | |
| | #1 LF-17 | | 0.00 | 0.00 | 0.00 | |
| | #1 LF-18 | | 0.06 | 0.02 | 0.00 | |
| | #1 LF-22 | | -0.04 | -0.03 | -0.01 | |
| | #2 LF-17 | | -0.23 | -0.18 | -0.16 | |
| | #2 LF-3 | | 0.11 | 0.08 | 0.06 | |
| | #2 LF-5 | | 0.00 | 0.00 | 0.00 | |
| | #2 LF-6 | | -2.15 | -1.69 | -1.38 | |
| | #2 LF-7 | | 2.17 | 1.93 | 1.84 | |
| | #2 LF-8 | | -0.52 | -0.46 | -0.42 | |
| | #2 LF-9 | | 0.02 | 0.08 | 0.16 | |
| | #2 LF-10 | | 1.55 | 0.91 | 0.48 | |
| | #2 LF-11 | | 5.24 | 3.62 | 2.58 | |
| | #2 LF-12 | | -0.05 | -0.04 | -0.03 | |
| | #2 LF-13 | | 0.57 | 0.44 | 0.36 | |
| | #3 LF-4 | | 0.04 | 0.04 | 0.03 | |
| | Qk.N_T2 | LF-21 | | 6.39 | 12.33 | 18.86 |
| | | #1 LF-21 | | 2.94 | 2.78 | 2.76 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| W-0.9 | | Lastfall | | | Lasten (3 Abschnitte je 0.33m) | [kN/m] |
| Gk | LF-1 (g) | | 10.55 | 25.54 | 33.08 | |
| | #1 LF-1 | | 30.44 | 28.44 | 26.24 | |
| | #2 LF-1 | | 32.49 | 29.58 | 26.67 | |
| | #3 LF-1 | | 24.33 | 22.61 | 20.61 | |
| Ö← | LF-2 | | -1.38 | 3.18 | 5.77 | |
| | #1 LF-2 | | 2.73 | 2.34 | 1.82 | |
| | #2 LF-2 | | 2.51 | 2.02 | 1.52 | |
| | #3 LF-2 | | 0.69 | 0.35 | -0.04 | |
| Qk.N_E1 | LF-3 | | -7.53 | -1.77 | 1.80 | |
| | LF-4 | | -0.25 | 0.03 | 0.19 | |
| | LF-6 | | 4.24 | 4.26 | 5.28 | |
| | LF-7 | | -18.1 | -13.2 | -10.3 | |
| | LF-8 | | 0.13 | 0.09 | 0.06 | |
| | LF-9 | | 0.26 | 0.12 | 0.03 | |
| | LF-10 | | -24.9 | -4.34 | 8.05 | |
| | LF-12 | | 0.02 | -0.02 | -0.04 | |
| | LF-13 | | 0.03 | 0.04 | 0.06 | |
| | LF-16 | | -0.04 | -0.12 | -0.26 | |
| | LF-17 | | 24.05 | 14.62 | 7.77 | |

| | | Lastfall Lasten (3 Abschnitte je 0.33m) | | | | [kN/m] | |
|---|------------|---|-------|-------|-------|--------|-------|
| Qk.N_DA | LF-18 | 10.93 | 2.08 | -3.28 | | | |
| | #1 LF-5 | 1.01 | 0.41 | 0.05 | | | |
| | #1 LF-6 | 0.00 | 0.00 | 0.00 | | | |
| | #1 LF-7 | -3.96 | -4.31 | -5.30 | | | |
| | #1 LF-8 | -0.01 | -0.01 | -0.02 | | | |
| | #1 LF-10 | 0.00 | 0.00 | 0.01 | | | |
| | #1 LF-11 | -1.83 | -1.30 | -1.08 | | | |
| | #1 LF-12 | 0.39 | 0.13 | -0.03 | | | |
| | #1 LF-13 | 1.80 | 1.10 | 0.40 | | | |
| | #1 LF-14 | -0.08 | 0.01 | 0.08 | | | |
| | #1 LF-15 | 8.71 | 8.32 | 8.52 | | | |
| | #1 LF-16 | 0.00 | -0.01 | -0.02 | | | |
| | #1 LF-18 | 0.00 | 0.00 | 0.01 | | | |
| | #1 LF-19 | 1.08 | 0.29 | -0.20 | | | |
| | #1 LF-22 | -4.04 | -2.14 | -0.96 | | | |
| | #2 LF-17 | 0.00 | 0.00 | 0.01 | | | |
| | #2 LF-18 | 2.16 | 1.70 | 1.20 | | | |
| | #2 LF-21 | -0.05 | -0.04 | -0.03 | | | |
| | #2 LF-22 | -0.06 | -0.02 | 0.01 | | | |
| | #3 LF-8 | 2.86 | 3.06 | 3.15 | | | |
| | #2 LF-3 | 0.00 | 0.00 | -0.01 | | | |
| | #2 LF-5 | 0.43 | 0.10 | 0.01 | | | |
| | #2 LF-6 | -3.39 | -3.52 | -4.08 | | | |
| | #2 LF-7 | 0.02 | 0.02 | 0.03 | | | |
| | #2 LF-8 | -0.01 | -0.01 | -0.02 | | | |
| | #2 LF-10 | -0.01 | -0.06 | -0.14 | | | |
| | #2 LF-11 | 6.16 | 6.08 | 6.19 | | | |
| | #2 LF-13 | 0.00 | -0.01 | -0.01 | | | |
| | #2 LF-14 | 0.13 | -0.01 | -0.12 | | | |
| | #2 LF-15 | -0.04 | -0.02 | -0.01 | | | |
| | #3 LF-3 | 1.92 | 2.06 | 2.16 | | | |
| | #3 LF-4 | -2.09 | -2.67 | -3.25 | | | |
| | #3 LF-5 | 1.54 | 1.29 | 0.98 | | | |
| | #3 LF-6 | 0.00 | 0.02 | 0.03 | | | |
| | #3 LF-7 | 0.00 | 0.00 | 0.01 | | | |
| Qk.N_T2 | LF-21 | -0.09 | -0.11 | -0.16 | | | |
| | #1 LF-21 | 0.02 | 0.03 | 0.05 | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| | | Lastfall Lasten (6 Abschnitte je 0.92m) | | | | [kN/m] | |
| W-0.10 Gk | LF-1 (g) | 42.89 | 36.39 | 49.11 | 53.98 | 50.74 | 37.34 |
| | #1 LF-1 | 43.82 | 40.79 | 45.59 | 51.88 | 62.32 | 58.33 |
| | #2 LF-1 | 45.47 | 36.85 | 40.00 | 50.32 | 70.75 | 70.48 |
| | #3 LF-1 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ö← | LF-2 | 7.43 | 5.34 | 10.00 | 11.61 | 10.82 | 10.32 |
| | #1 LF-2 | 7.72 | 6.79 | 7.99 | 10.19 | 16.79 | 20.76 |
| | #2 LF-2 | 5.72 | 4.90 | 5.95 | 9.10 | 17.21 | 20.43 |
| Qk.N_E1 | LF-5 | 7.83 | 8.50 | 9.16 | 9.16 | 8.49 | 6.80 |
| | LF-6 | -0.07 | 0.41 | -0.02 | -0.15 | -0.12 | -0.09 |
| | LF-7 | 0.00 | -0.07 | -0.01 | 0.01 | 0.01 | 0.01 |
| | LF-11 | 0.01 | -0.01 | -0.02 | -0.03 | -0.02 | 0.00 |
| | LF-13 | -1.77 | -1.91 | -2.63 | -2.97 | -2.52 | -2.20 |
| | LF-14 | 0.78 | 11.98 | 17.30 | 18.80 | 15.69 | 4.40 |
| | LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | LF-16 | 6.02 | -5.09 | -2.58 | -0.91 | -0.34 |

| | | Lastfall Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
|---|------------|---|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | LF-17 | 0.53 | -2.00 | -0.60 | -0.05 | 0.03 | 0.02 | |
| | #1 LF-3 | -0.11 | -0.07 | -0.03 | -0.03 | -0.01 | 0.00 | |
| | #1 LF-7 | -0.41 | 0.12 | 0.02 | -0.13 | -0.14 | -0.09 | |
| | #1 LF-8 | -1.84 | -2.50 | -2.86 | -2.82 | -2.37 | -1.68 | |
| | #1 LF-9 | 0.34 | 1.62 | 4.06 | 6.37 | 7.05 | 5.09 | |
| | #1 LF-10 | 1.98 | 10.18 | 16.19 | 18.05 | 16.88 | 10.78 | |
| | #1 LF-11 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-15 | 6.02 | 0.45 | -1.13 | -0.60 | -0.14 | 0.02 | |
| | #1 LF-16 | 2.18 | -1.40 | -1.71 | -0.97 | -0.38 | 0.00 | |
| | #1 LF-17 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | |
| | #1 LF-18 | 0.16 | 0.09 | 0.03 | 0.02 | 0.02 | 0.02 | |
| | #2 LF-17 | 8.62 | 14.79 | 17.17 | 14.22 | 9.09 | 4.09 | |
| | #2 LF-3 | -0.01 | -0.17 | -0.14 | -0.06 | 0.09 | 0.19 | |
| | #2 LF-6 | -0.10 | 0.09 | -0.06 | -0.15 | -0.15 | -0.12 | |
| | #2 LF-7 | 0.13 | 0.16 | 0.13 | 0.12 | 0.12 | 0.09 | |
| | #2 LF-8 | -1.03 | -1.42 | -1.67 | -1.75 | -1.73 | -1.39 | |
| | #2 LF-9 | 2.09 | 2.77 | 3.55 | 4.49 | 4.96 | 3.64 | |
| | #2 LF-10 | 0.37 | -0.59 | -0.36 | -0.06 | 0.03 | 0.04 | |
| | #2 LF-11 | 3.24 | 0.02 | -0.83 | -0.43 | -0.08 | 0.03 | |
| | #2 LF-12 | 0.02 | 0.08 | 0.06 | 0.03 | 0.02 | 0.01 | |
| | #2 LF-13 | 1.33 | 0.07 | 1.77 | 5.33 | 9.51 | 9.35 | |
| Qk.N_T2 | #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-21 | 0.23 | 0.34 | 0.31 | 0.27 | 0.19 | 0.14 | |
| | #1 LF-21 | 0.23 | 0.25 | 0.25 | 0.25 | 0.19 | 0.11 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |
| W-0.11_1 | | Lastfall Lasten (3 Abschnitte je 0.08m) | | | | | | [kN/m] |
| Gk | LF-1 (g) | | | | 61.65 | 59.86 | 58.08 | |
| | #1 LF-1 | | | | 41.23 | 40.92 | 40.60 | |
| | #2 LF-1 | | | | 42.85 | 42.50 | 42.16 | |
| Ö← | LF-2 | | | | 12.97 | 12.40 | 11.84 | |
| | #1 LF-2 | | | | 8.02 | 7.98 | 7.95 | |
| | #2 LF-2 | | | | 5.61 | 5.58 | 5.55 | |
| Qk.N_E1 | LF-5 | | | | 8.04 | 8.03 | 8.02 | |
| | LF-6 | | | | -2.04 | -1.70 | -1.35 | |
| | LF-7 | | | | 0.18 | 0.15 | 0.12 | |
| | LF-13 | | | | -6.52 | -5.94 | -5.36 | |
| | LF-14 | | | | -2.99 | -2.93 | -2.88 | |
| | LF-16 | | | | 16.09 | 15.18 | 14.27 | |
| | LF-17 | | | | 2.66 | 2.40 | 2.14 | |
| | #1 LF-3 | | | | -0.07 | -0.07 | -0.07 | |
| | #1 LF-7 | | | | -2.77 | -2.69 | -2.60 | |
| | #1 LF-8 | | | | -1.93 | -1.82 | -1.71 | |
| | #1 LF-9 | | | | 0.03 | 0.04 | 0.05 | |
| | #1 LF-10 | | | | -1.45 | -1.46 | -1.47 | |
| | #1 LF-11 | | | | -0.06 | -0.06 | -0.05 | |
| | #1 LF-15 | | | | 9.62 | 9.50 | 9.37 | |
| | #1 LF-16 | | | | 0.48 | 0.47 | 0.46 | |
| | #1 LF-18 | | | | 0.10 | 0.10 | 0.10 | |
| | #1 LF-22 | | | | -0.01 | -0.01 | -0.01 | |
| | #2 LF-17 | | | | -0.30 | -0.29 | -0.29 | |
| | #2 LF-3 | | | | 0.03 | 0.03 | 0.03 | |
| | #2 LF-6 | | | | -1.90 | -1.85 | -1.81 | |
| | #2 LF-7 | | | | 4.04 | 3.97 | 3.90 | |
| | #2 LF-8 | | | | 0.25 | 0.31 | 0.37 | |
| Qk.N_DA | | | | | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.08m) | [kN/m] | | |
|---------|------------|--------------------------------|--------|------|--|
| Qk.N_T2 | #2 LF-9 | 2.58 | 2.59 | 2.59 | |
| | #2 LF-10 | 0.46 | 0.45 | 0.44 | |
| | #2 LF-11 | 5.71 | 5.64 | 5.57 | |
| | #2 LF-13 | 0.30 | 0.28 | 0.27 | |
| | LF-21 | 6.80 | 6.13 | 5.46 | |
| | #1 LF-21 | 5.53 | 5.39 | 5.25 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (5 Abschnitte je 0.87m) | [kN/m] | | |
|----------------|------------|--------------------------------|--------|-------|-------|
| W-0.11_2 Gk | LF-1 (g) | 42.61 | 43.83 | 54.71 | 51.10 |
| | #1 LF-1 | 46.91 | 53.78 | 53.05 | 47.43 |
| | #2 LF-1 | 41.76 | 46.82 | 46.77 | 44.48 |
| | #3 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ö← | LF-2 | 7.83 | 8.19 | 12.00 | 11.03 |
| | #1 LF-2 | 9.61 | 10.77 | 10.46 | 9.70 |
| | #2 LF-2 | 6.65 | 7.38 | 7.55 | 8.29 |
| Qk.N_E1 | LF-5 | 7.92 | 7.92 | 9.30 | 8.63 |
| | LF-6 | 1.65 | 0.77 | 0.65 | 0.29 |
| | LF-7 | -0.16 | -0.07 | -0.06 | -0.03 |
| | LF-11 | 0.01 | 0.01 | 0.01 | 0.01 |
| | LF-13 | 12.76 | 12.45 | 19.21 | 15.96 |
| | LF-14 | -2.00 | -2.45 | -3.28 | -2.69 |
| | LF-15 | 0.00 | 0.00 | 0.00 | 0.00 |
| | LF-16 | -0.90 | -0.32 | 0.09 | 0.17 |
| | LF-17 | -0.63 | -0.17 | -0.05 | 0.00 |
| | #1 LF-3 | 0.01 | 0.02 | 0.01 | 0.00 |
| | #1 LF-7 | 2.22 | 1.74 | 0.82 | 0.31 |
| | #1 LF-8 | 13.23 | 18.48 | 18.36 | 13.55 |
| | #1 LF-9 | 2.05 | 4.70 | 6.50 | 6.69 |
| | #1 LF-10 | -2.84 | -3.22 | -2.95 | -2.87 |
| | #1 LF-11 | 0.06 | 0.05 | 0.02 | 0.01 |
| | #1 LF-15 | 0.66 | -0.49 | -0.37 | -0.10 |
| | #1 LF-16 | 0.14 | 0.16 | 0.16 | 0.16 |
| | #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-18 | -0.01 | -0.02 | -0.01 | -0.01 |
| | #1 LF-22 | 0.02 | 0.01 | 0.01 | 0.00 |
| Qk.N_DA | #2 LF-17 | -0.84 | -1.30 | -1.46 | -1.71 |
| | #2 LF-3 | 0.00 | 0.00 | 0.01 | -0.01 |
| | #2 LF-6 | 1.14 | 1.33 | 0.88 | 0.43 |
| | #2 LF-7 | -0.44 | -1.04 | -0.79 | -0.39 |
| | #2 LF-8 | 8.97 | 12.35 | 12.61 | 9.67 |
| | #2 LF-9 | 5.14 | 5.90 | 5.71 | 5.15 |
| | #2 LF-10 | -0.21 | -0.15 | -0.05 | 0.00 |
| | #2 LF-11 | 0.67 | -0.22 | -0.24 | -0.07 |
| | #2 LF-12 | 0.00 | 0.00 | -0.01 | -0.01 |
| | #2 LF-13 | -0.69 | -0.91 | -0.92 | -0.95 |
| Qk.N_T2 | LF-21 | -2.66 | -1.37 | -1.17 | -0.54 |
| | #1 LF-21 | -2.40 | -2.17 | -1.13 | -0.45 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (3 Abschnitte je 0.92m) | [kN/m] | | |
|--------------|-----------|--------------------------------|--------|-------|--|
| W-0.12 Gk | LF-1 (g) | 31.70 | 41.66 | 28.08 | |
| | #1 LF-1 | 26.70 | 30.68 | 27.59 | |
| | #2 LF-1 | 24.31 | 29.37 | 26.79 | |
| | #3 LF-1 | 13.89 | 9.44 | 15.81 | |

| | Lastfall | Lasten (3 Abschnitte je 0.92m) | | [kN/m] |
|---------|---|--------------------------------|-------|--------|
| Ö← | LF-2 | 3.65 | 7.16 | 2.31 |
| | #1 LF-2 | 2.78 | 3.39 | 2.02 |
| | #2 LF-2 | 1.77 | 2.35 | 1.31 |
| | #3 LF-2 | 0.52 | -1.57 | -0.01 |
| Qk.N_E1 | LF-3 | 0.01 | 1.14 | 0.09 |
| | LF-4 | 3.76 | 7.40 | 3.84 |
| | LF-6 | -0.01 | 0.08 | 0.26 |
| | LF-7 | 0.04 | 0.03 | 0.00 |
| | LF-9 | 0.00 | -0.02 | 0.00 |
| | LF-10 | 1.62 | 9.78 | 1.03 |
| | LF-11 | 0.00 | 0.00 | 0.00 |
| | LF-12 | 0.00 | -0.01 | 0.00 |
| | LF-13 | 0.00 | 0.00 | 0.00 |
| | LF-15 | 0.00 | 0.00 | 0.00 |
| | LF-16 | 0.00 | -0.01 | -0.02 |
| | LF-17 | -0.06 | -0.42 | -0.61 |
| | LF-18 | 0.96 | -3.55 | -0.38 |
| | LF-23 | 0.00 | 0.00 | 0.00 |
| | #1 LF-4 | 0.01 | 0.01 | 0.00 |
| | #1 LF-5 | 1.08 | 0.71 | 0.23 |
| | #1 LF-6 | 0.02 | 0.01 | 0.01 |
| | #1 LF-7 | 0.03 | 0.04 | -0.02 |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 |
| | #1 LF-11 | 0.00 | 0.01 | -0.01 |
| | #1 LF-12 | 0.11 | 0.07 | 0.02 |
| | #1 LF-13 | 0.97 | -0.09 | -0.11 |
| | #1 LF-14 | 2.58 | 5.10 | 3.27 |
| | #1 LF-15 | -0.10 | 0.02 | 0.01 |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 |
| | #1 LF-19 | 0.44 | 0.23 | 0.10 |
| | #1 LF-22 | -0.06 | 0.01 | -0.02 |
| | #2 LF-18 | 1.12 | 0.11 | -0.10 |
| | #2 LF-21 | 0.37 | -0.10 | -0.14 |
| | #2 LF-22 | 2.72 | 4.67 | 2.98 |
| | #2 LF-23 | 0.00 | -0.01 | 0.00 |
| | #3 LF-8 | 3.32 | 4.96 | 3.74 |
| Qk.N_DA | #2 LF-5 | 0.94 | 1.34 | 0.54 |
| | #2 LF-6 | -0.16 | 0.00 | -0.10 |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 |
| | #2 LF-10 | 0.00 | 0.00 | 0.00 |
| | #2 LF-11 | -0.30 | 0.02 | 0.06 |
| | #2 LF-13 | 0.00 | 0.00 | 0.00 |
| | #2 LF-14 | 0.01 | -0.09 | -0.03 |
| | #2 LF-15 | -0.11 | -0.17 | -0.07 |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 |
| | #3 LF-3 | 1.81 | 2.46 | 1.75 |
| | #3 LF-4 | -4.09 | -9.48 | -4.03 |
| | #3 LF-5 | 2.84 | 2.90 | 1.73 |
| | #3 LF-6 | 0.42 | 0.69 | 0.41 |
| | #3 LF-7 | 0.06 | 0.27 | 0.12 |
| Qk.N_T2 | LF-20 | 0.00 | 0.00 | 0.00 |
| | LF-21 | 0.00 | 0.00 | -0.01 |
| | #1 LF-21 | 0.00 | 0.00 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |

W-0.13

Gk

Lastfall Lasten (3 Abschnitte je 0.26m) [kN/m]

| | | | |
|-----------|-------|-------|-------|
| LF-1 (g) | 40.44 | 54.97 | 69.50 |
| #1 LF-1 | 18.46 | 19.87 | 21.29 |
| #2 LF-1 | 17.36 | 18.71 | 20.06 |
| #3 LF-1 | 23.85 | 25.82 | 27.79 |

Ö←

| | | | |
|-----------|-------|-------|-------|
| LF-2 | 7.55 | 11.23 | 14.91 |
| #1 LF-2 | -0.87 | -0.45 | -0.03 |
| #2 LF-2 | -0.65 | -0.33 | -0.01 |
| #3 LF-2 | 1.42 | 1.95 | 2.48 |

Qk.N_E1

| | | | |
|------------|-------|-------|-------|
| LF-3 | 0.84 | 0.64 | 0.44 |
| LF-4 | 0.04 | 0.03 | 0.02 |
| LF-6 | 2.62 | -1.96 | -6.54 |
| LF-7 | -6.06 | -4.99 | -3.92 |
| LF-8 | 0.03 | 0.02 | 0.02 |
| LF-9 | 0.01 | 0.01 | 0.01 |
| LF-10 | 2.88 | 2.18 | 1.48 |
| LF-12 | -0.02 | -0.01 | -0.01 |
| LF-13 | 0.03 | -0.03 | -0.10 |
| LF-14 | 0.03 | 0.04 | 0.04 |
| LF-16 | -0.67 | -0.37 | -0.06 |
| LF-17 | 13.13 | 22.45 | 31.77 |
| LF-18 | -1.16 | -0.87 | -0.59 |
| #1 LF-3 | -0.01 | -0.01 | 0.00 |
| #1 LF-5 | 0.00 | 0.01 | 0.01 |
| #1 LF-7 | -7.32 | -6.24 | -5.16 |
| #1 LF-8 | -0.02 | -0.01 | 0.00 |
| #1 LF-10 | 0.03 | 0.01 | 0.00 |
| #1 LF-11 | -1.80 | -1.60 | -1.41 |
| #1 LF-12 | -0.01 | 0.00 | 0.01 |
| #1 LF-13 | -0.13 | -0.10 | -0.08 |
| #1 LF-14 | 0.05 | 0.04 | 0.04 |
| #1 LF-15 | 6.52 | 6.08 | 5.63 |
| #1 LF-16 | -0.06 | -0.03 | 0.00 |
| #1 LF-18 | 0.01 | 0.01 | 0.00 |
| #1 LF-19 | -0.09 | -0.06 | -0.04 |
| #1 LF-22 | -0.79 | -0.74 | -0.68 |
| #2 LF-17 | 0.02 | 0.01 | 0.00 |
| #2 LF-18 | -0.05 | -0.06 | -0.07 |
| #2 LF-22 | 0.02 | 0.02 | 0.02 |
| #3 LF-8 | 2.62 | 2.56 | 2.50 |

Qk.N_DA

| | | | |
|------------|-------|-------|-------|
| #2 LF-3 | -0.03 | -0.02 | -0.01 |
| #2 LF-5 | 0.05 | 0.04 | 0.03 |
| #2 LF-6 | -5.56 | -4.70 | -3.84 |
| #2 LF-7 | 0.03 | 0.02 | 0.00 |
| #2 LF-8 | -0.02 | -0.01 | 0.00 |
| #2 LF-10 | -0.94 | -0.93 | -0.91 |
| #2 LF-11 | 4.60 | 4.37 | 4.13 |
| #2 LF-12 | 0.01 | 0.00 | 0.00 |
| #2 LF-13 | -0.04 | -0.02 | 0.00 |
| #2 LF-14 | -0.04 | -0.03 | -0.02 |
| #3 LF-3 | 2.04 | 1.99 | 1.95 |
| #3 LF-4 | 0.79 | 1.92 | 3.05 |
| #3 LF-5 | -0.08 | -0.10 | -0.12 |
| #3 LF-6 | 0.01 | 0.01 | 0.00 |
| #3 LF-7 | 0.07 | 0.08 | 0.08 |

Qk.N_T2

| | | | |
|-------|-------|------|------|
| LF-21 | -0.10 | 0.08 | 0.26 |
|-------|-------|------|------|

D-652

W-0.14

Gk

Ö←

Qk.N_E1

Qk.N_DA

Qk.N_T2

Lastfall Lasten (3 Abschnitte je 0.26m) [kN/m]

| | | | | |
|----|-------|------|------|------|
| #1 | LF-21 | 0.06 | 0.03 | 0.00 |
|----|-------|------|------|------|

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

Lastfall Lasten (3 Abschnitte je 0.92m) [kN/m]

| | | | |
|----------|-------|-------|-------|
| LF-1 (g) | 42.56 | 56.38 | 37.72 |
|----------|-------|-------|-------|

| | | | | |
|----|------|-------|-------|-------|
| #1 | LF-1 | 31.87 | 39.55 | 31.88 |
|----|------|-------|-------|-------|

| | | | | |
|----|------|-------|-------|-------|
| #2 | LF-1 | 14.46 | 12.39 | 14.18 |
|----|------|-------|-------|-------|

| | | | | |
|----|------|------|------|-------|
| #3 | LF-1 | 8.35 | 9.59 | 22.21 |
|----|------|------|------|-------|

| | | | |
|------|------|-------|------|
| LF-2 | 7.98 | 13.28 | 6.33 |
|------|------|-------|------|

| | | | | |
|----|------|------|------|------|
| #1 | LF-2 | 3.90 | 6.80 | 4.35 |
|----|------|------|------|------|

| | | | | |
|----|------|------|------|------|
| #2 | LF-2 | 0.82 | 1.39 | 1.24 |
|----|------|------|------|------|

| | | | | |
|----|------|------|------|------|
| #3 | LF-2 | 0.39 | 0.82 | 3.20 |
|----|------|------|------|------|

| | | | |
|------|------|------|------|
| LF-3 | 0.09 | 0.17 | 0.04 |
|------|------|------|------|

| | | | |
|------|------|-------|------|
| LF-4 | 6.47 | 11.96 | 6.96 |
|------|------|-------|------|

| | | | |
|------|------|------|------|
| LF-7 | 0.00 | 0.00 | 0.00 |
|------|------|------|------|

| | | | |
|------|------|------|------|
| LF-9 | 0.00 | 0.00 | 0.00 |
|------|------|------|------|

| | | | |
|-------|------|-------|------|
| LF-10 | 6.03 | 13.75 | 3.35 |
|-------|------|-------|------|

| | | | |
|-------|------|-------|-------|
| LF-11 | 0.00 | -0.79 | -1.20 |
|-------|------|-------|-------|

| | | | |
|-------|------|------|------|
| LF-12 | 0.00 | 0.00 | 0.00 |
|-------|------|------|------|

| | | | |
|-------|------|------|------|
| LF-15 | 2.90 | 5.31 | 4.22 |
|-------|------|------|------|

| | | | |
|-------|------|-------|------|
| LF-17 | 0.00 | -0.01 | 0.00 |
|-------|------|-------|------|

| | | | |
|-------|------|-------|-------|
| LF-18 | 0.17 | -3.45 | -0.97 |
|-------|------|-------|-------|

| | | | |
|-------|-------|-------|------|
| LF-19 | -0.03 | -0.04 | 0.24 |
|-------|-------|-------|------|

| | | | |
|-------|-------|-------|-------|
| LF-23 | -0.21 | -0.85 | -0.92 |
|-------|-------|-------|-------|

| | | | | |
|----|------|------|------|------|
| #1 | LF-3 | 0.52 | 0.92 | 1.50 |
|----|------|------|------|------|

| | | | | |
|----|------|------|------|------|
| #1 | LF-4 | 0.52 | 0.72 | 0.40 |
|----|------|------|------|------|

| | | | | |
|----|------|------|------|------|
| #1 | LF-5 | 0.25 | 2.25 | 1.13 |
|----|------|------|------|------|

| | | | | |
|----|------|------|-------|-------|
| #1 | LF-6 | 1.28 | -0.62 | -0.48 |
|----|------|------|-------|-------|

| | | | | |
|----|-------|------|------|------|
| #1 | LF-11 | 0.00 | 0.00 | 0.00 |
|----|-------|------|------|------|

| | | | | |
|----|-------|------|------|------|
| #1 | LF-12 | 0.00 | 0.03 | 0.02 |
|----|-------|------|------|------|

| | | | | |
|----|-------|------|------|------|
| #1 | LF-14 | 5.97 | 8.97 | 5.74 |
|----|-------|------|------|------|

| | | | | |
|----|-------|------|------|------|
| #1 | LF-17 | 0.22 | 0.36 | 0.62 |
|----|-------|------|------|------|

| | | | | |
|----|-------|-------|------|-------|
| #1 | LF-18 | -0.67 | 0.01 | -0.61 |
|----|-------|-------|------|-------|

| | | | | |
|----|-------|-------|------|------|
| #1 | LF-19 | -0.03 | 0.87 | 0.45 |
|----|-------|-------|------|------|

| | | | | |
|----|-------|------|-------|-------|
| #1 | LF-22 | 0.00 | -0.01 | -0.01 |
|----|-------|------|-------|-------|

| | | | | |
|----|-------|------|------|------|
| #2 | LF-19 | 1.77 | 0.65 | 0.10 |
|----|-------|------|------|------|

| | | | | |
|----|-------|------|------|------|
| #2 | LF-20 | 0.12 | 0.11 | 0.02 |
|----|-------|------|------|------|

| | | | | |
|----|-------|-------|-------|------|
| #2 | LF-21 | -0.01 | -0.01 | 0.00 |
|----|-------|-------|-------|------|

| | | | | |
|----|-------|------|------|------|
| #2 | LF-22 | 3.59 | 3.04 | 2.62 |
|----|-------|------|------|------|

| | | | | |
|----|-------|------|------|-------|
| #2 | LF-23 | 1.72 | 0.43 | -0.06 |
|----|-------|------|------|-------|

| | | | | |
|----|------|------|------|------|
| #3 | LF-8 | 0.00 | 0.01 | 0.04 |
|----|------|------|------|------|

| | | | | |
|----|------|-------|-------|-------|
| #2 | LF-3 | -0.10 | -0.70 | -0.30 |
|----|------|-------|-------|-------|

| | | | | |
|----|------|-------|------|------|
| #2 | LF-4 | -0.05 | 0.01 | 0.01 |
|----|------|-------|------|------|

| | | | | |
|----|------|-------|-------|------|
| #2 | LF-5 | -2.94 | -0.13 | 0.44 |
|----|------|-------|-------|------|

| | | | | |
|----|------|------|------|-------|
| #2 | LF-6 | 0.02 | 0.00 | -0.01 |
|----|------|------|------|-------|

| | | | | |
|----|-------|------|-------|-------|
| #2 | LF-10 | 0.01 | -0.07 | -0.23 |
|----|-------|------|-------|-------|

| | | | | |
|----|-------|------|------|------|
| #2 | LF-12 | 0.89 | 1.38 | 0.83 |
|----|-------|------|------|------|

| | | | | |
|----|-------|------|-------|------|
| #2 | LF-15 | 0.00 | -0.01 | 0.00 |
|----|-------|------|-------|------|

| | | | | |
|----|-------|------|-------|-------|
| #2 | LF-16 | 0.31 | -0.02 | -0.07 |
|----|-------|------|-------|-------|

| | | | | |
|----|------|------|------|------|
| #3 | LF-3 | 0.00 | 0.00 | 0.01 |
|----|------|------|------|------|

| | | | | |
|----|------|-------|-------|------|
| #3 | LF-4 | -1.36 | -0.09 | 4.83 |
|----|------|-------|-------|------|

| | | | | |
|----|------|------|------|------|
| #3 | LF-5 | 0.00 | 0.00 | 0.00 |
|----|------|------|------|------|

| | | | | |
|----|------|-------|-------|-------|
| #3 | LF-6 | -0.03 | -0.01 | -0.02 |
|----|------|-------|-------|-------|

| | | | | |
|----|------|------|------|------|
| #3 | LF-7 | 2.17 | 1.73 | 1.59 |
|----|------|------|------|------|

| | | | |
|-------|-------|------|------|
| LF-20 | -0.10 | 0.00 | 0.09 |
|-------|-------|------|------|

D-653

Schulcampus EWK \

EG-LP4

| | | Lastfall Lasten (3 Abschnitte je 0.92m) | | | | | | [kN/m] |
|---------|--|---|-------------------|-------|-------|-------|-------|--------|
| | | #1 LF-20 | -0.16 -0.17 -0.16 | | | | | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| W-0.15 | | Lastfall Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
| Gk | | LF-1 (g) | 168.3 | 33.30 | 97.60 | 86.11 | 66.76 | 31.52 |
| | | #1 LF-1 | 142.3 | 71.20 | 81.90 | 82.98 | 62.58 | 30.84 |
| | | #2 LF-1 | 122.5 | 80.83 | 75.51 | 73.30 | 58.06 | 36.00 |
| Ö← | | LF-2 | 51.60 | 3.65 | 26.51 | 22.31 | 15.93 | 8.42 |
| | | #1 LF-2 | 44.83 | 18.49 | 22.41 | 22.75 | 16.40 | 8.52 |
| | | #2 LF-2 | 30.39 | 18.69 | 17.22 | 16.52 | 12.72 | 8.61 |
| Qk.N_E1 | | LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | LF-10 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | LF-11 | 98.91 | 5.30 | 40.11 | 28.94 | 17.22 | -3.37 |
| | | LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | LF-14 | -5.61 | 6.58 | 15.35 | 17.55 | 14.68 | 7.67 |
| | | LF-15 | 7.86 | -3.41 | -1.27 | -0.57 | -0.19 | -0.07 |
| | | LF-16 | 0.17 | -0.27 | -0.49 | -0.38 | -0.21 | 0.04 |
| | | LF-19 | -0.04 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | LF-23 | 0.44 | -0.05 | 0.02 | 0.00 | -0.01 | -0.02 |
| | | #1 LF-3 | 50.61 | 18.86 | 18.00 | 15.39 | 6.77 | -4.04 |
| | | #1 LF-4 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-7 | -0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | #1 LF-10 | -2.54 | 6.13 | 14.20 | 16.59 | 13.53 | 6.42 |
| | | #1 LF-15 | 0.02 | -0.03 | -0.02 | -0.01 | 0.00 | 0.00 |
| | | #1 LF-16 | 0.08 | -0.25 | -0.46 | -0.41 | -0.21 | 0.04 |
| | | #1 LF-17 | 28.95 | 11.72 | 13.06 | 12.94 | 8.82 | 2.40 |
| | | #1 LF-18 | 5.67 | -1.26 | -1.60 | -0.85 | -0.31 | -0.02 |
| Qk.N_DA | | #2 LF-17 | 2.69 | 8.62 | 13.53 | 12.37 | 7.01 | 1.11 |
| | | #2 LF-3 | 56.62 | 32.80 | 24.84 | 20.73 | 11.84 | -0.15 |
| | | #2 LF-4 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | #2 LF-5 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | #2 LF-6 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 |
| | | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| | | #2 LF-10 | -0.50 | -0.68 | -0.42 | -0.20 | -0.06 | 0.02 |
| | | #2 LF-11 | 0.00 | 0.02 | 0.02 | 0.02 | 0.01 | 0.00 |
| | | #2 LF-12 | 1.18 | -0.30 | -0.43 | -0.25 | -0.09 | 0.00 |
| Qk.N_T2 | | #2 LF-13 | 1.79 | 0.16 | 2.08 | 4.68 | 5.59 | 4.08 |
| | | LF-20 | -0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | LF-22 | -0.01 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-20 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| W-0.16 | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
| Gk | | LF-1 (g) | 7.39 | 43.11 | 47.20 | 49.05 | 49.21 | 47.64 |
| | | | 41.97 | 11.58 | | | | |
| | | #1 LF-1 | -0.36 | 35.63 | 48.00 | 49.47 | 49.52 | 48.19 |
| | | | 37.93 | 13.55 | | | | |
| | | #2 LF-1 | 21.79 | 40.55 | 49.43 | 51.01 | 50.40 | 47.80 |
| | | | 33.78 | 21.11 | | | | |
| | | #3 LF-1 | 0.04 | 0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.01 | | | | |
| Ö← | | LF-2 | 8.56 | 16.25 | 17.91 | 18.66 | 18.74 | 18.19 |
| | | | | | | | | 17.23 |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|-------|--------|
| Qk.N_E1 | #1 LF-2 | 16.25 | 3.79 | | | | | | |
| | | 3.52 | 14.25 | 18.19 | 18.81 | 18.87 | 18.42 | 17.65 | |
| | #2 LF-2 | 14.58 | 3.77 | | | | | | |
| | | 10.32 | 16.05 | 18.77 | 19.27 | 19.09 | 18.29 | 16.74 | |
| | LF-3 | 13.35 | 6.88 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-10 | 0.00 | 0.00 | | | | | | |
| | | -14.81 | 14.92 | 17.70 | 18.96 | 19.09 | 17.99 | 16.00 | |
| | LF-11 | 13.98 | -8.08 | | | | | | |
| | | -0.19 | 0.04 | 0.05 | 0.08 | 0.11 | 0.14 | 0.16 | |
| | LF-15 | 0.17 | -0.13 | | | | | | |
| | | 0.01 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | |
| | LF-18 | -0.01 | 0.01 | | | | | | |
| | | 0.04 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | |
| | LF-23 | 0.00 | 0.01 | | | | | | |
| | | -0.14 | 0.03 | 0.04 | 0.05 | 0.08 | 0.10 | 0.12 | |
| | #1 LF-3 | 0.12 | -0.10 | | | | | | |
| | | -0.16 | 0.00 | 0.05 | 0.06 | 0.09 | 0.11 | 0.14 | |
| | #1 LF-4 | 0.10 | -0.10 | | | | | | |
| | | -14.03 | 9.27 | 17.37 | 18.43 | 18.57 | 17.79 | 16.32 | |
| | #1 LF-5 | 10.92 | -5.67 | | | | | | |
| | | -4.29 | -0.24 | 0.78 | 0.71 | 0.62 | 0.49 | 0.36 | |
| | #1 LF-6 | 0.10 | -0.86 | | | | | | |
| | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-12 | 0.00 | 0.00 | | | | | | |
| | | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-14 | 0.00 | 0.00 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-17 | 0.00 | 0.00 | | | | | | |
| | | -0.04 | 0.00 | 0.01 | 0.02 | 0.02 | 0.03 | 0.04 | |
| | #1 LF-18 | 0.03 | -0.03 | | | | | | |
| | | 0.03 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-19 | -0.01 | 0.01 | | | | | | |
| | | -0.53 | -0.01 | 0.12 | 0.12 | 0.11 | 0.09 | 0.07 | |
| | #1 LF-22 | 0.02 | -0.16 | | | | | | |
| | | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | #2 LF-22 | 0.00 | 0.00 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-23 | 0.00 | 0.00 | | | | | | |
| | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-3 | 0.00 | 0.00 | | | | | | |
| | | -0.23 | -0.01 | 0.11 | 0.17 | 0.28 | 0.52 | 1.13 | |
| | #2 LF-4 | 1.66 | -0.12 | | | | | | |
| | | 0.19 | 0.01 | -0.09 | -0.15 | -0.25 | -0.50 | -1.22 | |
| | #2 LF-5 | -1.64 | 1.61 | | | | | | |
| | | -7.75 | 6.84 | 13.66 | 14.67 | 14.19 | 12.51 | 9.39 | |
| | #2 LF-6 | 3.67 | -4.89 | | | | | | |
| | | -0.12 | -0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-10 | 0.00 | 0.00 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | #2 LF-12 | -0.01 | 0.00 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.02 | |
| | #2 LF-16 | -0.03 | 0.00 | | | | | | |
| | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---|------------|---|-------|-------|-------|-------|-------|-------|-------------------|
| Qk.N_T2 | #3 LF-7 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | | |
| | LF-20 | 0.40 | -0.08 | -0.11 | -0.16 | -0.23 | -0.30 | -0.35 | |
| | | -0.37 | 0.28 | | | | | | |
| | #1 LF-20 | 0.28 | 0.01 | -0.09 | -0.12 | -0.16 | -0.21 | -0.27 | |
| | | -0.21 | 0.32 | | | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.62m) | | | | | | | [kN/m] |
| W-0.17_1 | Gk | LF-1 (g) | | | | | | | -35.3 14.21 41.10 |
| | | #1 LF-1 | 8.59 | 6.76 | 12.06 | | | | |
| | | #2 LF-1 | 11.88 | 11.94 | 13.75 | | | | |
| | | #3 LF-1 | 0.35 | 0.55 | 0.59 | | | | |
| Ö← | | LF-2 | | | | | | | -20.1 -2.00 7.69 |
| | | #1 LF-2 | -0.05 | -2.53 | -0.89 | | | | |
| | | #2 LF-2 | 0.73 | -1.21 | -1.12 | | | | |
| | | #3 LF-2 | -0.02 | -0.07 | -0.09 | | | | |
| Qk.N_E1 | | LF-3 | | | | | | | -0.11 -0.03 0.00 |
| | | LF-4 | | | | | | | -0.28 -0.16 -0.11 |
| | | LF-10 | | | | | | | -64.1 -14.5 5.83 |
| | | LF-11 | | | | | | | -12.0 -6.94 -3.24 |
| | | LF-12 | | | | | | | 0.00 0.00 0.00 |
| | | LF-14 | | | | | | | 0.00 0.00 0.00 |
| | | LF-15 | | | | | | | 9.32 9.55 9.61 |
| | | LF-17 | | | | | | | 0.00 0.00 0.00 |
| | | LF-18 | | | | | | | 14.53 4.78 0.35 |
| | | LF-19 | | | | | | | 0.06 0.04 0.03 |
| | | LF-23 | | | | | | | -9.98 -3.09 4.81 |
| | | #1 LF-3 | -3.09 | -5.34 | -4.86 | | | | |
| | | #1 LF-4 | -2.53 | -6.19 | -4.81 | | | | |
| | | #1 LF-5 | -1.32 | -3.84 | -3.24 | | | | |
| | | #1 LF-6 | -0.11 | -0.17 | -0.17 | | | | |
| | | #1 LF-12 | -0.01 | -0.01 | 0.00 | | | | |
| | | #1 LF-14 | -0.02 | -0.01 | -0.01 | | | | |
| | | #1 LF-16 | 0.00 | 0.00 | 0.00 | | | | |
| | | #1 LF-17 | -0.05 | -0.12 | 0.51 | | | | |
| | | #1 LF-18 | 3.67 | 7.47 | 8.55 | | | | |
| | | #1 LF-19 | -0.10 | -1.37 | -1.30 | | | | |
| | | #1 LF-22 | 0.00 | 0.00 | 0.00 | | | | |
| | | #2 LF-17 | 0.00 | 0.00 | 0.00 | | | | |
| | | #2 LF-19 | -0.02 | -0.07 | -0.08 | | | | |
| | | #2 LF-20 | 0.33 | 0.64 | 0.73 | | | | |
| | | #2 LF-21 | 0.00 | 0.00 | 0.00 | | | | |
| | | #2 LF-22 | -0.05 | -0.13 | -0.17 | | | | |
| | | #2 LF-23 | -0.03 | -0.07 | -0.09 | | | | |
| Qk.N_DA | | #2 LF-3 | -1.38 | -2.33 | -1.88 | | | | |
| | | #2 LF-4 | 1.92 | 2.56 | 2.17 | | | | |
| | | #2 LF-5 | -1.54 | -7.51 | -8.28 | | | | |
| | | #2 LF-6 | 0.00 | 0.00 | 0.00 | | | | |
| | | #2 LF-10 | 0.04 | 0.03 | -0.04 | | | | |
| | | #2 LF-12 | 2.67 | 5.23 | 6.22 | | | | |
| | | #2 LF-13 | 0.00 | 0.01 | 0.01 | | | | |
| | | #2 LF-16 | -0.05 | -0.06 | -0.06 | | | | |
| | | #3 LF-4 | -0.12 | -0.30 | -0.40 | | | | |
| | | #3 LF-6 | 0.00 | 0.00 | 0.00 | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| | | Lastfall Lasten (3 Abschnitte je 0.62m) | | | | | | | [kN/m] |
|----------------|---|---|-------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #3 LF-7 | | | | | 0.08 | 0.17 | 0.21 | |
| | LF-20 | | | | | 16.00 | 2.97 | -3.08 | |
| | #1 LF-20 | | | | | 2.87 | 3.45 | 2.09 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |
| | | Lastfall Lasten (7 Abschnitte je 0.95m) | | | | | | | [kN/m] |
| W-0.17_2 Gk | LF-1 (g) | 66.48 | 73.21 | 78.64 | 89.78 | 96.35 | 29.71 | 265.8 | |
| | #1 LF-1 | 54.65 | 74.50 | 82.65 | 84.32 | 79.75 | 89.39 | 224.1 | |
| | #2 LF-1 | 46.00 | 63.79 | 74.36 | 82.45 | 84.74 | 107.0 | 197.5 | |
| | #3 LF-1 | 0.02 | -0.12 | -0.13 | -0.07 | -0.02 | 0.01 | 0.00 | |
| Ö← | LF-2 | 16.55 | 19.00 | 20.99 | 25.05 | 27.38 | 3.28 | 87.93 | |
| | #1 LF-2 | 14.93 | 20.95 | 23.63 | 24.08 | 22.24 | 25.41 | 74.95 | |
| | #2 LF-2 | 9.51 | 13.82 | 16.60 | 18.61 | 18.84 | 24.65 | 50.10 | |
| | #3 LF-2 | -0.04 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Qk.N_E1 | LF-4 | -0.06 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-10 | 2.62 | 1.13 | 0.57 | 0.38 | 0.20 | -0.11 | 0.21 | |
| | LF-11 | 10.35 | 18.92 | 25.94 | 34.85 | 40.91 | -1.25 | 126.8 | |
| | LF-14 | 0.00 | 0.01 | 0.01 | 0.03 | 0.08 | 0.23 | -1.66 | |
| | LF-15 | 8.39 | 8.67 | 9.00 | 9.47 | 9.37 | 6.67 | 39.78 | |
| | LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.02 | |
| | LF-18 | -0.22 | -0.06 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-19 | 0.15 | 0.27 | 0.35 | 0.40 | 0.40 | 0.22 | 0.46 | |
| | LF-23 | 14.26 | 9.82 | 5.64 | 3.87 | 2.30 | -0.75 | 2.25 | |
| | #1 LF-3 | 10.61 | 16.81 | 20.69 | 21.73 | 19.57 | 20.59 | 69.86 | |
| | #1 LF-4 | 1.35 | 1.07 | 0.52 | 0.23 | 0.10 | 0.02 | 0.09 | |
| | #1 LF-5 | 0.50 | 0.37 | 0.15 | 0.06 | 0.02 | 0.00 | 0.02 | |
| | #1 LF-6 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.06 | |
| | #1 LF-10 | 0.02 | 0.04 | 0.04 | 0.06 | 0.08 | -0.20 | -1.55 | |
| | #1 LF-14 | -0.04 | -0.04 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-15 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | 0.03 | 0.16 | |
| | #1 LF-16 | -0.01 | -0.02 | -0.02 | -0.01 | -0.01 | 0.02 | 0.09 | |
| | #1 LF-17 | 10.13 | 13.50 | 14.35 | 14.21 | 12.96 | 14.55 | 43.48 | |
| | #1 LF-18 | 5.38 | 7.01 | 7.61 | 7.66 | 7.63 | 10.74 | 24.10 | |
| | #1 LF-19 | 0.14 | 0.11 | 0.05 | 0.02 | 0.01 | 0.00 | 0.01 | |
| | #2 LF-17 | 0.03 | 0.05 | 0.06 | 0.08 | 0.06 | -0.27 | -1.37 | |
| | #2 LF-19 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-20 | -0.04 | -0.06 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-22 | -0.10 | -0.07 | -0.02 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #2 LF-23 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | #2 LF-3 | 15.68 | 23.24 | 27.80 | 30.48 | 29.82 | 38.13 | 79.17 | |
| | #2 LF-4 | -0.94 | -0.91 | -0.59 | -0.37 | -0.19 | -0.06 | -0.10 | |
| | #2 LF-5 | 1.50 | 1.59 | 0.99 | 0.57 | 0.27 | 0.09 | 0.13 | |
| | #2 LF-6 | -0.01 | 0.00 | 0.01 | 0.02 | 0.04 | 0.07 | 0.13 | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-10 | -1.17 | -1.33 | -0.77 | -0.01 | 0.42 | 1.02 | 3.36 | |
| | #2 LF-11 | -0.01 | -0.01 | -0.02 | -0.03 | -0.04 | -0.06 | -0.12 | |
| | #2 LF-12 | 4.08 | 5.11 | 5.71 | 6.38 | 7.08 | 9.34 | 14.88 | |
| | #2 LF-13 | -0.05 | -0.09 | -0.11 | -0.11 | 0.00 | 0.87 | 3.26 | |
| | #2 LF-16 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-4 | -0.09 | -0.04 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | |
| | #3 LF-7 | 0.01 | -0.02 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | |
| Qk.N_T2 | LF-20 | -1.70 | -0.91 | -0.50 | -0.34 | -0.18 | 0.09 | -0.18 | |
| | LF-22 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.35 | |

| Lastfall | Lasten (7 Abschnitte je 0.95m) | [kN/m] |
|---|---|--------|
| #1 LF-20 | -1.39 -1.17 -0.66 -0.33 -0.15 -0.03 -0.13 | |
| #1 LF-21 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | |

W-0.18

Gk

| Lastfall | Lasten (3 Abschnitte je 0.14m) | [kN/m] |
|-----------|--------------------------------|--------|
| LF-1 (g) | -21.0 -13.1 -5.23 | |
| #1 LF-1 | -9.62 -8.12 -6.62 | |
| #2 LF-1 | 27.47 27.68 27.89 | |
| #3 LF-1 | 0.01 0.01 0.01 | |

Ö←

| | | |
|-----------|-------------------|--|
| LF-2 | -7.88 -4.51 -1.13 | |
| #1 LF-2 | -10.0 -9.22 -8.41 | |
| #2 LF-2 | 7.24 7.46 7.69 | |

Qk.N_E1

| | | |
|------------|-------------------|--|
| LF-10 | -0.72 -0.47 -0.22 | |
| LF-11 | -34.4 -33.1 -31.7 | |
| LF-15 | 0.61 0.52 0.44 | |
| LF-19 | 0.04 0.03 0.03 | |
| LF-23 | 1.10 6.07 11.03 | |
| #1 LF-3 | -21.9 -21.0 -20.1 | |
| #1 LF-4 | -0.27 -0.25 -0.23 | |
| #1 LF-5 | -0.07 -0.07 -0.06 | |
| #1 LF-10 | -0.01 -0.01 -0.01 | |
| #1 LF-17 | -2.97 -2.90 -2.83 | |
| #1 LF-18 | 0.39 0.38 0.37 | |
| #1 LF-19 | -0.02 -0.02 -0.02 | |
| #2 LF-17 | -0.01 -0.01 -0.01 | |

Qk.N_DA

| | | |
|------------|-------------------|--|
| #2 LF-3 | -7.42 -7.10 -6.77 | |
| #2 LF-4 | 3.52 3.24 2.96 | |
| #2 LF-5 | -0.30 -0.14 0.02 | |
| #2 LF-10 | 0.19 0.19 0.19 | |
| #2 LF-12 | 0.24 0.23 0.23 | |
| #2 LF-13 | 0.02 0.02 0.02 | |

Qk.N_T2

| | | |
|---|----------------|--|
| LF-20 | 0.63 0.41 0.18 | |
| #1 LF-20 | 0.67 0.61 0.56 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | |

W-0.19

Gk

| Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] |
|-----------|--------------------------------|--------|
| LF-1 (g) | 71.11 119.3 190.9 | |
| #1 LF-1 | 103.6 128.0 152.0 | |
| #2 LF-1 | 88.06 105.9 124.9 | |
| #3 LF-1 | -0.01 -0.01 -0.02 | |

Ö←

| | | |
|-----------|-------------------|--|
| LF-2 | 30.10 51.81 84.60 | |
| #1 LF-2 | 44.52 56.02 67.36 | |
| #2 LF-2 | 30.65 37.08 43.84 | |

Qk.N_E1

| | | |
|------------|-------------------|--|
| LF-4 | 0.00 0.00 0.00 | |
| LF-10 | 0.77 0.78 0.87 | |
| LF-11 | 10.78 45.53 93.82 | |
| LF-14 | 0.00 0.03 0.06 | |
| LF-15 | -0.24 -0.56 -1.01 | |
| LF-16 | 0.00 0.00 0.00 | |
| LF-19 | -0.01 -0.03 -0.06 | |
| LF-23 | 22.31 17.93 14.95 | |
| #1 LF-3 | 48.12 62.97 77.59 | |
| #1 LF-4 | 0.39 0.45 0.50 | |
| #1 LF-5 | 0.10 0.11 0.13 | |
| #1 LF-10 | 0.03 0.04 0.06 | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|---------------|---|--------------------------------|--------|-------|--|
| Qk.N_DA | #1 LF-15 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-16 | 0.00 | -0.01 | -0.01 | |
| | #1 LF-17 | 2.03 | 3.06 | 4.07 | |
| | #1 LF-18 | -0.36 | -0.50 | -0.62 | |
| | #1 LF-19 | 0.03 | 0.03 | 0.04 | |
| | #2 LF-17 | 0.03 | 0.03 | 0.04 | |
| | #2 LF-3 | 26.96 | 34.68 | 42.52 | |
| | #2 LF-4 | -1.11 | -1.54 | -1.89 | |
| | #2 LF-5 | 1.53 | 1.70 | 1.84 | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-10 | -0.12 | -0.18 | -0.25 | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-12 | -0.17 | -0.24 | -0.31 | |
| | #2 LF-13 | -0.01 | -0.02 | -0.03 | |
| | #3 LF-4 | 0.00 | 0.00 | 0.00 | |
| Qk.N_T2 | LF-20 | -0.71 | -0.71 | -0.78 | |
| | LF-22 | 0.00 | 0.00 | -0.01 | |
| | #1 LF-20 | -0.58 | -0.68 | -0.75 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-0.20 | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
| Gk | LF-1 (g) | 198.7 | 138.2 | 109.1 | |
| | #1 LF-1 | 166.3 | 150.3 | 137.3 | |
| | #2 LF-1 | 216.6 | 207.0 | 197.6 | |
| | #3 LF-1 | -0.01 | 0.00 | 0.00 | |
| Ö← | LF-2 | 87.33 | 58.83 | 44.96 | |
| | #1 LF-2 | 72.73 | 64.98 | 58.68 | |
| | #2 LF-2 | 75.75 | 72.28 | 68.88 | |
| Qk.N_E1 | LF-10 | 0.20 | 0.05 | -0.05 | |
| | LF-11 | 109.9 | 72.76 | 55.20 | |
| | LF-14 | 0.04 | -0.06 | -0.15 | |
| | LF-15 | -0.56 | -0.07 | 0.28 | |
| | LF-19 | -0.05 | -0.02 | 0.00 | |
| | LF-23 | 1.82 | 0.45 | -0.45 | |
| | #1 LF-3 | 85.76 | 76.17 | 68.41 | |
| | #1 LF-4 | 0.09 | 0.04 | 0.01 | |
| | #1 LF-5 | 0.02 | 0.01 | 0.00 | |
| | #1 LF-10 | -0.01 | -0.07 | -0.12 | |
| | #1 LF-15 | -0.01 | -0.01 | 0.00 | |
| | #1 LF-16 | -0.02 | -0.01 | -0.01 | |
| | #1 LF-17 | 5.63 | 5.12 | 4.72 | |
| | #1 LF-18 | -0.41 | -0.29 | -0.19 | |
| | #1 LF-19 | 0.01 | 0.00 | 0.00 | |
| | #2 LF-17 | -0.02 | -0.05 | -0.08 | |
| Qk.N_DA | #2 LF-3 | 76.61 | 73.28 | 70.04 | |
| | #2 LF-4 | -0.44 | -0.25 | -0.11 | |
| | #2 LF-5 | 0.45 | 0.29 | 0.17 | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-10 | -0.42 | -0.38 | -0.34 | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-12 | -0.42 | -0.38 | -0.34 | |
| | #2 LF-13 | -0.08 | -0.09 | -0.09 | |
| Qk.N_T2 | LF-20 | -0.17 | -0.04 | 0.05 | |
| | LF-22 | -0.01 | -0.01 | 0.00 | |
| | #1 LF-20 | -0.13 | -0.06 | -0.01 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.21

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|--------|
| Gk | LF-1 (g) | 106.1 | 101.3 | 104.1 | |
| | #1 LF-1 | 104.2 | 101.7 | 97.95 | |
| | #2 LF-1 | 112.0 | 104.5 | 97.69 | |
| Ö← | LF-2 | 43.77 | 43.20 | 46.68 | |
| | #1 LF-2 | 44.18 | 43.82 | 43.00 | |
| | #2 LF-2 | 38.90 | 36.45 | 34.29 | |
| Qk.N_E1 | LF-10 | -0.06 | -0.03 | -0.01 | |
| | LF-11 | 53.37 | 49.08 | 49.40 | |
| | LF-14 | -0.43 | -0.41 | -0.42 | |
| | LF-15 | 0.33 | 0.17 | 0.05 | |
| | LF-16 | 0.01 | 0.01 | 0.01 | |
| | LF-23 | -0.49 | -0.25 | -0.08 | |
| | #1 LF-3 | 48.35 | 46.59 | 44.13 | |
| | #1 LF-4 | -0.03 | -0.02 | -0.01 | |
| | #1 LF-5 | -0.01 | -0.01 | 0.00 | |
| | #1 LF-10 | -0.44 | -0.41 | -0.37 | |
| | #1 LF-16 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-17 | 2.94 | 2.53 | 2.08 | |
| | #1 LF-18 | 0.09 | 0.06 | 0.04 | |
| | #2 LF-17 | -0.23 | -0.22 | -0.19 | |
| Qk.N_DA | #2 LF-3 | 37.87 | 34.09 | 30.45 | |
| | #2 LF-4 | 0.17 | 0.14 | 0.12 | |
| | #2 LF-5 | -0.18 | -0.16 | -0.14 | |
| | #2 LF-10 | -0.02 | 0.00 | 0.02 | |
| | #2 LF-12 | 0.03 | 0.05 | 0.06 | |
| | #2 LF-13 | -0.12 | -0.11 | -0.10 | |
| Qk.N_T2 | LF-20 | 0.05 | 0.02 | 0.01 | |
| | #1 LF-20 | 0.04 | 0.03 | 0.02 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.22

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---------|-----------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| Gk | LF-1 (g) | 33.72 | 31.56 | 32.63 | 32.81 | 32.79 | 32.39 | 30.17 | |
| | | 22.82 | 10.74 | | | | | | |
| | #1 LF-1 | -9.08 | 14.63 | 23.67 | 25.01 | 23.98 | 19.95 | 11.51 | |
| | | -4.50 | -18.0 | | | | | | |
| | #2 LF-1 | 29.96 | 41.62 | 48.48 | 50.22 | 49.10 | 44.92 | 35.50 | |
| Ö← | | 20.99 | 19.14 | | | | | | |
| | #3 LF-1 | -0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.03 | |
| | | 0.07 | 0.11 | | | | | | |
| | LF-2 | 17.21 | 12.13 | 12.68 | 12.85 | 12.87 | 12.72 | 11.89 | |
| | | 9.02 | 3.35 | | | | | | |
| Qk.N_E1 | #1 LF-2 | 9.80 | 15.02 | 17.51 | 18.13 | 17.79 | 16.31 | 13.20 | |
| | | 6.99 | -0.84 | | | | | | |
| | #2 LF-2 | 13.30 | 16.44 | 18.42 | 19.00 | 18.66 | 17.33 | 14.23 | |
| | | 8.89 | 6.48 | | | | | | |
| | #3 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.01 | | | | | | |
| | LF-3 | 0.01 | 0.01 | 0.02 | 0.04 | 0.06 | -0.06 | -0.73 | |
| | | -2.60 | -1.52 | | | | | | |
| | LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | -0.01 | -0.02 | | | | | | |
| | LF-6 | 0.01 | -0.03 | -0.04 | -0.03 | -0.02 | -0.01 | -0.01 | |
| | | 0.00 | 0.01 | | | | | | |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| LF-7 | -0.09 | 0.31 | 0.37 | 0.31 | 0.22 | 0.14 | 0.11 | |
| | 0.05 | -0.11 | | | | | | |
| LF-8 | 0.08 | -0.42 | -0.50 | -0.42 | -0.25 | -0.09 | 0.01 | |
| | 0.03 | 0.03 | | | | | | |
| LF-9 | 0.01 | 0.02 | 0.03 | 0.00 | -0.08 | -0.19 | -0.27 | |
| | -0.17 | 0.19 | | | | | | |
| LF-10 | 0.01 | 0.01 | 0.03 | 0.07 | 0.09 | -0.06 | -0.91 | |
| | -3.35 | -9.96 | | | | | | |
| LF-12 | 4.92 | 6.68 | 7.32 | 7.32 | 7.27 | 7.25 | 7.09 | |
| | 5.81 | 0.60 | | | | | | |
| LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.01 | 0.04 | | | | | | |
| LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | 0.05 | 0.16 | | | | | | |
| #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.04 | |
| | 0.03 | 0.53 | | | | | | |
| #1 LF-5 | 0.75 | 0.00 | -0.26 | -0.39 | -0.66 | -1.13 | -1.92 | |
| | -4.98 | -12.2 | | | | | | |
| #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.01 | | | | | | |
| #1 LF-7 | -1.16 | -0.04 | 0.25 | 0.22 | 0.17 | 0.09 | -0.01 | |
| | -0.13 | -0.26 | | | | | | |
| #1 LF-11 | -3.60 | -0.15 | 0.79 | 0.74 | 0.65 | 0.45 | 0.15 | |
| | -0.27 | -0.77 | | | | | | |
| #1 LF-12 | 0.48 | 0.00 | -0.17 | -0.25 | -0.44 | -0.85 | -1.72 | |
| | -2.36 | 0.68 | | | | | | |
| #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | 0.01 | 0.01 | | | | | | |
| #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.01 | 0.02 | | | | | | |
| #1 LF-15 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | |
| | 0.01 | 0.02 | | | | | | |
| #1 LF-19 | 0.27 | 0.00 | -0.09 | -0.12 | -0.18 | -0.28 | -0.44 | |
| | -0.81 | -1.44 | | | | | | |
| #1 LF-22 | -6.89 | 10.22 | 16.68 | 17.81 | 17.65 | 15.98 | 12.22 | |
| | 4.49 | -6.05 | | | | | | |
| #2 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.01 | 0.01 | | | | | | |
| #2 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | -0.01 | | | | | | |
| #2 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-5 | 1.09 | 0.06 | -0.46 | -0.74 | -1.21 | -2.10 | -4.14 | |
| | -7.35 | -5.80 | | | | | | |
| #2 LF-6 | -6.04 | 7.19 | 13.74 | 15.01 | 14.66 | 13.02 | 9.56 | |
| | 2.99 | -4.82 | | | | | | |
| #2 LF-7 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | | | | | | | |

Qk.N_DA

D-661

Schulcampus EWK \

EG-LP4

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|----------|------------|--------------------------------|-------|------|------|------|------|--------|
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-11 | -0.05 | -0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.01 | | | | | |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #1 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.23

Gk

Ö←

Qk.N_E1

| Lastfall | | Lasten (4 Abschnitte je 0.76m) | | | | [kN/m] |
|----------|------------|--------------------------------|-------|-------|-------|--------|
| LF-1 (g) | | 26.45 | 20.10 | 4.01 | 2.74 | |
| | #1 LF-1 | -0.60 | -1.43 | -2.06 | -1.59 | |
| | #2 LF-1 | -0.43 | -0.22 | 0.35 | 0.41 | |
| | #3 LF-1 | 0.00 | 0.01 | 0.02 | 0.02 | |
| LF-2 | | 1.34 | -0.90 | -6.53 | -6.95 | |
| | #1 LF-2 | -0.27 | -0.56 | -0.76 | -0.58 | |
| | #2 LF-2 | -0.14 | -0.09 | 0.08 | 0.10 | |
| | #3 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | |
| LF-3 | | 0.57 | 0.47 | 0.23 | 0.21 | |
| LF-4 | | 0.00 | 0.00 | 0.00 | 0.00 | |
| LF-6 | | 0.17 | 1.12 | 2.80 | 2.71 | |
| LF-7 | | -1.95 | -12.0 | -29.1 | -25.5 | |
| LF-8 | | 4.38 | 8.31 | 8.51 | 4.67 | |
| LF-9 | | 4.11 | 7.64 | 7.73 | 4.24 | |
| LF-10 | | 0.87 | 0.60 | 0.07 | 0.07 | |
| LF-12 | | -5.32 | -7.92 | -3.56 | -0.70 | |
| LF-13 | | 0.00 | 0.01 | 0.02 | 0.02 | |
| LF-16 | | 0.00 | 0.00 | -0.01 | -0.01 | |
| LF-17 | | 0.01 | 0.06 | 0.15 | 0.13 | |
| LF-18 | | -0.01 | 0.00 | 0.02 | 0.02 | |
| | #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-5 | -0.02 | 0.01 | 0.10 | 0.12 | |
| | #1 LF-7 | -0.03 | -0.14 | -0.27 | -0.23 | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-11 | -0.06 | -0.32 | -0.67 | -0.60 | |
| | #1 LF-12 | -0.03 | -0.01 | 0.06 | 0.07 | |
| | #1 LF-13 | 0.00 | 0.00 | -0.01 | 0.00 | |
| | #1 LF-15 | 0.00 | 0.01 | 0.02 | 0.02 | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-19 | 0.01 | 0.04 | 0.11 | 0.10 | |
| | #1 LF-22 | -0.30 | -0.63 | -0.89 | -0.69 | |

D-662

Schulcampus EWK \

EG-LP4

| | | Lastfall Lasten (4 Abschnitte je 0.76m) | | | | | | [kN/m] |
|---------------|---|---|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | #2 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-5 | -0.01 | -0.01 | 0.02 | 0.03 | | | |
| | #2 LF-6 | -0.13 | -0.05 | 0.14 | 0.14 | | | |
| | #2 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #2 LF-11 | 0.00 | 0.02 | 0.04 | 0.03 | | | |
| | #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #3 LF-4 | 0.00 | 0.00 | -0.01 | -0.01 | | | |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Qk.N_T2 | LF-21 | 0.00 | -0.02 | -0.06 | -0.05 | | | |
| | #1 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| W-0.24 | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
| Gk | LF-1 (g) | 33.14 | 43.85 | 45.27 | 45.56 | 46.37 | 46.57 | 38.26 |
| | | -0.30 | -7.04 | | | | | |
| | #1 LF-1 | 16.69 | 1.07 | -0.90 | -0.12 | 0.48 | -0.03 | -1.58 |
| | | 1.48 | 34.69 | | | | | |
| | #2 LF-1 | 23.49 | 0.95 | -1.26 | -0.33 | 0.12 | -0.20 | -1.10 |
| | | 2.15 | 32.58 | | | | | |
| | #3 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.04 | 0.00 | | | | | |
| Ö← | LF-2 | 7.20 | 7.68 | 7.86 | 8.13 | 8.52 | 8.60 | 5.42 |
| | | -9.18 | -11.4 | | | | | |
| | #1 LF-2 | 7.34 | 0.47 | -0.40 | -0.06 | 0.22 | 0.08 | -0.44 |
| | | 0.35 | 9.94 | | | | | |
| | #2 LF-2 | 8.28 | 0.33 | -0.45 | -0.11 | 0.06 | -0.01 | -0.26 |
| | | 0.45 | 7.70 | | | | | |
| | #3 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_E1 | LF-3 | 0.00 | 0.01 | 0.02 | 0.01 | -0.09 | -0.24 | -2.60 |
| | | -12.59 | -9.51 | | | | | |
| | LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | -0.05 | -0.05 | | | | | |
| | LF-6 | 0.08 | 0.34 | 0.44 | 0.27 | -0.12 | -0.22 | 0.03 |
| | | 0.15 | 0.06 | | | | | |
| | LF-7 | -0.84 | -3.47 | -4.37 | -2.58 | 1.33 | 2.16 | -0.59 |
| | | -1.81 | -0.66 | | | | | |
| | LF-8 | 4.07 | 8.74 | 9.43 | 7.59 | 2.64 | -1.56 | -1.28 |
| | | -0.32 | 0.01 | | | | | |
| | LF-9 | 0.02 | 0.00 | -0.25 | -1.03 | -1.36 | 2.39 | 7.14 |
| | | 7.89 | 3.84 | | | | | |
| | LF-10 | 0.00 | 0.01 | 0.02 | 0.01 | -0.06 | -0.20 | -3.89 |
| | | -20.96 | -20.6 | | | | | |
| | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-12 | 4.22 | 9.50 | 10.90 | 12.14 | 14.64 | 14.76 | 11.86 |
| | | 8.64 | 3.48 | | | | | |
| | LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.01 | 0.04 |
| | | | | | | | | |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] | |
|------------|--------------------------------|-------|-------|-------|-------|-------|--------|-------|
| | 0.19 | 0.18 | | | | | | |
| LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 | 0.07 | |
| | 0.44 | 0.45 | | | | | | |
| #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-5 | -0.13 | -0.01 | 0.01 | 0.01 | 0.01 | -0.02 | -0.10 | |
| | 0.20 | 3.79 | | | | | | |
| #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-7 | -0.14 | 0.02 | 0.03 | 0.04 | 0.05 | 0.01 | -0.07 | |
| | -0.08 | -0.03 | | | | | | |
| #1 LF-11 | 0.05 | 0.12 | -0.02 | 0.01 | 0.08 | 0.03 | -0.13 | |
| | -0.14 | 0.34 | | | | | | |
| #1 LF-12 | -0.09 | 0.00 | 0.01 | 0.01 | 0.00 | -0.06 | -0.18 | |
| | 0.37 | 5.25 | | | | | | |
| #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | -0.01 | | | | | | |
| #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | -0.01 | | | | | | |
| #1 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.01 | 0.01 | | | | | | |
| #1 LF-19 | -0.04 | 0.00 | 0.01 | 0.00 | -0.01 | -0.01 | -0.03 | |
| | -0.04 | 0.54 | | | | | | |
| #1 LF-22 | 8.22 | 0.52 | -0.42 | -0.05 | 0.26 | 0.13 | -0.37 | |
| | 0.55 | 10.21 | | | | | | |
| #2 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #2 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| Qk.N_DA | #2 LF-5 | -0.25 | -0.01 | 0.02 | 0.01 | -0.01 | -0.12 | -0.35 |
| | | 0.33 | 7.67 | | | | | |
| | #2 LF-6 | 7.63 | 0.36 | -0.38 | -0.09 | 0.04 | -0.03 | -0.19 |
| | | 0.77 | 8.30 | | | | | |
| | #2 LF-11 | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | 0.01 |
| | | 0.01 | -0.07 | | | | | |
| | #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.01 | | | | | |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|----------|--------------------------------|-------|-------|-------|------|------|--------|
| LF-21 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.25

Gk

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|-----------|--------------------------------|-------|-------|-------|-------|-------|--------|
| LF-1 (g) | 92.14 | 72.98 | 76.21 | 80.06 | 79.68 | 74.72 | 63.16 |
| | 39.41 | 16.26 | | | | | |
| #1 LF-1 | 93.20 | -1.02 | -5.29 | -1.51 | -0.30 | -0.47 | -1.62 |
| | 0.36 | 52.64 | | | | | |
| #2 LF-1 | 85.51 | -0.83 | -4.91 | -1.48 | -0.48 | -0.80 | -2.04 |
| | 0.58 | 57.34 | | | | | |
| #3 LF-1 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.05 | -0.11 |
| | -0.28 | -0.54 | | | | | |

Ö←

| | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| LF-2 | 34.84 | 18.91 | 18.80 | 20.33 | 20.31 | 18.59 | 14.52 |
| | 6.15 | -1.99 | | | | | |
| #1 LF-2 | 41.33 | -0.47 | -2.35 | -0.67 | -0.13 | -0.14 | -0.52 |
| | 0.05 | 17.11 | | | | | |
| #2 LF-2 | 30.01 | -0.30 | -1.73 | -0.51 | -0.15 | -0.22 | -0.56 |
| | 0.12 | 15.73 | | | | | |
| #3 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | -0.02 | -0.09 | | | | | |

Qk.N_E1

| | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 |
| | 0.04 | 0.01 | | | | | |
| LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| LF-6 | 41.96 | 20.14 | 19.13 | 20.87 | 21.16 | 19.95 | 17.16 |
| | 12.72 | 3.18 | | | | | |
| LF-7 | -4.97 | 14.86 | 20.01 | 21.21 | 21.09 | 19.85 | 17.01 |
| | 9.43 | -0.56 | | | | | |
| LF-8 | 0.07 | -0.07 | -0.11 | -0.11 | -0.09 | -0.06 | -0.03 |
| | 0.01 | 0.02 | | | | | |
| LF-9 | 0.02 | -0.01 | -0.02 | -0.02 | -0.03 | -0.03 | -0.03 |
| | -0.01 | 0.01 | | | | | |
| LF-10 | -0.02 | 0.00 | 0.01 | 0.03 | 0.05 | 0.08 | 0.11 |
| | 0.08 | -0.01 | | | | | |
| LF-12 | -0.02 | 0.01 | 0.02 | 0.03 | 0.02 | 0.02 | 0.01 |
| | 0.00 | -0.01 | | | | | |
| LF-13 | 0.14 | 0.06 | 0.07 | 0.10 | 0.11 | 0.10 | 0.08 |
| | 0.05 | 0.01 | | | | | |
| LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| LF-16 | -0.02 | -0.01 | -0.01 | -0.02 | -0.04 | -0.07 | -0.12 |
| | -0.19 | -0.14 | | | | | |
| LF-17 | -0.25 | -0.12 | -0.18 | -0.40 | -0.83 | -1.77 | -3.96 |
| | -7.99 | -5.39 | | | | | |
| LF-18 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.02 | -0.02 |
| | -0.01 | 0.01 | | | | | |
| #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #1 LF-5 | 0.06 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | 0.00 | -0.16 | | | | | |
| #1 LF-7 | 51.03 | -0.59 | -2.91 | -0.83 | -0.14 | -0.14 | -0.55 |
| | 0.29 | 20.82 | | | | | |
| #1 LF-8 | 0.10 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | -0.01 | 0.01 | | | | | |

Qk.N_DA

| Lastfall | Lasten (9 Abschnitte je 0.94m) | [kN/m] |
|------------|---|--------|
| #1 LF-10 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.01 0.01 | |
| #1 LF-11 | 0.63 -0.01 -0.01 0.03 0.04 0.00 -0.18 | |
| | -0.11 6.11 | |
| #1 LF-12 | 0.04 0.00 0.00 -0.01 -0.01 -0.01 -0.01 | -0.01 |
| | 0.00 -0.10 | |
| #1 LF-13 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.01 -0.04 | |
| #1 LF-14 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.00 0.00 | |
| #1 LF-15 | -0.35 0.00 0.01 -0.01 -0.03 -0.09 -0.22 | |
| | -0.05 4.73 | |
| #1 LF-16 | 0.00 0.00 0.00 0.00 0.00 -0.01 -0.01 | |
| | -0.02 -0.02 | |
| #1 LF-18 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.00 0.00 | |
| #1 LF-19 | 0.03 0.00 -0.01 -0.01 -0.01 -0.02 -0.02 | |
| | 0.00 -0.15 | |
| #1 LF-22 | -2.11 0.02 0.14 0.07 0.07 0.06 0.01 | |
| | -0.01 2.11 | |
| #2 LF-17 | 0.01 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.01 0.01 | |
| #2 LF-18 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.00 -0.05 | |
| #2 LF-21 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.00 0.00 | |
| #3 LF-8 | 0.00 0.00 0.00 0.00 0.00 0.00 -0.01 | |
| | -0.02 -0.04 | |
| #2 LF-3 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.00 -0.01 | |
| #2 LF-5 | 0.13 0.00 -0.01 0.00 0.00 0.00 0.01 | |
| | 0.01 -0.38 | |
| #2 LF-6 | 30.43 -0.33 -1.74 -0.50 -0.14 -0.30 -0.92 | |
| | 0.31 28.26 | |
| #2 LF-7 | -0.65 0.02 0.04 0.01 0.00 0.00 0.00 | 0.00 |
| | 0.00 -0.05 | |
| #2 LF-8 | 0.34 -0.01 -0.02 -0.01 -0.01 -0.01 0.00 | |
| | 0.00 0.03 | |
| #2 LF-9 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.00 0.00 | |
| #2 LF-10 | -0.12 0.00 0.01 0.00 0.00 0.00 0.00 | 0.00 |
| | -0.05 -0.58 | |
| #2 LF-11 | -0.22 0.00 0.01 -0.01 -0.02 -0.07 -0.18 | |
| | 0.01 4.29 | |
| #2 LF-13 | -0.01 0.00 0.00 0.00 0.00 0.00 -0.01 | |
| | -0.01 -0.02 | |
| #2 LF-14 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.00 -0.02 | |
| #2 LF-15 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | 0.00 0.00 | |
| #3 LF-3 | 0.00 0.00 0.00 0.00 0.00 0.00 -0.01 | |
| | -0.02 -0.02 | |
| #3 LF-4 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |
| | -0.02 -0.15 | |
| #3 LF-5 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 |

D-666

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---|------------|---|-------|-------|-------|-------|-------|-------|--------|
| | | 0.00 | -0.01 | | | | | | |
| Qk.N_T2 | LF-21 | -0.39 | -0.18 | -0.20 | -0.27 | -0.30 | -0.28 | -0.21 | |
| | | -0.14 | -0.02 | | | | | | |
| | #1 LF-21 | -0.33 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | |
| | | 0.01 | -0.04 | | | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | | |
| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
| W-0.26 | LF-1 (g) | 86.85 | 35.28 | 39.69 | 40.44 | 58.87 | 74.04 | 53.22 | |
| | | 27.24 | 20.39 | | | | | | |
| | #1 LF-1 | 85.23 | 49.29 | 42.12 | 46.15 | 60.53 | 76.73 | 65.99 | |
| | | 45.21 | 33.67 | | | | | | |
| Gk | #2 LF-1 | 111.42 | 74.42 | 61.80 | 64.62 | 64.00 | 55.36 | 41.89 | |
| | | 31.98 | 34.84 | | | | | | |
| | #3 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.05 | |
| | | -0.09 | -0.07 | | | | | | |
| Ö← | LF-2 | 30.34 | 4.03 | 5.89 | 6.31 | 12.60 | 18.16 | 11.15 | |
| | | 2.21 | -0.28 | | | | | | |
| | #1 LF-2 | 30.85 | 10.89 | 6.51 | 8.22 | 13.32 | 19.22 | 15.77 | |
| | | 8.65 | 5.05 | | | | | | |
| | #2 LF-2 | 32.86 | 17.85 | 12.42 | 13.36 | 13.40 | 11.13 | 7.56 | |
| | | 4.43 | 4.03 | | | | | | |
| | #3 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | | -0.02 | -0.01 | | | | | | |
| Qk.N_E1 | LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | LF-5 | 0.00 | 0.00 | 0.00 | -0.01 | 0.04 | 0.11 | 0.11 | |
| | | 0.08 | -0.01 | | | | | | |
| | LF-6 | 31.49 | 9.95 | 13.12 | 13.12 | 16.92 | 26.65 | 22.47 | |
| | | 15.42 | 4.22 | | | | | | |
| | LF-7 | -2.21 | -0.29 | -0.51 | -0.50 | -0.89 | -1.80 | -1.32 | |
| | | -0.83 | -0.17 | | | | | | |
| | LF-8 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | |
| | | 0.01 | 0.00 | | | | | | |
| | LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | LF-13 | 0.00 | 0.04 | 0.16 | 0.31 | -2.01 | -4.12 | -2.77 | |
| | | -1.57 | -0.65 | | | | | | |
| | LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | -0.06 | -0.01 | |
| | | 0.13 | 0.12 | | | | | | |
| | LF-16 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | -0.23 | -1.10 | |
| | | -3.13 | -1.12 | | | | | | |
| | LF-17 | 0.13 | -0.05 | -0.08 | -0.05 | -0.22 | -1.69 | -4.49 | |
| | | -10.55 | -6.05 | | | | | | |
| | LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | |
| | | 0.01 | -0.07 | | | | | | |
| | #1 LF-5 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | | | | | | |
| | #1 LF-7 | 20.20 | 14.77 | 15.14 | 15.99 | 20.01 | 27.83 | 25.28 | |
| | | | | | | | | | |

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|----------|------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | #1 LF-8 | 12.81 | -1.29 | | | | | | |
| | | -0.02 | 0.04 | 0.16 | 0.02 | -1.37 | -3.00 | -2.77 | |
| | #1 LF-9 | -2.03 | -1.43 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.05 | 0.05 | |
| | #1 LF-10 | 0.04 | 0.03 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | -0.04 | -0.02 | |
| | #1 LF-11 | 0.04 | 0.04 | | | | | | |
| | | -1.18 | -0.06 | 0.23 | 0.17 | 0.22 | 0.40 | 0.31 | |
| | #1 LF-12 | 0.04 | -0.20 | | | | | | |
| | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-15 | 0.00 | 0.00 | | | | | | |
| | | 0.11 | -0.03 | -0.08 | -0.06 | -0.31 | -1.54 | -3.22 | |
| | #1 LF-16 | -1.88 | 5.94 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.04 | -0.16 | |
| | #1 LF-17 | -0.27 | -0.06 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-18 | 0.00 | -0.01 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.04 | |
| | #1 LF-19 | -0.02 | 0.10 | | | | | | |
| | | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-22 | 0.00 | 0.00 | | | | | | |
| | | -0.37 | -0.03 | 0.06 | 0.03 | 0.04 | 0.09 | 0.06 | |
| | #2 LF-17 | -0.01 | -0.07 | | | | | | |
| | | 0.00 | 0.00 | -0.01 | -0.02 | -0.02 | 0.02 | 0.11 | |
| | #3 LF-8 | 0.19 | -0.04 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-3 | 0.00 | 0.00 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 | -0.07 | |
| | #2 LF-5 | -0.11 | 0.00 | | | | | | |
| | | 0.06 | 0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | |
| | #2 LF-6 | 0.00 | 0.00 | | | | | | |
| | | 14.52 | 17.30 | 21.66 | 24.24 | 23.63 | 20.43 | 15.63 | |
| | #2 LF-7 | 8.34 | 0.19 | | | | | | |
| | | 7.63 | 7.62 | 7.35 | 7.16 | 7.01 | 6.70 | 6.38 | |
| | #2 LF-8 | 5.91 | 4.19 | | | | | | |
| | | -1.10 | -1.71 | -2.18 | -2.49 | -2.50 | -2.18 | -1.82 | |
| | #2 LF-9 | -1.48 | -0.99 | | | | | | |
| | | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 | 0.03 | 0.04 | |
| | #2 LF-10 | 0.05 | 0.02 | | | | | | |
| | | 0.08 | -0.03 | -0.12 | -0.17 | -0.32 | -0.98 | -2.15 | |
| | #2 LF-11 | -2.47 | 0.17 | | | | | | |
| | | 0.09 | -0.07 | -0.20 | -0.30 | -0.60 | -1.53 | -2.52 | |
| | #2 LF-12 | -0.96 | 4.42 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | |
| | #2 LF-13 | 0.04 | 0.00 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.10 | -0.33 | |
| | #3 LF-3 | -0.43 | 0.17 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-4 | 0.00 | 0.00 | | | | | | |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | |
| Qk.N_T2 | LF-21 | -0.04 | -0.03 | | | | | | |
| | | -0.02 | -0.13 | -0.57 | -0.65 | 10.88 | 17.38 | 10.44 | |
| | #1 LF-21 | 7.63 | 4.60 | | | | | | |
| | | 0.66 | 0.47 | 0.02 | 1.10 | 8.12 | 14.72 | 12.53 | |
| | | 9.05 | 6.01 | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.27

Gk

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|-----------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| LF-1 (g) | 17.32 | 38.87 | 40.43 | 39.80 | 56.20 | 69.91 | 55.34 | |
| | 42.77 | 47.95 | | | | | | |
| #1 LF-1 | 21.23 | 35.35 | 40.53 | 41.90 | 50.58 | 59.45 | 53.90 | |
| | 44.39 | 41.22 | | | | | | |
| #2 LF-1 | 32.06 | 42.00 | 47.92 | 49.44 | 49.26 | 47.11 | 43.41 | |
| | 40.89 | 41.86 | | | | | | |
| #3 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | |
| | 0.00 | 0.00 | | | | | | |

Ö←

| | | | | | | | | |
|-----------|-------|------|------|------|-------|-------|-------|--|
| LF-2 | -0.37 | 5.69 | 6.33 | 6.14 | 11.55 | 16.35 | 11.52 | |
| | 6.97 | 8.27 | | | | | | |
| #1 LF-2 | 1.71 | 4.68 | 6.31 | 6.82 | 9.66 | 12.68 | 10.91 | |
| | 7.78 | 7.37 | | | | | | |
| #2 LF-2 | 5.88 | 6.59 | 7.89 | 8.43 | 8.42 | 7.84 | 6.74 | |
| | 5.73 | 5.51 | | | | | | |
| #3 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |

Qk.N_E1

| | | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-------|--|
| LF-5 | 0.05 | -0.01 | -0.01 | 0.00 | -0.04 | -0.32 | -0.85 | |
| | -1.35 | 2.15 | | | | | | |
| LF-6 | -0.25 | 0.07 | 0.24 | 0.45 | -3.15 | -6.32 | -3.96 | |
| | -2.04 | -2.13 | | | | | | |
| LF-7 | 0.02 | -0.01 | -0.02 | -0.04 | 0.31 | 0.62 | 0.37 | |
| | 0.17 | 0.17 | | | | | | |
| LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-13 | -4.66 | 11.06 | 12.49 | 11.90 | 14.27 | 20.77 | 17.69 | |
| | 10.16 | -1.00 | | | | | | |
| LF-14 | -0.03 | 0.00 | 0.00 | 0.00 | 0.02 | 0.17 | 0.47 | |
| | 0.86 | -0.38 | | | | | | |
| LF-16 | 0.00 | 0.00 | 0.00 | 0.01 | 0.05 | -0.16 | -0.82 | |
| | -0.93 | 7.16 | | | | | | |
| LF-17 | 0.02 | -0.01 | -0.02 | -0.04 | 0.31 | 0.55 | 0.06 | |
| | -0.47 | 0.98 | | | | | | |
| #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | 0.00 | -0.05 | | | | | | |
| #1 LF-7 | -0.19 | 0.04 | 0.34 | 0.00 | -3.06 | -6.45 | -5.74 | |
| | -4.04 | -3.41 | | | | | | |
| #1 LF-8 | -1.64 | 8.52 | 12.45 | 12.52 | 14.31 | 18.06 | 17.01 | |
| | 10.13 | 1.07 | | | | | | |
| #1 LF-9 | 0.02 | 0.00 | -0.01 | -0.01 | -0.05 | -0.20 | -0.38 | |
| | -0.43 | -0.17 | | | | | | |
| #1 LF-10 | -0.02 | 0.00 | 0.01 | 0.00 | 0.04 | 0.26 | 0.65 | |
| | 0.73 | -0.48 | | | | | | |
| #1 LF-11 | -0.01 | 0.00 | 0.01 | 0.00 | -0.08 | -0.17 | -0.15 | |
| | -0.10 | -0.08 | | | | | | |
| #1 LF-15 | 0.01 | 0.00 | -0.01 | 0.02 | 0.06 | -0.29 | -0.85 | |
| | 0.81 | 6.82 | | | | | | |
| #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | -0.03 | -0.14 | |

D-669

Schulcampus EWK \

EG-LP4

| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | | -0.18 | 0.13 | | | | | |
| | #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #1 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 |
| | | 0.00 | 0.07 | | | | | |
| | #1 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.05 | -0.04 |
| | | -0.03 | -0.02 | | | | | |
| | #2 LF-17 | 0.00 | 0.00 | 0.01 | 0.03 | 0.05 | 0.10 | 0.14 |
| | | -0.04 | -0.42 | | | | | |
| | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | -0.02 | 0.00 | | | | | |
| | #2 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-6 | -3.63 | -4.71 | -4.99 | -5.49 | -5.46 | -4.62 | -3.65 |
| | | -2.84 | -2.29 | | | | | |
| | #2 LF-7 | 7.30 | 8.25 | 7.54 | 7.26 | 7.13 | 6.78 | 6.40 |
| | | 5.96 | 4.97 | | | | | |
| | #2 LF-8 | 1.42 | 9.03 | 13.94 | 15.34 | 15.10 | 13.76 | 11.15 |
| | | 6.67 | 1.77 | | | | | |
| | #2 LF-9 | 0.01 | 0.00 | -0.02 | -0.05 | -0.13 | -0.28 | -0.31 |
| | | 0.33 | 1.82 | | | | | |
| | #2 LF-10 | 0.03 | 0.04 | 0.05 | 0.09 | 0.16 | 0.12 | -0.07 |
| | | -0.15 | 0.20 | | | | | |
| | #2 LF-11 | 0.06 | 0.07 | 0.10 | 0.15 | 0.10 | -0.17 | -0.11 |
| | | 1.56 | 4.65 | | | | | |
| | #2 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.00 | | | | | |
| | #2 LF-13 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.02 | -0.04 |
| | | -0.04 | 0.17 | | | | | |
| | #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | LF-21 | 0.46 | -0.14 | -0.57 | -0.63 | 10.93 | 17.45 | 10.37 |
| | | 7.88 | 8.00 | | | | | |
| | #1 LF-21 | 0.79 | 0.53 | 0.03 | 1.16 | 8.27 | 14.79 | 12.56 |
| | | 9.12 | 7.14 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.28

Gk

Ö←

Qk.N_E1

| | | Lastfall Lasten (9 Abschnitte je 0.98m) | | | | | | [kN/m] |
|---------|-----------|---|-------|-------|-------|-------|-------|--------|
| Gk | LF-1 (g) | 19.57 | 37.66 | 39.73 | 40.25 | 39.83 | 38.47 | 35.37 |
| | | 28.29 | 18.15 | | | | | |
| | #1 LF-1 | 21.96 | 35.19 | 39.88 | 40.42 | 39.96 | 38.41 | 34.65 |
| | | 27.92 | 24.49 | | | | | |
| | #2 LF-1 | 28.97 | 38.27 | 42.60 | 43.39 | 43.19 | 41.96 | 38.46 |
| | | 33.02 | 32.92 | | | | | |
| | LF-2 | 8.17 | 14.62 | 15.36 | 15.55 | 15.40 | 14.90 | 13.74 |
| | | 10.83 | 7.23 | | | | | |
| | #1 LF-2 | 9.03 | 13.74 | 15.41 | 15.61 | 15.45 | 14.90 | 13.47 |
| | | 10.63 | 8.39 | | | | | |
| | #2 LF-2 | 12.27 | 15.21 | 16.59 | 16.84 | 16.79 | 16.40 | 15.18 |
| | | 12.68 | 10.73 | | | | | |
| Qk.N_E1 | LF-5 | 0.04 | -0.01 | -0.01 | -0.03 | -0.08 | -0.21 | -0.60 |
| | | -1.38 | 3.17 | | | | | |
| | LF-6 | -0.13 | 0.07 | 0.11 | 0.17 | 0.22 | 0.21 | 0.13 |
| | | -0.02 | -0.26 | | | | | |
| | LF-7 | 0.01 | -0.01 | -0.01 | -0.02 | -0.02 | -0.02 | -0.01 |
| | | | | | | | | |

D-670

Schulcampus EWK \

EG-LP4

| | | Lastfall Lasten (9 Abschnitte je 0.98m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| | | 0.00 | 0.02 | | | | | |
| | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | LF-13 | -2.34 | 10.83 | 12.36 | 12.79 | 12.56 | 11.63 | 9.46 |
| | | 4.48 | -5.65 | | | | | |
| | LF-14 | -0.02 | 0.00 | 0.00 | 0.01 | 0.04 | 0.12 | 0.34 |
| | | 0.85 | -2.22 | | | | | |
| | LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 |
| | | -0.05 | 0.08 | | | | | |
| | LF-17 | 0.01 | -0.01 | -0.01 | -0.01 | -0.02 | -0.01 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.02 | | | | | |
| | #1 LF-7 | -0.11 | 0.05 | 0.13 | 0.20 | 0.25 | 0.25 | 0.16 |
| | | -0.03 | -0.23 | | | | | |
| | #1 LF-8 | -0.56 | 9.01 | 12.41 | 12.84 | 12.57 | 11.54 | 9.12 |
| | | 3.83 | -2.59 | | | | | |
| | #1 LF-9 | 0.02 | 0.00 | -0.01 | -0.02 | -0.06 | -0.18 | -0.53 |
| | | -0.23 | 2.90 | | | | | |
| | #1 LF-10 | -0.02 | 0.00 | 0.01 | 0.02 | 0.06 | 0.17 | 0.47 |
| | | -0.07 | -3.31 | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #1 LF-15 | 0.01 | 0.00 | -0.01 | -0.01 | -0.02 | -0.03 | -0.03 |
| | | 0.00 | 0.07 | | | | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 |
| | | -0.02 | 0.12 | | | | | |
| | #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-17 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.09 | 0.19 |
| | | -0.32 | -1.93 | | | | | |
| Qk.N_DA | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.02 | -0.05 | | | | | |
| | #2 LF-6 | -0.22 | 0.17 | 0.37 | 0.42 | 0.40 | 0.31 | 0.15 |
| | | -0.07 | -0.23 | | | | | |
| | #2 LF-7 | 0.18 | -0.16 | -0.32 | -0.35 | -0.33 | -0.26 | -0.13 |
| | | 0.05 | 0.19 | | | | | |
| | #2 LF-8 | 0.46 | 6.40 | 9.15 | 9.66 | 9.56 | 8.91 | 7.05 |
| | | 3.21 | -0.62 | | | | | |
| | #2 LF-9 | 0.01 | 0.00 | -0.01 | -0.02 | -0.06 | -0.19 | -0.41 |
| | | 0.11 | 2.42 | | | | | |
| | #2 LF-10 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-11 | 0.01 | 0.00 | -0.01 | -0.01 | -0.02 | -0.02 | -0.01 |
| | | 0.00 | 0.04 | | | | | |
| | #2 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.05 | 0.07 |
| | | -0.43 | -1.21 | | | | | |
| Qk.N_T2 | LF-21 | 0.24 | -0.13 | -0.22 | -0.32 | -0.40 | -0.39 | -0.24 |
| | | 0.04 | 0.46 | | | | | |
| | #1 LF-21 | 0.17 | -0.08 | -0.20 | -0.29 | -0.35 | -0.35 | -0.22 |
| | | 0.05 | 0.31 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.29

Gk

| | | Lastfall Lasten (5 Abschnitte je 0.90m) | | | | | | [kN/m] |
|----------|--|---|-------|-------|-------|-------|--|--------|
| LF-1 (g) | | 53.31 | 43.87 | 44.45 | 46.39 | 86.77 | | |

D-671

Schulcampus EWK \

EG-LP4

| | | Lastfall Lasten (5 Abschnitte je 0.90m) | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|--------|
| Ö← | #1 LF-1 | 96.12 | 105.9 | 14.49 | -1.56 | -6.48 | |
| | #2 LF-1 | 130.0 | 71.47 | 6.62 | -1.31 | -7.68 | |
| | #3 LF-1 | -0.18 | -0.17 | -0.03 | 0.00 | 0.00 | |
| Qk.N_E1 | LF-2 | 19.22 | 17.89 | 19.27 | 20.15 | 39.09 | |
| | #1 LF-2 | 42.40 | 48.02 | 6.60 | -0.72 | -2.90 | |
| | #2 LF-2 | 45.48 | 25.15 | 2.32 | -0.47 | -2.69 | |
| | #3 LF-2 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | LF-3 | 14.62 | 2.79 | 1.25 | 0.78 | 0.62 | |
| | LF-4 | -0.01 | 0.01 | 0.01 | 0.02 | 0.05 | |
| | LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-7 | -0.04 | 0.01 | 0.01 | 0.01 | 0.01 | |
| | LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-9 | 0.08 | -0.02 | -0.01 | -0.01 | -0.01 | |
| | LF-10 | 7.57 | 13.00 | 14.81 | 16.48 | 42.01 | |
| | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | LF-12 | -1.31 | -0.06 | 0.00 | -0.01 | -0.01 | |
| | LF-17 | -0.01 | -0.02 | -0.02 | -0.02 | -0.02 | |
| | LF-18 | 0.04 | -0.06 | -0.09 | -0.11 | -0.29 | |
| | LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | #1 LF-3 | -0.01 | -0.02 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-4 | -1.14 | -3.68 | -0.59 | 0.07 | -0.78 | |
| | #1 LF-5 | 32.09 | 52.86 | 7.96 | -0.78 | -2.64 | |
| Qk.N_DA | #1 LF-6 | 0.00 | -0.03 | -0.01 | 0.00 | 0.00 | |
| | #1 LF-7 | -0.40 | -0.22 | -0.02 | 0.00 | 0.00 | |
| | #1 LF-11 | -1.02 | -0.50 | -0.04 | 0.01 | 0.00 | |
| | #1 LF-12 | 14.22 | 6.84 | 0.55 | -0.12 | -0.03 | |
| | #1 LF-13 | -0.02 | -0.03 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-14 | -0.03 | -0.05 | -0.01 | 0.00 | 0.00 | |
| | #1 LF-15 | -0.03 | -0.03 | -0.01 | 0.00 | 0.00 | |
| | #1 LF-17 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-18 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-19 | 1.74 | 3.21 | 0.51 | -0.03 | -0.12 | |
| | #1 LF-22 | -9.91 | -3.78 | -0.17 | 0.09 | 0.02 | |
| | #2 LF-18 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-21 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-22 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-23 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-3 | -0.04 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-4 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-5 | 44.44 | 25.20 | 2.39 | -0.45 | -2.71 | |
| Qk.N_T2 | #2 LF-6 | -7.59 | -3.13 | -0.17 | 0.07 | 0.05 | |
| | #2 LF-11 | -0.06 | -0.03 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-14 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-15 | -0.03 | -0.02 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-16 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-4 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-5 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | |
| | #1 LF-20 | 0.01 | 0.04 | 0.01 | 0.00 | 0.00 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.30

Gk

| | | Lastfall Lasten (3 Abschnitte je 0.46m) | | | [kN/m] |
|-----------|--|---|-------|-------|--------|
| LF-1 (g) | | 65.38 | 73.34 | 85.90 | |
| #1 LF-1 | | 125.2 | 143.7 | 154.7 | |

D-672

| | | Lastfall Lasten (3 Abschnitte je 0.46m) | | | [kN/m] |
|---------------|---|---|-------|-------|--------|
| Ö← | #2 LF-1 | 168.0 | 180.9 | 183.7 | |
| | #3 LF-1 | -0.26 | -0.27 | -0.28 | |
| | LF-2 | 26.36 | 29.91 | 35.73 | |
| | #1 LF-2 | 55.71 | 63.89 | 68.71 | |
| | #2 LF-2 | 58.73 | 63.23 | 64.20 | |
| | #3 LF-2 | -0.02 | -0.02 | -0.02 | |
| Qk.N_E1 | LF-3 | -0.08 | -0.11 | -0.14 | |
| | LF-4 | 0.02 | 0.02 | 0.02 | |
| | LF-10 | 26.88 | 31.86 | 39.73 | |
| | LF-11 | 0.00 | 0.00 | 0.01 | |
| | LF-15 | 0.00 | -0.01 | -0.01 | |
| | LF-17 | 0.00 | 0.00 | 0.00 | |
| | LF-18 | -0.14 | -0.14 | -0.16 | |
| | LF-23 | 0.00 | 0.00 | 0.01 | |
| | #1 LF-3 | 0.05 | 0.08 | 0.10 | |
| | #1 LF-4 | 10.51 | 16.01 | 20.68 | |
| | #1 LF-5 | 55.49 | 60.00 | 61.36 | |
| | #1 LF-6 | -0.08 | -0.09 | -0.09 | |
| | #1 LF-7 | 0.00 | 0.01 | 0.01 | |
| | #1 LF-11 | 0.00 | 0.01 | 0.02 | |
| | #1 LF-12 | 0.03 | -0.02 | -0.08 | |
| | #1 LF-13 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-14 | -0.01 | -0.01 | 0.00 | |
| | #1 LF-17 | 0.02 | 0.02 | 0.03 | |
| | #1 LF-18 | -0.03 | -0.04 | -0.05 | |
| | #1 LF-19 | 3.25 | 3.48 | 3.52 | |
| | #1 LF-22 | 0.12 | 0.12 | 0.13 | |
| | #2 LF-19 | -0.01 | -0.01 | -0.01 | |
| | #2 LF-21 | -0.01 | -0.01 | -0.01 | |
| | #2 LF-22 | 0.02 | 0.02 | 0.02 | |
| | #2 LF-23 | -0.03 | -0.04 | -0.04 | |
| Qk.N_DA | #2 LF-3 | 0.09 | 0.10 | 0.10 | |
| | #2 LF-4 | -0.07 | -0.08 | -0.08 | |
| | #2 LF-5 | 59.83 | 64.42 | 65.40 | |
| | #2 LF-6 | -0.66 | -0.73 | -0.76 | |
| | #2 LF-11 | -0.01 | -0.01 | -0.01 | |
| | #2 LF-12 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-14 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-15 | -0.02 | -0.02 | -0.02 | |
| | #2 LF-16 | -0.04 | -0.04 | -0.05 | |
| | #3 LF-4 | -0.01 | -0.01 | -0.01 | |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-7 | -0.03 | -0.03 | -0.03 | |
| Qk.N_T2 | LF-20 | 0.00 | -0.01 | -0.02 | |
| | #1 LF-20 | -0.08 | -0.12 | -0.16 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-0.31 | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
| Gk | LF-1 (g) | 105.6 | 102.9 | 109.1 | |
| | #1 LF-1 | 24.10 | 18.92 | 22.27 | |
| | #2 LF-1 | 22.74 | 17.41 | 20.72 | |
| | #3 LF-1 | -0.04 | -0.02 | 0.00 | |
| Ö← | LF-2 | 46.42 | 44.94 | 47.41 | |
| | #1 LF-2 | 10.66 | 8.30 | 9.68 | |
| | #2 LF-2 | 7.93 | 6.03 | 7.13 | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|----------|---|--------------------------------|--------|-------|-------|
| Qk.N_E1 | #3 LF-2 | 0.00 | 0.00 | 0.00 | |
| | LF-3 | -0.09 | -0.07 | -0.05 | |
| | LF-4 | 0.01 | 0.00 | 0.00 | |
| | LF-10 | 52.29 | 50.83 | 55.02 | |
| | LF-11 | 0.09 | 0.13 | 0.19 | |
| | LF-12 | 0.00 | 0.00 | 0.00 | |
| | LF-15 | -0.02 | -0.02 | -0.02 | |
| | LF-17 | 0.00 | 0.00 | 0.00 | |
| | LF-18 | -0.12 | -0.08 | -0.05 | |
| | LF-23 | 0.07 | 0.10 | 0.14 | |
| | #1 LF-3 | 0.02 | 0.03 | 0.04 | |
| | #1 LF-4 | 4.83 | 6.85 | 12.19 | |
| | #1 LF-5 | 8.19 | 3.79 | 0.80 | |
| | #1 LF-6 | -0.02 | -0.01 | 0.00 | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-11 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-12 | -0.04 | -0.03 | -0.02 | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-17 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-18 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-19 | 0.47 | 0.23 | 0.08 | |
| | #1 LF-22 | 0.01 | 0.01 | 0.00 | |
| Qk.N_DA | #2 LF-21 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-23 | -0.01 | 0.00 | 0.00 | |
| | #2 LF-3 | 0.01 | 0.03 | 0.06 | |
| | #2 LF-4 | -0.01 | -0.02 | -0.05 | |
| | #2 LF-5 | 8.17 | 6.33 | 7.58 | |
| | #2 LF-6 | -0.11 | -0.02 | 0.08 | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-12 | 0.01 | 0.01 | 0.01 | |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-16 | -0.01 | 0.00 | 0.00 | |
| | #3 LF-7 | -0.01 | 0.00 | 0.00 | |
| Qk.N_T2 | LF-20 | -0.20 | -0.27 | -0.39 | |
| | #1 LF-20 | -0.03 | -0.04 | -0.08 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-0.32_1 | Lastfall | Lasten (3 Abschnitte je 0.72m) | [kN/m] | | |
| | Gk | LF-1 (g) | 25.15 | 25.51 | 24.09 |
| Ö← | #1 LF-1 | 9.00 | 0.41 | -0.30 | |
| | #2 LF-1 | 6.79 | 0.70 | -0.13 | |
| | #3 LF-1 | 13.85 | 1.76 | -0.24 | |
| | LF-2 | 1.09 | 1.53 | 1.22 | |
| Qk.N_E1 | #1 LF-2 | 0.46 | -0.10 | -0.04 | |
| | #2 LF-2 | 0.38 | 0.01 | -0.01 | |
| | #3 LF-2 | 2.19 | 0.29 | -0.03 | |
| | LF-3 | -0.02 | 0.00 | 0.00 | |
| | LF-4 | -0.44 | -0.28 | -0.05 | |
| | LF-10 | -0.87 | -0.32 | -0.22 | |
| | LF-11 | 0.73 | -2.13 | -4.87 | |
| | LF-14 | 0.00 | 0.00 | 0.00 | |
| | LF-15 | 0.64 | 2.85 | 4.51 | |
| | LF-18 | 0.18 | 0.01 | -0.02 | |
| | LF-19 | 1.42 | 2.41 | 2.65 | |
| | LF-23 | 0.09 | -0.76 | -1.38 | |

| | Lastfall | Lasten (3 Abschnitte je 0.72m) | [kN/m] | | |
|----------|---|--------------------------------|--------|-------|-------|
| Qk.N_DA | #1 | LF-3 | 0.63 | 0.05 | -0.02 |
| | #1 | LF-4 | 0.05 | 0.01 | 0.01 |
| | #1 | LF-5 | -0.02 | -0.05 | -0.01 |
| | #1 | LF-6 | 0.01 | 0.03 | 0.01 |
| | #1 | LF-14 | 0.56 | -0.14 | -0.07 |
| | #1 | LF-17 | 0.25 | 0.03 | 0.01 |
| | #1 | LF-18 | -0.47 | -0.08 | 0.01 |
| | #1 | LF-19 | -0.01 | -0.02 | 0.00 |
| | #2 | LF-19 | -0.02 | -0.01 | 0.00 |
| | #2 | LF-20 | -0.02 | -0.01 | 0.00 |
| | #2 | LF-21 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-22 | 0.93 | 0.07 | -0.03 |
| | #2 | LF-23 | -0.05 | 0.00 | 0.00 |
| | #3 | LF-8 | 0.03 | 0.00 | 0.00 |
| | #2 | LF-3 | 0.10 | 0.02 | 0.01 |
| | #2 | LF-4 | 0.00 | -0.01 | -0.01 |
| | #2 | LF-5 | 0.13 | 0.02 | 0.02 |
| Qk.N_T2 | #2 | LF-6 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-10 | -0.17 | -0.03 | -0.01 |
| | #2 | LF-12 | 0.04 | -0.03 | -0.01 |
| | #2 | LF-13 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-16 | -0.01 | 0.00 | 0.00 |
| | #3 | LF-3 | 0.01 | 0.00 | 0.00 |
| | #3 | LF-4 | 3.81 | 0.54 | -0.05 |
| | #3 | LF-5 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-6 | -0.02 | 0.00 | 0.00 |
| | #3 | LF-7 | 0.58 | 0.03 | -0.02 |
| W-0.32_2 | | LF-20 | 0.01 | 0.12 | 0.18 |
| | #1 | LF-20 | -0.04 | -0.01 | -0.01 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | LF-1 (g) | 21.95 | 21.93 | 21.92 |
| | #1 | LF-1 | -0.21 | -0.22 | -0.23 |
| | #2 | LF-1 | -0.14 | -0.14 | -0.15 |
| | #3 | LF-1 | -0.02 | -0.02 | -0.02 |
| | | LF-2 | 0.52 | 0.51 | 0.51 |
| | #1 | LF-2 | -0.09 | -0.09 | -0.09 |
| | #2 | LF-2 | -0.04 | -0.05 | -0.05 |
| Qk.N_E1 | | LF-10 | -0.15 | -0.15 | -0.15 |
| | | LF-11 | -7.07 | -7.10 | -7.13 |
| | | LF-14 | 0.01 | 0.01 | 0.01 |
| | | LF-15 | 4.90 | 4.90 | 4.91 |
| | | LF-19 | 2.70 | 2.70 | 2.70 |
| | | LF-23 | -1.15 | -1.13 | -1.12 |
| | #1 | LF-3 | -0.09 | -0.09 | -0.10 |
| | #1 | LF-10 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-17 | -0.04 | -0.04 | -0.04 |
| | #1 | LF-18 | -0.02 | -0.02 | -0.02 |
| Qk.N_DA | #2 | LF-3 | -0.06 | -0.07 | -0.07 |
| | #2 | LF-5 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-10 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-12 | 0.00 | 0.00 | -0.01 |
| | #2 | LF-13 | -0.01 | -0.01 | -0.01 |
| | #3 | LF-4 | -0.01 | 0.00 | 0.00 |

| | | | | | |
|----------------|---|---|-------|-------|-------|
| | | Lastfall Lasten (3 Abschnitte je 0.12m) [kN/m] | | | |
| Qk.N_T2 | LF-20 | 0.13 | 0.12 | 0.12 | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| | | Lastfall Lasten (4 Abschnitte je 0.87m) [kN/m] | | | |
| W-0.32_3 Gk | LF-1 (g) | 22.15 | 22.19 | 22.72 | 23.93 |
| | #1 LF-1 | -0.15 | 0.29 | 0.64 | 0.39 |
| | #2 LF-1 | -0.04 | 0.28 | 0.50 | 0.21 |
| | #3 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ö← | LF-2 | 0.61 | 0.62 | 0.75 | 0.95 |
| | #1 LF-2 | -0.07 | 0.09 | 0.23 | 0.18 |
| | #2 LF-2 | -0.02 | 0.07 | 0.13 | 0.09 |
| Qk.N_E1 | LF-10 | -0.06 | -0.04 | -0.03 | -0.02 |
| | LF-11 | -7.33 | -7.59 | -7.55 | -6.57 |
| | LF-14 | 0.05 | 0.08 | 0.14 | 0.75 |
| | LF-15 | 4.81 | 4.88 | 5.05 | 4.63 |
| | LF-16 | 0.00 | -0.01 | -0.06 | -0.44 |
| | LF-19 | 2.70 | 2.69 | 2.30 | 0.94 |
| | LF-23 | -0.56 | -0.37 | -0.26 | -0.19 |
| | #1 LF-3 | -0.08 | 0.08 | 0.21 | 0.21 |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-15 | 0.00 | 0.00 | 0.00 | 0.01 |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | -0.02 |
| | #1 LF-17 | -0.03 | 0.06 | 0.14 | 0.13 |
| | #1 LF-18 | -0.01 | 0.04 | 0.08 | 0.03 |
| | #2 LF-17 | 0.00 | -0.01 | -0.01 | -0.02 |
| Qk.N_DA | #2 LF-3 | -0.04 | 0.10 | 0.22 | 0.21 |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-10 | 0.00 | 0.01 | 0.01 | -0.01 |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-12 | 0.01 | 0.03 | 0.05 | 0.02 |
| | #2 LF-13 | 0.00 | 0.01 | 0.01 | -0.02 |
| Qk.N_T2 | LF-20 | 0.05 | 0.03 | 0.02 | 0.02 |
| | LF-22 | -0.01 | 0.01 | 0.41 | 1.73 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.08m) [kN/m] | | | |
| W-0.32_4 Gk | LF-1 (g) | 25.45 | 25.81 | 26.17 | |
| | #1 LF-1 | -0.72 | -0.33 | 0.06 | |
| | #2 LF-1 | -0.55 | -0.11 | 0.34 | |
| Ö← | LF-2 | 1.52 | 1.82 | 2.11 | |
| | #1 LF-2 | -0.29 | -0.24 | -0.18 | |
| | #2 LF-2 | -0.19 | -0.14 | -0.10 | |
| Qk.N_E1 | LF-11 | -2.02 | -2.23 | -2.43 | |
| | LF-14 | -2.13 | -3.60 | -5.07 | |
| | LF-15 | 2.34 | 3.28 | 4.22 | |
| | LF-16 | 2.81 | 3.82 | 4.83 | |
| | LF-19 | -0.06 | -0.06 | -0.05 | |
| | LF-23 | 0.02 | 0.00 | -0.01 | |
| | #1 LF-3 | -0.33 | -0.37 | -0.42 | |
| | #1 LF-7 | 0.00 | 0.01 | 0.01 | |
| | #1 LF-10 | -0.08 | -0.09 | -0.11 | |
| | #1 LF-15 | -0.01 | -0.02 | -0.04 | |
| | #1 LF-16 | 0.03 | 0.09 | 0.14 | |
| | #1 LF-17 | -0.17 | -0.17 | -0.16 | |

| | | Lastfall Lasten (3 Abschnitte je 0.08m) | | | [kN/m] |
|---|----|---|-------|-------|--------|
| Qk.N_DA | #1 | LF-18 | 0.01 | 0.11 | 0.21 |
| | #2 | LF-17 | -0.07 | -0.05 | -0.04 |
| | #2 | LF-3 | -0.37 | -0.44 | -0.50 |
| | #2 | LF-6 | 0.00 | 0.01 | 0.01 |
| | #2 | LF-10 | 0.05 | 0.10 | 0.16 |
| | #2 | LF-11 | -0.01 | -0.02 | -0.03 |
| | #2 | LF-12 | 0.00 | 0.04 | 0.09 |
| | #2 | LF-13 | 0.01 | 0.07 | 0.13 |
| Qk.N_T2 | | LF-22 | 1.09 | 1.03 | 0.96 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
| W-0.33 Gk | | LF-1 (g) | 108.1 | 95.56 | 88.45 |
| | #1 | LF-1 | 144.6 | 135.7 | 120.7 |
| | #2 | LF-1 | 155.8 | 151.8 | 141.5 |
| | #3 | LF-1 | -0.01 | -0.01 | -0.01 |
| Ö← | | LF-2 | 45.20 | 40.75 | 39.50 |
| | #1 | LF-2 | 63.44 | 59.71 | 53.43 |
| | #2 | LF-2 | 54.18 | 52.97 | 49.61 |
| Qk.N_E1 | | LF-3 | -0.01 | -0.01 | -0.01 |
| | | LF-4 | 0.00 | 0.00 | 0.00 |
| | | LF-10 | 54.23 | 45.16 | 39.08 |
| | | LF-11 | 0.23 | 0.16 | 0.10 |
| | | LF-15 | -0.02 | -0.01 | -0.01 |
| | | LF-18 | 0.00 | 0.01 | 0.02 |
| | | LF-23 | 0.16 | 0.12 | 0.07 |
| | #1 | LF-3 | 0.25 | 0.22 | 0.17 |
| | #1 | LF-4 | 71.50 | 65.43 | 56.35 |
| | #1 | LF-5 | 6.32 | 5.16 | 3.46 |
| | #1 | LF-6 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-7 | 0.01 | 0.00 | 0.00 |
| | #1 | LF-11 | 0.01 | 0.01 | 0.01 |
| | #1 | LF-12 | -0.09 | -0.07 | -0.05 |
| | #1 | LF-14 | 0.01 | 0.01 | 0.00 |
| | #1 | LF-17 | 0.07 | 0.06 | 0.05 |
| | #1 | LF-18 | -0.06 | -0.05 | -0.04 |
| | #1 | LF-19 | 0.43 | 0.32 | 0.17 |
| | #1 | LF-22 | 0.03 | 0.02 | 0.02 |
| | #2 | LF-21 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-23 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | #2 | LF-3 | 0.39 | 0.36 | 0.30 |
| | #2 | LF-4 | -0.34 | -0.31 | -0.27 |
| | #2 | LF-5 | 54.26 | 51.94 | 47.12 |
| | #2 | LF-6 | 0.44 | 0.40 | 0.34 |
| | #2 | LF-10 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-11 | 0.01 | 0.00 | 0.00 |
| | #2 | LF-12 | -0.01 | -0.01 | -0.01 |
| | #2 | LF-15 | 0.01 | 0.01 | 0.00 |
| | #2 | LF-16 | -0.01 | -0.01 | -0.01 |
| | #3 | LF-4 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-7 | -0.01 | -0.01 | -0.01 |
| Qk.N_T2 | | LF-20 | -0.48 | -0.34 | -0.21 |
| | #1 | LF-20 | -0.44 | -0.38 | -0.29 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

W-0.34

Gk

Lastfall Lasten (3 Abschnitte je 0.79m) [kN/m]

| | | | |
|----------|-------|-------|-------|
| LF-1 (g) | 70.01 | 75.26 | 79.08 |
| #1 LF-1 | 48.06 | 74.64 | 98.85 |
| #2 LF-1 | 42.78 | 45.70 | 43.39 |
| #3 LF-1 | 0.20 | 0.26 | 0.22 |

Ö←

| | | | |
|---------|-------|-------|-------|
| LF-2 | 18.56 | 19.99 | 21.15 |
| #1 LF-2 | 10.73 | 20.88 | 30.09 |
| #2 LF-2 | 8.53 | 9.77 | 9.88 |
| #3 LF-2 | 0.02 | 0.03 | 0.03 |

Qk.N_E1

| | | | |
|----------|-------|-------|-------|
| LF-3 | 9.21 | 5.26 | 3.48 |
| LF-4 | 0.03 | -0.02 | -0.14 |
| LF-6 | 0.08 | -0.14 | -0.11 |
| LF-7 | -1.19 | 0.63 | 0.56 |
| LF-8 | 0.01 | 0.00 | 0.00 |
| LF-9 | -0.08 | -0.07 | -0.05 |
| LF-10 | 18.79 | 25.34 | 30.12 |
| LF-12 | -0.05 | -0.05 | -0.05 |
| LF-16 | 0.00 | 0.00 | 0.00 |
| LF-17 | 2.85 | 0.09 | -0.49 |
| LF-18 | 5.70 | 7.39 | 7.52 |
| #1 LF-4 | -0.04 | 0.00 | 0.08 |
| #1 LF-5 | 15.40 | 21.62 | 32.27 |
| #1 LF-6 | 0.00 | 0.01 | -0.01 |
| #1 LF-7 | -3.86 | -1.09 | -0.51 |
| #1 LF-11 | -5.77 | -1.87 | -1.06 |
| #1 LF-12 | 5.84 | 5.22 | 5.48 |
| #1 LF-13 | 2.69 | 4.42 | 3.46 |
| #1 LF-14 | -0.40 | -0.75 | -0.30 |
| #1 LF-15 | -0.52 | -1.66 | -1.03 |
| #1 LF-18 | 0.00 | 0.00 | 0.00 |
| #1 LF-19 | 16.11 | 17.61 | 21.70 |
| #1 LF-22 | -11.2 | -5.07 | -4.27 |
| #2 LF-18 | 0.24 | 0.45 | 0.37 |
| #2 LF-21 | -0.19 | -0.27 | -0.24 |
| #2 LF-22 | 0.06 | 0.06 | 0.04 |
| #2 LF-23 | 0.00 | 0.01 | -0.01 |
| #3 LF-8 | 0.00 | -0.01 | -0.03 |

Qk.N_DA

| | | | |
|----------|-------|-------|-------|
| #2 LF-5 | 26.32 | 28.45 | 24.85 |
| #2 LF-6 | -11.9 | -10.6 | -6.42 |
| #2 LF-10 | 0.01 | 0.01 | 0.00 |
| #2 LF-11 | 0.64 | -0.81 | -1.03 |
| #2 LF-12 | 0.00 | 0.00 | 0.00 |
| #2 LF-14 | 1.98 | 2.37 | 1.91 |
| #2 LF-15 | -0.23 | -0.20 | 0.09 |
| #2 LF-16 | 0.00 | 0.00 | -0.02 |
| #3 LF-3 | 0.01 | 0.00 | -0.01 |
| #3 LF-4 | -0.06 | -0.05 | -0.04 |
| #3 LF-5 | 0.09 | 0.15 | 0.15 |
| #3 LF-6 | -0.05 | -0.10 | -0.09 |
| #3 LF-7 | 0.04 | 0.07 | 0.05 |

Qk.N_T2

| | | | |
|----------|------|------|------|
| LF-20 | 0.00 | 0.00 | 0.00 |
| LF-21 | 0.00 | 0.00 | 0.00 |
| #1 LF-20 | 0.00 | 0.00 | 0.00 |
| #1 LF-21 | 0.00 | 0.00 | 0.00 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.35

Gk

Lastfall Lasten (6 Abschnitte je 0.88m) [kN/m]

Ö←

Qk.N_E1

Qk.N_DA

| | | | | | | |
|----------|-------|-------|-------|-------|-------|-------|
| LF-1 (g) | 86.62 | 86.78 | 86.05 | 84.90 | 98.79 | 185.5 |
| #1 LF-1 | 84.01 | 76.96 | 70.13 | 21.20 | 0.19 | 4.48 |
| #2 LF-1 | 81.18 | 79.11 | 62.56 | 17.72 | 0.11 | 3.72 |
| #3 LF-1 | 0.46 | 1.61 | 3.23 | 1.25 | 0.24 | 0.12 |
| LF-2 | 23.49 | 23.53 | 23.27 | 22.88 | 27.77 | 58.12 |
| #1 LF-2 | 23.84 | 21.06 | 20.62 | 6.37 | 0.01 | 1.50 |
| #2 LF-2 | 19.01 | 18.15 | 14.73 | 4.18 | -0.04 | 1.03 |
| #3 LF-2 | -0.04 | 0.13 | 0.31 | 0.12 | 0.02 | 0.00 |
| LF-3 | 0.85 | 0.54 | 0.34 | 0.21 | 0.13 | 0.11 |
| LF-4 | -1.16 | -1.19 | -1.05 | -0.77 | -0.43 | -0.14 |
| LF-7 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| LF-9 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| LF-10 | 39.53 | 39.91 | 39.71 | 39.23 | 47.06 | 96.04 |
| LF-11 | -0.01 | -0.03 | -0.06 | -0.06 | 0.12 | 0.91 |
| LF-12 | -0.02 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| LF-15 | 0.02 | 0.04 | 0.03 | -0.08 | -0.17 | 0.07 |
| LF-17 | -0.04 | -0.02 | -0.01 | -0.01 | 0.00 | 0.00 |
| LF-18 | 6.50 | 6.50 | 6.31 | 6.03 | 7.46 | 16.37 |
| LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| LF-23 | -0.01 | -0.02 | -0.03 | -0.02 | 0.10 | 0.60 |
| #1 LF-3 | 0.00 | -0.01 | -0.02 | 0.00 | 0.02 | -0.03 |
| #1 LF-4 | 0.50 | -0.12 | -0.34 | -0.28 | -0.21 | 1.36 |
| #1 LF-5 | 24.91 | 22.28 | 22.03 | 6.86 | 0.08 | 0.72 |
| #1 LF-6 | -0.29 | 2.67 | 4.41 | 1.67 | 0.24 | -0.05 |
| #1 LF-7 | -0.04 | -0.03 | -0.03 | -0.01 | 0.00 | 0.00 |
| #1 LF-11 | -0.08 | -0.07 | -0.06 | -0.02 | 0.00 | 0.00 |
| #1 LF-12 | 0.78 | 0.57 | 0.52 | 0.16 | 0.00 | -0.01 |
| #1 LF-13 | -0.16 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 |
| #1 LF-14 | 3.07 | 0.12 | -0.96 | -0.36 | -0.05 | -0.08 |
| #1 LF-15 | 0.01 | -0.02 | -0.02 | 0.00 | 0.00 | 0.00 |
| #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | -0.05 |
| #1 LF-18 | -0.01 | -0.29 | -0.58 | -0.28 | -0.09 | 0.36 |
| #1 LF-19 | 16.07 | 14.42 | 13.84 | 4.28 | 0.05 | 0.44 |
| #1 LF-22 | -0.46 | -0.34 | -0.33 | -0.10 | 0.00 | 0.01 |
| #2 LF-18 | -0.06 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| #2 LF-19 | -0.06 | -0.01 | 0.07 | 0.09 | 0.08 | 0.04 |
| #2 LF-20 | 0.00 | -0.01 | -0.03 | -0.02 | -0.01 | 0.02 |
| #2 LF-21 | 0.26 | -0.19 | -0.26 | -0.09 | -0.01 | 0.00 |
| #2 LF-22 | -0.05 | -0.16 | -0.28 | -0.03 | 0.08 | 0.03 |
| #2 LF-23 | -0.26 | 0.36 | 0.84 | 0.38 | 0.11 | 0.01 |
| #3 LF-8 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| #2 LF-3 | 0.01 | -0.01 | -0.01 | 0.02 | 0.03 | -0.04 |
| #2 LF-4 | -0.01 | -0.02 | -0.04 | -0.03 | -0.03 | 0.11 |
| #2 LF-5 | 36.20 | 33.97 | 26.99 | 7.49 | -0.22 | 1.64 |
| #2 LF-6 | -0.83 | -0.62 | -0.40 | -0.10 | 0.00 | 0.01 |
| #2 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| #2 LF-11 | 0.01 | -0.02 | -0.02 | -0.01 | 0.00 | 0.00 |
| #2 LF-12 | 0.00 | -0.19 | -0.38 | -0.20 | -0.07 | 0.30 |
| #2 LF-14 | -0.09 | -0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| #2 LF-15 | 1.78 | 0.53 | -0.11 | -0.09 | -0.02 | 0.00 |
| #2 LF-16 | 0.57 | 2.26 | 2.89 | 0.99 | 0.08 | -0.06 |
| #3 LF-4 | 0.05 | -0.10 | -0.07 | -0.02 | 0.00 | 0.00 |
| #3 LF-5 | 0.00 | -0.06 | -0.06 | -0.02 | 0.00 | 0.00 |
| #3 LF-6 | 0.09 | -0.08 | -0.13 | -0.05 | -0.01 | 0.00 |
| #3 LF-7 | -0.22 | 0.49 | 0.89 | 0.33 | 0.05 | 0.01 |

D-679

| | | Lastfall Lasten (6 Abschnitte je 0.88m) | | | | | | [kN/m] |
|--------------|---|---|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | LF-20 | 0.00 | 0.00 | 0.01 | 0.00 | -0.20 | -0.95 | |
| | #1 LF-20 | -0.01 | -0.02 | -0.04 | -0.04 | -0.04 | 0.11 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| | | Lastfall Lasten (9 Abschnitte je 0.96m) | | | | | | [kN/m] |
| W-0.36 Gk | LF-1 (g) | 199.21 | 99.60 | 37.94 | 98.91 | 69.85 | 42.79 | 44.83 |
| | | 43.29 | 2.57 | | | | | |
| | #1 LF-1 | 149.57 | 114.9 | 82.42 | 63.24 | 55.47 | 49.16 | 45.88 |
| | | 36.33 | 9.47 | | | | | |
| | #2 LF-1 | 129.69 | 110.5 | 65.02 | 47.23 | 57.12 | 68.80 | 63.25 |
| | | 46.92 | 25.55 | | | | | |
| | #3 LF-1 | -1.26 | -0.69 | -0.03 | 0.06 | 0.03 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| Ö← | LF-2 | 61.36 | 27.20 | 5.50 | 26.92 | 16.45 | 7.18 | 7.90 |
| | | 7.27 | -5.65 | | | | | |
| | #1 LF-2 | 47.08 | 33.18 | 21.11 | 14.08 | 11.41 | 9.39 | 8.21 |
| | | 4.99 | -2.54 | | | | | |
| | #2 LF-2 | 34.25 | 27.47 | 13.38 | 7.86 | 11.03 | 14.69 | 12.83 |
| | | 8.15 | 3.77 | | | | | |
| | #3 LF-2 | -0.13 | -0.07 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_E1 | LF-3 | 0.02 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-4 | 0.08 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-10 | 103.65 | 49.64 | 7.48 | 45.86 | 24.66 | 13.43 | 15.56 |
| | | 14.20 | -15.1 | | | | | |
| | LF-11 | 0.16 | -0.94 | -1.61 | -5.49 | -3.57 | 0.28 | 0.26 |
| | | 0.08 | -0.29 | | | | | |
| | LF-15 | 0.19 | -0.06 | 0.05 | 0.30 | 0.20 | -0.02 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| | LF-18 | 10.54 | 0.02 | -0.57 | -0.32 | -0.02 | 0.03 | 0.01 |
| | | 0.00 | 0.02 | | | | | |
| | LF-19 | 0.00 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-23 | -0.17 | -0.83 | -1.23 | -3.88 | -2.45 | 0.20 | 0.18 |
| | | 0.06 | -0.21 | | | | | |
| | #1 LF-3 | -1.29 | -2.03 | -3.70 | -3.91 | -2.31 | -0.30 | 0.19 |
| | | 0.03 | -0.18 | | | | | |
| | #1 LF-4 | 37.46 | 34.77 | 32.18 | 20.23 | 17.59 | 17.58 | 16.36 |
| | | 9.52 | -8.63 | | | | | |
| | #1 LF-5 | 24.89 | 13.47 | 3.23 | 0.58 | 0.15 | -0.03 | -0.07 |
| | | -0.24 | -1.17 | | | | | |
| | #1 LF-6 | -0.87 | -0.36 | 0.02 | 0.03 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-12 | 0.02 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-14 | 0.08 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-17 | -0.76 | -0.77 | -1.03 | -0.97 | -0.55 | -0.06 | 0.05 |
| | | 0.01 | -0.05 | | | | | |
| | #1 LF-18 | 7.56 | 3.29 | -0.10 | -0.16 | -0.03 | -0.01 | -0.01 |
| | | 0.00 | 0.02 | | | | | |

Qk.N_DA

| Lastfall | Lasten (9 Abschnitte je 0.96m) | [kN/m] |
|------------|---|-------------|
| #1 LF-19 | 15.63 7.67 0.77 -0.14 -0.10 -0.06 -0.05 | -0.06 -0.23 |
| #1 LF-22 | -0.01 0.00 0.01 0.01 0.00 0.00 0.00 | 0.00 0.00 |
| #2 LF-17 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 |
| #2 LF-19 | -0.09 -0.04 0.01 0.00 0.00 0.00 0.00 | 0.00 0.00 |
| #2 LF-20 | 0.39 0.18 -0.02 -0.03 -0.01 0.00 0.00 | 0.00 0.00 |
| #2 LF-21 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 |
| #2 LF-22 | 0.03 0.03 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 |
| #2 LF-23 | -0.34 -0.16 0.01 0.02 0.01 0.00 0.00 | 0.00 0.00 |
| #2 LF-3 | -1.69 -2.37 -2.81 -3.17 -4.60 -5.52 -4.98 | -4.66 -3.84 |
| #2 LF-4 | 5.42 6.19 5.77 5.63 6.49 7.31 7.61 | 8.36 7.56 |
| #2 LF-5 | 58.65 47.75 23.56 13.40 20.12 27.57 23.34 | 11.87 -2.50 |
| #2 LF-6 | 0.00 0.01 0.02 0.01 0.01 0.01 0.00 | 0.00 0.00 |
| #2 LF-10 | 0.03 0.03 0.04 0.04 0.04 0.04 0.03 | 0.03 0.02 |
| #2 LF-12 | 6.06 3.16 0.04 -0.25 -0.02 0.10 0.09 | 0.07 0.05 |
| #2 LF-13 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 |
| #2 LF-15 | 0.01 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 |
| #2 LF-16 | -0.37 -0.19 0.00 0.02 0.01 0.00 0.00 | 0.00 0.00 |
| #3 LF-4 | 0.01 0.01 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 |
| #3 LF-6 | 0.02 0.01 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 |
| #3 LF-7 | -0.30 -0.15 0.00 0.01 0.01 0.00 0.00 | 0.00 0.00 |
| LF-20 | 6.02 6.40 6.82 16.66 13.22 -0.14 -0.69 | -0.20 0.62 |
| #1 LF-20 | 6.58 8.01 10.84 12.73 8.23 1.74 0.17 | 0.54 0.84 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.37
Gk

Ö←

| Lastfall | Lasten (3 Abschnitte je 0.84m) | [kN/m] |
|-----------|--------------------------------|--------|
| LF-1 (g) | 23.27 23.93 22.45 | |
| #1 LF-1 | 27.41 26.01 27.61 | |
| #2 LF-1 | 25.78 20.87 23.97 | |
| #3 LF-1 | 25.09 23.81 18.38 | |
| LF-2 | 0.86 0.59 0.14 | |
| #1 LF-2 | 1.67 1.23 2.27 | |
| #2 LF-2 | 0.62 -0.61 0.88 | |
| #3 LF-2 | 1.22 2.08 1.58 | |

D-681

Schulcampus EWK \

EG-LP4

| | Lastfall | Lasten (3 Abschnitte je 0.84m) | | | | [kN/m] | | |
|---|------------|--------------------------------|-------|-------|--|--------|--|--|
| Qk.N_E1 | LF-3 | -1.76 | -0.83 | -0.67 | | | | |
| | LF-4 | -0.07 | -0.68 | -0.86 | | | | |
| | LF-6 | 0.31 | -0.52 | -0.09 | | | | |
| | LF-7 | -0.69 | 2.15 | 0.35 | | | | |
| | LF-8 | 0.01 | -0.02 | 0.00 | | | | |
| | LF-9 | 0.04 | -0.01 | 0.01 | | | | |
| | LF-10 | -6.03 | -4.26 | -4.17 | | | | |
| | LF-12 | 0.01 | 0.01 | 0.01 | | | | |
| | LF-13 | 0.00 | 0.00 | 0.00 | | | | |
| | LF-15 | 0.00 | 0.00 | 0.00 | | | | |
| | LF-16 | -0.01 | 0.01 | 0.00 | | | | |
| | LF-17 | 2.51 | -1.79 | -0.29 | | | | |
| | LF-18 | 4.28 | 4.38 | 3.70 | | | | |
| | #1 LF-4 | 0.00 | 0.01 | 0.01 | | | | |
| | #1 LF-5 | 0.51 | 0.77 | 1.33 | | | | |
| | #1 LF-6 | 0.00 | 0.02 | 0.03 | | | | |
| | #1 LF-7 | -1.54 | 0.59 | 0.28 | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | | | | |
| | #1 LF-11 | -1.04 | -0.52 | -0.11 | | | | |
| | #1 LF-12 | 0.15 | 0.12 | 0.14 | | | | |
| | #1 LF-13 | 2.89 | 4.42 | 2.71 | | | | |
| | #1 LF-14 | -0.29 | -0.83 | 0.26 | | | | |
| | #1 LF-15 | 2.29 | -2.70 | -1.10 | | | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | | | | |
| | #1 LF-19 | 0.34 | 0.36 | 0.58 | | | | |
| | #1 LF-22 | -1.01 | 0.07 | -0.01 | | | | |
| | #2 LF-18 | 2.63 | 3.34 | 2.33 | | | | |
| | #2 LF-21 | -0.11 | -0.17 | 0.11 | | | | |
| | #2 LF-22 | -0.19 | -0.22 | 1.11 | | | | |
| | #2 LF-23 | 0.00 | 0.01 | 0.02 | | | | |
| | #3 LF-8 | 4.31 | 5.78 | 4.42 | | | | |
| Qk.N_DA | #2 LF-5 | 0.14 | 0.37 | 1.01 | | | | |
| | #2 LF-6 | -3.80 | -2.69 | -0.86 | | | | |
| | #2 LF-7 | 0.01 | -0.01 | 0.00 | | | | |
| | #2 LF-8 | -0.01 | 0.00 | 0.00 | | | | |
| | #2 LF-10 | 0.02 | 0.04 | 0.01 | | | | |
| | #2 LF-11 | 2.81 | -1.53 | -1.18 | | | | |
| | #2 LF-14 | 0.13 | 0.25 | 0.14 | | | | |
| | #2 LF-15 | -0.06 | -0.15 | -0.16 | | | | |
| | #2 LF-16 | 0.00 | 0.01 | 0.01 | | | | |
| | #3 LF-3 | 2.51 | 3.00 | 2.36 | | | | |
| | #3 LF-4 | -2.06 | -1.70 | -2.35 | | | | |
| | #3 LF-5 | 2.09 | 3.15 | 3.22 | | | | |
| | #3 LF-6 | -0.11 | -0.38 | -0.14 | | | | |
| | #3 LF-7 | 0.02 | 0.08 | 0.06 | | | | |
| Qk.N_T2 | LF-21 | -0.01 | 0.01 | 0.00 | | | | |
| | #1 LF-21 | 0.00 | -0.01 | 0.00 | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |

| | Lastfall | Lasten (10 Abschnitte je 1.00m) | | | | | | | [kN/m] | |
|--------------|-----------|---------------------------------|-------|-------|-------|-------|-------|-------|--------|--|
| W-0.38 Gk | LF-1 (g) | 54.77 | 21.16 | 21.62 | 30.63 | 33.94 | 34.35 | 34.37 | | |
| | | 33.35 | 29.45 | 19.33 | | | | | | |
| | #1 LF-1 | 24.39 | 23.60 | 24.32 | 28.40 | 30.98 | 31.59 | 31.82 | | |
| | | 31.34 | 28.14 | 22.57 | | | | | | |
| | #2 LF-1 | 18.28 | 23.02 | 24.73 | 27.25 | 29.33 | 30.47 | 31.21 | | |

| | | Lastfall Lasten (10 Abschnitte je 1.00m) | | | | | | | [kN/m] |
|---------|-----------|--|-------|-------|-------|-------|-------|-------|--------|
| Ö← | #3 LF-1 | 30.75 | 25.87 | 15.15 | | | | | |
| | | 50.10 | 54.30 | 32.67 | 47.11 | 53.02 | 57.66 | 57.86 | |
| | | 54.31 | 49.54 | 27.86 | | | | | |
| | LF-2 | 8.29 | -0.43 | -0.44 | 3.27 | 4.59 | 4.74 | 4.74 | |
| | | 4.29 | 2.43 | 0.31 | | | | | |
| | | | | | | | | | |
| | #1 LF-2 | 0.58 | 0.29 | 0.64 | 2.49 | 3.60 | 3.86 | 3.94 | |
| | | 3.63 | 2.49 | 2.02 | | | | | |
| | | | | | | | | | |
| | #2 LF-2 | -0.96 | 0.18 | 0.60 | 1.52 | 2.22 | 2.56 | 2.76 | |
| | | 2.70 | 2.10 | 1.09 | | | | | |
| | | | | | | | | | |
| | #3 LF-2 | 7.68 | 9.05 | 4.19 | 6.54 | 7.49 | 8.36 | 9.23 | |
| | | 9.63 | 8.88 | 4.41 | | | | | |
| | | | | | | | | | |
| Qk.N_E1 | LF-3 | 0.01 | -0.03 | -0.11 | 0.11 | 0.17 | 0.12 | 0.08 | |
| | | 0.05 | 0.01 | -0.02 | | | | | |
| | | | | | | | | | |
| | LF-4 | 0.02 | -0.44 | -0.62 | 5.52 | 7.34 | 7.44 | 7.41 | |
| | | 7.00 | 4.47 | 0.83 | | | | | |
| | | | | | | | | | |
| | LF-6 | -8.01 | 0.35 | -0.23 | -0.04 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | | | | | | | | | |
| | LF-7 | 2.75 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | | | | | | | | | |
| | LF-8 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | | | | | | | | | |
| | LF-9 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | | | | | | | | | |
| | LF-10 | 0.02 | -0.32 | -1.46 | 1.41 | 2.65 | 2.88 | 2.96 | |
| | | 2.67 | 1.00 | -1.76 | | | | | |
| | | | | | | | | | |
| | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | |
| | | 0.32 | 3.13 | -12.3 | | | | | |
| | | | | | | | | | |
| | LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | | | | | | | | | |
| | LF-13 | -0.12 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | | | | | | | | | |
| | LF-14 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.01 | | | | | |
| | | | | | | | | | |
| | LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | -0.01 | |
| | | -0.54 | -3.40 | 12.75 | | | | | |
| | | | | | | | | | |
| | LF-16 | 0.43 | -0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | | | | | | | | | |
| | LF-17 | 17.19 | -0.94 | 0.56 | 0.09 | -0.01 | -0.01 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | | | | | | | | | |
| | LF-18 | 0.01 | 0.10 | 0.44 | -0.45 | -0.80 | -0.81 | -0.79 | |
| | | -0.74 | -0.35 | 0.32 | | | | | |
| | | | | | | | | | |
| | LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | -0.02 | -0.13 | 1.38 | | | | | |
| | | | | | | | | | |
| | LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 | |
| | | 0.16 | 1.26 | -4.85 | | | | | |
| | | | | | | | | | |
| | #1 LF-3 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | |
| | | 0.17 | 0.87 | 1.35 | | | | | |
| | | | | | | | | | |
| | #1 LF-4 | 0.00 | 0.00 | -0.01 | 0.00 | 0.01 | 0.04 | 0.09 | |
| | | 0.12 | 0.12 | 0.25 | | | | | |
| | | | | | | | | | |
| | #1 LF-5 | 0.02 | -0.05 | -0.05 | 0.12 | 0.33 | 0.48 | 0.62 | |
| | | 0.60 | 0.31 | 0.33 | | | | | |
| | | | | | | | | | |
| | #1 LF-6 | 0.00 | 0.00 | 0.02 | 0.01 | -0.04 | -0.16 | -0.29 | |
| | | -0.29 | -0.15 | -0.16 | | | | | |
| | | | | | | | | | |
| | #1 LF-7 | 1.46 | 0.92 | -0.03 | -0.02 | -0.01 | 0.00 | 0.00 | |
| | | 0.00 | 0.00 | 0.00 | | | | | |
| | | | | | | | | | |

| Lastfall | Lasten | (10 Abschnitte je 1.00m) | | | | [kN/m] | | |
|------------|--------|--------------------------|-------|-------|-------|--------|-------|-------|
| #1 LF-8 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #1 LF-10 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #1 LF-11 | -0.20 | 0.13 | 0.00 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #1 LF-12 | 0.02 | 0.00 | 0.00 | 0.01 | 0.03 | 0.02 | 0.02 | 0.02 |
| | 0.01 | 0.00 | 0.00 | | | | | |
| #1 LF-13 | 0.04 | 0.01 | 0.02 | -0.02 | -0.01 | 0.01 | 0.01 | 0.01 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #1 LF-14 | -0.05 | -0.34 | 0.98 | 4.77 | 6.77 | 7.11 | 7.16 | 7.16 |
| | 6.66 | 4.54 | 2.32 | | | | | |
| #1 LF-15 | -0.60 | -0.60 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #1 LF-16 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.08 | 0.36 | 0.67 | | | | | |
| #1 LF-18 | -0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.01 | 0.01 |
| | -0.31 | -1.06 | -0.63 | | | | | |
| #1 LF-19 | 0.03 | -0.02 | -0.01 | 0.04 | 0.12 | 0.19 | 0.24 | 0.24 |
| | 0.24 | 0.13 | 0.13 | | | | | |
| #1 LF-22 | 0.01 | 0.08 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-17 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-18 | -0.01 | 0.02 | 0.00 | -0.03 | -0.03 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.03 | -0.01 | -0.01 |
| | 0.06 | 0.06 | -0.04 | | | | | |
| #2 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | -0.03 | -0.08 | -0.02 | | | | | |
| #2 LF-21 | 0.00 | 0.00 | -0.06 | -0.05 | -0.08 | -0.09 | -0.07 | -0.07 |
| | -0.03 | 0.00 | 0.00 | | | | | |
| #2 LF-22 | -0.07 | -0.31 | 1.24 | 4.28 | 6.19 | 6.99 | 7.41 | 7.41 |
| | 7.13 | 5.29 | 2.18 | | | | | |
| #2 LF-23 | 0.00 | 0.00 | 0.01 | -0.02 | -0.05 | -0.10 | -0.16 | -0.16 |
| | -0.17 | -0.14 | -0.12 | | | | | |
| #3 LF-8 | 3.13 | 4.72 | 2.18 | -0.49 | -0.77 | -0.26 | -0.07 | -0.07 |
| | -0.03 | 0.03 | 0.05 | | | | | |
| #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | 0.02 | 0.02 |
| | 0.43 | 1.08 | 0.36 | | | | | |
| #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | -0.02 | -0.03 | -0.06 | | | | | |
| #2 LF-5 | 0.02 | -0.08 | -0.01 | 0.22 | 0.52 | 0.72 | 0.89 | 0.89 |
| | 0.93 | 0.75 | 0.44 | | | | | |
| #2 LF-6 | -2.68 | 0.67 | 0.16 | -0.01 | -0.03 | -0.03 | -0.02 | -0.02 |
| | -0.01 | 0.00 | -0.01 | | | | | |
| #2 LF-7 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-8 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-10 | -0.57 | -0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.04 | 0.01 | -0.32 | | | | | |
| #2 LF-11 | 0.67 | -0.53 | -0.05 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |

Qk.N_DA

D-684

Schulcampus EWK \

EG-LP4

| Lastfall | | Lasten (10 Abschnitte je 1.00m) | | | | [kN/m] | | |
|----------|------------|---------------------------------|-------|-------|-------|--------|-------|-------|
| | | 0.00 | 0.00 | 0.00 | | | | |
| #2 | LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | -0.02 |
| | | -0.49 | -1.03 | 0.34 | | | | |
| #2 | LF-13 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | | | | |
| #2 | LF-14 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | | | | |
| #2 | LF-15 | 0.00 | 0.01 | 0.00 | -0.04 | -0.07 | -0.07 | -0.03 |
| | | -0.01 | 0.00 | 0.00 | | | | |
| #2 | LF-16 | 0.00 | 0.00 | 0.01 | 0.00 | -0.02 | -0.06 | -0.11 |
| | | -0.12 | -0.08 | -0.05 | | | | |
| #3 | LF-3 | 2.06 | 2.29 | 1.03 | -0.09 | -0.25 | -0.09 | -0.03 |
| | | -0.01 | 0.01 | 0.01 | | | | |
| #3 | LF-4 | 13.46 | 16.17 | 6.49 | 10.49 | 11.57 | 12.20 | 12.57 |
| | | 12.55 | 12.72 | 7.34 | | | | |
| #3 | LF-5 | -0.15 | -0.08 | 0.79 | 1.31 | 0.90 | 0.19 | -0.05 |
| | | -0.03 | -0.01 | 0.00 | | | | |
| #3 | LF-6 | -0.05 | -0.19 | 0.22 | 1.69 | 2.81 | 2.59 | 1.10 |
| | | -0.01 | -0.17 | -0.04 | | | | |
| #3 | LF-7 | 0.05 | -0.08 | -0.14 | -0.33 | -0.04 | 1.83 | 4.86 |
| | | 6.77 | 5.21 | 1.50 | | | | |
| Qk.N_T2 | LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.02 | -0.15 | 0.64 | | | | |
| | LF-21 | 0.32 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | | | | |
| | #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.03 | -0.22 | | | | |
| | #1 LF-21 | -0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.39_1

Gk

Ö←

Qk.N_E1

| Lastfall | | Lasten (4 Abschnitte je 0.75m) | | | | [kN/m] | | |
|----------|------|--------------------------------|--|--|-------|--------|-------|-------|
| LF-1 (g) | | | | | 17.87 | 11.12 | 1.40 | -3.09 |
| #1 | LF-1 | | | | 16.54 | 19.27 | 21.72 | 21.69 |
| #2 | LF-1 | | | | 15.97 | 16.59 | 15.59 | 14.16 |
| #3 | LF-1 | | | | 8.43 | 10.20 | 10.54 | 9.53 |
| LF-2 | | | | | -0.22 | -2.93 | -6.53 | -6.61 |
| #1 | LF-2 | | | | -0.07 | -0.82 | -0.04 | 1.21 |
| #2 | LF-2 | | | | -0.09 | -0.73 | -0.41 | 0.36 |
| #3 | LF-2 | | | | 0.78 | 0.89 | 0.74 | 0.49 |
| LF-3 | | | | | -0.27 | -0.23 | -0.24 | -0.30 |
| LF-4 | | | | | 9.79 | 7.34 | 2.90 | -0.54 |
| LF-7 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| LF-9 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| LF-10 | | | | | -18.6 | -20.9 | -27.0 | -45.8 |
| LF-11 | | | | | 0.39 | 0.83 | 0.83 | -0.90 |
| LF-12 | | | | | 0.01 | 0.00 | 0.00 | 0.01 |
| LF-15 | | | | | -0.99 | -2.23 | -1.48 | 8.84 |
| LF-17 | | | | | 0.01 | 0.01 | 0.01 | 0.01 |
| LF-18 | | | | | 7.70 | 7.77 | 9.87 | 20.70 |
| LF-19 | | | | | -0.02 | -0.03 | -0.03 | 0.01 |
| LF-23 | | | | | 0.21 | 0.49 | 0.48 | -0.92 |
| #1 | LF-3 | | | | 0.21 | 0.42 | 0.49 | 0.14 |
| #1 | LF-4 | | | | -1.00 | -0.98 | -0.36 | 0.31 |
| #1 | LF-5 | | | | -6.91 | -7.98 | -4.85 | -1.23 |

D-685

Schulcampus EWK \

EG-LP4

| | | Lastfall Lasten (4 Abschnitte je 0.75m) | | | | [kN/m] |
|---|------------|---|-------|-------|-------|--------|
| Qk.N_DA | #1 LF-6 | 5.83 | 6.66 | 4.62 | 2.14 | |
| | #1 LF-7 | 0.01 | 0.01 | 0.01 | 0.00 | |
| | #1 LF-11 | 0.01 | 0.01 | 0.01 | 0.00 | |
| | #1 LF-12 | -0.10 | -0.12 | -0.08 | -0.03 | |
| | #1 LF-13 | 0.02 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-14 | 6.49 | 6.65 | 4.63 | 2.52 | |
| | #1 LF-17 | 0.12 | 0.24 | 0.25 | 0.01 | |
| | #1 LF-18 | -1.13 | -2.04 | -1.74 | -0.33 | |
| | #1 LF-19 | -2.87 | -3.42 | -2.19 | -0.64 | |
| | #1 LF-22 | 0.05 | 0.07 | 0.04 | 0.01 | |
| | #2 LF-18 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #2 LF-19 | 3.00 | 4.16 | 3.41 | 1.77 | |
| | #2 LF-20 | -0.18 | -0.24 | -0.06 | 0.19 | |
| | #2 LF-21 | -0.18 | -0.14 | -0.05 | 0.00 | |
| | #2 LF-22 | 7.02 | 7.46 | 5.35 | 3.00 | |
| | #2 LF-23 | 3.99 | 4.62 | 3.48 | 1.93 | |
| | #3 LF-8 | 0.04 | 0.02 | 0.00 | 0.00 | |
| | #2 LF-3 | 0.38 | 0.62 | 0.51 | -0.04 | |
| | #2 LF-4 | -0.01 | -0.03 | -0.07 | -0.12 | |
| | #2 LF-5 | -7.59 | -9.58 | -7.41 | -3.86 | |
| | #2 LF-6 | 0.05 | 0.07 | 0.06 | 0.02 | |
| | #2 LF-10 | 0.03 | 0.04 | 0.04 | 0.02 | |
| | #2 LF-12 | -1.28 | -1.70 | -0.57 | 1.12 | |
| | #2 LF-14 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-15 | -0.11 | -0.08 | -0.02 | 0.00 | |
| | #2 LF-16 | 1.27 | 1.40 | 0.93 | 0.38 | |
| | #3 LF-3 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #3 LF-4 | -1.19 | -1.01 | -1.00 | -1.13 | |
| | #3 LF-5 | -0.05 | -0.03 | -0.01 | 0.00 | |
| | #3 LF-6 | 0.23 | 0.08 | -0.03 | -0.05 | |
| | #3 LF-7 | 2.56 | 2.74 | 2.53 | 2.16 | |
| Qk.N_T2 | LF-20 | 0.04 | 0.05 | 0.00 | -0.31 | |
| | #1 LF-20 | -0.02 | -0.07 | -0.13 | -0.25 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.24m) | | | | [kN/m] |
| W-0.39_2 Gk | LF-1 (g) | 22.52 | 22.34 | 22.16 | | |
| | #1 LF-1 | 23.20 | 23.79 | 22.70 | | |
| | #2 LF-1 | 17.80 | 18.32 | 17.60 | | |
| | #3 LF-1 | 12.93 | 12.82 | 11.94 | | |
| Ö← | LF-2 | 1.60 | 1.54 | 1.48 | | |
| | #1 LF-2 | 4.97 | 5.11 | 4.86 | | |
| | #2 LF-2 | 2.64 | 2.69 | 2.55 | | |
| | #3 LF-2 | 1.11 | 1.13 | 1.08 | | |
| Qk.N_E1 | LF-3 | -0.54 | -0.52 | -0.49 | | |
| | LF-4 | 10.80 | 10.80 | 10.78 | | |
| | LF-7 | -0.01 | -0.01 | -0.01 | | |
| | LF-9 | 0.01 | 0.01 | 0.00 | | |
| | LF-10 | -16.5 | -16.7 | -16.9 | | |
| | LF-11 | -0.02 | -0.02 | -0.02 | | |
| | LF-12 | 0.01 | 0.01 | 0.01 | | |
| | LF-15 | 0.04 | 0.03 | 0.03 | | |
| | LF-17 | 0.01 | 0.01 | 0.01 | | |
| | LF-18 | 7.88 | 7.91 | 7.92 | | |
| | LF-23 | -0.01 | -0.01 | -0.01 | | |

| | Lastfall | Lasten (3 Abschnitte je 0.24m) | [kN/m] | | |
|---|---|--------------------------------|--------|--|--|
| Qk.N_DA | #1 LF-4 | 0.21 0.21 0.18 | | | |
| | #1 LF-5 | 1.89 2.05 1.97 | | | |
| | #1 LF-6 | -0.32 -0.24 -0.12 | | | |
| | #1 LF-11 | 0.00 -0.01 -0.01 | | | |
| | #1 LF-12 | 0.02 0.04 0.04 | | | |
| | #1 LF-13 | -0.04 -0.01 0.00 | | | |
| | #1 LF-14 | 7.16 7.11 6.63 | | | |
| | #1 LF-15 | 0.00 0.00 0.00 | | | |
| | #1 LF-18 | 0.05 0.05 0.04 | | | |
| | #1 LF-19 | 0.82 0.88 0.86 | | | |
| | #1 LF-22 | -0.04 -0.05 -0.05 | | | |
| | #2 LF-18 | -0.06 -0.04 -0.03 | | | |
| | #2 LF-19 | -0.10 -0.09 -0.06 | | | |
| | #2 LF-21 | 1.25 1.15 1.01 | | | |
| | #2 LF-22 | 4.92 4.96 4.70 | | | |
| | #2 LF-23 | 0.31 0.39 0.44 | | | |
| | #3 LF-8 | -0.07 -0.04 -0.01 | | | |
| | #2 LF-3 | -0.01 0.00 0.00 | | | |
| | #2 LF-5 | 0.87 0.98 0.96 | | | |
| | #2 LF-6 | 0.00 -0.02 -0.03 | | | |
| | #2 LF-11 | 0.02 0.01 0.01 | | | |
| | #2 LF-12 | 0.04 0.04 0.02 | | | |
| | #2 LF-14 | -0.02 -0.02 -0.01 | | | |
| | #2 LF-15 | 0.15 0.11 0.08 | | | |
| | #2 LF-16 | -0.08 -0.05 -0.02 | | | |
| | #3 LF-3 | -0.03 -0.02 -0.01 | | | |
| | #3 LF-4 | -3.47 -3.53 -3.32 | | | |
| | #3 LF-5 | 0.26 0.19 0.14 | | | |
| | #3 LF-6 | 2.23 2.18 2.01 | | | |
| | #3 LF-7 | 3.25 3.44 3.34 | | | |
| Qk.N_T2 | LF-20 | 0.01 0.01 0.01 | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-0.39_3 Gk Ö← Qk.N_E1 | Lastfall | Lasten (3 Abschnitte je 0.24m) | [kN/m] | | |
| | LF-1 (g) | 20.19 21.17 22.10 | | | |
| | #1 LF-1 | 17.39 17.77 17.42 | | | |
| | #2 LF-1 | 13.52 13.87 13.64 | | | |
| | #3 LF-1 | 18.78 19.37 18.75 | | | |
| | LF-2 | 0.61 0.99 1.36 | | | |
| | #1 LF-2 | 2.68 2.77 2.79 | | | |
| | #2 LF-2 | 1.78 1.86 1.87 | | | |
| | #3 LF-2 | 1.11 1.15 1.13 | | | |
| | LF-3 | -1.16 -1.04 -0.90 | | | |
| | LF-4 | 9.02 9.49 9.98 | | | |
| | LF-9 | 0.01 0.01 0.01 | | | |
| | LF-10 | -16.6 -16.2 -15.9 | | | |
| | LF-11 | -0.01 -0.01 -0.01 | | | |
| | LF-12 | 0.02 0.02 0.02 | | | |
| | LF-15 | 0.01 0.01 0.01 | | | |
| | LF-17 | 0.01 0.00 -0.01 | | | |
| | LF-18 | 8.34 8.15 7.98 | | | |
| | #1 LF-4 | 0.02 0.03 0.04 | | | |
| | #1 LF-5 | -1.96 -2.06 -1.93 | | | |
| | #1 LF-6 | -0.28 -0.31 -0.34 | | | |
| | #1 LF-7 | 0.01 0.01 0.01 | | | |

| | | | | | |
|----------|------|---|--------------------------------|--------|-------|
| | | Lastfall | Lasten (3 Abschnitte je 0.24m) | [kN/m] | |
| Qk.N_DA | #1 | LF-11 | 0.06 | 0.05 | 0.05 |
| | #1 | LF-12 | -0.17 | -0.19 | -0.19 |
| | #1 | LF-13 | -0.50 | -0.52 | -0.49 |
| | #1 | LF-14 | 8.88 | 9.27 | 9.12 |
| | #1 | LF-15 | 0.15 | 0.14 | 0.12 |
| | #1 | LF-18 | 0.01 | 0.01 | 0.02 |
| | #1 | LF-19 | -0.77 | -0.82 | -0.78 |
| | #1 | LF-22 | 0.08 | 0.09 | 0.10 |
| | #2 | LF-18 | -0.26 | -0.29 | -0.30 |
| | #2 | LF-19 | -0.02 | -0.02 | -0.03 |
| | #2 | LF-21 | 2.90 | 3.00 | 2.90 |
| | #2 | LF-22 | 5.42 | 5.65 | 5.56 |
| | #2 | LF-23 | -0.19 | -0.20 | -0.19 |
| | #3 | LF-8 | -0.53 | -0.58 | -0.58 |
| | #2 | LF-5 | -2.56 | -2.63 | -2.43 |
| | #2 | LF-6 | 0.33 | 0.34 | 0.33 |
| | #2 | LF-11 | 0.17 | 0.17 | 0.16 |
| | #2 | LF-12 | 0.01 | 0.01 | 0.02 |
| | #2 | LF-14 | -0.12 | -0.12 | -0.12 |
| | #2 | LF-15 | 0.68 | 0.70 | 0.68 |
| | #2 | LF-16 | -0.14 | -0.15 | -0.15 |
| | #3 | LF-3 | -0.15 | -0.17 | -0.18 |
| | #3 | LF-4 | -2.60 | -2.72 | -2.71 |
| #3 | LF-5 | 1.86 | 1.87 | 1.74 | |
| #3 | LF-6 | 3.10 | 3.24 | 3.18 | |
| #3 | LF-7 | 0.00 | 0.08 | 0.24 | |
| Qk.N_T2 | | LF-20 | 0.00 | 0.00 | 0.01 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| W-0.39_4 | | Lastfall | Lasten (3 Abschnitte je 0.08m) | [kN/m] | |
| Gk | | LF-1 (g) | -10.5 | -9.10 | -7.73 |
| | #1 | LF-1 | 23.88 | 23.25 | 22.61 |
| | #2 | LF-1 | 18.53 | 18.01 | 17.49 |
| | #3 | LF-1 | 13.16 | 12.87 | 12.58 |
| Ö← | | LF-2 | -10.5 | -10.0 | -9.52 |
| | #1 | LF-2 | 3.19 | 3.12 | 3.05 |
| | #2 | LF-2 | 1.36 | 1.34 | 1.33 |
| | #3 | LF-2 | 1.07 | 1.04 | 1.00 |
| Qk.N_E1 | | LF-3 | -5.40 | -5.17 | -4.94 |
| | | LF-4 | -0.61 | -0.29 | 0.04 |
| | | LF-6 | -0.02 | -0.02 | -0.02 |
| | | LF-7 | -0.09 | -0.08 | -0.08 |
| | | LF-9 | 0.07 | 0.07 | 0.06 |
| | | LF-10 | -38.5 | -37.3 | -36.1 |
| | | LF-12 | 0.07 | 0.07 | 0.06 |
| | | LF-15 | 0.01 | 0.01 | 0.01 |
| | | LF-17 | 1.00 | 0.93 | 0.86 |
| | | LF-18 | 17.88 | 17.32 | 16.77 |
| | #1 | LF-4 | 0.01 | 0.01 | 0.01 |
| | #1 | LF-5 | 2.07 | 1.97 | 1.86 |
| | #1 | LF-7 | 0.02 | 0.02 | 0.01 |
| | #1 | LF-11 | -0.04 | -0.03 | -0.03 |
| | #1 | LF-12 | 0.23 | 0.22 | 0.21 |
| | #1 | LF-13 | 1.26 | 1.18 | 1.09 |
| | #1 | LF-14 | 1.64 | 1.74 | 1.84 |

Qk.N_DA

| Lastfall | Lasten (3 Abschnitte je 0.08m) | [kN/m] | | |
|---|--------------------------------|--------|-------|-------|
| #1 LF-15 | | -0.05 | -0.03 | -0.02 |
| #1 LF-19 | | 1.19 | 1.14 | 1.08 |
| #1 LF-22 | | -0.44 | -0.42 | -0.40 |
| #2 LF-18 | | 1.23 | 1.16 | 1.09 |
| #2 LF-21 | | 0.69 | 0.72 | 0.75 |
| #2 LF-22 | | 1.56 | 1.60 | 1.64 |
| #2 LF-23 | | -0.01 | -0.01 | -0.01 |
| #3 LF-8 | | 1.78 | 1.67 | 1.57 |
| #2 LF-5 | | 0.90 | 0.81 | 0.72 |
| #2 LF-6 | | -0.60 | -0.55 | -0.50 |
| #2 LF-11 | | -0.27 | -0.25 | -0.22 |
| #2 LF-14 | | 0.13 | 0.12 | 0.11 |
| #2 LF-15 | | 0.04 | 0.05 | 0.06 |
| #2 LF-16 | | -0.01 | -0.01 | -0.01 |
| #3 LF-3 | | 1.05 | 0.99 | 0.94 |
| #3 LF-4 | | -1.35 | -1.34 | -1.34 |
| #3 LF-5 | | 2.14 | 2.09 | 2.03 |
| #3 LF-6 | | 0.39 | 0.43 | 0.47 |
| #3 LF-7 | | -0.09 | -0.09 | -0.10 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

W-0.40

Gk

| Lastfall | Lasten (9 Abschnitte je 0.94m) | [kN/m] | | |
|-----------|---|--------|--|--|
| LF-1 (g) | 20.05 36.96 57.50 76.53 61.04 45.57 46.70 | | | |
| | 43.90 5.07 | | | |
| #1 LF-1 | 11.39 34.54 59.60 70.58 59.05 48.01 46.82 | | | |
| | 37.74 6.60 | | | |
| #2 LF-1 | 18.52 31.30 42.61 51.86 58.96 62.55 60.44 | | | |
| | 51.11 36.27 | | | |
| #3 LF-1 | 0.05 -0.26 -0.12 0.00 0.03 0.01 0.00 | | | |
| | 0.00 0.01 | | | |

Ö←

| | | | | |
|-----------|--|--|--|--|
| LF-2 | -1.18 4.59 12.17 18.76 13.30 8.17 8.54 | | | |
| | 7.43 -4.31 | | | |
| #1 LF-2 | -2.56 4.67 13.56 17.20 12.93 9.10 8.70 | | | |
| | 5.43 -5.44 | | | |
| #2 LF-2 | -0.66 2.56 6.37 9.46 11.71 12.76 12.01 | | | |
| | 9.74 7.57 | | | |
| #3 LF-2 | -0.04 0.03 0.03 0.02 0.01 0.00 0.00 | | | |
| | 0.00 0.00 | | | |

Qk.N_E1

| | | | | |
|-----------|---|--|--|--|
| LF-4 | 0.03 0.07 0.02 0.00 0.00 0.00 0.00 | | | |
| | 0.00 0.00 | | | |
| LF-10 | -7.06 -6.13 -8.75 -12.2 -6.15 0.90 0.53 | | | |
| | 0.18 -0.55 | | | |
| LF-11 | -1.90 3.51 10.81 16.59 8.79 5.37 6.30 | | | |
| | 5.31 -13.3 | | | |
| LF-15 | -1.05 -3.87 -1.95 -0.97 -0.24 -0.08 -0.10 | | | |
| | -0.08 0.31 | | | |
| LF-18 | 0.27 -1.07 -0.44 -0.08 0.02 0.01 0.00 | | | |
| | 0.00 0.00 | | | |
| LF-19 | -0.04 -0.08 -0.07 -0.05 -0.02 -0.01 -0.01 | | | |
| | 0.00 0.02 | | | |
| LF-23 | 3.20 11.69 17.45 20.24 14.41 12.10 12.64 | | | |
| | 11.25 -0.42 | | | |
| #1 LF-3 | -4.10 4.39 15.77 21.53 18.25 16.03 16.37 | | | |
| | 10.11 -10.8 | | | |
| #1 LF-4 | -9.03 -7.87 -6.93 -6.15 -2.61 0.17 0.36 | | | |

D-689

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|------------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | 0.05 | -0.25 | | | | | |
| #1 LF-5 | | -5.11 | -3.40 | -1.86 | -1.19 | -0.38 | 0.09 | 0.08 |
| | | 0.01 | -0.06 | | | | | |
| #1 LF-6 | | -0.10 | 0.02 | 0.05 | 0.02 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-10 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-12 | | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-14 | | -0.05 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-16 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #1 LF-17 | | 2.18 | 7.13 | 8.28 | 5.43 | 2.01 | 0.74 | 0.67 |
| | | 0.13 | -1.82 | | | | | |
| #1 LF-18 | | 5.23 | -0.44 | -1.97 | -1.10 | -0.31 | -0.09 | -0.09 |
| | | -0.01 | 0.25 | | | | | |
| #1 LF-19 | | -1.74 | -1.07 | -0.55 | -0.35 | -0.11 | 0.03 | 0.02 |
| | | 0.00 | -0.02 | | | | | |
| #1 LF-22 | | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #2 LF-17 | | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| #2 LF-19 | | -0.04 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #2 LF-20 | | 0.51 | 0.04 | -0.14 | -0.08 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #2 LF-22 | | -0.14 | -0.03 | 0.04 | 0.03 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| #2 LF-23 | | -0.05 | 0.01 | 0.03 | 0.02 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_DA | #2 LF-3 | -0.17 | 7.14 | 14.57 | 19.86 | 23.30 | 24.57 | 22.13 |
| | | 13.48 | -0.43 | | | | | |
| | #2 LF-4 | 4.43 | 6.16 | 6.64 | 6.93 | 7.18 | 7.23 | 7.46 |
| | | 7.95 | 6.62 | | | | | |
| | #2 LF-5 | -9.31 | -8.26 | -6.86 | -6.57 | -6.28 | -5.57 | -4.91 |
| | | -4.35 | -2.68 | | | | | |
| | #2 LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-10 | 0.06 | 0.01 | -0.11 | -0.16 | -0.15 | -0.13 | -0.10 |
| | | -0.03 | 0.11 | | | | | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-12 | 4.06 | 0.28 | -1.44 | -1.09 | -0.52 | -0.28 | -0.19 |
| | | -0.05 | 0.14 | | | | | |
| | #2 LF-13 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #2 LF-16 | -0.04 | 0.01 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-4 | -0.13 | 0.13 | 0.12 | 0.04 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-7 | 0.05 | -0.08 | -0.05 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | LF-20 | 4.92 | 8.03 | 10.66 | 17.47 | 11.77 | -0.51 | -0.65 |
| | | -0.18 | 0.49 | | | | | |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|------------|--------------------------------|------|-------|-------|------|------|--------|
| LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #1 LF-20 | 6.63 | 9.59 | 13.20 | 15.38 | 8.70 | 1.14 | -0.05 |
| | 0.50 | 0.86 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.41

Gk

| Lastfall | Lasten (3 Abschnitte je 0.94m) | | | [kN/m] |
|-----------|--------------------------------|-------|-------|--------|
| LF-1 (g) | 25.15 | 22.38 | 71.04 | |
| #1 LF-1 | -2.83 | 24.79 | 168.3 | |
| #2 LF-1 | -3.64 | 32.43 | 220.3 | |
| #3 LF-1 | 0.00 | -0.02 | 0.09 | |

Ö←

| | | | | |
|-----------|-------|------|-------|--|
| LF-2 | 1.59 | 0.77 | 15.38 | |
| #1 LF-2 | -0.42 | 3.43 | 23.53 | |
| #2 LF-2 | -0.52 | 4.53 | 30.80 | |
| #3 LF-2 | 0.00 | 0.00 | 0.02 | |

Qk.N_E1

| | | | | |
|------------|-------|-------|-------|--|
| LF-5 | 0.09 | 0.11 | 0.12 | |
| LF-6 | 0.18 | 0.76 | -5.62 | |
| LF-7 | -0.03 | -0.12 | 0.87 | |
| LF-8 | 0.00 | 0.00 | -0.01 | |
| LF-10 | 0.00 | 0.00 | -0.01 | |
| LF-11 | 0.02 | 0.01 | 0.01 | |
| LF-13 | -0.05 | -0.06 | -0.04 | |
| LF-14 | -3.51 | -2.80 | -3.34 | |
| LF-15 | 0.01 | 0.00 | 0.00 | |
| LF-16 | 5.89 | 5.08 | 17.27 | |
| LF-17 | -0.49 | -2.06 | 15.11 | |
| LF-18 | 0.00 | 0.00 | 0.00 | |
| #1 LF-3 | -0.10 | 0.98 | 6.55 | |
| #1 LF-4 | 0.00 | 0.00 | 0.03 | |
| #1 LF-5 | 0.00 | 0.00 | 0.01 | |
| #1 LF-7 | 0.21 | -2.00 | -13.5 | |
| #1 LF-8 | 0.01 | -0.04 | -0.35 | |
| #1 LF-9 | 0.00 | 0.03 | 0.17 | |
| #1 LF-10 | 0.10 | -1.72 | -11.6 | |
| #1 LF-11 | 0.01 | -0.08 | -0.48 | |
| #1 LF-15 | -0.53 | 4.93 | 33.85 | |
| #1 LF-16 | -0.47 | 4.33 | 29.18 | |
| #1 LF-17 | -0.02 | 0.16 | 1.08 | |
| #1 LF-18 | 0.14 | -1.35 | -9.02 | |
| #1 LF-19 | 0.00 | 0.00 | 0.00 | |
| #1 LF-22 | 0.00 | -0.02 | -0.14 | |
| #2 LF-17 | 0.05 | -1.18 | -7.81 | |

Qk.N_DA

| | | | | |
|------------|-------|-------|-------|--|
| #2 LF-3 | -0.12 | 1.18 | 7.88 | |
| #2 LF-4 | 0.00 | -0.01 | -0.04 | |
| #2 LF-5 | 0.00 | 0.01 | 0.07 | |
| #2 LF-6 | 0.18 | -1.79 | -12.0 | |
| #2 LF-7 | 0.00 | 0.02 | 0.07 | |
| #2 LF-8 | 0.01 | 0.00 | -0.05 | |
| #2 LF-9 | -0.01 | 0.01 | 0.10 | |
| #2 LF-10 | -0.48 | 4.67 | 31.46 | |
| #2 LF-11 | -0.42 | 3.97 | 27.11 | |
| #2 LF-12 | 0.07 | -0.64 | -4.26 | |
| #2 LF-13 | -0.28 | 2.42 | 16.36 | |
| #3 LF-4 | 0.00 | -0.01 | 0.05 | |

Qk.N_T2

| | | | | |
|-------|------|------|------|--|
| LF-21 | 0.01 | 0.01 | 0.01 | |
|-------|------|------|------|--|

D-691

| Lastfall | Lasten (3 Abschnitte je 0.94m) | [kN/m] |
|---|--------------------------------|--------|
| #1 LF-20 | 0.00 -0.01 -0.04 | |
| #1 LF-21 | 0.00 0.08 0.35 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | |

W-0.42

Gk

| Lastfall | Lasten (9 Abschnitte je 0.94m) | [kN/m] |
|-----------|---|--------|
| LF-1 (g) | 13.60 42.75 46.89 48.50 47.82 44.34 37.24 | |
| | 24.71 5.53 | |
| #1 LF-1 | 19.19 38.49 46.86 48.41 47.61 44.09 36.79 | |
| | 23.16 9.27 | |
| #2 LF-1 | 40.83 44.63 48.69 50.71 50.22 47.09 40.22 | |
| | 27.75 18.15 | |

Ö←

| | | |
|-----------|---|--|
| LF-2 | 11.86 16.04 17.77 18.45 18.22 16.99 14.42 | |
| | 9.74 3.62 | |
| #1 LF-2 | 12.80 15.62 17.75 18.50 18.33 17.22 14.74 | |
| | 9.63 3.80 | |
| #2 LF-2 | 17.15 17.50 18.50 19.16 19.02 18.02 15.74 | |
| | 11.02 5.89 | |

Qk.N_E1

| | | |
|------------|--|--|
| LF-5 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | |
| | 0.00 -0.01 | |
| LF-10 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | |
| | 0.00 0.00 | |
| LF-11 | -11.12 14.71 17.51 18.63 18.29 16.15 11.91 | |
| | 4.78 -11.4 | |
| LF-13 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | |
| | 0.00 0.00 | |
| LF-14 | 0.41 -0.08 -0.11 -0.19 -0.35 -0.71 -1.52 | |
| | -3.32 -2.84 | |
| LF-15 | -0.16 0.03 0.03 0.03 0.04 0.05 0.06 | |
| | 0.09 0.06 | |
| LF-16 | -0.01 0.00 0.00 0.01 0.01 0.02 0.05 | |
| | 0.09 0.19 | |
| LF-23 | -0.05 0.01 0.01 0.01 0.01 0.00 -0.01 | |
| | -0.02 -0.03 | |
| #1 LF-3 | -4.15 10.70 16.68 17.39 16.27 12.66 6.29 | |
| | -1.38 -8.56 | |
| #1 LF-8 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | |
| | 0.00 -0.01 | |
| #1 LF-9 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | |
| | 0.00 0.01 | |
| #1 LF-10 | 0.32 0.00 -0.12 -0.20 -0.38 -0.77 -1.67 | |
| | -3.17 -2.15 | |
| #1 LF-15 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | |
| | 0.00 0.00 | |
| #1 LF-16 | -0.01 0.00 0.00 0.01 0.01 0.03 0.05 | |
| | 0.12 0.20 | |
| #1 LF-17 | -2.51 0.09 0.95 1.28 1.95 3.39 5.38 | |
| | 4.66 0.17 | |
| #1 LF-18 | -0.02 0.00 0.00 0.00 0.01 0.02 0.06 | |
| | 0.12 0.14 | |
| #2 LF-17 | 0.15 0.00 -0.08 -0.14 -0.26 -0.52 -1.08 | |
| | -2.29 -3.02 | |
| #2 LF-3 | -1.91 8.26 13.60 14.81 14.45 12.70 8.98 | |
| | 2.23 -5.27 | |
| #2 LF-4 | -0.02 0.00 0.00 0.00 0.00 0.00 0.00 | |
| | 0.00 0.00 | |

Qk.N_DA

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #2 LF-5 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.04 | | | | | |
| | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.03 | | | | | |
| | #2 LF-10 | 0.06 | 0.00 | -0.02 | -0.02 | -0.01 | 0.00 | 0.02 |
| | | 0.04 | 0.06 | | | | | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.01 | | | | | |
| | #2 LF-12 | 0.02 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.02 |
| | | 0.04 | 0.05 | | | | | |
| | #2 LF-13 | 0.07 | 0.00 | -0.04 | -0.06 | -0.12 | -0.25 | -0.58 |
| | | -1.00 | 0.23 | | | | | |
| | LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.43

Gk

Ö←

Qk.N_E1

Qk.N_DA

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|--|------------|--------------------------------|-------|-------|--------|
| | LF-1 (g) | 51.64 | 61.77 | 75.76 | |
| | #1 LF-1 | 81.34 | 84.56 | 84.12 | |
| | #2 LF-1 | 112.8 | 112.9 | 108.1 | |
| | LF-2 | 24.51 | 27.01 | 31.62 | |
| | #1 LF-2 | 35.34 | 36.65 | 36.33 | |
| | #2 LF-2 | 39.79 | 40.01 | 38.43 | |
| | LF-5 | 0.03 | 0.11 | 0.22 | |
| | LF-6 | 0.00 | 0.00 | -0.01 | |
| | LF-11 | -13.1 | -7.38 | -2.40 | |
| | LF-13 | -0.02 | -0.06 | -0.13 | |
| | LF-14 | 27.07 | 29.12 | 34.05 | |
| | LF-15 | -0.37 | -0.30 | -0.25 | |
| | LF-16 | -0.25 | -0.43 | -0.66 | |
| | LF-17 | 0.00 | 0.00 | 0.01 | |
| | LF-23 | -0.02 | -0.01 | 0.00 | |
| | #1 LF-3 | -6.19 | -5.02 | -3.72 | |
| | #1 LF-7 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-8 | -0.03 | -0.04 | -0.04 | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-10 | 34.67 | 35.68 | 35.10 | |
| | #1 LF-15 | 0.02 | 0.02 | 0.03 | |
| | #1 LF-16 | -0.61 | -0.67 | -0.69 | |
| | #1 LF-17 | -2.76 | -2.41 | -1.96 | |
| | #1 LF-18 | -0.34 | -0.35 | -0.34 | |
| | #2 LF-17 | 13.39 | 13.68 | 13.33 | |
| | #2 LF-3 | -6.52 | -5.91 | -5.11 | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-7 | -0.01 | -0.01 | -0.01 | |
| | #2 LF-8 | 0.16 | 0.18 | 0.18 | |
| | #2 LF-9 | -0.18 | -0.18 | -0.18 | |
| | #2 LF-10 | -0.03 | -0.04 | -0.05 | |
| | #2 LF-11 | 0.03 | 0.04 | 0.04 | |

D-693

| | | Lastfall Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|----------------|---|---|-------|-------|--------|
| Qk.N_T2 | #2 LF-12 | -0.07 | -0.08 | -0.08 | |
| | #2 LF-13 | 23.40 | 23.44 | 22.44 | |
| | LF-21 | 0.00 | 0.00 | 0.01 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.83m) | | | [kN/m] |
| W-0.44_1 Gk | LF-1 (g) | 156.6 | -2.57 | 16.74 | |
| | #1 LF-1 | 125.2 | 41.90 | 9.35 | |
| | #2 LF-1 | 106.9 | 51.65 | 19.51 | |
| Ö← | LF-2 | 47.89 | -8.28 | -1.24 | |
| | #1 LF-2 | 37.87 | 6.70 | -3.39 | |
| | #2 LF-2 | 24.34 | 7.60 | 0.15 | |
| Qk.N_E1 | LF-10 | 0.03 | -0.03 | -0.02 | |
| | LF-11 | 67.44 | -41.6 | -28.4 | |
| | LF-14 | -1.91 | 11.80 | 16.55 | |
| | LF-15 | 24.57 | 11.14 | 6.79 | |
| | LF-16 | 0.30 | 0.04 | 1.16 | |
| | LF-19 | 0.02 | 0.03 | 0.01 | |
| | LF-23 | 0.35 | -0.31 | -0.20 | |
| | #1 LF-3 | 32.70 | -10.3 | -18.9 | |
| | #1 LF-4 | 0.01 | -0.01 | -0.01 | |
| | #1 LF-5 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-7 | -0.04 | -0.06 | -0.05 | |
| | #1 LF-10 | 0.54 | 9.23 | 11.16 | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-15 | 0.12 | 0.15 | 0.14 | |
| | #1 LF-16 | 0.13 | 0.20 | 0.36 | |
| | #1 LF-17 | 23.09 | 0.71 | -6.62 | |
| | #1 LF-18 | 12.17 | 11.12 | 7.02 | |
| | #2 LF-17 | 5.90 | 13.98 | 15.15 | |
| Qk.N_DA | #2 LF-3 | 37.41 | -3.25 | -17.3 | |
| | #2 LF-4 | -0.01 | 0.01 | 0.01 | |
| | #2 LF-5 | 0.02 | -0.01 | -0.02 | |
| | #2 LF-6 | 0.01 | 0.00 | -0.01 | |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-10 | 0.34 | 0.71 | 0.59 | |
| | #2 LF-11 | 0.00 | 0.02 | 0.03 | |
| | #2 LF-12 | 2.34 | 1.74 | 0.84 | |
| Qk.N_T2 | #2 LF-13 | 4.76 | 6.87 | 6.15 | |
| | LF-20 | -0.02 | 0.03 | 0.02 | |
| | LF-22 | 0.11 | 0.06 | 0.02 | |
| | #1 LF-20 | -0.01 | 0.01 | 0.02 | |
| | #1 LF-21 | 0.00 | 0.00 | 0.00 | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.91m) | | | [kN/m] |
| W-0.44_2 Gk | LF-1 (g) | 58.83 | 61.27 | 62.04 | |
| | #1 LF-1 | 47.78 | 60.21 | 48.63 | |
| | #2 LF-1 | 49.86 | 63.56 | 50.64 | |
| Ö← | LF-2 | 13.65 | 14.56 | 14.86 | |
| | #1 LF-2 | 11.10 | 14.31 | 11.78 | |
| | #2 LF-2 | 10.41 | 13.38 | 10.97 | |
| Qk.N_E1 | LF-5 | 0.00 | -0.01 | -0.02 | |
| | LF-6 | 0.00 | 0.00 | 0.00 | |
| | LF-10 | 0.00 | 0.00 | 0.00 | |

| | Lastfall | Lasten (3 Abschnitte je 0.91m) | [kN/m] | | |
|----------|---|--------------------------------|--------|-------|-------|
| | LF-11 | | -0.88 | -0.21 | -0.08 |
| | LF-13 | | 0.00 | 0.00 | 0.01 |
| | LF-14 | | 20.34 | 20.57 | 20.55 |
| | LF-15 | | -1.13 | -0.62 | -0.18 |
| | LF-16 | | 7.65 | 7.90 | 7.86 |
| | LF-17 | | 0.00 | 0.01 | 0.01 |
| | LF-19 | | -0.01 | 0.00 | 0.00 |
| | LF-23 | | 0.02 | 0.01 | 0.00 |
| | #1 LF-3 | | -0.52 | -0.14 | 0.11 |
| | #1 LF-7 | | 0.03 | 0.04 | 0.04 |
| | #1 LF-8 | | 0.00 | 0.00 | 0.01 |
| | #1 LF-9 | | 0.00 | -0.01 | -0.01 |
| | #1 LF-10 | | 15.83 | 19.96 | 16.32 |
| | #1 LF-15 | | -0.07 | -0.11 | -0.10 |
| | #1 LF-16 | | 6.39 | 7.91 | 6.29 |
| | #1 LF-17 | | -0.43 | -0.22 | -0.03 |
| | #1 LF-18 | | -0.28 | -0.44 | -0.47 |
| | #2 LF-17 | | 20.92 | 26.30 | 21.34 |
| Qk.N_DA | #2 LF-3 | | -0.94 | -0.36 | 0.17 |
| | #2 LF-5 | | 0.00 | 0.00 | 0.00 |
| | #2 LF-6 | | 0.03 | 0.04 | 0.04 |
| | #2 LF-8 | | 0.00 | 0.01 | 0.01 |
| | #2 LF-9 | | 0.00 | -0.01 | -0.01 |
| | #2 LF-10 | | -0.05 | -0.31 | -0.46 |
| | #2 LF-11 | | -0.07 | -0.11 | -0.10 |
| | #2 LF-12 | | -0.11 | -0.19 | -0.22 |
| | #2 LF-13 | | 7.84 | 9.89 | 8.02 |
| Qk.N_T2 | LF-20 | | 0.00 | 0.00 | 0.00 |
| | LF-22 | | -0.03 | -0.01 | 0.00 |
| | #1 LF-21 | | 0.00 | 0.00 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-0.44_3 | Lastfall | Lasten (3 Abschnitte je 0.13m) | [kN/m] | | |
| Gk | LF-1 (g) | | 60.75 | 60.66 | 60.56 |
| | #1 LF-1 | | 16.25 | 16.23 | 16.22 |
| | #2 LF-1 | | 15.42 | 15.40 | 15.37 |
| Ö← | LF-2 | | 14.42 | 14.39 | 14.35 |
| | #1 LF-2 | | 4.02 | 4.01 | 4.01 |
| | #2 LF-2 | | 4.12 | 4.11 | 4.11 |
| Qk.N_E1 | LF-5 | | -0.15 | -0.16 | -0.17 |
| | LF-6 | | 0.06 | 0.07 | 0.07 |
| | LF-7 | | -0.01 | -0.01 | -0.01 |
| | LF-13 | | 0.07 | 0.08 | 0.08 |
| | LF-14 | | 19.86 | 19.82 | 19.78 |
| | LF-16 | | 7.65 | 7.64 | 7.63 |
| | LF-17 | | -0.17 | -0.19 | -0.21 |
| | #1 LF-3 | | 0.06 | 0.06 | 0.06 |
| | #1 LF-7 | | 0.08 | 0.08 | 0.08 |
| | #1 LF-8 | | 0.01 | 0.01 | 0.01 |
| | #1 LF-9 | | -0.02 | -0.02 | -0.02 |
| | #1 LF-10 | | 5.65 | 5.66 | 5.66 |
| | #1 LF-15 | | -0.23 | -0.23 | -0.24 |
| | #1 LF-16 | | 2.06 | 2.06 | 2.06 |
| | #1 LF-17 | | 0.02 | 0.02 | 0.01 |
| | #1 LF-18 | | -0.07 | -0.06 | -0.06 |

| | | Lastfall Lasten (3 Abschnitte je 0.13m) | | | [kN/m] |
|---|------------|---|-------|-------|--------|
| Qk.N_DA | #2 LF-17 | 8.16 | 8.16 | 8.16 | |
| | #2 LF-3 | 0.10 | 0.10 | 0.09 | |
| | #2 LF-6 | 0.06 | 0.06 | 0.07 | |
| | #2 LF-8 | 0.02 | 0.02 | 0.02 | |
| | #2 LF-9 | -0.04 | -0.04 | -0.04 | |
| | #2 LF-10 | -0.30 | -0.30 | -0.30 | |
| | #2 LF-11 | -0.21 | -0.21 | -0.22 | |
| | #2 LF-12 | -0.05 | -0.05 | -0.04 | |
| | #2 LF-13 | 3.06 | 3.06 | 3.06 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.86m) | | | [kN/m] |
| W-0.44_4 Gk | LF-1 (g) | 51.82 | 50.15 | 63.19 | |
| | #1 LF-1 | 40.67 | 50.61 | 50.75 | |
| | #2 LF-1 | 43.56 | 56.82 | 57.66 | |
| | #3 LF-1 | -0.01 | -0.01 | 0.00 | |
| Ö← | LF-2 | 11.25 | 10.50 | 14.90 | |
| | #1 LF-2 | 8.50 | 9.90 | 9.45 | |
| | #2 LF-2 | 8.12 | 9.19 | 7.89 | |
| | #3 LF-2 | 0.00 | 0.00 | 0.00 | |
| Qk.N_E1 | LF-5 | -1.18 | -1.44 | 2.47 | |
| | LF-6 | 0.31 | -0.15 | -1.33 | |
| | LF-7 | -0.05 | 0.02 | 0.19 | |
| | LF-8 | 0.00 | 0.00 | 0.00 | |
| | LF-10 | 0.00 | 0.00 | 0.00 | |
| | LF-11 | 0.02 | 0.02 | 0.03 | |
| | LF-13 | 0.52 | 0.79 | -0.16 | |
| | LF-14 | 14.73 | 8.28 | -2.81 | |
| | LF-15 | 0.00 | 0.00 | 0.00 | |
| | LF-16 | 7.57 | 10.37 | 20.81 | |
| | LF-17 | -0.73 | 1.06 | 5.69 | |
| | #1 LF-3 | 0.06 | 0.03 | -0.03 | |
| | #1 LF-7 | -0.05 | -0.38 | -0.87 | |
| | #1 LF-8 | 0.62 | 0.61 | -0.49 | |
| | #1 LF-9 | -0.36 | -0.42 | -0.19 | |
| | #1 LF-10 | 9.91 | 7.56 | 0.97 | |
| | #1 LF-11 | 0.00 | -0.01 | -0.02 | |
| | #1 LF-15 | -0.09 | 2.64 | 7.58 | |
| | #1 LF-16 | 6.55 | 8.13 | 6.77 | |
| | #1 LF-17 | 0.01 | 0.01 | 0.00 | |
| | #1 LF-18 | -0.07 | -0.02 | 0.06 | |
| | #1 LF-22 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-17 | 14.23 | 13.00 | 7.50 | |
| Qk.N_DA | #2 LF-3 | 0.16 | 0.22 | 0.24 | |
| | #2 LF-6 | 0.08 | -0.03 | -0.34 | |
| | #2 LF-7 | -0.10 | -0.17 | -0.10 | |
| | #2 LF-8 | 0.24 | 0.06 | -0.50 | |
| | #2 LF-9 | -0.38 | 0.02 | 1.08 | |
| | #2 LF-10 | 0.07 | 0.73 | 1.51 | |
| | #2 LF-11 | 0.53 | 2.54 | 4.86 | |
| | #2 LF-12 | -0.07 | -0.10 | -0.10 | |
| | #2 LF-13 | 6.25 | 6.55 | 4.31 | |
| Qk.N_T2 | #3 LF-4 | 0.00 | 0.00 | 0.00 | |
| | LF-21 | -0.08 | -0.24 | -0.36 | |
| | #1 LF-21 | -0.11 | -0.18 | -0.09 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.45

| | Lastfall | Lasten (3 Abschnitte je 0.46m) | [kN/m] | | |
|---------|------------|--------------------------------|--------|-------|-------|
| Gk | LF-1 (g) | | 54.28 | 41.45 | 31.17 |
| | #1 LF-1 | | 33.84 | 28.68 | 27.04 |
| | #2 LF-1 | | 33.39 | 31.46 | 32.75 |
| Ö← | LF-2 | | 24.92 | 18.99 | 14.38 |
| | #1 LF-2 | | 14.60 | 12.04 | 10.97 |
| | #2 LF-2 | | 11.16 | 10.19 | 10.31 |
| Qk.N_E1 | LF-5 | | -1.41 | 0.95 | 3.85 |
| | LF-6 | | 0.06 | 0.01 | -0.05 |
| | LF-7 | | -0.01 | 0.00 | 0.00 |
| | LF-11 | | -0.09 | -0.03 | 0.01 |
| | LF-13 | | 1.34 | 0.12 | -1.46 |
| | LF-14 | | 16.05 | 6.62 | -1.60 |
| | LF-15 | | 0.02 | 0.01 | 0.01 |
| | LF-16 | | -0.10 | 0.13 | 0.34 |
| | LF-17 | | -0.01 | 0.00 | 0.02 |
| | #1 LF-3 | | 0.17 | 0.08 | 0.02 |
| | #1 LF-7 | | 0.00 | -0.02 | -0.04 |
| | #1 LF-8 | | -0.11 | -0.44 | -0.80 |
| | #1 LF-9 | | 0.62 | 1.21 | 1.86 |
| | #1 LF-10 | | 10.89 | 6.92 | 4.12 |
| | #1 LF-15 | | -0.01 | 0.01 | 0.04 |
| | #1 LF-16 | | -0.19 | -0.06 | 0.05 |
| | #1 LF-17 | | 0.10 | 0.05 | 0.01 |
| | #1 LF-18 | | 0.02 | 0.01 | 0.01 |
| | #2 LF-17 | | 2.42 | 1.58 | 0.96 |
| Qk.N_DA | #2 LF-3 | | 0.26 | 0.18 | 0.12 |
| | #2 LF-6 | | -0.01 | -0.03 | -0.06 |
| | #2 LF-7 | | 0.01 | 0.03 | 0.04 |
| | #2 LF-8 | | -0.27 | -0.45 | -0.64 |
| | #2 LF-9 | | 0.53 | 0.91 | 1.35 |
| | #2 LF-10 | | 0.01 | 0.02 | 0.02 |
| | #2 LF-11 | | 0.00 | 0.02 | 0.03 |
| Qk.N_T2 | #2 LF-13 | | 5.57 | 4.66 | 4.20 |
| | LF-21 | | -0.11 | -0.03 | 0.08 |
| | #1 LF-21 | | 0.00 | 0.02 | 0.05 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.46

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|---------|-----------|--------------------------------|--------|-------|-------|
| Gk | LF-1 (g) | | 83.14 | 77.89 | 78.64 |
| | #1 LF-1 | | 54.12 | 68.83 | 85.97 |
| | #2 LF-1 | | 50.03 | 60.91 | 74.50 |
| Ö← | LF-2 | | 36.09 | 33.82 | 34.25 |
| | #1 LF-2 | | 23.70 | 30.29 | 37.92 |
| | #2 LF-2 | | 17.68 | 21.45 | 26.20 |
| Qk.N_E1 | LF-5 | | -0.13 | -0.72 | -1.49 |
| | LF-6 | | 0.00 | 0.02 | 0.04 |
| | LF-11 | | 1.55 | 0.86 | 0.33 |
| | LF-13 | | 0.05 | 0.39 | 0.83 |
| | LF-14 | | 35.60 | 32.92 | 33.75 |
| | LF-15 | | -0.03 | 0.00 | 0.02 |
| | LF-16 | | -0.90 | -0.81 | -0.79 |
| | LF-17 | | 0.00 | -0.01 | -0.02 |
| | #1 LF-3 | | 0.29 | 0.48 | 0.65 |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|---------|---|--------------------------------|-------|-------|--------|
| Qk.N_DA | #1 LF-7 | 0.02 | 0.03 | 0.04 | |
| | #1 LF-8 | 0.30 | 0.46 | 0.64 | |
| | #1 LF-9 | -0.28 | -0.44 | -0.62 | |
| | #1 LF-10 | 21.69 | 27.64 | 34.63 | |
| | #1 LF-15 | -0.01 | -0.03 | -0.05 | |
| | #1 LF-16 | -0.51 | -0.67 | -0.85 | |
| | #1 LF-17 | 0.06 | 0.19 | 0.31 | |
| | #1 LF-18 | -0.04 | -0.01 | 0.01 | |
| | #2 LF-17 | 5.34 | 6.21 | 7.43 | |
| | #2 LF-3 | -0.12 | 0.26 | 0.57 | |
| | #2 LF-6 | 0.01 | 0.02 | 0.02 | |
| | #2 LF-7 | -0.01 | -0.01 | -0.02 | |
| | #2 LF-8 | 0.13 | 0.17 | 0.21 | |
| Qk.N_T2 | #2 LF-9 | -0.04 | -0.05 | -0.07 | |
| | #2 LF-10 | -0.01 | -0.01 | 0.00 | |
| | #2 LF-11 | 0.00 | -0.01 | -0.02 | |
| | #2 LF-12 | -0.01 | 0.00 | 0.01 | |
| | #2 LF-13 | 9.37 | 11.19 | 13.58 | |
| | LF-21 | 0.00 | -0.03 | -0.06 | |
| | #1 LF-21 | -0.02 | -0.04 | -0.05 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
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| | | | | | |
| W-0.47 | Lastfall | Lasten (3 Abschnitte je 0.46m) | | | [kN/m] |
| | Gk | LF-1 (g) | 98.97 | 80.24 | 67.75 |
| | | #1 LF-1 | 29.40 | 55.03 | 85.43 |
| | | #2 LF-1 | 53.51 | 87.20 | 125.4 |
| | | #3 LF-1 | -0.09 | -0.14 | -0.20 |
| | Ö← | LF-2 | 43.40 | 34.23 | 27.95 |
| | | #1 LF-2 | 13.17 | 24.57 | 38.08 |
| | | #2 LF-2 | 18.71 | 30.48 | 43.82 |
| | | #3 LF-2 | -0.01 | -0.01 | -0.02 |
| | Qk.N_E1 | LF-3 | 0.12 | 0.04 | -0.02 |
| | | LF-4 | 0.07 | 0.05 | 0.03 |
| | | LF-7 | 0.00 | 0.00 | 0.00 |
| | | LF-10 | 48.18 | 36.33 | 28.42 |
| | | LF-11 | -0.02 | -0.01 | -0.01 |
| | | LF-17 | -0.01 | 0.00 | 0.00 |
| | | LF-18 | -0.34 | -0.25 | -0.18 |
| | | LF-23 | -0.01 | -0.01 | 0.00 |
| | | #1 LF-3 | -0.01 | 0.00 | 0.02 |
| | | #1 LF-4 | -2.39 | 0.01 | 3.49 |
| | | #1 LF-5 | 17.61 | 28.73 | 41.33 |
| | | #1 LF-6 | -0.03 | -0.04 | -0.06 |
| | | #1 LF-7 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-11 | -0.01 | 0.00 | 0.00 |
| | | #1 LF-12 | 0.07 | 0.08 | 0.07 |
| | | #1 LF-13 | 0.00 | -0.01 | -0.01 |
| | | #1 LF-14 | -0.01 | -0.01 | -0.01 |
| | | #1 LF-15 | 0.00 | 0.00 | 0.00 |
| | | #1 LF-17 | 0.00 | 0.00 | 0.01 |
| | | #1 LF-18 | 0.00 | -0.01 | -0.01 |
| | | #1 LF-19 | 1.10 | 1.74 | 2.46 |
| | | #1 LF-22 | 0.04 | 0.06 | 0.09 |
| | | #2 LF-19 | 0.00 | 0.00 | 0.00 |
| | | #2 LF-21 | -0.01 | -0.01 | -0.01 |

| | | Lastfall Lasten (3 Abschnitte je 0.46m) | | | | [kN/m] |
|--------------|---|---|-------|-------|-------|--------|
| Qk.N_DA | #2 LF-22 | 0.00 | 0.01 | 0.01 | | |
| | #2 LF-23 | -0.01 | -0.02 | -0.03 | | |
| | #2 LF-3 | 0.02 | 0.04 | 0.06 | | |
| | #2 LF-4 | -0.02 | -0.04 | -0.05 | | |
| | #2 LF-5 | 19.09 | 31.08 | 44.65 | | |
| | #2 LF-6 | -0.19 | -0.32 | -0.48 | | |
| | #2 LF-11 | 0.00 | -0.01 | -0.01 | | |
| | #2 LF-12 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-14 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-15 | 0.00 | -0.01 | -0.01 | | |
| | #2 LF-16 | -0.01 | -0.02 | -0.03 | | |
| | #3 LF-4 | 0.00 | 0.00 | -0.01 | | |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 | | |
| | #3 LF-7 | -0.01 | -0.02 | -0.02 | | |
| Qk.N_T2 | LF-20 | 0.03 | 0.02 | 0.01 | | |
| | #1 LF-20 | 0.02 | 0.00 | -0.02 | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| | | Lastfall Lasten (3 Abschnitte je 0.48m) | | | | [kN/m] |
| W-0.48 Gk | LF-1 | 3.16 | 3.22 | 3.27 | | |
| | #1 LF-1 | -0.57 | -0.61 | -1.03 | | |
| | #2 LF-1 | -0.72 | -0.75 | -1.27 | | |
| Ö← | LF-2 | 1.75 | 1.77 | 1.80 | | |
| | #1 LF-2 | -0.08 | -0.11 | -0.17 | | |
| | #2 LF-2 | -0.09 | -0.11 | -0.19 | | |
| Qk.N_E1 | LF-5 | 0.04 | 0.05 | 0.07 | | |
| | LF-6 | 0.00 | 0.00 | 0.01 | | |
| | LF-11 | 0.09 | 0.07 | 0.05 | | |
| | LF-13 | -0.02 | -0.03 | -0.03 | | |
| | LF-14 | -4.15 | -4.05 | -3.93 | | |
| | LF-15 | 0.02 | 0.02 | 0.01 | | |
| | LF-16 | 6.27 | 6.26 | 6.25 | | |
| | LF-17 | 0.00 | -0.01 | -0.05 | | |
| | #1 LF-3 | 0.08 | 0.02 | -0.02 | | |
| | #1 LF-7 | 0.00 | 0.02 | 0.06 | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | | |
| | #1 LF-10 | 0.00 | -0.05 | -0.05 | | |
| | #1 LF-15 | 0.01 | -0.04 | -0.14 | | |
| | #1 LF-16 | -0.11 | -0.10 | -0.16 | | |
| | #1 LF-17 | 0.02 | 0.01 | 0.00 | | |
| | #1 LF-18 | -0.09 | -0.02 | 0.03 | | |
| | #2 LF-17 | -0.01 | -0.07 | -0.06 | | |
| Qk.N_DA | #2 LF-3 | 0.10 | 0.03 | -0.02 | | |
| | #2 LF-6 | 0.00 | 0.01 | 0.05 | | |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-10 | -0.10 | -0.07 | -0.14 | | |
| | #2 LF-11 | 0.00 | -0.03 | -0.11 | | |
| | #2 LF-12 | -0.05 | -0.01 | 0.01 | | |
| | #2 LF-13 | -0.10 | -0.09 | -0.12 | | |
| Qk.N_T2 | LF-21 | 0.00 | 0.00 | 0.00 | | |
| | | | | | | |
| | | Lastfall Lasten (5 Abschnitte je 0.87m) | | | | [kN/m] |
| W-0.49 Gk | LF-1 | 3.17 | 3.32 | 3.03 | 0.64 | 17.83 |
| | #1 LF-1 | -1.35 | 6.49 | 86.90 | 63.96 | 7.65 |
| | #2 LF-1 | -1.88 | 8.70 | 118.4 | 87.94 | 7.32 |

| | | Lastfall Lasten (5 Abschnitte je 0.87m) | | | | | | [kN/m] |
|---------|------------|---|-------|-------|-------|-------|-------|--------|
| Ö← | #3 LF-1 | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 | | |
| | LF-2 | 1.76 | 1.80 | 1.62 | 0.61 | 9.16 | | |
| | #1 LF-2 | -0.06 | 0.45 | 4.99 | 3.27 | 1.86 | | |
| | #2 LF-2 | -0.14 | 0.74 | 9.39 | 6.76 | 1.23 | | |
| | LF-5 | 0.03 | 0.01 | 0.01 | 0.00 | 0.01 | | |
| Qk.N_E1 | LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-10 | 0.00 | 0.00 | 0.00 | 0.02 | -0.08 | | |
| | LF-11 | 0.17 | 0.34 | 0.90 | 2.17 | -13.4 | | |
| | LF-13 | -0.01 | -0.01 | 0.00 | 0.00 | -0.01 | | |
| | LF-14 | -4.24 | -4.19 | -3.71 | -3.66 | -13.3 | | |
| | LF-15 | 0.02 | -0.08 | -1.06 | -3.68 | 27.64 | | |
| | LF-16 | 6.30 | 6.30 | 6.14 | 5.94 | 8.93 | | |
| | LF-17 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | LF-19 | 0.00 | 0.00 | -0.01 | -0.08 | 0.24 | | |
| | LF-23 | 0.00 | 0.00 | 0.03 | 0.15 | -0.71 | | |
| | #1 LF-3 | 0.34 | -1.33 | -19.4 | -15.0 | 0.76 | | |
| | #1 LF-4 | 0.00 | -0.01 | -0.09 | -0.07 | 0.00 | | |
| | #1 LF-5 | 0.00 | 0.00 | -0.02 | -0.02 | 0.00 | | |
| | #1 LF-7 | -0.03 | 0.14 | 2.05 | 1.55 | 0.04 | | |
| | #1 LF-9 | 0.00 | 0.00 | 0.04 | 0.03 | 0.00 | | |
| | #1 LF-10 | 0.30 | -1.06 | -16.7 | -12.6 | -0.30 | | |
| | #1 LF-11 | 0.00 | 0.01 | 0.07 | 0.06 | 0.00 | | |
| | #1 LF-15 | 0.09 | -0.37 | -5.33 | -4.02 | -0.11 | | |
| | #1 LF-16 | -0.32 | 1.48 | 20.32 | 15.30 | 0.46 | | |
| | #1 LF-17 | 0.07 | -0.27 | -3.98 | -3.27 | 0.90 | | |
| | #1 LF-18 | -0.44 | 1.81 | 26.02 | 19.45 | 1.52 | | |
| | #1 LF-19 | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 | | |
| | #1 LF-22 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | | |
| | #2 LF-17 | 0.26 | -0.69 | -12.2 | -9.30 | 0.03 | | |
| Qk.N_DA | #2 LF-3 | 0.44 | -1.76 | -25.6 | -19.7 | 0.68 | | |
| | #2 LF-4 | 0.00 | 0.01 | 0.13 | 0.10 | 0.00 | | |
| | #2 LF-5 | 0.00 | -0.01 | -0.19 | -0.14 | 0.00 | | |
| | #2 LF-6 | -0.03 | 0.12 | 1.72 | 1.29 | 0.04 | | |
| | #2 LF-7 | 0.00 | 0.00 | -0.02 | -0.02 | 0.00 | | |
| | #2 LF-8 | 0.00 | 0.00 | -0.03 | -0.02 | 0.00 | | |
| | #2 LF-9 | 0.00 | 0.00 | 0.04 | 0.03 | 0.00 | | |
| | #2 LF-10 | -0.39 | 1.61 | 23.05 | 17.36 | 0.62 | | |
| | #2 LF-11 | 0.06 | -0.26 | -3.71 | -2.80 | -0.08 | | |
| | #2 LF-12 | -0.25 | 1.03 | 14.83 | 11.10 | 0.67 | | |
| | #2 LF-13 | -0.27 | 1.24 | 16.88 | 12.66 | 0.64 | | |
| Qk.N_T2 | LF-20 | 0.00 | 0.00 | 0.00 | -0.01 | 0.07 | | |
| | LF-22 | 0.00 | 0.00 | -0.04 | -0.03 | 1.57 | | |
| | #1 LF-20 | 0.00 | 0.01 | 0.12 | 0.09 | 0.00 | | |
| | #1 LF-21 | 0.00 | -0.01 | -0.08 | -0.06 | 0.00 | | |
| | | | | | | | | |
| | | Lastfall Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
| W-0.50 | LF-1 (g) | 35.17 | 55.77 | 63.03 | 67.96 | 75.83 | 74.78 | 58.73 |
| | | 25.24 | 8.15 | | | | | |
| | #1 LF-1 | 3.67 | 0.67 | -0.35 | -0.02 | 0.85 | 0.87 | 0.67 |
| | | 7.73 | 42.29 | | | | | |
| | #2 LF-1 | 3.42 | 0.57 | -0.46 | -0.53 | -0.67 | -1.12 | -1.80 |
| Gk | | 1.28 | 25.92 | | | | | |
| | #3 LF-1 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.03 | -0.01 |
| | | 0.03 | -0.08 | | | | | |
| | LF-2 | 9.09 | 11.86 | 14.06 | 15.98 | 18.83 | 18.48 | 12.69 |
| | | | | | | | | |

Qk.N_E1

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | 0.26 | -5.58 | | | | | | |
| #1 LF-2 | 1.62 | 0.30 | -0.16 | -0.04 | 0.31 | 0.37 | 0.38 | |
| | 2.68 | 12.85 | | | | | | |
| #2 LF-2 | 1.19 | 0.20 | -0.16 | -0.17 | -0.19 | -0.30 | -0.48 | |
| | 0.40 | 7.32 | | | | | | |
| #3 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-3 | 0.00 | 0.01 | 0.01 | 0.02 | 0.07 | 0.16 | -1.23 | |
| | -7.92 | -5.52 | | | | | | |
| LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | -0.04 | -0.04 | | | | | | |
| LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-6 | 0.15 | -0.93 | -1.48 | -2.11 | -3.16 | -2.93 | -1.29 | |
| | -0.14 | 0.34 | | | | | | |
| LF-7 | 2.73 | 17.01 | 22.72 | 28.90 | 39.64 | 38.62 | 23.82 | |
| | 11.44 | 1.15 | | | | | | |
| LF-8 | 5.53 | 8.54 | 9.07 | 7.25 | 2.29 | -1.89 | -1.41 | |
| | -0.34 | 0.04 | | | | | | |
| LF-9 | 0.03 | -0.02 | -0.29 | -1.10 | -1.52 | 2.25 | 7.06 | |
| | 7.86 | 3.80 | | | | | | |
| LF-10 | -0.01 | 0.01 | 0.04 | 0.11 | 0.33 | 0.61 | -1.08 | |
| | -10.40 | -11.3 | | | | | | |
| LF-12 | -0.36 | -0.96 | -1.16 | -0.62 | 0.50 | 0.67 | -0.22 | |
| | -0.56 | -0.15 | | | | | | |
| LF-13 | 0.00 | -0.01 | -0.01 | -0.02 | -0.02 | -0.02 | -0.01 | |
| | 0.00 | 0.00 | | | | | | |
| LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| LF-16 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | |
| | 0.00 | 0.00 | | | | | | |
| LF-17 | 0.01 | 0.02 | 0.01 | -0.04 | -0.16 | -0.25 | -0.21 | |
| | 0.07 | -0.02 | | | | | | |
| LF-18 | 0.00 | 0.00 | -0.01 | -0.01 | -0.04 | -0.05 | 0.03 | |
| | 0.45 | 0.42 | | | | | | |
| #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | -0.01 | | | | | | |
| #1 LF-5 | -0.03 | -0.01 | 0.00 | -0.02 | -0.08 | -0.14 | -0.29 | |
| | -0.60 | 0.32 | | | | | | |
| #1 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-7 | 0.01 | -0.06 | -0.07 | -0.02 | 0.11 | 0.24 | 0.49 | |
| | 1.18 | 1.12 | | | | | | |
| #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | | | | | | |
| #1 LF-11 | 0.33 | 0.11 | 0.04 | 0.14 | 0.42 | 0.55 | 0.77 | |
| | 2.11 | 4.40 | | | | | | |
| #1 LF-12 | -0.02 | 0.00 | 0.00 | -0.01 | -0.05 | -0.11 | -0.23 | |
| | -0.29 | 1.00 | | | | | | |
| #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | |
| | 0.03 | 0.03 | | | | | | |
| #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | -0.01 | | | | | | |

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | #1 LF-15 | 0.00 | 0.00 | -0.01 | -0.02 | -0.03 | -0.04 | -0.04 |
| | | -0.20 | -0.71 | | | | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-19 | -0.01 | 0.00 | -0.01 | -0.03 | -0.09 | -0.16 | -0.33 |
| | | -0.33 | 2.49 | | | | | |
| | #1 LF-22 | 1.77 | 0.36 | -0.12 | 0.04 | 0.45 | 0.49 | 0.47 |
| | | 3.55 | 16.69 | | | | | |
| | #2 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.03 | | | | | |
| | #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #2 LF-5 | -0.04 | -0.01 | 0.01 | 0.00 | -0.02 | -0.08 | -0.19 |
| | | -0.15 | 1.71 | | | | | |
| | #2 LF-6 | 1.18 | 0.20 | -0.15 | -0.18 | -0.25 | -0.43 | -0.70 |
| | | 0.92 | 12.28 | | | | | |
| Qk.N_T2 | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 | -0.05 | -0.06 |
| | | 0.03 | 0.73 | | | | | |
| | #2 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.04 | | | | | |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Gk | #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| Gk | #3 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | LF-21 | 0.00 | 0.02 | 0.03 | 0.04 | 0.06 | 0.06 | 0.03 |
| | | 0.00 | -0.01 | | | | | |
| Gk | #1 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | | | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

WS-0.11_BR

á|bÁÜUE€ÈFFÁÓ↔&æ^&æ}↔´â\ÁÑñfib\|^&

Lastfall Lasten (1 Abschnitte je 0.89m) [kN/m]

Gk

LF-1 0.00

WS-0.11_SA_W-0.11_1

aus WS-0.11 Sturzanfang

Lastfall Lasten (1 Abschnitte je 0.08m) [kN/m]

Gk

LF-1 31.53

D-702

Schulcampus EWK \

EG-LP4

| Lastfall Lasten (1 Abschnitte je 0.08m) | | [kN/m] |
|---|------------|--------|
| Ö← | #1 LF-1 | 118.0 |
| | #2 LF-1 | 175.7 |
| | #3 LF-1 | 176.6 |
| | LF-2 | -0.04 |
| Qk.N_E1 | #1 LF-2 | 41.94 |
| | #2 LF-2 | 35.07 |
| | #3 LF-2 | 24.42 |
| | LF-3 | -0.01 |
| | LF-4 | 0.00 |
| | LF-5 | 0.00 |
| | LF-6 | 42.64 |
| | LF-7 | 5.83 |
| | LF-8 | -0.58 |
| | LF-9 | 0.00 |
| | LF-10 | 0.00 |
| | LF-11 | 0.00 |
| | LF-12 | 0.03 |
| | LF-13 | 0.00 |
| | LF-14 | 11.74 |
| | LF-15 | -12.4 |
| | LF-16 | 0.01 |
| | LF-17 | 29.78 |
| | LF-18 | 0.86 |
| | LF-19 | 0.00 |
| | LF-23 | 0.00 |
| | #1 LF-3 | -0.22 |
| | #1 LF-4 | 0.00 |
| | #1 LF-5 | 0.00 |
| | #1 LF-6 | 0.00 |
| | #1 LF-7 | -5.69 |
| | #1 LF-8 | 6.76 |
| | #1 LF-9 | 1.52 |
| | #1 LF-10 | -7.35 |
| | #1 LF-11 | -0.11 |
| | #1 LF-12 | 0.00 |
| | #1 LF-13 | 0.00 |
| | #1 LF-14 | 0.00 |
| | #1 LF-15 | 30.94 |
| | #1 LF-16 | 1.48 |
| | #1 LF-17 | -0.03 |
| | #1 LF-18 | 0.33 |
| | #1 LF-19 | 0.00 |
| | #1 LF-22 | -0.03 |
| | #2 LF-17 | -1.32 |
| | #2 LF-18 | 0.00 |
| | #2 LF-19 | 0.00 |
| | #2 LF-20 | 0.00 |
| | #2 LF-21 | 0.00 |
| | #2 LF-22 | 0.00 |
| | #2 LF-23 | 0.00 |
| | #3 LF-8 | 0.00 |
| Qk.N_DA | #2 LF-3 | 0.06 |
| | #2 LF-4 | 0.00 |
| | #2 LF-5 | 0.00 |
| | D-703 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|----------------------------|-----------------------|--------------------------------|--------|
| | #2 | LF-6 | -4.72 |
| | #2 | LF-7 | 12.21 |
| | #2 | LF-8 | 9.48 |
| | #2 | LF-9 | 13.35 |
| | #2 | LF-10 | 1.16 |
| | #2 | LF-11 | 18.79 |
| | #2 | LF-12 | -0.01 |
| | #2 | LF-13 | 0.12 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | -0.01 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| Qk.N_T2 | | LF-20 | 0.00 |
| | | LF-21 | -0.29 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 13.90 |
| WS-0.11_SE_W-0.11_2 | | | |
| | aus WS-0.11 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
| Gk | | LF-1 | 3.01 |
| | | | 9.75 |
| | #1 | LF-1 | 16.11 |
| | #2 | LF-1 | 15.60 |
| | #3 | LF-1 | 0.00 |
| Ö← | | LF-2 | 3.63 |
| | #1 | LF-2 | 3.24 |
| | #2 | LF-2 | 2.26 |
| | #3 | LF-2 | 0.00 |
| Qk.N_E1 | | LF-3 | 0.00 |
| | | LF-4 | 0.00 |
| | | LF-5 | 4.16 |
| | | LF-6 | 0.91 |
| | | LF-7 | -0.09 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.00 |
| | | LF-10 | 0.00 |
| | | LF-11 | 0.00 |
| | | LF-12 | 0.00 |
| | | LF-13 | 3.14 |
| | | LF-14 | -1.11 |
| | | LF-15 | 0.00 |
| | | LF-16 | 1.20 |
| | | LF-17 | -0.22 |
| | | LF-18 | 0.00 |
| | | LF-19 | 0.00 |
| | | LF-23 | 0.00 |
| | #1 | LF-3 | -0.01 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
|---------------------|------------------------------------|--------------------------------|--------|
| | #1 | LF-7 | -0.06 |
| | #1 | LF-8 | 1.90 |
| | #1 | LF-9 | 0.27 |
| | #1 | LF-10 | -0.76 |
| | #1 | LF-11 | 0.00 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 1.95 |
| | #1 | LF-16 | 0.10 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.02 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-17 | -0.15 |
| | #2 | LF-18 | 0.00 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| | #2 | LF-22 | 0.00 |
| | #2 | LF-23 | 0.00 |
| | #3 | LF-8 | 0.00 |
| Qk.N_DA | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | -0.16 |
| | #2 | LF-7 | 0.70 |
| | #2 | LF-8 | 1.58 |
| | #2 | LF-9 | 1.40 |
| | #2 | LF-10 | 0.04 |
| | #2 | LF-11 | 1.23 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | -0.08 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| Qk.N_T2 | | LF-20 | 0.00 |
| | | LF-21 | -0.94 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.54 |
| WS-0.17_BR | á bÁÛÜË€ÈFÍÁÓ↔&æ^&æ}↔´á\ÃÑäfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 1.00m) | [kN/m] |
| | LF-1 | | 0.00 |
| WS-0.17_SA_W-0.17_1 | aus WS-0.17 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.62m) | [kN/m] |
| | LF-1 | | 4.75 |
| | | | 25.34 |
| | | | D-705 |

| Lastfall Lasten (1 Abschnitte je 0.62m) | | [kN/m] |
|---|------------|--------|
| Ö← | #1 LF-1 | 12.88 |
| | #2 LF-1 | 11.15 |
| | #3 LF-1 | 0.29 |
| Qk.N_E1 | LF-2 | 9.83 |
| | #1 LF-2 | 2.22 |
| | #2 LF-2 | 0.97 |
| | #3 LF-2 | -0.03 |
| | LF-3 | 0.00 |
| | LF-4 | -0.07 |
| | LF-5 | 0.00 |
| | LF-6 | 0.00 |
| | LF-7 | 0.00 |
| | LF-8 | 0.00 |
| | LF-9 | 0.00 |
| | LF-10 | 5.39 |
| | LF-11 | 0.95 |
| | LF-12 | 0.00 |
| | LF-13 | 0.00 |
| | LF-14 | 0.00 |
| | LF-15 | 7.18 |
| | LF-16 | 0.00 |
| | LF-17 | 0.00 |
| | LF-18 | -0.40 |
| | LF-19 | 0.03 |
| | LF-23 | 9.50 |
| | #1 LF-3 | -0.01 |
| | #1 LF-4 | -0.87 |
| | #1 LF-5 | -0.69 |
| | #1 LF-6 | -0.06 |
| | #1 LF-7 | 0.00 |
| | #1 LF-8 | 0.00 |
| | #1 LF-9 | 0.00 |
| | #1 LF-10 | 0.00 |
| | #1 LF-11 | 0.00 |
| | #1 LF-12 | 0.00 |
| | #1 LF-13 | 0.00 |
| | #1 LF-14 | 0.00 |
| | #1 LF-15 | 0.00 |
| | #1 LF-16 | 0.00 |
| | #1 LF-17 | 1.78 |
| | #1 LF-18 | 3.51 |
| | #1 LF-19 | -0.32 |
| | #1 LF-22 | 0.00 |
| | #2 LF-17 | 0.00 |
| | #2 LF-18 | 0.00 |
| | #2 LF-19 | -0.03 |
| | #2 LF-20 | 0.23 |
| | #2 LF-21 | 0.00 |
| | #2 LF-22 | -0.08 |
| | #2 LF-23 | -0.03 |
| | #3 LF-8 | 0.00 |
| Qk.N_DA | #2 LF-3 | 1.58 |
| | #2 LF-4 | 0.46 |
| | #2 LF-5 | -2.43 |
| | #2 LF-6 | 0.00 |
| | | D-706 |

| | Lastfall | Lasten (1 Abschnitte je 0.62m) | [kN/m] |
|---------------------|-----------------------|--------------------------------|--------|
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | -0.20 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | 2.70 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | -0.02 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | -0.13 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.07 |
| Qk.N_T2 | | LF-20 | -2.70 |
| | | LF-21 | 0.00 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.12 |
| | #1 | LF-21 | 0.00 |
| WS-0.17_SE_W-0.17_2 | aus WS-0.17 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.95m) | [kN/m] |
| Gk | | LF-1 | 3.14 |
| | | | 18.66 |
| | #1 | LF-1 | 11.64 |
| | #2 | LF-1 | 9.78 |
| | #3 | LF-1 | 0.15 |
| Ö← | | LF-2 | 7.16 |
| | #1 | LF-2 | 2.69 |
| | #2 | LF-2 | 1.51 |
| | #3 | LF-2 | -0.01 |
| Qk.N_E1 | | LF-3 | 0.00 |
| | | LF-4 | -0.04 |
| | | LF-5 | 0.00 |
| | | LF-6 | 0.00 |
| | | LF-7 | 0.00 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.00 |
| | | LF-10 | 2.97 |
| | | LF-11 | 1.68 |
| | | LF-12 | 0.00 |
| | | LF-13 | 0.00 |
| | | LF-14 | 0.00 |
| | | LF-15 | 4.62 |
| | | LF-16 | 0.00 |
| | | LF-17 | 0.00 |
| | | LF-18 | -0.25 |
| | | LF-19 | 0.03 |
| | | LF-23 | 7.19 |
| | #1 | LF-3 | 1.26 |
| | #1 | LF-4 | -0.09 |
| | #1 | LF-5 | -0.15 |
| | #1 | LF-6 | -0.02 |
| | #1 | LF-7 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.95m) | [kN/m] |
|-----------------|-------------------------------------|--------------------------------|--------|
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 0.00 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 1.94 |
| | #1 | LF-18 | 1.95 |
| | #1 | LF-19 | -0.09 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | 0.00 |
| | #2 | LF-19 | -0.01 |
| | #2 | LF-20 | 0.08 |
| | #2 | LF-21 | 0.00 |
| | #2 | LF-22 | -0.04 |
| | #2 | LF-23 | -0.01 |
| | #3 | LF-8 | 0.00 |
| Qk.N_DA | #2 | LF-3 | 2.47 |
| | #2 | LF-4 | 0.03 |
| | #2 | LF-5 | -0.69 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | -0.23 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | 1.51 |
| | #2 | LF-13 | -0.01 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | -0.01 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | -0.06 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.03 |
| Qk.N_T2 | | LF-20 | -1.56 |
| | | LF-21 | 0.00 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | -0.18 |
| | #1 | LF-21 | 0.00 |
| WS-0.32_2_BR | á bÁÛÜË€ÈĞŽGÁÓ↔&æ^&æ}↔´â\ÁÑñfib\ ^& | | |
| | Lastfall | Lasten (1 Abschnitte je 1.01m) | [kN/m] |
| Gk | | LF-1 | 0.00 |
| WS-0.32_2_SA_W- | aus WS-0.32_2 Sturzanfang | | |
| 0.32_2 | Lastfall | Lasten (1 Abschnitte je 0.12m) | [kN/m] |
| Gk | | LF-1 | 25.70 |
| | | | -3.09 |
| | #1 | LF-1 | -1.31 |
| | | | D-708 |

| | | Lastfall Lasten (1 Abschnitte je 0.12m) | [kN/m] |
|---------|----|---|--------|
| Ö← | #2 | LF-1 | -0.81 |
| | #3 | LF-1 | -0.04 |
| | | LF-2 | 2.21 |
| | #1 | LF-2 | -0.53 |
| | #2 | LF-2 | -0.26 |
| | #3 | LF-2 | -0.01 |
| Qk.N_E1 | | LF-3 | 0.00 |
| | | LF-4 | 0.00 |
| | | LF-5 | 0.00 |
| | | LF-6 | 0.00 |
| | | LF-7 | 0.00 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.00 |
| | | LF-10 | -0.51 |
| | | LF-11 | -31.4 |
| | | LF-12 | 0.00 |
| | | LF-13 | 0.00 |
| | | LF-14 | 0.09 |
| | | LF-15 | 21.14 |
| | | LF-16 | 0.00 |
| | | LF-17 | 0.00 |
| | | LF-18 | 0.00 |
| | | LF-19 | 11.70 |
| | | LF-23 | -4.06 |
| | #1 | LF-3 | -0.54 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.02 |
| | #1 | LF-11 | 0.00 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | -0.27 |
| | #1 | LF-18 | -0.12 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-17 | 0.02 |
| | #2 | LF-18 | 0.00 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| | #2 | LF-22 | 0.00 |
| | #2 | LF-23 | 0.00 |
| | #3 | LF-8 | 0.00 |
| Qk.N_DA | #2 | LF-3 | -0.40 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.01 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.12m) | [kN/m] |
|---------------------------|-------------------------|--------------------------------|--------|
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | -0.01 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | -0.03 |
| | #2 | LF-13 | -0.04 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | -0.01 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| Qk.N_T2 | | LF-20 | 0.43 |
| | | LF-21 | 0.00 |
| | | LF-22 | -0.02 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| WS-0.32_2_SE_W- 0.32_3 | aus WS-0.32_2 Sturzende | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
| | | LF-1 | 3.46 |
| | | | -0.38 |
| | #1 | LF-1 | -0.19 |
| | #2 | LF-1 | -0.11 |
| | #3 | LF-1 | 0.00 |
| Ö← | | LF-2 | 0.31 |
| | #1 | LF-2 | -0.07 |
| | #2 | LF-2 | -0.04 |
| | #3 | LF-2 | 0.00 |
| Qk.N_E1 | | LF-3 | 0.00 |
| | | LF-4 | 0.00 |
| | | LF-5 | 0.00 |
| | | LF-6 | 0.00 |
| | | LF-7 | 0.00 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.00 |
| | | LF-10 | -0.06 |
| | | LF-11 | -4.26 |
| | | LF-12 | 0.00 |
| | | LF-13 | 0.00 |
| | | LF-14 | 0.02 |
| | | LF-15 | 2.85 |
| | | LF-16 | 0.00 |
| | | LF-17 | 0.00 |
| | | LF-18 | 0.00 |
| | | LF-19 | 1.58 |
| | | LF-23 | -0.49 |
| | #1 | LF-3 | -0.08 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | | D-710 | |

| | | | |
|-----------------|----------|---|--------|
| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 0.00 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | -0.04 |
| | #1 | LF-18 | -0.02 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | 0.00 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| | #2 | LF-22 | 0.00 |
| | #2 | LF-23 | 0.00 |
| | #3 | LF-8 | 0.00 |
| Qk.N_DA | #2 | LF-3 | -0.06 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| Qk.N_T2 | | LF-20 | 0.05 |
| | | LF-21 | 0.00 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| WS-0.39_1_BR | | á bÁÙUĚ€ÈĞİŽFÁÓ↔&æ^&æ}↔´â\ÁÑñfib\ ^& | |
| Gk | | Lastfall Lasten (1 Abschnitte je 1.13m) | [kN/m] |
| | | LF-1 | 0.00 |
| WS-0.39_1_SA_W- | | aus WS-0.39_1 Sturzanfang | |
| 0.39_1 | | Lastfall Lasten (1 Abschnitte je 0.75m) | [kN/m] |
| Gk | | LF-1 | 4.49 |
| | | | -1.30 |
| | #1 | LF-1 | 8.76 |
| | #2 | LF-1 | 7.97 |
| | | | D-711 |

| Lastfall Lasten (1 Abschnitte je 0.75m) | | [kN/m] |
|---|------------|--------|
| Ö← | #3 LF-1 | 4.31 |
| | LF-2 | 0.76 |
| | #1 LF-2 | 1.03 |
| | #2 LF-2 | 0.58 |
| | #3 LF-2 | 0.41 |
| Qk.N_E1 | LF-3 | -0.27 |
| | LF-4 | 8.02 |
| | LF-5 | 0.00 |
| | LF-6 | 0.00 |
| | LF-7 | 0.00 |
| | LF-8 | 0.00 |
| | LF-9 | 0.00 |
| | LF-10 | -13.3 |
| | LF-11 | 0.06 |
| | LF-12 | 0.01 |
| | LF-13 | 0.00 |
| | LF-14 | 0.00 |
| | LF-15 | -0.15 |
| | LF-16 | 0.00 |
| | LF-17 | 0.01 |
| | LF-18 | 5.94 |
| | LF-19 | 0.00 |
| | LF-23 | 0.03 |
| | #1 LF-3 | 0.03 |
| | #1 LF-4 | -0.25 |
| | #1 LF-5 | -1.32 |
| | #1 LF-6 | 1.55 |
| | #1 LF-7 | 0.00 |
| | #1 LF-8 | 0.00 |
| | #1 LF-9 | 0.00 |
| | #1 LF-10 | 0.00 |
| | #1 LF-11 | 0.00 |
| | #1 LF-12 | -0.01 |
| | #1 LF-13 | 0.01 |
| | #1 LF-14 | 2.90 |
| | #1 LF-15 | 0.00 |
| | #1 LF-16 | 0.00 |
| | #1 LF-17 | 0.02 |
| | #1 LF-18 | -0.21 |
| | #1 LF-19 | -0.51 |
| | #1 LF-22 | 0.00 |
| | #2 LF-17 | 0.00 |
| | #2 LF-18 | 0.00 |
| | #2 LF-19 | 0.69 |
| | #2 LF-20 | -0.04 |
| | #2 LF-21 | 0.09 |
| | #2 LF-22 | 2.73 |
| | #2 LF-23 | 1.14 |
| | #3 LF-8 | 0.02 |
| Qk.N_DA | #2 LF-3 | 0.08 |
| | #2 LF-4 | 0.00 |
| | #2 LF-5 | -1.54 |
| | #2 LF-6 | 0.00 |
| | #2 LF-7 | 0.00 |
| | #2 LF-8 | 0.00 |
| | | D-712 |

| | Lastfall | Lasten (1 Abschnitte je 0.75m) | [kN/m] |
|---------------------------|-------------------------|--------------------------------|--------|
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.01 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | -0.29 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | -0.03 |
| | #2 | LF-16 | 0.36 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | -0.92 |
| | #3 | LF-5 | -0.02 |
| | #3 | LF-6 | 0.41 |
| | #3 | LF-7 | 1.35 |
| Qk.N_T2 | | LF-20 | 0.02 |
| | | LF-21 | 0.00 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| WS-0.39_1_SE_W- 0.39_2 | aus WS-0.39_1 Sturzende | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| | | LF-1 | 14.14 |
| | | | -2.80 |
| | #1 | LF-1 | 32.44 |
| | #2 | LF-1 | 27.25 |
| | #3 | LF-1 | 16.21 |
| Ö← | | LF-2 | 2.89 |
| | #1 | LF-2 | 5.75 |
| | #2 | LF-2 | 3.13 |
| | #3 | LF-2 | 1.54 |
| Qk.N_E1 | | LF-3 | -0.97 |
| | | LF-4 | 25.47 |
| | | LF-5 | 0.00 |
| | | LF-6 | 0.00 |
| | | LF-7 | -0.01 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.01 |
| | | LF-10 | -41.2 |
| | | LF-11 | 0.07 |
| | | LF-12 | 0.02 |
| | | LF-13 | 0.00 |
| | | LF-14 | 0.00 |
| | | LF-15 | -0.18 |
| | | LF-16 | 0.00 |
| | | LF-17 | 0.04 |
| | | LF-18 | 18.79 |
| | | LF-19 | -0.01 |
| | | LF-23 | 0.03 |
| | #1 | LF-3 | 0.04 |
| | #1 | LF-4 | -0.23 |
| | #1 | LF-5 | -0.09 |
| | #1 | LF-6 | 2.30 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | | D-713 | |

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|-----------------|--------------------------------------|--------------------------------|--------|
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | -0.01 |
| | #1 | LF-12 | 0.02 |
| | #1 | LF-13 | 0.05 |
| | #1 | LF-14 | 9.68 |
| | #1 | LF-15 | -0.01 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.02 |
| | #1 | LF-18 | -0.25 |
| | #1 | LF-19 | 0.08 |
| | #1 | LF-22 | -0.06 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | -0.01 |
| | #2 | LF-19 | 0.96 |
| | #2 | LF-20 | -0.06 |
| | #2 | LF-21 | 0.86 |
| | #2 | LF-22 | 7.95 |
| | #2 | LF-23 | 2.11 |
| | #3 | LF-8 | 0.04 |
| Qk.N_DA | #2 | LF-3 | 0.11 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | -1.17 |
| | #2 | LF-6 | -0.05 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.01 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | -0.41 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | -0.01 |
| | #2 | LF-15 | -0.02 |
| | #2 | LF-16 | 0.56 |
| | #3 | LF-3 | 0.01 |
| | #3 | LF-4 | -4.10 |
| | #3 | LF-5 | 0.03 |
| | #3 | LF-6 | 2.22 |
| | #3 | LF-7 | 4.92 |
| Qk.N_T2 | | LF-20 | 0.05 |
| | | LF-21 | 0.00 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| WS-0.39_2_BR | á bÁÛÜÊ€ÈĞİŽGÁÓ↔&æ^&æ}↔´â\ÁÑăfib\ ^& | | |
| | Lastfall | Lasten (1 Abschnitte je 0.88m) | [kN/m] |
| Gk | | LF-1 | 0.00 |
| WS-0.39_2_SA_W- | aus WS-0.39_2 Sturzanfang | | |
| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| Gk | | LF-1 | 11.02 |
| | | | 0.67 |
| | #1 | LF-1 | 31.25 |
| | #2 | LF-1 | 24.18 |
| | #3 | LF-1 | 22.73 |

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Ö← | LF-2 | | 3.22 |
| | #1 | LF-2 | 6.23 |
| | #2 | LF-2 | 3.60 |
| | #3 | LF-2 | 1.68 |
| Qk.N_E1 | LF-3 | | -1.18 |
| | LF-4 | | 19.82 |
| | LF-5 | | 0.00 |
| | LF-6 | | 0.00 |
| | LF-7 | | -0.01 |
| | LF-8 | | 0.00 |
| | LF-9 | | 0.01 |
| | LF-10 | | -29.5 |
| | LF-11 | | -0.03 |
| | LF-12 | | 0.02 |
| | LF-13 | | 0.00 |
| | LF-14 | | 0.00 |
| | LF-15 | | 0.05 |
| | LF-16 | | 0.00 |
| | LF-17 | | 0.00 |
| | LF-18 | | 14.41 |
| | LF-19 | | 0.00 |
| | LF-23 | | -0.02 |
| | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.24 |
| | #1 | LF-5 | 0.69 |
| | #1 | LF-6 | -0.64 |
| | #1 | LF-7 | 0.01 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 0.03 |
| | #1 | LF-12 | -0.11 |
| | #1 | LF-13 | -0.34 |
| | #1 | LF-14 | 11.99 |
| | #1 | LF-15 | 0.07 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.07 |
| | #1 | LF-19 | 0.34 |
| | #1 | LF-22 | 0.03 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | -0.25 |
| | #2 | LF-19 | -0.14 |
| | #2 | LF-20 | 0.01 |
| | #2 | LF-21 | 2.88 |
| | #2 | LF-22 | 7.73 |
| | #2 | LF-23 | 0.10 |
| | #3 | LF-8 | -0.44 |
| Qk.N_DA | #2 | LF-3 | -0.01 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | -0.40 |
| | #2 | LF-6 | 0.20 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | | | D-715 |

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|------------------------------|-------------------------|--------------------------------|--------|
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.11 |
| | #2 | LF-12 | 0.06 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | -0.10 |
| | #2 | LF-15 | 0.57 |
| | #2 | LF-16 | -0.19 |
| | #3 | LF-3 | -0.16 |
| | #3 | LF-4 | -4.75 |
| | #3 | LF-5 | 1.22 |
| | #3 | LF-6 | 3.94 |
| | #3 | LF-7 | 3.10 |
| Qk.N_T2 | | LF-20 | 0.01 |
| | | LF-21 | 0.00 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| WS-0.39_2_SE_W-0.39_3 | aus WS-0.39_2 Sturzende | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| | | LF-1 | 11.02 |
| | | | 0.76 |
| | #1 | LF-1 | 29.08 |
| | #2 | LF-1 | 22.65 |
| | #3 | LF-1 | 24.61 |
| Ö← | | LF-2 | 3.22 |
| | #1 | LF-2 | 5.45 |
| | #2 | LF-2 | 3.32 |
| | #3 | LF-2 | 1.68 |
| Qk.N_E1 | | LF-3 | -1.27 |
| | | LF-4 | 19.60 |
| | | LF-5 | 0.00 |
| | | LF-6 | 0.00 |
| | | LF-7 | -0.01 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.01 |
| | | LF-10 | -29.1 |
| | | LF-11 | -0.02 |
| | | LF-12 | 0.02 |
| | | LF-13 | 0.00 |
| | | LF-14 | 0.00 |
| | | LF-15 | 0.04 |
| | | LF-16 | 0.00 |
| | | LF-17 | -0.01 |
| | | LF-18 | 14.36 |
| | | LF-19 | 0.00 |
| | | LF-23 | -0.01 |
| | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.18 |
| | #1 | LF-5 | -0.64 |
| | #1 | LF-6 | -0.62 |
| | #1 | LF-7 | 0.01 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | | D-716 | |

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|-----------------------|--------------------------------------|--------------------------------|--------|
| | #1 | LF-11 | 0.05 |
| | #1 | LF-12 | -0.18 |
| | #1 | LF-13 | -0.49 |
| | #1 | LF-14 | 12.62 |
| | #1 | LF-15 | 0.11 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.05 |
| | #1 | LF-19 | -0.22 |
| | #1 | LF-22 | 0.08 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | -0.33 |
| | #2 | LF-19 | -0.11 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 3.43 |
| | #2 | LF-22 | 7.94 |
| | #2 | LF-23 | -0.06 |
| | #3 | LF-8 | -0.62 |
| Qk.N_DA | #2 | LF-3 | -0.01 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | -1.54 |
| | #2 | LF-6 | 0.31 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.16 |
| | #2 | LF-12 | 0.05 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | -0.13 |
| | #2 | LF-15 | 0.74 |
| | #2 | LF-16 | -0.21 |
| | #3 | LF-3 | -0.21 |
| | #3 | LF-4 | -4.47 |
| | #3 | LF-5 | 1.71 |
| | #3 | LF-6 | 4.25 |
| | #3 | LF-7 | 2.08 |
| Qk.N_T2 | | LF-20 | 0.01 |
| | | LF-21 | 0.00 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| WS-0.39_3_BR | á bÁÛÜĚ€ÈĜİŽĜÁÓ↔&æ^&æ}↔´â\ÃÑãfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.89m) | [kN/m] |
| | | LF-1 | 0.00 |
| WS-0.39_3_SA_W-0.39_3 | aus WS-0.39_3 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| | | LF-1 | 11.02 |
| | | | -19.5 |
| | #1 | LF-1 | 28.29 |
| | #2 | LF-1 | 21.47 |
| | #3 | LF-1 | 23.56 |
| Ö← | | LF-2 | -4.43 |

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Qk.N_E1 | #1 | LF-2 | 4.27 |
| | #2 | LF-2 | 2.38 |
| | #3 | LF-2 | 1.44 |
| | | LF-3 | -4.01 |
| | | LF-4 | 11.25 |
| | | LF-5 | 0.00 |
| | | LF-6 | -0.01 |
| | | LF-7 | -0.02 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.05 |
| | | LF-10 | -39.9 |
| | | LF-11 | -0.01 |
| | | LF-12 | 0.06 |
| | | LF-13 | 0.00 |
| | | LF-14 | 0.00 |
| | | LF-15 | 0.01 |
| | | LF-16 | 0.00 |
| | | LF-17 | 0.33 |
| | | LF-18 | 19.34 |
| | | LF-19 | 0.00 |
| | | LF-23 | -0.01 |
| | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.01 |
| | #1 | LF-5 | -0.68 |
| | #1 | LF-6 | -0.24 |
| | #1 | LF-7 | 0.01 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 0.07 |
| | #1 | LF-12 | -0.04 |
| | #1 | LF-13 | -0.13 |
| | #1 | LF-14 | 9.40 |
| | #1 | LF-15 | 0.23 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.01 |
| | #1 | LF-19 | -0.07 |
| | #1 | LF-22 | -0.13 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | 0.20 |
| | #2 | LF-19 | -0.01 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 3.14 |
| | #2 | LF-22 | 5.98 |
| | #2 | LF-23 | -0.20 |
| | #3 | LF-8 | 0.15 |
| Qk.N_DA | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | -2.14 |
| | #2 | LF-6 | 0.16 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | | D-718 | EG-LP4 |

| Lastfall Lasten (1 Abschnitte je 0.24m) | | [kN/m] |
|---|---|--------|
| Qk.N_T2 | #2 LF-11 | 0.13 |
| | #2 LF-12 | 0.01 |
| | #2 LF-13 | 0.00 |
| | #2 LF-14 | -0.07 |
| | #2 LF-15 | 0.68 |
| | #2 LF-16 | -0.14 |
| | #3 LF-3 | 0.28 |
| | #3 LF-4 | -3.16 |
| | #3 LF-5 | 2.80 |
| | #3 LF-6 | 3.16 |
| WS-0.39_3_SE_W- 0.39_4 | #3 LF-7 | -0.21 |
| | LF-20 | 0.01 |
| | LF-21 | 0.00 |
| | LF-22 | 0.00 |
| | #1 LF-20 | 0.00 |
| Gk | #1 LF-21 | 0.00 |
| | aus WS-0.39_3 Sturzende | |
| | Lastfall Lasten (1 Abschnitte je 0.08m) | [kN/m] |
| | LF-1 | 31.53 |
| Ö← | | -87.9 |
| | #1 LF-1 | 87.92 |
| | #2 LF-1 | 66.84 |
| | #3 LF-1 | 60.46 |
| Qk.N_E1 | LF-2 | -24.4 |
| | #1 LF-2 | 12.82 |
| | #2 LF-2 | 6.42 |
| | #3 LF-2 | 4.01 |
| | LF-3 | -15.6 |
| | LF-4 | 21.55 |
| | LF-5 | 0.00 |
| | LF-6 | -0.04 |
| | LF-7 | -0.13 |
| | LF-8 | 0.00 |
| | LF-9 | 0.19 |
| | LF-10 | -136 |
| | LF-11 | -0.03 |
| | LF-12 | 0.21 |
| | LF-13 | 0.00 |
| | LF-14 | 0.00 |
| | LF-15 | 0.04 |
| | LF-16 | 0.01 |
| | LF-17 | 1.86 |
| | LF-18 | 64.44 |
| | LF-19 | 0.00 |
| | LF-23 | -0.02 |
| | #1 LF-3 | 0.00 |
| | #1 LF-4 | 0.04 |
| | #1 LF-5 | 2.56 |
| | #1 LF-6 | -0.38 |
| | #1 LF-7 | 0.02 |
| | #1 LF-8 | 0.00 |
| | #1 LF-9 | 0.00 |
| | #1 LF-10 | 0.00 |
| | #1 LF-11 | 0.11 |
| | | D-719 |

| | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|-----------------------|--------------------------------------|--------------------------------|--------|
| | #1 | LF-12 | 0.31 |
| | #1 | LF-13 | 1.46 |
| | #1 | LF-14 | 18.95 |
| | #1 | LF-15 | 0.50 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.01 |
| | #1 | LF-19 | 1.97 |
| | #1 | LF-22 | -0.91 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | 2.16 |
| | #2 | LF-19 | -0.01 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 6.53 |
| | #2 | LF-22 | 12.87 |
| | #2 | LF-23 | -0.35 |
| | #3 | LF-8 | 2.83 |
| Qk.N_DA | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | -2.28 |
| | #2 | LF-6 | -0.45 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | -0.06 |
| | #2 | LF-12 | 0.01 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.08 |
| | #2 | LF-15 | 1.24 |
| | #2 | LF-16 | -0.25 |
| | #3 | LF-3 | 2.04 |
| | #3 | LF-4 | -7.66 |
| | #3 | LF-5 | 8.21 |
| | #3 | LF-6 | 6.04 |
| | #3 | LF-7 | -0.60 |
| Qk.N_T2 | | LF-20 | 0.03 |
| | | LF-21 | 0.00 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | 0.00 |
| WS-0.44_3_BR | á bÁÛÜÊ€ÈHHŽĜÁÓ↔&æ^&æ}↔´â\ÃÑãfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 1.51m) | [kN/m] |
| | | LF-1 | 0.00 |
| WS-0.44_3_SA_W-0.44_3 | aus WS-0.44_3 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.13m) | [kN/m] |
| | | LF-1 | 33.62 |
| | | | 203.7 |
| | #1 | LF-1 | 62.03 |
| | #2 | LF-1 | 59.80 |
| | #3 | LF-1 | -0.02 |
| Ö← | | LF-2 | 77.46 |
| | #1 | LF-2 | 14.94 |
| | | | D-720 |

| | Lastfall | Lasten (1 Abschnitte je 0.13m) | [kN/m] |
|---------|----------|--------------------------------|--------------|
| Qk.N_E1 | #2 | LF-2 | 14.90 |
| | #3 | LF-2 | 0.00 |
| | | LF-3 | 0.00 |
| | | LF-4 | 0.00 |
| | | LF-5 | -1.88 |
| | | LF-6 | 1.05 |
| | | LF-7 | -0.15 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.00 |
| | | LF-10 | 0.00 |
| | | LF-11 | 0.06 |
| | | LF-12 | 0.00 |
| | | LF-13 | 0.86 |
| | | LF-14 | 107.5 |
| | | LF-15 | 0.03 |
| | | LF-16 | 42.32 |
| | | LF-17 | -2.89 |
| | | LF-18 | 0.00 |
| | | LF-19 | 0.00 |
| | | LF-23 | 0.00 |
| | #1 | LF-3 | 0.12 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 0.40 |
| | #1 | LF-8 | 0.29 |
| | #1 | LF-9 | -0.22 |
| | #1 | LF-10 | 21.39 |
| | #1 | LF-11 | 0.01 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | -1.69 |
| | #1 | LF-16 | 8.41 |
| | #1 | LF-17 | 0.04 |
| | #1 | LF-18 | -0.10 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-22 | 0.00 |
| Qk.N_DA | #2 | LF-17 | 30.02 |
| | #2 | LF-18 | 0.00 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| | #2 | LF-22 | 0.00 |
| | #2 | LF-23 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #2 | LF-3 | 0.23 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.35 |
| | #2 | LF-7 | -0.02 |
| | #2 | LF-8 | 0.18 |
| | #2 | LF-9 | -0.41 |
| | #2 | LF-10 | -1.20 |
| | #2 | LF-11 | -1.10 |
| | | | D-721 |

| | Lastfall | Lasten (1 Abschnitte je 0.13m) | [kN/m] |
|------------------------------|----------|--------------------------------|--------|
| Qk.N_T2 | #2 | LF-12 | -0.09 |
| | #2 | LF-13 | 11.40 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | -0.01 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| | | LF-20 | 0.00 |
| | | LF-21 | -0.06 |
| | | LF-22 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | -0.02 |
| WS-0.44_3_SE_W-0.44_4 | | | |
| aus WS-0.44_3 Sturzende | | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.86m) | [kN/m] |
| Ö← | | LF-1 | 5.19 |
| | | | 29.78 |
| | #1 | LF-1 | 12.26 |
| | #2 | LF-1 | 12.40 |
| | #3 | LF-1 | 0.00 |
| Qk.N_E1 | | LF-2 | 11.38 |
| | #1 | LF-2 | 2.76 |
| | #2 | LF-2 | 2.67 |
| | #3 | LF-2 | 0.00 |
| | | LF-3 | 0.00 |
| | | LF-4 | 0.00 |
| | | LF-5 | -0.44 |
| | | LF-6 | 0.24 |
| | | LF-7 | -0.03 |
| | | LF-8 | 0.00 |
| | | LF-9 | 0.00 |
| | | LF-10 | 0.00 |
| | | LF-11 | 0.01 |
| | | LF-12 | 0.00 |
| | | LF-13 | 0.20 |
| | | LF-14 | 15.84 |
| | | LF-15 | 0.00 |
| | | LF-16 | 6.43 |
| | | LF-17 | -0.64 |
| | | LF-18 | 0.00 |
| | | LF-19 | 0.00 |
| | | LF-23 | 0.00 |
| | #1 | LF-3 | 0.02 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 0.05 |
| | #1 | LF-8 | 0.13 |
| | #1 | LF-9 | -0.08 |
| | #1 | LF-10 | 3.77 |
| | #1 | LF-11 | 0.00 |
| | #1 | LF-12 | 0.00 |
| | | D-722 | |

| Lastfall Lasten (1 Abschnitte je 0.86m) | | [kN/m] |
|---|----------|--------|
| #1 | LF-13 | 0.00 |
| #1 | LF-14 | 0.00 |
| #1 | LF-15 | -0.32 |
| #1 | LF-16 | 1.84 |
| #1 | LF-17 | 0.01 |
| #1 | LF-18 | -0.01 |
| #1 | LF-19 | 0.00 |
| #1 | LF-22 | 0.00 |
| #2 | LF-17 | 5.21 |
| #2 | LF-18 | 0.00 |
| #2 | LF-19 | 0.00 |
| #2 | LF-20 | 0.00 |
| #2 | LF-21 | 0.00 |
| #2 | LF-22 | 0.00 |
| #2 | LF-23 | 0.00 |
| #3 | LF-8 | 0.00 |
| Qk.N_DA | #2 LF-3 | 0.04 |
| | #2 LF-4 | 0.00 |
| | #2 LF-5 | 0.00 |
| | #2 LF-6 | 0.05 |
| | #2 LF-7 | -0.01 |
| | #2 LF-8 | 0.07 |
| | #2 LF-9 | -0.13 |
| | #2 LF-10 | -0.13 |
| | #2 LF-11 | -0.12 |
| | #2 LF-12 | -0.02 |
| | #2 LF-13 | 2.09 |
| | #2 LF-14 | 0.00 |
| | #2 LF-15 | 0.00 |
| | #2 LF-16 | 0.00 |
| | #3 LF-3 | 0.00 |
| | #3 LF-4 | 0.00 |
| | #3 LF-5 | 0.00 |
| | #3 LF-6 | 0.00 |
| | #3 LF-7 | 0.00 |
| Qk.N_T2 | LF-20 | 0.00 |
| | LF-21 | -0.02 |
| | LF-22 | 0.00 |
| | #1 LF-20 | 0.00 |
| | #1 LF-21 | -0.02 |

j Yf bUW` } gg] [hY`
Lasten

| Position | in Dokumentation | | |
|----------|------------------|-----------------------------|-----------------|
| | [kN] | ↔ [^] Qáb\fiâæã&ââ | positiv negativ |
| | | [kN] | [kN] |
| W-0.1(1) | -0.00217 | 0.00175 | -0.0008 |
| W-0.1(2) | 0.02907 | 0.00133 | -0.0017 |
| W-0.1(3) | -0.00739 | 0.00310 | -0.0073 |
| W-0.2(1) | 0.00603 | 0.00306 | -0.0014 |
| W-0.2(2) | -0.00900 | 0.00262 | -0.0006 |
| W-0.2(3) | 0.00156 | 0.00027 | -0.0034 |
| W-0.3(1) | 0.01220 | 0.00130 | -0.0017 |
| W-0.3(2) | 0.01332 | 0.00149 | -0.0013 |
| W-0.3(3) | 0.01067 | 0.00207 | -0.0010 |
| W-0.4(1) | 0.00836 | 0.00153 | -0.0016 |

D-723

| Position | in Dokumentation | ↔ [^] Qáb\fiâæã&áâæ | |
|-------------|------------------|------------------------------|---------|
| | | positiv | negativ |
| | [kN] | [kN] | [kN] |
| W-0.4(2) | 0.00623 | 0.00142 | -0.0023 |
| W-0.4(3) | 0.00109 | 0.00036 | -0.0026 |
| W-0.5(1) | 0.01280 | 0.00051 | -0.0020 |
| W-0.5(2) | -0.00712 | 0.00159 | -0.0015 |
| W-0.5(3) | -0.00226 | 0.00188 | -0.0018 |
| W-0.5(4) | -0.00076 | 0.00210 | -0.0014 |
| W-0.5(5) | -0.02989 | 0.00188 | -0.0003 |
| W-0.5(6) | 0.03064 | 0.00087 | -0.0020 |
| W-0.6(1) | 0.04234 | 0.00087 | -0.0009 |
| W-0.6(2) | -0.03264 | 0.00045 | -0.0006 |
| W-0.6(3) | -0.03855 | 0.00113 | -0.0015 |
| W-0.6(4) | -0.03551 | 0.00164 | -0.0022 |
| W-0.6(5) | -0.04078 | 0.00036 | -0.0006 |
| W-0.6(6) | 0.01395 | 0.00061 | -0.0006 |
| W-0.6(7) | 0.00321 | 0.00049 | -0.0008 |
| W-0.6(8) | -0.00777 | 0.00012 | -0.0004 |
| W-0.6(9) | 0.00743 | 0.00178 | -0.0022 |
| W-0.7(1) | 0.00090 | 0.00181 | -0.0019 |
| W-0.7(2) | 0.00460 | 0.00051 | -0.0017 |
| W-0.7(3) | -0.01244 | 0.00103 | -0.0022 |
| W-0.7(4) | 0.01648 | 0.00332 | -0.0012 |
| W-0.8(1) | 0.00024 | 0.00231 | -0.0008 |
| W-0.8(2) | 0.00059 | 0.00254 | -0.0006 |
| W-0.8(3) | 0.00117 | 0.00271 | -0.0004 |
| W-0.9(1) | -0.00368 | 0.00116 | -0.0031 |
| W-0.9(2) | 0.00135 | 0.00085 | -0.0017 |
| W-0.9(3) | 0.00694 | 0.00285 | -0.0034 |
| W-0.10(1) | -0.00444 | 0.00350 | -0.0005 |
| W-0.10(2) | -0.01030 | 0.00215 | -0.0030 |
| W-0.10(3) | -0.00720 | 0.00057 | -0.0015 |
| W-0.10(4) | -0.01453 | 0.00031 | -0.0007 |
| W-0.10(5) | -0.00835 | 0.00022 | -0.0004 |
| W-0.10(6) | 0.00949 | 0.00012 | -0.0001 |
| W-0.11_1(1) | 0.00000 | 0.00264 | -0.0007 |
| W-0.11_1(2) | 0.00000 | 0.00259 | -0.0007 |
| W-0.11_1(3) | 0.00000 | 0.00254 | -0.0007 |
| W-0.11_2(1) | -0.00519 | 0.00229 | -0.0019 |
| W-0.11_2(2) | 0.00973 | 0.00087 | -0.0009 |
| W-0.11_2(3) | 0.01585 | 0.00075 | -0.0008 |
| W-0.11_2(4) | 0.00430 | 0.00035 | -0.0004 |
| W-0.11_2(5) | -0.00590 | 0.00008 | -0.0001 |
| W-0.12(1) | 0.00774 | 0.00059 | -0.0005 |
| W-0.12(2) | 0.00169 | 0.00267 | -0.0024 |
| W-0.12(3) | 0.00730 | 0.00208 | -0.0024 |
| W-0.13(1) | 0.00244 | 0.00120 | -0.0014 |
| W-0.13(2) | 0.00582 | 0.00094 | -0.0005 |
| W-0.13(3) | -0.00115 | 0.00138 | -0.0003 |
| W-0.14(1) | -0.00574 | 0.00112 | -0.0008 |
| W-0.14(2) | -0.01245 | 0.00393 | -0.0008 |
| W-0.14(3) | -0.02871 | 0.00138 | -0.0007 |
| W-0.15(1) | -0.00812 | 0.00239 | -0.0052 |
| W-0.15(2) | -0.01802 | 0.00015 | -0.0011 |
| W-0.15(3) | 0.00122 | 0.00026 | -0.0003 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâã&áâ | |
|-------------|------------------|----------------------------|---------|
| | | positiv | negativ |
| | [kN] | [kN] | [kN] |
| W-0.15(4) | -0.01750 | 0.00025 | -0.0004 |
| W-0.15(5) | -0.00003 | 0.00022 | -0.0002 |
| W-0.15(6) | 0.00967 | 0.00108 | -0.0004 |
| W-0.16(1) | 0.01886 | 0.00485 | -0.0013 |
| W-0.16(2) | -0.00066 | 0.00026 | -0.0008 |
| W-0.16(3) | -0.02581 | 0.00033 | -0.0007 |
| W-0.16(4) | -0.03193 | 0.00044 | -0.0007 |
| W-0.16(5) | -0.02721 | 0.00059 | -0.0006 |
| W-0.16(6) | -0.02137 | 0.00073 | -0.0004 |
| W-0.16(7) | -0.02205 | 0.00080 | -0.0003 |
| W-0.16(8) | -0.00842 | 0.00082 | -0.0003 |
| W-0.16(9) | 0.01688 | 0.00136 | -0.0007 |
| W-0.17_1(1) | 0.00586 | 0.00138 | -0.0041 |
| W-0.17_1(2) | 0.00040 | 0.00106 | -0.0020 |
| W-0.17_1(3) | 0.00619 | 0.00093 | -0.0011 |
| W-0.17_2(1) | -0.00106 | 0.00145 | -0.0017 |
| W-0.17_2(2) | 0.00504 | 0.00073 | -0.0006 |
| W-0.17_2(3) | 0.00417 | 0.00010 | -0.0002 |
| W-0.17_2(4) | -0.00726 | 0.00014 | -0.0002 |
| W-0.17_2(5) | 0.01050 | 0.00013 | -0.0001 |
| W-0.17_2(6) | 0.01178 | 0.00088 | 0.0000 |
| W-0.17_2(7) | 0.01526 | 0.00387 | -0.0002 |
| W-0.18(1) | -0.00140 | 0.00076 | -0.0021 |
| W-0.18(2) | 0.00123 | 0.00100 | -0.0020 |
| W-0.18(3) | 0.00094 | 0.00124 | -0.0019 |
| W-0.19(1) | -0.00117 | 0.00132 | -0.0009 |
| W-0.19(2) | -0.00302 | 0.00190 | -0.0012 |
| W-0.19(3) | -0.00679 | 0.00263 | -0.0015 |
| W-0.20(1) | -0.00790 | 0.00335 | -0.0012 |
| W-0.20(2) | -0.00513 | 0.00178 | -0.0006 |
| W-0.20(3) | -0.00442 | 0.00108 | -0.0006 |
| W-0.21(1) | 0.00436 | 0.00153 | -0.0036 |
| W-0.21(2) | 0.00085 | 0.00079 | -0.0019 |
| W-0.21(3) | 0.00238 | 0.00025 | -0.0010 |
| W-0.22(1) | 0.02295 | 0.00021 | -0.0001 |
| W-0.22(2) | -0.00405 | 0.00024 | -0.0007 |
| W-0.22(3) | 0.01250 | 0.00029 | -0.0008 |
| W-0.22(4) | 0.01546 | 0.00026 | -0.0007 |
| W-0.22(5) | 0.00561 | 0.00020 | -0.0005 |
| W-0.22(6) | 0.01629 | 0.00012 | -0.0003 |
| W-0.22(7) | 0.03213 | 0.00013 | -0.0004 |
| W-0.22(8) | 0.03843 | 0.00026 | -0.0009 |
| W-0.22(9) | 0.03696 | 0.00141 | -0.0032 |
| W-0.23(1) | 0.01057 | 0.00038 | -0.0004 |
| W-0.23(2) | 0.02393 | 0.00071 | -0.0007 |
| W-0.23(3) | -0.00739 | 0.00164 | -0.0018 |
| W-0.23(4) | -0.00714 | 0.00165 | -0.0019 |
| W-0.24(1) | 0.01394 | 0.00068 | -0.0027 |
| W-0.24(2) | 0.00320 | 0.00077 | -0.0006 |
| W-0.24(3) | 0.01559 | 0.00106 | -0.0003 |
| W-0.24(4) | 0.01858 | 0.00074 | -0.0002 |
| W-0.24(5) | -0.01173 | 0.00024 | -0.0002 |
| W-0.24(6) | -0.02228 | 0.00020 | -0.0004 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâ&áâ | |
|-------------|------------------|---------------------------|---------|
| | | positiv | negativ |
| | [kN] | [kN] | [kN] |
| W-0.24(7) | 0.00924 | 0.00037 | -0.0008 |
| W-0.24(8) | 0.00964 | 0.00140 | -0.0027 |
| W-0.24(9) | -0.01660 | 0.00328 | -0.0018 |
| W-0.25(1) | -0.00078 | 0.00172 | -0.0003 |
| W-0.25(2) | -0.02918 | 0.00002 | -0.0003 |
| W-0.25(3) | -0.02981 | 0.00005 | -0.0005 |
| W-0.25(4) | -0.05511 | 0.00010 | -0.0006 |
| W-0.25(5) | -0.01786 | 0.00020 | -0.0010 |
| W-0.25(6) | -0.02319 | 0.00043 | -0.0014 |
| W-0.25(7) | -0.03012 | 0.00091 | -0.0021 |
| W-0.25(8) | 0.02707 | 0.00155 | -0.0024 |
| W-0.25(9) | 0.01160 | 0.00216 | -0.0016 |
| W-0.26(1) | 0.01159 | 0.00009 | -0.0001 |
| W-0.26(2) | 0.01250 | 0.00003 | -0.0001 |
| W-0.26(3) | -0.01236 | 0.00004 | -0.0001 |
| W-0.26(4) | 0.00254 | 0.00005 | -0.0001 |
| W-0.26(5) | -0.00938 | 0.00007 | -0.0003 |
| W-0.26(6) | -0.00727 | 0.00021 | -0.0009 |
| W-0.26(7) | -0.00550 | 0.00037 | -0.0014 |
| W-0.26(8) | 0.01048 | 0.00073 | -0.0021 |
| W-0.26(9) | 0.00650 | 0.00063 | -0.0014 |
| W-0.27(1) | -0.00410 | 0.00009 | -0.0001 |
| W-0.27(2) | -0.01104 | 0.00002 | 0.0000 |
| W-0.27(3) | 0.00715 | 0.00006 | -0.0001 |
| W-0.27(4) | 0.01068 | 0.00012 | -0.0001 |
| W-0.27(5) | 0.01506 | 0.00052 | -0.0008 |
| W-0.27(6) | 0.01088 | 0.00095 | -0.0022 |
| W-0.27(7) | 0.01232 | 0.00090 | -0.0017 |
| W-0.27(8) | -0.00105 | 0.00095 | -0.0008 |
| W-0.27(9) | -0.00517 | 0.00138 | -0.0004 |
| W-0.28(1) | 0.01445 | 0.00026 | -0.0004 |
| W-0.28(2) | -0.02080 | 0.00024 | -0.0001 |
| W-0.28(3) | -0.03603 | 0.00041 | -0.0002 |
| W-0.28(4) | 0.00677 | 0.00066 | -0.0002 |
| W-0.28(5) | -0.00904 | 0.00088 | -0.0003 |
| W-0.28(6) | -0.00067 | 0.00092 | -0.0003 |
| W-0.28(7) | -0.00889 | 0.00063 | -0.0002 |
| W-0.28(8) | -0.00147 | 0.00049 | -0.0002 |
| W-0.28(9) | -0.00503 | 0.00293 | -0.0008 |
| W-0.29(1) | -0.04566 | 0.00112 | -0.0011 |
| W-0.29(2) | -0.01961 | 0.00323 | -0.0003 |
| W-0.29(3) | -0.02931 | 0.00127 | -0.0002 |
| W-0.29(4) | -0.00389 | 0.00096 | -0.0001 |
| W-0.29(5) | -0.01050 | 0.00303 | -0.0001 |
| W-0.30(1) | -0.01127 | 0.00083 | -0.0015 |
| W-0.30(2) | -0.00862 | 0.00084 | -0.0023 |
| W-0.30(3) | -0.00242 | 0.00084 | -0.0032 |
| W-0.31(1) | 0.00820 | 0.00222 | -0.0025 |
| W-0.31(2) | 0.00836 | 0.00142 | -0.0015 |
| W-0.31(3) | 0.00582 | 0.00153 | -0.0016 |
| W-0.32_1(1) | 0.01019 | 0.00197 | -0.0028 |
| W-0.32_1(2) | -0.00558 | 0.00117 | -0.0017 |
| W-0.32_1(3) | -0.01530 | 0.00081 | -0.0024 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâã&áâæ | |
|-------------|------------------|-----------------------------|-----------------|
| | [kN] | positiv [kN] | negativ [kN] |
| W-0.32_2(1) | -0.00145 | 0.00193 | -0.0011 |
| W-0.32_2(2) | -0.00146 | 0.00182 | -0.0011 |
| W-0.32_2(3) | -0.00148 | 0.00171 | -0.0010 |
| W-0.32_3(1) | -0.00774 | 0.00261 | -0.0020 |
| W-0.32_3(2) | 0.00125 | 0.00135 | -0.0013 |
| W-0.32_3(3) | -0.00362 | 0.00072 | -0.0009 |
| W-0.32_3(4) | 0.00354 | 0.00166 | -0.0015 |
| W-0.32_4(1) | -0.00013 | 0.00046 | -0.0005 |
| W-0.32_4(2) | 0.00163 | 0.00049 | -0.0006 |
| W-0.32_4(3) | 0.00000 | 0.00056 | -0.0008 |
| W-0.33(1) | -0.00513 | 0.00053 | -0.0027 |
| W-0.33(2) | 0.00565 | 0.00037 | -0.0020 |
| W-0.33(3) | -0.00558 | 0.00025 | -0.0014 |
| W-0.34(1) | 0.01885 | 0.00182 | -0.0016 |
| W-0.34(2) | 0.01479 | 0.00239 | -0.0008 |
| W-0.34(3) | -0.01971 | 0.00258 | -0.0009 |
| W-0.35(1) | -0.01186 | 0.00640 | 0.0000 |
| W-0.35(2) | -0.02049 | 0.00068 | -0.0046 |
| W-0.35(3) | 0.00836 | 0.00054 | -0.0054 |
| W-0.35(4) | -0.00004 | 0.00039 | -0.0020 |
| W-0.35(5) | -0.00799 | 0.00029 | -0.0004 |
| W-0.35(6) | 0.00740 | 0.00070 | -0.0001 |
| W-0.36(1) | 0.00875 | 0.00182 | -0.0019 |
| W-0.36(2) | 0.01859 | 0.00006 | -0.0012 |
| W-0.36(3) | 0.03610 | 0.00014 | -0.0018 |
| W-0.36(4) | 0.00123 | 0.00007 | -0.0037 |
| W-0.36(5) | 0.00651 | 0.00006 | -0.0023 |
| W-0.36(6) | -0.00597 | 0.00018 | -0.0003 |
| W-0.36(7) | -0.00047 | 0.00015 | -0.0001 |
| W-0.36(8) | 0.00655 | 0.00005 | -0.0001 |
| W-0.36(9) | 0.01126 | 0.00003 | -0.0002 |
| W-0.37(1) | 0.02306 | 0.00143 | -0.0016 |
| W-0.37(2) | -0.00202 | 0.00213 | -0.0017 |
| W-0.37(3) | 0.01114 | 0.00324 | -0.0023 |
| W-0.38(1) | 0.03938 | 0.00650 | 0.0000 |
| W-0.38(2) | 0.01951 | 0.00000 | -0.0003 |
| W-0.38(3) | 0.02143 | 0.00022 | 0.0000 |
| W-0.38(4) | -0.02751 | 0.00004 | 0.0000 |
| W-0.38(5) | -0.03723 | 0.00000 | 0.0000 |
| W-0.38(6) | -0.03490 | 0.00000 | 0.0000 |
| W-0.38(7) | -0.02455 | 0.00000 | 0.0000 |
| W-0.38(8) | -0.00964 | 0.00006 | 0.0000 |
| W-0.38(9) | 0.01431 | 0.00073 | 0.0000 |
| W-0.38(10) | 0.00285 | 0.00001 | -0.0027 |
| W-0.39_1(1) | 0.00529 | 0.00095 | -0.0006 |
| W-0.39_1(2) | 0.03654 | 0.00049 | -0.0011 |
| W-0.39_1(3) | 0.02446 | 0.00040 | -0.0016 |
| W-0.39_1(4) | 0.02182 | 0.00020 | -0.0026 |
| W-0.39_2(1) | -0.00144 | 0.00183 | -0.0016 |
| W-0.39_2(2) | -0.00344 | 0.00202 | -0.0013 |
| W-0.39_2(3) | -0.00094 | 0.00189 | -0.0008 |
| W-0.39_3(1) | 0.00539 | 0.00158 | -0.0005 |
| W-0.39_3(2) | -0.00127 | 0.00204 | -0.0007 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâã&áâ | |
|-------------|------------------|----------------------------|---------|
| | | positiv | negativ |
| | [kN] | [kN] | [kN] |
| W-0.39_3(3) | 0.00165 | 0.00284 | -0.0009 |
| W-0.39_4(1) | 0.00000 | 0.00137 | -0.0023 |
| W-0.39_4(2) | 0.00071 | 0.00131 | -0.0019 |
| W-0.39_4(3) | 0.00070 | 0.00131 | -0.0016 |
| W-0.40(1) | 0.01841 | 0.00480 | -0.0019 |
| W-0.40(2) | 0.02419 | 0.00155 | -0.0054 |
| W-0.40(3) | 0.00421 | 0.00070 | -0.0010 |
| W-0.40(4) | 0.01049 | 0.00258 | 0.0000 |
| W-0.40(5) | 0.02916 | 0.00054 | 0.0000 |
| W-0.40(6) | 0.01360 | 0.00006 | -0.0004 |
| W-0.40(7) | -0.00565 | 0.00047 | 0.0000 |
| W-0.40(8) | 0.00403 | 0.00070 | 0.0000 |
| W-0.40(9) | 0.00078 | 0.00010 | -0.0024 |
| W-0.41(1) | 0.00869 | 0.00010 | -0.0003 |
| W-0.41(2) | 0.00482 | 0.00058 | -0.0010 |
| W-0.41(3) | 0.00176 | 0.00712 | -0.0030 |
| W-0.42(1) | -0.00391 | 0.00011 | -0.0062 |
| W-0.42(2) | 0.00636 | 0.00115 | 0.0000 |
| W-0.42(3) | 0.00209 | 0.00118 | 0.0000 |
| W-0.42(4) | 0.00830 | 0.00118 | -0.0001 |
| W-0.42(5) | 0.00430 | 0.00100 | -0.0001 |
| W-0.42(6) | -0.00361 | 0.00048 | -0.0001 |
| W-0.42(7) | -0.00104 | 0.00004 | -0.0007 |
| W-0.42(8) | -0.00242 | 0.00009 | -0.0019 |
| W-0.42(9) | -0.00565 | 0.00089 | -0.0032 |
| W-0.43(1) | -0.00442 | 0.00142 | -0.0019 |
| W-0.43(2) | 0.00079 | 0.00084 | -0.0017 |
| W-0.43(3) | 0.00157 | 0.00044 | -0.0019 |
| W-0.44_1(1) | 0.01395 | 0.00238 | -0.0048 |
| W-0.44_1(2) | -0.01749 | 0.00073 | -0.0029 |
| W-0.44_1(3) | 0.00342 | 0.00082 | -0.0017 |
| W-0.44_2(1) | -0.00156 | 0.00126 | -0.0027 |
| W-0.44_2(2) | 0.00233 | 0.00139 | -0.0024 |
| W-0.44_2(3) | 0.01060 | 0.00227 | -0.0025 |
| W-0.44_3(1) | -0.00012 | 0.00082 | -0.0022 |
| W-0.44_3(2) | -0.00023 | 0.00087 | -0.0023 |
| W-0.44_3(3) | 0.00109 | 0.00092 | -0.0024 |
| W-0.44_4(1) | -0.01098 | 0.00092 | -0.0011 |
| W-0.44_4(2) | -0.00638 | 0.00163 | -0.0012 |
| W-0.44_4(3) | 0.00454 | 0.00444 | -0.0022 |
| W-0.45(1) | -0.00191 | 0.00029 | -0.0037 |
| W-0.45(2) | 0.00165 | 0.00039 | -0.0027 |
| W-0.45(3) | 0.01011 | 0.00057 | -0.0020 |
| W-0.46(1) | 0.00284 | 0.00017 | -0.0018 |
| W-0.46(2) | -0.00741 | 0.00089 | -0.0011 |
| W-0.46(3) | 0.00408 | 0.00184 | -0.0006 |
| W-0.47(1) | -0.02479 | 0.00244 | -0.0007 |
| W-0.47(2) | -0.02765 | 0.00198 | -0.0008 |
| W-0.47(3) | -0.02538 | 0.00200 | -0.0010 |
| W-0.48(1) | 0.00284 | 0.00110 | -0.0011 |
| W-0.48(2) | 0.00269 | 0.00120 | -0.0007 |
| W-0.48(3) | 0.00465 | 0.00366 | -0.0015 |
| W-0.49(1) | 0.00377 | 0.00001 | -0.0027 |

| Position | in Dokumentation | ↔ [^] Qáb\fiâã&áâ | |
|-----------------------|------------------|----------------------------|---------|
| | | positiv | negativ |
| | [kN] | [kN] | [kN] |
| W-0.49(2) | 0.00302 | 0.00000 | -0.0015 |
| W-0.49(3) | -0.00889 | 0.00196 | -0.0004 |
| W-0.49(4) | -0.00826 | 0.00181 | -0.0004 |
| W-0.49(5) | -0.00261 | 0.00087 | -0.0028 |
| W-0.50(1) | 0.00632 | 0.00002 | -0.0001 |
| W-0.50(2) | -0.02368 | 0.00025 | -0.0001 |
| W-0.50(3) | -0.01256 | 0.00043 | -0.0002 |
| W-0.50(4) | 0.00434 | 0.00069 | -0.0003 |
| W-0.50(5) | 0.01016 | 0.00113 | -0.0005 |
| W-0.50(6) | 0.01284 | 0.00112 | -0.0005 |
| W-0.50(7) | -0.00089 | 0.00052 | -0.0003 |
| W-0.50(8) | 0.02243 | 0.00061 | -0.0011 |
| W-0.50(9) | 0.00233 | 0.00077 | -0.0016 |
| WS-0.11_SA_W-0.11_1 | 0.00036 | 0.00000 | 0.00000 |
| WS-0.11_SE_W-0.11_2 | -0.01107 | 0.00000 | 0.00000 |
| WS-0.17_SA_W-0.17_1 | 1.18616 | 0.00000 | 0.00000 |
| WS-0.17_SE_W-0.17_2 | -0.01769 | 0.00000 | 0.00000 |
| WS-0.32_2_SA_W-0.32_2 | -0.00302 | 0.00000 | 0.00000 |
| WS-0.32_2_SE_W-0.32_3 | -0.02269 | 0.00000 | 0.00000 |
| WS-0.39_1_SA_W-0.39_1 | -0.02384 | 0.00000 | 0.00000 |
| WS-0.39_1_SE_W-0.39_2 | 0.00562 | 0.00000 | 0.00000 |
| WS-0.39_2_SA_W-0.39_2 | -0.00018 | 0.00000 | 0.00000 |
| WS-0.39_2_SE_W-0.39_3 | -0.00533 | 0.00000 | 0.00000 |
| WS-0.39_3_SA_W-0.39_3 | -0.00158 | 0.00000 | 0.00000 |
| WS-0.39_3_SE_W-0.39_4 | 0.00324 | 0.00000 | 0.00000 |
| WS-0.44_3_SA_W-0.44_3 | -0.00099 | 0.00000 | 0.00000 |
| WS-0.44_3_SE_W-0.44_4 | 0.01020 | 0.00000 | 0.00000 |

Folgende Linienlastanteile werden wegen ihres
&ã↔[^]&ã[^]Ó↔[^]à→|bbæbÁâæ↔ÁâããQáb\fiâã&áâ[^]
{ã[^]á[^]â→|bb↔&\í

| Lastfall | Pt |
|----------|----------|
| | [kN] |
| LF-3 | 0.00090 |
| LF-4 | 0.00064 |
| LF-5 | -0.00558 |
| LF-6 | -0.00162 |
| LF-7 | 0.00576 |
| LF-8 | -0.00194 |
| LF-9 | -0.00248 |
| LF-10 | 0.00211 |
| LF-11 | -0.00050 |
| LF-12 | -0.00943 |
| LF-13 | 0.00359 |
| LF-14 | -0.00026 |
| LF-15 | 0.00150 |
| LF-16 | 0.00407 |
| LF-17 | -0.00043 |
| LF-18 | -0.00016 |
| LF-19 | -0.00586 |
| LF-20 | -0.00415 |
| LF-21 | -0.00200 |

Lastfall

Pt
[kN]

| | |
|------------|----------|
| LF-22 | -0.00530 |
| LF-23 | 0.00493 |
| #1 LF-3 | 0.00314 |
| #1 LF-4 | -0.00151 |
| #1 LF-5 | -0.00437 |
| #1 LF-6 | -0.00062 |
| #1 LF-7 | 0.00234 |
| #1 LF-8 | 0.00097 |
| #1 LF-9 | 0.00517 |
| #1 LF-10 | 0.00117 |
| #1 LF-11 | -0.00283 |
| #1 LF-12 | 0.00360 |
| #1 LF-13 | -0.00514 |
| #1 LF-14 | -0.00341 |
| #1 LF-15 | -0.00515 |
| #1 LF-16 | -0.00496 |
| #1 LF-17 | 0.00768 |
| #1 LF-18 | 0.00162 |
| #1 LF-19 | 0.00211 |
| #1 LF-20 | 0.00381 |
| #1 LF-21 | -0.00172 |
| #1 LF-22 | -0.00293 |
| #2 LF-3 | 0.00067 |
| #2 LF-4 | -0.00194 |
| #2 LF-5 | -0.00040 |
| #2 LF-6 | 0.00002 |
| #2 LF-7 | -0.00226 |
| #2 LF-8 | 0.00063 |
| #2 LF-9 | -0.00013 |
| #2 LF-10 | -0.00107 |
| #2 LF-11 | -0.00079 |
| #2 LF-12 | -0.00628 |
| #2 LF-13 | 0.00205 |
| #2 LF-14 | -0.00119 |
| #2 LF-15 | -0.00303 |
| #2 LF-16 | 0.00022 |
| #2 LF-17 | -0.00178 |
| #2 LF-18 | -0.00178 |
| #2 LF-19 | -0.00255 |
| #2 LF-20 | -0.00322 |
| #2 LF-21 | 0.00163 |
| #2 LF-22 | 0.00040 |
| #2 LF-23 | -0.00156 |
| #3 LF-1 | 0.00284 |
| #3 LF-2 | 0.00684 |
| #3 LF-3 | -0.00638 |
| #3 LF-4 | 0.00401 |
| #3 LF-5 | -0.00269 |
| #3 LF-6 | 0.00335 |
| #3 LF-7 | 0.00328 |
| #3 LF-8 | 0.00208 |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und Linienlast-Resultierenden, getrennt nach positiven und negativen Anteilen

Lasten aus Lastgruppen werden nicht

Linienlasten

| Position | EW | Art | * [kN] | ^ [kN] |
|-------------------|---------|-----|--------|--------|
| RL1 WS-T-1.2_BR | Gk | PGr | 0.00 | |
| RL2 WS-1.5_BR | Gk | PGr | 0.00 | |
| W-0.1 | Gk | PGr | 465.44 | |
| | Ö | PGr | 188.69 | |
| | Qk.N_B1 | PGr | 0.21 | -1.79 |
| | Qk.N_C1 | PGr | 106.29 | -11.43 |
| | Qk.N_C5 | PGr | 0.03 | -0.51 |
| | Qk.N_E1 | PGr | 10.05 | -1.23 |
| | Qk.N_DA | PGr | 68.44 | -3.24 |
| | Qk.N_T2 | PGr | 0.01 | -0.02 |
| W-0.2 | Gk | PGr | 77.22 | |
| | Ö | PGr | 36.70 | |
| | Qk.N_B1 | PGr | 0.35 | -0.06 |
| | Qk.N_C1 | PGr | 19.85 | -10.04 |
| | Qk.N_C5 | PGr | 0.02 | -0.04 |
| | Qk.N_E1 | PGr | 1.84 | -0.36 |
| | Qk.N_DA | PGr | 2.64 | -0.82 |
| | Qk.N_T2 | PGr | 0.00 | -0.03 |
| W-0.3 | Gk | PGr | 455.03 | |
| | Ö | PGr | 178.90 | |
| | Qk.N_B1 | PGr | 6.62 | -0.58 |
| | Qk.N_C1 | PGr | 69.65 | -4.12 |
| | Qk.N_C5 | PGr | 0.30 | -0.30 |
| | Qk.N_E1 | PGr | 47.04 | -0.29 |
| | Qk.N_DA | PGr | 77.52 | -1.46 |
| | Qk.N_T2 | PGr | 0.33 | 0.00 |
| W-0.4 | Gk | PGr | 381.71 | |
| | Ö | PGr | 155.25 | |
| | Qk.N_B | PGr | 89.16 | -1.20 |

D-731

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|--------|-----|-----------------|-----------------|
| | 1 | | | |
| | Qk.N_C | PGr | 24.46 | -29.42 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.55 | -0.60 |
| | 5 | | | |
| | Qk.N_E | PGr | 2.22 | 0.00 |
| | 1 | | | |
| | Qk.N_D | PGr | 61.04 | -2.08 |
| | A | | | |
| | Qk.N_T | PGr | 0.32 | -0.54 |
| | 2 | | | |
| W-0.5 | Gk | PGr | 560.72 | |
| | Ö← | PGr | 215.80 | |
| | Qk.N_B | PGr | 85.92 | -4.71 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.54 | -0.26 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.03 | -0.07 |
| | 5 | | | |
| | Qk.N_E | PGr | 0.08 | -0.12 |
| | 1 | | | |
| | Qk.N_D | PGr | 32.61 | -3.64 |
| | A | | | |
| | Qk.N_T | PGr | 0.78 | -1.79 |
| | 2 | | | |
| W-0.6 | Gk | PGr | 1793.58 | |
| | Ö← | PGr | 477.76 | |
| | Qk.N_B | PGr | 68.20 | -17.77 |
| | 1 | | | |
| | Qk.N_C | PGr | 348.79 | -26.45 |
| | 1 | | | |
| | Qk.N_C | PGr | 29.39 | -7.99 |
| | 5 | | | |
| | Qk.N_E | PGr | 256.44 | -6.91 |
| | 1 | | | |
| | Qk.N_D | PGr | 268.10 | -2.30 |
| | A | | | |
| | Qk.N_T | PGr | 0.05 | -0.05 |
| | 2 | | | |
| W-0.7 | Gk | PGr | 597.98 | |
| | Ö← | PGr | 167.47 | |
| | Qk.N_B | PGr | 73.91 | -1.24 |
| | 1 | | | |
| | Qk.N_C | PGr | 84.90 | -25.29 |
| | 1 | | | |
| | Qk.N_C | PGr | 57.67 | -1.16 |
| | 5 | | | |
| | Qk.N_E | PGr | 27.98 | -3.54 |
| | 1 | | | |
| | Qk.N_D | PGr | 116.89 | -5.91 |
| | A | | | |
| | Qk.N_T | PGr | 0.41 | -0.16 |
| | 2 | | | |
| W-0.8 | Gk | PGr | 104.61 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Ö← | PGr | 21.27 | |
| | Qk.N_B 1 | PGr | 0.00 | -8.11 |
| | Qk.N_C 1 | PGr | 1.55 | -15.26 |
| | Qk.N_C 5 | PGr | 38.91 | 0.00 |
| | Qk.N_E 1 | PGr | 0.13 | -0.28 |
| | Qk.N_D A | PGr | 6.51 | -1.97 |
| | Qk.N_T 2 | PGr | 13.44 | 0.00 |
| W-0.9 | Gk | PGr | 100.97 | |
| | Ö← | PGr | 6.99 | |
| | Qk.N_B 1 | PGr | 0.53 | -4.42 |
| | Qk.N_C 1 | PGr | 7.33 | -25.35 |
| | Qk.N_C 5 | PGr | 28.09 | -1.28 |
| | Qk.N_E 1 | PGr | 6.53 | -4.57 |
| | Qk.N_D A | PGr | 9.49 | -6.34 |
| | Qk.N_T 2 | PGr | 0.03 | -0.12 |
| W-0.10 | Gk | PGr | 813.11 | |
| | Ö← | PGr | 173.31 | |
| | Qk.N_B 1 | PGr | 153.70 | -26.67 |
| | Qk.N_C 1 | PGr | 0.42 | -0.54 |
| | Qk.N_C 5 | PGr | 14.39 | -16.48 |
| | Qk.N_E 1 | PGr | 108.09 | -0.02 |
| | Qk.N_D A | PGr | 49.42 | -11.28 |
| | Qk.N_T 2 | PGr | 2.54 | 0.00 |
| W-0.11_1 | Gk | PGr | 35.82 | |
| | Ö← | PGr | 6.49 | |
| | Qk.N_B 1 | PGr | 0.01 | -3.73 |
| | Qk.N_C 1 | PGr | 0.04 | -0.43 |
| | Qk.N_C 5 | PGr | 6.91 | 0.00 |
| | Qk.N_E 1 | PGr | 2.01 | -0.09 |
| | Qk.N_D A | PGr | 3.32 | -0.46 |
| | Qk.N_T 2 | PGr | 2.88 | 0.00 |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | 2 | | | |
| W-0.11_2 | Gk | PGr | 592.21 | |
| | Ö← | PGr | 118.50 | |
| | Qk.N_B 1 | PGr | 140.49 | -24.83 |
| | Qk.N_C 1 | PGr | 3.01 | -0.33 |
| | Qk.N_C 5 | PGr | 1.65 | -2.70 |
| | Qk.N_E 1 | PGr | 35.20 | -6.41 |
| | Qk.N_D A | PGr | 67.24 | -7.24 |
| | Qk.N_T 2 | PGr | 0.13 | -10.39 |
| W-0.12 | Gk | PGr | 280.53 | |
| | Ö← | PGr | 23.54 | |
| | Qk.N_B 1 | PGr | 1.98 | -0.02 |
| | Qk.N_C 1 | PGr | 11.79 | -0.12 |
| | Qk.N_C 5 | PGr | 1.60 | -4.74 |
| | Qk.N_E 1 | PGr | 48.01 | -0.51 |
| | Qk.N_D A | PGr | 16.84 | -17.08 |
| | Qk.N_T 2 | PGr | 0.00 | -0.02 |
| W-0.13 | Gk | PGr | 92.47 | |
| | Ö← | PGr | 9.60 | |
| | Qk.N_B 1 | PGr | 0.05 | -4.88 |
| | Qk.N_C 1 | PGr | 2.39 | -6.64 |
| | Qk.N_C 5 | PGr | 22.11 | -1.03 |
| | Qk.N_E 1 | PGr | 2.56 | -1.37 |
| | Qk.N_D A | PGr | 6.53 | -4.50 |
| | Qk.N_T 2 | PGr | 0.11 | -0.03 |
| W-0.14 | Gk | PGr | 294.44 | |
| | Ö← | PGr | 46.30 | |
| | Qk.N_B 1 | PGr | 8.69 | -1.01 |
| | Qk.N_C 1 | PGr | 21.22 | -1.86 |
| | Qk.N_C 5 | PGr | 14.09 | -5.33 |
| | Qk.N_E 1 | PGr | 55.56 | -1.90 |
| | Qk.N_D | PGr | 13.06 | -5.63 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | A | | | |
| | Qk.N_T 2 | PGr | 0.09 | -0.54 |
| W-0.15 | Gk | PGr | 1284.80 | |
| | Ö← | PGr | 335.47 | |
| | Qk.N_B 1 | PGr | 209.36 | -11.19 |
| | Qk.N_C 1 | PGr | 174.64 | -3.09 |
| | Qk.N_C 5 | PGr | 84.13 | -11.33 |
| | Qk.N_E 1 | PGr | 41.99 | -0.09 |
| | Qk.N_D A | PGr | 152.67 | -2.94 |
| | Qk.N_T 2 | PGr | 0.01 | -0.11 |
| W-0.16 | Gk | PGr | 971.34 | |
| | Ö← | PGr | 380.03 | |
| | Qk.N_B 1 | PGr | 106.05 | -23.95 |
| | Qk.N_C 1 | PGr | 112.75 | -21.93 |
| | Qk.N_C 5 | PGr | 0.74 | -0.89 |
| | Qk.N_E 1 | PGr | 0.53 | -0.24 |
| | Qk.N_D A | PGr | 76.17 | -16.14 |
| | Qk.N_T 2 | PGr | 1.21 | -2.51 |
| W-0.17_1 | Gk | PGr | 54.02 | |
| | Ö← | PGr | | -12.29 |
| | Qk.N_B 1 | PGr | 0.00 | -22.29 |
| | Qk.N_C 1 | PGr | 3.65 | -62.95 |
| | Qk.N_C 5 | PGr | 42.81 | -1.83 |
| | Qk.N_E 1 | PGr | 4.07 | -9.09 |
| | Qk.N_D A | PGr | 13.33 | -14.97 |
| | Qk.N_T 2 | PGr | 17.11 | -1.93 |
| W-0.17_2 | Gk | PGr | 1935.20 | |
| | Ö← | PGr | 528.51 | |
| | Qk.N_B 1 | PGr | 175.10 | -3.29 |
| | Qk.N_C 1 | PGr | 248.82 | -1.29 |
| | Qk.N_C 5 | PGr | 272.14 | -0.42 |
| | Qk.N_E | PGr | 36.42 | -2.78 |

| | | POSITION | | EG-LP4 | |
|-------------------|--------|----------|-----------------|-----------------|--------|
| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] | |
| | 1 | | | | |
| | Qk.N_D | PGr | 294.64 | -6.91 | |
| | A | | | | |
| | Qk.N_T | PGr | 0.41 | -7.29 | |
| | 2 | | | | |
| W-0.18 | Gk | PGr | 2.73 | | |
| | Ö← | PGr | | -2.66 | |
| | Qk.N_B | PGr | 0.00 | -9.07 | |
| | 1 | | | | |
| | Qk.N_C | PGr | 0.00 | -14.25 | |
| | 1 | | | | |
| | Qk.N_C | PGr | 0.40 | -1.24 | |
| | 5 | | | | |
| | Qk.N_E | PGr | 2.58 | 0.00 | |
| | 1 | | | | |
| | Qk.N_D | PGr | 1.57 | -3.08 | |
| | A | | | | |
| | Qk.N_T | PGr | 0.43 | 0.00 | |
| | 2 | | | | |
| W-0.19 | Gk | PGr | 542.13 | | |
| | Ö← | PGr | 223.08 | | |
| | Qk.N_B | PGr | 95.34 | 0.00 | |
| | 1 | | | | |
| | Qk.N_C | PGr | 76.31 | 0.00 | |
| | 1 | | | | |
| | Qk.N_C | PGr | 4.63 | -1.71 | |
| | 5 | | | | |
| | Qk.N_E | PGr | 27.67 | 0.00 | |
| | 1 | | | | |
| | Qk.N_D | PGr | 54.64 | -2.94 | |
| | A | | | | |
| | Qk.N_T | PGr | 0.00 | -2.10 | |
| | 2 | | | | |
| W-0.20 | Gk | PGr | 760.56 | | |
| | Ö← | PGr | 302.21 | | |
| | Qk.N_B | PGr | 115.28 | -0.21 | |
| | 1 | | | | |
| | Qk.N_C | PGr | 119.06 | -0.03 | |
| | 1 | | | | |
| | Qk.N_C | PGr | 7.88 | -0.83 | |
| | 5 | | | | |
| | Qk.N_E | PGr | 1.14 | -0.30 | |
| | 1 | | | | |
| | Qk.N_D | PGr | 110.42 | -1.69 | |
| | A | | | | |
| | Qk.N_T | PGr | 0.02 | -0.22 | |
| | 2 | | | | |
| W-0.21 | Gk | PGr | 464.77 | | |
| | Ö← | PGr | 187.15 | | |
| | Qk.N_B | PGr | 69.53 | -1.29 | |
| | 1 | | | | |
| | Qk.N_C | PGr | 75.93 | -0.05 | |
| | 1 | | | | |
| | Qk.N_C | PGr | 4.17 | 0.00 | |
| | | | | D-736 | |
| Schulcampus EWK \ | | | | | EG-LP4 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|--------|-----|-----------------|-----------------|
| | 5 | | | |
| | Qk.N_E | PGr | 0.00 | -0.73 |
| | 1 | | | |
| | Qk.N_D | PGr | 51.50 | -0.42 |
| | A | | | |
| | Qk.N_T | PGr | 0.09 | 0.00 |
| | 2 | | | |
| W-0.22 | Gk | PGr | 648.82 | |
| | Ö← | PGr | 331.88 | |
| | Qk.N_B | PGr | 1.95 | -21.90 |
| | 1 | | | |
| | Qk.N_C | PGr | 143.05 | -28.30 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.57 | -3.20 |
| | 5 | | | |
| | Qk.N_E | PGr | 3.94 | -14.69 |
| | 1 | | | |
| | Qk.N_D | PGr | 73.13 | -30.94 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | -0.01 |
| | 2 | | | |
| W-0.23 | Gk | PGr | 36.43 | |
| | Ö← | PGr | | -11.63 |
| | Qk.N_B | PGr | 0.22 | -0.53 |
| | 1 | | | |
| | Qk.N_C | PGr | 44.23 | -67.54 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.54 | -0.03 |
| | 5 | | | |
| | Qk.N_E | PGr | 1.23 | -1.30 |
| | 1 | | | |
| | Qk.N_D | PGr | 0.32 | -0.17 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | -0.10 |
| | 2 | | | |
| W-0.24 | Gk | PGr | 377.68 | |
| | Ö← | PGr | 62.67 | |
| | Qk.N_B | PGr | 3.94 | -0.56 |
| | 1 | | | |
| | Qk.N_C | PGr | 159.33 | -63.26 |
| | 1 | | | |
| | Qk.N_C | PGr | 1.87 | -0.17 |
| | 5 | | | |
| | Qk.N_E | PGr | 5.98 | -24.35 |
| | 1 | | | |
| | Qk.N_D | PGr | 23.78 | -1.46 |
| | A | | | |
| | Qk.N_T | PGr | 0.01 | -0.03 |
| | 2 | | | |
| W-0.25 | Gk | PGr | 814.57 | |
| | Ö← | PGr | 233.22 | |
| | Qk.N_B | PGr | 69.02 | -5.13 |
| | 1 | | | |
| | Qk.N_C | PGr | 286.00 | -7.86 |

D-737

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|----------|--------|-----|-----------------|-----------------|
| | 1 | | | |
| | Qk.N_C | PGr | 4.54 | -21.35 |
| | 5 | | | |
| | Qk.N_E | PGr | 6.61 | -0.58 |
| | 1 | | | |
| | Qk.N_D | PGr | 60.39 | -6.31 |
| | A | | | |
| | Qk.N_T | PGr | 0.08 | -2.23 |
| | 2 | | | |
| W-0.26 | Gk | PGr | 1398.77 | |
| | Ö← | PGr | 307.76 | |
| | Qk.N_B | PGr | 144.85 | -21.99 |
| | 1 | | | |
| | Qk.N_C | PGr | 145.19 | -8.53 |
| | 1 | | | |
| | Qk.N_C | PGr | 6.02 | -34.50 |
| | 5 | | | |
| | Qk.N_E | PGr | 1.92 | -1.47 |
| | 1 | | | |
| | Qk.N_D | PGr | 199.46 | -28.42 |
| | A | | | |
| | Qk.N_T | PGr | 97.85 | -1.29 |
| | 2 | | | |
| W-0.27 | Gk | PGr | 1124.94 | |
| | Ö← | PGr | 192.13 | |
| | Qk.N_B | PGr | 185.16 | -30.61 |
| | 1 | | | |
| | Qk.N_C | PGr | 2.30 | -17.09 |
| | 1 | | | |
| | Qk.N_C | PGr | 16.14 | -3.76 |
| | 5 | | | |
| | Qk.N_E | PGr | 2.41 | -3.41 |
| | 1 | | | |
| | Qk.N_D | PGr | 150.77 | -36.91 |
| | A | | | |
| | Qk.N_T | PGr | 103.39 | -1.27 |
| | 2 | | | |
| W-0.28 | Gk | PGr | 924.64 | |
| | Ö← | PGr | 358.03 | |
| | Qk.N_B | PGr | 148.53 | -17.86 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.95 | -0.49 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.31 | -0.33 |
| | 5 | | | |
| | Qk.N_E | PGr | 3.48 | -4.49 |
| | 1 | | | |
| | Qk.N_D | PGr | 58.23 | -5.09 |
| | A | | | |
| | Qk.N_T | PGr | 1.24 | -3.12 |
| | 2 | | | |
| W-0.29 | Gk | PGr | 613.72 | |
| | Ö← | PGr | 250.91 | |
| | Qk.N_B | PGr | 83.69 | -9.30 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|--------|-----|-----------------|-----------------|
| | 1 | | | |
| | Qk.N_C | PGr | 84.68 | -13.82 |
| | 1 | | | |
| | Qk.N_C | PGr | 4.96 | -0.79 |
| | 5 | | | |
| | Qk.N_E | PGr | 37.60 | -1.74 |
| | 1 | | | |
| | Qk.N_D | PGr | 64.99 | -12.91 |
| | A | | | |
| | Qk.N_T | PGr | 0.08 | 0.00 |
| | 2 | | | |
| W-0.30 | Gk | PGr | 540.89 | |
| | Ö← | PGr | 213.76 | |
| | Qk.N_B | PGr | 102.80 | -0.12 |
| | 1 | | | |
| | Qk.N_C | PGr | 45.31 | 0.00 |
| | 1 | | | |
| | Qk.N_C | PGr | 4.74 | -0.27 |
| | 5 | | | |
| | Qk.N_E | PGr | 0.09 | -0.29 |
| | 1 | | | |
| | Qk.N_D | PGr | 87.05 | -1.26 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | -0.18 |
| | 2 | | | |
| W-0.31 | Gk | PGr | 221.90 | |
| | Ö← | PGr | 94.25 | |
| | Qk.N_B | PGr | 18.38 | -0.01 |
| | 1 | | | |
| | Qk.N_C | PGr | 79.29 | 0.00 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.40 | -0.15 |
| | 5 | | | |
| | Qk.N_E | PGr | 0.17 | -0.15 |
| | 1 | | | |
| | Qk.N_D | PGr | 11.14 | -0.12 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | -0.51 |
| | 2 | | | |
| W-0.32_1 | Gk | PGr | 76.92 | |
| | Ö← | PGr | 5.04 | |
| | Qk.N_B | PGr | 0.57 | -0.08 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.52 | -6.06 |
| | 1 | | | |
| | Qk.N_C | PGr | 10.80 | -0.43 |
| | 5 | | | |
| | Qk.N_E | PGr | 1.21 | -2.36 |
| | 1 | | | |
| | Qk.N_D | PGr | 3.85 | -0.27 |
| | A | | | |
| | Qk.N_T | PGr | 0.22 | -0.05 |
| | 2 | | | |
| W-0.32_2 | Gk | PGr | 7.54 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | Ö← | PGr | 0.13 | |
| | Qk.N_B 1 | PGr | 0.01 | -0.03 |
| | Qk.N_C 1 | PGr | 0.00 | -2.54 |
| | Qk.N_C 5 | PGr | 2.66 | -0.02 |
| | Qk.N_E 1 | PGr | 0.00 | -0.40 |
| | Qk.N_D A | PGr | 0.00 | -0.03 |
| | Qk.N_T 2 | PGr | 0.04 | 0.00 |
| W-0.32_3 | Gk | PGr | 80.63 | |
| | Ö← | PGr | 3.14 | |
| | Qk.N_B 1 | PGr | 1.32 | -0.07 |
| | Qk.N_C 1 | PGr | 0.00 | -25.29 |
| | Qk.N_C 5 | PGr | 24.68 | -0.50 |
| | Qk.N_E 1 | PGr | 0.00 | -1.23 |
| | Qk.N_D A | PGr | 0.59 | -0.06 |
| | Qk.N_T 2 | PGr | 1.98 | -0.01 |
| W-0.32_4 | Gk | PGr | 6.34 | |
| | Ö← | PGr | 0.36 | |
| | Qk.N_B 1 | PGr | 0.00 | -1.02 |
| | Qk.N_C 1 | PGr | 0.00 | -0.56 |
| | Qk.N_C 5 | PGr | 1.82 | -0.06 |
| | Qk.N_E 1 | PGr | 0.00 | -0.01 |
| | Qk.N_D A | PGr | 0.06 | -0.11 |
| | Qk.N_T 2 | PGr | 0.26 | 0.00 |
| W-0.33 | Gk | PGr | 571.10 | |
| | Ö← | PGr | 229.39 | |
| | Qk.N_B 1 | PGr | 104.44 | 0.00 |
| | Qk.N_C 1 | PGr | 69.52 | 0.00 |
| | Qk.N_C 5 | PGr | 0.56 | -0.09 |
| | Qk.N_E 1 | PGr | 0.20 | -0.13 |
| | Qk.N_D A | PGr | 77.80 | -0.50 |
| | Qk.N_T | PGr | 0.00 | -1.07 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | 2 | | | |
| W-0.34 | Gk | PGr | 457.94 | |
| | Ö← | PGr | 118.46 | |
| | Qk.N_B 1 | PGr | 54.93 | -4.35 |
| | Qk.N_C 1 | PGr | 59.79 | -17.67 |
| | Qk.N_C 5 | PGr | 62.52 | -2.93 |
| | Qk.N_E 1 | PGr | 36.67 | -8.74 |
| | Qk.N_D A | PGr | 69.02 | -25.03 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| W-0.35 | Gk | PGr | 994.79 | |
| | Ö← | PGr | 271.30 | |
| | Qk.N_B 1 | PGr | 76.78 | -1.26 |
| | Qk.N_C 1 | PGr | 264.74 | -1.26 |
| | Qk.N_C 5 | PGr | 86.47 | -1.48 |
| | Qk.N_E 1 | PGr | 9.25 | -7.18 |
| | Qk.N_D A | PGr | 103.10 | -3.92 |
| | Qk.N_T 2 | PGr | 0.11 | -1.13 |
| W-0.36 | Gk | PGr | 1780.27 | |
| | Ö← | PGr | 416.18 | |
| | Qk.N_B 1 | PGr | 218.81 | -24.03 |
| | Qk.N_C 1 | PGr | 263.81 | -25.93 |
| | Qk.N_C 5 | PGr | 44.48 | -5.88 |
| | Qk.N_E 1 | PGr | 1.36 | -9.18 |
| | Qk.N_D A | PGr | 284.29 | -35.87 |
| | Qk.N_T 2 | PGr | 95.28 | -0.98 |
| W-0.37 | Gk | PGr | 243.86 | |
| | Ö← | PGr | 10.58 | |
| | Qk.N_B 1 | PGr | 3.01 | -1.30 |
| | Qk.N_C 1 | PGr | 2.51 | -14.19 |
| | Qk.N_C 5 | PGr | 15.58 | -4.98 |
| | Qk.N_E 1 | PGr | 29.36 | -7.06 |
| | Qk.N_D | PGr | 18.13 | -14.53 |
| | | | | D-741 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|-------------|-----|-----------------|-----------------|
| | A | | | |
| | Qk.N_T 2 | PGr | 0.01 | -0.02 |
| W-0.38 | Gk | PGr | 1330.61 | |
| | Ö← | PGr | 145.55 | |
| | Qk.N_B 1 | PGr | 8.28 | -1.42 |
| | Qk.N_C 1 | PGr | 20.25 | -24.30 |
| | Qk.N_C 5 | PGr | 35.71 | -12.30 |
| | Qk.N_E 1 | PGr | 133.62 | -10.20 |
| | Qk.N_D A | PGr | 161.26 | -8.64 |
| | Qk.N_T 2 | PGr | 0.97 | -0.52 |
| W-0.39_1 | Gk | PGr | 155.92 | |
| | Ö← | PGr | | -10.50 |
| | Qk.N_B 1 | PGr | 15.66 | -17.51 |
| | Qk.N_C 1 | PGr | 1.69 | -85.01 |
| | Qk.N_C 5 | PGr | 41.73 | -14.38 |
| | Qk.N_E 1 | PGr | 68.40 | -2.78 |
| | Qk.N_D A | PGr | 12.97 | -27.78 |
| | Qk.N_T 2 | PGr | 0.06 | -0.59 |
| W-0.39_2 | Gk | PGr | 54.36 | |
| | Ö← | PGr | 7.33 | |
| | Qk.N_B 1 | PGr | 1.55 | -0.16 |
| | Qk.N_C 1 | PGr | 0.01 | -11.99 |
| | Qk.N_C 5 | PGr | 6.33 | 0.00 |
| | Qk.N_E 1 | PGr | 17.28 | -0.51 |
| | Qk.N_D A | PGr | 4.84 | -2.54 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| W-0.39_3 | Gk | PGr | 50.99 | |
| | Ö← | PGr | 4.79 | |
| | Qk.N_B 1 | PGr | 0.03 | -1.64 |
| | Qk.N_C 1 | PGr | 0.09 | -11.61 |
| | Qk.N_C 5 | PGr | 5.95 | -0.57 |
| | Qk.N_E | PGr | 19.39 | -1.99 |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|----------|--------|-----|-----------------|-----------------|
| | 1 | | | |
| | Qk.N_D | PGr | 4.50 | -4.04 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | 0.00 |
| | 2 | | | |
| W-0.39_4 | Gk | PGr | 11.26 | |
| | Ö← | PGr | | -1.12 |
| | Qk.N_B | PGr | 0.50 | 0.00 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.03 | -9.45 |
| | 1 | | | |
| | Qk.N_C | PGr | 4.85 | -0.01 |
| | 5 | | | |
| | Qk.N_E | PGr | 2.08 | -1.38 |
| | 1 | | | |
| | Qk.N_D | PGr | 1.12 | -0.56 |
| | A | | | |
| W-0.40 | Gk | PGr | 1115.37 | |
| | Ö← | PGr | 191.37 | |
| | Qk.N_B | PGr | 97.56 | -56.56 |
| | 1 | | | |
| | Qk.N_C | PGr | 55.05 | -52.97 |
| | 1 | | | |
| | Qk.N_C | PGr | 30.94 | -18.76 |
| | 5 | | | |
| | Qk.N_E | PGr | 98.11 | -0.94 |
| | 1 | | | |
| | Qk.N_D | PGr | 180.15 | -56.66 |
| | A | | | |
| | Qk.N_T | PGr | 103.27 | -1.32 |
| | 2 | | | |
| W-0.41 | Gk | PGr | 525.41 | |
| | Ö← | PGr | 74.49 | |
| | Qk.N_B | PGr | 7.62 | -36.81 |
| | 1 | | | |
| | Qk.N_C | PGr | 1.74 | -5.59 |
| | 1 | | | |
| | Qk.N_C | PGr | 110.21 | -13.11 |
| | 5 | | | |
| | Qk.N_E | PGr | 0.35 | -8.99 |
| | 1 | | | |
| | Qk.N_D | PGr | 90.06 | -18.88 |
| | A | | | |
| | Qk.N_T | PGr | 0.43 | -0.05 |
| | 2 | | | |
| W-0.42 | Gk | PGr | 938.31 | |
| | Ö← | PGr | 375.39 | |
| | Qk.N_B | PGr | 76.24 | -29.91 |
| | 1 | | | |
| | Qk.N_C | PGr | 96.33 | -21.26 |
| | 1 | | | |
| | Qk.N_C | PGr | 18.31 | -2.57 |
| | 5 | | | |
| | Qk.N_E | PGr | 0.19 | -7.09 |

| | | POSITION | | EG-LP4 |
|----------|--------|-------------------|-----------------|-----------------|
| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
| | 1 | | | |
| | Qk.N_D | PGr | 71.52 | -8.88 |
| | A | | | |
| | Qk.N_T | PGr | 0.01 | 0.00 |
| | 2 | | | |
| W-0.43 | Gk | PGr | 386.53 | |
| | Ö← | PGr | 154.85 | |
| | Qk.N_B | PGr | 97.85 | -7.64 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.00 | -11.46 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.04 | -6.19 |
| | 5 | | | |
| | Qk.N_E | PGr | 20.37 | -0.02 |
| | 1 | | | |
| | Qk.N_D | PGr | 34.95 | -9.23 |
| | A | | | |
| | Qk.N_T | PGr | 0.01 | 0.00 |
| | 2 | | | |
| W-0.44_1 | Gk | PGr | 437.70 | |
| | Ö← | PGr | 93.02 | |
| | Qk.N_B | PGr | 68.32 | -26.04 |
| | 1 | | | |
| | Qk.N_C | PGr | 56.22 | -58.37 |
| | 1 | | | |
| | Qk.N_C | PGr | 82.71 | -5.52 |
| | 5 | | | |
| | Qk.N_E | PGr | 29.49 | -0.44 |
| | 1 | | | |
| | Qk.N_D | PGr | 51.55 | -17.14 |
| | A | | | |
| | Qk.N_T | PGr | 0.23 | -0.03 |
| | 2 | | | |
| W-0.44_2 | Gk | PGr | 459.23 | |
| | Ö← | PGr | 105.05 | |
| | Qk.N_B | PGr | 104.01 | -0.62 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.00 | -1.08 |
| | 1 | | | |
| | Qk.N_C | PGr | 40.20 | -3.73 |
| | 5 | | | |
| | Qk.N_E | PGr | 62.66 | -0.03 |
| | 1 | | | |
| | Qk.N_D | PGr | 23.81 | -2.69 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | -0.05 |
| | 2 | | | |
| W-0.44_3 | Gk | PGr | 36.91 | |
| | Ö← | PGr | 9.01 | |
| | Qk.N_B | PGr | 10.28 | -0.01 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.03 | 0.00 |
| | 1 | | | |
| | Qk.N_C | PGr | 3.89 | -0.20 |
| | | | | D-744 |
| | | Schulcampus EWK \ | | EG-LP4 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|----------|--------|-----|-----------------|-----------------|
| | 5 | | | |
| | Qk.N_E | PGr | 3.26 | -0.06 |
| | 1 | | | |
| | Qk.N_D | PGr | 1.30 | -0.24 |
| | A | | | |
| W-0.44_4 | Gk | PGr | 401.64 | |
| | Ö← | PGr | 77.43 | |
| | Qk.N_B | PGr | 38.06 | -4.97 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.50 | -1.33 |
| | 1 | | | |
| | Qk.N_C | PGr | 66.70 | -0.79 |
| | 5 | | | |
| | Qk.N_E | PGr | 32.12 | -2.29 |
| | 1 | | | |
| | Qk.N_D | PGr | 25.44 | -1.64 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | -0.91 |
| | 2 | | | |
| W-0.45 | Gk | PGr | 143.94 | |
| | Ö← | PGr | 58.46 | |
| | Qk.N_B | PGr | 22.92 | -2.05 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.04 | -0.08 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.39 | -0.17 |
| | 5 | | | |
| | Qk.N_E | PGr | 4.48 | -0.65 |
| | 1 | | | |
| | Qk.N_D | PGr | 8.24 | -0.67 |
| | A | | | |
| | Qk.N_T | PGr | 0.07 | -0.06 |
| | 2 | | | |
| W-0.46 | Gk | PGr | 317.02 | |
| | Ö← | PGr | 130.70 | |
| | Qk.N_B | PGr | 95.21 | -0.67 |
| | 1 | | | |
| | Qk.N_C | PGr | 1.40 | 0.00 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.30 | -2.37 |
| | 5 | | | |
| | Qk.N_E | PGr | 9.49 | -1.17 |
| | 1 | | | |
| | Qk.N_D | PGr | 17.77 | -0.19 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | -0.11 |
| | 2 | | | |
| W-0.47 | Gk | PGr | 312.79 | |
| | Ö← | PGr | 125.76 | |
| | Qk.N_B | PGr | 41.79 | -1.16 |
| | 1 | | | |
| | Qk.N_C | PGr | 51.85 | -0.02 |
| | 1 | | | |
| | Qk.N_C | PGr | 2.43 | -0.37 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|---------------|--------|-----|-----------------|-----------------|
| | 5 | | | |
| | Qk.N_E | PGr | 0.25 | -0.09 |
| | 1 | | | |
| | Qk.N_D | PGr | 43.52 | -0.59 |
| | A | | | |
| | Qk.N_T | PGr | 0.04 | -0.01 |
| | 2 | | | |
| W-0.48 | Gk | PGr | 2.27 | |
| | Ö← | PGr | 2.21 | |
| | Qk.N_B | PGr | 0.09 | -5.96 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.11 | 0.00 |
| | 1 | | | |
| | Qk.N_C | PGr | 9.14 | -0.34 |
| | 5 | | | |
| | Qk.N_E | PGr | 0.08 | -0.07 |
| | 1 | | | |
| | Qk.N_D | PGr | 0.11 | -0.41 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | 0.00 |
| | 2 | | | |
| W-0.49 | Gk | PGr | 358.57 | |
| | Ö← | PGr | 37.80 | |
| | Qk.N_B | PGr | 4.58 | -83.37 |
| | 1 | | | |
| | Qk.N_C | PGr | 3.16 | -11.75 |
| | 1 | | | |
| | Qk.N_C | PGr | 129.59 | -20.03 |
| | 5 | | | |
| | Qk.N_E | PGr | 0.59 | -19.94 |
| | 1 | | | |
| | Qk.N_D | PGr | 92.54 | -48.05 |
| | A | | | |
| | Qk.N_T | PGr | 1.60 | -0.21 |
| | 2 | | | |
| W-0.50 | Gk | PGr | 517.08 | |
| | Ö← | PGr | 115.02 | |
| | Qk.N_B | PGr | 3.29 | -1.33 |
| | 1 | | | |
| | Qk.N_C | PGr | 251.53 | -42.99 |
| | 1 | | | |
| | Qk.N_C | PGr | 3.36 | -2.64 |
| | 5 | | | |
| | Qk.N_E | PGr | 9.70 | -14.65 |
| | 1 | | | |
| | Qk.N_D | PGr | 16.17 | -2.30 |
| | A | | | |
| | Qk.N_T | PGr | 0.22 | -0.02 |
| | 2 | | | |
| WS-0.11_BR | Gk | PGr | 0.00 | |
| WS-0.11_SA_W- | Gk | PGr | 41.82 | |
| 0.11_1 | | | | |
| | Ö← | PGr | 8.45 | |
| | Qk.N_B | PGr | 1.67 | -2.14 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|-------------------------|--------|-----|-----------------|-----------------|
| | 1 | | | |
| | Qk.N_C | PGr | 0.49 | -0.05 |
| | 1 | | | |
| | Qk.N_C | PGr | 5.28 | 0.00 |
| | 5 | | | |
| | Qk.N_E | PGr | 3.55 | -0.12 |
| | 1 | | | |
| | Qk.N_D | PGr | 4.60 | -0.40 |
| | A | | | |
| | Qk.N_T | PGr | 1.16 | -0.02 |
| | 2 | | | |
| WS-0.11_SE_W- 0.11_2 | Gk | PGr | 38.82 | |
| | Ö← | PGr | 7.98 | |
| | Qk.N_B | PGr | 4.63 | -1.69 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.79 | -0.08 |
| | 1 | | | |
| | Qk.N_C | PGr | 2.85 | -0.19 |
| | 5 | | | |
| | Qk.N_E | PGr | 3.63 | -0.13 |
| | 1 | | | |
| | Qk.N_D | PGr | 4.33 | -0.21 |
| | A | | | |
| | Qk.N_T | PGr | 0.47 | -0.82 |
| | 2 | | | |
| WS-0.17_BR | Gk | PGr | 0.00 | |
| WS-0.17_SA_W- 0.17_1 | Gk | PGr | 34.00 | |
| | Ö← | PGr | 8.12 | |
| | Qk.N_B | PGr | 0.00 | -1.02 |
| | 1 | | | |
| | Qk.N_C | PGr | 3.96 | 0.00 |
| | 1 | | | |
| | Qk.N_C | PGr | 7.81 | -0.45 |
| | 5 | | | |
| | Qk.N_E | PGr | 6.09 | -0.13 |
| | 1 | | | |
| | Qk.N_D | PGr | 3.01 | -1.74 |
| | A | | | |
| | Qk.N_T | PGr | 0.07 | -1.69 |
| | 2 | | | |
| WS-0.17_SE_W- 0.17_2 | Gk | PGr | 41.04 | |
| | Ö← | PGr | 10.73 | |
| | Qk.N_B | PGr | 1.20 | -0.25 |
| | 1 | | | |
| | Qk.N_C | PGr | 4.40 | 0.00 |
| | 1 | | | |
| | Qk.N_C | PGr | 8.08 | -0.32 |
| | 5 | | | |
| | Qk.N_E | PGr | 6.89 | -0.11 |
| | 1 | | | |
| | Qk.N_D | PGr | 3.82 | -0.93 |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|-------------------------------|-------------|-----|-----------------|-----------------|
| | A | | | |
| | Qk.N_T 2 | PGr | 0.00 | -1.66 |
| WS-0.32_2_BR | Gk | PGr | 0.00 | |
| WS- 0.32_2_SA_W- 0.32_2 | Gk | PGr | 2.39 | |
| | Ö← | PGr | 0.17 | |
| | Qk.N_B 1 | PGr | 0.01 | -0.06 |
| | Qk.N_C 1 | PGr | 0.00 | -3.73 |
| | Qk.N_C 5 | PGr | 3.83 | -0.05 |
| | Qk.N_E 1 | PGr | 0.00 | -0.47 |
| | Qk.N_D A | PGr | 0.00 | -0.06 |
| | Qk.N_T 2 | PGr | 0.05 | 0.00 |
| WS- 0.32_2_SE_W- 0.32_3 | Gk | PGr | 2.41 | |
| | Ö← | PGr | 0.18 | |
| | Qk.N_B 1 | PGr | 0.02 | -0.07 |
| | Qk.N_C 1 | PGr | 0.00 | -3.74 |
| | Qk.N_C 5 | PGr | 3.84 | -0.05 |
| | Qk.N_E 1 | PGr | 0.00 | -0.42 |
| | Qk.N_D A | PGr | 0.00 | -0.06 |
| | Qk.N_T 2 | PGr | 0.04 | 0.00 |
| WS-0.39_1_BR | Gk | PGr | 0.00 | |
| WS- 0.39_1_SA_W- 0.39_1 | Gk | PGr | 18.20 | |
| | Ö← | PGr | 2.09 | |
| | Qk.N_B 1 | PGr | 1.19 | -1.18 |
| | Qk.N_C 1 | PGr | 0.05 | -9.97 |
| | Qk.N_C 5 | PGr | 4.48 | -0.66 |
| | Qk.N_E 1 | PGr | 11.74 | -0.25 |
| | Qk.N_D A | PGr | 1.66 | -2.11 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| WS- | Gk | PGr | 20.79 | |

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&á\⇌{ [kN] |
|--------------|-------------|-----|-----------------|-----------------|
| 0.39_1_SE_W- | | | | |
| 0.39_2 | Ö← | PGr | 3.17 | |
| | Qk.N_B 1 | PGr | 0.56 | -0.08 |
| | Qk.N_C 1 | PGr | 0.02 | -9.84 |
| | Qk.N_C 5 | PGr | 4.51 | -0.10 |
| | Qk.N_E 1 | PGr | 11.24 | -0.25 |
| | Qk.N_D A | PGr | 1.87 | -1.37 |
| | Qk.N_T 2 | PGr | 0.01 | 0.00 |
| WS-0.39_2_BR | Gk | PGr | 0.00 | |
| WS- | Gk | PGr | 21.42 | |
| 0.39_2_SA_W- | | | | |
| 0.39_2 | Ö← | PGr | 3.51 | |
| | Qk.N_B 1 | PGr | 0.23 | -0.15 |
| | Qk.N_C 1 | PGr | 0.02 | -7.03 |
| | Qk.N_C 5 | PGr | 3.56 | 0.00 |
| | Qk.N_E 1 | PGr | 10.14 | -0.59 |
| | Qk.N_D A | PGr | 2.19 | -1.34 |
| | Qk.N_T 2 | PGr | 0.00 | 0.00 |
| WS- | Gk | PGr | 21.00 | |
| 0.39_2_SE_W- | | | | |
| 0.39_3 | Ö← | PGr | 3.26 | |
| | Qk.N_B 1 | PGr | 0.05 | -0.30 |
| | Qk.N_C 1 | PGr | 0.03 | -6.94 |
| | Qk.N_C 5 | PGr | 3.47 | -0.06 |
| | Qk.N_E 1 | PGr | 10.40 | -0.73 |
| | Qk.N_D A | PGr | 2.22 | -1.57 |
| | Qk.N_T 2 | PGr | 0.00 | 0.00 |
| WS-0.39_3_BR | Gk | PGr | 0.00 | |
| WS- | Gk | PGr | 15.45 | |
| 0.39_3_SA_W- | | | | |
| 0.39_3 | Ö← | PGr | 0.87 | |
| | Qk.N_B | PGr | 0.01 | -0.22 |

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&á\⇔{ [kN] |
|--------------|--------|-----|-----------------|-----------------|
| | 1 | | | |
| | Qk.N_C | PGr | 0.03 | -9.55 |
| | 1 | | | |
| | Qk.N_C | PGr | 4.75 | -0.02 |
| | 5 | | | |
| | Qk.N_E | PGr | 7.20 | -1.05 |
| | 1 | | | |
| | Qk.N_D | PGr | 1.72 | -1.36 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | 0.00 |
| | 2 | | | |
| WS- | Gk | PGr | 13.24 | |
| 0.39_3_SE_W- | | | | |
| 0.39_4 | | | | |
| | Ö← | PGr | | -0.09 |
| | Qk.N_B | PGr | 0.22 | -0.03 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.03 | -11.40 |
| | 1 | | | |
| | Qk.N_C | PGr | 5.74 | 0.00 |
| | 5 | | | |
| | Qk.N_E | PGr | 5.56 | -1.33 |
| | 1 | | | |
| | Qk.N_D | PGr | 1.47 | -0.94 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | 0.00 |
| | 2 | | | |
| WS-0.44_3_BR | Gk | PGr | 0.00 | |
| WS- | Gk | PGr | 47.88 | |
| 0.44_3_SA_W- | | | | |
| 0.44_3 | | | | |
| | Ö← | PGr | 14.31 | |
| | Qk.N_B | PGr | 17.41 | -0.03 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.15 | -0.02 |
| | 1 | | | |
| | Qk.N_C | PGr | 6.77 | -0.62 |
| | 5 | | | |
| | Qk.N_E | PGr | 4.00 | -0.25 |
| | 1 | | | |
| | Qk.N_D | PGr | 1.62 | -0.38 |
| | A | | | |
| | Qk.N_T | PGr | 0.00 | -0.01 |
| | 2 | | | |
| WS- | Gk | PGr | 51.48 | |
| 0.44_3_SE_W- | | | | |
| 0.44_4 | | | | |
| | Ö← | PGr | 14.52 | |
| | Qk.N_B | PGr | 17.27 | -0.07 |
| | 1 | | | |
| | Qk.N_C | PGr | 0.21 | -0.03 |
| | 1 | | | |
| | Qk.N_C | PGr | 7.14 | -0.84 |
| | 5 | | | |

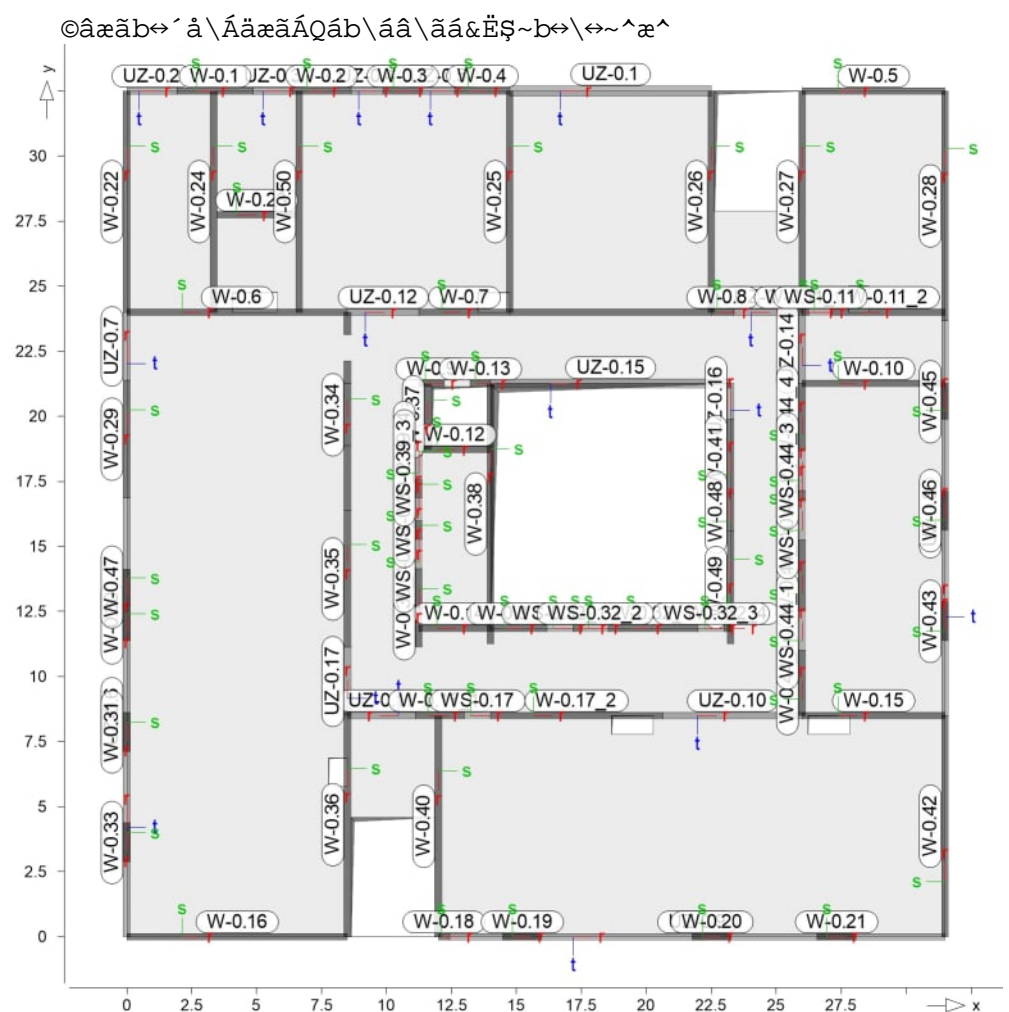
| Position | EW | Art | *~b⇔⇔{ [kN] | ^æ&á\⇔{ [kN] |
|-------------|----|-----|-------------|--------------|
| Qk.N_E 1 | | PGr | 4.50 | -0.38 |
| Qk.N_D A | | PGr | 1.94 | -0.36 |
| Qk.N_T 2 | | PGr | 0.00 | -0.03 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Lastabtrag / Einzelwerte

Qáb\fiâæã&áâæÁá→bÁQáb\áâ\ãá&Á~äæãÁÓ⇔^~æ→}æã\æÄfiãÁ
MicroFe und BauStatik

Posi ti onsgrafi k



Wand l ager

Die Auflagerreaktionen entlang einer Wandlagerposition werden in eine Trapezlast fiâæãâfiã\Á | ^äÁá→bÁXáâ→æ^}æã\æÄfiãÁâ⇔æÁ©âæã^áâ↑æÁ⇔^Áder Ñá | U\á\⇔⇔Á | äÁÜæãâfi& | ^&Á&æb\æ→\Ë Æá | Á}æãæ^ÄâfiãÁ↓ææ^ÁQáb\áâ→Áä⇔æÁN | à→á&æã←ãà\æÁ entlang eines Wandlagers derart in eine Trapezlast umgerechnet, dass deren Resultierende mit ihrer Ó[~æ^\ã⇔⇔\†\ÁäæãÁäæbÁ~ä&⇔⇔^á→æ^ÁPã†à\æ{æã→á | àbÁ entlang des Wandlagers entspricht. Die

Üäá*æ~âæ→áb\|^&Á}↔ääÁfiâæãÄä↔æÁQáb\~ää↔^á\æ^Áá↑ÁAnfang
A und Ende E beschrieben ($M=(A+E)/2$).
Falls die Wandlagerposition aus mehreren Kanten
âæb\æâ\ÊÁ}↔ääÁNÁ|^äÖÁfiâÄä↔æÁ&æbá↑\æÁ
Ûá^ä→á&æã*~b↔\↔~^Áâæã^á^æ\Á|^ä~|b†\~↔~^áNÇ↔DÁund
ÓÇ↔DÁâfiâÁ↓æäæÁPá^\æÁ↔ÁäæãÛá^ä→á&æã*~b↔\↔~^ÊÁ(Die
N|b}æã\|^&ÁâfiâÁNÁ|^äÖÁfiâæãÄä↔æÁ&æ^↔~^↔\æÁ
Ûá^ä→á&æã*~b↔\↔~^Áb~→\æÁ|^äâfiâÁ^áâæ~|Ágeradlinige
Ûá^ä→á&æãÄfiâæã^~↑↑æ^Á}æääæ^ÊD

Abs Lastwert maximaler Lagerabschnitt
e Abstand der Resultierenden zur Mitte des
Polygonabschnitts
Res Resultierende Gesamtauflagerkraft

je Einwirkung

charakteristische Trapez-Wandlagerkraft je Einwirkung
g b\†^ä↔æÁÖ↔^}↔ä↔|^&
Reihenfolge Ausgabe min Anfang
max Anfang
min Mitte
max Mitte
min Ende
max Ende

W-0.1

Q†^&æÁKÁGÈÏIÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 284.97 | -62.52 | 135.15 | 332.83 | 0.72 | 398.70 |
| Ö← | g | 122.99 | -11.78 | 63.96 | 139.70 | 0.58 | 188.69 |
| Qk.N_B1 | min | -0.89 | -0.27 | -0.07 | 0.12 | -1.34 | -0.21 |
| | max | 0.01 | 0.35 | -0.46 | -1.27 | 0.86 | -1.37 |
| | min | | 0.08 | -0.54 | -1.16 | 0.57 | -1.58 |
| | max | | 0.00 | 0.00 | 0.01 | 2.31 | 0.00 |
| | min | | 0.35 | -0.46 | -1.27 | 0.86 | -1.37 |
| | max | | -0.27 | -0.07 | 0.12 | -1.34 | -0.21 |
| Qk.N_C1 | min | -4.87 | -25.70 | 30.52 | 86.73 | 0.91 | 90.02 |
| | max | 70.61 | 16.32 | 1.64 | -13.04 | -4.40 | 4.84 |
| | min | | 4.04 | -0.83 | -5.69 | 2.89 | -2.44 |
| | max | | -13.41 | 32.99 | 79.38 | 0.69 | 97.31 |
| | min | | 16.32 | 1.64 | -13.04 | -4.40 | 4.84 |
| | max | | -25.70 | 30.52 | 86.73 | 0.91 | 90.02 |
| Qk.N_C5 | min | -0.41 | -0.01 | 0.01 | 0.02 | 1.63 | 0.01 |
| | max | 0.02 | 0.14 | -0.17 | -0.48 | 0.90 | -0.50 |
| | min | | 0.14 | -0.17 | -0.48 | 0.89 | -0.50 |
| | max | | -0.01 | 0.01 | 0.02 | 1.45 | 0.02 |
| | min | | 0.14 | -0.17 | -0.48 | 0.89 | -0.50 |
| | max | | -0.01 | 0.01 | 0.02 | 1.45 | 0.02 |
| Qk.N_E1 | min | -0.67 | -4.15 | 3.29 | 10.72 | 1.11 | 9.69 |
| | max | 9.65 | 0.22 | -0.30 | -0.81 | 0.85 | -0.87 |
| | min | | 0.22 | -0.30 | -0.81 | 0.85 | -0.87 |
| | max | | -4.15 | 3.29 | 10.72 | 1.11 | 9.69 |
| | min | | 0.22 | -0.30 | -0.81 | 0.85 | -0.87 |
| | max | | -4.15 | 3.29 | 10.72 | 1.11 | 9.69 |
| Qk.N_DA | min | -1.70 | -13.67 | 22.87 | 59.41 | 0.79 | 67.47 |
| | max | 49.27 | 0.52 | -0.77 | -2.05 | 0.82 | -2.27 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|------------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| min | | 0.52 | -0.77 | -2.05 | 0.82 | -2.27 |
| max | | -13.67 | 22.87 | 59.41 | 0.79 | 67.47 |
| min | | 0.52 | -0.77 | -2.05 | 0.82 | -2.27 |
| max | | -13.67 | 22.87 | 59.41 | 0.79 | 67.47 |
| Qk.N_T2 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | 0.00 | 0.01 | 0.00 | -0.02 | 2.05 | -0.01 |
| min | | 0.01 | 0.00 | -0.02 | 2.05 | -0.01 |
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| min | | 0.01 | 0.00 | -0.02 | 2.05 | -0.01 |
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.2
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{G} \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|------------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 37.91 | -15.29 | 11.70 | 38.68 | 0.87 | 26.32 |
| Ö← | 28.10 | 4.09 | 16.31 | 28.54 | 0.28 | 36.70 |
| Qk.N_B1 | -0.03 | -0.13 | 0.12 | 0.38 | 0.76 | 0.28 |
| max | 0.38 | 0.01 | 0.00 | 0.00 | -0.46 | 0.01 |
| min | | -0.01 | -0.01 | -0.01 | 0.03 | -0.03 |
| max | | -0.11 | 0.14 | 0.39 | 0.67 | 0.32 |
| min | | 0.00 | -0.01 | -0.01 | 0.33 | -0.02 |
| max | | -0.12 | 0.14 | 0.39 | 0.70 | 0.31 |
| Qk.N_C1 | -1.60 | -16.10 | 2.91 | 21.92 | 2.45 | 6.55 |
| max | 18.67 | 4.65 | 1.45 | -1.75 | -0.83 | 3.27 |
| min | | 2.27 | -0.36 | -3.00 | 2.71 | -0.82 |
| max | | -13.71 | 4.72 | 23.16 | 1.46 | 10.63 |
| min | | 3.59 | 0.24 | -3.10 | -5.17 | 0.55 |
| max | | -15.04 | 4.12 | 23.27 | 1.74 | 9.26 |
| Qk.N_C5 | -0.03 | -0.01 | -0.01 | -0.01 | -0.04 | -0.02 |
| max | 0.01 | 0.01 | 0.00 | -0.01 | -7.47 | 0.00 |
| min | | -0.01 | -0.01 | -0.02 | 0.19 | -0.03 |
| max | | 0.01 | 0.01 | 0.00 | -0.43 | 0.01 |
| min | | 0.00 | -0.01 | -0.02 | 0.46 | -0.02 |
| max | | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 |
| Qk.N_E1 | -0.02 | -0.78 | 0.66 | 2.10 | 0.82 | 1.48 |
| max | 2.17 | 0.00 | 0.00 | 0.00 | -0.62 | 0.00 |
| min | | -0.01 | -0.01 | -0.01 | -0.02 | -0.02 |
| max | | -0.78 | 0.67 | 2.11 | 0.81 | 1.50 |
| min | | -0.01 | -0.01 | -0.01 | 0.04 | -0.02 |
| max | | -0.78 | 0.67 | 2.11 | 0.81 | 1.50 |
| Qk.N_DA | -0.06 | -0.04 | -0.01 | 0.01 | -0.66 | -0.03 |
| max | 2.30 | 0.09 | 0.82 | 1.56 | 0.33 | 1.85 |
| min | | -0.02 | -0.02 | -0.03 | 0.10 | -0.05 |
| max | | 0.08 | 0.84 | 1.59 | 0.34 | 1.88 |
| min | | -0.02 | -0.02 | -0.03 | 0.13 | -0.05 |
| max | | 0.07 | 0.83 | 1.60 | 0.34 | 1.88 |
| Qk.N_T2 | -0.02 | -0.03 | -0.01 | 0.00 | -0.46 | -0.03 |
| max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| min | | -0.03 | -0.01 | 0.00 | -0.46 | -0.03 |
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | -0.03 | -0.01 | 0.00 | -0.46 | -0.03 |

W-0.3
 $Q \uparrow \wedge \text{ÄKÄFÈI} \in \text{Ä} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 311.07 | 328.91 | 280.73 | 232.55 | -0.04 | 421.10 |
| Ö← | g | 134.23 | 142.13 | 119.27 | 96.41 | -0.05 | 178.90 |
| Qk.N_B1 | min | -0.53 | -0.61 | -0.39 | -0.17 | -0.14 | -0.59 |
| | max | 5.87 | 6.84 | 4.42 | 2.00 | -0.14 | 6.63 |
| | min | | -0.61 | -0.39 | -0.17 | -0.14 | -0.59 |
| | max | | 6.84 | 4.42 | 2.00 | -0.14 | 6.63 |
| | min | | -0.61 | -0.39 | -0.17 | -0.14 | -0.58 |
| | max | | 6.83 | 4.42 | 2.00 | -0.14 | 6.62 |
| Qk.N_C1 | min | -4.50 | -0.60 | -0.30 | -0.01 | -0.24 | -0.46 |
| | max | 59.19 | 63.48 | 43.99 | 24.50 | -0.11 | 65.98 |
| | min | | -0.56 | -2.75 | -4.94 | 0.20 | -4.12 |
| | max | | 63.44 | 46.43 | 29.42 | -0.09 | 69.65 |
| | min | | 0.03 | -2.46 | -4.95 | 0.25 | -3.69 |
| | max | | 62.86 | 46.14 | 29.43 | -0.09 | 69.22 |
| Qk.N_C5 | min | -0.29 | -0.37 | -0.15 | 0.08 | -0.38 | -0.22 |
| | max | 0.29 | 0.09 | 0.14 | 0.19 | 0.09 | 0.21 |
| | min | | -0.34 | -0.20 | -0.07 | -0.17 | -0.30 |
| | max | | 0.06 | 0.20 | 0.33 | 0.17 | 0.30 |
| | min | | -0.34 | -0.20 | -0.07 | -0.17 | -0.30 |
| | max | | 0.06 | 0.20 | 0.33 | 0.17 | 0.30 |
| Qk.N_E1 | min | -0.30 | -0.36 | -0.19 | -0.03 | -0.22 | -0.29 |
| | max | 37.10 | 40.65 | 31.36 | 22.08 | -0.07 | 47.05 |
| | min | | -0.36 | -0.19 | -0.03 | -0.22 | -0.29 |
| | max | | 40.65 | 31.36 | 22.08 | -0.07 | 47.05 |
| | min | | -0.35 | -0.19 | -0.03 | -0.22 | -0.29 |
| | max | | 40.65 | 31.36 | 22.08 | -0.07 | 47.05 |
| Qk.N_DA | min | -1.12 | -1.22 | -0.98 | -0.73 | -0.06 | -1.46 |
| | max | 53.45 | 52.18 | 51.68 | 51.18 | 0.00 | 77.52 |
| | min | | -1.22 | -0.98 | -0.73 | -0.06 | -1.46 |
| | max | | 52.18 | 51.68 | 51.18 | 0.00 | 77.52 |
| | min | | -1.22 | -0.98 | -0.73 | -0.06 | -1.46 |
| | max | | 52.18 | 51.68 | 51.18 | 0.00 | 77.52 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.34 | 0.06 | 0.22 | 0.38 | 0.18 | 0.33 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.06 | 0.22 | 0.38 | 0.18 | 0.33 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.06 | 0.22 | 0.38 | 0.18 | 0.33 |

W-0.4
 $Q \uparrow \wedge \text{ÄKÄGÈFGÄ} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 362.45 | -97.25 | 157.01 | 411.26 | 0.57 | 333.64 |
| Ö← | g | 154.51 | -27.03 | 73.06 | 173.14 | 0.49 | 155.25 |
| Qk.N_B1 | min | -0.08 | -32.96 | 41.39 | 115.74 | 0.64 | 87.96 |
| | max | 99.03 | 0.00 | 0.00 | 0.00 | 0.71 | 0.00 |
| | min | | -0.09 | -0.05 | -0.02 | -0.25 | -0.11 |
| | max | | -32.87 | 41.45 | 115.76 | 0.64 | 88.07 |
| | min | | -0.09 | -0.05 | -0.02 | -0.25 | -0.11 |
| | max | | -32.87 | 41.45 | 115.76 | 0.64 | 88.07 |
| Qk.N_C1 | min | -16.30 | -21.19 | -5.74 | 9.70 | -0.95 | -12.20 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | 20.35 | 29.49 | 3.41 | -22.68 | -2.71 | 7.24 |
| | | -20.13 | -8.06 | 4.00 | -0.53 | -17.14 |
| | | 28.43 | 5.73 | -16.98 | -1.40 | 12.17 |
| | | 29.49 | 3.41 | -22.68 | -2.71 | 7.24 |
| | | -21.19 | -5.74 | 9.70 | -0.95 | -12.20 |
| Qk.N_C5 | -0.67 | -0.03 | 0.02 | 0.07 | 0.72 | 0.05 |
| | 0.30 | 0.59 | -0.05 | -0.69 | 4.50 | -0.11 |
| | | 0.24 | -0.28 | -0.79 | 0.66 | -0.58 |
| | | 0.33 | 0.25 | 0.17 | -0.11 | 0.53 |
| | | 0.24 | -0.28 | -0.79 | 0.66 | -0.58 |
| | | 0.33 | 0.25 | 0.17 | -0.11 | 0.53 |
| Qk.N_E1 | 0.00 | -0.03 | 0.04 | 0.10 | 0.59 | 0.08 |
| | 1.68 | 0.62 | 1.01 | 1.40 | 0.14 | 2.14 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.59 | 1.05 | 1.50 | 0.15 | 2.22 |
| | | 0.00 | 0.00 | 0.00 | -0.51 | 0.00 |
| | | 0.59 | 1.05 | 1.50 | 0.15 | 2.22 |
| Qk.N_DA | -2.20 | -16.72 | 28.70 | 74.11 | 0.56 | 60.98 |
| | 64.13 | 0.67 | -0.95 | -2.58 | 0.60 | -2.02 |
| | | 0.67 | -0.96 | -2.59 | 0.60 | -2.04 |
| | | -16.72 | 28.70 | 74.12 | 0.56 | 60.99 |
| | | 0.67 | -0.96 | -2.59 | 0.60 | -2.04 |
| | | -16.72 | 28.70 | 74.12 | 0.56 | 60.99 |
| Qk.N_T2 | -0.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.22 | 0.49 | -0.11 | -0.70 | 2.01 | -0.22 |
| | | 0.24 | -0.25 | -0.73 | 0.69 | -0.52 |
| | | 0.25 | 0.14 | 0.03 | -0.29 | 0.30 |
| | | 0.24 | -0.25 | -0.73 | 0.69 | -0.52 |
| | | 0.25 | 0.14 | 0.03 | -0.29 | 0.30 |

W-0.5
 $Q_k^{\perp} \& \acute{a} \acute{K} \acute{A} \acute{I} \acute{E} \acute{I} \acute{E} \acute{A} \uparrow$

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 101.11 | 80.01 | 79.32 | 78.64 | -0.01 | 436.28 |
| Ö← | 48.00 | 36.40 | 39.24 | 42.07 | 0.07 | 215.80 |
| Qk.N_B1 | -0.02 | -0.01 | -0.01 | 0.00 | -0.20 | -0.03 |
| | 26.09 | 15.63 | 14.77 | 13.92 | -0.05 | 81.24 |
| | | -0.01 | -0.01 | 0.00 | -0.20 | -0.03 |
| | | 15.63 | 14.77 | 13.92 | -0.05 | 81.24 |
| | | -0.01 | -0.01 | 0.00 | -0.20 | -0.03 |
| | | 15.63 | 14.77 | 13.92 | -0.05 | 81.24 |
| Qk.N_C1 | -0.02 | -0.01 | -0.01 | 0.00 | -0.48 | -0.03 |
| | 0.17 | 0.09 | 0.06 | 0.03 | -0.49 | 0.32 |
| | | -0.01 | -0.01 | 0.00 | -0.48 | -0.03 |
| | | 0.09 | 0.06 | 0.03 | -0.49 | 0.32 |
| | | -0.01 | -0.01 | 0.00 | -0.41 | -0.03 |
| | | 0.09 | 0.06 | 0.03 | -0.48 | 0.32 |
| Qk.N_C5 | -0.03 | -0.01 | -0.01 | 0.00 | -0.41 | -0.04 |
| | 0.00 | 0.00 | 0.00 | 0.00 | -0.39 | 0.00 |
| | | -0.01 | -0.01 | 0.00 | -0.41 | -0.04 |
| | | 0.00 | 0.00 | 0.00 | -0.39 | 0.00 |
| | | -0.01 | -0.01 | 0.00 | -0.41 | -0.04 |
| | | 0.00 | 0.00 | 0.00 | -0.39 | 0.00 |

D-755

Schulcampus EWK \

EG-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_E1 | min | -0.03 | -0.02 | -0.01 | 0.00 | -0.49 | -0.05 |
| | max | 0.01 | 0.00 | 0.00 | 0.00 | -0.32 | 0.01 |
| | min | | -0.02 | -0.01 | 0.00 | -0.49 | -0.05 |
| | max | | 0.00 | 0.00 | 0.00 | -0.32 | 0.01 |
| | min | | -0.01 | -0.01 | -0.01 | -0.37 | -0.05 |
| | max | | 0.00 | 0.00 | 0.00 | 0.47 | 0.01 |
| Qk.N_DA | min | -1.67 | -0.17 | -0.33 | -0.49 | 0.45 | -1.81 |
| | max | 9.76 | 5.53 | 5.60 | 5.66 | 0.01 | 30.79 |
| | min | | -0.17 | -0.33 | -0.49 | 0.45 | -1.81 |
| | max | | 5.53 | 5.60 | 5.66 | 0.01 | 30.79 |
| | min | | -0.17 | -0.33 | -0.49 | 0.45 | -1.81 |
| | max | | 5.53 | 5.60 | 5.66 | 0.01 | 30.79 |
| Qk.N_T2 | min | -0.62 | -0.22 | -0.18 | -0.15 | -0.16 | -1.01 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.22 | -0.18 | -0.15 | -0.16 | -1.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.22 | -0.18 | -0.15 | -0.16 | -1.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.6
 $Q_{\uparrow} \& \acute{a} \acute{K} \acute{A} \acute{I} \acute{E} \acute{I} \acute{E} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 241.03 | 159.80 | 188.38 | 216.97 | 0.21 | 1601.3 |
| Ö← | g | 71.96 | 45.47 | 56.21 | 66.94 | 0.27 | 477.76 |
| Qk.N_B1 | min | -0.01 | -6.00 | 3.11 | 12.22 | 4.15 | 26.45 |
| | max | 19.70 | 6.17 | 2.82 | -0.53 | -1.68 | 23.97 |
| | min | | 0.00 | 0.00 | 0.00 | 1.25 | -0.02 |
| | max | | 0.17 | 5.93 | 11.70 | 1.38 | 50.44 |
| | min | | 6.17 | 2.82 | -0.53 | -1.68 | 23.97 |
| | max | | -6.00 | 3.11 | 12.22 | 4.15 | 26.45 |
| Qk.N_C1 | min | -2.09 | -6.58 | 3.06 | 12.69 | 4.47 | 25.97 |
| | max | 72.34 | 27.01 | 34.87 | 42.73 | 0.32 | 296.38 |
| | min | | 0.35 | -0.15 | -0.65 | 4.76 | -1.27 |
| | max | | 20.07 | 38.07 | 56.07 | 0.67 | 323.62 |
| | min | | 6.21 | 1.68 | -2.86 | -3.84 | 14.24 |
| | max | | 14.21 | 36.25 | 58.28 | 0.86 | 308.11 |
| Qk.N_C5 | min | -2.22 | -1.82 | 0.16 | 2.13 | 17.91 | 1.33 |
| | max | 7.43 | 0.14 | 2.36 | 4.58 | 1.33 | 20.07 |
| | min | | -0.45 | -0.49 | -0.53 | 0.10 | -4.16 |
| | max | | -1.23 | 3.01 | 7.24 | 1.99 | 25.56 |
| | min | | -0.13 | -0.40 | -0.67 | 0.94 | -3.41 |
| | max | | -1.55 | 2.92 | 7.38 | 2.17 | 24.81 |
| Qk.N_E1 | min | -0.21 | -9.67 | 6.23 | 22.13 | 3.62 | 52.94 |
| | max | 40.55 | 33.69 | 23.13 | 12.57 | -0.65 | 196.59 |
| | min | | 0.02 | -0.09 | -0.20 | 1.77 | -0.75 |
| | max | | 23.99 | 29.44 | 34.90 | 0.26 | 250.28 |
| | min | | 15.26 | 7.51 | -0.23 | -1.46 | 63.85 |
| | max | | 8.76 | 21.85 | 34.93 | 0.85 | 185.68 |
| Qk.N_DA | min | -0.13 | -0.16 | 0.75 | 1.65 | 1.71 | 6.34 |
| | max | 68.88 | 30.13 | 30.53 | 30.92 | 0.02 | 259.46 |
| | min | | 0.00 | -0.06 | -0.11 | 1.41 | -0.48 |
| | max | | 29.97 | 31.33 | 32.69 | 0.06 | 266.29 |
| | min | | 0.02 | -0.05 | -0.12 | 1.84 | -0.44 |
| | | | | | | | |

D-756

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_T2 | max | | 29.95 | 31.32 | 32.69 | 0.06 | 266.24 |
| | min | -0.02 | -0.01 | 0.00 | 0.02 | 8.81 | 0.02 |
| | max | 0.04 | 0.01 | 0.00 | -0.01 | 4.86 | -0.02 |
| | min | | 0.00 | 0.00 | -0.01 | 2.38 | -0.03 |
| | max | | -0.01 | 0.00 | 0.01 | 4.77 | 0.03 |
| | min | | 0.01 | 0.00 | -0.01 | 4.86 | -0.02 |
| | max | | -0.01 | 0.00 | 0.02 | 8.81 | 0.02 |

W-0.7
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{G} \acute{E} \acute{I} \in \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 343.75 | -13.96 | 148.23 | 310.41 | 0.64 | 518.79 |
| Ö← | g | 106.48 | 0.15 | 47.85 | 95.55 | 0.58 | 167.47 |
| Qk.N_B1 | min | -0.72 | -20.42 | 20.76 | 61.94 | 1.16 | 72.67 |
| | max | 64.15 | 0.00 | 0.00 | 0.00 | 1.55 | 0.00 |
| | min | | -0.14 | -0.36 | -0.58 | 0.36 | -1.24 |
| | max | | -20.28 | 21.12 | 62.52 | 1.14 | 73.91 |
| | min | | -0.13 | -0.35 | -0.58 | 0.36 | -1.24 |
| | max | | -20.28 | 21.12 | 62.52 | 1.14 | 73.91 |
| | min | -11.43 | -13.84 | -4.04 | 5.76 | -1.41 | -14.15 |
| Qk.N_C1 | max | 56.56 | 59.38 | 21.07 | -17.23 | -1.06 | 73.76 |
| | min | | -11.01 | -6.70 | -2.38 | -0.38 | -23.44 |
| | max | | 56.55 | 23.73 | -9.09 | -0.81 | 83.05 |
| | min | | 52.33 | 15.31 | -21.71 | -1.41 | 53.59 |
| | max | | -6.80 | 1.72 | 10.24 | 2.89 | 6.02 |
| | min | -0.65 | -3.74 | 5.35 | 14.44 | 0.99 | 18.72 |
| | max | 23.72 | 17.13 | 10.80 | 4.47 | -0.34 | 37.79 |
| Qk.N_C5 | min | | 0.15 | -0.25 | -0.65 | 0.93 | -0.87 |
| | max | | 13.24 | 16.40 | 19.55 | 0.11 | 57.39 |
| | min | | 0.55 | -0.19 | -0.94 | 2.24 | -0.68 |
| | max | | 12.84 | 16.34 | 19.84 | 0.13 | 57.19 |
| | min | -2.84 | -8.34 | 7.28 | 22.90 | 1.25 | 25.48 |
| | max | 22.74 | 0.14 | -0.30 | -0.73 | 0.86 | -1.04 |
| | min | | -2.25 | -0.92 | 0.41 | -0.84 | -3.23 |
| Qk.N_E1 | max | | -5.95 | 7.91 | 21.77 | 1.02 | 27.68 |
| | min | | 0.13 | -0.31 | -0.74 | 0.83 | -1.07 |
| | max | | -8.33 | 7.29 | 22.91 | 1.25 | 25.52 |
| | min | -3.35 | -33.01 | 32.93 | 98.87 | 1.17 | 115.25 |
| | max | 100.49 | 0.75 | -1.22 | -3.20 | 0.94 | -4.28 |
| | min | | 0.73 | -1.24 | -3.20 | 0.93 | -4.33 |
| | max | | -32.98 | 32.95 | 98.87 | 1.17 | 115.31 |
| Qk.N_DA | min | | 0.73 | -1.24 | -3.21 | 0.93 | -4.33 |
| | max | | -32.98 | 32.95 | 98.87 | 1.17 | 115.31 |
| | min | -0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.14 | 0.18 | 0.07 | -0.03 | -0.85 | 0.25 |
| | min | | 0.04 | -0.04 | -0.13 | 1.16 | -0.16 |
| | max | | 0.13 | 0.12 | 0.10 | -0.09 | 0.41 |
| | min | | 0.04 | -0.04 | -0.13 | 1.16 | -0.16 |
| Qk.N_T2 | max | | 0.13 | 0.12 | 0.10 | -0.09 | 0.41 |

W-0.8
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \in \acute{E} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 100.48 | 93.58 | 96.93 | 100.28 | 0.01 | 84.81 |
| Ö← | g | 27.38 | 20.09 | 24.30 | 28.52 | 0.03 | 21.27 |
| Qk.N_B1 | min | -11.22 | -6.53 | -9.23 | -11.93 | 0.04 | -8.08 |
| | max | 0.00 | 0.00 | -0.04 | -0.08 | 0.16 | -0.03 |
| | min | | -6.53 | -9.27 | -12.01 | 0.04 | -8.11 |
| | max | | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | min | | -6.48 | -9.25 | -12.02 | 0.04 | -8.09 |
| | max | | -0.05 | -0.02 | 0.01 | -0.25 | -0.02 |
| Qk.N_C1 | min | -20.85 | -12.28 | -17.45 | -22.61 | 0.04 | -15.26 |
| | max | 2.01 | 1.41 | 1.77 | 2.13 | 0.03 | 1.55 |
| | min | | -12.28 | -17.45 | -22.61 | 0.04 | -15.26 |
| | max | | 1.41 | 1.77 | 2.13 | 0.03 | 1.55 |
| | min | | -12.28 | -17.45 | -22.61 | 0.04 | -15.26 |
| | max | | 1.41 | 1.77 | 2.13 | 0.03 | 1.55 |
| Qk.N_C5 | min | -0.01 | -0.01 | 0.00 | 0.00 | -0.20 | 0.00 |
| | max | 49.64 | 37.14 | 44.47 | 51.80 | 0.02 | 38.91 |
| | min | | -0.01 | 0.00 | 0.00 | -0.19 | 0.00 |
| | max | | 37.14 | 44.47 | 51.80 | 0.02 | 38.91 |
| | min | | 0.07 | 0.03 | -0.02 | -0.25 | 0.02 |
| | max | | 37.06 | 44.44 | 51.82 | 0.02 | 38.89 |
| Qk.N_E1 | min | -0.41 | -0.59 | -0.17 | 0.24 | -0.35 | -0.15 |
| | max | 0.34 | 0.00 | 0.00 | 0.00 | -0.09 | 0.00 |
| | min | | -0.45 | -0.31 | -0.18 | -0.06 | -0.27 |
| | max | | -0.14 | 0.14 | 0.42 | 0.29 | 0.12 |
| | min | | -0.44 | -0.31 | -0.18 | -0.06 | -0.27 |
| | max | | -0.14 | 0.14 | 0.42 | 0.30 | 0.12 |
| Qk.N_DA | min | -2.72 | -2.92 | -2.16 | -1.40 | -0.05 | -1.89 |
| | max | 9.70 | 10.60 | 7.35 | 4.11 | -0.06 | 6.44 |
| | min | | -2.91 | -2.25 | -1.59 | -0.04 | -1.97 |
| | max | | 10.58 | 7.44 | 4.30 | -0.06 | 6.51 |
| | min | | -2.90 | -2.25 | -1.59 | -0.04 | -1.97 |
| | max | | 10.58 | 7.44 | 4.30 | -0.06 | 6.51 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | max | 21.63 | 6.14 | 15.36 | 24.57 | 0.09 | 13.44 |
| | min | | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | max | | 6.14 | 15.36 | 24.57 | 0.09 | 13.44 |
| | min | | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | max | | 6.14 | 15.36 | 24.57 | 0.09 | 13.44 |

W-0.9

Q_z^&æÁKÁ€ÈííÁ↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 83.98 | 74.35 | 80.90 | 87.46 | 0.01 | 78.91 |
| Ö← | g | 9.07 | 3.79 | 7.17 | 10.55 | 0.08 | 6.99 |
| Qk.N_B1 | min | -5.32 | -3.53 | -4.53 | -5.53 | 0.04 | -4.42 |
| | max | 1.05 | 1.24 | 0.53 | -0.17 | -0.21 | 0.52 |
| | min | | -3.53 | -4.54 | -5.55 | 0.04 | -4.43 |
| | max | | 1.24 | 0.54 | -0.15 | -0.21 | 0.53 |
| | min | | -2.32 | -4.05 | -5.78 | 0.07 | -3.95 |
| | max | | 0.03 | 0.05 | 0.08 | 0.09 | 0.05 |
| Qk.N_C1 | min | -47.00 | -55.95 | -23.29 | 9.37 | -0.23 | -22.72 |
| | max | 5.37 | 4.30 | 4.81 | 5.32 | 0.02 | 4.69 |
| | min | | -55.92 | -23.30 | 9.31 | -0.23 | -22.73 |

D-758

Schulcampus EWK \

EG-LP4

| Kraft | Ft | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|---------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Qk.N_C5 | max | | 4.27 | 4.82 | 5.38 | 0.02 | 4.71 |
| | min | | -24.04 | -16.12 | -8.20 | -0.08 | -15.72 |
| | max | | -27.62 | -2.37 | 22.89 | -1.74 | -2.31 |
| | min | -0.29 | 0.00 | 0.00 | 0.01 | 0.22 | 0.00 |
| | max | 44.78 | 51.47 | 27.48 | 3.49 | -0.14 | 26.80 |
| | min | | 0.03 | -0.16 | -0.34 | 0.19 | -0.15 |
| | max | | 51.45 | 27.64 | 3.84 | -0.14 | 26.96 |
| | min | | 15.20 | 3.48 | -8.24 | -0.55 | 3.40 |
| Qk.N_E1 | max | | 36.27 | 24.01 | 11.74 | -0.08 | 23.41 |
| | min | -9.72 | -11.99 | -3.97 | 4.06 | -0.33 | -3.87 |
| | max | 7.14 | 7.84 | 5.98 | 4.11 | -0.05 | 5.83 |
| | min | | -11.88 | -3.98 | 3.92 | -0.32 | -3.88 |
| | max | | 7.73 | 5.99 | 4.25 | -0.05 | 5.84 |
| | min | | -1.53 | -1.28 | -1.02 | -0.03 | -1.25 |
| Qk.N_DA | max | | -2.62 | 3.29 | 9.19 | 0.29 | 3.21 |
| | min | -7.52 | -5.03 | -6.35 | -7.67 | 0.03 | -6.19 |
| | max | 10.21 | 10.41 | 9.58 | 8.76 | -0.01 | 9.35 |
| | min | | -4.99 | -6.45 | -7.92 | 0.04 | -6.29 |
| | max | | 10.37 | 9.69 | 9.00 | -0.01 | 9.45 |
| | min | | -4.25 | -6.25 | -8.24 | 0.05 | -6.09 |
| Qk.N_T2 | max | | 9.64 | 9.48 | 9.33 | 0.00 | 9.25 |
| | min | -0.16 | -0.07 | -0.12 | -0.17 | 0.07 | -0.12 |
| | max | 0.05 | 0.02 | 0.03 | 0.05 | 0.07 | 0.03 |
| | min | | -0.07 | -0.12 | -0.17 | 0.07 | -0.12 |
| | max | | 0.02 | 0.03 | 0.05 | 0.07 | 0.03 |
| | min | | -0.07 | -0.12 | -0.18 | 0.07 | -0.12 |
| | max | | 0.02 | 0.03 | 0.05 | 0.08 | 0.03 |

W-0.10

$$0 \neq \alpha \in K \text{ with } \alpha \in \mathcal{O}_K^\times$$

| Kraft | Ft | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|---------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 161.19 | 92.39 | 125.21 | 158.04 | 0.24 | 688.67 |
| Ö← | g | 51.51 | 11.05 | 31.51 | 51.97 | 0.60 | 173.31 |
| Qk.N_B1 | min | -5.95 | -4.69 | -4.83 | -4.96 | 0.03 | -26.55 |
| | max | 43.22 | 16.16 | 27.92 | 39.68 | 0.39 | 153.57 |
| | min | | -4.69 | -4.83 | -4.96 | 0.03 | -26.55 |
| | max | | 16.16 | 27.92 | 39.68 | 0.39 | 153.57 |
| | min | | -4.59 | -4.78 | -4.98 | 0.04 | -26.31 |
| | max | | 16.06 | 27.88 | 39.70 | 0.39 | 153.34 |
| Qk.N_C1 | min | -0.16 | -0.03 | -0.02 | 0.00 | -0.80 | -0.10 |
| | max | 0.00 | 0.13 | -0.01 | -0.14 | 23.17 | -0.03 |
| | min | | 0.09 | -0.02 | -0.14 | 4.72 | -0.13 |
| | max | | 0.00 | 0.00 | 0.00 | 0.79 | 0.00 |
| | min | | 0.12 | -0.02 | -0.16 | 7.72 | -0.09 |
| | max | | -0.03 | -0.01 | 0.02 | -3.42 | -0.03 |
| Qk.N_C5 | min | -8.50 | -0.63 | -0.36 | -0.08 | -0.72 | -1.96 |
| | max | 6.19 | 4.84 | -0.02 | -4.89 | 183.27 | -0.13 |
| | min | | 0.58 | -1.21 | -3.00 | 1.36 | -6.63 |
| | max | | 3.63 | 0.83 | -1.97 | -3.11 | 4.54 |
| | min | | 4.23 | -0.37 | -4.97 | 11.33 | -2.05 |
| | max | | -0.02 | -0.01 | 0.00 | -1.11 | -0.04 |
| Qk.N_E1 | min | -0.01 | 0.00 | 0.00 | 0.00 | -0.44 | -0.01 |
| | max | 26.32 | 23.73 | 19.65 | 15.57 | -0.19 | 108.09 |

D-759

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | | | | | | |
| min | | 0.00 | 0.00 | 0.00 | -0.40 | -0.01 |
| max | | 23.73 | 19.65 | 15.57 | -0.19 | 108.09 |
| min | | 0.00 | 0.00 | 0.00 | -0.36 | -0.01 |
| max | | 23.73 | 19.65 | 15.57 | -0.19 | 108.09 |
| Qk.N_DA | -2.23 | -3.06 | 2.87 | 8.79 | 1.90 | 15.77 |
| | 14.53 | 4.23 | 4.07 | 3.91 | -0.04 | 22.38 |
| | | -1.57 | -1.69 | -1.82 | 0.07 | -9.31 |
| | | 2.74 | 8.63 | 14.52 | 0.63 | 47.45 |
| | | 0.32 | -1.35 | -3.03 | 1.13 | -7.45 |
| | | 0.85 | 8.29 | 15.73 | 0.82 | 45.59 |
| Qk.N_T2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.60 | 0.60 | 0.46 | 0.32 | -0.28 | 2.54 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.60 | 0.46 | 0.32 | -0.28 | 2.54 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.60 | 0.46 | 0.32 | -0.28 | 2.54 |

W-0.11_1
 $Q_k^{\uparrow} \& \propto \dot{A} \dot{K} \dot{A} \in \dot{E} \dot{G} \dot{I} \dot{A}^{\uparrow}$

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | | | | | | |
| Gk | 123.10 | 124.32 | 120.65 | 116.98 | 0.00 | 30.16 |
| Ö← | 26.59 | 26.91 | 25.96 | 25.02 | 0.00 | 6.49 |
| Qk.N_B1 | -15.73 | -16.15 | -14.91 | -13.67 | 0.00 | -3.73 |
| | 0.05 | 0.02 | 0.04 | 0.06 | 0.02 | 0.01 |
| | | -16.15 | -14.91 | -13.67 | 0.00 | -3.73 |
| | | 0.02 | 0.04 | 0.06 | 0.02 | 0.01 |
| | | -16.15 | -14.91 | -13.67 | 0.00 | -3.73 |
| | | 0.02 | 0.04 | 0.06 | 0.02 | 0.01 |
| Qk.N_C1 | -2.05 | -2.22 | -1.71 | -1.20 | -0.01 | -0.43 |
| | 0.19 | 0.20 | 0.16 | 0.11 | -0.01 | 0.04 |
| | | -2.22 | -1.71 | -1.20 | -0.01 | -0.43 |
| | | 0.20 | 0.16 | 0.11 | -0.01 | 0.04 |
| | | -2.22 | -1.71 | -1.20 | -0.01 | -0.43 |
| | | 0.20 | 0.16 | 0.11 | -0.01 | 0.04 |
| Qk.N_C5 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | 28.95 | 29.61 | 27.65 | 25.70 | 0.00 | 6.91 |
| | | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 29.61 | 27.65 | 25.70 | 0.00 | 6.91 |
| | | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 29.61 | 27.65 | 25.70 | 0.00 | 6.91 |
| Qk.N_E1 | -0.36 | -0.36 | -0.35 | -0.35 | 0.00 | -0.09 |
| | 8.04 | 8.04 | 8.03 | 8.02 | 0.00 | 2.01 |
| | | -0.36 | -0.35 | -0.35 | 0.00 | -0.09 |
| | | 8.04 | 8.03 | 8.02 | 0.00 | 2.01 |
| | | -0.36 | -0.35 | -0.35 | 0.00 | -0.09 |
| | | 8.04 | 8.03 | 8.02 | 0.00 | 2.01 |
| Qk.N_DA | -1.91 | -1.93 | -1.86 | -1.80 | 0.00 | -0.47 |
| | 13.38 | 13.43 | 13.27 | 13.11 | 0.00 | 3.32 |
| | | -1.93 | -1.86 | -1.80 | 0.00 | -0.47 |
| | | 13.43 | 13.27 | 13.11 | 0.00 | 3.32 |
| | | -1.93 | -1.86 | -1.80 | 0.00 | -0.47 |
| | | 13.43 | 13.27 | 13.11 | 0.00 | 3.32 |
| Qk.N_T2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

D-760

Schulcampus EWK \

EG-LP4

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | 12.33 | 12.74 | 11.52 | 10.31 | 0.00 | 2.88 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 12.74 | 11.52 | 10.31 | 0.00 | 2.88 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 12.74 | 11.52 | 10.31 | 0.00 | 2.88 |

W-0.11_2
 $Q \uparrow \wedge \& \acute{a} \acute{K} \acute{A} \acute{H} \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 131.91 | 126.57 | 113.05 | 99.53 | -0.09 | 493.46 |
| Ö← | 30.01 | 25.37 | 27.15 | 28.92 | 0.05 | 118.50 |
| Qk.N_B1 | min | -6.23 | -5.06 | -6.29 | 0.08 | -24.77 |
| | max | 44.91 | 41.74 | 22.60 | -0.22 | 140.43 |
| | min | | -5.06 | -6.29 | 0.08 | -24.77 |
| | max | | 41.74 | 22.60 | -0.22 | 140.43 |
| | min | | -2.55 | -4.66 | 0.33 | -20.34 |
| | max | | 39.23 | 31.16 | -0.19 | 136.00 |
| Qk.N_C1 | min | -0.16 | -0.16 | 0.03 | -1.07 | -0.28 |
| | max | 1.67 | 1.66 | -0.30 | -1.05 | 2.96 |
| | min | | -0.16 | 0.03 | -1.07 | -0.28 |
| | max | | 1.66 | -0.30 | -1.05 | 2.96 |
| | min | | 1.65 | 0.67 | -1.07 | 2.92 |
| | max | | -0.15 | 0.04 | -1.27 | -0.24 |
| Qk.N_C5 | min | -1.00 | -1.34 | 0.66 | -2.13 | -1.49 |
| | max | 0.17 | 0.33 | -0.12 | -1.59 | 0.45 |
| | min | | -1.17 | 0.38 | -1.43 | -1.73 |
| | max | | 0.16 | 0.16 | 0.00 | 0.68 |
| | min | | 0.16 | -0.06 | -0.29 | -0.27 |
| | max | | -1.18 | 0.83 | -4.13 | -0.77 |
| Qk.N_E1 | min | -2.04 | -0.76 | -2.17 | 0.35 | -6.41 |
| | max | 9.32 | 8.69 | 7.44 | -0.06 | 35.20 |
| | min | | -0.76 | -2.17 | 0.35 | -6.41 |
| | max | | 8.69 | 8.07 | -0.06 | 35.20 |
| | min | | -0.70 | -1.44 | -2.19 | -6.29 |
| | max | | 8.63 | 8.04 | 7.45 | -0.05 |
| Qk.N_DA | min | -2.11 | -1.82 | -1.54 | -1.27 | -6.73 |
| | max | 19.36 | 20.78 | 15.29 | 9.80 | -0.26 |
| | min | | -1.81 | -1.55 | -1.29 | -6.76 |
| | max | | 20.77 | 15.30 | 9.82 | -0.26 |
| | min | | 0.29 | -0.68 | -1.65 | 1.04 |
| | max | | 18.67 | 14.42 | 10.18 | -0.21 |
| Qk.N_T2 | min | -5.06 | -5.57 | -2.35 | 0.87 | -1.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -5.57 | -2.35 | 0.87 | -1.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -5.57 | -2.35 | 0.87 | -1.00 |

W-0.12
 $Q \uparrow \wedge \& \acute{a} \acute{K} \acute{A} \acute{G} \acute{E} \acute{I} \acute{I} \acute{A} \uparrow$

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 88.52 | 76.22 | 79.39 | 82.56 | 0.02 | 218.31 |

D-761

Schulcampus EWK \

EG-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Ö← Qk.N_B1 | g | 11.33 | 10.32 | 8.56 | 6.79 | -0.09 | 23.54 |
| | min | 0.00 | 0.00 | 0.00 | 0.01 | 0.72 | 0.01 |
| | max | 1.15 | 1.44 | 0.71 | -0.02 | -0.47 | 1.95 |
| | min | | 0.00 | 0.00 | 0.00 | 0.75 | 0.00 |
| | max | | 1.44 | 0.71 | -0.01 | -0.46 | 1.96 |
| | min | | 0.06 | 0.02 | -0.02 | -1.11 | 0.05 |
| Qk.N_C1 | max | | 1.38 | 0.70 | 0.01 | -0.45 | 1.92 |
| | min | -0.06 | -0.15 | 0.08 | 0.30 | 1.33 | 0.21 |
| | max | 9.90 | 3.04 | 4.17 | 5.30 | 0.12 | 11.46 |
| | min | | -0.08 | -0.03 | 0.01 | -0.57 | -0.09 |
| | max | | 2.96 | 4.28 | 5.60 | 0.14 | 11.77 |
| | min | | 0.04 | 0.01 | -0.02 | -1.38 | 0.03 |
| Qk.N_C5 | max | | 2.85 | 4.24 | 5.62 | 0.15 | 11.65 |
| | min | -3.97 | -0.10 | -0.03 | 0.05 | -1.44 | -0.07 |
| | max | 0.44 | 1.28 | -1.12 | -3.51 | 0.98 | -3.07 |
| | min | | 0.63 | -1.40 | -3.42 | 0.67 | -3.84 |
| | max | | 0.54 | 0.26 | -0.03 | -0.51 | 0.70 |
| | min | | 1.27 | -1.12 | -3.51 | 0.98 | -3.07 |
| Qk.N_E1 | max | | -0.10 | -0.02 | 0.06 | -1.58 | -0.06 |
| | min | -0.01 | -0.01 | 0.00 | 0.00 | -0.81 | -0.01 |
| | max | 23.27 | 18.13 | 17.28 | 16.42 | -0.02 | 47.51 |
| | min | | -0.01 | 0.00 | 0.00 | -0.51 | -0.01 |
| | max | | 18.13 | 17.28 | 16.42 | -0.02 | 47.51 |
| | min | | 2.89 | 0.74 | -1.41 | -1.33 | 2.04 |
| Qk.N_DA | max | | 15.24 | 16.53 | 17.83 | 0.04 | 45.46 |
| | min | -9.72 | -6.75 | -6.18 | -5.61 | -0.04 | -17.00 |
| | max | 7.68 | 7.25 | 6.10 | 4.94 | -0.09 | 16.76 |
| | min | | -6.75 | -6.18 | -5.62 | -0.04 | -17.00 |
| | max | | 7.25 | 6.10 | 4.94 | -0.09 | 16.77 |
| | min | | -6.41 | -6.11 | -5.80 | -0.02 | -16.79 |
| Qk.N_T2 | max | | 6.91 | 6.02 | 5.13 | -0.07 | 16.56 |
| | min | -0.01 | 0.00 | 0.00 | 0.00 | -1.34 | 0.00 |
| | max | 0.00 | 0.00 | -0.01 | -0.01 | 0.75 | -0.01 |
| | min | | 0.00 | -0.01 | -0.01 | 0.51 | -0.02 |
| | max | | 0.00 | 0.00 | 0.00 | 0.77 | 0.00 |
| | min | | 0.00 | -0.01 | -0.01 | 0.51 | -0.02 |
| | max | | 0.00 | 0.00 | 0.00 | 0.77 | 0.00 |

W-0.13

Qk.N_C1

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------------------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk Ö← Qk.N_B1 | g | 116.01 | 67.85 | 96.75 | 125.65 | 0.04 | 74.95 |
| | g | 17.35 | 4.97 | 12.40 | 19.83 | 0.08 | 9.60 |
| | min | -7.32 | -7.91 | -6.25 | -4.59 | -0.03 | -4.84 |
| | max | 0.06 | 0.13 | 0.02 | -0.10 | -0.85 | 0.01 |
| | min | | -7.84 | -6.29 | -4.74 | -0.03 | -4.87 |
| | max | | 0.06 | 0.06 | 0.05 | -0.01 | 0.04 |
| Qk.N_C1 | min | | -7.76 | -6.26 | -4.75 | -0.03 | -4.85 |
| | max | | -0.01 | 0.03 | 0.07 | 0.19 | 0.02 |
| | min | -11.15 | -7.43 | -5.74 | -4.05 | -0.04 | -4.45 |
| | max | 2.92 | 8.19 | 0.26 | -7.68 | -4.02 | 0.20 |
| | min | | -2.52 | -7.70 | -12.88 | 0.09 | -5.96 |
| | max | | 3.27 | 2.21 | 1.15 | -0.06 | 1.71 |

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|------------|---------------------|
| Qk.N_C5 | min | | -2.52 | -7.70 | -12.88 | 0.09 | -5.96 |
| | max | | 3.27 | 2.21 | 1.15 | -0.06 | 1.71 |
| | min | -1.97 | -2.30 | -1.33 | -0.37 | -0.09 | -1.03 |
| | max | 37.40 | 15.24 | 28.54 | 41.84 | 0.06 | 22.11 |
| Qk.N_E1 | min | | -2.30 | -1.33 | -0.37 | -0.09 | -1.03 |
| | max | | 15.24 | 28.54 | 41.84 | 0.06 | 22.11 |
| | min | | -1.38 | -0.93 | -0.48 | -0.06 | -0.72 |
| | max | | 14.32 | 28.13 | 41.94 | 0.06 | 21.79 |
| Qk.N_DA | min | -1.97 | -2.09 | -1.76 | -1.43 | -0.02 | -1.36 |
| | max | 3.60 | 3.75 | 3.31 | 2.86 | -0.02 | 2.56 |
| | min | | -2.08 | -1.76 | -1.44 | -0.02 | -1.37 |
| | max | | 3.74 | 3.31 | 2.87 | -0.02 | 2.56 |
| Qk.N_T2 | min | | -2.05 | -1.76 | -1.46 | -0.02 | -1.36 |
| | max | | 3.72 | 3.30 | 2.88 | -0.02 | 2.56 |
| | min | -6.70 | -7.15 | -5.80 | -4.45 | -0.03 | -4.50 |
| | max | 9.24 | 7.22 | 8.43 | 9.64 | 0.02 | 6.53 |
| | min | | -7.15 | -5.80 | -4.46 | -0.03 | -4.50 |
| | max | | 7.22 | 8.43 | 9.64 | 0.02 | 6.53 |
| | min | | -7.03 | -5.76 | -4.48 | -0.03 | -4.46 |
| | max | | 7.10 | 8.39 | 9.67 | 0.02 | 6.50 |
| | min | 0.00 | -0.19 | 0.08 | 0.35 | 0.43 | 0.06 |
| | max | 0.26 | 0.08 | 0.03 | -0.02 | -0.20 | 0.02 |
| | min | | 0.00 | 0.00 | 0.00 | -0.07 | 0.00 |
| | max | | -0.11 | 0.11 | 0.33 | 0.26 | 0.09 |
| | min | | 0.08 | 0.03 | -0.02 | -0.20 | 0.02 |
| | max | | -0.19 | 0.08 | 0.35 | 0.43 | 0.06 |

W-0.14
 $Q \uparrow \wedge \& \acute{a} K \acute{A} G \grave{E} \acute{I} \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|------------|---------------------|
| Gk | g | 95.28 | 76.96 | 84.42 | 91.88 | 0.04 | 232.20 |
| Ö← | g | 22.29 | 14.92 | 16.83 | 18.75 | 0.05 | 46.30 |
| Qk.N_B1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 |
| | max | 3.26 | 2.78 | 2.79 | 2.81 | 0.00 | 7.68 |
| | min | | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 |
| | max | | 2.78 | 2.79 | 2.81 | 0.00 | 7.68 |
| Qk.N_C1 | min | | 1.39 | 0.06 | -1.27 | -10.54 | 0.16 |
| | max | | 1.39 | 2.73 | 4.08 | 0.22 | 7.52 |
| | min | -1.21 | 0.00 | 0.00 | 0.00 | -0.12 | -0.01 |
| | max | 13.75 | 8.66 | 7.04 | 5.42 | -0.11 | 19.37 |
| Qk.N_C5 | min | | 0.20 | -0.67 | -1.55 | 0.59 | -1.85 |
| | max | | 8.46 | 7.71 | 6.97 | -0.04 | 21.22 |
| | min | | 0.20 | -0.67 | -1.55 | 0.59 | -1.85 |
| | max | | 8.46 | 7.71 | 6.97 | -0.04 | 21.22 |
| Qk.N_E1 | min | -3.45 | -0.82 | -1.79 | -2.76 | 0.25 | -4.93 |
| | max | 6.50 | 3.35 | 4.97 | 6.60 | 0.15 | 13.68 |
| | min | | -0.67 | -1.85 | -3.03 | 0.29 | -5.08 |
| | max | | 3.20 | 5.03 | 6.86 | 0.17 | 13.83 |
| | min | | -0.67 | -1.85 | -3.03 | 0.29 | -5.08 |
| | max | | 3.20 | 5.03 | 6.86 | 0.17 | 13.83 |
| | min | -0.93 | -0.18 | -0.66 | -1.14 | 0.34 | -1.81 |
| | max | 25.35 | 23.40 | 20.17 | 16.93 | -0.07 | 55.47 |
| | min | | -0.16 | -0.67 | -1.18 | 0.35 | -1.85 |
| | max | | | | | | |

D-763

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | | 23.39 | 20.18 | 16.97 | -0.07 | 55.51 |
| | | 3.93 | 0.86 | -2.21 | -1.64 | 2.36 |
| | | 19.30 | 18.65 | 18.00 | -0.02 | 51.29 |
| Qk.N_DA | -3.12 | -7.19 | -0.14 | 6.90 | -22.69 | -0.39 |
| | 7.19 | 3.83 | 2.84 | 1.86 | -0.16 | 7.82 |
| | | -3.65 | -1.37 | 0.90 | -0.76 | -3.77 |
| | | 0.29 | 4.07 | 7.86 | 0.43 | 11.20 |
| | | 0.21 | -0.41 | -1.02 | 0.69 | -1.12 |
| | | -3.57 | 3.11 | 9.78 | 0.98 | 8.55 |
| Qk.N_T2 | -0.26 | -0.31 | -0.17 | -0.02 | -0.39 | -0.45 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.31 | -0.17 | -0.02 | -0.39 | -0.45 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.17 | -0.16 | -0.16 | -0.01 | -0.45 |
| | | -0.14 | 0.00 | 0.14 | -51.26 | 0.00 |

W-0.15

Qk.N_DA

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 410.49 | 360.54 | 210.98 | 61.42 | -0.65 | 1160.4 |
| Ö← | 126.82 | 105.55 | 61.00 | 16.45 | -0.67 | 335.47 |
| Qk.N_B1 | -0.01 | -0.01 | 0.00 | 0.01 | 2.33 | 0.02 |
| | 49.53 | 49.09 | 36.03 | 22.97 | -0.33 | 198.15 |
| | | 0.00 | 0.00 | 0.00 | 2.07 | -0.01 |
| | | 49.08 | 36.03 | 22.98 | -0.33 | 198.18 |
| | | 44.54 | 17.60 | -9.34 | -1.40 | 96.80 |
| | | 4.54 | 18.43 | 32.32 | 0.69 | 101.37 |
| Qk.N_C1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 98.95 | 75.75 | 31.19 | -13.37 | -1.31 | 171.55 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 75.75 | 31.19 | -13.37 | -1.31 | 171.55 |
| | | 75.75 | 31.19 | -13.37 | -1.31 | 171.55 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | -0.98 | -0.39 | -0.41 | -0.42 | 0.04 | -2.24 |
| | 42.48 | 31.05 | 13.64 | -3.77 | -1.17 | 75.03 |
| | | -0.39 | -0.41 | -0.42 | 0.04 | -2.24 |
| | | 31.05 | 13.64 | -3.77 | -1.17 | 75.03 |
| | | 5.43 | 0.26 | -4.90 | -18.02 | 1.44 |
| | | 25.24 | 12.97 | 0.71 | -0.87 | 71.35 |
| Qk.N_E1 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 13.56 | 9.03 | 7.62 | 6.21 | -0.17 | 41.90 |
| | | 0.00 | 0.00 | -0.01 | 2.58 | -0.01 |
| | | 9.02 | 7.62 | 6.22 | -0.17 | 41.91 |
| | | 0.27 | 0.06 | -0.15 | -3.11 | 0.34 |
| | | 8.75 | 7.56 | 6.36 | -0.15 | 41.56 |
| Qk.N_DA | -0.70 | -0.73 | -0.32 | 0.10 | -1.21 | -1.73 |
| | 59.62 | 55.63 | 27.54 | -0.55 | -0.93 | 151.46 |
| | | -0.71 | -0.32 | 0.07 | -1.10 | -1.78 |
| | | 55.61 | 27.55 | -0.51 | -0.93 | 151.51 |
| | | 55.07 | 24.46 | -6.15 | -1.15 | 134.53 |
| | | -0.17 | 2.77 | 5.70 | 0.97 | 15.21 |
| Qk.N_T2 | -0.06 | -0.05 | -0.02 | 0.02 | -1.87 | -0.10 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

D-764

Schulcampus EWK \

EG-LP4

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| min | | -0.05 | -0.02 | 0.02 | -1.85 | -0.10 |
| max | | 0.00 | 0.00 | 0.00 | -2.52 | 0.00 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | -0.05 | -0.02 | 0.02 | -1.87 | -0.10 |

W-0.16
 $Q^+ \wedge \text{ÄKÄÎÈI} \in \text{Ä} \uparrow$

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 126.89 | 89.71 | 91.65 | 93.59 | 0.03 | 779.03 |
| Ö← | g | 56.75 | 48.34 | 44.71 | 41.08 | -0.12 | 380.03 |
| Qk.N_B1 | min | -4.29 | -1.33 | -0.23 | 0.87 | -6.82 | -1.94 |
| | max | 18.65 | 7.19 | 9.89 | 12.58 | 0.39 | 84.04 |
| | min | | -1.30 | -0.26 | 0.78 | -5.70 | -2.20 |
| | max | | 7.17 | 9.92 | 12.67 | 0.39 | 84.30 |
| | min | | 0.00 | 0.00 | 0.00 | -2.58 | 0.01 |
| | max | | 5.86 | 9.66 | 13.45 | 0.56 | 82.09 |
| Qk.N_C1 | min | -0.01 | -0.02 | 0.05 | 0.11 | 2.06 | 0.39 |
| | max | 19.20 | 9.09 | 10.64 | 12.18 | 0.21 | 90.43 |
| | min | | 0.00 | 0.00 | 0.00 | -3.61 | -0.01 |
| | max | | 9.08 | 10.69 | 12.30 | 0.21 | 90.83 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 9.07 | 10.69 | 12.30 | 0.21 | 90.82 |
| Qk.N_C5 | min | -0.48 | -0.14 | -0.01 | 0.11 | -12.88 | -0.12 |
| | max | 0.03 | 0.02 | 0.00 | -0.02 | 7.66 | -0.03 |
| | min | | -0.12 | -0.03 | 0.07 | -5.27 | -0.22 |
| | max | | 0.00 | 0.01 | 0.02 | 1.47 | 0.07 |
| | min | | 0.02 | 0.00 | -0.02 | 7.60 | -0.03 |
| | max | | -0.14 | -0.01 | 0.11 | -12.90 | -0.12 |
| Qk.N_E1 | min | -0.01 | -0.02 | 0.03 | 0.08 | 2.27 | 0.27 |
| | max | 0.12 | 0.01 | 0.00 | -0.01 | -4.17 | 0.03 |
| | min | | -0.01 | 0.00 | 0.00 | -2.34 | -0.02 |
| | max | | 0.00 | 0.04 | 0.07 | 1.40 | 0.31 |
| | min | | 0.01 | 0.00 | -0.01 | -5.25 | 0.02 |
| | max | | -0.02 | 0.03 | 0.08 | 2.20 | 0.27 |
| Qk.N_DA | min | -1.67 | -0.35 | 0.15 | 0.65 | 4.71 | 1.27 |
| | max | 14.84 | 7.56 | 6.91 | 6.27 | -0.13 | 58.75 |
| | min | | -0.16 | -0.25 | -0.34 | 0.49 | -2.14 |
| | max | | 7.37 | 7.31 | 7.26 | -0.01 | 62.17 |
| | min | | -0.10 | -0.24 | -0.37 | 0.80 | -1.99 |
| | max | | 7.31 | 7.30 | 7.29 | 0.00 | 62.02 |
| Qk.N_T2 | min | -0.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.06 | -0.15 | -0.36 | 1.96 | -1.29 |
| | min | | 0.06 | -0.15 | -0.36 | 1.96 | -1.29 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.06 | -0.15 | -0.36 | 1.96 | -1.29 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.17_1
 $Q^+ \wedge \text{ÄKÄFÈÎÎÄ} \uparrow$

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----|---|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 44.88 | -54.87 | 6.19 | 67.25 | 3.08 | 11.60 |
| Ö← | g | -19.45 | -25.29 | -6.55 | 12.18 | -0.89 | -12.29 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_B1 | min | -15.54 | -7.40 | -11.89 | -16.38 | 0.12 | -22.29 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.17 | 0.00 |
| | min | | -7.40 | -11.89 | -16.38 | 0.12 | -22.29 |
| | max | | 0.00 | 0.00 | 0.00 | -0.15 | 0.00 |
| | min | | -7.39 | -11.89 | -16.38 | 0.12 | -22.29 |
| | max | | 0.00 | 0.00 | 0.00 | -0.11 | 0.00 |
| Qk.N_C1 | min | -76.08 | -90.73 | -31.63 | 27.48 | -0.58 | -59.30 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.60 | 0.00 |
| | min | | -90.73 | -31.63 | 27.47 | -0.58 | -59.31 |
| | max | | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 |
| | min | | -13.91 | -7.38 | -0.85 | -0.28 | -13.83 |
| | max | | -76.82 | -24.25 | 28.32 | -0.68 | -45.47 |
| Qk.N_C5 | min | -1.37 | -0.32 | -0.81 | -1.29 | 0.19 | -1.51 |
| | max | 27.55 | 29.58 | 22.66 | 15.74 | -0.10 | 42.49 |
| | min | | -0.02 | -0.92 | -1.83 | 0.31 | -1.73 |
| | max | | 29.27 | 22.78 | 16.28 | -0.09 | 42.71 |
| | min | | 17.19 | 5.63 | -5.94 | -0.64 | 10.55 |
| | max | | 12.06 | 16.23 | 20.39 | 0.08 | 30.42 |
| Qk.N_E1 | min | -10.51 | -14.32 | -3.25 | 7.83 | -1.07 | -6.08 |
| | max | 0.73 | 0.28 | 0.57 | 0.86 | 0.16 | 1.07 |
| | min | | -14.32 | -3.25 | 7.83 | -1.07 | -6.08 |
| | max | | 0.28 | 0.57 | 0.86 | 0.16 | 1.07 |
| | min | | -0.41 | -0.44 | -0.48 | 0.03 | -0.83 |
| | max | | -13.64 | -2.23 | 9.17 | -1.60 | -4.19 |
| Qk.N_DA | min | -10.62 | -2.38 | -7.97 | -13.56 | 0.22 | -14.95 |
| | max | 8.57 | 4.31 | 7.09 | 9.88 | 0.12 | 13.30 |
| | min | | -2.38 | -7.97 | -13.56 | 0.22 | -14.95 |
| | max | | 4.31 | 7.09 | 9.88 | 0.12 | 13.30 |
| | min | | -2.31 | -7.96 | -13.62 | 0.22 | -14.93 |
| | max | | 4.23 | 7.08 | 9.94 | 0.13 | 13.28 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 18.87 | 22.99 | 8.10 | -6.79 | -0.57 | 15.19 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 22.99 | 8.10 | -6.79 | -0.57 | 15.19 |
| | min | | 19.59 | 5.30 | -9.00 | -0.84 | 9.93 |
| | max | | 3.40 | 2.80 | 2.21 | -0.07 | 5.25 |

W-0.17_2

Q_z^&æÁKÁJÈNĞÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 664.70 | 62.71 | 269.48 | 476.26 | 0.85 | 1785.3 |
| Ö← | g | 212.98 | 12.74 | 79.78 | 146.81 | 0.93 | 528.51 |
| Qk.N_B1 | min | -3.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 69.97 | 4.97 | 25.93 | 46.90 | 0.89 | 171.82 |
| | min | | 0.86 | -0.41 | -1.68 | 3.42 | -2.71 |
| | max | | 4.11 | 26.34 | 48.57 | 0.93 | 174.53 |
| | min | | 2.58 | 0.24 | -2.10 | -10.77 | 1.59 |
| | max | | 2.39 | 25.70 | 49.00 | 1.00 | 170.23 |
| Qk.N_C1 | min | 0.00 | -5.89 | 36.65 | 79.18 | 1.28 | 242.80 |
| | max | 127.03 | 1.98 | 0.72 | -0.55 | -1.95 | 4.74 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -3.90 | 37.36 | 78.63 | 1.22 | 247.53 |
| | min | | 1.98 | 0.72 | -0.55 | -1.95 | 4.74 |
| | | | | | | | |

D-766

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_C5 | max | | -5.89 | 36.65 | 79.18 | 1.28 | 242.80 |
| | min | -0.22 | -0.23 | -0.01 | 0.20 | -16.97 | -0.09 |
| | max | 108.07 | 8.42 | 41.03 | 73.64 | 0.88 | 271.81 |
| | min | | -0.13 | -0.05 | 0.03 | -1.86 | -0.33 |
| | max | | 8.32 | 41.06 | 73.80 | 0.88 | 272.05 |
| | min | | 0.14 | 0.04 | -0.06 | -2.76 | 0.26 |
| Qk.N_E1 | max | | 8.05 | 40.97 | 73.90 | 0.89 | 271.45 |
| | min | -1.36 | -0.23 | -0.07 | 0.09 | -2.48 | -0.47 |
| | max | 14.27 | 13.27 | 5.15 | -2.97 | -1.74 | 34.11 |
| | min | | 0.18 | -0.27 | -0.71 | 1.85 | -1.77 |
| | max | | 12.86 | 5.34 | -2.17 | -1.55 | 35.41 |
| | min | | 13.27 | 5.15 | -2.97 | -1.74 | 34.11 |
| Qk.N_DA | max | | -0.23 | -0.07 | 0.09 | -2.48 | -0.47 |
| | min | -1.03 | -4.31 | 0.32 | 4.95 | 15.83 | 2.14 |
| | max | 100.94 | 10.86 | 43.11 | 75.36 | 0.83 | 285.59 |
| | min | | -1.08 | -0.52 | 0.05 | -1.20 | -3.41 |
| | max | | 7.62 | 43.95 | 80.27 | 0.91 | 291.15 |
| | min | | 1.72 | 0.69 | -0.34 | -1.65 | 4.55 |
| Qk.N_T2 | max | | 4.83 | 42.74 | 80.66 | 0.98 | 283.18 |
| | min | -3.10 | -2.85 | -1.04 | 0.78 | -1.93 | -6.88 |
| | max | 0.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -2.76 | -1.08 | 0.59 | -1.71 | -7.18 |
| | max | | -0.09 | 0.05 | 0.18 | 3.26 | 0.30 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -2.85 | -1.04 | 0.78 | -1.93 | -6.88 |

W-0.18
 $Q \uparrow \rightarrow \text{ÄKÄ} \rightarrow \text{EHGÄ} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -25.80 | -30.61 | -16.19 | -1.78 | -0.06 | -6.88 |
| Ö← | g | -10.68 | -12.89 | -6.27 | 0.35 | -0.07 | -2.66 |
| Qk.N_B1 | min | -22.29 | -22.76 | -21.35 | -19.93 | 0.00 | -9.07 |
| | max | 0.00 | 0.00 | 0.00 | -0.01 | 0.07 | 0.00 |
| | min | | -22.76 | -21.35 | -19.94 | 0.00 | -9.07 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -22.76 | -21.35 | -19.94 | 0.00 | -9.07 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C1 | min | -35.15 | -35.97 | -33.53 | -31.08 | -0.01 | -14.25 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -35.97 | -33.53 | -31.08 | -0.01 | -14.25 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -35.97 | -33.53 | -31.08 | -0.01 | -14.25 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -2.99 | -3.02 | -2.92 | -2.81 | 0.00 | -1.24 |
| | max | 1.04 | 1.09 | 0.95 | 0.81 | -0.01 | 0.40 |
| | min | | -3.02 | -2.92 | -2.81 | 0.00 | -1.24 |
| | max | | 1.09 | 0.95 | 0.81 | -0.01 | 0.40 |
| | min | | -3.02 | -2.92 | -2.81 | 0.00 | -1.24 |
| | max | | 1.09 | 0.95 | 0.81 | -0.01 | 0.40 |
| Qk.N_E1 | min | -0.01 | -1.40 | 6.05 | 13.51 | 0.09 | 2.57 |
| | max | 11.03 | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| | min | | -0.01 | -0.01 | -0.01 | 0.00 | -0.01 |
| | max | | -1.39 | 6.07 | 13.52 | 0.09 | 2.58 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -0.01 | -0.01 | -0.01 | 0.00 | -0.01 |
| | max | | -1.39 | 6.07 | 13.52 | 0.09 | 2.58 |
| Qk.N_DA | min | -7.72 | -7.97 | -7.24 | -6.50 | -0.01 | -3.08 |
| | max | 3.97 | 4.12 | 3.68 | 3.25 | -0.01 | 1.57 |
| | min | | -7.97 | -7.24 | -6.50 | -0.01 | -3.08 |
| | max | | 4.12 | 3.68 | 3.25 | -0.01 | 1.57 |
| | min | | -7.59 | -7.10 | -6.61 | 0.00 | -3.02 |
| | max | | 3.74 | 3.55 | 3.35 | 0.00 | 1.51 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 1.30 | 1.44 | 1.02 | 0.60 | -0.03 | 0.44 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 1.44 | 1.02 | 0.60 | -0.03 | 0.44 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 1.44 | 1.02 | 0.60 | -0.03 | 0.44 |

W-0.19
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{F} \acute{E} \acute{I} \acute{E} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 445.17 | 186.46 | 338.64 | 490.83 | 0.11 | 508.18 |
| Ö← | g | 195.79 | 81.46 | 148.66 | 215.85 | 0.11 | 223.08 |
| Qk.N_B1 | min | 0.00 | -0.01 | 0.03 | 0.07 | 0.33 | 0.05 |
| | max | 78.34 | 41.53 | 63.50 | 85.47 | 0.09 | 95.29 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 41.52 | 63.53 | 85.54 | 0.09 | 95.34 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 41.52 | 63.53 | 85.54 | 0.09 | 95.34 |
| Qk.N_C1 | min | 0.00 | -11.64 | 50.04 | 111.72 | 0.31 | 75.09 |
| | max | 94.69 | 0.74 | 0.81 | 0.88 | 0.02 | 1.21 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -10.91 | 50.85 | 112.60 | 0.30 | 76.31 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -10.91 | 50.85 | 112.60 | 0.30 | 76.31 |
| Qk.N_C5 | min | -1.70 | -0.34 | -1.11 | -1.87 | 0.17 | -1.66 |
| | max | 4.10 | 1.57 | 3.05 | 4.53 | 0.12 | 4.58 |
| | min | | -0.34 | -1.14 | -1.94 | 0.18 | -1.71 |
| | max | | 1.57 | 3.08 | 4.60 | 0.12 | 4.63 |
| | min | | -0.34 | -1.14 | -1.94 | 0.18 | -1.71 |
| | max | | 1.57 | 3.08 | 4.60 | 0.12 | 4.63 |
| Qk.N_E1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 | 0.00 |
| | max | 22.34 | 23.87 | 18.44 | 13.00 | -0.07 | 27.67 |
| | min | | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 |
| | max | | 23.87 | 18.44 | 13.00 | -0.07 | 27.67 |
| | min | | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 |
| | max | | 23.87 | 18.44 | 13.00 | -0.07 | 27.67 |
| Qk.N_DA | min | -2.47 | -1.18 | -1.96 | -2.74 | 0.10 | -2.94 |
| | max | 44.37 | 24.64 | 36.41 | 48.19 | 0.08 | 54.65 |
| | min | | -1.18 | -1.96 | -2.74 | 0.10 | -2.95 |
| | max | | 24.64 | 36.41 | 48.19 | 0.08 | 54.65 |
| | min | | -1.18 | -1.96 | -2.74 | 0.10 | -2.95 |
| | max | | 24.64 | 36.41 | 48.19 | 0.08 | 54.65 |
| Qk.N_T2 | min | -1.53 | -1.22 | -1.40 | -1.58 | 0.03 | -2.10 |
| | max | 0.00 | 0.00 | 0.00 | -0.01 | 0.39 | 0.00 |
| | min | | -1.22 | -1.40 | -1.59 | 0.03 | -2.10 |

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| min | | -1.22 | -1.40 | -1.59 | 0.03 | -2.10 |
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.20
 $Q \uparrow \wedge \text{ÄKÄFÈI} \in \text{Ä} \uparrow$

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 559.01 | 587.39 | 484.41 | 381.44 | -0.05 | 726.62 |
| Ö← | g | 235.80 | 248.83 | 201.47 | 154.12 | -0.06 | 302.21 |
| Qk.N_B1 | min | -0.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 85.87 | 89.96 | 76.71 | 63.47 | -0.04 | 115.07 |
| | min | | 0.10 | -0.13 | -0.35 | 0.44 | -0.19 |
| | max | | 89.86 | 76.84 | 63.82 | -0.04 | 115.26 |
| | min | | 0.23 | -0.07 | -0.37 | 1.10 | -0.10 |
| | max | | 89.73 | 76.78 | 63.83 | -0.04 | 115.17 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 110.12 | 120.56 | 79.36 | 38.16 | -0.13 | 119.04 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 120.56 | 79.36 | 38.16 | -0.13 | 119.04 |
| | min | | 0.25 | 0.06 | -0.13 | -0.75 | 0.10 |
| | max | | 120.31 | 79.30 | 38.28 | -0.13 | 118.94 |
| Qk.N_C5 | min | -1.05 | -1.30 | -0.46 | 0.38 | -0.45 | -0.69 |
| | max | 5.64 | 5.85 | 5.16 | 4.47 | -0.03 | 7.74 |
| | min | | -1.30 | -0.46 | 0.38 | -0.45 | -0.69 |
| | max | | 5.85 | 5.16 | 4.47 | -0.03 | 7.74 |
| | min | | -0.48 | -0.32 | -0.15 | -0.13 | -0.47 |
| | max | | 5.03 | 5.02 | 5.00 | 0.00 | 7.52 |
| Qk.N_E1 | min | -0.08 | -0.01 | -0.05 | -0.09 | 0.22 | -0.07 |
| | max | 1.83 | 2.31 | 0.61 | -1.10 | -0.70 | 0.91 |
| | min | | -0.01 | -0.05 | -0.09 | 0.22 | -0.07 |
| | max | | 2.31 | 0.61 | -1.10 | -0.70 | 0.91 |
| | min | | 2.31 | 0.56 | -1.19 | -0.78 | 0.84 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -1.38 | -1.49 | -1.12 | -0.76 | -0.08 | -1.69 |
| | max | 77.06 | 78.73 | 73.62 | 68.51 | -0.02 | 110.42 |
| | min | | -1.49 | -1.13 | -0.76 | -0.08 | -1.69 |
| | max | | 78.73 | 73.62 | 68.51 | -0.02 | 110.43 |
| | min | | -1.49 | -1.13 | -0.76 | -0.08 | -1.69 |
| | max | | 78.73 | 73.62 | 68.51 | -0.02 | 110.43 |
| Qk.N_T2 | min | -0.31 | -0.39 | -0.13 | 0.13 | -0.49 | -0.20 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.39 | -0.13 | 0.13 | -0.49 | -0.20 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.01 | -0.01 | 0.00 | -0.18 | -0.01 |
| | max | | -0.38 | -0.12 | 0.13 | -0.51 | -0.19 |

W-0.21
 $Q \uparrow \wedge \text{ÄKÄFÈI} \in \text{Ä} \uparrow$

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 299.74 | 304.04 | 287.22 | 270.40 | -0.01 | 430.83 |
| Ö← | g | 126.86 | 126.92 | 124.77 | 122.62 | 0.00 | 187.15 |
| Qk.N_B1 | min | -0.91 | -0.93 | -0.86 | -0.79 | -0.02 | -1.29 |

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_C1 | max | 48.35 | 49.49 | 46.36 | 43.22 | -0.02 | 69.53 |
| | min | | -0.93 | -0.86 | -0.79 | -0.02 | -1.29 |
| | max | | 49.49 | 46.36 | 43.22 | -0.02 | 69.53 |
| | min | | -0.93 | -0.86 | -0.79 | -0.02 | -1.29 |
| | max | | 49.49 | 46.36 | 43.22 | -0.02 | 69.53 |
| | min | -0.06 | -0.07 | -0.03 | 0.01 | -0.29 | -0.05 |
| | max | 53.37 | 53.58 | 50.62 | 47.65 | -0.01 | 75.93 |
| | min | | -0.07 | -0.03 | 0.01 | -0.29 | -0.05 |
| | max | | 53.58 | 50.62 | 47.65 | -0.01 | 75.93 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | max | | 53.52 | 50.59 | 47.66 | -0.01 | 75.88 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.37 | 0.00 |
| | max | 3.38 | 3.67 | 2.78 | 1.90 | -0.08 | 4.18 |
| | min | | 0.00 | 0.00 | 0.00 | -0.37 | 0.00 |
| | max | | 3.67 | 2.78 | 1.90 | -0.08 | 4.18 |
| | min | | 0.40 | 0.19 | -0.03 | -0.29 | 0.28 |
| | max | | 3.27 | 2.60 | 1.93 | -0.06 | 3.90 |
| | min | -0.73 | -0.83 | -0.49 | -0.14 | -0.18 | -0.73 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.04 | 0.00 |
| | min | | -0.83 | -0.49 | -0.14 | -0.18 | -0.73 |
| Qk.N_E1 | max | | 0.00 | 0.00 | 0.00 | -0.04 | 0.00 |
| | min | | -0.25 | -0.21 | -0.18 | -0.04 | -0.32 |
| | max | | -0.58 | -0.27 | 0.04 | -0.29 | -0.41 |
| | min | -0.32 | -0.35 | -0.28 | -0.20 | -0.07 | -0.41 |
| | max | 38.07 | 39.86 | 34.33 | 28.79 | -0.04 | 51.49 |
| | min | | -0.35 | -0.28 | -0.20 | -0.07 | -0.41 |
| | max | | 39.86 | 34.33 | 28.79 | -0.04 | 51.49 |
| | min | | -0.31 | -0.27 | -0.23 | -0.04 | -0.41 |
| | max | | 39.83 | 34.32 | 28.82 | -0.04 | 51.48 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.25 | 0.00 |
| Qk.N_T2 | max | 0.09 | 0.11 | 0.06 | 0.01 | -0.21 | 0.09 |
| | min | | 0.00 | 0.00 | 0.00 | -0.25 | 0.00 |
| | max | | 0.11 | 0.06 | 0.01 | -0.21 | 0.09 |
| | min | | 0.06 | 0.03 | -0.01 | -0.30 | 0.04 |
| | max | | 0.05 | 0.03 | 0.01 | -0.14 | 0.05 |

W-0.22
 $Q_{\uparrow} \wedge \text{ÄKÄI} \hat{E} \text{I} \in \text{Ä} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 85.43 | 82.14 | 53.71 | 25.28 | -0.75 | 456.51 |
| Ö← | g | 49.98 | 54.36 | 39.04 | 23.73 | -0.56 | 331.88 |
| Qk.N_B1 | min | -12.45 | -0.41 | -0.04 | 0.33 | -13.49 | -0.33 |
| | max | 0.54 | 3.03 | -2.31 | -7.64 | 3.27 | -19.61 |
| | min | | 2.72 | -2.41 | -7.53 | 3.02 | -20.44 |
| | max | | -0.11 | 0.06 | 0.23 | 4.02 | 0.50 |
| | min | | 3.02 | -2.31 | -7.64 | 3.27 | -19.61 |
| | max | | -0.41 | -0.04 | 0.33 | -13.53 | -0.33 |
| Qk.N_C1 | min | -9.73 | -0.39 | -0.24 | -0.09 | -0.90 | -2.01 |
| | max | 25.45 | 21.15 | 13.74 | 6.32 | -0.76 | 116.76 |
| | min | | 2.00 | -1.80 | -5.59 | 2.99 | -15.29 |
| | max | | 18.77 | 15.30 | 11.83 | -0.32 | 130.04 |
| | min | | 2.35 | -1.63 | -5.61 | 3.46 | -13.84 |
| | max | | 18.42 | 15.13 | 11.84 | -0.31 | 128.59 |

D-770

Schulcampus EWK \

EG-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_C5 | min | -1.44 | -0.06 | 0.04 | 0.13 | 3.75 | 0.30 |
| | max | 0.22 | 0.42 | -0.34 | -1.11 | 3.14 | -2.93 |
| | min | | 0.42 | -0.34 | -1.11 | 3.13 | -2.93 |
| | max | | -0.06 | 0.04 | 0.13 | 3.74 | 0.30 |
| | min | | 0.42 | -0.34 | -1.11 | 3.13 | -2.93 |
| | max | | -0.06 | 0.04 | 0.13 | 3.74 | 0.30 |
| Qk.N_E1 | min | -5.24 | -0.96 | -0.21 | 0.53 | -4.93 | -1.82 |
| | max | 0.05 | 0.82 | -1.05 | -2.91 | 2.52 | -8.92 |
| | min | | -0.13 | -1.28 | -2.42 | 1.27 | -10.84 |
| | max | | -0.02 | 0.01 | 0.04 | 3.38 | 0.10 |
| | min | | 0.82 | -1.05 | -2.91 | 2.52 | -8.92 |
| | max | | -0.96 | -0.21 | 0.53 | -4.93 | -1.82 |
| Qk.N_DA | min | -7.35 | -0.04 | 0.00 | 0.04 | 62.24 | 0.01 |
| | max | 15.01 | 10.63 | 4.96 | -0.71 | -1.62 | 42.18 |
| | min | | 2.03 | -2.30 | -6.64 | 2.66 | -19.59 |
| | max | | 8.56 | 7.27 | 5.97 | -0.25 | 61.77 |
| | min | | 2.06 | -2.30 | -6.65 | 2.69 | -19.52 |
| | max | | 8.54 | 7.26 | 5.98 | -0.25 | 61.71 |
| Qk.N_T2 | min | -0.01 | 0.00 | 0.00 | 0.00 | 3.74 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 3.77 | -0.01 |
| | max | | 0.00 | 0.00 | 0.00 | -1.51 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 12.16 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.43 | 0.00 |

W-0.23

Q_z^&æÁKÁĜÈ€ÍÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -21.04 | 5.86 | -10.68 | -27.22 | 0.79 | -32.57 |
| Ö← | g | -7.43 | 1.99 | -3.82 | -9.61 | 0.77 | -11.63 |
| Qk.N_B1 | min | -0.27 | -0.07 | -0.10 | -0.13 | 0.15 | -0.31 |
| | max | 0.14 | 0.00 | 0.00 | 0.00 | 1.99 | 0.00 |
| | min | | -0.02 | -0.17 | -0.31 | 0.44 | -0.51 |
| | max | | -0.05 | 0.07 | 0.18 | 0.86 | 0.20 |
| | min | | -0.02 | -0.17 | -0.31 | 0.44 | -0.51 |
| | max | | -0.05 | 0.07 | 0.18 | 0.86 | 0.20 |
| Qk.N_C1 | min | -33.60 | -8.89 | -20.44 | -32.00 | 0.29 | -62.35 |
| | max | 19.12 | 13.13 | 12.80 | 12.47 | -0.01 | 39.04 |
| | min | | -8.83 | -22.14 | -35.46 | 0.31 | -67.54 |
| | max | | 13.07 | 14.50 | 15.94 | 0.05 | 44.23 |
| | min | | -7.86 | -21.74 | -35.62 | 0.32 | -66.31 |
| | max | | 12.10 | 14.10 | 16.10 | 0.07 | 43.00 |
| Qk.N_C5 | min | -0.01 | -0.02 | 0.18 | 0.37 | 0.57 | 0.53 |
| | max | 0.31 | 0.00 | -0.01 | -0.01 | 0.53 | -0.02 |
| | min | | 0.00 | -0.01 | -0.01 | 0.53 | -0.02 |
| | max | | -0.02 | 0.18 | 0.37 | 0.57 | 0.54 |
| | min | | 0.00 | -0.01 | -0.01 | 0.53 | -0.02 |
| | max | | -0.02 | 0.18 | 0.37 | 0.57 | 0.53 |
| Qk.N_E1 | min | -0.68 | -0.09 | -0.39 | -0.69 | 0.39 | -1.19 |
| | max | 0.55 | 0.63 | 0.37 | 0.11 | -0.36 | 1.12 |
| | min | | -0.04 | -0.42 | -0.79 | 0.46 | -1.27 |
| | max | | 0.58 | 0.39 | 0.21 | -0.24 | 1.20 |
| | min | | -0.04 | -0.42 | -0.79 | 0.46 | -1.27 |
| | max | | | | | | |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_DA | max | | 0.58 | 0.39 | 0.21 | -0.24 | 1.20 |
| | min | -0.01 | -0.19 | 0.03 | 0.26 | 3.32 | 0.10 |
| | max | 0.20 | 0.00 | 0.02 | 0.03 | 0.42 | 0.05 |
| | min | | 0.00 | -0.01 | -0.01 | 0.54 | -0.02 |
| | max | | -0.19 | 0.06 | 0.30 | 2.21 | 0.17 |
| | min | | 0.00 | -0.01 | -0.01 | 0.54 | -0.02 |
| Qk.N_T2 | max | | -0.19 | 0.06 | 0.30 | 2.21 | 0.17 |
| | min | -0.06 | 0.00 | 0.00 | 0.00 | 0.57 | 0.00 |
| | max | 0.00 | 0.00 | -0.03 | -0.07 | 0.53 | -0.10 |
| | min | | 0.00 | -0.03 | -0.07 | 0.53 | -0.10 |
| | max | | 0.00 | 0.00 | 0.00 | 0.51 | 0.00 |
| | min | | 0.00 | -0.03 | -0.07 | 0.53 | -0.10 |
| | max | | 0.00 | 0.00 | 0.00 | 0.57 | 0.00 |

W-0.24

Qk.N_DA

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 50.71 | 35.57 | 21.81 | 8.05 | -0.89 | 185.37 |
| Ö← | g | 22.82 | 16.22 | 7.37 | -1.47 | -1.70 | 62.67 |
| Qk.N_B1 | min | -0.14 | -0.83 | 0.40 | 1.63 | 4.38 | 3.38 |
| | max | 3.79 | 0.00 | 0.00 | 0.00 | 21.95 | 0.00 |
| | min | | -0.01 | -0.02 | -0.03 | 0.45 | -0.17 |
| | max | | -0.82 | 0.42 | 1.65 | 4.19 | 3.55 |
| | min | | -0.01 | -0.02 | -0.03 | 0.56 | -0.16 |
| | max | | -0.82 | 0.42 | 1.65 | 4.20 | 3.54 |
| Qk.N_C1 | min | -22.78 | -4.70 | 0.87 | 6.44 | 9.05 | 7.41 |
| | max | 20.10 | 26.73 | 10.43 | -5.87 | -2.21 | 88.66 |
| | min | | 3.64 | -6.27 | -16.19 | 2.24 | -53.32 |
| | max | | 18.40 | 17.58 | 16.75 | -0.07 | 149.39 |
| | min | | 15.17 | -1.70 | -18.57 | 14.05 | -14.46 |
| | max | | 6.87 | 13.00 | 19.14 | 0.67 | 110.53 |
| Qk.N_C5 | min | 0.00 | -0.31 | 0.20 | 0.71 | 3.63 | 1.70 |
| | max | 1.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -1.26 | 0.00 |
| | max | | -0.31 | 0.20 | 0.71 | 3.62 | 1.70 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.31 | 0.20 | 0.71 | 3.63 | 1.70 |
| Qk.N_E1 | min | -12.64 | -1.11 | 0.59 | 2.29 | 4.07 | 5.03 |
| | max | 5.59 | 3.19 | -2.75 | -8.70 | 3.06 | -23.40 |
| | min | | 3.17 | -2.79 | -8.76 | 3.03 | -23.73 |
| | max | | -1.09 | 0.63 | 2.35 | 3.87 | 5.35 |
| | min | | 3.17 | -2.79 | -8.76 | 3.03 | -23.73 |
| | max | | -1.09 | 0.63 | 2.35 | 3.87 | 5.35 |
| Qk.N_DA | min | -0.09 | -1.64 | 0.81 | 3.27 | 4.29 | 6.90 |
| | max | 15.98 | 1.51 | 1.81 | 2.12 | 0.24 | 15.42 |
| | min | | 0.02 | -0.01 | -0.04 | 4.22 | -0.08 |
| | max | | -0.15 | 2.64 | 5.42 | 1.50 | 22.40 |
| | min | | 0.02 | -0.01 | -0.04 | 4.45 | -0.08 |
| | max | | -0.15 | 2.64 | 5.42 | 1.50 | 22.40 |
| Qk.N_T2 | min | -0.01 | -0.01 | 0.00 | 0.00 | -2.60 | -0.02 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.00 |
| | min | | -0.01 | 0.00 | 0.00 | -1.76 | -0.02 |
| | max | | 0.00 | 0.00 | 0.00 | 2.36 | 0.00 |

D-772

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | -0.01 | 0.00 | 0.00 | -2.77 | -0.02 |

W-0.25
 $Q \uparrow \wedge \text{ÄKÄI} \hat{E} I \in \hat{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 248.23 | 125.77 | 73.21 | 20.65 | -1.02 | 622.26 |
| Ö← | g | 106.18 | 53.46 | 27.44 | 1.41 | -1.34 | 233.22 |
| Qk.N_B1 | min | -0.16 | 0.00 | 0.00 | 0.01 | 2.22 | 0.02 |
| | max | 51.27 | 16.40 | 7.51 | -1.37 | -1.68 | 63.87 |
| | min | | 0.05 | -0.02 | -0.09 | 5.59 | -0.15 |
| | max | | 16.35 | 7.53 | -1.28 | -1.66 | 64.04 |
| | min | | 16.28 | 7.43 | -1.42 | -1.69 | 63.17 |
| | max | | 0.12 | 0.09 | 0.05 | -0.61 | 0.72 |
| Qk.N_C1 | min | -0.13 | -1.31 | 0.02 | 1.35 | 88.48 | 0.18 |
| | max | 42.39 | 46.92 | 32.70 | 18.49 | -0.62 | 277.96 |
| | min | | -0.07 | -0.05 | -0.04 | -0.27 | -0.46 |
| | max | | 45.67 | 32.78 | 19.88 | -0.56 | 278.60 |
| | min | | -0.07 | -0.05 | -0.04 | -0.27 | -0.46 |
| | max | | 45.67 | 32.78 | 19.88 | -0.56 | 278.60 |
| Qk.N_C5 | min | -8.21 | -1.08 | 0.44 | 1.96 | 4.88 | 3.75 |
| | max | 4.74 | 1.64 | -2.42 | -6.48 | 2.38 | -20.57 |
| | min | | 1.64 | -2.43 | -6.49 | 2.38 | -20.62 |
| | max | | -1.08 | 0.45 | 1.97 | 4.82 | 3.80 |
| | min | | 1.64 | -2.43 | -6.49 | 2.38 | -20.62 |
| | max | | -1.08 | 0.45 | 1.97 | 4.82 | 3.80 |
| Qk.N_E1 | min | -0.22 | -0.93 | 0.74 | 2.41 | 3.21 | 6.26 |
| | max | 6.14 | 0.06 | -0.03 | -0.11 | 4.51 | -0.23 |
| | min | | 0.06 | -0.03 | -0.11 | 4.12 | -0.24 |
| | max | | -0.93 | 0.74 | 2.41 | 3.20 | 6.27 |
| | min | | 0.06 | -0.03 | -0.11 | 4.50 | -0.23 |
| | max | | -0.93 | 0.74 | 2.41 | 3.21 | 6.26 |
| Qk.N_DA | min | -1.24 | -1.18 | 0.36 | 1.90 | 6.11 | 3.03 |
| | max | 32.58 | 6.88 | 6.01 | 5.13 | -0.21 | 51.05 |
| | min | | 0.00 | -0.22 | -0.43 | 1.40 | -1.83 |
| | max | | 5.70 | 6.58 | 7.46 | 0.19 | 55.92 |
| | min | | 0.37 | -0.12 | -0.59 | 5.93 | -0.97 |
| | max | | 5.33 | 6.48 | 7.62 | 0.25 | 55.06 |
| Qk.N_T2 | min | -0.72 | -0.46 | -0.25 | -0.05 | -1.16 | -2.15 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.46 | -0.25 | -0.05 | -1.16 | -2.15 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.34 | -0.22 | -0.10 | -0.76 | -1.88 |
| | max | | -0.12 | -0.03 | 0.06 | -3.93 | -0.27 |

W-0.26
 $Q \uparrow \wedge \text{ÄKÄI} \hat{E} I \in \hat{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 260.88 | 206.80 | 141.94 | 77.07 | -0.65 | 1206.5 |
| Ö← | g | 94.05 | 63.19 | 36.21 | 9.23 | -1.06 | 307.76 |
| Qk.N_B1 | min | -7.15 | -0.06 | 0.04 | 0.14 | 3.71 | 0.33 |
| | max | 27.82 | 21.89 | 14.42 | 6.94 | -0.73 | 122.52 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | 0.52 | -2.34 | -5.20 | 1.73 | -19.87 |
| | max | | 21.31 | 16.79 | 12.27 | -0.38 | 142.72 |
| | min | | 0.54 | -2.33 | -5.21 | 1.75 | -19.84 |
| | max | | 21.29 | 16.79 | 12.29 | -0.38 | 142.69 |
| Qk.N_C1 | min | -2.59 | -1.38 | -0.97 | -0.56 | -0.60 | -8.26 |
| | max | 31.51 | 21.97 | 17.05 | 12.13 | -0.41 | 144.92 |
| | min | | -1.38 | -0.97 | -0.56 | -0.60 | -8.26 |
| | max | | 21.97 | 17.05 | 12.13 | -0.41 | 144.92 |
| | min | | -1.26 | -0.95 | -0.64 | -0.46 | -8.06 |
| | max | | 21.84 | 17.03 | 12.21 | -0.40 | 144.72 |
| Qk.N_C5 | min | -15.83 | -0.93 | -0.12 | 0.70 | -9.88 | -1.00 |
| | max | 0.10 | 2.93 | -3.23 | -9.40 | 2.70 | -27.48 |
| | min | | 2.01 | -3.36 | -8.72 | 2.27 | -28.51 |
| | max | | -0.01 | 0.01 | 0.02 | 4.41 | 0.04 |
| | min | | 2.93 | -3.23 | -9.40 | 2.70 | -27.48 |
| | max | | -0.93 | -0.12 | 0.70 | -9.88 | -1.00 |
| Qk.N_E1 | min | -1.18 | -0.39 | 0.05 | 0.49 | 11.92 | 0.45 |
| | max | 0.27 | 0.01 | 0.00 | 0.00 | -6.68 | 0.01 |
| | min | | -0.36 | -0.01 | 0.34 | -52.75 | -0.08 |
| | max | | -0.03 | 0.06 | 0.15 | 2.01 | 0.53 |
| | min | | 0.01 | 0.00 | 0.00 | -6.68 | 0.01 |
| | max | | -0.39 | 0.05 | 0.49 | 11.92 | 0.45 |
| Qk.N_DA | min | -6.91 | -2.87 | -2.00 | -1.14 | -0.61 | -17.02 |
| | max | 31.41 | 32.26 | 22.13 | 11.99 | -0.65 | 188.07 |
| | min | | -2.62 | -2.79 | -2.96 | 0.09 | -23.72 |
| | max | | 32.01 | 22.91 | 13.81 | -0.56 | 194.76 |
| | min | | -1.73 | -2.60 | -3.48 | 0.48 | -22.12 |
| | max | | 31.12 | 22.73 | 14.33 | -0.52 | 193.17 |
| Qk.N_T2 | min | 0.00 | -1.08 | 11.36 | 23.80 | 1.55 | 96.56 |
| | max | 32.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.08 | 11.36 | 23.80 | 1.55 | 96.56 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.08 | 11.36 | 23.80 | 1.55 | 96.56 |

W-0.27
 $Q_k^{\text{ÄKÄ}} \in \text{Ä}$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 153.86 | 81.66 | 109.72 | 137.78 | 0.36 | 932.63 |
| Ö← | g | 36.88 | 15.12 | 22.60 | 30.09 | 0.47 | 192.13 |
| Qk.N_B1 | min | -6.64 | -0.03 | 0.26 | 0.54 | 1.59 | 2.17 |
| | max | 39.27 | 16.76 | 17.93 | 19.09 | 0.09 | 152.38 |
| | min | | 0.85 | -2.64 | -6.14 | 1.87 | -22.45 |
| | max | | 15.88 | 20.82 | 25.77 | 0.34 | 177.00 |
| | min | | 0.85 | -2.64 | -6.14 | 1.87 | -22.45 |
| | max | | 15.88 | 20.82 | 25.77 | 0.34 | 177.00 |
| Qk.N_C1 | min | -6.38 | -0.01 | 0.18 | 0.37 | 1.53 | 1.51 |
| | max | 0.62 | 0.27 | -1.92 | -4.11 | 1.61 | -16.31 |
| | min | | 0.27 | -1.92 | -4.11 | 1.61 | -16.31 |
| | max | | -0.01 | 0.18 | 0.37 | 1.53 | 1.51 |
| | min | | 0.27 | -1.92 | -4.11 | 1.61 | -16.31 |
| | max | | -0.01 | 0.18 | 0.37 | 1.53 | 1.51 |
| Qk.N_C5 | min | -0.18 | -2.78 | 1.46 | 5.70 | 4.12 | 12.39 |

D-774

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | 15.03 | 0.00 | 0.00 | 0.00 | 3.86 | -0.01 |
| | min | | 0.00 | -0.02 | -0.05 | 1.42 | -0.21 |
| | max | | -2.78 | 1.48 | 5.74 | 4.08 | 12.59 |
| | min | | 0.00 | -0.02 | -0.05 | 1.42 | -0.21 |
| | max | | -2.78 | 1.48 | 5.74 | 4.08 | 12.59 |
| Qk.N_E1 | min | -1.49 | -0.26 | -0.04 | 0.17 | -7.48 | -0.35 |
| | max | 0.00 | 0.11 | -0.08 | -0.27 | 3.47 | -0.66 |
| | min | | -0.14 | -0.12 | -0.09 | -0.30 | -1.01 |
| | max | | 0.00 | 0.00 | 0.00 | 0.86 | 0.00 |
| | min | | 0.11 | -0.08 | -0.27 | 3.47 | -0.66 |
| | max | | -0.26 | -0.04 | 0.18 | -7.50 | -0.35 |
| Qk.N_DA | min | -5.49 | -6.66 | -3.30 | 0.06 | -1.44 | -28.05 |
| | max | 22.81 | 19.06 | 16.70 | 14.33 | -0.20 | 141.91 |
| | min | | -5.26 | -4.19 | -3.11 | -0.36 | -35.60 |
| | max | | 17.66 | 17.58 | 17.50 | -0.01 | 149.46 |
| | min | | -5.26 | -4.19 | -3.11 | -0.36 | -35.60 |
| | max | | 17.66 | 17.58 | 17.50 | -0.01 | 149.46 |
| Qk.N_T2 | min | 0.00 | -1.69 | 12.01 | 25.72 | 1.62 | 102.12 |
| | max | 32.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.69 | 12.01 | 25.72 | 1.62 | 102.12 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -1.69 | 12.01 | 25.72 | 1.62 | 102.12 |

W-0.28

Q†^&æÁKÁîÊîGÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 101.43 | 87.73 | 82.15 | 76.58 | -0.10 | 724.98 |
| Ö← | g | 48.01 | 44.42 | 40.57 | 36.72 | -0.14 | 358.03 |
| Qk.N_B1 | min | -5.55 | -0.53 | 0.21 | 0.95 | 5.20 | 1.84 |
| | max | 25.81 | 21.24 | 14.60 | 7.96 | -0.67 | 128.84 |
| | min | | 1.00 | -0.40 | -1.79 | 5.19 | -3.49 |
| | max | | 19.72 | 15.20 | 10.69 | -0.44 | 134.16 |
| | min | | 1.00 | -0.40 | -1.79 | 5.19 | -3.49 |
| | max | | 19.72 | 15.20 | 10.69 | -0.44 | 134.16 |
| Qk.N_C1 | min | -0.02 | -0.01 | -0.01 | 0.00 | -2.35 | -0.04 |
| | max | 0.22 | 0.11 | 0.06 | 0.00 | -1.37 | 0.50 |
| | min | | -0.01 | -0.01 | 0.00 | -1.37 | -0.05 |
| | max | | 0.11 | 0.06 | 0.01 | -1.29 | 0.51 |
| | min | | -0.01 | -0.01 | 0.00 | -1.37 | -0.05 |
| | max | | 0.11 | 0.06 | 0.01 | -1.29 | 0.51 |
| Qk.N_C5 | min | -0.07 | -0.06 | 0.00 | 0.05 | -73.47 | -0.01 |
| | max | 0.12 | 0.00 | 0.00 | -0.01 | 4.10 | -0.01 |
| | min | | -0.03 | -0.01 | 0.01 | -3.34 | -0.09 |
| | max | | -0.02 | 0.01 | 0.04 | 5.86 | 0.06 |
| | min | | 0.00 | 0.00 | -0.01 | 4.06 | -0.01 |
| | max | | -0.06 | 0.00 | 0.05 | -74.08 | -0.01 |
| Qk.N_E1 | min | -1.93 | -0.49 | 0.10 | 0.68 | 8.65 | 0.88 |
| | max | 3.16 | 0.41 | -0.21 | -0.83 | 4.27 | -1.89 |
| | min | | 0.40 | -0.22 | -0.84 | 4.23 | -1.90 |
| | max | | -0.48 | 0.10 | 0.68 | 8.46 | 0.89 |
| | min | | 0.40 | -0.22 | -0.84 | 4.23 | -1.90 |
| | max | | -0.48 | 0.10 | 0.68 | 8.46 | 0.89 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_DA | min | -1.03 | -0.70 | 0.08 | 0.85 | 15.31 | 0.66 |
| | max | 10.05 | 7.90 | 5.95 | 4.00 | -0.48 | 52.49 |
| | min | | 0.06 | -0.31 | -0.67 | 1.78 | -2.69 |
| | max | | 7.13 | 6.33 | 5.52 | -0.19 | 55.84 |
| | min | | 0.08 | -0.30 | -0.68 | 1.84 | -2.67 |
| | max | | 7.12 | 6.32 | 5.53 | -0.19 | 55.81 |
| Qk.N_T2 | min | -0.75 | -0.37 | -0.21 | -0.05 | -1.11 | -1.88 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.37 | -0.21 | -0.05 | -1.11 | -1.88 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.37 | -0.21 | -0.05 | -1.11 | -1.88 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.29

Qk^&æÁKÁHÈI€Á↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 256.58 | 258.86 | 113.76 | -31.34 | -0.96 | 511.91 |
| Ö← | g | 107.09 | 109.39 | 55.76 | 2.13 | -0.72 | 250.91 |
| Qk.N_B1 | min | -3.95 | -2.67 | -1.37 | -0.07 | -0.71 | -6.15 |
| | max | 52.86 | 47.84 | 17.90 | -12.04 | -1.25 | 80.54 |
| | min | | -2.67 | -1.37 | -0.07 | -0.71 | -6.15 |
| | max | | 47.84 | 17.90 | -12.04 | -1.25 | 80.54 |
| | min | | 45.59 | 16.68 | -12.24 | -1.30 | 75.04 |
| | max | | -0.42 | -0.14 | 0.13 | -1.43 | -0.65 |
| Qk.N_C1 | min | -11.26 | -9.67 | -3.03 | 3.61 | -1.64 | -13.63 |
| | max | 42.00 | 0.11 | 18.78 | 37.44 | 0.75 | 84.50 |
| | min | | -9.66 | -3.03 | 3.60 | -1.64 | -13.64 |
| | max | | 0.11 | 18.78 | 37.45 | 0.75 | 84.51 |
| | min | | 0.05 | 0.00 | -0.05 | -8.56 | 0.02 |
| | max | | -9.61 | 15.74 | 41.10 | 1.21 | 70.85 |
| Qk.N_C5 | min | -0.32 | -0.05 | -0.03 | -0.02 | -0.32 | -0.15 |
| | max | 3.22 | 2.83 | 0.96 | -0.91 | -1.46 | 4.32 |
| | min | | 0.03 | -0.14 | -0.30 | 0.90 | -0.62 |
| | max | | 2.76 | 1.06 | -0.63 | -1.19 | 4.79 |
| | min | | 2.82 | 0.94 | -0.94 | -1.50 | 4.24 |
| | max | | -0.04 | -0.02 | 0.01 | -0.99 | -0.07 |
| Qk.N_E1 | min | -1.10 | -1.07 | -0.34 | 0.40 | -1.64 | -1.51 |
| | max | 28.84 | 24.81 | 8.30 | -8.20 | -1.49 | 37.37 |
| | min | | -1.05 | -0.35 | 0.34 | -1.48 | -1.59 |
| | max | | 24.79 | 8.32 | -8.14 | -1.48 | 37.45 |
| | min | | 24.81 | 8.30 | -8.20 | -1.49 | 37.37 |
| | max | | -1.07 | -0.34 | 0.40 | -1.64 | -1.51 |
| Qk.N_DA | min | -7.76 | -6.93 | -2.21 | 2.51 | -1.60 | -9.94 |
| | max | 44.47 | 43.62 | 13.78 | -16.06 | -1.62 | 62.01 |
| | min | | -6.93 | -2.21 | 2.51 | -1.60 | -9.95 |
| | max | | 43.62 | 13.78 | -16.06 | -1.62 | 62.02 |
| | min | | 43.62 | 13.78 | -16.06 | -1.62 | 62.01 |
| | max | | -6.93 | -2.21 | 2.51 | -1.60 | -9.94 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.01 | 0.01 | 1.01 | 0.03 |
| | max | 0.04 | 0.03 | 0.01 | 0.00 | -0.83 | 0.06 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.03 | 0.02 | 0.01 | -0.25 | 0.08 |
| | min | | 0.03 | 0.01 | 0.00 | -0.83 | 0.06 |
| | max | | | | | | |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | | 0.00 | 0.01 | 0.01 | 1.01 | 0.03 |

W-0.30
 $Q \uparrow \& \acute{a} \acute{K} \acute{A} F \grave{E} \grave{G} \acute{I} \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 401.41 | 321.82 | 370.75 | 419.68 | 0.03 | 509.78 |
| Ö← | g | 168.61 | 134.73 | 155.46 | 176.20 | 0.03 | 213.76 |
| Qk.N_B1 | min | -0.09 | -0.08 | -0.08 | -0.08 | 0.01 | -0.11 |
| | max | 82.15 | 62.78 | 74.76 | 86.74 | 0.04 | 102.80 |
| | min | | -0.08 | -0.09 | -0.09 | 0.02 | -0.12 |
| | max | | 62.78 | 74.77 | 86.75 | 0.04 | 102.80 |
| | min | | -0.08 | -0.09 | -0.09 | 0.02 | -0.12 |
| Qk.N_C1 | max | | 62.78 | 74.77 | 86.75 | 0.04 | 102.80 |
| | min | 0.00 | 0.00 | 0.00 | 0.01 | 0.44 | 0.01 |
| | max | 39.87 | 23.38 | 32.95 | 42.53 | 0.07 | 45.31 |
| | min | | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 |
| | max | | 23.37 | 32.96 | 42.54 | 0.07 | 45.31 |
| Qk.N_C5 | min | | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 |
| | max | | 23.37 | 32.96 | 42.54 | 0.07 | 45.31 |
| | min | -0.22 | -0.16 | -0.20 | -0.23 | 0.04 | -0.27 |
| | max | 3.56 | 3.23 | 3.45 | 3.66 | 0.01 | 4.74 |
| | min | | -0.16 | -0.20 | -0.23 | 0.04 | -0.27 |
| Qk.N_E1 | max | | 3.23 | 3.45 | 3.66 | 0.01 | 4.74 |
| | min | | -0.16 | -0.20 | -0.23 | 0.04 | -0.27 |
| | max | | 3.23 | 3.45 | 3.66 | 0.01 | 4.74 |
| | min | -0.28 | -0.14 | -0.17 | -0.20 | 0.04 | -0.23 |
| | max | 0.07 | 0.10 | 0.03 | -0.05 | -0.64 | 0.04 |
| Qk.N_DA | min | | -0.08 | -0.20 | -0.32 | 0.14 | -0.28 |
| | max | | 0.04 | 0.06 | 0.07 | 0.07 | 0.08 |
| | min | | -0.06 | -0.19 | -0.32 | 0.15 | -0.27 |
| | max | | 0.03 | 0.05 | 0.08 | 0.11 | 0.07 |
| | min | -0.96 | -0.83 | -0.91 | -1.00 | 0.02 | -1.26 |
| Qk.N_T2 | max | 65.50 | 59.15 | 63.31 | 67.47 | 0.02 | 87.05 |
| | min | | -0.83 | -0.91 | -1.00 | 0.02 | -1.26 |
| | max | | 59.15 | 63.31 | 67.47 | 0.02 | 87.05 |
| | min | | -0.83 | -0.91 | -1.00 | 0.02 | -1.26 |
| | max | | 59.15 | 63.31 | 67.47 | 0.02 | 87.05 |
| Qk.N_T2 | min | -0.19 | -0.06 | -0.12 | -0.18 | 0.11 | -0.17 |
| | max | 0.00 | 0.01 | -0.01 | -0.03 | 0.33 | -0.02 |
| | min | | -0.06 | -0.13 | -0.21 | 0.13 | -0.19 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.06 | -0.13 | -0.21 | 0.13 | -0.19 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.31
 $Q \uparrow \& \acute{a} \acute{K} \acute{A} F \grave{E} \acute{I} \acute{E} \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 129.79 | 125.39 | 125.31 | 125.22 | 0.00 | 187.96 |
| Ö← | g | 65.00 | 63.36 | 62.83 | 62.30 | 0.00 | 94.25 |
| Qk.N_B1 | min | -0.02 | -0.02 | -0.01 | 0.00 | -0.32 | -0.01 |
| | max | 13.05 | 12.24 | 12.25 | 12.27 | 0.00 | 18.38 |
| | min | | -0.02 | -0.01 | 0.00 | -0.32 | -0.01 |

D-777

Schulcampus EWK \

EG-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 12.24 | 12.25 | 12.27 | 0.00 | 18.38 |
| | min | | 9.77 | 4.26 | -1.25 | -0.32 | 6.39 |
| | max | | 2.45 | 7.98 | 13.51 | 0.17 | 11.97 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.13 | 0.00 |
| | max | 55.22 | 50.74 | 52.86 | 54.99 | 0.01 | 79.29 |
| | min | | 0.00 | 0.00 | 0.00 | -0.13 | 0.00 |
| | max | | 50.74 | 52.86 | 54.99 | 0.01 | 79.29 |
| | min | | 0.02 | 0.01 | 0.00 | -0.30 | 0.01 |
| | max | | 50.72 | 52.85 | 54.99 | 0.01 | 79.28 |
| Qk.N_C5 | min | -0.14 | -0.15 | -0.10 | -0.05 | -0.12 | -0.15 |
| | max | 0.48 | 0.56 | 0.27 | -0.02 | -0.27 | 0.40 |
| | min | | -0.15 | -0.10 | -0.05 | -0.12 | -0.15 |
| | max | | 0.55 | 0.27 | -0.02 | -0.26 | 0.40 |
| | min | | 0.40 | 0.16 | -0.08 | -0.38 | 0.24 |
| | max | | 0.01 | 0.01 | 0.01 | 0.06 | 0.02 |
| Qk.N_E1 | min | -0.14 | -0.16 | -0.10 | -0.05 | -0.13 | -0.16 |
| | max | 0.14 | 0.07 | 0.11 | 0.15 | 0.09 | 0.17 |
| | min | | -0.16 | -0.10 | -0.05 | -0.13 | -0.16 |
| | max | | 0.07 | 0.11 | 0.15 | 0.09 | 0.17 |
| | min | | -0.14 | -0.10 | -0.05 | -0.11 | -0.14 |
| | max | | 0.05 | 0.11 | 0.16 | 0.13 | 0.16 |
| Qk.N_DA | min | -0.13 | -0.19 | 0.01 | 0.20 | 6.13 | 0.01 |
| | max | 8.19 | 7.80 | 7.34 | 6.88 | -0.02 | 11.01 |
| | min | | -0.17 | -0.05 | 0.07 | -0.60 | -0.08 |
| | max | | 7.79 | 7.40 | 7.02 | -0.01 | 11.10 |
| | min | | -0.01 | -0.03 | -0.06 | 0.21 | -0.05 |
| | max | | 7.62 | 7.39 | 7.15 | -0.01 | 11.08 |
| Qk.N_T2 | min | -0.47 | -0.16 | -0.34 | -0.52 | 0.13 | -0.51 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.16 | -0.34 | -0.52 | 0.13 | -0.51 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.16 | -0.34 | -0.52 | 0.13 | -0.51 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.32_1

Q_t ^ ÄKÁGÈFJÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 32.16 | 36.45 | 12.90 | -10.65 | -0.66 | 27.93 |
| Ö← | g | 4.12 | 4.58 | 2.33 | 0.07 | -0.35 | 5.04 |
| Qk.N_B1 | min | -0.05 | -0.03 | -0.03 | -0.02 | -0.06 | -0.06 |
| | max | 0.69 | 0.78 | 0.26 | -0.26 | -0.73 | 0.56 |
| | min | | -0.03 | -0.03 | -0.02 | -0.04 | -0.06 |
| | max | | 0.78 | 0.26 | -0.26 | -0.73 | 0.56 |
| | min | | 0.74 | 0.22 | -0.30 | -0.87 | 0.47 |
| | max | | 0.01 | 0.02 | 0.02 | 0.11 | 0.03 |
| Qk.N_C1 | min | -5.08 | -0.95 | -0.47 | 0.01 | -0.37 | -1.01 |
| | max | 0.00 | 1.95 | -2.09 | -6.13 | 0.70 | -4.52 |
| | min | | 1.01 | -2.56 | -6.12 | 0.50 | -5.54 |
| | max | | 0.00 | 0.00 | 0.00 | -0.23 | 0.00 |
| | min | | 1.95 | -2.09 | -6.13 | 0.70 | -4.53 |
| | max | | -0.95 | -0.47 | 0.01 | -0.37 | -1.01 |
| Qk.N_C5 | min | -0.47 | -0.65 | 2.48 | 5.60 | 0.45 | 5.37 |
| | max | 7.15 | 1.72 | 2.31 | 2.90 | 0.09 | 5.01 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -0.54 | -0.19 | 0.17 | -0.68 | -0.41 |
| | max | | 1.62 | 4.98 | 8.34 | 0.24 | 10.78 |
| | min | | 0.47 | 0.14 | -0.19 | -0.83 | 0.31 |
| | max | | 0.60 | 4.65 | 8.69 | 0.31 | 10.06 |
| Qk.N_E1 | min | -1.43 | -0.64 | -0.30 | 0.05 | -0.42 | -0.65 |
| | max | 1.51 | 2.05 | -0.23 | -2.52 | 3.52 | -0.51 |
| | min | | -0.27 | -0.98 | -1.69 | 0.26 | -2.12 |
| | max | | 1.68 | 0.45 | -0.78 | -0.99 | 0.97 |
| | min | | 2.05 | -0.24 | -2.52 | 3.51 | -0.51 |
| | max | | -0.64 | -0.30 | 0.05 | -0.42 | -0.64 |
| Qk.N_DA | min | -0.16 | -0.23 | -0.08 | 0.07 | -0.67 | -0.17 |
| | max | 4.64 | 5.28 | 1.73 | -1.81 | -0.74 | 3.75 |
| | min | | -0.19 | -0.09 | 0.01 | -0.41 | -0.19 |
| | max | | 5.24 | 1.74 | -1.76 | -0.72 | 3.77 |
| | min | | 5.28 | 1.73 | -1.81 | -0.74 | 3.75 |
| | max | | -0.23 | -0.08 | 0.07 | -0.67 | -0.17 |
| Qk.N_T2 | min | -0.04 | -0.07 | 0.08 | 0.23 | 0.68 | 0.17 |
| | max | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.04 | -0.02 | 0.00 | -0.37 | -0.05 |
| | max | | -0.03 | 0.10 | 0.23 | 0.45 | 0.22 |
| | min | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | max | | -0.07 | 0.08 | 0.23 | 0.67 | 0.17 |

W-0.32_2
 $Q_k^{\wedge} \& \acute{A} \acute{K} \acute{A} \in \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -1.11 | -1.03 | -1.08 | -1.12 | 0.00 | -0.38 |
| Ö← | g | 0.38 | 0.39 | 0.37 | 0.36 | 0.00 | 0.13 |
| Qk.N_B1 | min | -0.10 | -0.09 | -0.09 | -0.10 | 0.00 | -0.03 |
| | max | 0.02 | 0.02 | 0.02 | 0.02 | 0.00 | 0.01 |
| | min | | -0.09 | -0.09 | -0.10 | 0.00 | -0.03 |
| | max | | 0.02 | 0.02 | 0.02 | 0.00 | 0.01 |
| | min | | -0.09 | -0.09 | -0.10 | 0.00 | -0.03 |
| | max | | 0.02 | 0.02 | 0.02 | 0.00 | 0.01 |
| Qk.N_C1 | min | -7.28 | -7.21 | -7.25 | -7.29 | 0.00 | -2.54 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -7.21 | -7.25 | -7.29 | 0.00 | -2.54 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -7.21 | -7.25 | -7.29 | 0.00 | -2.54 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.07 | -0.06 | -0.06 | -0.07 | 0.00 | -0.02 |
| | max | 7.61 | 7.59 | 7.60 | 7.61 | 0.00 | 2.66 |
| | min | | -0.06 | -0.06 | -0.07 | 0.00 | -0.02 |
| | max | | 7.59 | 7.60 | 7.61 | 0.00 | 2.66 |
| | min | | -0.06 | -0.06 | -0.07 | 0.00 | -0.02 |
| | max | | 7.59 | 7.60 | 7.61 | 0.00 | 2.66 |
| Qk.N_E1 | min | -1.15 | -1.16 | -1.14 | -1.11 | 0.00 | -0.40 |
| | max | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| | min | | -1.16 | -1.14 | -1.11 | 0.00 | -0.40 |
| | max | | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| | min | | -1.16 | -1.14 | -1.11 | 0.00 | -0.40 |
| | max | | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| Qk.N_DA | min | -0.09 | -0.09 | -0.09 | -0.09 | 0.00 | -0.03 |

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | 0.01 | 0.01 | 0.01 | 0.00 | -0.01 | 0.00 |
| | | -0.09 | -0.09 | -0.09 | 0.00 | -0.03 |
| | | 0.01 | 0.01 | 0.00 | -0.01 | 0.00 |
| | | -0.09 | -0.09 | -0.09 | 0.00 | -0.03 |
| | | 0.01 | 0.01 | 0.00 | -0.01 | 0.00 |
| Qk.N_T2 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | 0.13 | 0.13 | 0.12 | 0.12 | 0.00 | 0.04 |
| | | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 0.13 | 0.12 | 0.12 | 0.00 | 0.04 |
| | | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 0.13 | 0.12 | 0.12 | 0.00 | 0.04 |

W-0.32_3

Q⁺ & A K A G E H U A ↑

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 1.90 | -1.09 | 0.65 | 2.38 | 1.55 | 2.24 |
| Ö← | 1.21 | 0.44 | 0.91 | 1.38 | 0.30 | 3.14 |
| Qk.N_B1 | -0.01 | -0.29 | 0.36 | 1.01 | 1.03 | 1.25 |
| | 0.96 | 0.00 | 0.00 | -0.01 | 2.62 | 0.00 |
| | | 0.00 | 0.00 | -0.01 | 2.08 | -0.01 |
| | | -0.28 | 0.36 | 1.01 | 1.03 | 1.25 |
| | | 0.00 | 0.00 | -0.01 | 2.55 | 0.00 |
| | | -0.28 | 0.36 | 1.01 | 1.03 | 1.25 |
| Qk.N_C1 | -7.63 | -7.81 | -7.30 | -6.79 | -0.04 | -25.29 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -7.81 | -7.30 | -6.79 | -0.04 | -25.29 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -7.81 | -7.30 | -6.79 | -0.04 | -25.29 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | -0.46 | -0.04 | 0.07 | 0.19 | 0.88 | 0.26 |
| | 7.68 | 8.41 | 6.90 | 5.40 | -0.13 | 23.92 |
| | | 0.16 | -0.13 | -0.43 | 1.28 | -0.46 |
| | | 8.21 | 7.11 | 6.01 | -0.09 | 24.64 |
| | | 0.16 | -0.13 | -0.43 | 1.28 | -0.46 |
| | | 8.21 | 7.11 | 6.01 | -0.09 | 24.64 |
| Qk.N_E1 | -0.56 | -0.59 | -0.35 | -0.10 | -0.41 | -1.20 |
| | 0.00 | 0.01 | -0.01 | -0.03 | 0.99 | -0.03 |
| | | -0.59 | -0.36 | -0.12 | -0.38 | -1.23 |
| | | 0.00 | 0.00 | 0.00 | -0.86 | 0.00 |
| | | -0.59 | -0.36 | -0.12 | -0.38 | -1.23 |
| | | 0.00 | 0.00 | 0.00 | -0.49 | 0.00 |
| Qk.N_DA | -0.02 | -0.05 | 0.12 | 0.30 | 0.82 | 0.42 |
| | 0.28 | 0.04 | 0.03 | 0.02 | -0.26 | 0.10 |
| | | 0.01 | 0.00 | -0.01 | 2.66 | -0.01 |
| | | -0.02 | 0.15 | 0.32 | 0.63 | 0.53 |
| | | 0.02 | 0.00 | -0.02 | -3.61 | 0.01 |
| | | -0.03 | 0.15 | 0.33 | 0.70 | 0.51 |
| Qk.N_T2 | 0.00 | -0.59 | 0.54 | 1.66 | 1.21 | 1.86 |
| | 1.75 | 0.06 | 0.03 | 0.01 | -0.48 | 0.11 |
| | | 0.00 | 0.00 | 0.00 | 3.58 | 0.00 |
| | | -0.53 | 0.57 | 1.67 | 1.12 | 1.97 |
| | | 0.00 | 0.00 | 0.00 | 3.58 | 0.00 |
| | | -0.53 | 0.57 | 1.67 | 1.12 | 1.97 |

W-0.32_4
 $Q \uparrow \wedge \text{ÄKÄ} \in \text{EGIA} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 3.94 | 0.96 | 2.75 | 4.54 | 0.03 | 0.69 |
| Ö← | g | 1.83 | 0.84 | 1.44 | 2.03 | 0.02 | 0.36 |
| Qk.N_B1 | min | -5.61 | -1.77 | -4.07 | -6.37 | 0.02 | -1.02 |
| | max | 0.01 | 0.00 | 0.01 | 0.01 | 0.03 | 0.00 |
| | min | | -1.77 | -4.07 | -6.37 | 0.02 | -1.02 |
| | max | | 0.00 | 0.01 | 0.02 | 0.03 | 0.00 |
| | min | | -1.77 | -4.07 | -6.37 | 0.02 | -1.02 |
| | max | | 0.00 | 0.01 | 0.02 | 0.03 | 0.00 |
| Qk.N_C1 | min | -2.43 | -1.92 | -2.23 | -2.53 | 0.01 | -0.56 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.06 | 0.00 |
| | min | | -1.92 | -2.23 | -2.53 | 0.01 | -0.56 |
| | max | | 0.00 | 0.00 | 0.00 | -0.06 | 0.00 |
| | min | | -1.92 | -2.23 | -2.53 | 0.01 | -0.56 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.25 | -0.28 | -0.05 | 0.18 | -0.18 | -0.01 |
| | max | 9.40 | 4.18 | 7.10 | 10.02 | 0.02 | 1.78 |
| | min | | -0.25 | -0.25 | -0.26 | 0.00 | -0.06 |
| | max | | 4.14 | 7.30 | 10.45 | 0.02 | 1.82 |
| | min | | -0.25 | -0.25 | -0.26 | 0.00 | -0.06 |
| | max | | 4.14 | 7.30 | 10.45 | 0.02 | 1.82 |
| Qk.N_E1 | min | -0.07 | -0.08 | -0.05 | -0.02 | -0.02 | -0.01 |
| | max | 0.02 | 0.03 | 0.00 | -0.02 | -0.30 | 0.00 |
| | min | | -0.07 | -0.05 | -0.03 | -0.02 | -0.01 |
| | max | | 0.03 | 0.01 | -0.02 | -0.14 | 0.00 |
| | min | | -0.05 | -0.05 | -0.05 | 0.00 | -0.01 |
| | max | | 0.00 | 0.00 | 0.01 | 0.04 | 0.00 |
| Qk.N_DA | min | -0.53 | -0.39 | -0.34 | -0.29 | -0.01 | -0.09 |
| | max | 0.40 | 0.02 | 0.11 | 0.21 | 0.04 | 0.03 |
| | min | | -0.35 | -0.45 | -0.56 | 0.01 | -0.11 |
| | max | | -0.03 | 0.23 | 0.48 | 0.05 | 0.06 |
| | min | | -0.35 | -0.45 | -0.56 | 0.01 | -0.11 |
| | max | | -0.03 | 0.23 | 0.48 | 0.05 | 0.06 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.06 | 0.00 |
| | max | 1.09 | 1.12 | 1.03 | 0.93 | 0.00 | 0.26 |
| | min | | 0.00 | 0.00 | 0.00 | -0.05 | 0.00 |
| | max | | 1.12 | 1.03 | 0.93 | 0.00 | 0.26 |
| | min | | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 |
| | max | | 1.12 | 1.03 | 0.94 | 0.00 | 0.26 |

W-0.33
 $Q \uparrow \wedge \text{ÄKÄF} \in \text{Ä} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 385.89 | 400.90 | 358.11 | 315.31 | -0.03 | 537.16 |
| Ö← | g | 162.83 | 167.93 | 152.93 | 137.94 | -0.02 | 229.40 |
| Qk.N_B1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 78.08 | 83.00 | 69.62 | 56.25 | -0.05 | 104.44 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 83.00 | 69.62 | 56.25 | -0.05 | 104.44 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 83.00 | 69.62 | 56.25 | -0.05 | 104.44 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.08 | 0.00 |

D-781

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | 54.49 | 57.70 | 46.34 | 34.99 | -0.06 | 69.52 |
| | | 0.00 | 0.00 | 0.00 | -0.08 | 0.00 |
| | | 57.70 | 46.34 | 34.99 | -0.06 | 69.52 |
| | | 0.00 | 0.00 | 0.00 | -0.08 | 0.00 |
| | | 57.70 | 46.34 | 34.99 | -0.06 | 69.52 |
| | | 0.00 | 0.00 | 0.00 | -0.08 | 0.00 |
| Qk.N_C5 | -0.08 | -0.09 | -0.05 | -0.02 | -0.17 | -0.08 |
| | 0.50 | 0.57 | 0.37 | 0.16 | -0.14 | 0.55 |
| | | -0.08 | -0.06 | -0.04 | -0.10 | -0.09 |
| | | 0.57 | 0.37 | 0.18 | -0.13 | 0.56 |
| | | -0.08 | -0.06 | -0.04 | -0.10 | -0.09 |
| | | 0.57 | 0.37 | 0.18 | -0.13 | 0.56 |
| Qk.N_E1 | -0.11 | -0.12 | -0.09 | -0.05 | -0.10 | -0.13 |
| | 0.19 | 0.21 | 0.14 | 0.06 | -0.14 | 0.21 |
| | | -0.12 | -0.09 | -0.05 | -0.10 | -0.13 |
| | | 0.21 | 0.14 | 0.06 | -0.14 | 0.21 |
| | | -0.12 | -0.09 | -0.05 | -0.10 | -0.13 |
| | | 0.21 | 0.14 | 0.06 | -0.14 | 0.21 |
| Qk.N_DA | -0.37 | -0.39 | -0.34 | -0.28 | -0.04 | -0.50 |
| | 55.12 | 57.29 | 51.86 | 46.44 | -0.03 | 77.80 |
| | | -0.39 | -0.34 | -0.28 | -0.04 | -0.50 |
| | | 57.29 | 51.86 | 46.44 | -0.03 | 77.80 |
| | | -0.39 | -0.34 | -0.28 | -0.04 | -0.50 |
| | | 57.29 | 51.86 | 46.44 | -0.03 | 77.80 |
| Qk.N_T2 | -0.91 | -1.02 | -0.71 | -0.41 | -0.11 | -1.07 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -1.02 | -0.71 | -0.41 | -0.11 | -1.07 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -1.02 | -0.71 | -0.41 | -0.11 | -1.07 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.34
 $Q_k^{\wedge} \& \acute{a} K \acute{A} G \grave{E} \grave{G} \acute{I} \acute{A} \uparrow$

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 198.92 | 125.24 | 170.19 | 215.15 | 0.10 | 404.20 |
| Ö← | 61.14 | 32.60 | 49.88 | 67.16 | 0.14 | 118.46 |
| Qk.N_B1 | -3.86 | -4.44 | -1.80 | 0.84 | -0.58 | -4.28 |
| | 32.35 | 10.77 | 23.10 | 35.43 | 0.21 | 54.86 |
| | | -4.37 | -1.82 | 0.73 | -0.55 | -4.32 |
| | | 10.70 | 23.11 | 35.53 | 0.21 | 54.90 |
| | | 0.01 | 0.00 | -0.01 | -4.16 | 0.00 |
| | | 6.32 | 21.29 | 36.27 | 0.28 | 50.57 |
| Qk.N_C1 | -12.41 | -13.63 | -6.96 | -0.28 | -0.38 | -16.52 |
| | 30.11 | 16.42 | 24.69 | 32.96 | 0.13 | 58.65 |
| | | -13.54 | -7.01 | -0.49 | -0.37 | -16.65 |
| | | 16.32 | 24.75 | 33.17 | 0.13 | 58.78 |
| | | -12.16 | -7.01 | -1.86 | -0.29 | -16.65 |
| | | 14.95 | 24.75 | 34.55 | 0.16 | 58.78 |
| Qk.N_C5 | -1.66 | -0.65 | -1.07 | -1.49 | 0.16 | -2.54 |
| | 28.73 | 23.29 | 26.16 | 29.03 | 0.04 | 62.13 |
| | | -0.65 | -1.07 | -1.50 | 0.16 | -2.55 |
| | | 23.29 | 26.16 | 29.03 | 0.04 | 62.13 |
| | | 2.70 | -0.26 | -3.21 | 4.56 | -0.61 |
| | | 19.95 | 25.35 | 30.75 | 0.08 | 60.20 |

D-782

Schulcampus EWK \

EG-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_E1 | min | -6.33 | -7.24 | -3.61 | 0.02 | -0.40 | -8.58 |
| | max | 18.05 | 19.47 | 15.37 | 11.28 | -0.11 | 36.51 |
| | min | | -7.16 | -3.67 | -0.18 | -0.38 | -8.72 |
| | max | | 19.39 | 15.43 | 11.47 | -0.10 | 36.65 |
| | min | | -0.68 | -0.77 | -0.87 | 0.05 | -1.83 |
| | max | | 12.91 | 12.53 | 12.16 | -0.01 | 29.76 |
| Qk.N_DA | min | -11.81 | -14.04 | -9.89 | -5.73 | -0.17 | -23.48 |
| | max | 31.05 | 30.64 | 28.41 | 26.18 | -0.03 | 67.47 |
| | min | | -13.20 | -10.29 | -7.39 | -0.11 | -24.45 |
| | max | | 29.79 | 28.82 | 27.84 | -0.01 | 68.44 |
| | min | | -12.84 | -10.18 | -7.52 | -0.10 | -24.18 |
| | max | | 29.43 | 28.70 | 27.98 | -0.01 | 68.17 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 | 0.00 |
| | max | 0.01 | 0.01 | 0.00 | 0.00 | -0.92 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 1.42 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.03 | 0.01 |
| | min | | 0.01 | 0.00 | 0.00 | -3.10 | 0.00 |
| | max | | 0.00 | 0.00 | 0.01 | 0.40 | 0.01 |

W-0.35
 $Q_{\uparrow}^{\wedge} \& \acute{A} \acute{K} \acute{A} \acute{I} \acute{E} \acute{G} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 229.64 | 235.36 | 166.86 | 98.36 | -0.36 | 876.00 |
| Ö← | g | 66.30 | 64.66 | 51.68 | 38.70 | -0.22 | 271.30 |
| Qk.N_B1 | min | -0.05 | -0.27 | 0.13 | 0.53 | 2.69 | 0.69 |
| | max | 26.10 | 32.25 | 14.25 | -3.74 | -1.10 | 74.83 |
| | min | | -0.05 | -0.02 | 0.00 | -0.89 | -0.12 |
| | max | | 32.02 | 14.41 | -3.21 | -1.07 | 75.64 |
| | min | | 30.08 | 12.81 | -4.46 | -1.18 | 67.24 |
| | max | | 1.90 | 1.58 | 1.26 | -0.18 | 8.28 |
| Qk.N_C1 | min | -0.48 | -0.83 | -0.07 | 0.70 | -10.14 | -0.35 |
| | max | 96.96 | 23.61 | 50.25 | 76.89 | 0.46 | 263.82 |
| | min | | -0.53 | -0.21 | 0.11 | -1.33 | -1.11 |
| | max | | 23.32 | 50.40 | 77.48 | 0.47 | 264.58 |
| | min | | 0.01 | 0.00 | 0.00 | -1.01 | 0.02 |
| | max | | 22.77 | 50.18 | 77.59 | 0.48 | 263.45 |
| Qk.N_C5 | min | -0.57 | -0.43 | -0.17 | 0.09 | -1.36 | -0.87 |
| | max | 22.57 | 22.99 | 16.36 | 9.72 | -0.35 | 85.87 |
| | min | | -0.38 | -0.19 | 0.00 | -0.90 | -0.99 |
| | max | | 22.95 | 16.38 | 9.81 | -0.35 | 85.98 |
| | min | | 19.36 | 8.16 | -3.05 | -1.20 | 42.82 |
| | max | | 3.20 | 8.03 | 12.86 | 0.53 | 42.18 |
| Qk.N_E1 | min | -1.66 | -2.08 | -0.79 | 0.50 | -1.42 | -4.17 |
| | max | 4.37 | 3.55 | 1.19 | -1.17 | -1.74 | 6.24 |
| | min | | -1.86 | -0.98 | -0.10 | -0.78 | -5.15 |
| | max | | 3.32 | 1.38 | -0.57 | -1.24 | 7.22 |
| | min | | 1.87 | 0.15 | -1.57 | -9.91 | 0.80 |
| | max | | -0.41 | 0.24 | 0.89 | 2.35 | 1.27 |
| Qk.N_DA | min | -1.12 | -1.34 | -0.52 | 0.31 | -1.39 | -2.72 |
| | max | 38.33 | 46.37 | 19.41 | -7.55 | -1.22 | 101.91 |
| | min | | -1.33 | -0.52 | 0.29 | -1.37 | -2.73 |
| | max | | 46.36 | 19.41 | -7.54 | -1.21 | 101.91 |
| | min | | 43.88 | 17.95 | -7.99 | -1.26 | 94.22 |
| | | | | | | | |

D-783

| Kraft Ft | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | | 1.15 | 0.95 | 0.74 | -0.19 | 4.97 |
| Qk.N_T2 | max | | | | | |
| | min | -0.84 | -0.06 | 0.01 | 0.04 | -7.40 |
| | max | 0.00 | 0.28 | -0.19 | -0.66 | 2.15 |
| | min | | 0.22 | -0.61 | 1.86 | -1.03 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.28 | -0.19 | -0.66 | 2.15 |
| | max | | -0.06 | -0.01 | 0.05 | -7.41 |

W-0.36

Qk.N_T2

| Kraft Ft | | F _{t,Abs} | F _{t,A} | F _{t,M} | F _{t,E} | e | F _{t,Res} |
|----------|-----|--------------------|------------------|------------------|------------------|-------|--------------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 454.59 | 369.42 | 183.78 | -1.86 | -1.45 | 1585.1 |
| Ö← | g | 142.57 | 110.77 | 48.25 | -14.26 | -1.86 | 416.18 |
| Qk.N_B1 | min | -3.88 | -3.60 | -1.63 | 0.35 | -1.75 | -14.04 |
| | max | 62.36 | 57.76 | 24.21 | -9.34 | -1.99 | 208.82 |
| | min | | -3.60 | -1.63 | 0.35 | -1.75 | -14.04 |
| | max | | 57.76 | 24.21 | -9.34 | -1.99 | 208.82 |
| | min | | 57.76 | 24.21 | -9.34 | -1.99 | 208.82 |
| | max | | -3.60 | -1.63 | 0.35 | -1.75 | -14.03 |
| Qk.N_C1 | min | -5.50 | -2.03 | -1.24 | -0.44 | -0.92 | -10.65 |
| | max | 103.64 | 74.16 | 28.82 | -16.53 | -2.26 | 248.54 |
| | min | | -2.03 | -1.24 | -0.45 | -0.92 | -10.66 |
| | max | | 74.16 | 28.82 | -16.53 | -2.26 | 248.55 |
| | min | | 72.14 | 27.58 | -16.98 | -2.32 | 237.87 |
| | max | | 0.00 | 0.00 | 0.00 | 1.83 | 0.01 |
| Qk.N_C5 | min | -1.03 | -1.07 | -0.46 | 0.16 | -1.92 | -3.95 |
| | max | 33.93 | 17.75 | 4.94 | -7.88 | -3.73 | 42.56 |
| | min | | -1.07 | -0.46 | 0.16 | -1.92 | -3.95 |
| | max | | 17.75 | 4.94 | -7.88 | -3.73 | 42.56 |
| | min | | 17.74 | 4.93 | -7.88 | -3.73 | 42.53 |
| | max | | -1.07 | -0.45 | 0.16 | -1.93 | -3.92 |
| Qk.N_E1 | min | -3.88 | -1.86 | -0.99 | -0.12 | -1.26 | -8.56 |
| | max | 0.58 | 0.33 | 0.09 | -0.16 | -4.12 | 0.74 |
| | min | | -1.85 | -0.99 | -0.14 | -1.24 | -8.57 |
| | max | | 0.32 | 0.09 | -0.15 | -3.84 | 0.76 |
| | min | | -1.29 | -0.84 | -0.39 | -0.77 | -7.25 |
| | max | | -0.24 | -0.07 | 0.11 | -3.82 | -0.57 |
| Qk.N_DA | min | -5.52 | -2.47 | -3.84 | -5.22 | 0.51 | -33.15 |
| | max | 70.20 | 59.05 | 32.65 | 6.25 | -1.16 | 281.57 |
| | min | | -2.47 | -3.84 | -5.22 | 0.51 | -33.15 |
| | max | | 59.05 | 32.65 | 6.25 | -1.16 | 281.57 |
| | min | | 51.72 | 22.16 | -7.39 | -1.92 | 191.16 |
| | max | | 4.86 | 6.64 | 8.42 | 0.39 | 57.26 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 29.39 | 22.18 | 10.93 | -0.32 | -1.48 | 94.30 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 22.18 | 10.93 | -0.32 | -1.48 | 94.30 |
| | min | | 22.18 | 10.93 | -0.32 | -1.48 | 94.29 |
| | max | | 0.00 | 0.00 | 0.00 | -0.95 | 0.00 |

W-0.37

Qk.N_T2

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 78.93 | 80.34 | 73.57 | 66.80 | -0.04 | 186.50 |
| Ö← | g | 4.87 | 3.80 | 4.18 | 4.55 | 0.04 | 10.58 |
| Qk.N_B1 | min | -1.53 | -1.63 | -0.20 | 1.22 | -2.96 | -0.52 |
| | max | 1.38 | 0.29 | 0.88 | 1.46 | 0.28 | 2.22 |
| | min | | -1.62 | -0.22 | 1.18 | -2.65 | -0.57 |
| | max | | 0.28 | 0.90 | 1.51 | 0.29 | 2.27 |
| | min | | 0.00 | 0.00 | -0.01 | 3.39 | 0.00 |
| | max | | -1.35 | 0.67 | 2.69 | 1.27 | 1.70 |
| Qk.N_C1 | min | -6.72 | -8.21 | -4.53 | -0.85 | -0.34 | -11.48 |
| | max | 2.16 | 0.36 | -0.08 | -0.52 | 2.30 | -0.21 |
| | min | | -7.31 | -5.24 | -3.16 | -0.17 | -13.28 |
| | max | | -0.53 | 0.63 | 1.79 | 0.78 | 1.59 |
| | min | | -6.18 | -4.91 | -3.65 | -0.11 | -12.45 |
| | max | | -1.67 | 0.30 | 2.27 | 2.76 | 0.77 |
| Qk.N_C5 | min | -2.69 | -0.01 | 0.00 | 0.01 | -6.76 | 0.00 |
| | max | 7.12 | 9.73 | 4.18 | -1.36 | -0.56 | 10.61 |
| | min | | 2.14 | -0.51 | -3.16 | 2.20 | -1.29 |
| | max | | 7.57 | 4.69 | 1.81 | -0.26 | 11.89 |
| | min | | 4.82 | -0.36 | -5.54 | 6.05 | -0.92 |
| | max | | 4.89 | 4.55 | 4.20 | -0.03 | 11.52 |
| Qk.N_E1 | min | -3.26 | -5.02 | -2.29 | 0.45 | -0.51 | -5.80 |
| | max | 13.45 | 11.38 | 11.09 | 10.80 | -0.01 | 28.11 |
| | min | | -4.27 | -2.52 | -0.77 | -0.29 | -6.39 |
| | max | | 10.62 | 11.32 | 12.02 | 0.03 | 28.69 |
| | min | | -2.05 | -1.62 | -1.20 | -0.11 | -4.11 |
| | max | | 8.40 | 10.42 | 12.44 | 0.08 | 26.42 |
| Qk.N_DA | min | -6.04 | -6.78 | -4.32 | -1.86 | -0.24 | -10.94 |
| | max | 7.73 | 7.98 | 5.73 | 3.49 | -0.17 | 14.54 |
| | min | | -6.67 | -4.83 | -2.99 | -0.16 | -12.23 |
| | max | | 7.87 | 6.24 | 4.62 | -0.11 | 15.83 |
| | min | | -3.62 | -4.79 | -5.96 | 0.10 | -12.14 |
| | max | | 4.83 | 6.21 | 7.59 | 0.09 | 15.74 |
| Qk.N_T2 | min | -0.01 | -0.01 | 0.00 | 0.01 | 4.03 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | -0.01 | 1.09 | -0.01 |
| | min | | 0.00 | 0.00 | -0.01 | 0.91 | -0.01 |
| | max | | -0.01 | 0.00 | 0.01 | 2.82 | 0.00 |
| | min | | 0.00 | 0.00 | -0.01 | 0.91 | -0.01 |
| | max | | -0.01 | 0.00 | 0.01 | 2.82 | 0.00 |

W-0.38

Q_t^ÄKÁFËBËCÁ↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 132.64 | 116.58 | 110.44 | 104.29 | -0.09 | 1104.4 |
| Ö← | g | 20.66 | 12.39 | 14.56 | 16.72 | 0.25 | 145.55 |
| Qk.N_B1 | min | -0.29 | -0.49 | 0.56 | 1.60 | 3.14 | 5.55 |
| | max | 1.93 | 0.86 | 0.13 | -0.60 | -9.24 | 1.31 |
| | min | | -0.01 | -0.12 | -0.23 | 1.59 | -1.18 |
| | max | | 0.37 | 0.80 | 1.24 | 0.89 | 8.04 |
| | min | | 0.86 | 0.13 | -0.60 | -9.24 | 1.31 |
| | max | | -0.49 | 0.56 | 1.60 | 3.14 | 5.55 |
| Qk.N_C1 | min | -12.33 | -3.05 | -0.80 | 1.46 | -4.71 | -7.97 |
| | max | 2.96 | 3.48 | 0.39 | -2.70 | -13.14 | 3.92 |
| | min | | -1.09 | -1.69 | -2.29 | 0.59 | -16.89 |

D-785

Schulcampus EWK \

EG-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 1.52 | 1.28 | 1.05 | -0.30 | 12.83 |
| | min | | 3.01 | -0.61 | -4.24 | 9.84 | -6.14 |
| | max | | -2.58 | 0.21 | 3.00 | 22.31 | 2.09 |
| Qk.N_C5 | min | -1.41 | -2.86 | 0.80 | 4.47 | 7.60 | 8.03 |
| | max | 17.69 | 6.94 | 1.54 | -3.86 | -5.85 | 15.38 |
| | min | | -0.23 | -0.62 | -1.01 | 1.04 | -6.20 |
| | max | | 4.31 | 2.96 | 1.61 | -0.76 | 29.61 |
| | min | | 6.84 | 1.23 | -4.38 | -7.59 | 12.32 |
| Qk.N_E1 | max | | -2.77 | 1.11 | 4.99 | 5.82 | 11.10 |
| | min | -4.99 | -0.11 | -0.05 | 0.00 | -1.75 | -0.51 |
| | max | 22.00 | 7.45 | 12.39 | 17.34 | 0.67 | 123.94 |
| | min | | 0.71 | -0.49 | -1.68 | 4.11 | -4.85 |
| | max | | 6.63 | 12.83 | 19.03 | 0.81 | 128.27 |
| | min | | 3.74 | 0.38 | -2.98 | -14.74 | 3.79 |
| | max | | 3.60 | 11.96 | 20.32 | 1.16 | 119.63 |
| Qk.N_DA | min | -3.28 | -2.33 | 2.28 | 6.90 | 3.37 | 22.84 |
| | max | 20.63 | 16.10 | 12.98 | 9.86 | -0.40 | 129.77 |
| | min | | -0.85 | -0.48 | -0.10 | -1.32 | -4.75 |
| | max | | 14.62 | 15.74 | 16.85 | 0.12 | 157.36 |
| | min | | 1.72 | 0.24 | -1.25 | -10.50 | 2.35 |
| | max | | 12.05 | 15.03 | 18.00 | 0.33 | 150.26 |
| Qk.N_T2 | min | -0.22 | -0.13 | 0.04 | 0.21 | 6.98 | 0.41 |
| | max | 0.65 | 0.16 | 0.01 | -0.15 | -48.38 | 0.06 |
| | min | | 0.02 | -0.03 | -0.08 | 2.63 | -0.33 |
| | max | | 0.02 | 0.08 | 0.14 | 1.32 | 0.79 |
| | min | | 0.16 | 0.01 | -0.15 | -48.38 | 0.06 |
| | max | | -0.13 | 0.04 | 0.21 | 6.98 | 0.41 |

W-0.39_1
 $Q_k^{\uparrow} + \Delta K \Delta G \in F_A^{\uparrow}$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 36.19 | 40.57 | 29.26 | 17.95 | -0.19 | 87.93 |
| Ö← | g | -6.23 | -0.08 | -3.49 | -6.91 | 0.49 | -10.50 |
| Qk.N_B1 | min | -8.96 | -10.59 | -5.75 | -0.91 | -0.42 | -17.28 |
| | max | 7.09 | 7.73 | 5.13 | 2.54 | -0.25 | 15.43 |
| | min | | -10.59 | -5.75 | -0.91 | -0.42 | -17.28 |
| | max | | 7.73 | 5.13 | 2.54 | -0.25 | 15.43 |
| | min | | -9.18 | -5.24 | -1.31 | -0.38 | -15.75 |
| | max | | 6.32 | 4.63 | 2.93 | -0.18 | 13.90 |
| Qk.N_C1 | min | -45.83 | -10.27 | -28.07 | -45.86 | 0.32 | -84.33 |
| | max | 0.91 | 1.17 | 0.34 | -0.50 | -1.23 | 1.02 |
| | min | | -10.27 | -28.07 | -45.86 | 0.32 | -84.33 |
| | max | | 1.17 | 0.34 | -0.50 | -1.23 | 1.02 |
| | min | | -9.18 | -27.78 | -46.37 | 0.34 | -83.47 |
| | max | | 0.08 | 0.05 | 0.02 | -0.30 | 0.15 |
| Qk.N_C5 | min | -5.49 | -10.91 | -2.57 | 5.76 | -1.62 | -7.72 |
| | max | 29.56 | 3.36 | 11.67 | 19.99 | 0.36 | 35.08 |
| | min | | -5.71 | -3.60 | -1.50 | -0.29 | -10.83 |
| | max | | -1.84 | 12.71 | 27.26 | 0.57 | 38.19 |
| | min | | -5.67 | -3.59 | -1.51 | -0.29 | -10.78 |
| | max | | -1.88 | 12.69 | 27.26 | 0.57 | 38.14 |
| Qk.N_E1 | min | -0.74 | -0.92 | -0.51 | -0.10 | -0.40 | -1.53 |
| | max | 30.78 | 37.89 | 22.35 | 6.80 | -0.35 | 67.15 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -0.92 | -0.51 | -0.10 | -0.40 | -1.53 |
| | max | | 37.89 | 22.35 | 6.80 | -0.35 | 67.15 |
| | min | | 12.35 | 4.62 | -3.11 | -0.84 | 13.88 |
| | max | | 24.63 | 17.22 | 9.81 | -0.22 | 51.74 |
| Qk.N_DA | min | -12.44 | -13.27 | -8.88 | -4.48 | -0.25 | -26.67 |
| | max | 4.97 | 5.41 | 3.95 | 2.49 | -0.19 | 11.86 |
| | min | | -13.26 | -8.93 | -4.61 | -0.24 | -26.84 |
| | max | | 5.39 | 4.00 | 2.62 | -0.17 | 12.03 |
| | min | | -10.56 | -8.19 | -5.82 | -0.14 | -24.60 |
| | max | | 2.69 | 3.26 | 3.83 | 0.09 | 9.79 |
| Qk.N_T2 | min | -0.56 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.20 | -0.18 | -0.55 | 1.07 | -0.53 |
| | min | | 0.20 | -0.18 | -0.55 | 1.07 | -0.53 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.20 | -0.18 | -0.55 | 1.07 | -0.53 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.39_2
 $Q_k^{\uparrow} \& \approx \acute{A} \acute{K} \acute{A} \in \acute{E} \acute{I} \acute{F} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 54.63 | 54.95 | 53.41 | 51.87 | 0.00 | 38.19 |
| Ö← | g | 10.47 | 10.51 | 10.25 | 9.99 | 0.00 | 7.33 |
| Qk.N_B1 | min | -0.32 | -0.38 | -0.23 | -0.08 | -0.08 | -0.17 |
| | max | 2.25 | 2.14 | 2.17 | 2.20 | 0.00 | 1.55 |
| | min | | -0.38 | -0.23 | -0.08 | -0.08 | -0.17 |
| | max | | 2.14 | 2.17 | 2.20 | 0.00 | 1.55 |
| | min | | -0.38 | -0.23 | -0.08 | -0.08 | -0.17 |
| | max | | 2.14 | 2.17 | 2.20 | 0.00 | 1.55 |
| Qk.N_C1 | min | -16.93 | -16.53 | -16.77 | -17.02 | 0.00 | -11.99 |
| | max | 0.02 | 0.02 | 0.02 | 0.02 | -0.01 | 0.01 |
| | min | | -16.53 | -16.77 | -17.02 | 0.00 | -11.99 |
| | max | | 0.02 | 0.02 | 0.02 | -0.01 | 0.01 |
| | min | | -16.53 | -16.77 | -17.02 | 0.00 | -11.99 |
| | max | | 0.02 | 0.02 | 0.02 | -0.01 | 0.01 |
| Qk.N_C5 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | max | 8.88 | 8.81 | 8.85 | 8.88 | 0.00 | 6.33 |
| | min | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | max | | 8.81 | 8.85 | 8.88 | 0.00 | 6.33 |
| | min | | 0.00 | 0.00 | -0.01 | 0.19 | 0.00 |
| | max | | 8.80 | 8.85 | 8.89 | 0.00 | 6.33 |
| Qk.N_E1 | min | -0.82 | -0.87 | -0.71 | -0.56 | -0.03 | -0.51 |
| | max | 24.46 | 24.82 | 24.17 | 23.53 | 0.00 | 17.28 |
| | min | | -0.87 | -0.71 | -0.56 | -0.03 | -0.51 |
| | max | | 24.82 | 24.17 | 23.53 | 0.00 | 17.28 |
| | min | | -0.75 | -0.66 | -0.57 | -0.02 | -0.47 |
| | max | | 24.69 | 24.12 | 23.54 | 0.00 | 17.24 |
| Qk.N_DA | min | -3.64 | -3.72 | -3.53 | -3.35 | -0.01 | -2.53 |
| | max | 6.95 | 6.98 | 6.76 | 6.54 | 0.00 | 4.83 |
| | min | | -3.71 | -3.55 | -3.39 | -0.01 | -2.54 |
| | max | | 6.97 | 6.77 | 6.58 | 0.00 | 4.84 |
| | min | | -3.71 | -3.55 | -3.39 | -0.01 | -2.54 |
| | max | | 6.97 | 6.77 | 6.58 | 0.00 | 4.84 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 |
| min | | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| max | | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 |
| min | | 0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| max | | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 |

W-0.39_3
 $Q \uparrow \wedge \text{ÄKÄ} \in \text{EİFÄ} \uparrow$

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 49.55 | 47.21 | 48.69 | 50.18 | 0.00 | 34.82 |
| Ö← | 7.14 | 5.97 | 6.70 | 7.42 | 0.01 | 4.79 |
| Qk.N_B1 | min | -2.38 | -2.30 | -2.31 | 0.00 | -1.64 |
| | max | 0.05 | 0.04 | 0.06 | 0.05 | 0.03 |
| | min | | -2.28 | -2.31 | 0.00 | -1.64 |
| | max | | 0.02 | 0.06 | 0.05 | 0.03 |
| | min | | -2.28 | -2.30 | 0.00 | -1.64 |
| | max | | 0.02 | 0.04 | 0.05 | 0.03 |
| Qk.N_C1 | min | -16.63 | -16.24 | -15.69 | 0.00 | -11.61 |
| | max | 0.13 | 0.12 | 0.13 | 0.01 | 0.09 |
| | min | | -16.79 | -15.69 | 0.00 | -11.61 |
| | max | | 0.11 | 0.13 | 0.01 | 0.09 |
| | min | | -16.79 | -16.24 | 0.00 | -11.61 |
| | max | | 0.11 | 0.12 | 0.01 | 0.09 |
| Qk.N_C5 | min | -0.83 | -0.79 | -0.79 | 0.00 | -0.57 |
| | max | 8.51 | 8.32 | 8.02 | 0.00 | 5.95 |
| | min | | -0.78 | -0.81 | 0.00 | -0.57 |
| | max | | 8.60 | 8.03 | 0.00 | 5.95 |
| | min | | -0.78 | -0.79 | 0.00 | -0.57 |
| | max | | 8.60 | 8.32 | 0.00 | 5.95 |
| Qk.N_E1 | min | -2.85 | -2.79 | -2.66 | -0.01 | -1.99 |
| | max | 27.62 | 27.12 | 28.11 | 0.00 | 19.39 |
| | min | | -2.91 | -2.66 | -0.01 | -1.99 |
| | max | | 26.13 | 28.11 | 0.00 | 19.39 |
| | min | | -2.91 | -2.79 | -0.01 | -1.99 |
| | max | | 26.13 | 27.12 | 0.00 | 19.39 |
| Qk.N_DA | min | -5.79 | -5.55 | -5.38 | 0.00 | -3.97 |
| | max | 6.42 | 6.19 | 6.15 | 0.00 | 4.43 |
| | min | | -5.64 | -5.67 | 0.00 | -4.04 |
| | max | | 6.16 | 6.44 | 0.00 | 4.50 |
| | min | | -5.64 | -5.65 | 0.00 | -4.04 |
| | max | | 6.16 | 6.30 | 0.00 | 4.50 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 |
| | max | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| | min | | 0.00 | 0.00 | 0.07 | 0.00 |
| | max | | 0.01 | 0.01 | 0.01 | 0.00 |
| | min | | 0.00 | 0.00 | 0.07 | 0.00 |
| | max | | 0.01 | 0.01 | 0.01 | 0.00 |

W-0.39_4
 $Q \uparrow \wedge \text{ÄKÄ} \in \text{EİGIÄ} \uparrow$

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 22.47 | 22.50 | 22.40 | 22.30 | 0.00 | 5.60 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Ö← | g | -4.86 | -5.03 | -4.50 | -3.96 | 0.00 | -1.12 |
| Qk.N_B1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 2.11 | 2.16 | 2.00 | 1.84 | 0.00 | 0.50 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 2.16 | 2.00 | 1.84 | 0.00 | 0.50 |
| Qk.N_C1 | min | | 0.01 | 0.00 | 0.00 | -0.10 | 0.00 |
| | max | | 2.15 | 2.00 | 1.84 | 0.00 | 0.50 |
| | min | -39.03 | -39.65 | -37.79 | -35.93 | 0.00 | -9.45 |
| | max | 0.14 | 0.14 | 0.13 | 0.12 | 0.00 | 0.03 |
| Qk.N_C5 | min | | -39.65 | -37.79 | -35.93 | 0.00 | -9.45 |
| | max | | 0.14 | 0.13 | 0.12 | 0.00 | 0.03 |
| | min | | -39.65 | -37.79 | -35.93 | 0.00 | -9.45 |
| | max | | 0.14 | 0.13 | 0.12 | 0.00 | 0.03 |
| Qk.N_E1 | min | -0.06 | -0.06 | -0.04 | -0.01 | -0.03 | -0.01 |
| | max | 20.08 | 20.42 | 19.40 | 18.38 | 0.00 | 4.85 |
| | min | | -0.06 | -0.04 | -0.01 | -0.03 | -0.01 |
| | max | | 20.42 | 19.40 | 18.38 | 0.00 | 4.85 |
| Qk.N_DA | min | | -0.06 | -0.04 | -0.01 | -0.03 | -0.01 |
| | max | | 20.42 | 19.40 | 18.38 | 0.00 | 4.85 |
| | min | -6.07 | -6.36 | -5.51 | -4.66 | -0.01 | -1.38 |
| | max | 8.41 | 8.46 | 8.30 | 8.14 | 0.00 | 2.08 |
| Qk.N_T2 | min | | -6.36 | -5.51 | -4.66 | -0.01 | -1.38 |
| | max | | 8.46 | 8.30 | 8.14 | 0.00 | 2.08 |
| | min | | -5.58 | -5.22 | -4.87 | 0.00 | -1.31 |
| | max | | 7.68 | 8.01 | 8.34 | 0.00 | 2.00 |
| Qk.N_DA | min | -2.33 | -2.37 | -2.25 | -2.13 | 0.00 | -0.56 |
| | max | 4.66 | 4.75 | 4.50 | 4.24 | 0.00 | 1.12 |
| | min | | -2.37 | -2.25 | -2.13 | 0.00 | -0.56 |
| | max | | 4.75 | 4.50 | 4.24 | 0.00 | 1.12 |
| Qk.N_T2 | min | | -2.37 | -2.25 | -2.13 | 0.00 | -0.56 |
| | max | | 4.75 | 4.50 | 4.24 | 0.00 | 1.12 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | max | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| Qk.N_T2 | min | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | max | | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | max | | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |

W-0.40

Q_t[^]&æÁKÁÎÈI€Á↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 176.35 | 106.86 | 108.60 | 110.33 | 0.02 | 923.06 |
| Ö← | g | 45.43 | 21.13 | 22.51 | 23.90 | 0.09 | 191.37 |
| Qk.N_B1 | min | -14.24 | -13.54 | -4.90 | 3.74 | -2.50 | -41.66 |
| | max | 21.53 | 10.87 | 9.73 | 8.58 | -0.17 | 82.66 |
| | min | | -13.54 | -4.90 | 3.74 | -2.50 | -41.66 |
| | max | | 10.87 | 9.73 | 8.58 | -0.17 | 82.66 |
| Qk.N_C1 | min | | 0.00 | 0.00 | 0.00 | -3.99 | 0.01 |
| | max | | -2.67 | 4.82 | 12.32 | 2.20 | 41.00 |
| | min | -12.22 | -10.10 | -4.36 | 1.37 | -1.86 | -37.07 |
| | max | 16.59 | 9.28 | 4.61 | -0.07 | -1.44 | 39.15 |
| Qk.N_C1 | min | | -10.10 | -4.36 | 1.37 | -1.86 | -37.07 |
| | max | | 9.28 | 4.61 | -0.07 | -1.44 | 39.15 |

D-789

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_C5 | min | | 9.28 | 4.61 | -0.07 | -1.44 | 39.15 |
| | max | | -10.10 | -4.36 | 1.37 | -1.86 | -37.07 |
| | min | -6.08 | -4.17 | -1.48 | 1.20 | -2.57 | -12.60 |
| | max | 7.41 | 8.22 | 2.92 | -2.39 | -2.58 | 24.79 |
| | min | | -4.17 | -1.48 | 1.20 | -2.57 | -12.60 |
| | max | | 8.22 | 2.92 | -2.39 | -2.58 | 24.79 |
| Qk.N_E1 | min | | 8.22 | 2.92 | -2.39 | -2.58 | 24.79 |
| | max | | -4.17 | -1.48 | 1.20 | -2.57 | -12.60 |
| | min | -0.24 | -0.09 | -0.02 | 0.06 | -6.96 | -0.13 |
| | max | 20.19 | 14.17 | 11.45 | 8.73 | -0.34 | 97.29 |
| | min | | -0.08 | -0.02 | 0.05 | -6.00 | -0.13 |
| | max | | 14.16 | 11.45 | 8.73 | -0.34 | 97.30 |
| Qk.N_DA | min | | 0.22 | 0.05 | -0.12 | -4.74 | 0.43 |
| | max | | 13.86 | 11.38 | 8.90 | -0.31 | 96.74 |
| | min | -9.19 | -9.43 | -6.15 | -2.88 | -0.75 | -52.31 |
| | max | 31.52 | 17.74 | 20.68 | 23.62 | 0.20 | 175.80 |
| | min | | -9.42 | -6.16 | -2.89 | -0.75 | -52.32 |
| | max | | 17.74 | 20.68 | 23.63 | 0.20 | 175.81 |
| Qk.N_T2 | min | | -8.27 | -6.04 | -3.81 | -0.52 | -51.35 |
| | max | | 16.59 | 20.57 | 24.55 | 0.27 | 174.84 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | -1.97 | 0.00 |
| | max | 32.85 | 24.93 | 11.99 | -0.94 | -1.53 | 101.95 |
| | min | | 0.00 | 0.00 | 0.00 | -1.97 | 0.00 |
| | max | | 24.93 | 11.99 | -0.94 | -1.53 | 101.95 |
| | min | | 24.93 | 11.99 | -0.94 | -1.53 | 101.95 |
| | max | | 0.00 | 0.00 | 0.00 | -1.97 | 0.00 |

W-0.41

Q†^&æĀKĀGÈÎĜĀ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 437.07 | -160.3 | 163.36 | 487.06 | 0.93 | 461.49 |
| Ö← | g | 69.73 | -24.86 | 26.37 | 77.59 | 0.91 | 74.49 |
| Qk.N_B1 | min | -28.80 | -5.76 | -0.71 | 4.33 | -3.34 | -2.01 |
| | max | 6.76 | 9.07 | -9.62 | -28.31 | 0.91 | -27.18 |
| | min | | 5.73 | -12.89 | -31.51 | 0.68 | -36.41 |
| | max | | -2.42 | 2.56 | 7.53 | 0.92 | 7.22 |
| | min | | 5.73 | -12.89 | -31.51 | 0.68 | -36.41 |
| | max | | -2.42 | 2.56 | 7.53 | 0.92 | 7.22 |
| Qk.N_C1 | min | -5.77 | -0.48 | 0.24 | 0.97 | 1.41 | 0.68 |
| | max | 0.87 | 3.22 | -1.60 | -6.43 | 1.42 | -4.53 |
| | min | | 3.19 | -1.62 | -6.43 | 1.40 | -4.57 |
| | max | | -0.46 | 0.26 | 0.97 | 1.31 | 0.72 |
| | min | | 3.22 | -1.60 | -6.43 | 1.42 | -4.53 |
| | max | | -0.48 | 0.24 | 0.97 | 1.41 | 0.68 |
| Qk.N_C5 | min | -9.02 | -31.58 | 28.37 | 88.31 | 1.00 | 80.13 |
| | max | 96.50 | 3.54 | 6.00 | 8.47 | 0.19 | 16.96 |
| | min | | 3.23 | -3.41 | -10.05 | 0.92 | -9.63 |
| | max | | -31.27 | 37.78 | 106.83 | 0.86 | 106.73 |
| | min | | 3.24 | -3.41 | -10.05 | 0.92 | -9.62 |
| | max | | -31.28 | 37.78 | 106.83 | 0.86 | 106.72 |
| Qk.N_E1 | min | -8.30 | 0.00 | 0.00 | 0.00 | 1.66 | 0.00 |
| | max | 0.12 | 2.97 | -3.06 | -9.10 | 0.93 | -8.65 |
| | min | | 2.89 | -3.17 | -9.23 | 0.90 | -8.95 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 0.08 | 0.11 | 0.13 | 0.10 | 0.30 |
| | min | | 2.89 | -3.17 | -9.23 | 0.90 | -8.95 |
| | max | | 0.08 | 0.11 | 0.13 | 0.10 | 0.30 |
| Qk.N_DA | min | -16.31 | -29.93 | 31.36 | 92.64 | 0.92 | 88.58 |
| | max | 83.11 | 5.86 | -6.16 | -18.18 | 0.92 | -17.40 |
| | min | | 5.86 | -6.16 | -18.18 | 0.92 | -17.40 |
| | max | | -29.93 | 31.36 | 92.64 | 0.92 | 88.58 |
| | min | | 5.86 | -6.16 | -18.18 | 0.92 | -17.40 |
| | max | | -29.93 | 31.36 | 92.64 | 0.92 | 88.58 |
| Qk.N_T2 | min | -0.04 | -0.11 | 0.14 | 0.39 | 0.82 | 0.40 |
| | max | 0.36 | 0.02 | 0.00 | -0.03 | 2.56 | -0.01 |
| | min | | 0.01 | -0.01 | -0.04 | 0.92 | -0.04 |
| | max | | -0.10 | 0.15 | 0.41 | 0.79 | 0.43 |
| | min | | 0.01 | -0.01 | -0.04 | 0.92 | -0.04 |
| | max | | -0.10 | 0.15 | 0.41 | 0.79 | 0.43 |

W-0.42

Qk.N_DA

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 124.99 | 116.05 | 87.76 | 59.48 | -0.46 | 746.00 |
| Ö← | g | 56.11 | 58.57 | 44.16 | 29.76 | -0.46 | 375.39 |
| Qk.N_B1 | min | -6.49 | 0.00 | 0.00 | 0.01 | 3.93 | 0.01 |
| | max | 17.39 | 14.98 | 5.45 | -4.08 | -2.48 | 46.32 |
| | min | | 1.77 | -1.87 | -5.51 | 2.76 | -15.90 |
| | max | | 13.21 | 7.32 | 1.44 | -1.14 | 62.23 |
| | min | | 1.77 | -1.87 | -5.51 | 2.76 | -15.90 |
| | max | | 13.21 | 7.32 | 1.44 | -1.14 | 62.23 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.71 | -0.01 |
| | max | 18.63 | 12.00 | 8.83 | 5.66 | -0.51 | 75.07 |
| | min | | 0.00 | 0.00 | 0.00 | 0.88 | -0.01 |
| | max | | 12.00 | 8.83 | 5.66 | -0.51 | 75.07 |
| | min | | 0.00 | 0.00 | 0.00 | 0.88 | -0.01 |
| | max | | 12.00 | 8.83 | 5.66 | -0.51 | 75.07 |
| Qk.N_C5 | min | 0.00 | -1.15 | 1.85 | 4.85 | 2.29 | 15.75 |
| | max | 5.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 7.28 | 0.00 |
| | max | | -1.15 | 1.85 | 4.85 | 2.29 | 15.75 |
| | min | | 0.00 | 0.00 | 0.00 | 7.55 | 0.00 |
| | max | | -1.15 | 1.85 | 4.85 | 2.29 | 15.75 |
| Qk.N_E1 | min | -3.06 | -0.01 | -0.01 | -0.01 | 0.43 | -0.06 |
| | max | 0.00 | 0.84 | -0.81 | -2.45 | 2.89 | -6.84 |
| | min | | 0.83 | -0.81 | -2.46 | 2.87 | -6.90 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.83 | -0.81 | -2.46 | 2.87 | -6.90 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -1.02 | -0.03 | 0.03 | 0.09 | 2.73 | 0.25 |
| | max | 14.78 | 10.81 | 7.34 | 3.87 | -0.67 | 62.39 |
| | min | | 0.07 | -0.20 | -0.47 | 1.88 | -1.72 |
| | max | | 10.71 | 7.57 | 4.43 | -0.59 | 64.36 |
| | min | | 0.08 | -0.20 | -0.48 | 2.01 | -1.69 |
| | max | | 10.69 | 7.57 | 4.44 | -0.59 | 64.33 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 2.18 | 0.00 |
| | max | 0.01 | 0.00 | 0.00 | 0.00 | 0.94 | 0.01 |

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 0.00 | 0.00 | 0.00 | 1.21 | 0.01 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 0.00 | 0.00 | 0.00 | 1.21 | 0.01 |

W-0.43
 $Q^+ \wedge \text{ÄKÄFÈI} \in \text{Ä} \uparrow$

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 245.36 | 218.57 | 235.06 | 251.55 | 0.02 | 352.59 |
| Ö← | g | 106.39 | 98.23 | 103.24 | 108.24 | 0.01 | 154.85 |
| Qk.N_B1 | min | -6.26 | -6.86 | -5.03 | -3.19 | -0.09 | -7.54 |
| | max | 69.15 | 59.72 | 65.16 | 70.61 | 0.02 | 97.74 |
| | min | | -6.85 | -5.09 | -3.34 | -0.09 | -7.64 |
| | max | | 59.71 | 65.23 | 70.75 | 0.02 | 97.85 |
| | min | | -6.85 | -5.09 | -3.34 | -0.09 | -7.64 |
| | max | | 59.71 | 65.23 | 70.75 | 0.02 | 97.85 |
| Qk.N_C1 | min | -13.13 | -15.63 | -7.64 | 0.36 | -0.26 | -11.46 |
| | max | 0.00 | 0.00 | 0.00 | -0.01 | 0.28 | -0.01 |
| | min | | -15.63 | -7.64 | 0.35 | -0.26 | -11.46 |
| | max | | 0.00 | 0.00 | 0.00 | 0.28 | 0.00 |
| | min | | 0.00 | 0.00 | -0.01 | 0.28 | -0.01 |
| | max | | -15.63 | -7.64 | 0.36 | -0.26 | -11.46 |
| Qk.N_C5 | min | -4.33 | -4.45 | -4.13 | -3.81 | -0.02 | -6.19 |
| | max | 0.03 | 0.02 | 0.03 | 0.03 | 0.07 | 0.04 |
| | min | | -4.45 | -4.13 | -3.81 | -0.02 | -6.19 |
| | max | | 0.02 | 0.03 | 0.03 | 0.07 | 0.04 |
| | min | | -4.45 | -4.13 | -3.81 | -0.02 | -6.19 |
| | max | | 0.02 | 0.03 | 0.03 | 0.07 | 0.04 |
| Qk.N_E1 | min | -0.02 | -0.04 | 0.11 | 0.26 | 0.35 | 0.16 |
| | max | 13.79 | 13.52 | 13.47 | 13.42 | 0.00 | 20.20 |
| | min | | -0.02 | -0.01 | 0.00 | -0.27 | -0.02 |
| | max | | 13.50 | 13.58 | 13.67 | 0.00 | 20.38 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 13.47 | 13.57 | 13.67 | 0.00 | 20.36 |
| Qk.N_DA | min | -6.81 | -7.19 | -6.16 | -5.13 | -0.04 | -9.23 |
| | max | 23.65 | 24.00 | 23.30 | 22.60 | -0.01 | 34.95 |
| | min | | -7.19 | -6.16 | -5.13 | -0.04 | -9.23 |
| | max | | 24.00 | 23.30 | 22.60 | -0.01 | 34.95 |
| | min | | -7.19 | -6.16 | -5.13 | -0.04 | -9.23 |
| | max | | 24.00 | 23.30 | 22.60 | -0.01 | 34.95 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.01 | 0.01 | 0.34 | 0.01 |
| | max | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.13 | 0.00 |
| | max | | 0.00 | 0.01 | 0.01 | 0.20 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | -0.76 | 0.00 |
| | max | | 0.00 | 0.01 | 0.01 | 0.26 | 0.01 |

W-0.44_1
 $Q^+ \wedge \text{ÄKÄGÈI} \in \text{Ä} \uparrow$

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----|---|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 366.03 | 414.46 | 152.45 | -109.6 | -0.72 | 381.14 |
| Ö← | g | 110.09 | 124.80 | 37.21 | -50.39 | -0.98 | 93.02 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_B1 | min | -0.07 | -5.99 | 15.74 | 37.46 | 0.58 | 39.34 |
| | max | 31.33 | 39.32 | 1.18 | -36.96 | -13.51 | 2.94 |
| | min | | -0.03 | -0.06 | -0.08 | 0.20 | -0.14 |
| | max | | 33.36 | 16.97 | 0.58 | -0.40 | 42.42 |
| | min | | 39.27 | 1.13 | -37.02 | -14.13 | 2.81 |
| | max | | -5.95 | 15.79 | 37.52 | 0.57 | 39.47 |
| Qk.N_C1 | min | -41.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 75.57 | -0.86 | -77.29 | 37.09 | -2.15 |
| | min | | 75.57 | -0.86 | -77.29 | 37.09 | -2.15 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 75.57 | -0.86 | -77.29 | 37.09 | -2.15 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | 0.00 | -0.16 | 0.50 | 1.16 | 0.55 | 1.25 |
| | max | 60.38 | 69.47 | 30.38 | -8.72 | -0.54 | 75.94 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 69.31 | 30.88 | -7.55 | -0.52 | 77.19 |
| | min | | 27.64 | 5.73 | -16.18 | -1.59 | 14.31 |
| | max | | 41.67 | 25.15 | 8.63 | -0.27 | 62.88 |
| Qk.N_E1 | min | -0.32 | 0.00 | 0.00 | 0.00 | 0.04 | -0.01 |
| | max | 15.15 | 5.39 | 11.62 | 17.86 | 0.22 | 29.06 |
| | min | | 0.39 | -0.06 | -0.50 | 3.25 | -0.14 |
| | max | | 5.00 | 11.68 | 18.36 | 0.24 | 29.20 |
| | min | | 0.39 | -0.06 | -0.50 | 3.34 | -0.14 |
| | max | | 5.00 | 11.68 | 18.36 | 0.24 | 29.20 |
| Qk.N_DA | min | -0.03 | -0.03 | 0.02 | 0.06 | 1.04 | 0.04 |
| | max | 44.84 | 54.07 | 13.75 | -26.58 | -1.22 | 34.36 |
| | min | | 0.03 | -0.01 | -0.05 | 2.08 | -0.02 |
| | max | | 54.01 | 13.77 | -26.47 | -1.22 | 34.43 |
| | min | | 46.02 | 5.63 | -34.77 | -2.99 | 14.07 |
| | max | | 8.02 | 8.13 | 8.25 | 0.01 | 20.34 |
| Qk.N_T2 | min | 0.00 | -0.05 | 0.01 | 0.07 | 2.06 | 0.03 |
| | max | 0.10 | 0.14 | 0.07 | 0.00 | -0.41 | 0.17 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.09 | 0.08 | 0.07 | -0.06 | 0.20 |
| | min | | 0.13 | 0.07 | 0.00 | -0.43 | 0.17 |
| | max | | -0.04 | 0.01 | 0.07 | 1.72 | 0.03 |

W-0.44_2

Q†^&æÁKÁGÈÍHÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 162.41 | 141.58 | 144.98 | 148.37 | 0.01 | 397.24 |
| Ö← | g | 42.25 | 36.58 | 38.34 | 40.10 | 0.02 | 105.05 |
| Qk.N_B1 | min | -0.52 | -0.67 | -0.16 | 0.34 | -1.41 | -0.45 |
| | max | 40.58 | 37.41 | 37.90 | 38.38 | 0.01 | 103.84 |
| | min | | -0.67 | -0.17 | 0.32 | -1.32 | -0.47 |
| | max | | 37.41 | 37.90 | 38.40 | 0.01 | 103.86 |
| | min | | 0.00 | -0.01 | -0.01 | 0.41 | -0.02 |
| | max | | 36.74 | 37.74 | 38.73 | 0.01 | 103.40 |
| Qk.N_C1 | min | -0.88 | -1.00 | -0.39 | 0.21 | -0.70 | -1.08 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.39 | 0.01 |
| | min | | -1.00 | -0.39 | 0.21 | -0.70 | -1.08 |
| | max | | 0.00 | 0.00 | 0.00 | -0.39 | 0.01 |
| | min | | 0.00 | 0.00 | -0.01 | 1.79 | 0.00 |
| | max | | | | | | |

D-793

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_C5 | max | | -1.00 | -0.39 | 0.22 | -0.71 | -1.07 |
| | min | -1.92 | -2.20 | -1.36 | -0.52 | -0.28 | -3.73 |
| | max | 15.81 | 14.59 | 14.67 | 14.75 | 0.00 | 40.20 |
| | min | | -2.20 | -1.36 | -0.52 | -0.28 | -3.73 |
| | max | | 14.59 | 14.67 | 14.75 | 0.00 | 40.20 |
| | min | | -0.33 | -0.49 | -0.64 | 0.15 | -1.33 |
| Qk.N_E1 | max | | 12.71 | 13.79 | 14.88 | 0.04 | 37.79 |
| | min | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 26.32 | 22.63 | 22.86 | 23.09 | 0.00 | 62.64 |
| | min | | 0.01 | -0.01 | -0.02 | 0.72 | -0.03 |
| | max | | 22.63 | 22.87 | 23.11 | 0.00 | 62.66 |
| | min | | 0.04 | 0.00 | -0.03 | -4.34 | 0.01 |
| Qk.N_DA | max | | 22.60 | 22.86 | 23.12 | 0.01 | 62.63 |
| | min | -1.17 | -1.35 | -0.65 | 0.05 | -0.49 | -1.79 |
| | max | 9.94 | 8.53 | 8.36 | 8.19 | -0.01 | 22.91 |
| | min | | -1.33 | -0.92 | -0.52 | -0.20 | -2.53 |
| | max | | 8.51 | 8.63 | 8.76 | 0.01 | 23.65 |
| | min | | -0.14 | -0.55 | -0.95 | 0.34 | -1.50 |
| Qk.N_T2 | max | | 7.32 | 8.26 | 9.19 | 0.05 | 22.62 |
| | min | -0.03 | -0.04 | -0.02 | 0.00 | -0.53 | -0.05 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 1.11 | 0.00 |
| | min | | -0.04 | -0.02 | 0.00 | -0.45 | -0.05 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | -0.01 | 0.49 | -0.01 |
| | max | | -0.04 | -0.02 | 0.01 | -0.59 | -0.04 |

W-0.44_3

Q₁^&æÅKÄ€ÈH€Á↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 69.80 | 69.87 | 69.66 | 69.46 | 0.00 | 27.87 |
| Ö← | g | 22.56 | 22.58 | 22.52 | 22.45 | 0.00 | 9.01 |
| Qk.N_B1 | min | -0.02 | -0.02 | -0.02 | -0.02 | 0.00 | -0.01 |
| | max | 25.73 | 25.75 | 25.70 | 25.65 | 0.00 | 10.28 |
| | min | | -0.02 | -0.02 | -0.02 | 0.00 | -0.01 |
| | max | | 25.75 | 25.70 | 25.65 | 0.00 | 10.28 |
| | min | | -0.02 | -0.02 | -0.02 | 0.00 | -0.01 |
| | max | | 25.75 | 25.70 | 25.65 | 0.00 | 10.28 |
| Qk.N_C1 | min | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | 0.00 |
| | max | 0.08 | 0.06 | 0.07 | 0.08 | 0.01 | 0.03 |
| | min | | -0.01 | -0.01 | -0.01 | 0.01 | 0.00 |
| | max | | 0.06 | 0.07 | 0.08 | 0.01 | 0.03 |
| | min | | -0.01 | -0.01 | -0.01 | 0.01 | 0.00 |
| | max | | 0.06 | 0.07 | 0.08 | 0.01 | 0.03 |
| Qk.N_C5 | min | -0.51 | -0.46 | -0.49 | -0.52 | 0.00 | -0.20 |
| | max | 9.74 | 9.74 | 9.73 | 9.71 | 0.00 | 3.89 |
| | min | | -0.46 | -0.49 | -0.52 | 0.00 | -0.20 |
| | max | | 9.74 | 9.73 | 9.71 | 0.00 | 3.89 |
| | min | | -0.46 | -0.49 | -0.52 | 0.00 | -0.20 |
| | max | | 9.74 | 9.73 | 9.71 | 0.00 | 3.89 |
| Qk.N_E1 | min | -0.17 | -0.15 | -0.16 | -0.17 | 0.00 | -0.06 |
| | max | 8.16 | 8.16 | 8.16 | 8.16 | 0.00 | 3.26 |
| | min | | -0.15 | -0.16 | -0.17 | 0.00 | -0.06 |
| | max | | 8.16 | 8.16 | 8.16 | 0.00 | 3.26 |

D-794

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -0.15 | -0.16 | -0.17 | 0.00 | -0.06 |
| | max | | 8.16 | 8.16 | 8.16 | 0.00 | 3.26 |
| Qk.N_DA | min | -0.60 | -0.59 | -0.60 | -0.60 | 0.00 | -0.24 |
| | max | 3.24 | 3.25 | 3.24 | 3.24 | 0.00 | 1.30 |
| | min | | -0.59 | -0.60 | -0.60 | 0.00 | -0.24 |
| | max | | 3.25 | 3.24 | 3.24 | 0.00 | 1.30 |
| | min | | -0.59 | -0.60 | -0.60 | 0.00 | -0.24 |
| | max | | 3.25 | 3.24 | 3.24 | 0.00 | 1.30 |
| Qk.N_T2 | min | -0.01 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | min | | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | min | | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |

W-0.44_4
 $Q_k^{\wedge} \& \acute{a} \acute{K} \acute{A} \acute{G} \acute{E} \acute{I} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 148.97 | 105.17 | 132.45 | 159.72 | 0.09 | 343.04 |
| Ö← | g | 32.24 | 26.38 | 29.90 | 33.41 | 0.05 | 77.43 |
| Qk.N_B1 | min | -1.06 | -0.44 | -0.32 | -0.20 | -0.17 | -0.83 |
| | max | 25.84 | 34.70 | 13.10 | -8.50 | -0.71 | 33.92 |
| | min | | -0.27 | -0.76 | -1.24 | 0.28 | -1.96 |
| | max | | 34.53 | 13.53 | -7.46 | -0.67 | 35.05 |
| | min | | 34.25 | 12.78 | -8.70 | -0.73 | 33.09 |
| | max | | 0.00 | 0.00 | 0.00 | 0.24 | 0.00 |
| Qk.N_C1 | min | -1.34 | -0.12 | 0.05 | 0.23 | 1.44 | 0.14 |
| | max | 0.22 | 0.86 | -0.37 | -1.59 | 1.43 | -0.96 |
| | min | | 0.84 | -0.39 | -1.63 | 1.36 | -1.02 |
| | max | | -0.11 | 0.08 | 0.26 | 1.06 | 0.20 |
| | min | | 0.84 | -0.39 | -1.63 | 1.36 | -1.02 |
| | max | | -0.11 | 0.08 | 0.26 | 1.06 | 0.20 |
| Qk.N_C5 | min | -0.07 | -5.15 | 5.37 | 15.89 | 0.85 | 13.91 |
| | max | 40.86 | 9.90 | 20.08 | 30.26 | 0.22 | 52.01 |
| | min | | -0.10 | -0.01 | 0.08 | -3.67 | -0.03 |
| | max | | 4.85 | 25.46 | 46.07 | 0.35 | 65.94 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 4.75 | 25.45 | 46.15 | 0.35 | 65.92 |
| Qk.N_E1 | min | -1.46 | -2.90 | -0.05 | 2.80 | -25.66 | -0.12 |
| | max | 14.23 | 16.38 | 11.56 | 6.75 | -0.18 | 29.95 |
| | min | | -2.90 | -0.06 | 2.77 | -19.58 | -0.16 |
| | max | | 16.38 | 11.58 | 6.78 | -0.18 | 29.99 |
| | min | | 0.00 | -0.01 | -0.03 | 0.49 | -0.04 |
| | max | | 13.48 | 11.53 | 9.58 | -0.07 | 29.86 |
| Qk.N_DA | min | -1.05 | -1.84 | 3.45 | 8.74 | 0.66 | 8.93 |
| | max | 12.02 | 7.92 | 5.74 | 3.57 | -0.16 | 14.88 |
| | min | | 0.50 | -0.38 | -1.26 | 1.00 | -0.99 |
| | max | | 5.58 | 9.57 | 13.57 | 0.18 | 24.79 |
| | min | | 0.50 | -0.38 | -1.26 | 1.00 | -0.99 |
| | max | | 5.58 | 9.57 | 13.57 | 0.18 | 24.79 |
| Qk.N_T2 | min | -0.45 | -0.17 | -0.35 | -0.53 | 0.22 | -0.91 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.17 | -0.35 | -0.53 | 0.22 | -0.91 |

D-795

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| min | | -0.17 | -0.35 | -0.53 | 0.22 | -0.91 |
| max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

W-0.45

Q⁺ & A K A F E G I A ↑

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 98.88 | 104.88 | 82.06 | 59.24 | -0.06 | 112.84 |
| Ö← | g | 50.69 | 53.74 | 42.52 | 31.30 | -0.06 | 58.46 |
| Qk.N_B1 | min | -0.84 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 29.07 | 35.21 | 15.18 | -4.85 | -0.30 | 20.88 |
| | min | | 0.08 | -0.47 | -1.01 | 0.27 | -0.64 |
| | max | | 35.14 | 15.65 | -3.84 | -0.29 | 21.52 |
| | min | | 22.55 | 6.65 | -9.26 | -0.55 | 9.14 |
| | max | | 12.66 | 8.54 | 4.41 | -0.11 | 11.74 |
| Qk.N_C1 | min | -0.10 | -0.13 | -0.04 | 0.05 | -0.50 | -0.05 |
| | max | 0.06 | 0.09 | 0.01 | -0.07 | -1.95 | 0.01 |
| | min | | -0.13 | -0.04 | 0.05 | -0.50 | -0.05 |
| | max | | 0.09 | 0.01 | -0.07 | -1.95 | 0.01 |
| | min | | 0.09 | 0.01 | -0.07 | -1.97 | 0.01 |
| | max | | -0.13 | -0.04 | 0.05 | -0.50 | -0.05 |
| Qk.N_C5 | min | -0.19 | -0.49 | 0.08 | 0.65 | 1.64 | 0.11 |
| | max | 0.43 | 0.16 | 0.08 | 0.00 | -0.23 | 0.11 |
| | min | | -0.25 | -0.07 | 0.12 | -0.65 | -0.09 |
| | max | | -0.08 | 0.22 | 0.53 | 0.32 | 0.31 |
| | min | | 0.11 | 0.05 | -0.01 | -0.28 | 0.07 |
| | max | | -0.45 | 0.11 | 0.66 | 1.18 | 0.15 |
| Qk.N_E1 | min | 0.00 | -2.79 | 1.13 | 5.05 | 0.80 | 1.55 |
| | max | 4.81 | 2.74 | 1.65 | 0.56 | -0.15 | 2.27 |
| | min | | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 |
| | max | | -0.05 | 2.78 | 5.62 | 0.23 | 3.83 |
| | min | | 0.00 | 0.00 | 0.00 | 0.22 | 0.00 |
| | max | | -0.05 | 2.78 | 5.62 | 0.23 | 3.83 |
| Qk.N_DA | min | -0.70 | -0.19 | -0.47 | -0.76 | 0.14 | -0.65 |
| | max | 6.40 | 6.47 | 5.98 | 5.49 | -0.02 | 8.22 |
| | min | | -0.18 | -0.49 | -0.80 | 0.14 | -0.68 |
| | max | | 6.46 | 6.00 | 5.53 | -0.02 | 8.25 |
| | min | | -0.18 | -0.49 | -0.80 | 0.14 | -0.68 |
| | max | | 6.46 | 6.00 | 5.53 | -0.02 | 8.25 |
| Qk.N_T2 | min | -0.11 | -0.18 | 0.00 | 0.18 | 12.47 | 0.01 |
| | max | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.16 | -0.02 | 0.12 | -1.72 | -0.03 |
| | max | | -0.02 | 0.02 | 0.06 | 0.38 | 0.03 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.18 | 0.00 | 0.18 | 12.47 | 0.01 |

W-0.46

Q⁺ & A K A F E I A ↑

Kraft Ft

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 216.48 | 150.50 | 188.72 | 226.94 | 0.05 | 283.08 |
| Ö← | g | 98.37 | 71.72 | 87.13 | 102.55 | 0.04 | 130.70 |
| Qk.N_B1 | min | -0.62 | -0.35 | -0.02 | 0.31 | -3.88 | -0.03 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | 70.54 | 54.35 | 63.05 | 71.76 | 0.03 | 94.58 |
| | | -0.20 | -0.45 | -0.69 | 0.14 | -0.67 |
| | | 54.19 | 63.48 | 72.76 | 0.04 | 95.21 |
| | | -0.20 | -0.45 | -0.69 | 0.14 | -0.67 |
| | | 54.19 | 63.48 | 72.76 | 0.04 | 95.21 |
| Qk.N_C1 | 0.00 | -0.01 | 0.02 | 0.05 | 0.36 | 0.03 |
| | 1.55 | 1.82 | 0.91 | 0.00 | -0.25 | 1.37 |
| | | 0.00 | 0.00 | 0.00 | 0.39 | 0.00 |
| | | 1.81 | 0.93 | 0.06 | -0.24 | 1.40 |
| | | 0.00 | 0.00 | 0.00 | 0.43 | 0.00 |
| | | 1.81 | 0.93 | 0.06 | -0.24 | 1.40 |
| Qk.N_C5 | -1.67 | -1.45 | -1.38 | -1.30 | -0.01 | -2.06 |
| | 0.31 | 0.00 | -0.01 | -0.02 | 0.37 | -0.01 |
| | | -1.44 | -1.57 | -1.69 | 0.02 | -2.35 |
| | | 0.00 | 0.19 | 0.37 | 0.25 | 0.28 |
| | | -1.35 | -1.55 | -1.76 | 0.03 | -2.33 |
| | | -0.10 | 0.17 | 0.44 | 0.39 | 0.25 |
| Qk.N_E1 | -1.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 7.43 | 5.02 | 5.55 | 6.08 | 0.02 | 8.32 |
| | | 0.23 | -0.78 | -1.79 | 0.32 | -1.17 |
| | | 4.79 | 6.33 | 7.87 | 0.06 | 9.49 |
| | | 0.23 | -0.78 | -1.79 | 0.32 | -1.17 |
| | | 4.79 | 6.33 | 7.87 | 0.06 | 9.49 |
| Qk.N_DA | -0.10 | -0.34 | 0.16 | 0.67 | 0.76 | 0.25 |
| | 14.37 | 8.41 | 11.56 | 14.71 | 0.07 | 17.33 |
| | | -0.06 | -0.08 | -0.10 | 0.06 | -0.12 |
| | | 8.13 | 11.80 | 15.47 | 0.08 | 17.70 |
| | | -0.03 | -0.08 | -0.12 | 0.15 | -0.11 |
| | | 8.10 | 11.80 | 15.49 | 0.08 | 17.69 |
| Qk.N_T2 | -0.12 | -0.02 | -0.04 | -0.06 | 0.13 | -0.06 |
| | 0.00 | 0.01 | -0.03 | -0.08 | 0.34 | -0.05 |
| | | -0.01 | -0.07 | -0.14 | 0.23 | -0.11 |
| | | 0.00 | 0.00 | 0.00 | -0.07 | 0.00 |
| | | -0.01 | -0.07 | -0.14 | 0.23 | -0.11 |
| | | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 |

W-0.47
 $Q_{\uparrow}^{\wedge} \& \acute{a} \acute{K} \acute{A} F \acute{E} \grave{G} \acute{I} \acute{A} \uparrow$

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 255.71 | 132.99 | 204.86 | 276.74 | 0.08 | 281.68 |
| Ö← | 109.84 | 65.73 | 91.46 | 117.19 | 0.06 | 125.76 |
| Qk.N_B1 | -0.06 | -4.06 | 0.33 | 4.71 | 3.09 | 0.45 |
| | 44.83 | 11.57 | 29.22 | 46.87 | 0.14 | 40.18 |
| | | -0.02 | -0.05 | -0.07 | 0.12 | -0.06 |
| | | 7.53 | 29.59 | 51.66 | 0.17 | 40.69 |
| | | -0.02 | -0.05 | -0.07 | 0.12 | -0.06 |
| | | 7.53 | 29.59 | 51.66 | 0.17 | 40.69 |
| Qk.N_C1 | -0.02 | -0.02 | -0.01 | 0.00 | -0.15 | -0.02 |
| | 48.22 | 52.39 | 37.71 | 23.04 | -0.09 | 51.85 |
| | | -0.02 | -0.01 | 0.00 | -0.15 | -0.02 |
| | | 52.39 | 37.71 | 23.04 | -0.09 | 51.85 |
| | | -0.02 | -0.01 | -0.01 | -0.13 | -0.02 |
| | | 52.38 | 37.71 | 23.04 | -0.09 | 51.85 |

D-797

Schulcampus EWK \

EG-LP4

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Qk.N_C5 | min | -0.35 | -0.39 | -0.26 | -0.13 | -0.11 | -0.36 |
| | max | 2.47 | 0.76 | 1.76 | 2.76 | 0.13 | 2.42 |
| | min | | -0.38 | -0.27 | -0.16 | -0.10 | -0.37 |
| | max | | 0.75 | 1.77 | 2.79 | 0.13 | 2.43 |
| | min | | -0.38 | -0.27 | -0.16 | -0.09 | -0.37 |
| | max | | 0.74 | 1.76 | 2.79 | 0.13 | 2.42 |
| Qk.N_E1 | min | -0.07 | -0.06 | -0.06 | -0.05 | 0.00 | -0.08 |
| | max | 0.26 | 0.30 | 0.17 | 0.04 | -0.18 | 0.24 |
| | min | | -0.05 | -0.06 | -0.07 | 0.03 | -0.09 |
| | max | | 0.30 | 0.18 | 0.06 | -0.16 | 0.25 |
| | min | | 0.11 | -0.01 | -0.13 | 2.28 | -0.02 |
| | max | | 0.14 | 0.13 | 0.11 | -0.03 | 0.18 |
| Qk.N_DA | min | -0.62 | -0.16 | -0.43 | -0.70 | 0.14 | -0.59 |
| | max | 44.72 | 12.59 | 31.65 | 50.70 | 0.14 | 43.51 |
| | min | | -0.16 | -0.43 | -0.71 | 0.14 | -0.60 |
| | max | | 12.59 | 31.65 | 50.70 | 0.14 | 43.52 |
| | min | | -0.16 | -0.43 | -0.71 | 0.14 | -0.60 |
| | max | | 12.59 | 31.65 | 50.70 | 0.14 | 43.52 |
| Qk.N_T2 | min | -0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.03 | 0.07 | 0.02 | -0.03 | -0.53 | 0.03 |
| | min | | 0.03 | 0.00 | -0.03 | 6.67 | 0.00 |
| | max | | 0.03 | 0.02 | 0.01 | -0.14 | 0.03 |
| | min | | 0.03 | 0.00 | -0.03 | 6.69 | 0.00 |
| | max | | 0.03 | 0.02 | 0.01 | -0.14 | 0.03 |

W-0.48

Q†^&æÁKÁFÈHÍÁ↑

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 1.87 | 2.24 | 1.56 | 0.89 | -0.10 | 2.27 |
| Ö← | g | 1.59 | 1.64 | 1.52 | 1.41 | -0.02 | 2.21 |
| Qk.N_B1 | min | -4.17 | -4.25 | -4.08 | -3.92 | -0.01 | -5.92 |
| | max | 0.08 | 0.10 | 0.03 | -0.04 | -0.61 | 0.04 |
| | min | | -4.23 | -4.10 | -3.98 | -0.01 | -5.95 |
| | max | | 0.08 | 0.05 | 0.03 | -0.13 | 0.08 |
| | min | | -4.13 | -4.08 | -4.03 | 0.00 | -5.91 |
| | max | | -0.02 | 0.03 | 0.07 | 0.42 | 0.04 |
| Qk.N_C1 | min | 0.00 | -0.01 | 0.00 | 0.02 | 0.79 | 0.01 |
| | max | 0.09 | 0.10 | 0.07 | 0.03 | -0.13 | 0.10 |
| | min | | 0.00 | 0.00 | 0.00 | 0.72 | 0.00 |
| | max | | 0.09 | 0.07 | 0.05 | -0.07 | 0.11 |
| | min | | 0.00 | 0.00 | 0.00 | 0.74 | 0.00 |
| | max | | 0.09 | 0.07 | 0.05 | -0.07 | 0.11 |
| Qk.N_C5 | min | -0.32 | -0.20 | -0.15 | -0.10 | -0.09 | -0.22 |
| | max | 6.31 | 6.41 | 6.21 | 6.02 | -0.01 | 9.01 |
| | min | | -0.12 | -0.22 | -0.32 | 0.11 | -0.32 |
| | max | | 6.33 | 6.29 | 6.24 | 0.00 | 9.11 |
| | min | | 0.02 | -0.19 | -0.40 | 0.27 | -0.27 |
| | max | | 6.18 | 6.25 | 6.32 | 0.00 | 9.06 |
| Qk.N_E1 | min | -0.07 | -0.01 | -0.05 | -0.08 | 0.18 | -0.07 |
| | max | 0.07 | 0.03 | 0.05 | 0.07 | 0.09 | 0.08 |
| | min | | -0.01 | -0.05 | -0.09 | 0.19 | -0.07 |
| | max | | 0.03 | 0.05 | 0.07 | 0.09 | 0.08 |
| | min | | -0.01 | -0.05 | -0.09 | 0.19 | -0.07 |
| | max | | 0.03 | 0.05 | 0.07 | 0.09 | 0.08 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_DA | max | | 0.03 | 0.05 | 0.07 | 0.09 | 0.08 |
| | min | -0.36 | -0.25 | -0.20 | -0.15 | -0.06 | -0.30 |
| | max | 0.10 | 0.17 | -0.01 | -0.19 | 4.31 | -0.02 |
| | min | | -0.19 | -0.27 | -0.35 | 0.07 | -0.39 |
| | max | | 0.11 | 0.06 | 0.00 | -0.23 | 0.08 |
| | min | | 0.01 | -0.22 | -0.44 | 0.25 | -0.32 |
| Qk.N_T2 | max | | -0.09 | 0.01 | 0.10 | 4.37 | 0.01 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.76 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.22 | 0.00 |
| | max | | 0.00 | 0.00 | 0.01 | 0.09 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | 0.38 | 0.00 |
| | max | | 0.00 | 0.00 | 0.01 | 0.12 | 0.01 |

W-0.49

Qk.N_DA

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 208.37 | 32.84 | 82.43 | 132.02 | 0.44 | 358.58 |
| Ö← | g | 16.01 | 1.12 | 8.69 | 16.26 | 0.63 | 37.80 |
| Qk.N_B1 | min | -39.95 | -8.23 | -18.88 | -29.52 | 0.41 | -82.12 |
| | max | 2.09 | 0.38 | 0.76 | 1.14 | 0.36 | 3.32 |
| | min | | -8.23 | -18.88 | -29.53 | 0.41 | -82.12 |
| | max | | 0.38 | 0.76 | 1.15 | 0.36 | 3.32 |
| | min | | -8.23 | -18.88 | -29.53 | 0.41 | -82.12 |
| | max | | 0.38 | 0.76 | 1.15 | 0.36 | 3.32 |
| Qk.N_C1 | min | -13.50 | 0.00 | 0.00 | 0.00 | -1.30 | -0.01 |
| | max | 0.02 | 4.85 | -1.97 | -8.79 | 2.51 | -8.58 |
| | min | | 4.84 | -1.98 | -8.80 | 2.50 | -8.62 |
| | max | | 0.00 | 0.01 | 0.01 | 0.33 | 0.04 |
| | min | | 4.84 | -1.98 | -8.81 | 2.50 | -8.62 |
| | max | | 0.00 | 0.01 | 0.01 | 0.61 | 0.03 |
| Qk.N_C5 | min | -9.32 | -11.36 | 1.34 | 14.04 | 6.87 | 5.83 |
| | max | 51.41 | 13.64 | 23.85 | 34.05 | 0.31 | 103.73 |
| | min | | -2.02 | -3.26 | -4.49 | 0.27 | -14.17 |
| | max | | 4.30 | 28.44 | 52.59 | 0.62 | 123.73 |
| | min | | -2.02 | -3.26 | -4.50 | 0.28 | -14.16 |
| | max | | 4.29 | 28.44 | 52.59 | 0.62 | 123.72 |
| Qk.N_E1 | min | -12.19 | -2.21 | -4.38 | -6.56 | 0.36 | -19.07 |
| | max | 0.08 | 0.28 | -0.07 | -0.41 | 3.78 | -0.29 |
| | min | | -1.97 | -4.49 | -7.01 | 0.41 | -19.53 |
| | max | | 0.04 | 0.04 | 0.05 | 0.09 | 0.18 |
| | min | | -1.97 | -4.49 | -7.01 | 0.41 | -19.53 |
| | max | | 0.04 | 0.04 | 0.05 | 0.09 | 0.18 |
| Qk.N_DA | min | -29.50 | -5.78 | -10.62 | -15.46 | 0.33 | -46.19 |
| | max | 56.65 | 10.12 | 20.85 | 31.57 | 0.37 | 90.68 |
| | min | | -5.78 | -10.62 | -15.46 | 0.33 | -46.19 |
| | max | | 10.12 | 20.85 | 31.57 | 0.37 | 90.68 |
| | min | | -5.78 | -10.62 | -15.46 | 0.33 | -46.19 |
| | max | | 10.12 | 20.85 | 31.57 | 0.37 | 90.68 |
| Qk.N_T2 | min | -0.08 | -0.55 | 0.28 | 1.11 | 2.15 | 1.21 |
| | max | 1.63 | 0.02 | 0.04 | 0.06 | 0.32 | 0.18 |
| | min | | -0.02 | -0.03 | -0.04 | 0.36 | -0.13 |
| | max | | -0.51 | 0.35 | 1.21 | 1.78 | 1.52 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| min | | -0.02 | -0.03 | -0.04 | 0.36 | -0.13 |
| max | | -0.51 | 0.35 | 1.21 | 1.78 | 1.52 |

W-0.50

Q⁺ & A K A I E I A ↑

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 53.65 | 32.54 | 38.21 | 43.88 | 0.21 | 324.77 |
| Ö← | g | 18.95 | 14.52 | 13.53 | 12.55 | -0.10 | 115.02 |
| Qk.N_B1 | min | -0.60 | -0.41 | 0.23 | 0.87 | 3.95 | 1.96 |
| | max | 1.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.03 | -0.10 | -0.17 | 0.95 | -0.89 |
| | max | | -0.38 | 0.33 | 1.04 | 3.01 | 2.84 |
| | min | | -0.03 | -0.10 | -0.17 | 0.95 | -0.89 |
| | max | | -0.38 | 0.33 | 1.04 | 3.01 | 2.84 |
| Qk.N_C1 | min | -11.10 | -7.15 | 3.04 | 13.23 | 4.75 | 25.85 |
| | max | 40.86 | 33.88 | 21.49 | 9.11 | -0.82 | 182.69 |
| | min | | 1.15 | -4.01 | -9.17 | 1.82 | -34.08 |
| | max | | 25.59 | 28.54 | 31.50 | 0.15 | 242.61 |
| | min | | 10.93 | -0.46 | -11.85 | 35.07 | -3.91 |
| | max | | 15.80 | 24.99 | 34.19 | 0.52 | 212.45 |
| Qk.N_C5 | min | -0.73 | -0.63 | 0.20 | 1.02 | 5.91 | 1.68 |
| | max | 2.92 | 0.16 | -0.11 | -0.38 | 3.38 | -0.95 |
| | min | | 0.14 | -0.18 | -0.50 | 2.49 | -1.53 |
| | max | | -0.61 | 0.27 | 1.14 | 4.65 | 2.26 |
| | min | | 0.14 | -0.18 | -0.50 | 2.49 | -1.53 |
| | max | | -0.61 | 0.27 | 1.14 | 4.65 | 2.26 |
| Qk.N_E1 | min | -7.96 | -1.03 | 1.03 | 3.09 | 2.83 | 8.76 |
| | max | 5.45 | 1.92 | -1.61 | -5.14 | 3.10 | -13.70 |
| | min | | 1.92 | -1.61 | -5.14 | 3.10 | -13.71 |
| | max | | -1.02 | 1.03 | 3.09 | 2.82 | 8.76 |
| | min | | 1.92 | -1.61 | -5.14 | 3.10 | -13.71 |
| | max | | -1.02 | 1.03 | 3.09 | 2.82 | 8.76 |
| Qk.N_DA | min | -0.04 | -2.54 | 1.63 | 5.81 | 3.62 | 13.88 |
| | max | 14.73 | 0.01 | 0.00 | -0.02 | 12.73 | -0.01 |
| | min | | 0.01 | -0.01 | -0.02 | 3.20 | -0.06 |
| | max | | -2.54 | 1.64 | 5.81 | 3.61 | 13.92 |
| | min | | 0.01 | -0.01 | -0.02 | 3.78 | -0.06 |
| | max | | -2.54 | 1.64 | 5.81 | 3.61 | 13.92 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.68 | -0.01 |
| | max | 0.06 | 0.03 | 0.03 | 0.02 | -0.19 | 0.22 |
| | min | | 0.00 | 0.00 | 0.00 | 0.99 | -0.01 |
| | max | | 0.03 | 0.03 | 0.02 | -0.18 | 0.22 |
| | min | | 0.00 | 0.00 | 0.00 | 0.99 | -0.01 |
| | max | | 0.03 | 0.03 | 0.02 | -0.18 | 0.22 |

WS-0.11

Q⁺ & A K A E I I A ↑

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 93.54 | 95.34 | 85.17 | 75.00 | -0.02 | 75.38 |
| Ö← | g | 19.98 | 20.17 | 18.57 | 16.96 | -0.01 | 16.43 |
| Qk.N_B1 | min | -5.38 | -8.80 | 2.38 | 13.56 | 0.69 | 2.11 |
| | max | 13.83 | 0.05 | 0.41 | 0.77 | 0.13 | 0.36 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -5.83 | -4.33 | -2.83 | -0.05 | -3.83 |
| | max | | -2.93 | 7.12 | 17.16 | 0.21 | 6.30 |
| | min | | -3.80 | -3.73 | -3.67 | 0.00 | -3.31 |
| | max | | -4.95 | 6.52 | 17.99 | 0.26 | 5.77 |
| Qk.N_C1 | min | -0.20 | -0.06 | -0.15 | -0.23 | 0.09 | -0.13 |
| | max | 2.07 | 0.41 | 1.45 | 2.48 | 0.11 | 1.28 |
| | min | | -0.06 | -0.15 | -0.23 | 0.09 | -0.13 |
| | max | | 0.41 | 1.45 | 2.48 | 0.11 | 1.28 |
| | min | | -0.05 | -0.14 | -0.24 | 0.10 | -0.13 |
| | max | | 0.40 | 1.45 | 2.49 | 0.11 | 1.28 |
| Qk.N_C5 | min | -0.68 | -0.01 | 0.00 | 0.00 | -0.14 | 0.00 |
| | max | 14.70 | 17.86 | 8.98 | 0.09 | -0.15 | 7.94 |
| | min | | 0.75 | -0.14 | -1.03 | 0.94 | -0.12 |
| | max | | 17.10 | 9.11 | 1.13 | -0.13 | 8.07 |
| | min | | 9.60 | 3.85 | -1.90 | -0.22 | 3.41 |
| | max | | 8.26 | 5.12 | 1.99 | -0.09 | 4.53 |
| Qk.N_E1 | min | -0.31 | -0.26 | -0.28 | -0.30 | 0.01 | -0.25 |
| | max | 8.32 | 7.85 | 8.12 | 8.40 | 0.00 | 7.19 |
| | min | | -0.26 | -0.28 | -0.30 | 0.01 | -0.25 |
| | max | | 7.85 | 8.12 | 8.40 | 0.00 | 7.19 |
| | min | | -0.21 | -0.27 | -0.32 | 0.03 | -0.24 |
| | max | | 7.81 | 8.11 | 8.42 | 0.01 | 7.18 |
| Qk.N_DA | min | -1.08 | -1.47 | -0.60 | 0.27 | -0.21 | -0.53 |
| | max | 10.84 | 11.14 | 10.02 | 8.89 | -0.02 | 8.86 |
| | min | | -1.28 | -0.67 | -0.06 | -0.13 | -0.59 |
| | max | | 10.94 | 10.08 | 9.22 | -0.01 | 8.92 |
| | min | | 0.57 | 0.09 | -0.40 | -0.80 | 0.08 |
| | max | | 9.09 | 9.32 | 9.56 | 0.00 | 8.25 |
| Qk.N_T2 | min | -2.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 3.42 | 5.93 | 0.88 | -4.17 | -0.85 | 0.78 |
| | min | | 1.75 | -0.96 | -3.66 | 0.42 | -0.85 |
| | max | | 4.18 | 1.84 | -0.51 | -0.19 | 1.63 |
| | min | | 5.93 | 0.88 | -4.17 | -0.85 | 0.78 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WS-0.17

Qk.N_C1

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 84.52 | 47.99 | 69.11 | 90.22 | 0.05 | 69.11 |
| Ö← | g | 24.37 | 11.01 | 18.85 | 26.70 | 0.07 | 18.85 |
| Qk.N_B1 | min | -2.83 | -5.95 | -0.07 | 5.81 | -13.64 | -0.07 |
| | max | 3.68 | 0.00 | 0.01 | 0.01 | 0.12 | 0.01 |
| | min | | -3.55 | -1.26 | 1.03 | -0.30 | -1.26 |
| | max | | -2.40 | 1.20 | 4.79 | 0.50 | 1.20 |
| | min | | -0.10 | -0.06 | -0.01 | -0.14 | -0.06 |
| | max | | -5.85 | -0.01 | 5.83 | -104.0 | -0.01 |
| Qk.N_C1 | min | 0.00 | -0.81 | 2.18 | 5.17 | 0.23 | 2.18 |
| | max | 9.25 | 7.86 | 6.18 | 4.50 | -0.05 | 6.18 |
| | min | | 0.00 | 0.00 | 0.00 | -0.09 | 0.00 |
| | max | | 7.05 | 8.36 | 9.67 | 0.03 | 8.36 |
| | min | | 0.00 | 0.00 | 0.00 | -0.42 | 0.00 |
| | max | | 7.05 | 8.36 | 9.67 | 0.03 | 8.36 |
| Qk.N_C5 | min | -1.03 | -1.17 | -0.77 | -0.38 | -0.09 | -0.77 |

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Qk.N_E1 | max | 16.68 | 15.08 | 15.89 | 16.71 | 0.01 | 15.89 |
| | min | | -1.17 | -0.78 | -0.38 | -0.08 | -0.78 |
| | max | | 15.08 | 15.90 | 16.71 | 0.01 | 15.90 |
| | min | | -0.53 | -0.49 | -0.45 | -0.02 | -0.49 |
| | max | | 14.44 | 15.61 | 16.78 | 0.01 | 15.61 |
| | min | -0.29 | -0.32 | -0.24 | -0.16 | -0.06 | -0.24 |
| | max | 14.54 | 10.59 | 12.97 | 15.35 | 0.03 | 12.97 |
| | min | | -0.31 | -0.24 | -0.18 | -0.05 | -0.24 |
| | max | | 10.58 | 12.98 | 15.37 | 0.03 | 12.98 |
| | min | | -0.31 | -0.24 | -0.18 | -0.05 | -0.24 |
| Qk.N_DA | max | | 10.58 | 12.98 | 15.37 | 0.03 | 12.98 |
| | min | -4.36 | -5.84 | 0.66 | 7.17 | 1.64 | 0.66 |
| | max | 8.71 | 5.11 | 3.49 | 1.88 | -0.08 | 3.49 |
| | min | | -5.12 | -2.68 | -0.23 | -0.15 | -2.68 |
| | max | | 4.39 | 6.83 | 9.28 | 0.06 | 6.83 |
| | min | | 0.80 | -0.17 | -1.14 | 0.94 | -0.17 |
| Qk.N_T2 | max | | -1.53 | 4.33 | 10.18 | 0.23 | 4.33 |
| | min | -3.34 | -3.78 | -3.17 | -2.55 | -0.03 | -3.17 |
| | max | 0.00 | 0.64 | -0.10 | -0.85 | 1.20 | -0.10 |
| | min | | -3.14 | -3.27 | -3.40 | 0.01 | -3.27 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -3.14 | -3.27 | -3.40 | 0.01 | -3.27 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WS-0.32_1
 $Q_k^{\uparrow} \text{ \ÄK\AA F\AA E\AA F\AA \uparrow}$

| Kraft Ft | | $F_{t,Abs}$ | $F_{t,A}$ | $F_{t,M}$ | $F_{t,E}$ | e | $F_{t,Res}$ |
|----------|-----|-------------|-----------|-----------|-----------|-------|-------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | -0.70 | 0.13 | -0.38 | -0.88 | 0.23 | -0.38 |
| Ö← | g | 0.81 | 0.87 | 0.65 | 0.43 | -0.06 | 0.66 |
| Qk.N_B1 | min | -0.06 | -0.03 | -0.05 | -0.07 | 0.07 | -0.05 |
| | max | 0.02 | 0.02 | 0.02 | 0.02 | -0.01 | 0.02 |
| | min | | -0.03 | -0.05 | -0.07 | 0.07 | -0.05 |
| | max | | 0.02 | 0.02 | 0.02 | -0.01 | 0.02 |
| | min | | -0.03 | -0.05 | -0.07 | 0.07 | -0.05 |
| | max | | 0.02 | 0.02 | 0.02 | -0.01 | 0.02 |
| Qk.N_C1 | min | -6.94 | -6.30 | -6.69 | -7.09 | 0.01 | -6.76 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -6.30 | -6.69 | -7.09 | 0.01 | -6.76 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -6.30 | -6.69 | -7.09 | 0.01 | -6.76 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.03 | -0.01 | -0.01 | 0.00 | -0.12 | -0.01 |
| | max | 7.67 | 7.70 | 7.60 | 7.50 | 0.00 | 7.68 |
| | min | | 0.01 | -0.02 | -0.04 | 0.21 | -0.02 |
| | max | | 7.68 | 7.61 | 7.54 | 0.00 | 7.69 |
| | min | | 0.01 | -0.02 | -0.04 | 0.21 | -0.02 |
| | max | | 7.68 | 7.61 | 7.54 | 0.00 | 7.69 |
| Qk.N_E1 | min | -1.45 | -1.49 | -1.36 | -1.22 | -0.02 | -1.37 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| | min | | -1.49 | -1.36 | -1.22 | -0.02 | -1.37 |
| | max | | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| | min | | -1.49 | -1.36 | -1.22 | -0.02 | -1.37 |
| | max | | 0.00 | 0.00 | 0.01 | 0.22 | 0.00 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_DA | min | -0.07 | -0.06 | -0.04 | -0.02 | -0.09 | -0.04 |
| | max | 0.02 | 0.02 | -0.01 | -0.04 | 0.51 | -0.01 |
| | min | | -0.06 | -0.06 | -0.07 | 0.01 | -0.06 |
| | max | | 0.02 | 0.01 | 0.01 | -0.07 | 0.01 |
| | min | | -0.06 | -0.06 | -0.07 | 0.01 | -0.06 |
| | max | | 0.02 | 0.01 | 0.01 | -0.07 | 0.01 |
| Qk.N_T2 | min | -0.01 | -0.01 | -0.01 | -0.01 | -0.04 | -0.01 |
| | max | 0.17 | 0.18 | 0.16 | 0.14 | -0.02 | 0.16 |
| | min | | -0.01 | -0.01 | -0.01 | -0.04 | -0.01 |
| | max | | 0.18 | 0.16 | 0.14 | -0.02 | 0.16 |
| | min | | -0.01 | -0.01 | -0.01 | -0.04 | -0.01 |
| | max | | 0.18 | 0.16 | 0.14 | -0.02 | 0.16 |

WS-0.32_2

Qk^&AKÁFÈ€FÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -1.22 | -1.26 | -1.19 | -1.12 | -0.01 | -1.20 |
| Ö← | g | 0.36 | 0.31 | 0.34 | 0.37 | 0.02 | 0.34 |
| Qk.N_B1 | min | -0.13 | -0.12 | -0.13 | -0.14 | 0.01 | -0.13 |
| | max | 0.04 | 0.02 | 0.03 | 0.04 | 0.05 | 0.03 |
| | min | | -0.12 | -0.13 | -0.14 | 0.01 | -0.13 |
| | max | | 0.02 | 0.03 | 0.04 | 0.05 | 0.03 |
| | min | | -0.12 | -0.13 | -0.14 | 0.02 | -0.13 |
| | max | | 0.02 | 0.03 | 0.04 | 0.06 | 0.03 |
| Qk.N_C1 | min | -7.43 | -7.35 | -7.40 | -7.45 | 0.00 | -7.47 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -7.35 | -7.40 | -7.45 | 0.00 | -7.47 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -7.35 | -7.40 | -7.45 | 0.00 | -7.47 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.10 | -0.09 | -0.09 | -0.10 | 0.01 | -0.09 |
| | max | 7.60 | 7.58 | 7.59 | 7.60 | 0.00 | 7.67 |
| | min | | -0.09 | -0.09 | -0.10 | 0.01 | -0.09 |
| | max | | 7.58 | 7.59 | 7.60 | 0.00 | 7.67 |
| | min | | -0.09 | -0.09 | -0.10 | 0.01 | -0.09 |
| | max | | 7.58 | 7.59 | 7.60 | 0.00 | 7.67 |
| Qk.N_E1 | min | -0.99 | -1.04 | -0.89 | -0.74 | -0.03 | -0.90 |
| | max | 0.01 | 0.01 | 0.01 | 0.00 | -0.03 | 0.01 |
| | min | | -1.04 | -0.89 | -0.74 | -0.03 | -0.90 |
| | max | | 0.01 | 0.01 | 0.00 | -0.03 | 0.01 |
| | min | | -1.04 | -0.89 | -0.74 | -0.03 | -0.90 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | min | -0.12 | -0.11 | -0.11 | -0.11 | 0.00 | -0.11 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.26 | 0.00 |
| | min | | -0.11 | -0.11 | -0.11 | 0.00 | -0.11 |
| | max | | 0.00 | 0.00 | 0.00 | -0.26 | 0.00 |
| | min | | -0.11 | -0.11 | -0.11 | 0.00 | -0.11 |
| | max | | 0.00 | 0.00 | 0.00 | -0.75 | 0.00 |
| Qk.N_T2 | min | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | -0.01 |
| | max | 0.11 | 0.11 | 0.09 | 0.07 | -0.03 | 0.09 |
| | min | | -0.01 | -0.01 | -0.01 | 0.01 | -0.01 |
| | max | | 0.11 | 0.09 | 0.07 | -0.03 | 0.09 |
| | min | | 0.00 | -0.01 | -0.01 | 0.04 | -0.01 |
| | max | | | | | | |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | | 0.11 | 0.09 | 0.07 | -0.03 | 0.09 |

WS-0.32_3
 $Q \uparrow \& \acute{a} \acute{K} \acute{A} F \acute{E} \acute{e} \acute{C} \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -3.11 | 0.03 | -1.92 | -3.87 | 0.17 | -1.92 |
| Ö← | g | -0.55 | 0.48 | -0.16 | -0.81 | 0.67 | -0.16 |
| Qk.N_B1 | min | -0.13 | -0.01 | -0.01 | -0.02 | 0.04 | -0.01 |
| | max | 3.68 | 3.05 | 3.30 | 3.56 | 0.01 | 3.30 |
| | min | | 0.14 | -0.02 | -0.18 | 1.49 | -0.02 |
| | max | | 2.90 | 3.31 | 3.72 | 0.02 | 3.31 |
| | min | | 0.14 | -0.02 | -0.18 | 1.51 | -0.02 |
| | max | | 2.90 | 3.31 | 3.72 | 0.02 | 3.31 |
| Qk.N_C1 | min | -4.43 | -5.04 | -3.19 | -1.33 | -0.10 | -3.19 |
| | max | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -5.04 | -3.19 | -1.34 | -0.10 | -3.19 |
| | max | | -0.01 | 0.00 | 0.01 | 1.61 | 0.00 |
| | min | | -5.04 | -3.19 | -1.34 | -0.10 | -3.19 |
| | max | | -0.01 | 0.00 | 0.01 | 1.61 | 0.00 |
| Qk.N_C5 | min | -2.43 | -2.08 | -2.03 | -1.97 | 0.00 | -2.03 |
| | max | 2.03 | 2.64 | 0.35 | -1.94 | -1.09 | 0.35 |
| | min | | -2.04 | -2.11 | -2.18 | 0.01 | -2.11 |
| | max | | 2.60 | 0.43 | -1.74 | -0.84 | 0.43 |
| | min | | 0.54 | -1.71 | -3.96 | 0.22 | -1.71 |
| | max | | 0.02 | 0.03 | 0.04 | 0.04 | 0.03 |
| Qk.N_E1 | min | -0.13 | -0.15 | -0.09 | -0.03 | -0.11 | -0.09 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.15 | -0.09 | -0.03 | -0.11 | -0.09 |
| | max | | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 |
| | min | | -0.05 | -0.08 | -0.11 | 0.06 | -0.08 |
| | max | | -0.10 | -0.01 | 0.09 | -2.36 | -0.01 |
| Qk.N_DA | min | -0.56 | -0.30 | -0.47 | -0.63 | 0.06 | -0.47 |
| | max | 0.13 | 0.19 | 0.04 | -0.11 | -0.64 | 0.04 |
| | min | | -0.30 | -0.47 | -0.63 | 0.06 | -0.47 |
| | max | | 0.19 | 0.04 | -0.11 | -0.63 | 0.04 |
| | min | | -0.13 | -0.45 | -0.77 | 0.12 | -0.45 |
| | max | | 0.02 | 0.02 | 0.03 | 0.04 | 0.02 |
| Qk.N_T2 | min | -0.01 | 0.00 | 0.00 | 0.00 | -0.07 | 0.00 |
| | max | 2.31 | 2.51 | 2.03 | 1.56 | -0.04 | 2.03 |
| | min | | 0.01 | 0.00 | -0.01 | 1.13 | 0.00 |
| | max | | 2.50 | 2.04 | 1.57 | -0.04 | 2.04 |
| | min | | 0.01 | 0.00 | -0.01 | 1.13 | 0.00 |
| | max | | 2.50 | 2.04 | 1.57 | -0.04 | 2.04 |

WS-0.39_1
 $Q \uparrow \& \acute{a} \acute{K} \acute{A} F \acute{E} \acute{F} \acute{G} \acute{A} \uparrow$

Kraft F_t

| | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 34.11 | 21.57 | 28.42 | 35.27 | 0.05 | 32.25 |
| Ö← | g | 6.64 | 1.79 | 4.64 | 7.50 | 0.12 | 5.27 |
| Qk.N_B1 | min | -3.14 | -4.01 | -1.11 | 1.80 | -0.50 | -1.25 |
| | max | 2.73 | 3.21 | 1.54 | -0.13 | -0.21 | 1.75 |
| | min | | -4.01 | -1.11 | 1.80 | -0.50 | -1.25 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 3.21 | 1.54 | -0.13 | -0.21 | 1.75 |
| | min | | 3.21 | 1.54 | -0.13 | -0.21 | 1.75 |
| | max | | -4.01 | -1.11 | 1.80 | -0.50 | -1.25 |
| Qk.N_C1 | min | -17.71 | -17.84 | -17.44 | -17.04 | 0.00 | -19.80 |
| | max | 0.13 | 0.16 | 0.05 | -0.06 | -0.39 | 0.06 |
| | min | | -17.82 | -17.46 | -17.09 | 0.00 | -19.81 |
| | max | | 0.15 | 0.07 | -0.01 | -0.22 | 0.08 |
| | min | | -17.69 | -17.40 | -17.11 | 0.00 | -19.75 |
| | max | | 0.01 | 0.01 | 0.02 | 0.03 | 0.01 |
| Qk.N_C5 | min | -1.72 | -2.16 | -0.65 | 0.86 | -0.44 | -0.74 |
| | max | 7.92 | 7.88 | 7.91 | 7.93 | 0.00 | 8.98 |
| | min | | -2.16 | -0.65 | 0.86 | -0.44 | -0.74 |
| | max | | 7.88 | 7.91 | 7.93 | 0.00 | 8.98 |
| | min | | 0.04 | 0.01 | -0.01 | -0.37 | 0.02 |
| | max | | 5.68 | 7.24 | 8.80 | 0.04 | 8.22 |
| Qk.N_E1 | min | -0.44 | -0.58 | -0.19 | 0.20 | -0.39 | -0.22 |
| | max | 21.54 | 21.71 | 20.00 | 18.29 | -0.02 | 22.70 |
| | min | | -0.44 | -0.43 | -0.42 | 0.00 | -0.49 |
| | max | | 21.57 | 20.24 | 18.92 | -0.01 | 22.98 |
| | min | | 1.20 | 0.30 | -0.60 | -0.57 | 0.34 |
| | max | | 19.93 | 19.51 | 19.09 | 0.00 | 22.15 |
| Qk.N_DA | min | -4.55 | -5.05 | -3.05 | -1.04 | -0.12 | -3.46 |
| | max | 3.59 | 2.56 | 3.09 | 3.61 | 0.03 | 3.50 |
| | min | | -5.04 | -3.06 | -1.08 | -0.12 | -3.47 |
| | max | | 2.55 | 3.10 | 3.65 | 0.03 | 3.52 |
| | min | | 0.19 | -1.05 | -2.29 | 0.22 | -1.19 |
| | max | | -2.67 | 1.09 | 4.85 | 0.65 | 1.24 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.35 | 0.00 |
| | max | 0.03 | 0.03 | 0.02 | 0.02 | -0.05 | 0.02 |
| | min | | 0.00 | 0.00 | 0.00 | -0.35 | 0.00 |
| | max | | 0.03 | 0.02 | 0.02 | -0.05 | 0.02 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.03 | 0.02 | 0.02 | -0.04 | 0.02 |

WS-0.39_2

Q_t^&æÁKÁ€ÈÎÎÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 43.57 | 43.40 | 41.99 | 40.59 | 0.00 | 37.16 |
| Ö← | g | 8.31 | 8.51 | 7.65 | 6.79 | -0.02 | 6.77 |
| Qk.N_B1 | min | -0.35 | -0.35 | -0.34 | -0.33 | -0.01 | -0.30 |
| | max | 0.90 | 1.26 | 0.13 | -0.99 | -1.24 | 0.12 |
| | min | | -0.35 | -0.34 | -0.33 | -0.01 | -0.30 |
| | max | | 1.26 | 0.13 | -0.99 | -1.24 | 0.12 |
| | min | | 0.74 | -0.33 | -1.39 | 0.48 | -0.29 |
| | max | | 0.17 | 0.12 | 0.07 | -0.06 | 0.11 |
| Qk.N_C1 | min | -16.02 | -16.11 | -15.75 | -15.39 | 0.00 | -13.94 |
| | max | 0.08 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 |
| | min | | -16.10 | -15.78 | -15.46 | 0.00 | -13.97 |
| | max | | 0.01 | 0.05 | 0.09 | 0.12 | 0.05 |
| | min | | -16.10 | -15.78 | -15.46 | 0.00 | -13.97 |
| | max | | 0.01 | 0.05 | 0.09 | 0.12 | 0.05 |
| Qk.N_C5 | min | -0.01 | 0.00 | 0.00 | 0.00 | -0.06 | 0.00 |
| | max | 8.22 | 8.37 | 7.89 | 7.40 | -0.01 | 6.98 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | 0.00 | -0.01 | -0.01 | 0.22 | 0.00 |
| | max | | 8.36 | 7.89 | 7.41 | -0.01 | 6.98 |
| | min | | 0.49 | 0.03 | -0.43 | -2.41 | 0.03 |
| | max | | 7.88 | 7.85 | 7.83 | 0.00 | 6.95 |
| Qk.N_E1 | min | -1.78 | -1.04 | -1.48 | -1.92 | 0.04 | -1.31 |
| | max | 23.92 | 22.37 | 23.19 | 24.02 | 0.01 | 20.53 |
| | min | | -1.04 | -1.48 | -1.92 | 0.04 | -1.31 |
| | max | | 22.37 | 23.19 | 24.02 | 0.01 | 20.53 |
| | min | | -0.90 | -1.47 | -2.04 | 0.06 | -1.30 |
| | max | | 22.23 | 23.18 | 24.14 | 0.01 | 20.52 |
| Qk.N_DA | min | -3.85 | -2.90 | -2.76 | -2.62 | -0.01 | -2.44 |
| | max | 5.11 | 5.31 | 4.46 | 3.61 | -0.03 | 3.95 |
| | min | | -2.50 | -3.28 | -4.06 | 0.04 | -2.91 |
| | max | | 4.91 | 4.98 | 5.06 | 0.00 | 4.41 |
| | min | | -2.50 | -3.28 | -4.06 | 0.04 | -2.91 |
| | max | | 4.91 | 4.98 | 5.06 | 0.00 | 4.41 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | -0.07 | 0.00 |
| | max | 0.01 | 0.01 | 0.01 | 0.01 | -0.03 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | -0.07 | 0.00 |
| | max | | 0.01 | 0.01 | 0.01 | -0.03 | 0.01 |
| | min | | 0.00 | 0.00 | 0.00 | -0.07 | 0.00 |
| | max | | 0.01 | 0.01 | 0.01 | -0.03 | 0.01 |

WS-0.39_3
 $Q_k^{\wedge} \& \acute{A} \acute{K} \acute{A} \in \hat{E} \hat{I} \hat{I} \hat{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 32.03 | 33.97 | 26.48 | 18.99 | -0.04 | 23.43 |
| Ö← | g | 3.04 | 4.15 | 0.88 | -2.39 | -0.55 | 0.78 |
| Qk.N_B1 | min | -0.16 | -1.41 | -0.05 | 1.32 | -4.49 | -0.04 |
| | max | 0.92 | 0.01 | 0.01 | 0.01 | -0.01 | 0.01 |
| | min | | -0.19 | -0.10 | -0.01 | -0.13 | -0.09 |
| | max | | -1.21 | 0.07 | 1.34 | 2.76 | 0.06 |
| | min | | -0.19 | -0.10 | -0.01 | -0.13 | -0.09 |
| | max | | -1.21 | 0.07 | 1.34 | 2.76 | 0.06 |
| Qk.N_C1 | min | -28.06 | -17.45 | -23.53 | -29.61 | 0.04 | -20.82 |
| | max | 0.09 | 0.07 | -0.07 | -0.22 | 0.30 | -0.06 |
| | min | | -17.41 | -23.67 | -29.93 | 0.04 | -20.95 |
| | max | | 0.04 | 0.07 | 0.10 | 0.06 | 0.06 |
| | min | | -17.41 | -23.67 | -29.93 | 0.04 | -20.95 |
| | max | | 0.04 | 0.07 | 0.10 | 0.06 | 0.06 |
| Qk.N_C5 | min | 0.00 | -0.45 | 0.17 | 0.78 | 0.55 | 0.15 |
| | max | 14.20 | 8.87 | 11.66 | 14.45 | 0.04 | 10.32 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 8.42 | 11.83 | 15.23 | 0.04 | 10.47 |
| | min | | 0.01 | 0.00 | 0.00 | -0.19 | 0.00 |
| | max | | 8.42 | 11.83 | 15.23 | 0.04 | 10.47 |
| Qk.N_E1 | min | -3.42 | -2.61 | -1.95 | -1.30 | -0.05 | -1.73 |
| | max | 18.07 | 20.84 | 13.69 | 6.53 | -0.08 | 12.11 |
| | min | | -1.54 | -2.64 | -3.74 | 0.06 | -2.34 |
| | max | | 19.77 | 14.37 | 8.98 | -0.06 | 12.72 |
| | min | | -1.53 | -2.64 | -3.75 | 0.06 | -2.33 |
| | max | | 19.76 | 14.37 | 8.98 | -0.06 | 12.72 |
| Qk.N_DA | min | -3.63 | -4.22 | -2.28 | -0.34 | -0.13 | -2.02 |

D-806

Schulcampus EWK \

EG-LP4

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | 4.29 | 4.66 | 3.28 | 1.91 | -0.06 | 2.90 |
| | | -4.13 | -2.55 | -0.96 | -0.09 | -2.25 |
| | | 4.57 | 3.55 | 2.52 | -0.04 | 3.14 |
| | | -1.75 | -1.71 | -1.67 | 0.00 | -1.52 |
| | | 2.19 | 2.71 | 3.23 | 0.03 | 2.40 |
| Qk.N_T2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 |
| | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.01 |
| | | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 |
| | | 0.01 | 0.01 | 0.01 | 0.03 | 0.01 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | 0.01 | 0.03 | 0.01 |

WS-0.44_1

Q⁺ & A⁺ K⁺ A⁺ F⁺ E⁺ I⁺ A⁺

Kraft Ft

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | 68.14 | 12.96 | 44.43 | 75.91 | 0.18 | 66.65 |
| Ö← | 19.67 | 1.09 | 12.00 | 22.91 | 0.23 | 18.00 |
| Qk.N_B1 | -7.99 | -9.32 | -4.21 | 0.90 | -0.30 | -6.32 |
| | 26.76 | 22.50 | 24.71 | 26.93 | 0.02 | 37.07 |
| | | -9.32 | -4.21 | 0.90 | -0.30 | -6.32 |
| | | 22.50 | 24.71 | 26.93 | 0.02 | 37.07 |
| | | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 |
| | | 13.17 | 20.50 | 27.83 | 0.09 | 30.75 |
| Qk.N_C1 | -11.72 | -13.56 | -7.17 | -0.79 | -0.22 | -10.76 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -13.56 | -7.17 | -0.79 | -0.22 | -10.76 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -13.55 | -7.17 | -0.80 | -0.22 | -10.76 |
| | | -0.01 | 0.00 | 0.01 | -2.04 | 0.00 |
| Qk.N_C5 | -3.32 | -4.23 | -0.64 | 2.95 | -1.40 | -0.96 |
| | 9.19 | 9.39 | 7.26 | 5.14 | -0.07 | 10.90 |
| | | -3.84 | -1.88 | 0.09 | -0.26 | -2.82 |
| | | 9.01 | 8.50 | 8.00 | -0.01 | 12.75 |
| | | 6.29 | 1.92 | -2.46 | -0.57 | 2.88 |
| | | -1.13 | 4.71 | 10.54 | 0.31 | 7.06 |
| Qk.N_E1 | -0.06 | -0.07 | -0.02 | 0.04 | -0.95 | -0.02 |
| | 8.60 | 5.73 | 6.98 | 8.22 | 0.04 | 10.47 |
| | | -0.07 | -0.02 | 0.04 | -0.95 | -0.02 |
| | | 5.73 | 6.98 | 8.22 | 0.04 | 10.47 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 5.66 | 6.96 | 8.27 | 0.05 | 10.44 |
| Qk.N_DA | -8.55 | -9.93 | -4.70 | 0.53 | -0.28 | -7.05 |
| | 3.16 | 2.61 | 2.74 | 2.87 | 0.01 | 4.11 |
| | | -9.93 | -4.70 | 0.53 | -0.28 | -7.05 |
| | | 2.61 | 2.74 | 2.87 | 0.01 | 4.11 |
| | | 0.46 | 0.14 | -0.18 | -0.59 | 0.21 |
| | | -7.78 | -2.10 | 3.58 | -0.68 | -3.15 |
| Qk.N_T2 | -0.03 | 0.00 | -0.02 | -0.04 | 0.21 | -0.03 |
| | 0.01 | 0.02 | 0.01 | -0.01 | -0.51 | 0.01 |
| | | 0.00 | -0.02 | -0.04 | 0.21 | -0.03 |
| | | 0.02 | 0.01 | -0.01 | -0.51 | 0.01 |
| | | 0.01 | -0.02 | -0.05 | 0.42 | -0.03 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WS-0.44_2
 $Q \uparrow \wedge \text{ÄKÄFÈIFÄ} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 79.21 | 80.75 | 66.75 | 52.75 | -0.05 | 100.79 |
| Ö← | g | 24.25 | 24.52 | 21.52 | 18.53 | -0.04 | 32.50 |
| Qk.N_B1 | min | -0.01 | 0.00 | -0.01 | -0.01 | 0.14 | -0.01 |
| | max | 27.40 | 27.67 | 25.31 | 22.96 | -0.02 | 38.22 |
| | min | | 0.00 | -0.01 | -0.01 | 0.18 | -0.01 |
| | max | | 27.67 | 25.31 | 22.96 | -0.02 | 38.23 |
| | min | | 0.00 | -0.01 | -0.01 | 0.18 | -0.01 |
| | max | | 27.67 | 25.31 | 22.96 | -0.02 | 38.23 |
| Qk.N_C1 | min | -0.04 | -0.06 | -0.01 | 0.03 | -1.02 | -0.02 |
| | max | 0.03 | 0.00 | 0.00 | 0.00 | 0.58 | 0.00 |
| | min | | -0.04 | -0.02 | 0.00 | -0.23 | -0.04 |
| | max | | -0.01 | 0.01 | 0.03 | 0.52 | 0.02 |
| | min | | 0.00 | 0.00 | -0.01 | 0.55 | 0.00 |
| | max | | -0.06 | -0.01 | 0.03 | -1.03 | -0.02 |
| Qk.N_C5 | min | -0.33 | -0.34 | -0.25 | -0.16 | -0.09 | -0.38 |
| | max | 10.31 | 10.44 | 9.49 | 8.54 | -0.03 | 14.33 |
| | min | | -0.31 | -0.28 | -0.26 | -0.03 | -0.43 |
| | max | | 10.41 | 9.52 | 8.63 | -0.02 | 14.38 |
| | min | | -0.28 | -0.27 | -0.27 | 0.00 | -0.41 |
| | max | | 10.37 | 9.51 | 8.65 | -0.02 | 14.36 |
| Qk.N_E1 | min | -0.11 | -0.03 | -0.07 | -0.12 | 0.15 | -0.11 |
| | max | 8.83 | 8.94 | 6.50 | 4.06 | -0.09 | 9.82 |
| | min | | -0.03 | -0.07 | -0.12 | 0.15 | -0.11 |
| | max | | 8.94 | 6.50 | 4.06 | -0.09 | 9.82 |
| | min | | -0.03 | -0.07 | -0.12 | 0.15 | -0.11 |
| | max | | 8.94 | 6.50 | 4.06 | -0.09 | 9.82 |
| Qk.N_DA | min | -0.47 | -0.45 | -0.42 | -0.39 | -0.02 | -0.64 |
| | max | 3.50 | 3.54 | 2.59 | 1.63 | -0.09 | 3.91 |
| | min | | -0.45 | -0.42 | -0.39 | -0.02 | -0.64 |
| | max | | 3.54 | 2.59 | 1.63 | -0.09 | 3.91 |
| | min | | -0.45 | -0.42 | -0.39 | -0.02 | -0.64 |
| | max | | 3.54 | 2.59 | 1.63 | -0.09 | 3.91 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.17 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.74 | 0.00 |

WS-0.44_3
 $Q \uparrow \wedge \text{ÄKÄFÈIFÄ} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 67.39 | 52.71 | 59.86 | 67.01 | 0.03 | 90.39 |
| Ö← | g | 19.95 | 18.67 | 19.09 | 19.50 | 0.01 | 28.82 |
| Qk.N_B1 | min | -0.13 | -0.05 | 0.10 | 0.25 | 0.38 | 0.15 |
| | max | 23.52 | 23.31 | 22.80 | 22.29 | -0.01 | 34.43 |
| | min | | 0.02 | -0.07 | -0.15 | 0.32 | -0.10 |
| | max | | 23.25 | 22.97 | 22.70 | 0.00 | 34.69 |
| | min | | 0.02 | -0.07 | -0.15 | 0.32 | -0.10 |
| | max | | 23.25 | 22.97 | 22.70 | 0.00 | 34.69 |
| Qk.N_C1 | min | -0.05 | -0.02 | -0.03 | -0.05 | 0.14 | -0.05 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|---------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | 0.33 | 0.11 | 0.24 | 0.37 | 0.14 | 0.36 |
| | | -0.02 | -0.03 | -0.05 | 0.14 | -0.05 |
| | | 0.11 | 0.24 | 0.37 | 0.14 | 0.36 |
| | | -0.01 | -0.03 | -0.05 | 0.15 | -0.05 |
| | | 0.11 | 0.24 | 0.37 | 0.14 | 0.36 |
| Qk.N_C5 | -1.27 | -0.54 | -0.97 | -1.40 | 0.11 | -1.46 |
| | 9.92 | 8.48 | 9.22 | 9.95 | 0.02 | 13.92 |
| | | -0.54 | -0.97 | -1.40 | 0.11 | -1.46 |
| | | 8.48 | 9.22 | 9.95 | 0.02 | 13.92 |
| | | -0.54 | -0.97 | -1.40 | 0.11 | -1.46 |
| | | 8.48 | 9.22 | 9.95 | 0.02 | 13.92 |
| Qk.N_E1 | -0.60 | -0.16 | -0.42 | -0.68 | 0.16 | -0.63 |
| | 6.85 | 4.64 | 5.63 | 6.62 | 0.04 | 8.51 |
| | | -0.16 | -0.42 | -0.68 | 0.16 | -0.63 |
| | | 4.64 | 5.63 | 6.62 | 0.04 | 8.51 |
| | | -0.16 | -0.42 | -0.68 | 0.16 | -0.63 |
| | | 4.64 | 5.63 | 6.62 | 0.04 | 8.51 |
| Qk.N_DA | -0.52 | -0.55 | -0.31 | -0.08 | -0.19 | -0.47 |
| | 3.03 | 1.76 | 2.18 | 2.61 | 0.05 | 3.30 |
| | | -0.52 | -0.49 | -0.46 | -0.02 | -0.74 |
| | | 1.73 | 2.36 | 2.99 | 0.07 | 3.56 |
| | | -0.52 | -0.49 | -0.46 | -0.02 | -0.74 |
| | | 1.73 | 2.36 | 2.99 | 0.07 | 3.56 |
| Qk.N_T2 | -0.05 | 0.00 | -0.01 | -0.03 | 0.21 | -0.02 |
| | 0.00 | 0.01 | -0.01 | -0.03 | 0.51 | -0.02 |
| | | 0.01 | -0.03 | -0.06 | 0.33 | -0.04 |
| | | 0.00 | 0.00 | 0.00 | -0.20 | 0.00 |
| | | 0.01 | -0.03 | -0.06 | 0.33 | -0.04 |
| | | 0.00 | 0.00 | 0.00 | -0.18 | 0.00 |

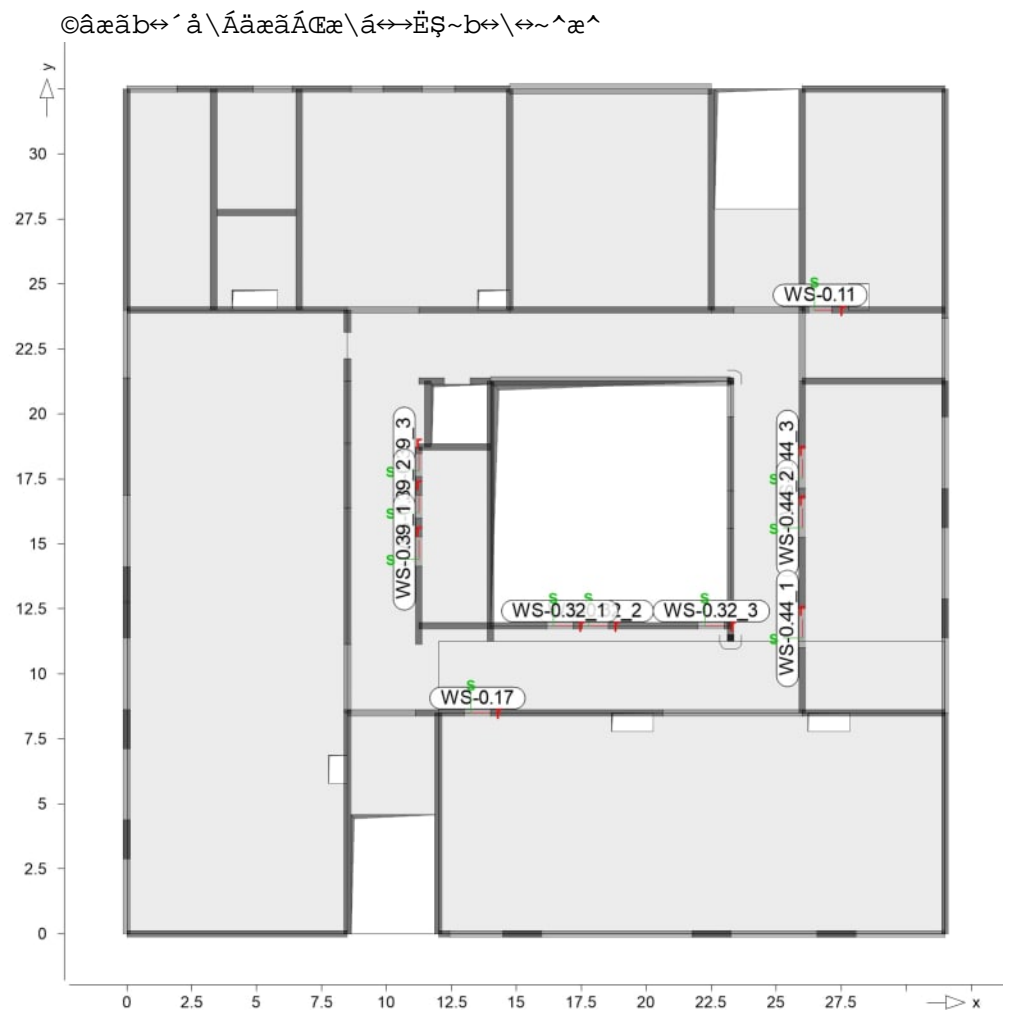
Detail nachweise

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Details

Details aus Positionen

Positionsgrafik



S310.de

Stahlbeton-Sturz

Kombinationen

Raß&æâæ^äæÄP~↑â↔^á\↔~^æ^Á^á^áÄØSÁÓSÁFï€

Ew Einwirkungsname

Lkn Lastkombinationsnummer

↔æÁÑæ\æ↔↔&|^&Áæ↔^æ→^æääQáb\à†→æÁ↔^æääá→âÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

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Grundkombinationen

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------------|-------------|-------------|-------------|
| 1-3 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 |
| 4-13 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 |
| 14-15 | | 1.35 | 1.00 | 1.50 | 1.05 | 1.05 |
| 16-30 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 |
| 31-32 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 |
| 33-39 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 |
| 40 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.50 |
| 41 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.50 |
| 42 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 |
| 43-55 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 |
| 56-66 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|-------|-------------|---------|---------|
| 1-3 | . | 1.20 | |
| 4-13 | . | 1.20 | |
| 14-15 | . | 1.20 | |
| 16-30 | . | 1.20 | |
| 31-32 | . | 1.20 | |
| 33-39 | . | 1.20 | |
| 40 | . | 1.20 | |
| 41 | . | 1.20 | |
| 42 | . | 1.20 | |
| 43-55 | 1.50 | 1.20 | |
| 56-66 | 1.50 | 1.20 | |

Daten

| | Q _z [^] æ [m] | Breite [cm] | Komb | Komm. | Q _{li} [kN/m] | Q _{re} [kN/m] | Lkn |
|-----------|--|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-0.11 | 0.89 | 25.00 | GK | min A | 107.81 | 117.53 | 1 |
| | | | GK | max A | 218.79 | 156.61 | 43 |
| | | | GK | min M | 115.16 | 87.47 | 2 |
| | | | GK | max M | 212.48 | 179.78 | 44 |
| | | | GK | min E | 132.57 | 84.67 | 3 |
| | | | GK | max E | 193.20 | 182.71 | 45 |
| WS-0.17 | 1.00 | 25.00 | GK | min A | 42.83 | 141.44 | 56 |
| | | | GK | max A | 136.08 | 212.96 | 46 |
| | | | GK | min M | 48.07 | 118.85 | 57 |
| | | | GK | max M | 130.85 | 235.55 | 47 |
| | | | GK | min E | 61.24 | 116.33 | 58 |
| | | | GK | max E | 117.68 | 238.08 | 48 |
| WS-0.32_1 | 1.01 | 25.00 | GK | min A | -4.80 | -7.06 | 16 |
| | | | GK | max A | 21.15 | 18.84 | 33 |
| | | | GK | min M | -4.78 | -7.10 | 17 |
| | | | GK | max M | 21.13 | 18.90 | 34 |
| | | | GK | min E | -4.78 | -7.11 | 18 |
| | | | GK | max E | 21.12 | 18.91 | 35 |
| WS-0.32_2 | 1.01 | 25.00 | GK | min A | -7.81 | -7.35 | 19 |
| | | | GK | max A | 18.26 | 18.54 | 36 |
| | | | GK | min M | -7.81 | -7.35 | 20 |
| | | | GK | max M | 18.26 | 18.55 | 37 |
| | | | GK | min E | -7.81 | -7.35 | 21 |
| | | | GK | max E | 18.26 | 18.55 | 38 |
| WS-0.32_3 | 1.00 | 25.00 | GK | min A | -3.54 | -2.86 | 22 |
| | | | GK | max A | 19.06 | 6.88 | 4 |
| | | | GK | min M | -3.15 | -3.55 | 31 |
| | | | GK | max M | 18.61 | 7.63 | 14 |
| | | | GK | min E | 2.22 | -6.72 | 40 |
| | | | GK | max E | 15.75 | 9.63 | 15 |
| WS-0.39_1 | 1.14 | 25.00 | GK | min A | -4.82 | 26.23 | 23 |
| | | | GK | max A | 87.81 | 106.74 | 49 |
| | | | GK | min M | -4.58 | 25.22 | 24 |
| | | | GK | max M | 87.56 | 107.79 | 50 |
| | | | GK | min E | 7.97 | 21.98 | 25 |
| | | | GK | max E | 67.23 | 112.82 | 51 |
| WS-0.39_2 | 0.89 | 25.00 | GK | min A | 31.75 | 27.00 | 26 |
| | | | GK | max A | 129.74 | 120.19 | 52 |
| | | | GK | min M | 31.77 | 26.88 | 27 |
| | | | GK | max M | 129.12 | 122.44 | 53 |
| | | | GK | min E | 33.64 | 25.14 | 28 |

| | Q _{1i} [m] | Breite [cm] | Komb | Komm. | Q _{1i} [kN/m] | Q _{re} [kN/m] | Lkn |
|-----------|------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-0.39_3 | 0.89 | 25.00 | GK | max E | 127.26 | 124.17 | 54 |
| | | | GK | min A | 12.02 | -21.62 | 29 |
| | | | GK | max A | 107.13 | 58.06 | 55 |
| | | | GK | min M | 15.43 | -27.98 | 30 |
| | | | GK | max M | 100.54 | 68.27 | 39 |
| | | | GK | min E | 16.91 | -28.82 | 32 |
| WS-0.44_1 | 1.50 | 25.00 | GK | max E | 99.06 | 69.11 | 41 |
| | | | GK | min A | -23.49 | 108.78 | 59 |
| | | | GK | max A | 79.21 | 199.53 | 5 |
| | | | GK | min M | -23.08 | 105.77 | 60 |
| | | | GK | max M | 78.80 | 202.54 | 6 |
| | | | GK | min E | 15.21 | 100.18 | 42 |
| WS-0.44_2 | 1.51 | 25.00 | GK | max E | 54.04 | 206.64 | 7 |
| | | | GK | min A | 110.06 | 76.30 | 61 |
| | | | GK | max A | 216.01 | 153.73 | 8 |
| | | | GK | min M | 110.10 | 76.16 | 62 |
| | | | GK | max M | 215.96 | 153.87 | 9 |
| | | | GK | min E | 110.19 | 76.14 | 63 |
| WS-0.44_3 | 1.51 | 25.00 | GK | max E | 215.87 | 153.89 | 10 |
| | | | GK | min A | 75.62 | 90.03 | 64 |
| | | | GK | max A | 155.35 | 178.99 | 11 |
| | | | GK | min M | 75.75 | 89.00 | 65 |
| | | | GK | max M | 155.24 | 179.63 | 12 |
| | | | GK | min E | 75.75 | 88.99 | 66 |
| | | | GK | max E | 155.24 | 179.63 | 13 |

Q_{1i} Belastung am Sturzanfang (A)

Q_{re} Belastung am Sturzende (E)

S340. de

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Kombi nati onen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á´áÁØSÁÓSÁFíï€

Ew Einwirkungsname

Lkn Lastkombinationsnummer

Æ↔æÁÑæ\æ↔↔&|^&Áæ↔^~æ→^æãÁQáb\à†→æÁ↔^æãää→âÁeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

•œ} åã ð[|>à^|* È

Grundkombinationen

| Lkn | Ew | Gk | Ö← Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 | |
|-------|----|------|------------|-------------|-------------|-------------|------|
| 1-3 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 4-13 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 14-15 | | 1.35 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 16-30 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 31-32 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 33-39 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 40 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 41 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 42 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 43-55 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 56-66 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|-------|-------------|---------|---------|
| 1-3 | . | | 1.20 |
| 4-13 | . | | 1.20 |
| 14-15 | . | | 1.20 |
| 16-30 | . | | 1.20 |
| 31-32 | . | | 1.20 |
| 33-39 | . | | 1.20 |
| 40 | . | | 1.20 |
| 41 | . | | 1.20 |
| 42 | . | | 1.20 |
| 43-55 | 1.50 | | 1.20 |
| 56-66 | 1.50 | | 1.20 |

Brand

P~↑â↔^á\↔~^æ^ÃàfiãÃSá´â}æ↔bÃ↔↑ÃÑãá^ääá↔→

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|--------|----|------|------|---------|---------|---------|---------|
| 67-132 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | 0.80 |

| Lkn | Ew | Qk.N_DA | Qk.N_T2 |
|--------|----|---------|---------|
| 67-132 | . | | 0.50 |

Daten

| | Q†^&æ [m] | Breite [cm] | Komb | Komm. | q _{li} [kN/m] | q _{re} [kN/m] | Lkn |
|-----------|--------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-0.11 | 0.89 | 25.00 | GK | min A | 107.81 | 117.53 | 1 |
| | | | GK | max A | 218.79 | 156.61 | 43 |
| | | | GK | min M | 115.16 | 87.47 | 2 |
| | | | GK | max M | 212.48 | 179.78 | 44 |
| | | | GK | min E | 132.57 | 84.67 | 3 |
| | | | GK | max E | 193.20 | 182.71 | 45 |
| | | | BR | min A | 118.57 | 101.58 | 67 |
| | | | BR | min A | 141.67 | 104.31 | 68 |
| | | | BR | min A | 120.79 | 94.21 | 69 |
| | | | BR | min A | 139.45 | 111.67 | 70 |
| | | | BR | min A | 128.84 | 93.17 | 71 |
| | | | BR | min A | 131.41 | 112.71 | 72 |
| WS-0.17 | 1.00 | 25.00 | GK | min A | 42.83 | 141.44 | 56 |
| | | | GK | max A | 136.08 | 212.96 | 46 |
| | | | GK | min M | 48.07 | 118.85 | 57 |
| | | | GK | max M | 130.85 | 235.55 | 47 |
| | | | GK | min E | 61.24 | 116.33 | 58 |
| | | | GK | max E | 117.68 | 238.08 | 48 |
| | | | BR | min A | 59.82 | 126.08 | 73 |
| | | | BR | min A | 87.50 | 147.44 | 74 |
| | | | BR | min A | 61.35 | 121.10 | 75 |
| | | | BR | min A | 85.97 | 152.42 | 76 |
| | | | BR | min A | 62.77 | 120.75 | 77 |
| | | | BR | min A | 84.55 | 152.77 | 78 |
| WS-0.32_1 | 1.01 | 25.00 | GK | min A | -4.80 | -7.06 | 16 |
| | | | GK | max A | 21.15 | 18.84 | 33 |
| | | | GK | min M | -4.78 | -7.10 | 17 |
| | | | GK | max M | 21.13 | 18.90 | 34 |
| | | | GK | min E | -4.78 | -7.11 | 18 |
| | | | GK | max E | 21.12 | 18.91 | 35 |
| | | | BR | min A | 1.95 | 0.23 | 79 |
| | | | BR | min A | 11.65 | 10.06 | 80 |
| | | | BR | min A | 1.95 | 0.20 | 81 |
| | | | BR | min A | 11.65 | 10.08 | 82 |

| | $Q_{\perp}^{\wedge \& \ae}$ [m] | Breite [cm] | Komb | Komm. | q_{li} [kN/m] | q_{re} [kN/m] | Lkn |
|-----------|------------------------------------|----------------|------|-------|--------------------|--------------------|-----|
| WS-0.32_2 | 1.01 | 25.00 | BR | min A | 1.96 | 0.20 | 83 |
| | | | BR | min A | 11.64 | 10.09 | 84 |
| | | | GK | min A | -7.81 | -7.35 | 19 |
| | | | GK | max A | 18.26 | 18.54 | 36 |
| | | | GK | min M | -7.81 | -7.35 | 20 |
| | | | GK | max M | 18.26 | 18.55 | 37 |
| | | | GK | min E | -7.81 | -7.35 | 21 |
| | | | GK | max E | 18.26 | 18.55 | 38 |
| | | | BR | min A | -0.34 | 0.03 | 85 |
| | | | BR | min A | 9.60 | 9.80 | 86 |
| | | | BR | min A | -0.34 | 0.02 | 87 |
| | | | BR | min A | 9.60 | 9.80 | 88 |
| | | | BR | min A | -0.34 | 0.02 | 89 |
| | | | BR | min A | 9.60 | 9.80 | 90 |
| WS-0.32_3 | 1.00 | 25.00 | GK | min A | -3.54 | -2.86 | 22 |
| | | | GK | max A | 19.06 | 6.88 | 4 |
| | | | GK | min M | -3.15 | -3.55 | 31 |
| | | | GK | max M | 18.61 | 7.63 | 14 |
| | | | GK | min E | 2.22 | -6.72 | 40 |
| | | | GK | max E | 15.75 | 9.63 | 15 |
| | | | BR | min A | 2.05 | -0.74 | 91 |
| | | | BR | min A | 10.20 | 1.95 | 92 |
| | | | BR | min A | 2.13 | -0.92 | 93 |
| | | | BR | min A | 10.12 | 2.13 | 94 |
| | | | BR | min A | 3.75 | -2.06 | 95 |
| | | | BR | min A | 8.50 | 3.26 | 96 |
| | | | GK | min A | -4.82 | 26.23 | 23 |
| | | | GK | max A | 87.81 | 106.74 | 49 |
| WS-0.39_1 | 1.14 | 25.00 | GK | min M | -4.58 | 25.22 | 24 |
| | | | GK | max M | 87.56 | 107.79 | 50 |
| | | | GK | min E | 7.97 | 21.98 | 25 |
| | | | GK | max E | 67.23 | 112.82 | 51 |
| | | | BR | min A | 15.63 | 39.69 | 97 |
| | | | BR | min A | 52.47 | 68.02 | 98 |
| | | | BR | min A | 15.75 | 39.16 | 99 |
| | | | BR | min A | 52.34 | 68.55 | 100 |
| | | | BR | min A | 20.63 | 37.90 | 101 |
| | | | BR | min A | 47.47 | 69.81 | 102 |
| | | | GK | min A | 31.75 | 27.00 | 26 |
| | | | GK | max A | 129.74 | 120.19 | 52 |
| | | | GK | min M | 31.77 | 26.88 | 27 |
| | | | GK | max M | 129.12 | 122.44 | 53 |
| WS-0.39_2 | 0.89 | 25.00 | GK | min E | 33.64 | 25.14 | 28 |
| | | | GK | max E | 127.26 | 124.17 | 54 |
| | | | BR | min A | 47.24 | 42.44 | 103 |
| | | | BR | min A | 81.15 | 76.69 | 104 |
| | | | BR | min A | 47.25 | 42.39 | 105 |
| | | | BR | min A | 81.14 | 76.74 | 106 |
| | | | BR | min A | 47.98 | 41.73 | 107 |
| | | | BR | min A | 80.41 | 77.40 | 108 |
| | | | GK | min A | 12.02 | -21.62 | 29 |
| | | | GK | max A | 107.13 | 58.06 | 55 |
| | | | GK | min M | 15.43 | -27.98 | 30 |
| | | | GK | max M | 100.54 | 68.27 | 39 |
| | | | GK | min A | 12.02 | -21.62 | 29 |
| | | | GK | max A | 107.13 | 58.06 | 55 |
| WS-0.39_3 | 0.89 | 25.00 | GK | min M | 15.43 | -27.98 | 30 |
| | | | GK | max M | 100.54 | 68.27 | 39 |
| | | | GK | min A | 12.02 | -21.62 | 29 |
| | | | GK | max A | 107.13 | 58.06 | 55 |

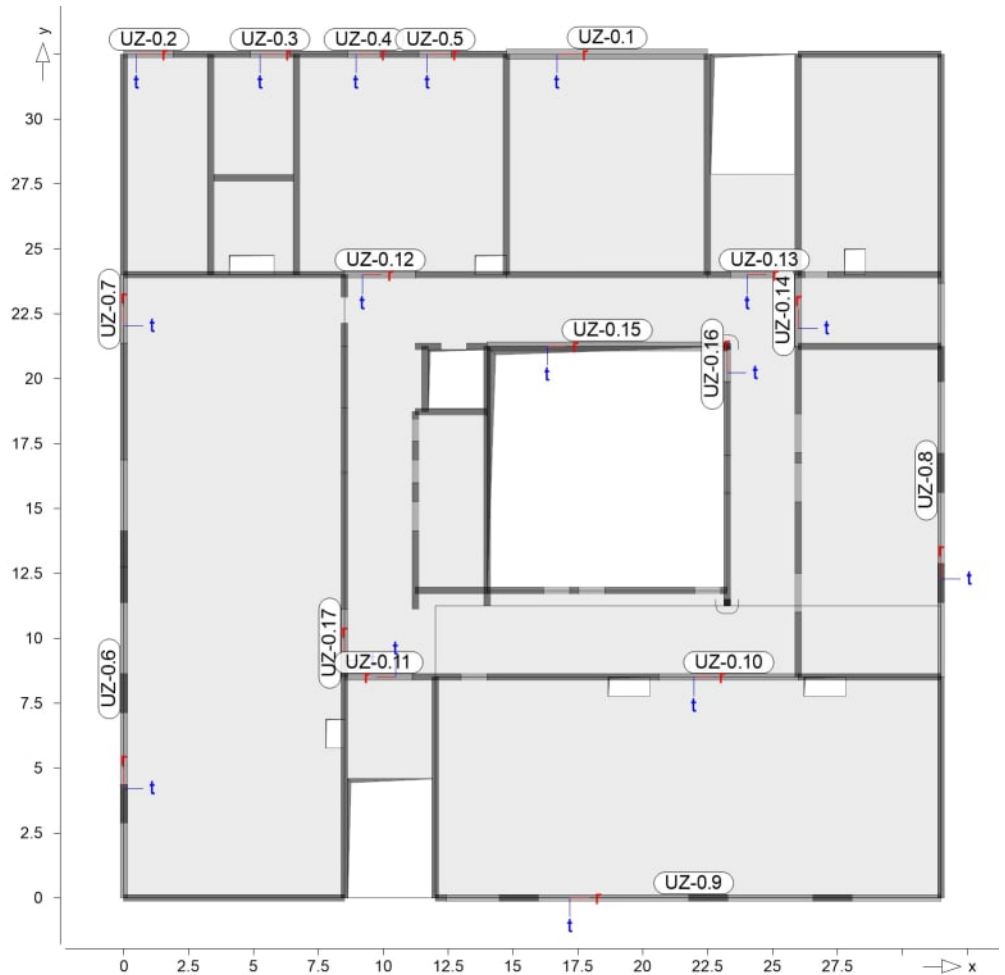
| | Q_{f}^{A} [m] | Breite [cm] | Komb | Komm. | q_{li} [kN/m] | q_{re} [kN/m] | Lkn |
|-----------|----------------------------------|----------------|------|-------|---------------------------|---------------------------|-----|
| WS-0.44_1 | 1.50 | 25.00 | GK | min E | 16.91 | -28.82 | 32 |
| | | | GK | max E | 99.06 | 69.11 | 41 |
| | | | BR | min A | 30.81 | 4.60 | 109 |
| | | | BR | min A | 66.10 | 36.32 | 110 |
| | | | BR | min A | 32.32 | 1.59 | 111 |
| | | | BR | min A | 64.59 | 39.33 | 112 |
| | | | BR | min A | 32.33 | 1.58 | 113 |
| | | | BR | min A | 64.58 | 39.33 | 114 |
| | | | GK | min A | -23.49 | 108.78 | 59 |
| | | | GK | max A | 79.21 | 199.53 | 5 |
| | | | GK | min M | -23.08 | 105.77 | 60 |
| | | | GK | max M | 78.80 | 202.54 | 6 |
| | | | GK | min E | 15.21 | 100.18 | 42 |
| | | | GK | max E | 54.04 | 206.64 | 7 |
| WS-0.44_2 | 1.51 | 25.00 | BR | min A | 6.46 | 106.34 | 115 |
| | | | BR | min A | 36.97 | 122.49 | 116 |
| | | | BR | min A | 6.69 | 104.62 | 117 |
| | | | BR | min A | 36.73 | 124.21 | 118 |
| | | | BR | min A | 15.64 | 102.78 | 119 |
| | | | BR | min A | 27.78 | 126.05 | 120 |
| | | | GK | min A | 110.06 | 76.30 | 61 |
| | | | GK | max A | 216.01 | 153.73 | 8 |
| | | | GK | min M | 110.10 | 76.16 | 62 |
| | | | GK | max M | 215.96 | 153.87 | 9 |
| WS-0.44_3 | 1.51 | 25.00 | GK | min E | 110.19 | 76.14 | 63 |
| | | | GK | max E | 215.87 | 153.89 | 10 |
| | | | BR | min A | 110.94 | 77.04 | 121 |
| | | | BR | min A | 132.92 | 92.48 | 122 |
| | | | BR | min A | 110.96 | 76.96 | 123 |
| | | | BR | min A | 132.90 | 92.55 | 124 |
| | | | BR | min A | 111.01 | 76.95 | 125 |
| | | | BR | min A | 132.85 | 92.56 | 126 |
| | | | GK | min A | 75.62 | 90.03 | 64 |
| | | | GK | max A | 155.35 | 178.99 | 11 |
| | | | GK | min M | 75.75 | 89.00 | 65 |
| | | | GK | max M | 155.24 | 179.63 | 12 |
| | | | GK | min E | 75.75 | 88.99 | 66 |
| | | | GK | max E | 155.24 | 179.63 | 13 |
| | | | BR | min A | 76.85 | 91.10 | 127 |
| | | | BR | min A | 93.19 | 110.62 | 128 |
| | | | BR | min A | 76.87 | 90.96 | 129 |
| | | | BR | min A | 93.16 | 110.75 | 130 |
| | | | BR | min A | 76.87 | 90.96 | 131 |
| | | | BR | min A | 93.16 | 110.75 | 132 |

q_{li} $\tilde{N} \rightarrow \tilde{a} b \setminus \mid \wedge \& \tilde{A} \tilde{a} \uparrow \tilde{A} \tilde{U} \tilde{a} \uparrow \& \tilde{a} \tilde{a} \wedge \tilde{a} \tilde{a} \wedge \tilde{A} \tilde{C} \tilde{N} \tilde{D}$
 q_{re} $\tilde{N} \rightarrow \tilde{a} b \setminus \mid \wedge \& \tilde{A} \tilde{a} \uparrow \tilde{A} \tilde{U} \tilde{a} \uparrow \& \tilde{a} \tilde{a} \wedge \tilde{a} \tilde{a} \wedge \tilde{A} \tilde{C} \tilde{O} \tilde{D}$

Lastmodel I Bal ken

S340. de

N→\æã^á\⇔{^á´â}æ↔bÃfiãÃÆ|ã´â→á|à\ã†&æã
U\áâ→âæ\~^ËÆ|ã´â→á|à\ã†&æã



UZ-0. 1

Unterzug

•æ}åã^Ãæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

Gk

| Nr. | a | s | q |
|-----|------|------|--------|
| | [m] | [m] | [kN/m] |
| 1 | 0.00 | 0.97 | 103.26 |
| 2 | 0.97 | 0.97 | 5.57 |
| 3 | 1.94 | 0.97 | 9.18 |
| 4 | 2.91 | 0.97 | 16.80 |
| 5 | 3.88 | 0.97 | 18.81 |
| 6 | 4.84 | 0.97 | 16.94 |
| 7 | 5.81 | 0.97 | 15.30 |
| 8 | 6.78 | 0.97 | 41.97 |
| 1 | 0.00 | 0.97 | 44.85 |
| 2 | 0.97 | 0.97 | 5.87 |
| 3 | 1.94 | 0.97 | 7.35 |
| 4 | 2.91 | 0.97 | 10.24 |
| 5 | 3.88 | 0.97 | 11.01 |
| 6 | 4.84 | 0.97 | 10.27 |

Ö←

D-816

Schulcampus EWK \

EG-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Qk.N_B1 | 7 | 5.81 | 0.97 | 8.69 |
| | 8 | 6.78 | 0.97 | 16.17 |
| | 1 | 0.00 | 0.97 | 32.42 |
| | 2 | 0.97 | 0.97 | 0.81 |
| | 3 | 1.94 | 0.97 | -1.03 |
| | 4 | 2.91 | 0.97 | -0.19 |
| | 5 | 3.88 | 0.97 | 0.02 |
| | 6 | 4.84 | 0.97 | -0.08 |
| Qk.N_C1 | 7 | 5.81 | 0.97 | 0.05 |
| | 8 | 6.78 | 0.97 | 4.33 |
| | 1 | 0.00 | 0.97 | -0.28 |
| | 2 | 0.97 | 0.97 | 7.14 |
| | 3 | 1.94 | 0.97 | 12.10 |
| | 4 | 2.91 | 0.97 | 14.42 |
| | 5 | 3.88 | 0.97 | 14.99 |
| | 6 | 4.84 | 0.97 | 14.39 |
| Qk.N_C5 | 7 | 5.81 | 0.97 | 12.03 |
| | 8 | 6.78 | 0.97 | -3.64 |
| | 1 | 0.00 | 0.97 | 0.02 |
| Qk.N_E1 | 1 | 0.00 | 0.97 | 0.43 |
| | 2 | 0.97 | 0.97 | -0.02 |
| | 3 | 1.94 | 0.97 | -0.03 |
| | 4 | 2.91 | 0.97 | -0.01 |
| | 5 | 4.84 | 0.97 | 0.01 |
| | 6 | 6.78 | 0.97 | -0.32 |
| Qk.N_DA | 1 | 0.00 | 0.97 | 18.60 |
| | 2 | 0.97 | 0.97 | 0.20 |
| | 3 | 1.94 | 0.97 | -0.66 |
| | 4 | 2.91 | 0.97 | -0.16 |
| | 5 | 3.88 | 0.97 | -0.06 |
| | 6 | 4.84 | 0.97 | -0.17 |
| | 7 | 5.81 | 0.97 | -0.04 |
| | 8 | 6.78 | 0.97 | 4.03 |

a: Nâb\á^äÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^æ^ÄÜä†&æäää^ä
s: Q†^æÄäääQáb\

UZ-0.10

Unterzug

•æ}ää^Äæc^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|----|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.90 | 191.79 |
| | 2 | 0.90 | 0.90 | 86.62 |
| | 3 | 1.79 | 0.90 | 56.65 |
| | 4 | 2.69 | 0.90 | 57.86 |
| | 5 | 3.58 | 0.90 | 89.67 |
| | 6 | 4.48 | 0.90 | 180.79 |
| Ö← | 1 | 0.00 | 0.90 | 63.15 |
| | 2 | 0.90 | 0.90 | 31.57 |
| | 3 | 1.79 | 0.90 | 22.31 |
| | 4 | 2.69 | 0.90 | 22.52 |
| | 5 | 3.58 | 0.90 | 31.66 |

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| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Qk.N_B1 | 6 | 4.48 | 0.90 | 57.62 |
| | 1 | 0.00 | 0.90 | 20.18 |
| | 2 | 0.90 | 0.90 | 3.57 |
| | 3 | 1.79 | 0.90 | -0.84 |
| | 4 | 2.69 | 0.90 | -1.21 |
| | 5 | 3.58 | 0.90 | 2.08 |
| Qk.N_C1 | 6 | 4.48 | 0.90 | 16.70 |
| | 1 | 0.00 | 0.90 | 40.24 |
| | 2 | 0.90 | 0.90 | 36.01 |
| | 3 | 1.79 | 0.90 | 33.85 |
| | 4 | 2.69 | 0.90 | 36.93 |
| | 5 | 3.58 | 0.90 | 47.72 |
| Qk.N_C5 | 6 | 4.48 | 0.90 | 60.23 |
| | 1 | 0.00 | 0.90 | 31.20 |
| | 2 | 0.90 | 0.90 | 15.45 |
| | 3 | 1.79 | 0.90 | 11.15 |
| | 4 | 2.69 | 0.90 | 10.85 |
| | 5 | 3.58 | 0.90 | 12.32 |
| Qk.N_E1 | 6 | 4.48 | 0.90 | 18.96 |
| | 1 | 0.00 | 0.90 | 0.60 |
| | 2 | 0.90 | 0.90 | 0.41 |
| | 3 | 1.79 | 0.90 | 0.19 |
| | 4 | 2.69 | 0.90 | 0.17 |
| | 5 | 3.58 | 0.90 | 0.57 |
| Qk.N_DA | 6 | 4.48 | 0.90 | 1.45 |
| | 1 | 0.00 | 0.90 | 27.84 |
| | 2 | 0.90 | 0.90 | 4.35 |
| | 3 | 1.79 | 0.90 | -1.60 |
| | 4 | 2.69 | 0.90 | -1.76 |
| | 5 | 3.58 | 0.90 | 2.73 |
| Qk.N_T2 | 6 | 4.48 | 0.90 | 20.08 |
| | 1 | 0.00 | 0.90 | 0.14 |
| | 2 | 0.90 | 0.90 | 0.18 |
| | 3 | 1.79 | 0.90 | 0.15 |
| | 4 | 2.69 | 0.90 | 0.07 |
| | 5 | 4.48 | 0.90 | -0.04 |

a: Nâb\á^ãÄäæbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^æ^ÄÜä‡&æäää^ä
s: Q‡^æÄäääÄQáb\

UZ-0.11

Unterzug

•æ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.88 | -28.81 |
| | 2 | 0.88 | 0.88 | -51.48 |
| | 3 | 1.75 | 0.88 | 47.68 |
| Ö← | 1 | 0.00 | 0.88 | -11.14 |
| | 2 | 0.88 | 0.88 | -19.12 |
| | 3 | 1.75 | 0.88 | 12.53 |
| Qk.N_B1 | 1 | 0.00 | 0.88 | -2.34 |
| | 2 | 0.88 | 0.88 | 3.43 |

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Schulcampus EWK \

EG-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| | 3 | 1.75 | 0.88 | 17.12 |
| Qk.N_C5 | 1 | 0.00 | 0.88 | 10.15 |
| | 2 | 0.88 | 0.88 | 9.49 |
| | 3 | 1.75 | 0.88 | 10.07 |
| Qk.N_E1 | 1 | 0.00 | 0.88 | 0.10 |
| | 2 | 0.88 | 0.88 | 0.07 |
| | 3 | 1.75 | 0.88 | 0.14 |
| Qk.N_DA | 1 | 0.00 | 0.88 | -0.56 |
| | 2 | 0.88 | 0.88 | 4.20 |
| | 3 | 1.75 | 0.88 | 19.19 |
| Qk.N_T2 | 1 | 0.00 | 0.88 | 9.62 |
| | 2 | 0.88 | 0.88 | 9.85 |
| | 3 | 1.75 | 0.88 | 5.84 |

a: Nâb\á^äÄäæbÄU\ää*|^←\æbÄ~|↑Ä→↔^←æ^ÄÜä+&æäää^ä
s: Q†^&æÄääääQáb\

UZ-0.12

Unterzug

•ä}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.92 | 75.56 |
| | 2 | 0.92 | 0.92 | 36.86 |
| | 3 | 1.83 | 0.92 | 32.61 |
| Ö← | 1 | 0.00 | 0.92 | 25.42 |
| | 2 | 0.92 | 0.92 | 13.24 |
| | 3 | 1.83 | 0.92 | 12.25 |
| Qk.N_B1 | 1 | 0.00 | 0.92 | 9.98 |
| | 2 | 0.92 | 0.92 | 1.43 |
| | 3 | 1.83 | 0.92 | -0.99 |
| Qk.N_C1 | 1 | 0.00 | 0.92 | 29.85 |
| | 2 | 0.92 | 0.92 | 22.72 |
| | 3 | 1.83 | 0.92 | 22.90 |
| Qk.N_C5 | 1 | 0.00 | 0.92 | 8.23 |
| | 2 | 0.92 | 0.92 | 9.06 |
| | 3 | 1.83 | 0.92 | 8.67 |
| Qk.N_E1 | 1 | 0.00 | 0.92 | 14.06 |
| | 2 | 0.92 | 0.92 | 1.97 |
| | 3 | 1.83 | 0.92 | -0.62 |
| Qk.N_DA | 1 | 0.00 | 0.92 | 0.07 |
| | 2 | 0.92 | 0.92 | 0.10 |
| | 3 | 1.83 | 0.92 | 0.12 |
| Qk.N_T2 | 1 | 0.00 | 0.92 | 0.02 |
| | 2 | 0.92 | 0.92 | 0.03 |
| | 3 | 1.83 | 0.92 | 0.04 |

a: Nâb\á^äÄäæbÄU\ää*|^←\æbÄ~|↑Ä→↔^←æ^ÄÜä+&æäää^ä
s: Q†^&æÄääääQáb\

UZ-0.13

Unterzug

•ê}ãã^Ãæç}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----------|----------|-------------|
| Gk | 1 0.00 | 0.88 | 16.18 |
| | 2 0.88 | 0.88 | 14.40 |
| | 3 1.75 | 0.88 | 28.77 |
| Ö← | 1 0.00 | 0.88 | 5.65 |
| | 2 0.88 | 0.88 | 5.05 |
| | 3 1.75 | 0.88 | 5.96 |
| Qk.N_B1 | 1 0.88 | 0.88 | 0.09 |
| | 2 1.75 | 0.88 | 0.16 |
| Qk.N_C1 | 1 0.00 | 0.88 | 0.47 |
| | 2 0.88 | 0.88 | 0.25 |
| | 3 1.75 | 0.88 | 0.05 |
| Qk.N_C5 | 1 0.00 | 0.88 | 9.71 |
| | 2 0.88 | 0.88 | 7.65 |
| | 3 1.75 | 0.88 | 5.85 |
| Qk.N_DA | 1 0.00 | 0.88 | 0.77 |
| | 2 0.88 | 0.88 | 0.78 |
| | 3 1.75 | 0.88 | 3.72 |
| Qk.N_T2 | 1 0.00 | 0.88 | 8.94 |
| | 2 0.88 | 0.88 | 9.03 |
| | 3 1.75 | 0.88 | 6.05 |

a: Nâb\á^ãÃæbÁU\ää*| ^←\æbÁ~| ↑Á→↔^←æ^ÁÜã‡&æãää^ä
s: Q‡^&æÃæääQáb\

UZ-0. 14

Unterzug

•ê}ãã^Ãæç}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----------|----------|-------------|
| Gk | 1 0.00 | 0.92 | 43.60 |
| | 2 0.92 | 0.92 | 16.55 |
| | 3 1.83 | 0.92 | 24.87 |
| Ö← | 1 0.00 | 0.92 | 10.21 |
| | 2 0.92 | 0.92 | 6.03 |
| | 3 1.83 | 0.92 | 6.00 |
| Qk.N_B1 | 1 0.92 | 0.92 | 0.06 |
| | 2 1.83 | 0.92 | 0.05 |
| Qk.N_C1 | 1 0.00 | 0.92 | 0.29 |
| | 2 0.92 | 0.92 | 0.50 |
| | 3 1.83 | 0.92 | 0.53 |
| Qk.N_C5 | 1 0.00 | 0.92 | 13.62 |
| | 2 0.92 | 0.92 | 8.80 |
| | 3 1.83 | 0.92 | 6.07 |
| Qk.N_E1 | 1 0.00 | 0.92 | 6.53 |
| | 2 0.92 | 0.92 | 7.22 |
| | 3 1.83 | 0.92 | 3.94 |
| Qk.N_DA | 1 0.00 | 0.92 | 2.94 |
| | 2 0.92 | 0.92 | 0.56 |
| | 3 1.83 | 0.92 | 3.07 |
| Qk.N_T2 | 1 0.00 | 0.92 | -0.19 |

| Nr. | a [m] | s [m] | q [kN/m] |
|-----|----------|----------|-------------|
| 2 | 0.92 | 0.92 | -0.36 |
| 3 | 1.83 | 0.92 | 0.92 |

a: Nâb\á^äÄäbÄU\ää*|^←\æbÄ~|↑Ä→↔^æ^ÄÜä‡&æäää^ä
s: Q‡^æÄäæääQáb\

UZ-0.15

Unterzug

•æ\ää^Äæ c\

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.93 | 34.16 |
| | 2 | 0.93 | 0.93 | 11.03 |
| | 3 | 1.85 | 0.93 | 6.90 |
| | 4 | 2.78 | 0.93 | 5.86 |
| | 5 | 3.70 | 0.93 | 5.55 |
| | 6 | 4.63 | 0.93 | 5.40 |
| | 7 | 5.55 | 0.93 | 5.69 |
| | 8 | 6.48 | 0.93 | 6.26 |
| | 9 | 7.40 | 0.93 | 5.80 |
| | 10 | 8.33 | 0.93 | 9.59 |
| Ö← | 1 | 0.00 | 0.93 | 6.20 |
| | 2 | 0.93 | 0.93 | 4.12 |
| | 3 | 1.85 | 0.93 | 3.09 |
| | 4 | 2.78 | 0.93 | 2.61 |
| | 5 | 3.70 | 0.93 | 2.49 |
| | 6 | 4.63 | 0.93 | 2.42 |
| | 7 | 5.55 | 0.93 | 2.46 |
| | 8 | 6.48 | 0.93 | 2.58 |
| | 9 | 7.40 | 0.93 | 2.64 |
| | 10 | 8.33 | 0.93 | 5.29 |
| Qk.N_B1 | 1 | 0.00 | 0.93 | 0.28 |
| | 2 | 0.93 | 0.93 | 0.63 |
| | 3 | 1.85 | 0.93 | 0.27 |
| | 4 | 2.78 | 0.93 | 0.29 |
| | 5 | 3.70 | 0.93 | 0.46 |
| | 6 | 4.63 | 0.93 | 0.41 |
| | 7 | 5.55 | 0.93 | 0.19 |
| | 8 | 6.48 | 0.93 | -0.05 |
| | 9 | 7.40 | 0.93 | -0.04 |
| | 10 | 8.33 | 0.93 | -0.48 |
| Qk.N_C1 | 1 | 0.00 | 0.93 | -1.06 |
| | 2 | 0.93 | 0.93 | 0.43 |
| | 3 | 1.85 | 0.93 | 0.80 |
| | 4 | 2.78 | 0.93 | 0.86 |
| | 5 | 3.70 | 0.93 | 0.78 |
| | 6 | 4.63 | 0.93 | 0.61 |
| | 7 | 5.55 | 0.93 | 0.41 |
| | 8 | 6.48 | 0.93 | 0.23 |
| | 9 | 7.40 | 0.93 | 0.09 |
| | 10 | 8.33 | 0.93 | 0.01 |
| Qk.N_C5 | 1 | 0.00 | 0.93 | 7.92 |
| | 2 | 0.93 | 0.93 | 6.09 |

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| | 3 | 1.85 | 0.93 | 6.08 |
| | 4 | 2.78 | 0.93 | 6.16 |
| | 5 | 3.70 | 0.93 | 6.21 |
| | 6 | 4.63 | 0.93 | 6.23 |
| | 7 | 5.55 | 0.93 | 6.22 |
| | 8 | 6.48 | 0.93 | 6.00 |
| | 9 | 7.40 | 0.93 | 5.63 |
| | 10 | 8.33 | 0.93 | 10.92 |
| Qk.N_E1 | 1 | 0.00 | 0.93 | 0.70 |
| | 2 | 0.93 | 0.93 | 0.14 |
| | 3 | 1.85 | 0.93 | -0.03 |
| | 4 | 2.78 | 0.93 | -0.04 |
| | 5 | 4.63 | 0.93 | 0.01 |
| Qk.N_DA | 1 | 0.00 | 0.93 | 4.00 |
| | 2 | 0.93 | 0.93 | 1.24 |
| | 3 | 1.85 | 0.93 | 0.31 |
| | 4 | 2.78 | 0.93 | 0.15 |
| | 5 | 3.70 | 0.93 | 0.29 |
| | 6 | 4.63 | 0.93 | 0.34 |
| | 7 | 5.55 | 0.93 | 0.24 |
| | 8 | 6.48 | 0.93 | 0.10 |
| | 9 | 7.40 | 0.93 | -0.06 |
| | 10 | 8.33 | 0.93 | -0.18 |
| Qk.N_T2 | 1 | 0.93 | 0.93 | 0.02 |
| | 2 | 1.85 | 0.93 | 0.06 |
| | 3 | 2.78 | 0.93 | 0.11 |
| | 4 | 3.70 | 0.93 | 0.17 |
| | 5 | 4.63 | 0.93 | 0.22 |
| | 6 | 5.55 | 0.93 | 0.24 |
| | 7 | 6.48 | 0.93 | 0.17 |
| | 8 | 7.40 | 0.93 | -0.02 |
| | 9 | 8.33 | 0.93 | -0.58 |

a: Nâb\á^ãÄäæbÄU\ää*|^←\æbÄ~|↑Ä→↔^←æ^ÄÚä‡&æäää^ä
s: Q†^&æÄäääÄQáb\

UZ-0.16

Unterzug

•~~æ~~ } ää^Äæc^ }

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.69 | 105.74 |
| | 2 | 0.69 | 0.69 | 29.03 |
| Ö← | 1 | 0.00 | 0.69 | 16.96 |
| | 2 | 0.69 | 0.69 | 8.50 |
| Qk.N_B1 | 1 | 0.00 | 0.69 | 1.68 |
| | 2 | 0.69 | 0.69 | 0.55 |
| Qk.N_C1 | 1 | 0.00 | 0.69 | 0.23 |
| | 2 | 0.69 | 0.69 | 0.24 |
| Qk.N_C5 | 1 | 0.00 | 0.69 | 22.43 |
| | 2 | 0.69 | 0.69 | 14.94 |
| Qk.N_DA | 1 | 0.00 | 0.69 | 20.98 |
| | 2 | 0.69 | 0.69 | 3.33 |

D-822

Schulcampus EWK \

EG-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|--|-----|----------|----------|-------------|
| Qk.N_T2 | 1 | 0.00 | 0.69 | 0.12 |
| | 2 | 0.69 | 0.69 | -0.12 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä‡&æäää^ä s: Q‡^&æÄäæääQáb\ | | | | |

UZ-0. 17

Unterzug

•æ\ää^Äæc\

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|--|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.88 | 155.14 |
| | 2 | 0.88 | 0.88 | 84.59 |
| | 3 | 1.75 | 0.88 | 63.74 |
| Ö← | 1 | 0.00 | 0.88 | 52.19 |
| | 2 | 0.88 | 0.88 | 30.83 |
| | 3 | 1.75 | 0.88 | 23.90 |
| Qk.N_B1 | 1 | 0.00 | 0.88 | 14.22 |
| | 2 | 0.88 | 0.88 | 1.81 |
| | 3 | 1.75 | 0.88 | -0.82 |
| Qk.N_C1 | 1 | 0.00 | 0.88 | 66.40 |
| | 2 | 0.88 | 0.88 | 51.45 |
| | 3 | 1.75 | 0.88 | 41.94 |
| Qk.N_C5 | 1 | 0.00 | 0.88 | 7.67 |
| | 2 | 0.88 | 0.88 | 6.95 |
| | 3 | 1.75 | 0.88 | 7.26 |
| Qk.N_E1 | 1 | 0.00 | 0.88 | 1.18 |
| | 2 | 0.88 | 0.88 | 0.76 |
| | 3 | 1.75 | 0.88 | 0.35 |
| Qk.N_DA | 1 | 0.00 | 0.88 | 15.65 |
| | 2 | 0.88 | 0.88 | 1.77 |
| | 3 | 1.75 | 0.88 | -1.08 |
| Qk.N_T2 | 1 | 0.00 | 0.88 | 1.19 |
| | 2 | 0.88 | 0.88 | -0.07 |
| | 3 | 1.75 | 0.88 | -0.19 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä‡&æäää^ä s: Q‡^&æÄäæääQáb\ | | | | |

UZ-0. 2

Unterzug

•æ\ää^Äæc\

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.96 | 4.05 |
| | 2 | 0.96 | 0.96 | 5.43 |
| Ö← | 1 | 0.00 | 0.96 | 10.35 |
| | 2 | 0.96 | 0.96 | 7.41 |
| Qk.N_B1 | 1 | 0.00 | 0.96 | 0.21 |
| Qk.N_C1 | 1 | 0.00 | 0.96 | 1.78 |
| | 2 | 0.96 | 0.96 | 7.51 |
| Qk.N_C5 | 1 | 0.00 | 0.96 | 0.07 |

| | Nr. | a [m] | s [m] | q [kN/m] |
|---|-----|----------|----------|-------------|
| Qk.N_E1 | 1 | 0.00 | 0.96 | 0.13 |
| Qk.N_DA | 1 | 0.00 | 0.96 | 0.30 |
| | 2 | 0.96 | 0.96 | 0.02 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä+&æäää^ä s: Q†^æÄäæääQáb\ | | | | |

UZ-0.3

Unterzug

•ê}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.75 | 78.41 |
| | 2 | 0.75 | 0.75 | 5.49 |
| Ö← | 1 | 0.00 | 0.75 | 36.25 |
| | 2 | 0.75 | 0.75 | 7.30 |
| Qk.N_B1 | 1 | 0.00 | 0.75 | 0.16 |
| | 2 | 0.75 | 0.75 | 0.05 |
| Qk.N_C1 | 1 | 0.00 | 0.75 | 24.38 |
| | 2 | 0.75 | 0.75 | 6.12 |
| Qk.N_C5 | 1 | 0.00 | 0.75 | 0.04 |
| | 2 | 0.75 | 0.75 | 0.05 |
| Qk.N_E1 | 1 | 0.00 | 0.75 | 3.49 |
| | 2 | 0.75 | 0.75 | 0.48 |
| Qk.N_DA | 1 | 0.00 | 0.75 | 13.17 |
| | 2 | 0.75 | 0.75 | 1.45 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä+&æäää^ä s: Q†^æÄäæääQáb\ | | | | |

UZ-0.4

Unterzug

•ê}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.63 | 30.98 |
| | 2 | 0.63 | 0.63 | 97.71 |
| Ö← | 1 | 0.00 | 0.63 | 18.38 |
| | 2 | 0.63 | 0.63 | 44.32 |
| Qk.N_B1 | 1 | 0.00 | 0.63 | 0.37 |
| | 2 | 0.63 | 0.63 | 1.75 |
| Qk.N_C1 | 1 | 0.00 | 0.63 | 13.60 |
| | 2 | 0.63 | 0.63 | 23.51 |
| Qk.N_C5 | 1 | 0.63 | 0.63 | 0.02 |
| Qk.N_E1 | 1 | 0.00 | 0.63 | 2.33 |
| | 2 | 0.63 | 0.63 | 11.11 |
| Qk.N_DA | 1 | 0.00 | 0.63 | 2.73 |
| | 2 | 0.63 | 0.63 | 14.57 |
| Qk.N_T2 | 1 | 0.63 | 0.63 | 0.03 |
| a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä+&æäää^ä s: Q†^æÄäæääQáb\ | | | | |

UZ-0. 5

Unterzug

•œ} åã ^Ãæ c^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.63 | 71.36 |
| | 2 | 0.63 | 0.63 | 19.89 |
| Ö← | 1 | 0.00 | 0.63 | 32.10 |
| | 2 | 0.63 | 0.63 | 13.55 |
| Qk.N_C1 | 1 | 0.00 | 0.63 | 15.21 |
| | 2 | 0.63 | 0.63 | 12.21 |
| Qk.N_C5 | 1 | 0.00 | 0.63 | 0.04 |
| Qk.N_E1 | 1 | 0.00 | 0.63 | 6.55 |
| | 2 | 0.63 | 0.63 | 1.12 |
| Qk.N_DA | 1 | 0.00 | 0.63 | 13.85 |
| | 2 | 0.63 | 0.63 | 2.19 |
| Qk.N_T2 | 1 | 0.00 | 0.63 | 0.12 |
| | 2 | 0.63 | 0.63 | 0.07 |

a: Nâb\á^ãÃæbÁU\ää*|^←\æbÃ~|↑Ã→^←æ^ÁÚã+&æääã^ä
s: Q†^&æÃæääQáb\

UZ-0. 6

Unterzug

•œ} åã ^Ãæ c^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|----|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.99 | -18.95 |
| | 2 | 0.99 | 0.99 | 17.69 |
| | 3 | 1.99 | 0.99 | 78.47 |
| | 4 | 2.98 | 0.99 | 249.78 |
| | 5 | 3.97 | 0.99 | 199.58 |
| | 6 | 4.96 | 0.99 | 42.61 |
| | 7 | 5.96 | 0.99 | 22.22 |
| | 8 | 6.95 | 0.99 | 24.08 |
| | 9 | 7.94 | 0.99 | 23.44 |
| | 10 | 8.93 | 0.99 | 20.29 |
| | 11 | 9.93 | 0.99 | 43.63 |
| | 12 | 10.92 | 0.99 | 233.19 |
| | 13 | 11.91 | 0.99 | 368.50 |
| | 14 | 12.90 | 0.99 | 125.53 |
| | 15 | 13.90 | 0.99 | 23.73 |
| | 16 | 14.89 | 0.99 | 21.29 |
| | 17 | 15.88 | 0.99 | 23.58 |
| Ö← | 1 | 0.00 | 0.99 | -0.07 |
| | 2 | 0.99 | 0.99 | 10.60 |
| | 3 | 1.99 | 0.99 | 35.50 |
| | 4 | 2.98 | 0.99 | 105.43 |
| | 5 | 3.97 | 0.99 | 84.36 |
| | 6 | 4.96 | 0.99 | 20.35 |
| | 7 | 5.96 | 0.99 | 13.25 |
| | 8 | 6.95 | 0.99 | 18.19 |
| | 9 | 7.94 | 0.99 | 17.50 |

D-825

POSITION

EG-LP4

| | Nr. | a | s | q |
|---------|-----|-------|------|--------|
| | | [m] | [m] | [kN/m] |
| Qk.N_B1 | 10 | 8.93 | 0.99 | 12.12 |
| | 11 | 9.93 | 0.99 | 21.03 |
| | 12 | 10.92 | 0.99 | 98.50 |
| | 13 | 11.91 | 0.99 | 152.74 |
| | 14 | 12.90 | 0.99 | 58.65 |
| | 15 | 13.90 | 0.99 | 15.32 |
| | 16 | 14.89 | 0.99 | 11.92 |
| | 17 | 15.88 | 0.99 | 14.03 |
| | 1 | 0.00 | 0.99 | -6.31 |
| | 2 | 0.99 | 0.99 | -0.26 |
| | 3 | 1.99 | 0.99 | 11.05 |
| | 4 | 2.98 | 0.99 | 54.34 |
| | 5 | 3.97 | 0.99 | 47.45 |
| | 6 | 4.96 | 0.99 | 4.93 |
| | 7 | 5.96 | 0.99 | -0.87 |
| | 8 | 6.95 | 0.99 | -0.33 |
| | 9 | 7.94 | 0.99 | -0.38 |
| | 10 | 8.93 | 0.99 | -1.03 |
| Qk.N_C1 | 11 | 9.93 | 0.99 | 6.09 |
| | 12 | 10.92 | 0.99 | 54.49 |
| | 13 | 11.91 | 0.99 | 73.86 |
| | 14 | 12.90 | 0.99 | 19.14 |
| | 15 | 13.90 | 0.99 | -0.36 |
| | 16 | 14.89 | 0.99 | -0.66 |
| | 17 | 15.88 | 0.99 | -0.20 |
| | 1 | 0.00 | 0.99 | -11.39 |
| | 2 | 0.99 | 0.99 | 13.35 |
| | 3 | 1.99 | 0.99 | 16.65 |
| | 4 | 2.98 | 0.99 | 17.76 |
| | 5 | 3.97 | 0.99 | 18.38 |
| | 6 | 4.96 | 0.99 | 18.53 |
| | 7 | 5.96 | 0.99 | 18.39 |
| | 8 | 6.95 | 0.99 | 18.20 |
| | 9 | 7.94 | 0.99 | 17.89 |
| | 10 | 8.93 | 0.99 | 17.71 |
| | 11 | 9.93 | 0.99 | 17.58 |
| | 12 | 10.92 | 0.99 | 17.58 |
| | 13 | 11.91 | 0.99 | 17.62 |
| Qk.N_C5 | 14 | 12.90 | 0.99 | 17.61 |
| | 15 | 13.90 | 0.99 | 17.58 |
| | 16 | 14.89 | 0.99 | 17.58 |
| | 17 | 15.88 | 0.99 | 17.44 |
| | 1 | 0.00 | 0.99 | -0.16 |
| | 2 | 1.99 | 0.99 | -0.02 |
| | 3 | 2.98 | 0.99 | 0.28 |
| | 4 | 3.97 | 0.99 | 0.41 |
| | 5 | 4.96 | 0.99 | 0.05 |
| | 6 | 8.93 | 0.99 | -0.04 |
| | 7 | 9.93 | 0.99 | 0.15 |
| | 8 | 10.92 | 0.99 | 2.00 |
| | 9 | 11.91 | 0.99 | 3.97 |
| | 10 | 12.90 | 0.99 | 1.31 |
| | 11 | 13.90 | 0.99 | 0.02 |
| | 12 | 14.89 | 0.99 | -0.02 |

D-826

Schulcampus EWK \

EG-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| | 13 | 15.88 | 0.99 | 0.01 |
| Qk.N_E1 | 1 | 0.00 | 0.99 | -0.07 |
| | 2 | 0.99 | 0.99 | 0.02 |
| | 3 | 1.99 | 0.99 | 0.04 |
| | 4 | 2.98 | 0.99 | 0.05 |
| | 5 | 3.97 | 0.99 | 0.06 |
| | 6 | 4.96 | 0.99 | 0.05 |
| | 7 | 5.96 | 0.99 | 0.04 |
| | 8 | 6.95 | 0.99 | 0.03 |
| | 9 | 7.94 | 0.99 | 0.03 |
| | 10 | 8.93 | 0.99 | 0.02 |
| | 11 | 9.93 | 0.99 | 0.02 |
| | 12 | 10.92 | 0.99 | 0.04 |
| | 13 | 11.91 | 0.99 | 0.03 |
| | 14 | 12.90 | 0.99 | 0.01 |
| | 15 | 13.90 | 0.99 | 0.01 |
| | 16 | 14.89 | 0.99 | 0.01 |
| | 17 | 15.88 | 0.99 | 0.01 |
| Qk.N_DA | 1 | 0.00 | 0.99 | -3.40 |
| | 2 | 0.99 | 0.99 | -0.04 |
| | 3 | 1.99 | 0.99 | 10.71 |
| | 4 | 2.98 | 0.99 | 41.48 |
| | 5 | 3.97 | 0.99 | 30.99 |
| | 6 | 4.96 | 0.99 | 2.94 |
| | 7 | 5.96 | 0.99 | -0.59 |
| | 8 | 6.95 | 0.99 | -0.20 |
| | 9 | 7.94 | 0.99 | -0.24 |
| | 10 | 8.93 | 0.99 | -0.83 |
| | 11 | 9.93 | 0.99 | 2.89 |
| | 12 | 10.92 | 0.99 | 38.26 |
| | 13 | 11.91 | 0.99 | 72.68 |
| | 14 | 12.90 | 0.99 | 22.95 |
| | 15 | 14.89 | 0.99 | -0.69 |
| | 16 | 15.88 | 0.99 | -0.16 |

a: Nâb\á^äÄäbÄU\ää*| ^←\æbÄ~| ↑Ä→↔^←æ^ÄÜä†&æäää^ä
s: Q†^æÄäæääQáb\

UZ-0.7

Unterzug

•æ}ää^Äæc^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.88 | 58.87 |
| | 2 | 0.88 | 0.88 | 6.48 |
| | 3 | 1.75 | 0.88 | -3.21 |
| Ö← | 1 | 0.00 | 0.88 | 23.91 |
| | 2 | 0.88 | 0.88 | 3.00 |
| | 3 | 1.75 | 0.88 | 0.86 |
| Qk.N_B1 | 1 | 0.00 | 0.88 | 0.11 |
| | 2 | 0.88 | 0.88 | 0.10 |
| | 3 | 1.75 | 0.88 | 0.24 |
| Qk.N_C1 | 1 | 0.88 | 0.88 | 0.08 |

D-827

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| | 2 | 1.75 | 0.88 | 0.18 |
| Qk.N_C5 | 1 | 0.88 | 0.88 | 0.08 |
| | 2 | 1.75 | 0.88 | 0.13 |
| Qk.N_E1 | 1 | 0.00 | 0.88 | 11.64 |
| | 2 | 0.88 | 0.88 | 7.15 |
| | 3 | 1.75 | 0.88 | 2.33 |
| Qk.N_DA | 1 | 0.00 | 0.88 | 10.53 |
| | 2 | 0.88 | 0.88 | 0.89 |
| | 3 | 1.75 | 0.88 | -0.51 |

a: Nâb\á^äääæbAU\ää*|^←\æbÃ~|↑Ã→↔^←æ^ÃUã†&æäää^ä
s: Q†^&æÃääæääQáb\

UZ-0.8

Unterzug

•œ}ää^Ãæœ^}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Einzellasten

| | Nr. | a [m] | F [kN] |
|---------|-----|----------|-----------|
| Gk | 1 | 8.50 | 204.91 |
| Ö← | 1 | 8.50 | 81.58 |
| Qk.N_B1 | 1 | 8.50 | 43.98 |
| Qk.N_C5 | 1 | 8.50 | 0.31 |
| Qk.N_E1 | 1 | 8.50 | 9.33 |
| Qk.N_DA | 1 | 8.50 | 17.62 |

Blocklasten

| | Nr. | a [m] | s [m] | q [kN/m] |
|----|-----|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.95 | -5.13 |
| | 2 | 0.95 | 0.95 | -0.51 |
| | 3 | 1.90 | 0.95 | 46.67 |
| | 4 | 2.85 | 0.95 | 170.69 |
| | 5 | 3.79 | 0.95 | 141.98 |
| | 6 | 4.74 | 0.95 | 33.82 |
| | 7 | 5.69 | 0.95 | 13.99 |
| | 8 | 6.64 | 0.95 | 15.31 |
| | 9 | 7.59 | 0.95 | 15.86 |
| | 10 | 8.54 | 0.95 | 15.39 |
| | 11 | 9.48 | 0.95 | 13.88 |
| | 12 | 10.43 | 0.95 | 12.49 |
| | 13 | 11.38 | 0.95 | 25.45 |
| | 14 | 12.33 | 0.95 | 46.22 |
| | 15 | 13.28 | 0.95 | 16.99 |
| | 16 | 14.23 | 0.95 | 11.62 |
| Ö← | 1 | 0.00 | 0.95 | 1.24 |
| | 2 | 0.95 | 0.95 | 3.55 |
| | 3 | 1.90 | 0.95 | 23.32 |
| | 4 | 2.85 | 0.95 | 74.36 |
| | 5 | 3.79 | 0.95 | 61.12 |
| | 6 | 4.74 | 0.95 | 15.83 |
| | 7 | 5.69 | 0.95 | 9.23 |
| | 8 | 6.64 | 0.95 | 13.65 |
| | 9 | 7.59 | 0.95 | 15.34 |
| | 10 | 8.54 | 0.95 | 10.08 |

D-828

POSITION

EG-LP4

| | Nr. | a [m] | s [m] | q [kN/m] |
|---------|-----|----------|----------|-------------|
| | 11 | 9.48 | 0.95 | 8.29 |
| | 12 | 10.43 | 0.95 | 10.25 |
| | 13 | 11.38 | 0.95 | 18.20 |
| | 14 | 12.33 | 0.95 | 21.97 |
| | 15 | 13.28 | 0.95 | 8.78 |
| | 16 | 14.23 | 0.95 | 7.65 |
| Qk.N_B1 | 1 | 0.00 | 0.95 | 0.42 |
| | 2 | 0.95 | 0.95 | 6.58 |
| | 3 | 1.90 | 0.95 | 16.61 |
| | 4 | 2.85 | 0.95 | 39.47 |
| | 5 | 3.79 | 0.95 | 35.21 |
| | 6 | 4.74 | 0.95 | 15.28 |
| | 7 | 5.69 | 0.95 | 11.55 |
| | 8 | 6.64 | 0.95 | 11.77 |
| | 9 | 7.59 | 0.95 | 11.81 |
| | 10 | 8.54 | 0.95 | 11.50 |
| | 11 | 9.48 | 0.95 | 10.53 |
| | 12 | 10.43 | 0.95 | 8.15 |
| | 13 | 11.38 | 0.95 | 4.06 |
| | 14 | 12.33 | 0.95 | -0.10 |
| | 15 | 13.28 | 0.95 | -2.51 |
| | 16 | 14.23 | 0.95 | -2.87 |
| Qk.N_C1 | 1 | 14.23 | 0.95 | 0.01 |
| Qk.N_C5 | 1 | 0.00 | 0.95 | -0.17 |
| | 2 | 0.95 | 0.95 | -0.01 |
| | 3 | 1.90 | 0.95 | -0.78 |
| | 4 | 2.85 | 0.95 | -2.13 |
| | 5 | 3.79 | 0.95 | -0.93 |
| | 6 | 4.74 | 0.95 | -0.07 |
| | 7 | 5.69 | 0.95 | 0.02 |
| Qk.N_E1 | 1 | 0.00 | 0.95 | -0.85 |
| | 2 | 0.95 | 0.95 | 0.03 |
| | 3 | 1.90 | 0.95 | 2.91 |
| | 4 | 2.85 | 0.95 | 11.07 |
| | 5 | 3.79 | 0.95 | 8.44 |
| | 6 | 4.74 | 0.95 | 1.20 |
| | 7 | 5.69 | 0.95 | -0.11 |
| | 8 | 6.64 | 0.95 | -0.05 |
| | 9 | 7.59 | 0.95 | -0.04 |
| | 10 | 8.54 | 0.95 | -0.10 |
| | 11 | 9.48 | 0.95 | -0.26 |
| | 12 | 10.43 | 0.95 | -0.60 |
| | 13 | 11.38 | 0.95 | -0.66 |
| | 14 | 12.33 | 0.95 | 1.91 |
| | 15 | 13.28 | 0.95 | 5.43 |
| | 16 | 14.23 | 0.95 | 4.01 |
| Qk.N_DA | 1 | 0.00 | 0.95 | 0.39 |
| | 2 | 0.95 | 0.95 | 0.11 |
| | 3 | 1.90 | 0.95 | 4.89 |
| | 4 | 2.85 | 0.95 | 18.84 |
| | 5 | 3.79 | 0.95 | 14.16 |
| | 6 | 4.74 | 0.95 | 1.87 |
| | 7 | 5.69 | 0.95 | -0.30 |
| | 8 | 6.64 | 0.95 | -0.13 |

D-829

Schulcampus EWK \

EG-LP4

POSITION

EG-LP4

| Nr. | a | s | q | |
|-------------------|---|-------|--------|-------|
| | [m] | [m] | [kN/m] | |
| 9 | 7.59 | 0.95 | -0.05 | |
| 10 | 8.54 | 0.95 | -0.05 | |
| 11 | 9.48 | 0.95 | -0.07 | |
| 12 | 10.43 | 0.95 | 0.13 | |
| 13 | 11.38 | 0.95 | 1.92 | |
| 14 | 12.33 | 0.95 | 4.30 | |
| 15 | 13.28 | 0.95 | 1.69 | |
| 16 | 14.23 | 0.95 | 0.22 | |
| Qk.N_T2 | 1 | 9.48 | 0.95 | -0.01 |
| | 2 | 10.43 | 0.95 | -0.03 |
| | 3 | 11.38 | 0.95 | -0.05 |
| | 4 | 12.33 | 0.95 | -0.02 |
| | 5 | 13.28 | 0.95 | 0.11 |
| | 6 | 14.23 | 0.95 | 0.26 |
| | a: Nâb\á^äÄäæbÄU\ää* ^←\æbÄ~ ↑Ä→↔^←æ^ÄÜä†&æäää^ä | | | |
| s: Q†^&æÄääääQáb\ | | | | |

UZ-0.9

Unterzug

•œ}ää^Äæc}

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr. | a | s | q |
|----|-----|-------|------|--------|
| | | [m] | [m] | [kN/m] |
| Gk | 1 | 0.00 | 0.95 | 11.44 |
| | 2 | 0.95 | 0.95 | 43.03 |
| | 3 | 1.91 | 0.95 | 161.38 |
| | 4 | 2.86 | 0.95 | 194.79 |
| | 5 | 3.82 | 0.95 | 60.83 |
| | 6 | 4.77 | 0.95 | 22.98 |
| | 7 | 5.72 | 0.95 | 22.82 |
| | 8 | 6.68 | 0.95 | 21.63 |
| | 9 | 7.63 | 0.95 | 32.03 |
| | 10 | 8.58 | 0.95 | 152.13 |
| | 11 | 9.54 | 0.95 | 311.50 |
| | 12 | 10.49 | 0.95 | 165.00 |
| | 13 | 11.45 | 0.95 | 32.86 |
| | 14 | 12.40 | 0.95 | 23.88 |
| | 15 | 13.35 | 0.95 | 87.83 |
| | 16 | 14.31 | 0.95 | 189.37 |
| | 17 | 15.26 | 0.95 | 117.09 |
| | 18 | 16.21 | 0.95 | 29.78 |
| | 19 | 17.17 | 0.95 | 15.21 |
| | 20 | 18.12 | 0.95 | -6.54 |
| Ö← | 1 | 0.00 | 0.95 | 7.14 |
| | 2 | 0.95 | 0.95 | 21.57 |
| | 3 | 1.91 | 0.95 | 71.26 |
| | 4 | 2.86 | 0.95 | 84.98 |
| | 5 | 3.82 | 0.95 | 28.44 |
| | 6 | 4.77 | 0.95 | 12.45 |
| | 7 | 5.72 | 0.95 | 12.38 |
| | 8 | 6.68 | 0.95 | 11.92 |
| | 9 | 7.63 | 0.95 | 16.17 |
| | 10 | 8.58 | 0.95 | 64.64 |

D-830

Schulcampus EWK \

EG-LP4

POSITION

EG-LP4

| | Nr . | a | s | q |
|---------|------|-------|------|--------|
| | | [m] | [m] | [kN/m] |
| | 11 | 9.54 | 0.95 | 127.82 |
| | 12 | 10.49 | 0.95 | 68.63 |
| | 13 | 11.45 | 0.95 | 16.33 |
| | 14 | 12.40 | 0.95 | 12.87 |
| | 15 | 13.35 | 0.95 | 39.04 |
| | 16 | 14.31 | 0.95 | 81.54 |
| | 17 | 15.26 | 0.95 | 52.25 |
| | 18 | 16.21 | 0.95 | 15.46 |
| | 19 | 17.17 | 0.95 | 9.63 |
| | 20 | 18.12 | 0.95 | 5.05 |
| Qk.N_B1 | 1 | 0.00 | 0.95 | -4.44 |
| | 2 | 0.95 | 0.95 | 5.98 |
| | 3 | 1.91 | 0.95 | 36.96 |
| | 4 | 2.86 | 0.95 | 48.76 |
| | 5 | 3.82 | 0.95 | 10.78 |
| | 6 | 4.77 | 0.95 | -0.50 |
| | 7 | 5.72 | 0.95 | -0.65 |
| | 8 | 6.68 | 0.95 | -0.87 |
| | 9 | 7.63 | 0.95 | 1.74 |
| | 10 | 8.58 | 0.95 | 29.53 |
| | 11 | 9.54 | 0.95 | 60.79 |
| | 12 | 10.49 | 0.95 | 26.62 |
| | 13 | 11.45 | 0.95 | 1.10 |
| | 14 | 12.40 | 0.95 | -0.17 |
| | 15 | 13.35 | 0.95 | 14.58 |
| | 16 | 14.31 | 0.95 | 37.94 |
| | 17 | 15.26 | 0.95 | 21.62 |
| | 18 | 16.21 | 0.95 | 2.02 |
| | 19 | 17.17 | 0.95 | -0.38 |
| | 20 | 18.12 | 0.95 | -2.48 |
| Qk.N_C1 | 1 | 0.00 | 0.95 | 0.17 |
| | 2 | 0.95 | 0.95 | 4.41 |
| | 3 | 1.91 | 0.95 | 7.96 |
| | 4 | 2.86 | 0.95 | 12.69 |
| | 5 | 3.82 | 0.95 | 15.55 |
| | 6 | 4.77 | 0.95 | 16.97 |
| | 7 | 5.72 | 0.95 | 17.70 |
| | 8 | 6.68 | 0.95 | 18.06 |
| | 9 | 7.63 | 0.95 | 18.22 |
| | 10 | 8.58 | 0.95 | 18.19 |
| | 11 | 9.54 | 0.95 | 18.22 |
| | 12 | 10.49 | 0.95 | 18.20 |
| | 13 | 11.45 | 0.95 | 18.20 |
| | 14 | 12.40 | 0.95 | 18.18 |
| | 15 | 13.35 | 0.95 | 18.05 |
| | 16 | 14.31 | 0.95 | 17.70 |
| | 17 | 15.26 | 0.95 | 17.00 |
| | 18 | 16.21 | 0.95 | 15.92 |
| | 19 | 17.17 | 0.95 | 12.46 |
| | 20 | 18.12 | 0.95 | -11.08 |
| Qk.N_C5 | 1 | 0.00 | 0.95 | -0.56 |
| | 2 | 0.95 | 0.95 | 0.26 |
| | 3 | 1.91 | 0.95 | 1.71 |
| | 4 | 2.86 | 0.95 | 2.50 |

D-831

Schulcampus EWK \

EG-LP4

POSITION

EG-LP4

| Nr. | a | s | q |
|---------|-------|------|--------|
| | [m] | [m] | [kN/m] |
| 5 | 3.82 | 0.95 | 0.59 |
| 6 | 5.72 | 0.95 | -0.02 |
| 7 | 6.68 | 0.95 | -0.04 |
| 8 | 7.63 | 0.95 | 0.11 |
| 9 | 8.58 | 0.95 | 1.87 |
| 10 | 9.54 | 0.95 | 3.98 |
| 11 | 10.49 | 0.95 | 1.83 |
| 12 | 11.45 | 0.95 | 0.09 |
| 13 | 13.35 | 0.95 | 0.92 |
| 14 | 14.31 | 0.95 | 2.10 |
| 15 | 15.26 | 0.95 | 1.02 |
| 16 | 16.21 | 0.95 | 0.12 |
| 17 | 18.12 | 0.95 | -0.74 |
| Qk.N_E1 | | | |
| 1 | 0.00 | 0.95 | 7.82 |
| 2 | 0.95 | 0.95 | 11.84 |
| 3 | 1.91 | 0.95 | 9.24 |
| 4 | 2.86 | 0.95 | 4.92 |
| 5 | 3.82 | 0.95 | 2.45 |
| 6 | 4.77 | 0.95 | 1.30 |
| 7 | 5.72 | 0.95 | 0.69 |
| 8 | 6.68 | 0.95 | 0.33 |
| 9 | 7.63 | 0.95 | 0.13 |
| 10 | 8.58 | 0.95 | 0.02 |
| 11 | 9.54 | 0.95 | -0.04 |
| 12 | 10.49 | 0.95 | -0.06 |
| 13 | 11.45 | 0.95 | -0.06 |
| 14 | 12.40 | 0.95 | -0.06 |
| 15 | 13.35 | 0.95 | -0.05 |
| 16 | 14.31 | 0.95 | -0.04 |
| 17 | 15.26 | 0.95 | -0.03 |
| 18 | 16.21 | 0.95 | -0.02 |
| 19 | 18.12 | 0.95 | -0.04 |
| Qk.N_DA | | | |
| 1 | 0.00 | 0.95 | -1.63 |
| 2 | 0.95 | 0.95 | 3.75 |
| 3 | 1.91 | 0.95 | 21.81 |
| 4 | 2.86 | 0.95 | 26.96 |
| 5 | 3.82 | 0.95 | 5.77 |
| 6 | 4.77 | 0.95 | -0.30 |
| 7 | 5.72 | 0.95 | -0.41 |
| 8 | 6.68 | 0.95 | -0.74 |
| 9 | 7.63 | 0.95 | 1.20 |
| 10 | 8.58 | 0.95 | 24.88 |
| 11 | 9.54 | 0.95 | 58.99 |
| 12 | 10.49 | 0.95 | 30.31 |
| 13 | 11.45 | 0.95 | 1.90 |
| 14 | 12.40 | 0.95 | -0.32 |
| 15 | 13.35 | 0.95 | 10.64 |
| 16 | 14.31 | 0.95 | 27.10 |
| 17 | 15.26 | 0.95 | 14.74 |
| 18 | 16.21 | 0.95 | 1.30 |
| 19 | 17.17 | 0.95 | -0.27 |
| 20 | 18.12 | 0.95 | -1.38 |

a: Nâb\á^ãÄäæbÄU\áã* | ^←\æbÄ~ | ↑Ä→↔^←æ^ÄÜä†&æäää^ä
s: Q†^&æÄäääÄQáb\

U

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1 Vorbemerkungen

In diesem Kapitel werden die Unterzugspositionen der einzelnen Geschosse bemessen.

Sofern nicht anders angegeben können horizontale Fugen an OK- bzw. UK-Decke als glatte Fuge ausgebildet werden. Bei explizitem Hinweis auf das Erfordernis einer rauen Fuge ist diese nach DIN EN 1992-1-1, Abschnitt 6.2.5 herzustellen.

Für die Ausführung der Unterzüge sind die konstruktiven Angaben der DIN EN 1992-1-1 (insbesondere Abschnitt 9.2) zu beachten.

Die Lasten auf den Unterzügen werden aus den Deckenmodellen übernommen. Für die Ermittlung der Lasten aus der Decke wird in MicroFE das Lastmodell-Balken angewendet. Hierbei wird für die Ermittlung der Auflagerkräfte eines Unterzuges der Unterzug als unendlich steif angesetzt. Die Belastung auf den Unterzug wird auf diese Weise zur sicheren Seite überschätzt.

Die Berechnung der Unterzüge wird in Mehrfeldträger, Einfeldträger, Trägersystem und Türstürze nach den jeweiligen Geschossen gegliedert. Als Trägersystem versteht sich an dieser Stelle ein System aus mehreren Unterzügen, die statisch aufeinander aufbauen.

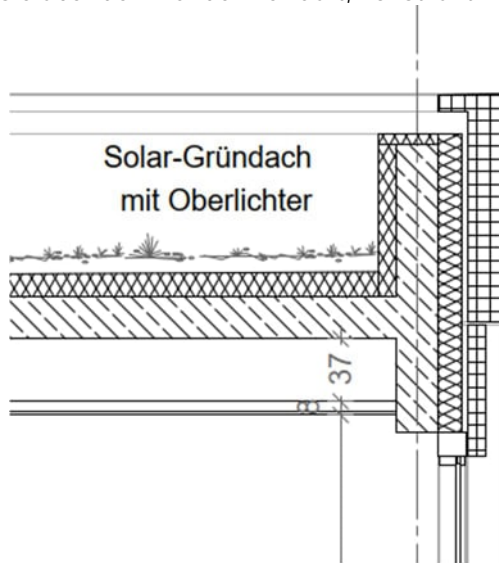
An Stellen, an denen nur geringfügig Platz zur Verankerung der Eisen zur Verfügung steht, wird die Verankerungslänge explizit nachgewiesen. Sie ist an Stellen, an denen sie nicht explizit nachgewiesen wird, dennoch zu beachten.

2 Allgemeine Positionen

Umlaufende Attika:

In der Decke über 3. Obergeschoss/Technikgeschoss ist die Attika analog zu Sturz WS-3.8_1 zu bewehren.

In der Decke über 2. Obergeschoss ist die Attika mit $b/h = 25/90$ cm (Regelbereich) in den Bereichen, in denen sie über den Wänden verläuft, konstruktiv wie folgt zu bewehren:



Material:

Querschnitt: Breite = 25 cm

Höhe = 90cm

Betonstahl: B500B

Beton: C30/37

Expositionsklasse: XC1, WO

Betondeckung: $c_v = 30$ mm

Bewehrungswahl:

Oben: 2Ø14 = 3,08 cm²

2Ø14 = 3,08 cm²

Unten: 2Ø14 = 3,08 cm²

Bügel: Ø10/20 = 10,48 cm²/m

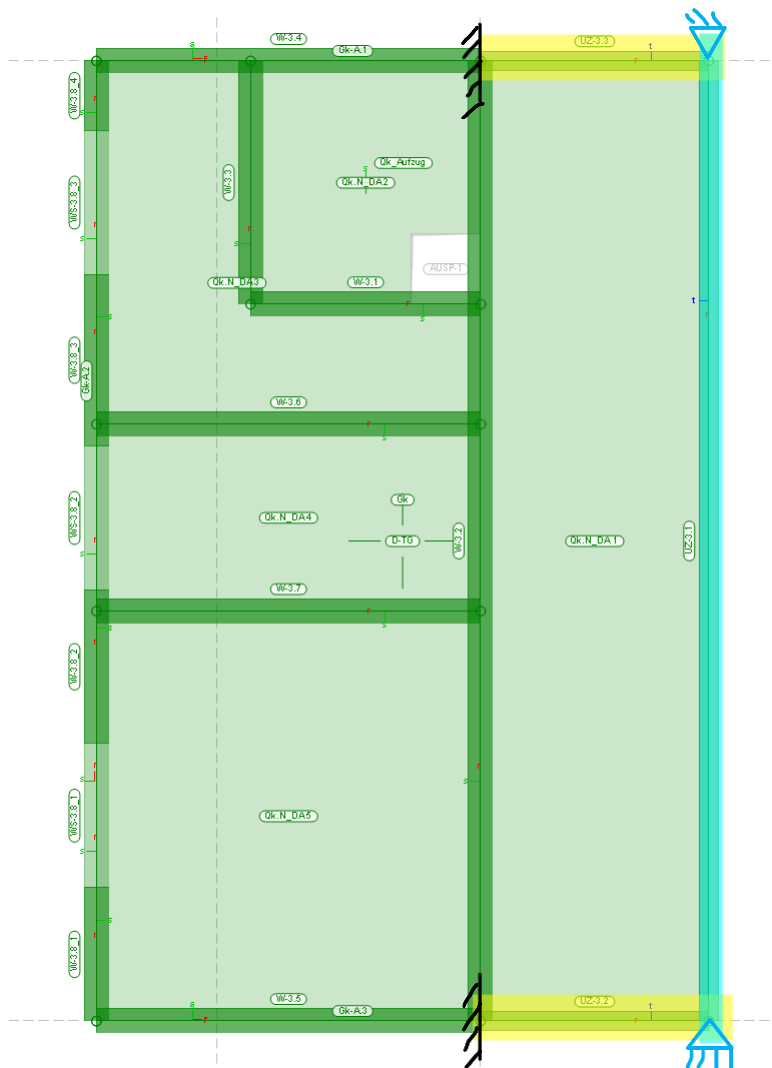
Seitl.: Ø10/10 = 7,85 cm²/m

3 Bemessung

Die Bemessung aller Unterzüge und Stürze erfolgt mit dem Modul S340 in mB BauStatik.

3.1 3. Obergeschoss

3.1.1 Trägersystem



Das im nachfolgenden betrachtete Trägersystem bildet sich aus den Unterzügen UZ-3.1, UZ-3.2 und UZ-3.3. Hierbei spannt UZ-3.1 (blau markiert) als Balken auf zwei Stützen (B2S+1 II) über 10 m Spannweite. UZ-3.2 (KA I a) und UZ-3.3 (KA I b; gelb markiert) fungieren als Auflager für UZ-3.1 und spannen als Kragarm bis über die Wandaufleger. Die Bewehrung ist entsprechend ausreichend über den Wänden, in der Attika zu verankern.

Für den Anschluss zwischen den Unterzügen wird zusätzlich ein Nachweis des Nebenträgeranschlusses erbracht.

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Übersicht der Bewehrungswahl:

UZ-3.1: unten: 1. Lage: 4Ø14
 2. Lage: 4Ø14

 oben: 1. Lage: 2Ø14

 quer: Ø8/15

UZ-3.2: unten: 1. Lage: 2Ø14

 oben: 1. Lage: 4Ø14
 2. Lage: 4Ø14

 quer: Ø8/15

UZ-3.3: unten: 1. Lage: 2Ø14

 oben: 1. Lage: 4Ø14
 2. Lage: 4Ø14

 quer: Ø8/15

Pos. UZ-3.1

GHU `VYfcb!8 i fW `U Zf} [Yf

Anschluss indirektes Auflager:

$$F_{Ed} = 100,93 \text{ kN}$$

$$A_{sw,erf} = 100,93 \text{ kN} / (43,5 \text{ kN/cm}^2) = 2,32 \text{ cm}^2$$

$$\dagger \quad M \quad s = 20 \text{ cm}$$

$$d_{qa} = 10 \text{ mm}; S_{qa} = 10 \text{ mm}$$

$$\dagger \quad \dagger$$

$$A_{sw,vorh} = 3,14 \text{ cm}^2$$

$$) \quad M$$

$$\dagger$$

$$) \quad = \quad y \text{--} 3.2 \text{ und UZ-3.3, die jeweils eine Breite von 20 cm}$$

$$I_{b,rqd} = 50 \text{ cm}$$

$$I_{bd} = I_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} \quad I_{b,min}$$

$$I_{b,min} = 0,3 \cdot I_{b,rqd} = 0,3 \cdot 50 \text{ cm} = 15 \text{ cm} \quad e_I = 14 \text{ cm}$$

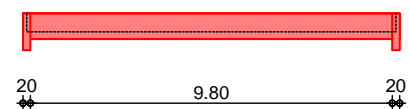
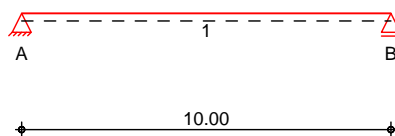
$$\rightarrow I_{bd} = 15 \text{ cm}$$

$$) \quad M \quad y \quad U \quad = \quad \backslash \quad O$$

System

M 1 : 205

System Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b/h [cm] |
|------|----------|----------|----------|-------------|
| 1 | 10.00 | 0.00 | C 30/37 | 20.0/70.0 |
| 1 | | 10.00 | | |

U-9

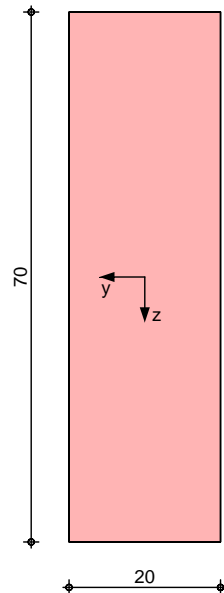
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UZ-3.1

Expositionsklasse XC1

Grafik Querschnittsgrafik

M 1:10



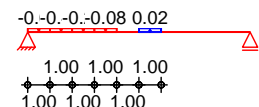
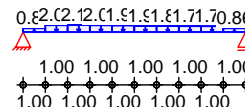
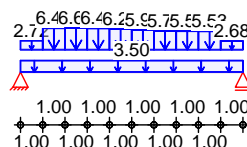
| Auflager | Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|----------|----------------------------|----------|-----------|--------|---------------------|
| | A | 0.00 | 20.0 | indir. | fest |
| | B | 10.00 | 20.0 | indir. | fest |
| | indir.: indirekte Lagerung | | | | |

| Feld | Fuge | Z_f [cm] | γ_{fl} | γ_{SD} | N_d |
|------|-------|---------------|---------------|---------------|-------|
| 1 | glatt | 50.0 | 90 | | 0.00 |

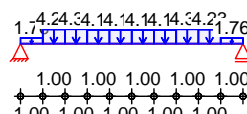
Belastungen Belastungen auf das System

Grafik Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen Gk Qk.N_E1



Qk.N_DA



Streckenlasten
in z-Richtung

| Trapezlasten | | a [m] | s [m] | q_{li} [kN/m] | q_{re} [kN/m] |
|--------------|--------------|----------|----------|--------------------|--------------------|
| Feld | Komm. | | | | |
| 1 | Eigengew | 0.00 | 10.00 | | 3.50 |
| (a) | 1 UZ-3.1: Gk | 0.00 | 1.00 | 2.72 | 2.72 |
| (a) | 1 UZ-3.1: Gk | 1.00 | 1.00 | 6.46 | 6.46 |

U-10

| | | | Feld | Komm. | a | s | q _{li} | q _{re} |
|---------------|-----|---|---------|-----------|------|------|-----------------|-----------------|
| | | | | | [m] | [m] | [kN/m] | [kN/m] |
| | (a) | 1 | UZ-3.1: | Gk | 2.00 | 1.00 | 6.61 | 6.61 |
| | (a) | 1 | UZ-3.1: | Gk | 3.00 | 1.00 | 6.40 | 6.40 |
| | (a) | 1 | UZ-3.1: | Gk | 4.00 | 1.00 | 6.23 | 6.23 |
| | (a) | 1 | UZ-3.1: | Gk | 5.00 | 1.00 | 5.99 | 5.99 |
| | (a) | 1 | UZ-3.1: | Gk | 6.00 | 1.00 | 5.70 | 5.70 |
| | (a) | 1 | UZ-3.1: | Gk | 7.00 | 1.00 | 5.58 | 5.58 |
| | (a) | 1 | UZ-3.1: | Gk | 8.00 | 1.00 | 5.53 | 5.53 |
| | (a) | 1 | UZ-3.1: | Gk | 9.00 | 1.00 | 2.68 | 2.68 |
| Einw. Im | (a) | 1 | UZ-3.1: | Gk | 0.00 | 1.00 | 0.87 | 0.87 |
| | (a) | 1 | UZ-3.1: | Gk | 1.00 | 1.00 | 2.07 | 2.07 |
| | (a) | 1 | UZ-3.1: | Gk | 2.00 | 1.00 | 2.12 | 2.12 |
| | (a) | 1 | UZ-3.1: | Gk | 3.00 | 1.00 | 2.05 | 2.05 |
| | (a) | 1 | UZ-3.1: | Gk | 4.00 | 1.00 | 1.99 | 1.99 |
| | (a) | 1 | UZ-3.1: | Gk | 5.00 | 1.00 | 1.92 | 1.92 |
| | (a) | 1 | UZ-3.1: | Gk | 6.00 | 1.00 | 1.82 | 1.82 |
| | (a) | 1 | UZ-3.1: | Gk | 7.00 | 1.00 | 1.79 | 1.79 |
| | (a) | 1 | UZ-3.1: | Gk | 8.00 | 1.00 | 1.78 | 1.78 |
| | (a) | 1 | UZ-3.1: | Gk | 9.00 | 1.00 | 0.86 | 0.86 |
| Einw. Qk.N_E1 | (a) | 1 | UZ-3.1: | Qk.N_E100 | | 1.00 | -0.06 | -0.06 |
| | (a) | 1 | UZ-3.1: | Qk.N_E100 | | 1.00 | -0.40 | -0.40 |
| | (a) | 1 | UZ-3.1: | Qk.N_E100 | | 1.00 | -0.28 | -0.28 |
| | (a) | 1 | UZ-3.1: | Qk.N_E100 | | 1.00 | -0.08 | -0.08 |
| | (a) | 1 | UZ-3.1: | Qk.N_E100 | | 1.00 | 0.02 | 0.02 |
| Einw. Qk.N_DA | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 1.76 | 1.76 |
| | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 4.26 | 4.26 |
| | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 4.34 | 4.34 |
| | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 4.18 | 4.18 |
| | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 4.11 | 4.11 |
| | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 4.12 | 4.12 |
| | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 4.19 | 4.19 |
| | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 4.32 | 4.32 |
| | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 4.23 | 4.23 |
| | (a) | 1 | UZ-3.1: | Qk.N_DA00 | | 1.00 | 1.76 | 1.76 |

(a) aus Pos. 'D-3.OG - UZ-3.1'

Kombinationen

| | | ↑ 1.35*Gk + 1.50*Qk.N_E1 + 1.50*Qk.N_DA | | | |
|----------------------|---|--|--------|----|---------------|
| | | Ek (* *EW) | | | |
| b\†^ä↔&D{~ãfiâæã&E | 1 | 1.00*Gk | ÉFÈÈÈÈ | Ö← | |
| | 2 | 1.35*Gk | ÉFÈÈÈÈ | Ö← | +1.50*Qk.N_DA |
| | 3 | 1.00*Gk | ÉFÈÈÈÈ | Ö← | +1.50*Qk.N_E1 |
| | 4 | 1.35*Gk | ÉFÈÈÈÈ | Ö← | +1.50*Qk.N_E1 |
| | 5 | 1.00*Gk | ÉFÈÈÈÈ | Ö← | |
| | | Ek (* *EW) | | | |
| st./vor. Auflagerkr. | 6 | 1.00*Gk | ÉFÈÈÈÈ | Ö← | +1.50*Qk.N_E1 |
| | 7 | 1.35*Gk | ÉFÈÈÈÈ | Ö← | +1.50*Qk.N_DA |

Mat. / Querschnitt

Material- und Querschnittswerte nach DIN EN 1992-1-1:2011-01

Material

| Material | f_{yk} [N/mm ²] | f_{ck} [N/mm ²] | E [N/mm ²] |
|----------|----------------------------------|----------------------------------|---------------------------|
| C 30/37 | | 30 | 33000 |
| B 500SA | 500 | | 200000 |

Querschnitt

| Art | b [cm] | h [cm] | A [cm ²] | I _y [cm ⁴] |
|-----|-----------|-----------|-------------------------|--------------------------------------|
| RE | 20.0 | 70.0 | 1400 | 571667 |

RE: Rechteckquerschnitt

Expositionsklassen

Expositionsklassen

Abs. 4.2, 4.4

Seite Kl Kommentar

Feld 1

umlaufend XC1 \~'~æ^Ä~äæÄb\†^ä&Ä^äbb

Bewehrungsanordnung

Achsabstände, Betondeckungen

| Bezug | c_{min} [mm] | c'_{dev} [mm] | c_{nom} [mm] | c_v [mm] | d' [mm] |
|--------|-------------------|--------------------|-------------------|---------------|--------------|
| oben | 10 | 10 | 20 | 30 | 45 |
| unten | 10 | 10 | 20 | 30 | 62 |
| links | 10 | 10 | 20 | 30 | - |
| rechts | 10 | 10 | 20 | 30 | - |

Bemessung (GZT)

äfiäÄäæ^ÄÖäæ^~|b\ä^äÄäæÄÜä&ä†ä&æ\Ä^ä'äÄØSÄÓSÄ
1992-1-1:2011-01

Bi egung

Ñæ†æbb|^&ÄäfiäÄÑæ&æäæä^b*ä|^ä|^&

Abs. 6.1

Feld 1

| x [m] | Ek | $M_{yd,o}$ [kNm] | x/d_o | z_o [cm] | $A_{s,o}$ [cm ²] | $A_{s,o,erf}$ [cm ²] |
|-------------------|----|---------------------|---------|---------------|---------------------------------|-------------------------------------|
| (L = 10.00 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 2.31 _e |
| | 1 | - | 0.001 | 63.8 | - | 3.32 _q |
| 0.10 _a | 3 | 5.27 | - | - | - | 2.31 _e |
| | 2 | 10.03 | 0.025 | 63.2 | 0.35 | 3.32 _q |
| 4.94* | 3 | 140.66 | - | - | - | - |
| | 2 | 268.33 | 0.270 | 56.6 | 10.72 | 10.72 |
| 9.90 _a | 3 | 5.16 | - | - | - | 2.31 _e |
| | 2 | 9.77 | 0.025 | 63.3 | 0.34 | 3.23 _q |
| 10.00 | 1 | - | - | - | - | 2.31 _e |
| | 1 | - | 0.001 | 63.8 | - | 3.23 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Ñæ†æbb|^&ÄäfiäÄT|æä~ääâ\âæä^b*ä|^ä|^&

Abs. 6.2

Feld 1

| x [m] | Ek | V _{Ed} [kN] | $\gamma_{fl}\ddot{Y}$ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | $a_{sw,erf}$ [cm ² /m] |
|-------------------|----|-------------------------|-----------------------|-----------------------------|---------------------------|--------------------------------------|
| (L = 10.00 m) | | | | | | |
| 0.00 | 2 | 100.93 | 18.4 | 436.05 | - | - |
| 0.10 _a | 2 | 99.71 | 18.4 | 436.05 | 61.12 | 4.10 _F |
| 4.94 | 5 | 0.42 _R | 18.4 | 436.05 | 61.12 | 1.86 _M |
| 9.90 _a | 2 | 97.12 | 18.4 | 436.05 | 61.12 | 3.95 _F |
| 10.00 | 2 | 98.33 | 18.4 | 436.05 | - | - |

a: Auflagerrand

Nachweise (Brand)

Brandschutznachweis nach DIN EN 1992-1-2

| Brand | Ek | (* *EW) |
|-------|------|----------|
| 1 | 1.00 | Gk |
| 2 | 1.00 | Gk |

- Anforderung Feuerwiderstandsklasse: R90
 - Nachweis der Feuerwiderstandsdauer $t_{req} = 90$ min
 - 3-seitige Beflammung

Querschnitt

Mindestabmessungen nach Tab. 5.5

Querschnittsbreite $b = 200$ mm $\hat{=}$ 150 mm

Nachweise (Balken)

mittlerer Achsabstand Balken

| | x | Ek | fi | fi | cr | a | a | a _{erf} | a _m |
|--------|------|----|-----|--------|------|------|------|------------------|----------------|
| | [m] | | [-] | YS | fl | [mm] | [mm] | [mm] | [mm] |
| Feld 1 | 0.10 | 2 | 0.5 | 6.56 | 1134 | 45 | -20 | 25 | 54 |
| | 4.94 | 2 | 0.5 | 200.14 | 580 | 45 | -8 | 37 | 54 |
| | 9.90 | 2 | 0.5 | 6.33 | 1137 | 45 | -20 | 25 | 54 |

Nachweise (Balken)

| | x | a _m /2 | a |
|--------|------|-------------------|------|
| | [m] | [mm] | [mm] |
| Feld 1 | 0.10 | 27 | - |
| | 4.94 | 27 | 45 |
| | 9.90 | 27 | - |

Nachweise (Auflager)

Nachweise (Auflager)

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | $F_{z,k,min}$ | $F_{z,k,max}$ |
|---------------|---------------|---------------|
| | [kN] | [kN] |
| Einw. Gk | | |
| A | 45.17 | 45.17 |
| B | 43.74 | 43.74 |
| Einw. Im | | |
| A | 8.86 | 8.86 |
| B | 8.41 | 8.41 |
| Einw. Qk.N_E1 | | |
| A | -0.65 | -0.65 |
| B | -0.15 | -0.15 |
| Einw. Qk.N_DA | | |
| A | 18.66 | 18.66 |
| B | 18.62 | 18.62 |

Nachweise (Auflager)

Bemessungsaullagerkräfte (Min/Max)

| Aufl. | $F_{z,d,min}$ | $F_{z,d,max}$ |
|--------------------|---------------|---------------|
| | [kN] | [kN] |
| Grundkombinationen | | |
| A | 53.06 | 100.93 |
| B | 51.91 | 98.33 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |

Nachweis

Ort

[-]

Fugenbemessung

OK

Bewehrungswahl

OK

Nachweise (Brand)

Brandfall im Grenzzustand der Tragfähigkeit

Nachweis

[-]

Brand

OK

Detailnachweise

Name

Ort

Detail

UZ-3.1-A

Lager A

S_{Ed} \ a₁ b₁ → bb

UZ-3.1-B

Lager B

S_{Ed} \ a₁ b₁ → bb

Pos. UZ-3.2

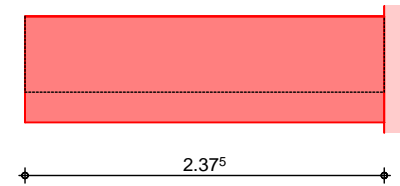
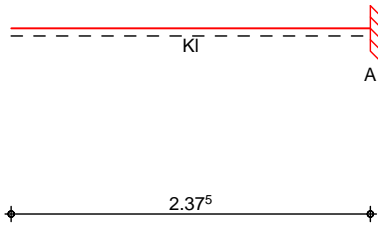
GHU`VYfcb!8i fW`U Zf}[Yf

System

Linksseitiger Kragarm
System

Ansicht

M 1:50



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| K1 | 2.38 | C 30/37 | 20.0/70.0 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | $K_{T,z}$ [kN/m] | $K_{R,y}$ [kNm/rad] |
|-------|-----------|---------------------|------------------------|
| A | 2.38 | fest | fest |
| Lager | b [cm] | Art | |
| A | 25.0 | Beton | |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z_f [cm] | $Y_{fl}\ddot{Y}$ | $Y_{SD}\uparrow\uparrow\ddot{Y}$ | N_d |
|------|-------|---------------|------------------|----------------------------------|-------|
| K1 | glatt | 50.0 | 90 | | 0.00 |

Belastungen

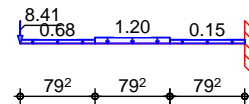
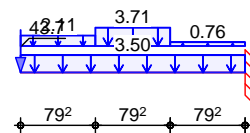
Belastungen auf das System

Grafik

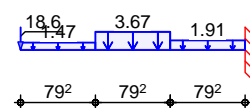
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk $\ddot{\leftarrow}$ Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | q_{li} [kN/m] | q_{re} [kN/m] |
|--------|------------|----------|----------|--------------------|--------------------|
| K1 | Eigengew | 0.00 | 2.38 | | 3.50 |
| (a) K1 | UZ-3.2: Gk | 0.00 | 0.79 | 2.11 | 2.11 |
| (a) K1 | UZ-3.2: Gk | 0.79 | 0.79 | 3.71 | 3.71 |
| (a) K1 | UZ-3.2: Gk | 1.58 | 0.79 | 0.76 | 0.76 |

| | Feld | Komm. | a [m] | s [m] | q _{li} [kN/m] | q _{re} [kN/m] |
|---------------|------|----------------------|----------|----------|---------------------------|---------------------------|
| Einw. Im | (a) | Kl ÜXËĞËGiÁ Ö← | 0.00 | 0.79 | 0.68 | 0.68 |
| | (a) | Kl ÜXËĞËGiÁ Ö← | 0.79 | 0.79 | 1.20 | 1.20 |
| | (a) | Kl ÜXËĞËGiÁ Ö← | 1.58 | 0.79 | 0.15 | 0.15 |
| Einw. Qk.N_DA | (a) | Kl UZ-3.2: Qk.N_DA00 | | 0.79 | 1.47 | 1.47 |
| | (a) | Kl UZ-3.2: Qk.N_DA79 | | 0.79 | 3.67 | 3.67 |
| | (a) | Kl UZ-3.2: Qk.N_DA58 | | 0.79 | 1.91 | 1.91 |

(a) aus Pos. 'D-3.OG - UZ-3.2'

Punktlasten in z-Richtung

| | Einzellasten | Feld | Komm. | a [m] | F _z [kN] |
|---------------|--------------|------|-------|----------|------------------------|
| Einw. Gk | (a) | Kl | | 0.00 | 43.74 |
| Einw. Im | (a) | Kl | | 0.00 | 8.41 |
| Einw. Qk.N_E1 | (a) | Kl | | 0.00 | -0.15 |
| Einw. Qk.N_DA | (a) | Kl | | 0.00 | 18.62 |

(a) aus Pos. 'UZ-3.1', Lager 'B' (Seite 6)

Kombinationen

| Ek | (* *EW) | | |
|----|----------|-----------|----------------|
| 1 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_E1 |
| 3 | 1.35 *Gk | ÉFÈĞIE Ö← | +1.50 *Qk.N_DA |

Mat./Querschnitt

Material- und Querschnittswerte nach DIN EN 1992-1-1:2011-01

| Material | Material | f _{yk} [N/mm ²] | f _{ck} [N/mm ²] | E [N/mm ²] |
|----------|----------|---|---|---------------------------|
| C 30/37 | | | 30 | 33000 |
| B 500SA | | 500 | | 200000 |

Querschnitt

| Art | b [cm] | h [cm] | A [cm ²] | I _y [cm ⁴] |
|-------------------------|-----------|-----------|-------------------------|--------------------------------------|
| RE | 20.0 | 70.0 | 1400 | 571667 |
| RE: Rechteckquerschnitt | | | | |

Expositionsklassen

Abs. 4.2, 4.4

Kragarm links

Expositionsklassen

Seite Kl Kommentar

umlaufend XC1 \ä~'←æ^Á~äæäAb\†^ä↔&Á^ább

Bewehrungsanordnung

Achsabstände, Betondeckungen

| Bezug | c _{min} [mm] | c' _{dev} [mm] | c _{nom} [mm] | c _v [mm] | d' [mm] |
|--------|--------------------------|---------------------------|--------------------------|------------------------|------------|
| oben | 10 | 10 | 20 | 30 | 62 |
| unten | 10 | 10 | 20 | 30 | 45 |
| links | 10 | 10 | 20 | 30 | - |
| rechts | 10 | 10 | 20 | 30 | - |

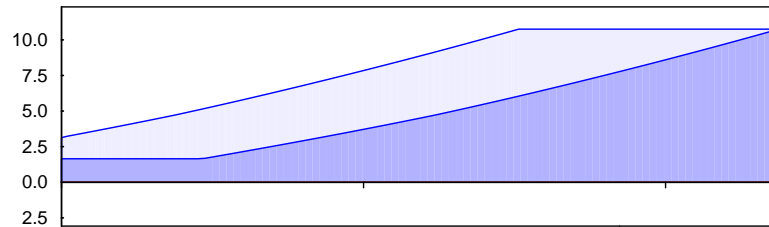
Bemessung (GZT)

äfiäÄäæ^ÁÖäæ^~|b\á^äÄäæäÁÜäá&à†ä↔←æ^Á^á'äÄØSÄÓSÄ
1992-1-1:2011-01

Längsbewehrung
M 1:25

As

[cm²/m]



— erf. Längsbewehrung / Zugkraftdeckungsline
 verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
 — vorhandene Längsbewehrung

Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|-------------|-----------------------|-----------------------|------------------------|-------------|----------------|---|
| K.li | 0.00 | 2.38 | ã: | 15.0 | 2 | 6.70 |

Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|------------|---|
| | 0.00 | 2.38 | 0 | 0.0 | - |

5i Z`U[Yf_f}ZhY

N|à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| | Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] | M _{y,k,min} [kNm] | M _{y,k,max} [kNm] |
|----------------------|-------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| Einw. <i>Gk</i> | A | 57.26 | 57.26 | 120.79 | 120.79 |
| Einw. <i>Im</i> | A | 10.02 | 10.02 | 22.21 | 22.21 |
| Einw. <i>Qk.N_E1</i> | A | -0.15 | -0.15 | -0.37 | -0.37 |
| Einw. <i>Qk.N_DA</i> | A | 24.20 | 24.20 | 50.59 | 50.59 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-3.3

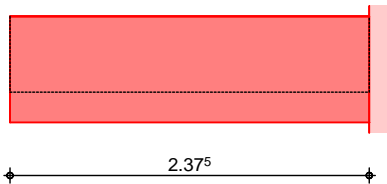
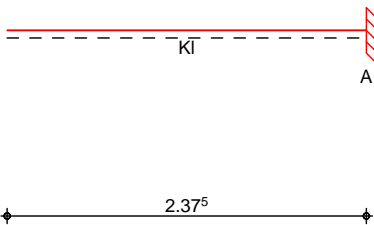
GHU`VYfcb!8i fW`U Zf}[Yf

System

Linksseitiger Kragarm
System

Ansicht

M 1 : 50



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| Kl | 2.38 | C 30/37 | 20.0/70.0 |

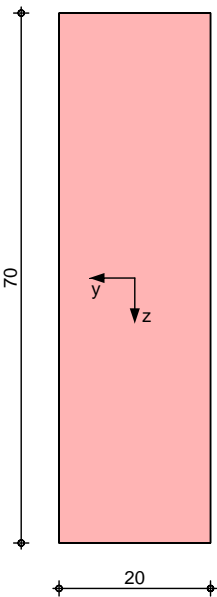
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1 : 10



Auflager

| Lager | x [m] | $K_{T,z}$ [kN/m] | $K_{R,y}$ [kNm/rad] |
|-------|-----------|---------------------|------------------------|
| A | 2.38 | fest | fest |
| Lager | b [cm] | Art | |
| A | 25.0 | Beton | |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z_f [cm] | $Y_{fl}\ddot{Y}$ | $Y_{SD}\uparrow\uparrow\ddot{Y}$ N_d |
|------|-------|---------------|------------------|---|
| Kl | glatt | 50.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

Grafik

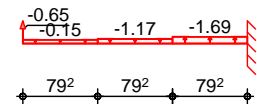
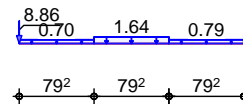
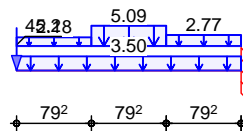
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

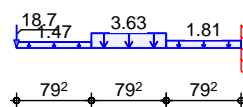
Gk

Ö←

Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten
Feld Komm.

Einw. Gk

| | | | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-----|-------------------|----------|----------|---------------------------|---------------------------|
| | Kl | Eigengew | 0.00 | 2.38 | | 3.50 |
| (a) | Kl | UZ-3.3: Gk | 0.00 | 0.79 | 2.18 | 2.18 |
| (a) | Kl | UZ-3.3: Gk | 0.79 | 0.79 | 5.09 | 5.09 |
| (a) | Kl | UZ-3.3: Gk | 1.58 | 0.79 | 2.77 | 2.77 |
| Einw. Im | (a) | ÜXEGGIÁ Ö← | 0.00 | 0.79 | 0.70 | 0.70 |
| | (a) | ÜXEGGIÁ Ö← | 0.79 | 0.79 | 1.64 | 1.64 |
| | (a) | ÜXEGGIÁ Ö← | 1.58 | 0.79 | 0.79 | 0.79 |
| Einw. Qk.N_E1 | (a) | UZ-3.3: Qk.N_E100 | | 0.79 | -0.15 | -0.15 |
| | (a) | UZ-3.3: Qk.N_E179 | | 0.79 | -1.17 | -1.17 |
| | (a) | UZ-3.3: Qk.N_E158 | | 0.79 | -1.69 | -1.69 |
| Einw. Qk.N_DA | (a) | UZ-3.3: Qk.N_DA00 | | 0.79 | 1.47 | 1.47 |
| | (a) | UZ-3.3: Qk.N_DA79 | | 0.79 | 3.63 | 3.63 |
| | (a) | UZ-3.3: Qk.N_DA58 | | 0.79 | 1.81 | 1.81 |

(a)

aus Pos. 'D-3.OG - UZ-3.3'

Punktlasten in z-Richtung

Einzellasten
Feld Komm.

Einw. Gk

| | | a [m] | F _z [kN] |
|---------------|-----|----------|------------------------|
| (a) | Kl | 0.00 | 45.17 |
| Einw. Im | (a) | 0.00 | 8.86 |
| Einw. Qk.N_E1 | (a) | 0.00 | -0.65 |
| Einw. Qk.N_DA | (a) | 0.00 | 18.66 |

(a)

aus Pos. 'UZ-3.1', Lager 'A' (Seite 6)

Kombinationen

Ek (* *EW)

b\†^ä↔&D{~ãfiâæã&E

| | | | |
|---|-----------|-----------|-----------------|
| 1 | 1.00 * Gk | EFEEÖ← | |
| 2 | 1.00 * Gk | EFEEÖ← | +1.50 * Qk.N_E1 |
| 3 | 1.35 * Gk | EFEGIE Ö← | +1.50 * Qk.N_DA |

Nachweis

Ort

[-]

| | |
|----------------|----|
| Biegung | OK |
| Querkraft | OK |
| Fugenbemessung | OK |
| Bewehrungswahl | OK |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

3.1.2 Türstürze

Es wird im Folgenden ein Türsturz repräsentativ für alle Stürze im 3. Obergeschoss bemessen.

Übersicht Bewehrungswahl:

WS-3.8_1: unten: 1. Lage: 2Ø14

 oben: 1. Lage: 2Ø12

 quer: Ø8/15

Pos. WS-3.8_1

GHU \VYfcb!8 i fW \U Zf} [Yf

Dieser Türsturz wurde repräsentativ deckengleich bemessen. Die Bewehrungsführung kann aber auf voller Höhe des Sturzes erfolgen.

Die gesamte über den Wänden verlaufende Attika ist im Technikgeschoss analog zu bewehren.

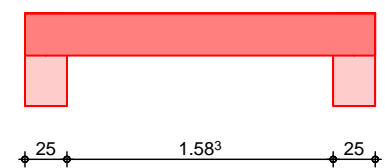
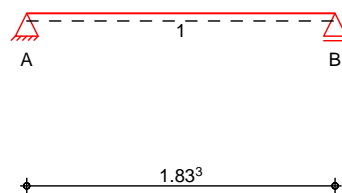
System

M 1 : 45

Ó↔^âæ→ä\ã†&æãÁÇGIÈ€DGIÈ€DFÎĞÈĞD

System

Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 1.83 | C 25/30 | 25.0/25.0 |

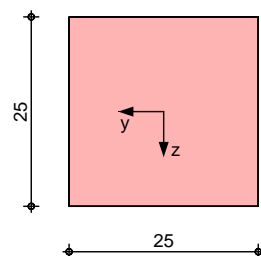
Expositionsklasse

XC1

Grafik

M 1 : 10

Querschnittsgrafik



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 1.83 | 25.0 | Beton | fest |

Belastungen

Belastungen auf das System

Grafik

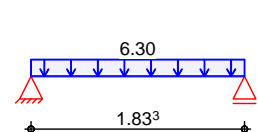
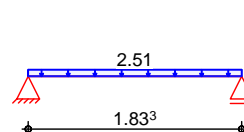
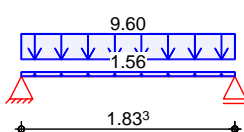
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk

Ö↔

Qk.N_DA



Streckenlasten in z-Richtung

| | | Gleichlasten | | | |
|---------------------|-----|--------------|----------|------|----------|
| | | Feld | Komm. | a | s |
| | | | | [m] | [m] |
| | | | | | q_{li} |
| | | | | | q_{re} |
| | | | | | [kN/m] |
| | | | | | [kN/m] |
| Einw. G_k | | 1 | Eigengew | 0.00 | 1.83 |
| | (a) | 1 | | 0.00 | 1.83 |
| Einw. I_m | (a) | 1 | | 0.00 | 1.83 |
| Einw. Q_{k,N_DA} | (a) | 1 | | 0.00 | 1.83 |

(a) aus Pos. 'D-3.OG', Lager 'WS-3.8_1'

Kombinationen

| | | $\gamma_{G1} \cdot G_k + \gamma_{Q1} \cdot Q_{k,N_DA}$ | | | |
|--------------------|---|---|----------|--------|-------------------------|
| | | Ek | (* *EW) | | |
| b\†^ä↔&D{~ãfiâæã&È | 1 | 1.00 | G_k | ÉFÈÈÈÈ | Ö← |
| | 2 | 1.35 | G_k | ÉFÈÈÈÈ | Ö← +1.50* Q_{k,N_DA} |

Bemessung (GZT)

àfiãÄäæ^ÄÖäæ^~ ~ | b\á^äÄäæãÄÜäã&à†ä↔&←æ↔\Á^á´äÄÖSÁÓSÁ
1992-1-1:2011-01

Biegung

Abs. 6.1

| | | $\tilde{N} \uparrow \tilde{a} b b \wedge \& \tilde{A} \tilde{a} f i \tilde{a} \tilde{A} \tilde{N} \leftrightarrow \tilde{a} \& \tilde{a} \tilde{a} \tilde{a} \wedge b * \tilde{a} \wedge \&$ | | | | | |
|-------------------|---|--|-------|-------------|----------|-------|--------------------|
| | | x | Ek | $M_{y,d,o}$ | x/ d_o | z_o | $A_{s,o}$ |
| | | | | $M_{y,d,u}$ | x/ d_u | z_u | $A_{s,u}$ |
| | | [m] | | [kNm] | | [cm] | [cm ²] |
| | | | | | | | $A_{s,o,erf}$ |
| | | | | | | | $A_{s,u,erf}$ |
| | | | | | | | [cm ²] |
| Feld 1 | | (L = 1.83 m) | | | | | |
| 0.00 | 1 | | - | - | - | - | 0.32 _e |
| | 1 | | - | 0.003 | 20.5 | - | 0.84 _q |
| 0.13 _a | 1 | | 1.46 | - | - | - | 0.32 _e |
| | 2 | | 2.98 | 0.044 | 20.2 | 0.32 | 0.84 _q |
| 0.92* | 1 | | 5.74 | - | - | - | - |
| | 2 | | 11.72 | 0.106 | 19.6 | 1.31 | 1.31 |
| 1.71 _a | 1 | | 1.46 | - | - | - | 0.32 _e |
| | 2 | | 2.98 | 0.044 | 20.2 | 0.32 | 0.84 _q |
| 1.83 | 1 | | - | - | - | - | 0.32 _e |
| | 1 | | - | 0.003 | 20.5 | - | 0.84 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

| | | $\tilde{N} \uparrow \tilde{a} b b \wedge \& \tilde{A} \tilde{a} f i \tilde{a} \tilde{A} \tilde{T} \tilde{a} \tilde{a} \tilde{a} \tilde{a} \wedge \hat{a} \tilde{a} \wedge b * \tilde{a} \wedge \&$ | | | | | |
|-------------------|---|--|--------------------|----------|--------------|------------|----------------------|
| | | x | Ek | V_{Ed} | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
| | | [m] | | [kN] | YflŸ | [kN] | [cm ² /m] |
| | | | | | | | |
| Feld 1 | | (L = 1.83 m) | | | | | |
| 0.00 | 2 | | 16.37 _R | 18.4 | 109.17 | - | - |
| | 2 | | 16.37 _R | 18.4 | 109.17 | - | 2.08 _M |
| 0.13 _a | 2 | | 16.37 | 18.4 | 109.17 | 25.13 | 2.08 _M |
| | 2 | | - | 18.4 | 109.17 | 25.13 | 2.08 _M |
| 0.92 | 2 | | - | 18.4 | 109.17 | 25.13 | 2.08 _M |
| | 2 | | 16.37 | 18.4 | 109.17 | 25.13 | 2.08 _M |
| 1.50 _v | 2 | | 16.37 _R | 18.4 | 109.17 | - | 2.08 _M |
| | 2 | | 16.37 _R | 18.4 | 109.17 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

Bewehrungswahl

untere
 $Q_{\text{t}}^{\text{b}} \cdot \frac{1}{\gamma_c}$

| Feld | gew. | A_s [cm ²] | a [m] | l [m] | $l_{bd,l}$ [m] | $l_{bd,r}$ [m] | Lage |
|------|-------------|-----------------------------|----------|----------|-------------------|-------------------|------|
| 1 | 4ã36 | 3.08 | -0.13 | 2.08 | 0.14 ^h | 0.14 ^h | 1 |

$Q_{\text{t}}^{\text{b}} \cdot \frac{1}{\gamma_c} \rightarrow \text{E} \ddot{\text{A}} \ddot{\text{U}} \ddot{\text{a}} \ddot{\text{a}} \leftarrow \ddot{\text{a}} \ddot{\text{a}} \mid \wedge \text{b} \rightarrow \text{t} \wedge \ddot{\text{a}} \wedge \text{E} \ddot{\text{A}} \sim \ddot{\text{a}} \wedge \text{A} \ddot{\text{U}} \setminus = \text{B} \ddot{\text{a}} \text{D}$
h: gesonderte Verankerungsform erforderlich

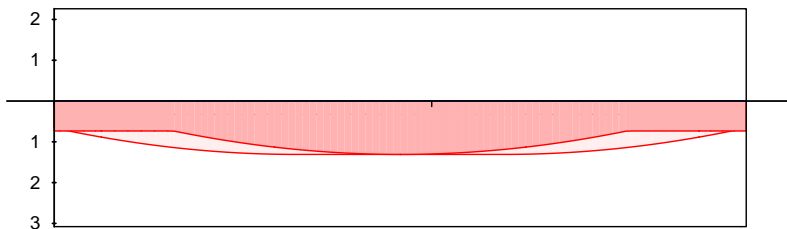
$\sim \ddot{\text{a}} \ddot{\text{a}} \ddot{\text{a}} \text{E} \ddot{\text{A}} Q_{\text{t}}^{\text{b}} \cdot \frac{1}{\gamma_c} \ddot{\text{a}} \ddot{\text{a}} \mid \wedge$

| Feld | gew. | A_s [cm ²] | a [m] | l [m] | $l_{bd,l}$ [m] | $l_{bd,r}$ [m] | Lage |
|------|-------------|-----------------------------|----------|----------|-------------------|-------------------|------|
| 1 | 4ã34 | 2.26 | -0.13 | 2.08 | 0.15 ^h | 0.15 ^h | 1 |

$Q_{\text{t}}^{\text{b}} \cdot \frac{1}{\gamma_c} \rightarrow \text{E} \ddot{\text{A}} \ddot{\text{U}} \ddot{\text{a}} \ddot{\text{a}} \leftarrow \ddot{\text{a}} \ddot{\text{a}} \mid \wedge \text{b} \rightarrow \text{t} \wedge \ddot{\text{a}} \wedge \text{E} \ddot{\text{A}} \sim \ddot{\text{a}} \wedge \text{A} \ddot{\text{U}} \setminus = \text{B} \ddot{\text{a}} \text{D}$
h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:20

A_s [cm²]



— erf. Längsbewehrung / Zugkraftdeckungsline
... verbl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
— vorhandene Längsbewehrung

Querkraftbewehrung
 $\checkmark \text{fi} \wedge \rightarrow \text{D}$

| Feld | x_a [m] | x_e [m] | d_s [mm] | s [cm] | Schn. [-] | a_{sw} [cm ² /m] |
|------|--------------|--------------|---------------|-------------|--------------|----------------------------------|
| 1 | 0.00 | 1.83 | ã: | 15.0 | 2 | 6.70 |

Nachweise (Brand)

Brandschutznachweis nach DIN EN 1992-1-2

| Brand | Ek | (* *EW) |
|-------|------|----------|
| 1 | 1.00 | *Gk |
| 2 | 1.00 | *Gk |

- Anforderung Feuerwiderstandsklasse: R90
- Nachweis der Feuerwiderstandsdauer $t_{\text{req}} = 90 \text{ min}$
- 3-seitige Beflammung

Querschnitt

Mindestabmessungen nach Tab. 5.5

Querschnittsbreite $b = 250 \text{ mm} \hat{=} 150 \text{ mm}$

$\text{N}^{\text{a}} \ddot{\text{a}} \ddot{\text{a}} \ddot{\text{a}} \text{b} \setminus \text{t}^{\text{a}} \ddot{\text{a}}$

mittlerer Achsabstand Balken

| | x [m] | Ek | f_i [-] | f_i YSD↑↑¥Y | f_{cr} YflY | a [mm] | a [mm] | a_{erf} [mm] | a_m [mm] |
|--------|----------|----|--------------|------------------|------------------|-----------|-----------|--------------------------|---------------|
| Feld 1 | 0.13 | 2 | 0.5 | 22.38 | 976 | 43 | -20 | 23 | 45 |
| | 0.92 | 2 | 0.5 | 90.57 | 668 | 43 | -17 | 26 | 45 |
| | 1.71 | 2 | 0.5 | 22.38 | 976 | 43 | -20 | 23 | 45 |

$\text{N}^{\text{a}} \ddot{\text{a}} \ddot{\text{a}} \ddot{\text{a}} \text{b} \setminus \ddot{\text{a}}^{\text{a}} \ddot{\text{A}} \ddot{\text{O}} \leftrightarrow \wedge \sim \ddot{\text{a}} \rightarrow \text{b} \setminus \text{t}^{\text{a}} \ddot{\text{a}}$

| | x [m] | Ek | f_i [-] | f_i YSD↑↑¥Y | f_{cr} YflY | a_{R30} [mm] | a [mm] | a_{erf} [mm] | a_R [mm] |
|--------|----------|----|--------------|------------------|------------------|-------------------|-----------|--------------------------|---------------|
| Feld 1 | 0.13 | 2 | 0.49 | 22.4 | 976 | 15 | 0 | 15 | 0 |

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Schulcampus EWK \ WS-3.8_1

| x [m] | Ek | fi [-] | fi YSD↑↑¥Ÿ | cr YflŸ | a _{R30} [mm] | a [mm] | a _{erf} [mm] | a _R [mm] |
|----------|----|-----------|---------------|------------|--------------------------|-----------|--------------------------|------------------------|
| 0.92 | 2 | 0.49 | 90.6 | 668 | 15 | 0 | 15 | 0 |
| 1.71 | 2 | 0.49 | 22.4 | 976 | 15 | 0 | 15 | 0 |

N´âbââb\á^äÁÓ´←b\†âæ

| x [m] | a _{sd,erf} [mm] | a [mm] |
|----------|-----------------------------|-----------|
| Feld 1 | | |
| 0.13 | 33 | 45 |
| 0.92 | 36 | 45 |
| 1.71 | 33 | 45 |

5i Z` U[Yf_f}ZhY

N|â→á&æã←ã†à\æÁŮã†&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | |
|--|------------------------------|------------------------------|
| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
| Einw. Gk | | |
| A | 10.23 | 10.23 |
| B | 10.23 | 10.23 |
| Einw. Im | | |
| A | 2.30 | 2.30 |
| B | 2.30 | 2.30 |
| Einw. Qk.N_DA | | |
| A | 5.77 | 5.77 |
| B | 5.77 | 5.77 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Bewehrungswahl | OK | |

Nachweise (Brand)

Brandfall im Grenzzustand der Tragfähigkeit

| Nachweis | [-] |
|----------|-----|
| Brand | OK |

3.2 2. Obergeschoss

3.2.1 Mehrfeldträger

Für die Berechnung der Mehrfeldträger wird die Höhe der Attika mit angesetzt.

Übersicht der Bewehrungswahl:

| | | |
|----------|--------|--------------------------------|
| UZ-2.1: | unten: | 1. Lage: 4Ø14 2. Lage: 2Ø14 |
| | oben: | 1. Lage: 4Ø14 2. Lage: 3Ø14 |
| | quer: | Ø8/20 |
| UZ-2.8: | unten: | 1. Lage: 4Ø14 |
| | oben: | 1. Lage: 4Ø14 |
| | quer: | Ø8/20 |
| UZ-2.14: | unten: | 1. Lage: 4Ø14 2. Lage: 2Ø14 |
| | oben: | 1. Lage: 4Ø14 2. Lage: 3Ø14 |
| | quer: | Ø8/20 |
| UZ-2.15: | unten: | 1. Lage: 4Ø14 2. Lage: 2Ø14 |
| | oben: | 1. Lage: 4Ø14 2. Lage: 3Ø14 |
| | quer: | Ø8/20 |

Pos. UZ 2.1

GHU `VYfcb!8 i fW `U Zf} [Yf

Verankerungslänge: Ist für UZ-2.1 auf beiden Seiten zu beachten.

Die Verankerungslänge darf maximal $25 \text{ cm} - 3 \text{ cm} = 22 \text{ cm}$ betragen.

unten:

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 50 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 50 \text{ cm} \cdot 5,06 \text{ cm}^2 / 9,24 \text{ cm}^2 = 19,2 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 \cdot l_{b,rqd} = 0,3 \cdot 0,7 \cdot 50 \text{ cm} = 10,5 \text{ cm} \quad 10 \emptyset_l = 14 \text{ cm}$$

-> $l_{bd} = 19,2 \text{ cm}$

oben:

Es ist eine Verankerung mit Haken für die obere Längsbewehrung erforderlich.

$$l_{b,rqd} = 71 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 71 \text{ cm} \cdot 4,69 \text{ cm}^2 / 10,8 \text{ cm}^2 = 21,6 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 \cdot 0,7 \cdot l_{b,rqd} = 0,3 \cdot 0,7 \cdot 71 \text{ cm} = 14,9 \text{ cm} \quad 10 \emptyset_l = 14 \text{ cm}$$

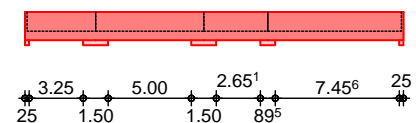
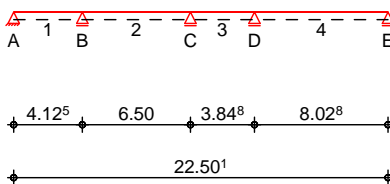
-> $l_{bd} = 21,6 \text{ cm}$

System

M 1 : 455

Ræäääæ→ä\ã†&æä
System

Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 4.13 | C 30/37 | 25.0/170.0 |
| 2 | 6.50 | | |
| 3 | 3.85 | | |
| 4 | 8.03 | | |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 4.13 | 150.0 | Beton | fest |
| C | 10.63 | 150.0 | Beton | fest |

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UZ 2.1

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| D | 14.47 | 89.5 | Beton | fest |
| E | 22.50 | 25.0 | Beton | fest |

Q_z & b_a | & æ[^] Á Á Á Á Á Á Á Á Á Á

| Feld | Fuge | Z_f [cm] | γ_{fl} | γ_{SD} | N_d |
|------|-------|---------------|---------------|---------------|-------|
| 1 | glatt | 115.0 | 90 | | 0.00 |
| 2 | glatt | 115.0 | 90 | | 0.00 |
| 3 | glatt | 115.0 | 90 | | 0.00 |
| 4 | glatt | 115.0 | 90 | | 0.00 |

Belastungen

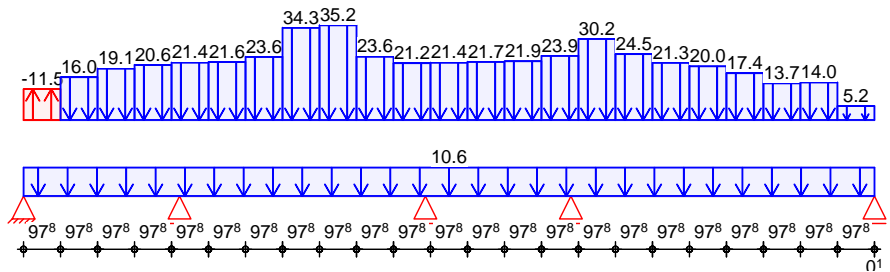
Belastungen auf das System

Grafik

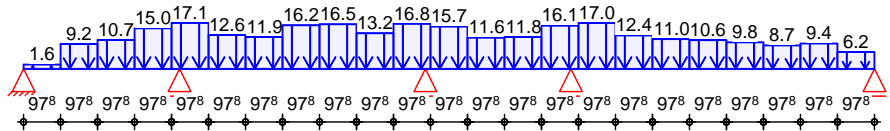
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

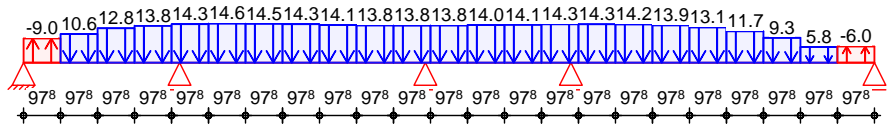
Gk



Ö←



Qk . N_DA



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | q_{li} [kN/m] | q_{re} [kN/m] |
|-------|------------|----------|----------|--------------------|--------------------|
| 1 | Eigengew | 0.00 | 22.50 | | 10.62 |
| (a) 1 | UZ 2.1: Gk | 0.00 | 0.98 | -11.55 | -11.55 |
| (a) 1 | UZ 2.1: Gk | 0.98 | 0.98 | 15.96 | 15.96 |
| (a) 1 | UZ 2.1: Gk | 1.96 | 0.98 | 19.15 | 19.15 |
| (a) 1 | UZ 2.1: Gk | 2.93 | 0.98 | 20.55 | 20.55 |
| (a) 1 | UZ 2.1: Gk | 3.91 | 0.98 | 21.38 | 21.38 |
| (a) 1 | UZ 2.1: Gk | 4.89 | 0.98 | 21.63 | 21.63 |
| (a) 1 | UZ 2.1: Gk | 5.87 | 0.98 | 23.55 | 23.55 |
| (a) 1 | UZ 2.1: Gk | 6.85 | 0.98 | 34.34 | 34.34 |
| (a) 1 | UZ 2.1: Gk | 7.83 | 0.98 | 35.22 | 35.22 |
| (a) 1 | UZ 2.1: Gk | 8.80 | 0.98 | 23.59 | 23.59 |
| (a) 1 | UZ 2.1: Gk | 9.78 | 0.98 | 21.16 | 21.16 |
| (a) 1 | UZ 2.1: Gk | 10.76 | 0.98 | 21.36 | 21.36 |
| (a) 1 | UZ 2.1: Gk | 11.74 | 0.98 | 21.70 | 21.70 |
| (a) 1 | UZ 2.1: Gk | 12.72 | 0.98 | 21.88 | 21.88 |
| (a) 1 | UZ 2.1: Gk | 13.70 | 0.98 | 23.93 | 23.93 |
| (a) 1 | UZ 2.1: Gk | 14.67 | 0.98 | 30.24 | 30.24 |
| (a) 1 | UZ 2.1: Gk | 15.65 | 0.98 | 24.53 | 24.53 |
| (a) 1 | UZ 2.1: Gk | 16.63 | 0.98 | 21.34 | 21.34 |

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Einw. Im

Einw. Qk.N_DA

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|-----------------|----------|----------|---------------------------|---------------------------|
| (a) 1 | UZ 2.1: Gk | 17.61 | 0.98 | 20.00 | 20.00 |
| (a) 1 | UZ 2.1: Gk | 18.59 | 0.98 | 17.44 | 17.44 |
| (a) 1 | UZ 2.1: Gk | 19.57 | 0.98 | 13.66 | 13.66 |
| (a) 1 | UZ 2.1: Gk | 20.54 | 0.98 | 13.99 | 13.99 |
| (a) 1 | UZ 2.1: Gk | 21.52 | 0.98 | 5.25 | 5.25 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 0.00 | 0.98 | 1.59 | 1.59 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 0.98 | 0.98 | 9.23 | 9.23 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 1.96 | 0.98 | 10.69 | 10.69 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 2.93 | 0.98 | 15.02 | 15.02 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 3.91 | 0.98 | 17.12 | 17.12 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 4.89 | 0.98 | 12.63 | 12.63 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 5.87 | 0.98 | 11.85 | 11.85 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 6.85 | 0.98 | 16.17 | 16.17 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 7.83 | 0.98 | 16.54 | 16.54 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 8.80 | 0.98 | 13.20 | 13.20 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 9.78 | 0.98 | 16.77 | 16.77 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 10.76 | 0.98 | 15.71 | 15.71 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 11.74 | 0.98 | 11.60 | 11.60 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 12.72 | 0.98 | 11.81 | 11.81 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 13.70 | 0.98 | 16.06 | 16.06 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 14.67 | 0.98 | 17.03 | 17.03 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 15.65 | 0.98 | 12.38 | 12.38 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 16.63 | 0.98 | 11.03 | 11.03 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 17.61 | 0.98 | 10.63 | 10.63 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 18.59 | 0.98 | 9.82 | 9.82 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 19.57 | 0.98 | 8.68 | 8.68 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 20.54 | 0.98 | 9.40 | 9.40 |
| (a) 1 | ÜXÁGÈFÍÁ Ö← | 21.52 | 0.98 | 6.22 | 6.22 |
| (a) 1 | UZ 2.1: Qk.N_DA | 0.00 | 0.98 | -9.00 | -9.00 |
| (a) 1 | UZ 2.1: Qk.N_DA | 0.98 | 0.98 | 10.64 | 10.64 |
| (a) 1 | UZ 2.1: Qk.N_DA | 1.96 | 0.98 | 12.81 | 12.81 |
| (a) 1 | UZ 2.1: Qk.N_DA | 2.93 | 0.98 | 13.76 | 13.76 |
| (a) 1 | UZ 2.1: Qk.N_DA | 3.91 | 0.98 | 14.34 | 14.34 |
| (a) 1 | UZ 2.1: Qk.N_DA | 4.89 | 0.98 | 14.56 | 14.56 |
| (a) 1 | UZ 2.1: Qk.N_DA | 5.87 | 0.98 | 14.52 | 14.52 |
| (a) 1 | UZ 2.1: Qk.N_DA | 6.85 | 0.98 | 14.33 | 14.33 |
| (a) 1 | UZ 2.1: Qk.N_DA | 7.83 | 0.98 | 14.09 | 14.09 |
| (a) 1 | UZ 2.1: Qk.N_DA | 8.80 | 0.98 | 13.84 | 13.84 |
| (a) 1 | UZ 2.1: Qk.N_DA | 9.78 | 0.98 | 13.82 | 13.82 |
| (a) 1 | UZ 2.1: Qk.N_DA | 10.76 | 0.98 | 13.83 | 13.83 |
| (a) 1 | UZ 2.1: Qk.N_DA | 11.74 | 0.98 | 14.01 | 14.01 |
| (a) 1 | UZ 2.1: Qk.N_DA | 12.72 | 0.98 | 14.14 | 14.14 |
| (a) 1 | UZ 2.1: Qk.N_DA | 13.70 | 0.98 | 14.28 | 14.28 |
| (a) 1 | UZ 2.1: Qk.N_DA | 14.67 | 0.98 | 14.30 | 14.30 |
| (a) 1 | UZ 2.1: Qk.N_DA | 15.65 | 0.98 | 14.22 | 14.22 |
| (a) 1 | UZ 2.1: Qk.N_DA | 16.63 | 0.98 | 13.86 | 13.86 |
| (a) 1 | UZ 2.1: Qk.N_DA | 17.61 | 0.98 | 13.10 | 13.10 |
| (a) 1 | UZ 2.1: Qk.N_DA | 18.59 | 0.98 | 11.66 | 11.66 |
| (a) 1 | UZ 2.1: Qk.N_DA | 19.57 | 0.98 | 9.28 | 9.28 |
| (a) 1 | UZ 2.1: Qk.N_DA | 20.54 | 0.98 | 5.81 | 5.81 |
| (a) 1 | UZ 2.1: Qk.N_DA | 21.52 | 0.98 | -6.01 | -6.01 |

(a)

aus Pos. 'D-2.OG - UZ 2.1'

Kombi nati onen

b\ + ^ ä ↔ & D { ~ äfi â æ ä & E

& æ ↑ + ß Å Æ Ø S Á Ó S Á F i i G E F E F Á | ^ ä Å Æ Ø S Á Ó S Á F i i E

Ek (* * EW)

| | | | |
|---|---------|-----------|------------------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA (1,3) |
| 3 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA (2,4) |
| 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA (1,3) |
| 5 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA (2,4) |
| 6 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA |

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Schulcampus EWK \

UZ 2.1

| Ek | (* *EW) | | |
|----|----------|-----------|----------------------------------|
| 7 | 1.35 *Gk | ÉFÈÈÈÈ Ö← | (1,3) +1.50 *Qk.N_DA (2,4) |
| 8 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_DA (3) |
| 9 | 1.35 *Gk | ÉFÈĞİE Ö← | +1.50 *Qk.N_DA (1,2,4) |
| 10 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_DA (2,3) |
| 11 | 1.35 *Gk | ÉFÈĞİE Ö← | +1.50 *Qk.N_DA (1,4) |
| 12 | 1.35 *Gk | ÉFÈĞİE Ö← | +1.50 *Qk.N_DA (2,3) |
| 13 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_DA (1,4) |
| 14 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_DA (2) |
| 15 | 1.35 *Gk | ÉFÈĞİE Ö← | +1.50 *Qk.N_DA (1,3,4) |

Bemessung (GZT)

àfiãÄäæ^ÁÖãæ^~ | b\á^äÄäæãÄÜäá&à†â↔&æ↔\Á^á´äÁØSÁÓSÁ
1992-1-1:2011-01

Mindestmomente
5.3.2.2(3)

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -52.45 | 0.00 | -125.89 | 0.00 |
| | C | -131.42 | 0.00 | -30.84 | 0.00 |
| | D | -31.02 | 0.00 | -329.31 | 0.00 |

Biegung

Abs. 6.1

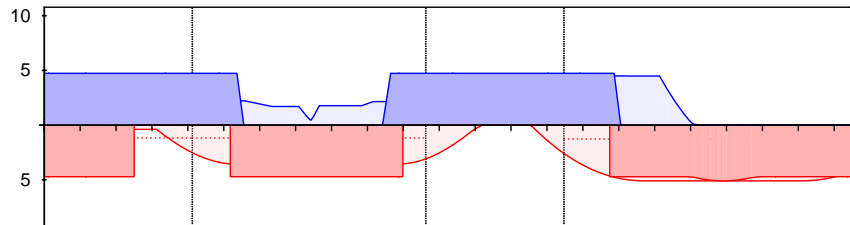
Ñæ↑æbb | ^&ÄàfiãÄÑ↔æ&æâæá^b*ã | ´â | ^&

| x | Ek | M _{yd,o} M _{yd,u} [kNm] | x/d _o x/d _u | z _o z _u [cm] | A _{s,o} A _{s,u} [cm ²] | A _{s,o,erf} A _{s,u,erf} [cm ²] |
|-------------------|----|---|--------------------------------------|--|--|--|
| (L = 4.12 m) | | | | | | |
| 0.00 | 1 | - | 3.7E-4 | 164.0 | - | 4.73 _M |
| | 1 | - | 4.4E-4 | 162.7 | - | 4.72 _M |
| 0.13 _a | 3 | -0.88 | 0.002 | 163.9 | 0.01 | 4.73 _M |
| | 2 | 2.22 | 0.004 | 163.4 | 0.03 | 4.72 _M |
| 1.43 | 3 | -14.33 | 0.010 | 163.5 | 0.19 | 4.73 _M |
| | 2 | 29.27 | 0.016 | 163.0 | 0.39 | 4.72 _M |
| 3.38 _a | 5 | -163.58 | 0.036 | 162.0 | 2.21 | 4.73 _M |
| | 4 | -72.36 | - | - | - | 1.18 _f |
| 4.12 | 9 | -125.85 | 0.032 | 162.2 | 1.70 | 4.73 _M |
| | 8 | -125.85 | - | - | - | - |
| (L = 6.50 m) | | | | | | |
| 0.00 | 9 | -125.89 | 0.032 | 162.2 | 1.70 | 4.73 _M |
| | 8 | -125.85 | - | - | - | - |
| 0.75 _a | 9 | -125.89 | 0.032 | 162.2 | 1.70 | 4.73 _M |
| | 8 | -47.63 | - | - | - | 1.18 _f |
| 1.06 | 11 | -38.32 | 0.017 | 163.1 | 0.51 | 4.73 _M |
| | 10 | - | - | - | - | 4.72 _M |
| 3.46 | 4 | 137.42 | - | - | - | - |
| | 5 | 264.34 | 0.047 | 161.6 | 3.58 | 4.72 _M |
| 5.75 _a | 12 | -131.42 | 0.032 | 162.2 | 1.77 | 4.73 _M |
| | 13 | 13.79 | 0.018 | 160.2 | 0.18 | 4.72 _M |
| 6.50 | 12 | -131.42 | 0.032 | 162.2 | 1.77 | 4.73 _M |
| | 13 | -89.11 | - | - | - | - |
| (L = 3.85 m) | | | | | | |
| 0.00 | 12 | -94.08 | 0.027 | 162.5 | 1.27 | 4.73 _M |
| | 13 | -89.11 | - | - | - | - |
| 0.75 _a | 5 | -158.80 | 0.036 | 162.0 | 2.15 | 4.73 _M |
| | 4 | -68.75 | - | - | - | - |
| 3.40 _a | 11 | -329.95 | 0.054 | 160.9 | 4.49 | 4.73 _M |
| | 10 | -175.40 | - | - | - | - |

Längsbewehrung
M 1:210

As

[cm²/m]



erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung

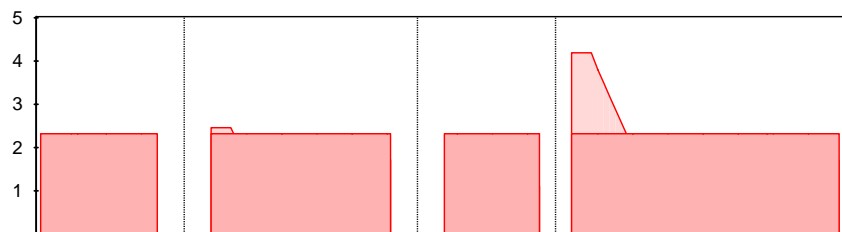
Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 22.50 | ã: | 20.0 | 2 | 5.03 |

Querkraftbewehrung
M 1:210

Asw

[cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

5i Z` U[Yf_f}ZhY

N| à→á&æã←ã†à\æÁŨã†&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 4.10 | 4.10 |
| B | 210.54 | 210.54 |
| C | 154.68 | 154.68 |
| D | 240.14 | 240.14 |
| E | 79.87 | 79.87 |
| Einw. I _m | | |
| A | 3.04 | 3.04 |
| B | 85.63 | 85.63 |
| C | 65.90 | 65.90 |
| D | 91.23 | 91.23 |
| E | 29.24 | 29.24 |
| Einw. Q _{k,N_DA} | | |
| A | -9.41 | 4.88 |
| B | -2.55 | 86.69 |
| C | -25.83 | 86.75 |
| D | -12.05 | 107.96 |
| E | -0.92 | 19.03 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | | OK |

U-37

Schulcampus EWK \

UZ 2.1

Nachweis

Ort

[-]

Biegung

OK

Querkraft

OK

Fugenbemessung

OK

Bewehrungswahl

OK

Pos. UZ 2.8

System

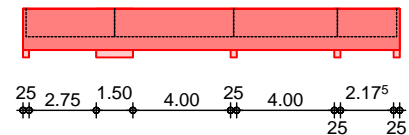
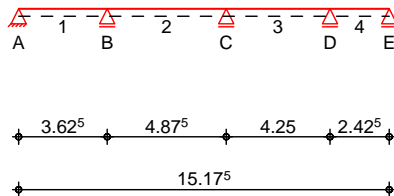
M 1:310

GHU`VYfcb!8 i fW`U Zf}[Yf

Ræåãäæ→ä\ã†&æã

System

Ansicht



Abmessungen

Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 3.63 | C 30/37 | 25.0/170.0 |
| 2 | 4.88 | | |
| 3 | 4.25 | | |
| 4 | 2.43 | | |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.63 | 150.0 | Beton | fest |
| C | 8.50 | 25.0 | Beton | fest |
| D | 12.75 | 25.0 | Beton | fest |
| E | 15.18 | 25.0 | Beton | fest |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | z_f [cm] | $Y_{fl}\ddot{Y}$ | $Y_{SD}\uparrow\uparrow\ddot{Y}$ |
|------|-------|---------------|------------------|----------------------------------|
| 1 | glatt | 115.0 | 90 | 0.00 |
| 2 | glatt | 115.0 | 90 | 0.00 |
| 3 | glatt | 115.0 | 90 | 0.00 |
| 4 | glatt | 115.0 | 90 | 0.00 |

Belastungen

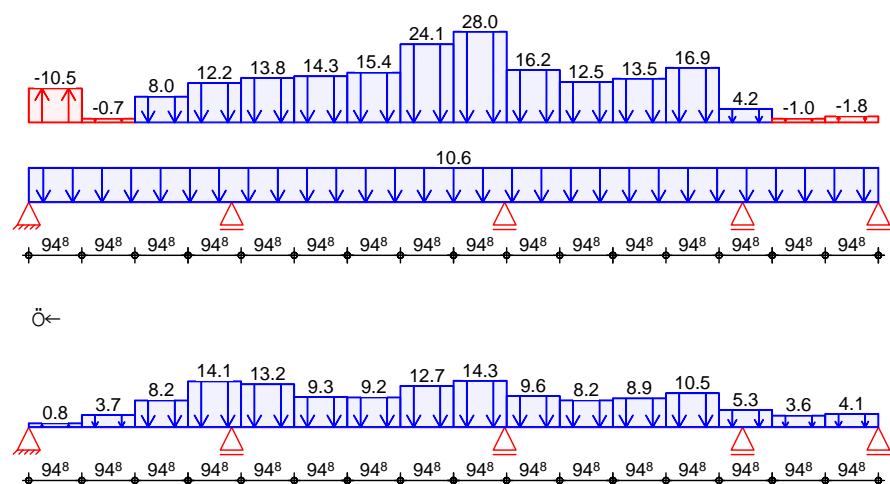
Belastungen auf das System

Grafik

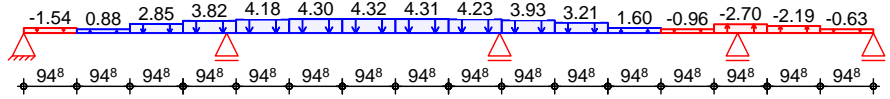
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

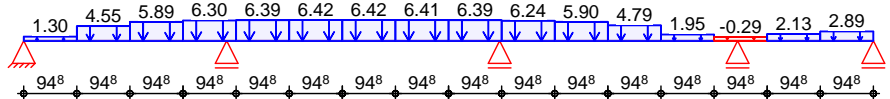
Gk



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|-----------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 15.18 | | 10.62 |
| (a) 1 | UZ 2.8: Gk | 0.00 | 0.95 | -10.50 | -10.50 |
| (a) 1 | UZ 2.8: Gk | 0.95 | 0.95 | -0.69 | -0.69 |
| (a) 1 | UZ 2.8: Gk | 1.90 | 0.95 | 7.96 | 7.96 |
| (a) 1 | UZ 2.8: Gk | 2.85 | 0.95 | 12.15 | 12.15 |
| (a) 1 | UZ 2.8: Gk | 3.79 | 0.95 | 13.77 | 13.77 |
| (a) 1 | UZ 2.8: Gk | 4.74 | 0.95 | 14.26 | 14.26 |
| (a) 1 | UZ 2.8: Gk | 5.69 | 0.95 | 15.38 | 15.38 |
| (a) 1 | UZ 2.8: Gk | 6.64 | 0.95 | 24.14 | 24.14 |
| (a) 1 | UZ 2.8: Gk | 7.59 | 0.95 | 28.03 | 28.03 |
| (a) 1 | UZ 2.8: Gk | 8.54 | 0.95 | 16.20 | 16.20 |
| (a) 1 | UZ 2.8: Gk | 9.48 | 0.95 | 12.52 | 12.52 |
| (a) 1 | UZ 2.8: Gk | 10.43 | 0.95 | 13.52 | 13.52 |
| (a) 1 | UZ 2.8: Gk | 11.38 | 0.95 | 16.89 | 16.89 |
| (a) 1 | UZ 2.8: Gk | 12.33 | 0.95 | 4.19 | 4.19 |
| (a) 1 | UZ 2.8: Gk | 13.28 | 0.95 | -1.01 | -1.01 |
| (a) 1 | UZ 2.8: Gk | 14.23 | 0.95 | -1.85 | -1.85 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 0.00 | 0.95 | 0.76 | 0.76 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 0.95 | 0.95 | 3.75 | 3.75 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 1.90 | 0.95 | 8.22 | 8.22 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 2.85 | 0.95 | 14.09 | 14.09 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 3.79 | 0.95 | 13.22 | 13.22 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 4.74 | 0.95 | 9.28 | 9.28 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 5.69 | 0.95 | 9.15 | 9.15 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 6.64 | 0.95 | 12.71 | 12.71 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 7.59 | 0.95 | 14.30 | 14.30 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 8.54 | 0.95 | 9.61 | 9.61 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 9.48 | 0.95 | 8.24 | 8.24 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 10.43 | 0.95 | 8.87 | 8.87 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 11.38 | 0.95 | 10.46 | 10.46 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 12.33 | 0.95 | 5.33 | 5.33 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 13.28 | 0.95 | 3.56 | 3.56 |
| (a) 1 | ÜXÁGÈîîÁ Ö← | 14.23 | 0.95 | 4.08 | 4.08 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 0.00 | 0.95 | -1.54 | -1.54 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 0.95 | 0.95 | 0.88 | 0.88 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 1.90 | 0.95 | 2.85 | 2.85 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 2.85 | 0.95 | 3.82 | 3.82 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 3.79 | 0.95 | 4.18 | 4.18 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 4.74 | 0.95 | 4.30 | 4.30 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 5.69 | 0.95 | 4.32 | 4.32 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 6.64 | 0.95 | 4.31 | 4.31 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 7.59 | 0.95 | 4.23 | 4.23 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 8.54 | 0.95 | 3.93 | 3.93 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 9.48 | 0.95 | 3.21 | 3.21 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 10.43 | 0.95 | 1.60 | 1.60 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 11.38 | 0.95 | -0.96 | -0.96 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 12.33 | 0.95 | -2.70 | -2.70 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 13.28 | 0.95 | -2.19 | -2.19 |
| (a) 1 | UZ 2.8: Qk.N_E1 | 14.23 | 0.95 | -0.63 | -0.63 |
| (a) 1 | UZ 2.8: Qk.N_DA | 0.00 | 0.95 | 1.30 | 1.30 |
| (a) 1 | UZ 2.8: Qk.N_DA | 0.95 | 0.95 | 4.55 | 4.55 |

Einw. Im

Einw. Qk.N_E1

Einw. Qk.N_DA

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-----|------|-----------------|----------|----------|---------------------------|---------------------------|
| (a) | 1 | UZ 2.8: Qk.N_DA | 1.90 | 0.95 | 5.89 | 5.89 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 2.85 | 0.95 | 6.30 | 6.30 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 3.79 | 0.95 | 6.39 | 6.39 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 4.74 | 0.95 | 6.42 | 6.42 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 5.69 | 0.95 | 6.42 | 6.42 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 6.64 | 0.95 | 6.41 | 6.41 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 7.59 | 0.95 | 6.39 | 6.39 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 8.54 | 0.95 | 6.24 | 6.24 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 9.48 | 0.95 | 5.90 | 5.90 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 10.43 | 0.95 | 4.79 | 4.79 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 11.38 | 0.95 | 1.95 | 1.95 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 12.33 | 0.95 | -0.29 | -0.29 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 13.28 | 0.95 | 2.13 | 2.13 |
| (a) | 1 | UZ 2.8: Qk.N_DA | 14.23 | 0.95 | 2.89 | 2.89 |

(a) aus Pos. 'D-2.OG - UZ 2.8'

Kombi nati onen

b\†^ä↔&D{~äfiâæã&È

&æ†‡BÄËØSÄÓSÁFiiGëFëFÁ|^äÄËØSÄÓSÁFiië

Ek (* *EW)

| | | | |
|----|--------------------------|-----------|--------------------------|
| 1 | 1.00*Gk | ÉFÈ€€€ Ö← | |
| 2 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3) | | |
| 3 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2,4) | | |
| 4 | 1.00*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3) | | |
| 5 | 1.35*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2,4) | | |
| 6 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3) | | |
| 7 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2,4) | | |
| 8 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_E1 (3,4) |
| | +1.50*Qk.N_DA (3) | | |
| 9 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_E1 (1,2) |
| | +1.50*Qk.N_DA (1,2,4) | | |
| 10 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_E1 (2,3,4) |
| | +1.50*Qk.N_DA (2,3) | | |
| 11 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_E1 (1) |
| | +1.50*Qk.N_DA (1,4) | | |
| 12 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_E1 (2,3,4) |
| | +1.50*Qk.N_DA (2,3) | | |
| 13 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_E1 (1) |

| Ek | (* *EW) | | |
|----|--------------------------|-----------|--------------------------|
| | +1.50*Qk.N_DA (1,4) | | |
| 14 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (1,2) |
| | +1.50*Qk.N_DA (1,2,4) | | |
| 15 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_E1 (3,4) |
| | +1.50*Qk.N_DA (3) | | |
| 16 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_E1 (2,4) |
| | +1.50*Qk.N_DA (2,3) | | |
| 17 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (1,3) |
| | +1.50*Qk.N_DA (1,4) | | |
| 18 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_E1 (2,4) |
| | +1.50*Qk.N_DA (2) | | |
| 19 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (1,3) |
| | +1.50*Qk.N_DA (1,3,4) | | |
| 20 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (2,4) |
| | +1.50*Qk.N_DA (2) | | |
| 21 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_E1 (1,3) |
| | +1.50*Qk.N_DA (1,3,4) | | |
| 22 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3,4) | | |
| 23 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2) | | |

Bemessung (GZT)

àfiãÄäæ^ÄÖäæ^~|b\á^äÄäæäÜüäá&à‡à&æ↔\Á^á´äÄØSÁÓSÁ
1992-1-1:2011-01

Mindestmomente 5.3.2.2(3)

| Kombinat. | Aufl. | min M1 [kNm] | max M1 [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -19.18 | 0.00 | -58.14 | 0.00 |
| | C | -64.47 | 0.00 | -49.26 | 0.00 |
| | D | -46.35 | 0.00 | -9.37 | 0.00 |

Bi egung

Abs. 6.1

Ñæ↑æbb| ^&ÄäfiãÄÑ↔æ&æäæá^b*ã|´á|^&

Feld 1

| x | Ek | Myd,o | x/d_o | z_o | As,o | As,o,erf |
|-------------------|----|--------|--------|-------|-------|-------------------|
| | | Myd,u | x/d_u | z_u | As,u | As,u,erf |
| [m] | | [kNm] | | [cm] | [cm²] | [cm²] |
| (L = 3.62 m) | | | | | | |
| 0.00 | 1 | - | 3.7E-4 | 165.5 | - | 4.69 _M |
| | 1 | - | 4.2E-4 | 164.5 | - | 4.69 _M |
| 0.13 _a | 3 | -0.19 | 0.001 | 165.4 | - | 4.69 _M |
| | 2 | 1.81 | 0.004 | 165.2 | 0.02 | 4.69 _M |
| 1.46* | 3 | -4.82 | 0.006 | 165.2 | 0.06 | 4.69 _M |
| | 2 | 16.96 | 0.011 | 164.7 | 0.23 | 4.69 _M |
| 2.88 _a | 7 | -45.34 | 0.018 | 164.5 | 0.60 | 4.69 _M |
| | 6 | -13.00 | - | - | - | 1.17 _f |
| 3.62 | 9 | -27.57 | 0.014 | 164.7 | 0.77 | 4.69 _M |

U-42

Schulcampus EWK \

UZ 2.8

| | x | Ek | M _{yd,o} M _{yd,u} | x/d _o x/d _u | z _o z _u | A _{s,o} A _{s,u} | A _{s,o,erf} A _{s,u,erf} |
|--------|-------------------|----|--|--------------------------------------|----------------------------------|--------------------------------------|--|
| | [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| | | 8 | -27.57 | - | - | - | - |
| Feld 2 | (L = 4.88 m) | | | | | | |
| | 0.00 | 9 | -58.14 | 0.021 | 164.3 | 0.77 | 4.69 _M |
| | | 8 | -27.57 | - | - | - | - |
| | 0.73 | 11 | -58.14 | 0.021 | 164.3 | 0.77 | 4.69 _M |
| | | 10 | - | - | - | - | 4.69 _M |
| | 0.75 _a | 11 | -58.14 | 0.021 | 164.3 | 0.77 | 4.69 _M |
| | | 10 | 1.64 | 0.010 | 161.5 | 0.02 | 4.69 _M |
| | 2.46* | 6 | 42.17 | - | - | - | - |
| | | 7 | 91.57 | 0.026 | 164.0 | 1.22 | 4.69 _M |
| | 4.75 _a | 12 | -112.11 | 0.029 | 163.8 | 1.50 | 4.69 _M |
| | | 13 | -61.87 | - | - | - | 1.17 _f |
| | 4.87 | 12 | -114.94 | 0.030 | 163.8 | 1.54 | 4.69 _M |
| | | 13 | -75.29 | - | - | - | - |

| | | | | | | | |
|--------|-------------------|----|---------|-------|-------|------|-------------------|
| Feld 3 | (L = 4.25 m) | | | | | | |
| | 0.00 | 12 | -114.94 | 0.030 | 163.8 | 1.54 | 4.69 _M |
| | | 13 | -75.29 | - | - | - | - |
| | 0.13 _a | 12 | -117.77 | 0.030 | 163.8 | 1.58 | 4.69 _M |
| | | 13 | -65.11 | - | - | - | 1.17 _f |
| | 1.01 | 7 | -29.19 | 0.015 | 164.7 | 0.39 | 4.69 _M |
| | | 6 | - | - | - | - | 4.69 _M |
| | 2.36* | 3 | 19.08 | - | - | - | - |
| | | 2 | 46.18 | 0.018 | 164.5 | 0.62 | 4.69 _M |
| | 4.13 _a | 21 | -46.35 | 0.018 | 164.5 | 0.62 | 4.69 _M |
| | | 20 | -13.87 | - | - | - | 1.17 _f |
| | 4.25 | 21 | -46.35 | 0.018 | 164.5 | 0.62 | 4.69 _M |
| | | 20 | -19.96 | - | - | - | - |

| | | | | | | | |
|--------|-------------------|----|--------|--------|-------|------|-------------------|
| Feld 4 | (L = 2.43 m) | | | | | | |
| | 0.00 | 21 | -40.00 | 0.017 | 164.5 | 0.53 | 4.69 _M |
| | | 20 | -19.96 | - | - | - | - |
| | 0.13 _a | 21 | -42.52 | 0.018 | 164.5 | 0.57 | 4.69 _M |
| | | 20 | -17.14 | - | - | - | 1.17 _f |
| | 1.05 | 2 | -14.93 | 0.010 | 164.9 | 0.20 | 4.69 _M |
| | | 3 | - | - | - | - | 4.69 _M |
| | 1.81* | 6 | -3.14 | 0.005 | 165.2 | 0.04 | 4.69 _M |
| | | 7 | 4.15 | 0.006 | 164.6 | 0.06 | 4.69 _M |
| | 2.30 _a | 6 | -0.27 | 0.001 | 165.4 | - | 4.69 _M |
| | | 7 | 1.51 | 0.003 | 165.1 | 0.02 | 4.69 _M |
| | 2.42 | 1 | - | 3.7E-4 | 165.5 | - | 4.69 _M |
| | | 1 | - | 4.2E-4 | 164.5 | - | 4.69 _M |

a: Auflagerrand

*: maximales Feldmoment

f: {æã→+^&æã\æÁÔæ→ääæ}ÊÁ^á'áÁNábÊÁİÊĞÊFÊHÇFDEÁİÊĞÊFÊHÇFDE

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

| | x | Ek | V _{Ed} | γ _{f1} Ÿ | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|--------|-------------------|----|--------------------|-------------------|---------------------|-------------------|----------------------|
| | [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| Feld 1 | (L = 3.62 m) | | | | | | |
| | 0.00 | 2 | 14.54 | 18.4 | 1424.33 | - | - |
| | 0.13 _a | 2 | 14.43 | 18.4 | 1424.33 | - | 2.32 _M |
| | 1.46 | 7 | 10.62 _R | 18.4 | 1424.33 | - | 2.32 _M |
| | 1.81 _v | 7 | 16.66 _R | 18.4 | 1424.33 | 91.81 | 2.32 _M |
| | 2.88 _a | 9 | 17.22 _R | 18.4 | 1424.33 | - | 2.32 _M |
| | 3.62 | 9 | 17.22 _R | 18.4 | 1424.33 | - | - |
| Feld 2 | (L = 4.88 m) | | | | | | |
| | 0.00 | 8 | 85.79 _R | 18.4 | 1424.33 | - | - |
| | 0.76 _a | 8 | 57.71 _R | 18.4 | 1424.33 | - | 2.32 _M |
| | 2.41 _v | 9 | 5.31 | 18.4 | 1424.33 | 91.81 | 2.32 _M |
| | 2.46 | 8 | 3.05 _R | 18.4 | 1424.33 | 91.81 | 2.32 _M |
| | 3.10 _v | 12 | 44.45 | 18.4 | 1424.33 | 91.81 | 2.32 _M |
| | 4.75 _a | 12 | 44.45 _R | 18.4 | 1424.33 | - | 2.32 _M |

| | x [m] | Ek | V _{Ed} [kN] | γ _{f1} Ŷ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|--------|-------------------|----|-------------------------|-------------------|-----------------------------|---------------------------|---|
| Feld 3 | 4.87 | 12 | 44.45 _R | 18.4 | 1424.33 | - | - |
| | (L = 4.25 m) | | | | | | |
| | 0.00 | 12 | 39.71 _R | 18.4 | 1424.33 | - | - |
| | 0.13 _a | 12 | 39.71 _R | 18.4 | 1424.33 | - | 2.32 _M |
| | 1.78 _v | 16 | 39.71 | 18.4 | 1424.33 | 91.81 | 2.32 _M |
| | 2.36 | 18 | 13.55 | 18.4 | 1424.33 | 91.81 | 2.32 _M |
| | 2.47 _v | 18 | 8.61 | 18.4 | 1424.33 | 91.81 | 2.32 _M |
| | 4.13 _a | 20 | 47.40 _R | 18.4 | 1424.33 | - | 2.32 _M |
| Feld 4 | 4.25 | 20 | 49.92 _R | 18.4 | 1424.33 | - | - |
| | (L = 2.43 m) | | | | | | |
| | 0.00 | 21 | 19.92 _R | 18.4 | 1424.33 | - | - |
| | 0.13 _a | 21 | 19.92 _R | 18.4 | 1424.33 | - | 2.32 _M |
| | 1.21 _v | 21 | 19.53 _R | 18.4 | 1424.33 | 91.81 | 2.32 _M |
| | 1.81 | 2 | 9.87 | 18.4 | 1424.33 | - | 2.32 _M |
| | 2.30 _a | 7 | 10.71 | 18.4 | 1424.33 | - | 2.32 _M |
| | 2.42 | 7 | 13.42 _R | 18.4 | 1424.33 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

Hinweis

An folgenden Auflagern erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| A | rechts | Vorzeichenwechsel der Querkraft in d |
| E | links | Vorzeichenwechsel der Querkraft in d |

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ Ŷ ↓ Ŷ |
|---|-------------------------|----------------------------|--------------------------------|-------------------------------|-----------------------------------|
| N@piuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo↔ | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |

| | | | | | |
|-------------------|--------|-------|--------|-------|---|
| 0.63 | 14.01 | 8.49 | 425.00 | 56.67 | - |
| 1.52 _v | -11.66 | 7.06 | 425.00 | 56.67 | - |
| 2.33 | -39.22 | 23.80 | 425.00 | 56.67 | - |

N@piuhwig"4

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔
glatt (c=0.20, =0.60, =0.20)

| | | | | | |
|-------------------|---------|-------|--------|-------|------|
| 1.30 | 74.52 | 45.32 | 425.00 | 56.67 | - |
| 1.81 | 42.63 | 25.98 | 425.00 | 56.67 | - |
| 2.41 _v | 5.31 | 3.24 | 425.00 | 56.67 | - |
| 3.10 _v | -44.45 | 27.08 | 425.00 | 56.67 | - |
| 3.73 | -94.99 | 57.71 | 425.00 | 56.67 | 0.03 |
| 4.20 | -134.76 | 81.81 | 425.00 | 56.67 | 0.80 |

N@piuhwig"5

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔
glatt (c=0.20, =0.60, =0.20)

| | | | | | |
|-------------------|--------|-------|--------|-------|------|
| 0.68 | 103.46 | 62.95 | 425.00 | 56.67 | 0.20 |
| 0.70 | 101.99 | 62.05 | 425.00 | 56.67 | 0.17 |
| 1.78 _v | 39.71 | 24.13 | 425.00 | 56.67 | - |
| 2.47 _v | 8.61 | 5.24 | 425.00 | 56.67 | - |
| 3.58 | -65.37 | 39.62 | 425.00 | 56.67 | - |

N@piuhwig"6

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔
glatt (c=0.20, =0.60, =0.20)

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ ↓ Y |
|-------------------|-------------------------|----------------------------|--------------------------------|-------------------------------|---------------------------------|
| 0.68 | 31.02 | 18.82 | 425.00 | 56.67 | - |
| 1.21 _v | 19.92 | 12.07 | 425.00 | 56.67 | - |
| 1.74 _v | 10.94 | 6.62 | 425.00 | 56.67 | - |
| 1.80 | 10.05 | 6.08 | 425.00 | 56.67 | - |

Bewehrungswahl

untere

Q₁ & b_â } æã | ^&

| Feld | gew. | As [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 6ã36 | 6.16 | -0.13 | 15.43 | 0.14 ^h | 0.14 ^h | 1 |

ÇQ₁ ^ & æ ^ Ä ↔ ↔ ËÄÜæãä ^ < æã | ^ & b → † ^ & æ ^ ËÄ ~ ä ^ æÄU \ = ßæD
h: gesonderte Verankerungsform erforderlich

~âæãæÄQ₁ ^ & b_â } æã | ^&

| Feld | gew. | As [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 6ã36 | 6.16 | -0.13 | 15.43 | 0.23 ^{mh} | 0.23 ^{mh} | 1 |

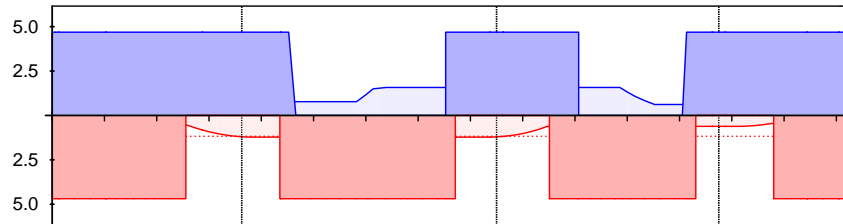
ÇQ₁ ^ & æ ^ Ä ↔ ↔ ËÄÜæãä ^ < æã | ^ & b → † ^ & æ ^ ËÄ ~ ä ^ æÄU \ = ßæD
† Ä ↑ † ß ↔ æÄÜæãä | ^ ä äæã ↔ ^ & | ^ & æ ^
h: gesonderte Verankerungsform erforderlich

Längsbewehrung

M 1:145

As

[cm ¥]



erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung

Querkraftbewehrung

ÇÑfi&æ→D

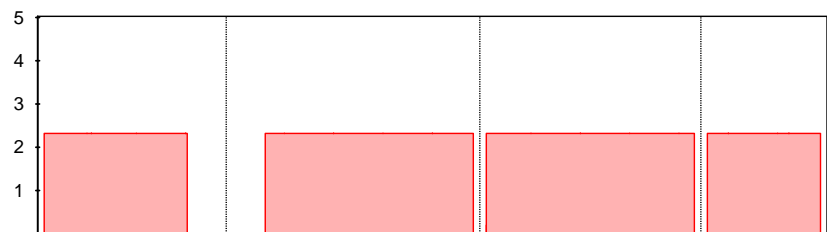
| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 15.18 | ã: | 20.0 | 2 | 5.03 |

Querkraftbewehrung

M 1:145

Asw

[cm ¥ / m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

5i Z` U[Yf _f } ZhY

N|à→á&æã←ã‡à\æÁŮã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | Fz,k,min | | Fz,k,max | |
|---------------|----------|--------|----------|--------|
| | [kN] | | [kN] | |
| Einw. Gk | A | 2.49 | | 2.49 |
| | B | 103.48 | | 103.48 |
| | C | 145.04 | | 145.04 |
| | D | 63.65 | | 63.65 |
| | E | 3.03 | | 3.03 |
| Einw. Im | A | 1.90 | | 1.90 |
| | B | 48.39 | | 48.39 |
| | C | 52.91 | | 52.91 |
| | D | 23.70 | | 23.70 |
| | E | 1.73 | | 1.73 |
| Einw. Qk.N_E1 | A | -1.56 | | 0.28 |
| | B | -0.69 | | 17.13 |
| | C | -0.47 | | 18.83 |
| | D | -5.51 | | 1.26 |
| | E | -1.95 | | 0.75 |
| Einw. Qk.N_DA | A | -2.35 | | 5.46 |
| | B | -1.45 | | 29.88 |
| | C | -1.53 | | 30.71 |
| | D | -3.77 | | 11.17 |
| | E | -2.15 | | 3.91 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ 2.14

GHU `VYfcb!8 i fW`U Zf}[Yf

Verankerungslänge: Ist für UZ-2.14 in Achse 7 zu beachten.

Die Verankerungslänge darf maximal $25 \text{ cm} - 3 \text{ cm} = 22 \text{ cm}$ betragen.

unten:

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 50 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 50 \text{ cm} \cdot 4,69 \text{ cm}^2 / 9,24 \text{ cm}^2 \quad \mathbf{19,2 \text{ cm}} \quad l_{b,min}$$

$$l_{b,min} = 0,3 \cdot l_{b,rqd} = 0,3 \cdot 0,7 \cdot 50 \text{ cm} = 10,5 \text{ cm} \quad 10 \varnothing_l = 14 \text{ cm}$$

-> $l_{bd} = 19,2 \text{ cm}$

oben:

Es ist eine Verankerung mit Haken für die obere Längsbewehrung erforderlich.

$$l_{b,rqd} = 71 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 71 \text{ cm} \cdot 4,69 \text{ cm}^2 / 10,8 \text{ cm}^2 \quad \mathbf{21,6 \text{ cm}} \quad l_{b,min}$$

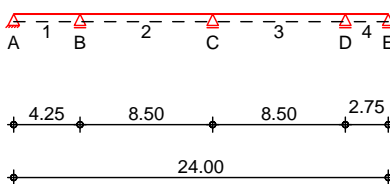
$$l_{b,min} = 0,3 \cdot 0,7 \cdot l_{b,rqd} = 0,3 \cdot 0,7 \cdot 71 \text{ cm} = 14,9 \text{ cm} \quad 10 \varnothing_l = 14 \text{ cm}$$

-> $l_{bd} = 21,6 \text{ cm}$

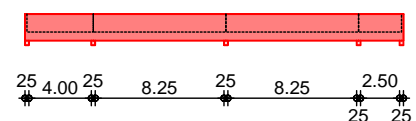
System

M 1 : 485

Ræäääæ→ä\ã†&æã
System



Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 4.25 | C 30/37 | 25.0/170.0 |
| 2-3 | 8.50 | | |
| 4 | 2.75 | | |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 4.25 | 25.0 | Beton | fest |
| C | 12.75 | 25.0 | Beton | fest |
| D | 21.25 | 25.0 | Beton | fest |
| E | 24.00 | 25.0 | Beton | fest |

U-47

Q_z & b_a | & æ^{ÄÄÄÄÄÄÄÄÄÄ}

| Feld | Fuge | Z _F [cm] | Y _{fl} Y _Y | N _d YSD ↑ ↑ Y _Y |
|------|-------|------------------------|-----------------------------------|--|
| 1 | glatt | 115.0 | 90 | 0.00 |
| 2 | glatt | 115.0 | 90 | 0.00 |
| 3 | glatt | 115.0 | 90 | 0.00 |
| 4 | glatt | 115.0 | 90 | 0.00 |

Belastungen

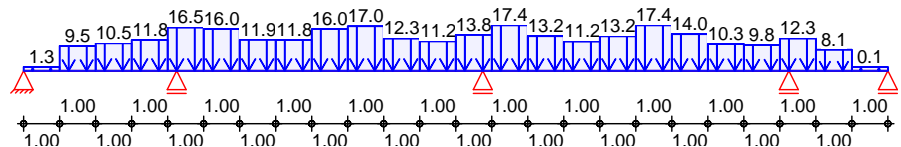
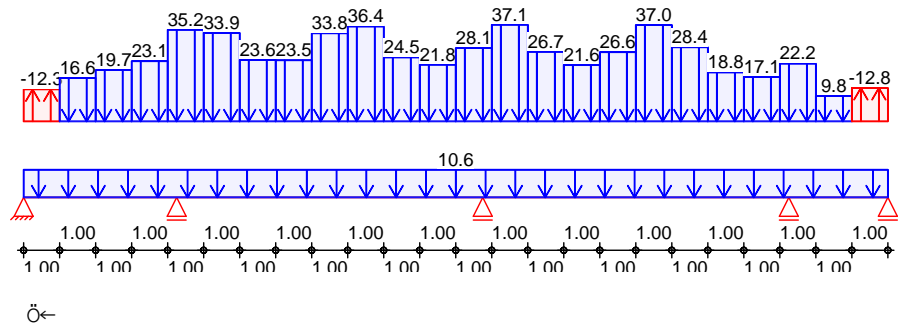
Belastungen auf das System

Grafik

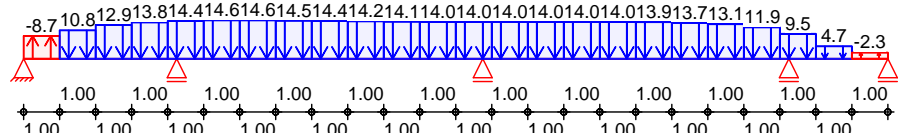
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

G_k



Q_k . N_{DA}



Streckenlasten in z-Richtung

Trapezlasten

Einw. G_k

| Feld | Komm. | a [m] | s [m] | Q _{1i} [kN/m] | Q _{re} [kN/m] |
|-------|-------------------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 24.00 | | 10.62 |
| (a) 1 | UZ 2.14: G _k | 0.00 | 1.00 | -12.29 | -12.29 |
| (a) 1 | UZ 2.14: G _k | 1.00 | 1.00 | 16.64 | 16.64 |
| (a) 1 | UZ 2.14: G _k | 2.00 | 1.00 | 19.70 | 19.70 |
| (a) 1 | UZ 2.14: G _k | 3.00 | 1.00 | 23.11 | 23.11 |
| (a) 1 | UZ 2.14: G _k | 4.00 | 1.00 | 35.19 | 35.19 |
| (a) 1 | UZ 2.14: G _k | 5.00 | 1.00 | 33.94 | 33.94 |
| (a) 1 | UZ 2.14: G _k | 6.00 | 1.00 | 23.62 | 23.62 |
| (a) 1 | UZ 2.14: G _k | 7.00 | 1.00 | 23.47 | 23.47 |
| (a) 1 | UZ 2.14: G _k | 8.00 | 1.00 | 33.81 | 33.81 |
| (a) 1 | UZ 2.14: G _k | 9.00 | 1.00 | 36.41 | 36.41 |
| (a) 1 | UZ 2.14: G _k | 10.00 | 1.00 | 24.53 | 24.53 |
| (a) 1 | UZ 2.14: G _k | 11.00 | 1.00 | 21.76 | 21.76 |
| (a) 1 | UZ 2.14: G _k | 12.00 | 1.00 | 28.15 | 28.15 |
| (a) 1 | UZ 2.14: G _k | 13.00 | 1.00 | 37.11 | 37.11 |
| (a) 1 | UZ 2.14: G _k | 14.00 | 1.00 | 26.74 | 26.74 |
| (a) 1 | UZ 2.14: G _k | 15.00 | 1.00 | 21.61 | 21.61 |
| (a) 1 | UZ 2.14: G _k | 16.00 | 1.00 | 26.56 | 26.56 |
| (a) 1 | UZ 2.14: G _k | 17.00 | 1.00 | 37.00 | 37.00 |
| (a) 1 | UZ 2.14: G _k | 18.00 | 1.00 | 28.44 | 28.44 |
| (a) 1 | UZ 2.14: G _k | 19.00 | 1.00 | 18.77 | 18.77 |
| (a) 1 | UZ 2.14: G _k | 20.00 | 1.00 | 17.08 | 17.08 |
| (a) 1 | UZ 2.14: G _k | 21.00 | 1.00 | 22.17 | 22.17 |
| (a) 1 | UZ 2.14: G _k | 22.00 | 1.00 | 9.76 | 9.76 |

U-48

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|------------------|----------|----------|---------------------------|---------------------------|
| Einw. Im | (a) 1 | UZ 2.14: Gk | 23.00 | 1.00 | -12.83 | -12.83 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 0.00 | 1.00 | 1.34 | 1.34 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 1.00 | 1.00 | 9.51 | 9.51 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 2.00 | 1.00 | 10.50 | 10.50 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 3.00 | 1.00 | 11.77 | 11.77 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 4.00 | 1.00 | 16.54 | 16.54 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 5.00 | 1.00 | 16.01 | 16.01 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 6.00 | 1.00 | 11.88 | 11.88 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 7.00 | 1.00 | 11.83 | 11.83 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 8.00 | 1.00 | 15.99 | 15.99 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 9.00 | 1.00 | 17.05 | 17.05 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 10.00 | 1.00 | 12.31 | 12.31 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 11.00 | 1.00 | 11.22 | 11.22 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 12.00 | 1.00 | 13.78 | 13.78 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 13.00 | 1.00 | 17.38 | 17.38 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 14.00 | 1.00 | 13.23 | 13.23 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 15.00 | 1.00 | 11.18 | 11.18 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 16.00 | 1.00 | 13.17 | 13.17 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 17.00 | 1.00 | 17.37 | 17.37 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 18.00 | 1.00 | 14.01 | 14.01 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 19.00 | 1.00 | 10.27 | 10.27 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 20.00 | 1.00 | 9.85 | 9.85 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 21.00 | 1.00 | 12.33 | 12.33 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 22.00 | 1.00 | 8.07 | 8.07 |
| | (a) 1 | ÜXÁGÈFHÍÁ Ö← | 23.00 | 1.00 | 0.12 | 0.12 |
| Einw. Qk.N_DA | (a) 1 | UZ 2.14: Qk.N_DA | 0.00 | 1.00 | -8.68 | -8.68 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 1.00 | 1.00 | 10.80 | 10.80 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 2.00 | 1.00 | 12.86 | 12.86 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 3.00 | 1.00 | 13.81 | 13.81 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 4.00 | 1.00 | 14.37 | 14.37 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 5.00 | 1.00 | 14.59 | 14.59 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 6.00 | 1.00 | 14.59 | 14.59 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 7.00 | 1.00 | 14.49 | 14.49 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 8.00 | 1.00 | 14.36 | 14.36 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 9.00 | 1.00 | 14.22 | 14.22 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 10.00 | 1.00 | 14.11 | 14.11 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 11.00 | 1.00 | 14.02 | 14.02 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 12.00 | 1.00 | 13.98 | 13.98 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 13.00 | 1.00 | 13.96 | 13.96 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 14.00 | 1.00 | 13.98 | 13.98 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 15.00 | 1.00 | 14.00 | 14.00 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 16.00 | 1.00 | 14.00 | 14.00 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 17.00 | 1.00 | 13.93 | 13.93 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 18.00 | 1.00 | 13.70 | 13.70 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 19.00 | 1.00 | 13.15 | 13.15 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 20.00 | 1.00 | 11.92 | 11.92 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 21.00 | 1.00 | 9.50 | 9.50 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 22.00 | 1.00 | 4.72 | 4.72 |
| | (a) 1 | UZ 2.14: Qk.N_DA | 23.00 | 1.00 | -2.33 | -2.33 |

(a) aus Pos. 'D-2.OG - UZ 2.14'

Kombi nati onen

| Ek | (* *EW) | |
|----|----------|---------------------------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← |
| 2 | 1.00*Gk | ÉFÈÈÈÈ Ö← +1.50*Qk.N_DA (1,3) |
| 3 | 1.35*Gk | ÉFÈÈÈÈ Ö← +1.50*Qk.N_DA (2,4) |
| 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← +1.50*Qk.N_DA (3) |
| 5 | 1.35*Gk | ÉFÈÈÈÈ Ö← +1.50*Qk.N_DA (1,2,4) |
| 6 | 1.35*Gk | ÉFÈÈÈÈ Ö← +1.50*Qk.N_DA (2,3) |
| 7 | 1.00*Gk | ÉFÈÈÈÈ Ö← +1.50*Qk.N_DA |

| Ek | (* *EW) | | |
|----|----------|-----------|--------------------------|
| 8 | 1.00*Gk | ÉFÈÈÈÈ Ö← | (1,4) +1.50*Qk.N_DA |
| 9 | 1.35*Gk | ÉFÈĞIE Ö← | (1,2,4) +1.50*Qk.N_DA |
| 10 | 1.00*Gk | ÉFÈÈÈÈ Ö← | (3) +1.50*Qk.N_DA |
| 11 | 1.35*Gk | ÉFÈĞIE Ö← | (1,3,4) +1.50*Qk.N_DA |
| 12 | 1.35*Gk | ÉFÈĞIE Ö← | (2) +1.50*Qk.N_DA |
| 13 | 1.00*Gk | ÉFÈÈÈÈ Ö← | (1,3) +1.50*Qk.N_DA |
| 14 | 1.00*Gk | ÉFÈÈÈÈ Ö← | (2,4) +1.50*Qk.N_DA |
| 15 | 1.35*Gk | ÉFÈĞIE Ö← | (2) +1.50*Qk.N_DA |
| | | | (1,3,4) |

Bemessung (GZT)

àfiäÁäæ^ÁÖäæ^~ | b\á^äÄäæäÜäá&à†ä&æ↔\Á^á´äÁÆØSÁÓSÁ
1992-1-1:2011-01

Mindestmomente 5.3.2.2(3)

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -87.94 | 0.00 | -346.74 | 0.00 |
| | C | -342.47 | 0.00 | -336.74 | 0.00 |
| | D | -324.83 | 0.00 | -20.59 | 0.00 |

Bi egung

Abs. 6.1

Ñæ↑æbb | ^&ÁäfiäÁÑ↔æ&äæá^b*ã | ´å | ^&

Feld 1

| x [m] | Ek | M _{yd,o} [kNm] | x/d _o | z _o [cm] | A _{s,o} [cm ²] | A _{s,o,erf} [cm ²] |
|-------------------|----|----------------------------|------------------|------------------------|--|--|
| (L = 4.25 m) | | | | | | |
| 0.00 | 1 | - | 3.7E-4 | 164.0 | - | 4.73 _M |
| | 1 | - | 4.4E-4 | 162.7 | - | 4.72 _M |
| 0.13 _a | 3 | -3.90 | 0.005 | 163.8 | 0.05 | 4.73 _M |
| | 2 | 1.14 | 0.004 | 161.0 | 0.02 | 4.72 _M |
| 1.41* | 3 | -47.70 | 0.019 | 163.0 | 0.64 | 4.73 _M |
| | 2 | 19.39 | 0.015 | 161.8 | 0.26 | 4.72 _M |
| 4.13 _a | 5 | -393.84 | 0.060 | 160.5 | 5.38 | 5.38 |
| | 4 | -188.46 | - | - | - | 1.18 _f |
| 4.25 | 5 | -385.53 | 0.059 | 160.5 | 5.26 | 5.26 |
| | 4 | -205.21 | - | - | - | - |

Feld 2

| | | | | | | |
|-------------------|---|---------|-------|-------|------|-------------------|
| (L = 8.50 m) | | | | | | |
| 0.00 | 5 | -385.53 | 0.059 | 160.5 | 5.26 | 5.26 |
| | 4 | -205.21 | - | - | - | - |
| 0.13 _a | 5 | -377.22 | 0.059 | 160.6 | 5.15 | 5.15 |
| | 4 | -179.78 | - | - | - | 1.23 _f |
| 4.13* | 2 | 164.70 | - | - | - | - |
| | 3 | 361.90 | 0.057 | 161.0 | 4.92 | 4.92 |
| 8.38 _a | 6 | -586.29 | 0.077 | 159.2 | 8.06 | 8.06 |
| | 7 | -328.98 | - | - | - | 1.23 _f |
| 8.50 | 6 | -585.71 | 0.077 | 159.2 | 8.06 | 8.06 |
| | 7 | -357.81 | - | - | - | - |

Feld 3

| | | | | | | |
|-------------------|----|---------|-------|-------|------|-------------------|
| (L = 8.50 m) | | | | | | |
| 0.00 | 6 | -585.71 | 0.077 | 159.2 | 8.06 | 8.06 |
| | 7 | -357.81 | - | - | - | - |
| 0.13 _a | 6 | -585.13 | 0.077 | 159.2 | 8.05 | 8.05 |
| | 7 | -327.74 | - | - | - | 1.18 _f |
| 1.65 | 11 | -112.56 | 0.030 | 162.4 | 1.52 | 4.73 _M |
| | 10 | - | - | - | - | 4.72 _M |
| 4.47* | 13 | 160.41 | - | - | - | - |
| | 12 | 340.28 | 0.055 | 161.1 | 4.63 | 4.72 _M |
| 8.38 _a | 15 | -364.92 | 0.057 | 160.6 | 4.98 | 4.98 |
| | 14 | -164.65 | - | - | - | 1.18 _f |

| | x | Ek | $M_{y,d,o}$ $M_{y,d,u}$ | x/d_o x/d_u | z_o z_u | $A_{s,o}$ $A_{s,u}$ | $A_{s,o,erf}$ $A_{s,u,erf}$ |
|--------|------------------------|----|----------------------------|--------------------|----------------|------------------------|--------------------------------|
| | [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| | 8.50 | 15 | -372.29 | 0.058 | 160.6 | 5.08 | 5.08 |
| | | 14 | -185.77 | - | - | - | - |
| Feld 4 | $(L = 2.75 \text{ m})$ | | | | | | |
| | 0.00 | 15 | -372.29 | 0.058 | 160.6 | 5.08 | 5.08 |
| | | 14 | -185.77 | - | - | - | - |
| | 0.13 _a | 15 | -379.66 | 0.059 | 160.5 | 5.18 | 5.18 |
| | | 14 | -172.13 | - | - | - | - |
| | 2.63 _a | 12 | -15.71 | 0.011 | 163.5 | 0.21 | 4.73 _M |
| | | 13 | -6.26 | - | - | - | - |
| | 2.75 | 1 | - | 3.7E-4 | 164.0 | - | 4.73 _M |
| | | 1 | - | - | - | - | - |

a: Auflagerrand
*: maximales Feldmoment
f: {æã→†^&æã\æÁÔæ→ääæ}ÊÁ^á'áÁNábÊÁÎÈGÈFÈHÇFDEÁÎÈGÈFÈGÇFD
M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

| | x | Ek | V_{Ed} | $\gamma_{fl}\ddot{Y}$ | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|--------|------------------------|----|---------------------|-----------------------|--------------|------------|----------------------|
| | [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| Feld 1 | $(L = 4.25 \text{ m})$ | | | | | | |
| | 0.00 | 3 | 31.21 | 18.4 | 1411.79 | - | - |
| | 0.13 _a | 3 | 31.16 | 18.4 | 1411.79 | - | 2.32 _M |
| | 1.41 _v | 3 | 51.05 | 18.4 | 1411.79 | 110.12 | 2.32 _M |
| | 1.77 | 3 | 68.78 | 18.4 | 1411.79 | 110.12 | 2.32 _M |
| | 2.48 _v | 5 | 111.89 | 18.4 | 1411.79 | 110.12 | 2.32 _M |
| | 4.13 _a | 5 | 111.89 _R | 18.4 | 1411.79 | - | 2.46 _F |
| | 4.25 | 5 | 111.89 _R | 18.4 | 1411.79 | - | - |
| Feld 2 | $(L = 8.50 \text{ m})$ | | | | | | |
| | 0.00 | 5 | 207.26 _R | 18.4 | 1411.79 | - | - |
| | 0.13 _a | 5 | 207.26 _R | 18.4 | 1411.79 | - | 5.12 _F |
| | 1.77 _v | 5 | 207.26 | 18.4 | 1414.58 | 104.71 | 2.67 _F |
| | 4.13 | 9 | 16.28 | 18.4 | 1414.58 | 104.71 | 2.32 _M |
| | 6.73 _v | 6 | 267.06 | 18.4 | 1411.79 | 110.12 | 3.97 _F |
| | 8.38 _a | 6 | 267.06 _R | 18.4 | 1411.79 | - | 5.87 _F |
| | 8.50 | 6 | 267.06 _R | 18.4 | 1411.79 | - | - |
| Feld 3 | $(L = 8.50 \text{ m})$ | | | | | | |
| | 0.00 | 6 | 248.69 _R | 18.4 | 1411.79 | - | - |
| | 0.13 _a | 6 | 248.69 _R | 18.4 | 1411.79 | - | 5.92 _F |
| | 1.77 _v | 6 | 248.69 | 18.4 | 1411.79 | 110.12 | 3.57 _F |
| | 4.47 | 11 | 23.50 | 18.4 | 1414.58 | 104.71 | 2.32 _M |
| | 6.73 _v | 15 | 212.77 | 18.4 | 1414.58 | 104.71 | 2.78 _F |
| | 8.38 _a | 15 | 212.77 _R | 18.4 | 1411.79 | - | 4.47 _F |
| | 8.50 | 15 | 212.77 _R | 18.4 | 1411.79 | - | - |
| Feld 4 | $(L = 2.75 \text{ m})$ | | | | | | |
| | 0.00 | 15 | 137.49 _R | 18.4 | 1411.79 | - | - |
| | 0.13 _a | 15 | 137.49 _R | 18.4 | 1411.79 | - | 2.32 _M |
| | 1.38 _v | 12 | 136.29 _R | 18.4 | 1411.79 | 110.12 | 2.32 _M |
| | 2.63 _a | 12 | 125.54 | 18.4 | 1411.79 | 110.12 | 2.32 _M |
| | 2.75 | 12 | 125.89 | 18.4 | 1411.79 | - | - |

a: Auflagerrand
v: Abstand d vom Auflagerrand
R: Querkraft reduziert
M: Mindestbewehrung nach Abs. 9.2.2
F: Verbundbewehrung aus Fugenbemessung

Hinweis

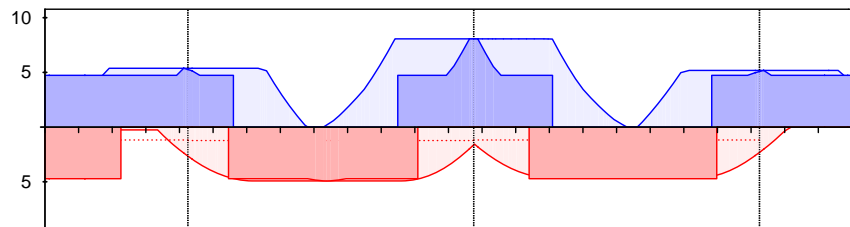
An folgenden Auflagern erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| A | rechts | Vorzeichenwechsel der Querkraft in d |
| E | links | Querkraft wirkt am Auflager abhebend |

Längsbewehrung
M 1:225

As

[cm²/m]



erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung

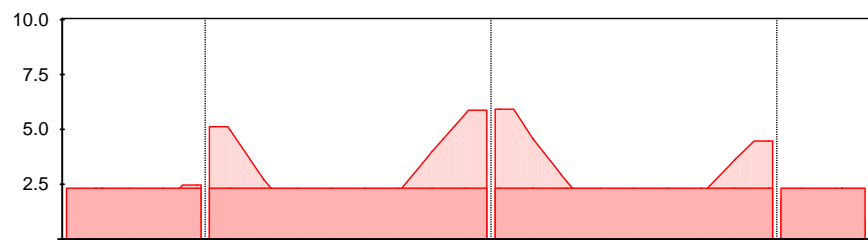
Querkraftbewehrung
M 1:225

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 24.00 | 16 | 10.0 | 2 | 10.05 |

Querkraftbewehrung
M 1:225

Asw

[cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

5i Z`U[Yf_f}ZhY

N|à→á&æã←ã†à\æÁÜã†&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|-------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | -4.80 | -4.80 |
| B | 267.03 | 267.03 |
| C | 354.59 | 354.59 |
| D | 225.47 | 225.47 |
| E | -46.83 | -46.83 |
| Einw. I _m | | |
| A | -0.24 | -0.24 |
| B | 94.82 | 94.82 |
| C | 126.07 | 126.07 |
| D | 81.72 | 81.72 |
| E | -15.65 | -15.65 |
| Einw. Q _{k,DA} | | |
| A | -16.27 | 8.89 |
| B | -11.13 | 108.07 |
| C | -1.85 | 129.90 |
| D | -15.66 | 95.77 |
| E | -27.70 | 8.02 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |

Nachweis

Ort

[-]

Biegung

OK

Querkraft

OK

Fugenbemessung

OK

Bewehrungswahl

OK

Pos. UZ 2.15

GHU `VYfcb!8 i fW `U Zf} [Yf

Verankerungslänge: Ist für UZ-2.15 auf beiden Seiten zu beachten.

Die Verankerungslänge darf maximal $25 \text{ cm} - 3 \text{ cm} = 22 \text{ cm}$ betragen.

unten:

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 50 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 50 \text{ cm} \cdot 4,69 \text{ cm}^2 / 9,24 \text{ cm}^2 \quad \mathbf{19,2 \text{ cm}} \quad l_{b,min}$$

$$l_{b,min} = 0,3 \cdot l_{b,rqd} = 0,3 \cdot 0,7 \cdot 50 \text{ cm} = 10,5 \text{ cm} \quad 10 \varnothing_l = 14 \text{ cm}$$

-> $l_{bd} = 19,2 \text{ cm}$

oben:

Es ist eine Verankerung mit Haken für die obere Längsbewehrung erforderlich.

$$l_{b,rqd} = 71 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 71 \text{ cm} \cdot 4,69 \text{ cm}^2 / 10,8 \text{ cm}^2 \quad \mathbf{21,6 \text{ cm}} \quad l_{b,min}$$

$$l_{b,min} = 0,3 \cdot 0,7 \cdot l_{b,rqd} = 0,3 \cdot 0,7 \cdot 71 \text{ cm} = 14,9 \text{ cm} \quad 10 \varnothing_l = 14 \text{ cm}$$

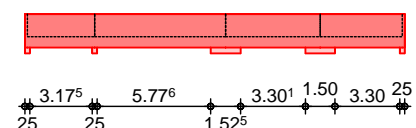
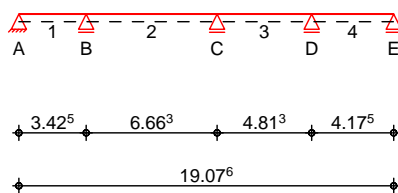
-> $l_{bd} = 21,6 \text{ cm}$

System

M 1 : 3 8 5

Ræääææ→ä\ã†&æã
System

Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 3.43 | C 30/37 | 25.0/170.0 |
| 2 | 6.66 | | |
| 3 | 4.81 | | |
| 4 | 4.18 | | |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.43 | 25.0 | Beton | fest |
| C | 10.09 | 152.5 | Beton | fest |

U-55

Schulcampus EWK \

UZ 2.15

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| D | 14.90 | 150.0 | Beton | fest |
| E | 19.08 | 25.0 | Beton | fest |

Q_z & b_a | & æ[^] Á Á Á Á Á Á Á Á Á Á

| Feld | Fuge | z_f [cm] | y_{fl} | y_{SD} | N_d |
|------|-------|---------------|----------|----------|-------|
| 1 | glatt | 115.0 | 90 | | 0.00 |
| 2 | glatt | 115.0 | 90 | | 0.00 |
| 3 | glatt | 115.0 | 90 | | 0.00 |
| 4 | glatt | 115.0 | 90 | | 0.00 |

Belastungen

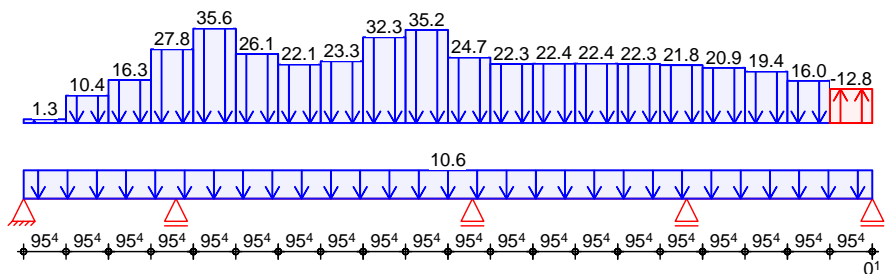
Belastungen auf das System

Grafik

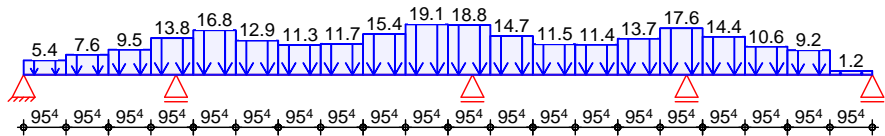
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

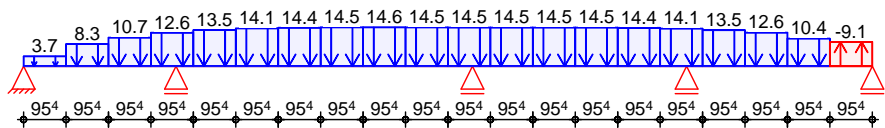
Gk



Ö←



Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | q_{li} [kN/m] | q_{re} [kN/m] |
|-------|-------------|----------|----------|--------------------|--------------------|
| 1 | Eigengew | 0.00 | 19.08 | | 10.62 |
| (a) 1 | UZ 2.15: Gk | 0.00 | 0.95 | 1.35 | 1.35 |
| (a) 1 | UZ 2.15: Gk | 0.95 | 0.95 | 10.38 | 10.38 |
| (a) 1 | UZ 2.15: Gk | 1.91 | 0.95 | 16.28 | 16.28 |
| (a) 1 | UZ 2.15: Gk | 2.86 | 0.95 | 27.81 | 27.81 |
| (a) 1 | UZ 2.15: Gk | 3.82 | 0.95 | 35.63 | 35.63 |
| (a) 1 | UZ 2.15: Gk | 4.77 | 0.95 | 26.08 | 26.08 |
| (a) 1 | UZ 2.15: Gk | 5.72 | 0.95 | 22.08 | 22.08 |
| (a) 1 | UZ 2.15: Gk | 6.68 | 0.95 | 23.29 | 23.29 |
| (a) 1 | UZ 2.15: Gk | 7.63 | 0.95 | 32.33 | 32.33 |
| (a) 1 | UZ 2.15: Gk | 8.58 | 0.95 | 35.17 | 35.17 |
| (a) 1 | UZ 2.15: Gk | 9.54 | 0.95 | 24.71 | 24.71 |
| (a) 1 | UZ 2.15: Gk | 10.49 | 0.95 | 22.33 | 22.33 |
| (a) 1 | UZ 2.15: Gk | 11.45 | 0.95 | 22.42 | 22.42 |
| (a) 1 | UZ 2.15: Gk | 12.40 | 0.95 | 22.45 | 22.45 |
| (a) 1 | UZ 2.15: Gk | 13.35 | 0.95 | 22.31 | 22.31 |
| (a) 1 | UZ 2.15: Gk | 14.31 | 0.95 | 21.83 | 21.83 |
| (a) 1 | UZ 2.15: Gk | 15.26 | 0.95 | 20.88 | 20.88 |
| (a) 1 | UZ 2.15: Gk | 16.21 | 0.95 | 19.43 | 19.43 |

U-56

| Ek | (* *EW) | | |
|----|----------|----------|--------------------------|
| 11 | 1.00*Gk | EFEE Ö | +1.50*Qk.N_DA (1,4) |
| 12 | 1.00*Gk | EFEE Ö | +1.50*Qk.N_DA (1,2,4) |
| 13 | 1.35*Gk | EFEGIE Ö | +1.50*Qk.N_DA (3) |
| 14 | 1.00*Gk | EFEE Ö | +1.50*Qk.N_DA (1,3,4) |
| 15 | 1.35*Gk | EFEGIE Ö | +1.50*Qk.N_DA (2) |
| 16 | 1.35*Gk | EFEGIE Ö | +1.50*Qk.N_DA (1,3) |
| 17 | 1.00*Gk | EFEE Ö | +1.50*Qk.N_DA (2,4) |
| 18 | 1.00*Gk | EFEE Ö | +1.50*Qk.N_DA (2) |
| 19 | 1.35*Gk | EFEGIE Ö | +1.50*Qk.N_DA (1,3,4) |

Bemessung (GZT)

1992-1-1:2011-01

Mindestmomente 5.3.2.2(3)

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -48.90 | 0.00 | -162.16 | 0.00 |
| | C | -163.81 | 0.00 | -48.72 | 0.00 |
| | D | -48.69 | 0.00 | -54.89 | 0.00 |

Biegung

Abs. 6.1

$\tilde{N} \uparrow \tilde{a} b b \mid \wedge \& \tilde{A} \tilde{a} \tilde{f} \tilde{a} \tilde{A} \tilde{N} \leftrightarrow \tilde{a} \& \tilde{a} \tilde{a} \tilde{a} \tilde{a} \wedge \tilde{b} * \tilde{a} \mid \tilde{a} \mid \wedge \&$

Feld 1

| x [m] | Ek | $M_{y,d,o}$ $M_{y,d,u}$ [kNm] | x/d_o x/d_u | z_o z_u [cm] | $A_{s,o}$ $A_{s,u}$ [cm ²] | $A_{s,o,erf}$ $A_{s,u,erf}$ [cm ²] |
|-------------------|----|-------------------------------------|--------------------|------------------------|--|--|
| (L = 3.42 m) | | | | | | |
| 0.00 | 1 | - | 3.7E-4 | 164.0 | - | 4.73 _M |
| | 1 | - | 4.4E-4 | 162.7 | - | 4.72 _M |
| 0.13 _a | 3 | -2.59 | 0.004 | 163.8 | 0.03 | 4.73 _M |
| | 2 | 1.84 | 0.004 | 162.3 | 0.02 | 4.72 _M |
| 0.70* | 5 | -19.30 | 0.012 | 163.4 | 0.26 | 4.73 _M |
| | 4 | 5.65 | 0.009 | 161.2 | 0.08 | 4.72 _M |
| 3.30 _a | 7 | -249.16 | 0.046 | 161.4 | 3.38 | 4.73 _M |
| | 6 | -130.34 | - | - | - | 1.18 _f |
| 3.42 | 7 | -241.94 | 0.045 | 161.4 | 3.28 | 4.73 _M |
| | 6 | -143.28 | - | - | - | - |

Feld 2

| | | | | | | |
|-------------------|----|---------|-------|-------|------|-------------------|
| (L = 6.66 m) | | | | | | |
| 0.00 | 7 | -241.94 | 0.045 | 161.4 | 3.28 | 4.73 _M |
| | 6 | -143.28 | - | - | - | - |
| 0.13 _a | 7 | -234.72 | 0.044 | 161.5 | 3.18 | 4.73 _M |
| | 6 | -122.39 | - | - | - | 1.18 _f |
| 1.00 | 9 | -11.33 | 0.009 | 163.5 | 0.15 | 4.73 _M |
| | 8 | - | - | - | - | 4.72 _M |
| 3.38* | 4 | 114.29 | - | - | - | - |
| | 5 | 231.39 | 0.044 | 161.8 | 3.13 | 4.72 _M |
| 5.90 _a | 10 | -163.81 | 0.036 | 162.0 | 2.22 | 4.73 _M |
| | 11 | -38.11 | - | - | - | 1.18 _f |
| 6.66 | 10 | -163.81 | 0.036 | 162.0 | 2.22 | 4.73 _M |
| | 11 | -117.75 | - | - | - | - |

Feld 3

| | | | | | | |
|-------------------|----|---------|-------|-------|------|-------------------|
| (L = 4.81 m) | | | | | | |
| 0.00 | 10 | -117.75 | 0.030 | 162.3 | 1.59 | 4.73 _M |
| | 11 | -117.75 | - | - | - | - |
| 0.76 _a | 15 | -151.94 | 0.035 | 162.0 | 2.05 | 4.73 _M |
| | 14 | -67.56 | - | - | - | 1.18 _f |
| 1.39 | 5 | -75.87 | 0.024 | 162.7 | 1.02 | 4.73 _M |
| | 4 | - | - | - | - | 4.72 _M |
| 2.74* | 17 | -1.66 | 0.003 | 163.9 | 0.02 | 4.73 _M |

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| | 16 | 65.34 | 0.022 | 163.1 | 0.88 | 4.72 _M |
| 4.06 _a | 9 | -48.69 | 0.019 | 163.0 | 0.65 | 4.73 _M |
| | 8 | 0.75 | 0.010 | 158.7 | 0.01 | 4.72 _M |
| 4.81 | 19 | -48.69 | 0.019 | 163.0 | 0.74 | 4.73 _M |
| | 18 | -25.21 | - | - | - | - |
| (L = 4.18 m) | | | | | | |
| 0.00 | 19 | -54.89 | 0.020 | 162.9 | 0.74 | 4.73 _M |
| | 18 | -25.21 | - | - | - | - |
| 0.54 | 16 | -54.89 | 0.020 | 162.9 | 0.74 | 4.73 _M |
| | 17 | - | - | - | - | 4.72 _M |
| 0.75 _a | 16 | -54.89 | 0.020 | 162.9 | 0.74 | 4.73 _M |
| | 17 | 19.17 | 0.015 | 161.6 | 0.26 | 4.72 _M |
| 2.17* | 4 | 33.62 | - | - | - | - |
| | 5 | 94.45 | 0.027 | 162.8 | 1.27 | 4.72 _M |
| 4.05 _a | 4 | 3.25 | - | - | - | 0.32 _e |
| | 5 | 6.84 | 0.007 | 164.0 | 0.09 | 4.72 _M |
| 4.17 | 1 | - | - | - | - | 0.32 _e |
| | 1 | - | 3.7E-4 | 164.3 | - | 4.72 _M |

a: Auflagerrand
*: maximales Feldmoment
e: Endauflagereinspannung nach 9.2.1.2(1)
f: {æã→+^&æã\æÃÖæ→ääæ}ÊÃ^á'áANábÊÃÎÊGÊFÊHÇFÐÊÃÎÊGÊFÊGÇFÐ
M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

| x | Ek | V _{Ed} | V _{Ed,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|---------------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | γ _{f1} Ÿ | [kN] | [cm ² /m] |
| (L = 3.42 m) | | | | | |
| 0.00 | 3 | 19.40 | 18.4 | 1411.79 | - |
| 0.13 _a | 5 | 22.18 | 18.4 | 1411.79 | 2.32 _M |
| 0.70 _v | 5 | 35.72 | 18.4 | 1411.79 | 110.12 |
| 1.71 _v | 5 | 70.18 _R | 18.4 | 1411.79 | 110.12 |
| 3.30 _a | 7 | 71.15 _R | 18.4 | 1411.79 | 2.32 _M |
| 3.42 | 7 | 71.15 _R | 18.4 | 1411.79 | - |
| (L = 6.66 m) | | | | | |
| 0.00 | 7 | 135.95 _R | 18.4 | 1411.79 | - |
| 0.13 _a | 7 | 135.95 _R | 18.4 | 1411.79 | 3.47 _F |
| 1.77 _v | 7 | 135.95 | 18.4 | 1414.58 | 104.71 |
| 3.38 | 6 | 6.26 _R | 18.4 | 1414.58 | 104.71 |
| 4.26 _v | 10 | 79.47 | 18.4 | 1414.58 | 104.71 |
| 5.90 _a | 10 | 79.47 _R | 18.4 | 1411.79 | - |
| 6.66 | 10 | 79.47 _R | 18.4 | 1411.79 | - |
| (L = 4.81 m) | | | | | |
| 0.00 | 10 | 43.80 _R | 18.4 | 1411.79 | - |
| 0.76 _a | 10 | 43.80 _R | 18.4 | 1411.79 | 2.32 _M |
| 2.41 _v | 15 | 43.80 | 18.4 | 1414.58 | 104.71 |
| 2.42 | 15 | 43.01 | 18.4 | 1414.58 | 104.71 |
| 2.74 | 15 | 23.47 | 18.4 | 1414.58 | - |
| 4.06 _a | 19 | 114.06 | 18.4 | 1411.79 | - |
| 4.81 | 19 | 179.95 _R | 18.4 | 1411.79 | - |
| (L = 4.18 m) | | | | | |
| 0.00 | 19 | 183.73 _R | 18.4 | 1411.79 | - |
| 0.75 _a | 19 | 119.74 | 18.4 | 1411.79 | 2.32 _M |
| 2.17 | 16 | 12.85 | 18.4 | 1414.58 | - |
| 2.39 _v | 5 | 15.28 | 18.4 | 1414.58 | 104.71 |
| 2.41 _v | 5 | 16.09 | 18.4 | 1414.58 | 104.71 |
| 4.05 _a | 4 | 26.04 _R | 18.4 | 1414.58 | - |
| 4.17 | 4 | 25.92 _R | 18.4 | 1414.58 | - |

a: Auflagerrand
v: Abstand d vom Auflagerrand
R: Querkraft reduziert
M: Mindestbewehrung nach Abs. 9.2.2
F: Verbundbewehrung aus Fugenbemessung

Hinweis

| Feld | gew. | As [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|-------------|--------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 6ã36 | 6.16 | -0.13 | 19.33 | 0.23 ^{mh} | 0.23 ^{mh} | 1 |
| | 5ã36 | 4.62 | -0.13 | 19.33 | 0.23 ^{mh} | 0.23 ^{mh} | 2 |

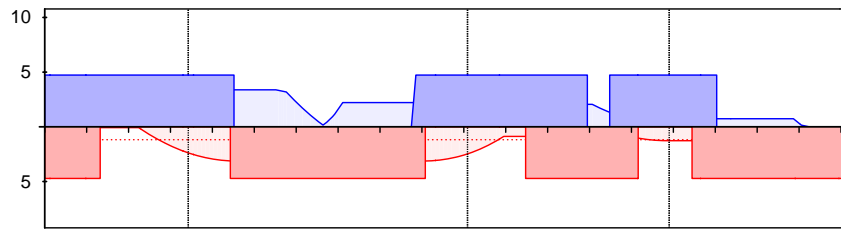
ÇQ†^&æ^Á↔^↔→ÊÄÛæää^<æä|^&b→†^&æ^ÊÄ~â^æÄU\=ßæD

†ÍÄ††ß↔æÄÛæää|^ääæä↔^&|^&æ^

h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:180

As [cm²]



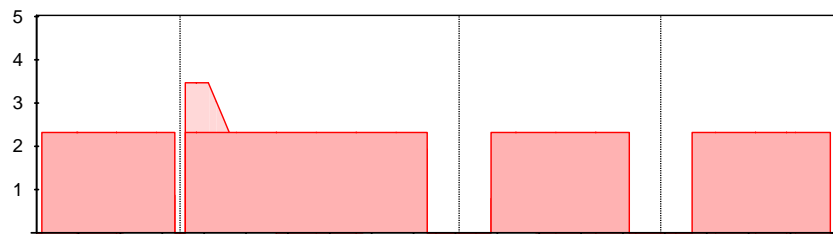
— erf. Längsbewehrung / Zugkraftdeckungsline
 verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
 — vorhandene Längsbewehrung

Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [—] | asw [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-------------|--------------|-----------------------------|
| 1 | 0.00 | 19.07 | ã: | 20.0 | 2 | 5.03 |

Querkraftbewehrung
M 1:180

Asw [cm²/m]



— erforderliche Querkraftbewehrung
 — erforderliche Fugenbewehrung
 Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
 — vorhandene Querkraftbewehrung

5i Z`U[Yf_f}ZhY

N|â→á&æã<ã†ã\æÄÛã†&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | -1.36 | -1.36 |
| B | 208.98 | 208.98 |
| C | 229.29 | 229.29 |
| D | 133.86 | 133.86 |
| E | 22.85 | 22.85 |
| Einw. I _m | | |
| A | 0.44 | 0.44 |
| B | 74.84 | 74.84 |
| C | 92.22 | 92.22 |
| D | 57.92 | 57.92 |
| E | 9.80 | 9.80 |
| Einw. Q _{k,N_DA} | | |
| A | -12.00 | 11.34 |
| B | -4.49 | 79.37 |
| C | -4.65 | 94.39 |
| D | -12.01 | 69.86 |
| E | -4.49 | 6.51 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

3.2.2 Einfeldträger

Übersicht Bewehrungswahl:

| | | |
|---------|--------|-----------------------------------|
| UZ-2.2: | unten: | 1. Lage: 3Ø12 |
| | oben: | 1. Lage: 2Ø12 |
| | quer: | Ø8/20 |
| UZ-2.3: | unten: | 1. Lage: 4Ø20 |
| | | 2. Lage: 4Ø20 |
| | | 3. Lage: 4Ø20 |
| | oben: | 1. Lage: 3Ø20 |
| | quer: | Ø10/7,5 |
| UZ-2.6: | Gurt: | Ø10/30 (in Platte oben und unten) |
| | unten: | 1. Lage: 4Ø20 |
| | | 2. Lage: 2Ø20 |
| | oben: | 1. Lage: 4Ø12 |
| | quer: | Ø10/10 |
| UZ-2.7: | Gurt: | Ø10/10 (in Platte oben und unten) |
| | unten: | 1. Lage: 4Ø12 |
| | oben: | 1. Lage: 3Ø12 |
| UZ-2.9: | quer: | Ø8/20 |
| | unten: | 1. Lage: 3Ø12 |
| | oben: | 1. Lage: 2Ø12 |
| | quer: | Ø8/20 |

Pos. UZ 2.2

GHU`VYfcb!8i fW`U Zf}[Yf

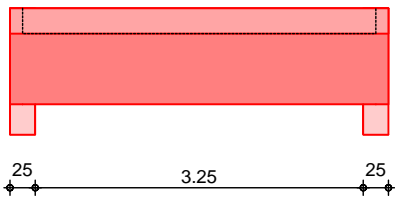
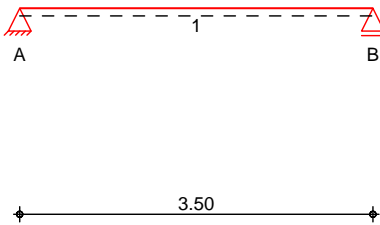
System

Ó↔^àæ→ä\ã†&æãÁÇGIEÈ€DÏIE€DĞIEÈ€D

M 1 : 75

System

Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 3.50 | 0.00 | C 30/37 | 25.0/25.0/95.0 |
| 1 | | 3.50 | | |

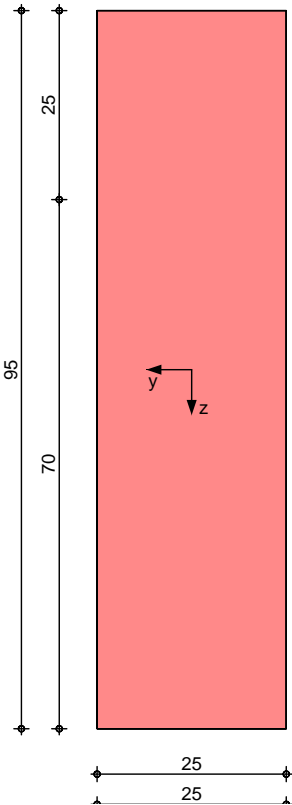
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1 : 10



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.50 | 25.0 | Beton | fest |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z _f [cm] | YfY | Nd YSD↑↑Y |
|------|-------|------------------------|-----|--------------|
| 1 | glatt | 25.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

Grafik

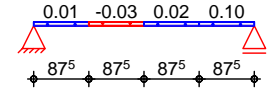
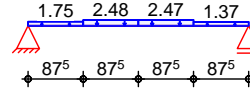
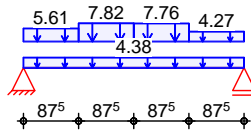
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

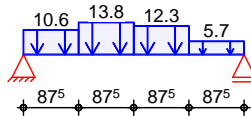
Gk

Ö←

Qk.N_E1



Qk.N_DA

Streckenlasten
in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|-----------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 3.50 | | 4.38 |
| (a) 1 | UZ 2.2: Gk | 0.00 | 0.88 | 5.61 | 5.61 |
| (a) 1 | UZ 2.2: Gk | 0.88 | 0.88 | 7.82 | 7.82 |
| (a) 1 | UZ 2.2: Gk | 1.75 | 0.88 | 7.76 | 7.76 |
| (a) 1 | UZ 2.2: Gk | 2.63 | 0.88 | 4.27 | 4.27 |
| (a) 1 | ÜXÁGÈGÍÁ Ö← | 0.00 | 0.88 | 1.75 | 1.75 |
| (a) 1 | ÜXÁGÈGÍÁ Ö← | 0.88 | 0.88 | 2.48 | 2.48 |
| (a) 1 | ÜXÁGÈGÍÁ Ö← | 1.75 | 0.88 | 2.47 | 2.47 |
| (a) 1 | ÜXÁGÈGÍÁ Ö← | 2.63 | 0.88 | 1.37 | 1.37 |
| (a) 1 | UZ 2.2: Qk.N_E1 | 0.00 | 0.88 | 0.01 | 0.01 |
| (a) 1 | UZ 2.2: Qk.N_E1 | 0.88 | 0.88 | -0.03 | -0.03 |
| (a) 1 | UZ 2.2: Qk.N_E1 | 1.75 | 0.88 | 0.02 | 0.02 |
| (a) 1 | UZ 2.2: Qk.N_E1 | 2.63 | 0.88 | 0.10 | 0.10 |
| (a) 1 | UZ 2.2: Qk.N_DA | 0.00 | 0.88 | 10.59 | 10.59 |
| (a) 1 | UZ 2.2: Qk.N_DA | 0.88 | 0.88 | 13.82 | 13.82 |
| (a) 1 | UZ 2.2: Qk.N_DA | 1.75 | 0.88 | 12.33 | 12.33 |
| (a) 1 | UZ 2.2: Qk.N_DA | 2.63 | 0.88 | 5.69 | 5.69 |

Einw. Im

Einw. Qk.N_E1

Einw. Qk.N_DA

(a)

aus Pos. 'D-2.OG - UZ 2.2'

Kombinationen

&æ†ßÁÆØSÁÓSÁFİİĞFĖFÁ | ^äÆØSÁÓSÁFİİ€

b\†^ä&D{~äfiâæ&È

| Ek | (* *EW) | | |
|----|---------------|-----------|---------------|
| 1 | 1.00*Gk | ÉFÈ€€€ Ö← | |
| 2 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |
| 3 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_E1 |
| 4 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_DA |
| 5 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_E1 |
| 6 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_DA |

Bemessung (GZT)äfiäÄäæ^ÄÖäæ^~ | b\á^äÄäæÄÜä&à†ä&æ^Ä^á^äÆØSÁÓSÁ
1992-1-1:2011-01Bi egung

Ñæ†æbb | ^&ÄäfiäÄÑæ&äæá^b*ä | ^ä | ^&

Abs. 6.1

Feld 1

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 3.50 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 0.34 _e |
| | 1 | - | 0.001 | 90.6 | - | 2.67 _M |
| 0.13 _a | 1 | 2.77 | - | - | - | 0.34 _e |
| | 2 | 7.43 | 0.013 | 90.2 | 0.18 | 2.67 _M |
| 1.71* | 1 | 20.97 | - | - | - | - |

U-65

Schulcampus EWK \

UZ 2.2

| x | Ek | $M_{yd,o}$ | x/d_o | z_o | $A_{s,o}$ | $A_{s,o,erf}$ |
|-------------------|----|------------|---------|-------|--------------------|--------------------|
| [m] | | $M_{yd,u}$ | x/d_u | z_u | $A_{s,u}$ | $A_{s,u,erf}$ |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| | 2 | 55.58 | 0.039 | 89.4 | 1.36 | 2.67 _M |
| 3.38 _a | 1 | 2.64 | – | – | – | 0.34 _e |
| | 2 | 6.66 | 0.013 | 90.2 | 0.16 | 2.67 _M |
| 3.50 | 1 | – | – | – | – | 0.34 _e |
| | 1 | – | 0.001 | 90.6 | – | 2.67 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Feld 1

| x | Ek | V_{Ed} | $y_{fl,y}$ | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|-------------------|----|--------------------|------------|--------------|------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 3.50 m) | | | | | | |
| 0.00 | 2 | 27.34 _R | 18.4 | 779.73 | – | – |
| 0.13 _a | 2 | 27.34 _R | 18.4 | 779.73 | – | 2.32 _M |
| 1.03 _v | 2 | 27.34 | 18.4 | 779.73 | 55.27 | 2.32 _M |
| 1.71 | 3 | 0.63 _R | 18.4 | 779.73 | 55.27 | 2.32 _M |
| 2.47 _v | 6 | 29.30 | 18.4 | 779.73 | 55.27 | 2.32 _M |
| 3.38 _a | 2 | 29.30 _R | 18.4 | 779.73 | – | 2.32 _M |
| 3.50 | 2 | 29.30 _R | 18.4 | 779.73 | – | – |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

Fugenbemessung

| x | V_{Ed} | V_{Edi} | $V_{Rdi,max}$ | $V_{Rdi,ct}$ | $a_{sw,erf}$ |
|---|----------|-----------|---------------|--------------|----------------------|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | [cm ² /m] |
| Nöpiuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: $f_{yk} = 722$ MPa glatt (c=0.20, =0.60, =0.20) | | | | | |
| 0.78 | 36.64 | 40.89 | 425.00 | 56.67 | – |
| 1.03 _v | 27.34 | 30.55 | 425.00 | 56.67 | – |
| 2.47 _v | –29.30 | 32.73 | 425.00 | 56.67 | – |
| 2.72 | –37.34 | 41.65 | 425.00 | 56.67 | – |

Anschluss der Gurte

| Feld | Ek | x_A | x_E | #R | #Oc | Anteil | #Öd |
|------|----|-------|-------|-------|------|-------------------|------|
| | | [m] | [m] | [kNm] | [kN] | je Gurt | [kN] |
| 1 | 1 | 0.00 | 0.88 | 15.5 | 17.4 | 0.00 ^D | 0.0 |
| | 1 | 1.75 | 2.63 | 5.8 | 6.5 | 0.00 ^D | 0.0 |

D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Querbewehrung

| Feld | Ek | x_A | x_E | v_{Ed} | $v_{Rd,max}$ | $a_{sf,erf}$ |
|------|----|-------|-------|----------------------|----------------------|----------------------|
| | | [m] | [m] | [N/mm ²] | [N/mm ²] | [cm ² /m] |
| 1 | 1 | 0.00 | 0.88 | 0.000 | 0.000 | 0.00 |
| | | 1.75 | 2.63 | 0.000 | 0.000 | 0.00 |

Ö|ä\ä^b^ä→|bb←ä†ä\äÄÇ†äß&äâä^äÄNâb^ä^↔\\bää\ä^D
 unten in die Platte einzulegen. Die Bewehrung aus
 T|äâä↔ä&|^ÄäääääÄ&ä††ßÄJEGEHÇIDää&äâä^ä^äÄwerden.

Bewehrungswahl

untere
 $Q†^ä&bâä\äâ|^ä&$

| Feld | gew. | A_s | a | l | $l_{bd,l}$ | $l_{bd,r}$ | Lage |
|------|-------------|--------------------|-------|------|-------------------|-------------------|------|
| | | [cm ²] | [m] | [m] | [m] | [m] | |
| 1 | 5ã34 | 3.39 | –0.13 | 3.75 | 0.14 ^h | 0.14 ^h | 1 |

ÇQ†^ä&ä^Ä↔↔ÄÄÜäää^äâ|^ä&b→†^ä&ä^ÄÄ~ä^äÄU\=ßäD

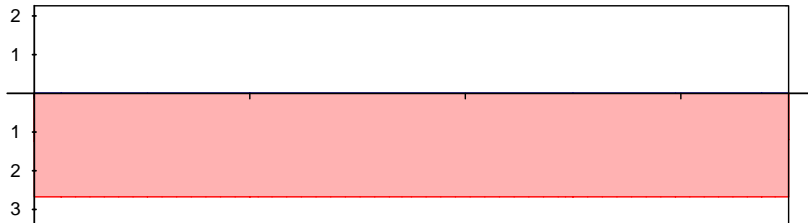
h: gesonderte Verankerungsform erforderlich

~âæãæÁQ†^&bâæ}æãã|^&

| Feld | gew. | As [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 4â34 | 2.26 | -0.13 | 3.75 | 0.14 ^h | 0.14 ^h | 1 |

ÇQ†^&æ^Á↔↔→ÈÄÜæãá^<æã|^&b→†^&æ^ÊÁ~â^æÁU\=ßæD
h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:35

As [cm²]

erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung

Querkraftbewehrung
ÇÑfi&æ→D

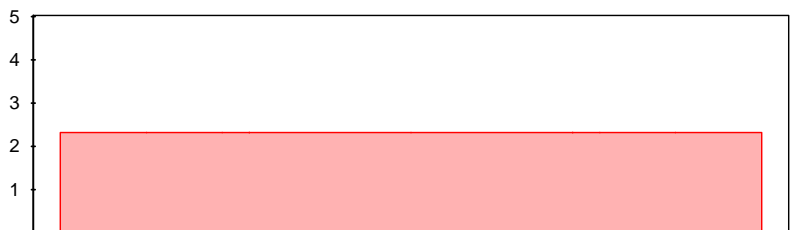
| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | asw [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|-----------------------------|
| 1 | 0.00 | 3.50 | â: | 20.0 | 2 | 5.03 |

Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | asf [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|-----------------------------|
| 1 | 0.00 | 1.75 | 0 | 0.0 | - |
| | 1.75 | 3.50 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:35

Asw [cm²/m]

erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

5i Z` U[Yf_f} ZhY

N|â→á&æã←ã†à\æÁÜã†&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | A 19.24 | 19.24 |
| | B 18.35 | 18.35 |
| Einw. I _m | A 3.65 | 3.65 |
| | B 3.40 | 3.40 |
| Einw. Q _{k,N_E1} | A 0.01 | 0.01 |
| | B 0.08 | 0.08 |
| Einw. Q _{k,N_DA} | A 20.33 | 20.33 |
| | B 16.79 | 16.79 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ 2.3

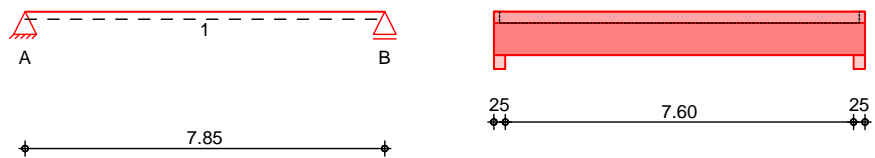
GHU VYfcb!8 i fW U Zf} [Yf

Unterzug ist mit **rauer Fuge** herzustellen.

System

Ó↔^àæ→ä\ã‡&æãÁÇGIÈ€DÍIÈ€DÍÎIÈ€D
System Ansicht

M 1:165



Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 7.85 | 0.00 | C 30/37 | 200.0/25.0/95.0 |
| 1 | | 7.85 | | |

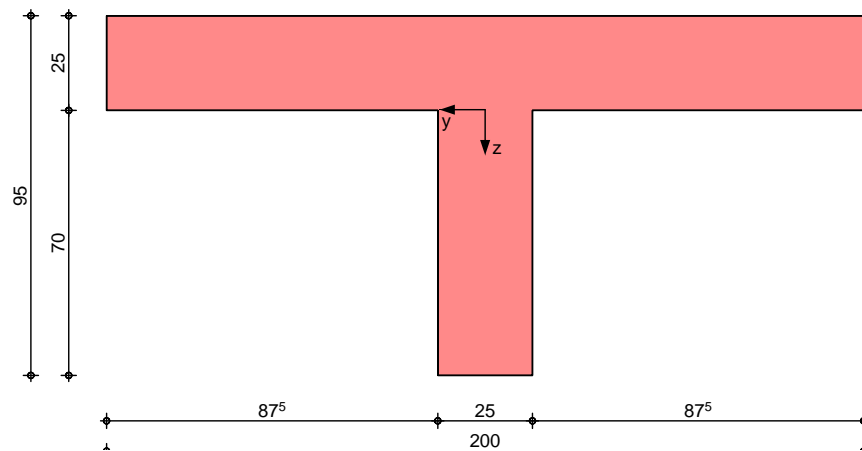
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:20



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 7.85 | 25.0 | Beton | fest |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | z_f [cm] | γ_{fl} | N_d |
|------|------|---------------|---------------|-------|
| 1 | rau | 25.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

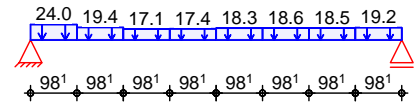
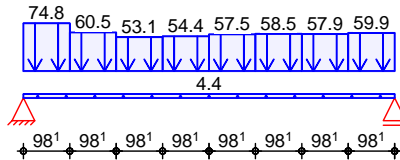
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

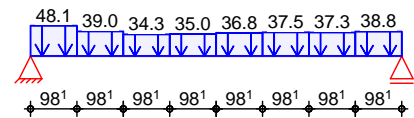
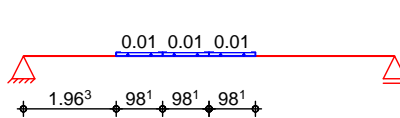
Gk

Ö←



Qk.N_E1

Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------------|-----------------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 7.85 | | 4.38 |
| (a) 1 | UZ 2.3: Gk | 0.00 | 0.98 | 74.81 | 74.81 |
| (a) 1 | UZ 2.3: Gk | 0.98 | 0.98 | 60.47 | 60.47 |
| (a) 1 | UZ 2.3: Gk | 1.96 | 0.98 | 53.11 | 53.11 |
| (a) 1 | UZ 2.3: Gk | 2.94 | 0.98 | 54.43 | 54.43 |
| (a) 1 | UZ 2.3: Gk | 3.93 | 0.98 | 57.48 | 57.48 |
| (a) 1 | UZ 2.3: Gk | 4.91 | 0.98 | 58.48 | 58.48 |
| (a) 1 | UZ 2.3: Gk | 5.89 | 0.98 | 57.92 | 57.92 |
| (a) 1 | UZ 2.3: Gk | 6.87 | 0.98 | 59.86 | 59.86 |
| (a) 1 | ÜXÁGÈĜİÁ Ö← | 0.00 | 0.98 | 24.01 | 24.01 |
| (a) 1 | ÜXÁGÈĜİÁ Ö← | 0.98 | 0.98 | 19.43 | 19.43 |
| (a) 1 | ÜXÁGÈĜİÁ Ö← | 1.96 | 0.98 | 17.07 | 17.07 |
| (a) 1 | ÜXÁGÈĜİÁ Ö← | 2.94 | 0.98 | 17.45 | 17.45 |
| (a) 1 | ÜXÁGÈĜİÁ Ö← | 3.93 | 0.98 | 18.35 | 18.35 |
| (a) 1 | ÜXÁGÈĜİÁ Ö← | 4.91 | 0.98 | 18.64 | 18.64 |
| (a) 1 | ÜXÁGÈĜİÁ Ö← | 5.89 | 0.98 | 18.51 | 18.51 |
| (a) 1 | ÜXÁGÈĜİÁ Ö← | 6.87 | 0.98 | 19.20 | 19.20 |
| Einw. Qk.N_E1 | 1 | UZ 2.3: Qk.N_E1 | 1.96 | 0.01 | 0.01 |
| (a) 1 | 1 | UZ 2.3: Qk.N_E1 | 2.94 | 0.01 | 0.01 |
| (a) 1 | 1 | UZ 2.3: Qk.N_E1 | 3.93 | 0.01 | 0.01 |
| Einw. Qk.N_DA | (a) 1 | UZ 2.3: Qk.N_DA | 0.00 | 48.11 | 48.11 |
| (a) 1 | 1 | UZ 2.3: Qk.N_DA | 0.98 | 38.97 | 38.97 |
| (a) 1 | 1 | UZ 2.3: Qk.N_DA | 1.96 | 34.28 | 34.28 |
| (a) 1 | 1 | UZ 2.3: Qk.N_DA | 2.94 | 35.05 | 35.05 |
| (a) 1 | 1 | UZ 2.3: Qk.N_DA | 3.93 | 36.84 | 36.84 |
| (a) 1 | 1 | UZ 2.3: Qk.N_DA | 4.91 | 37.47 | 37.47 |
| (a) 1 | 1 | UZ 2.3: Qk.N_DA | 5.89 | 37.32 | 37.32 |
| (a) 1 | 1 | UZ 2.3: Qk.N_DA | 6.87 | 38.78 | 38.78 |

(a)

aus Pos. 'D-2.OG - UZ 2.3'

Kombinationen

&æ†‡BÁÆØSÁÓŠÁFİİĞĖĖĖFÁ | ^äÁÆØSÁÓŠÁFİİĖ

| Ek | (* *EW) | | |
|----|---------------|----------|---------------|
| 1 | 1.00*Gk | ĖĖĖĖĖ Ö← | |
| 2 | 1.35*Gk | ĖĖĖĖĖ Ö← | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |
| 3 | 1.35*Gk | ĖĖĖĖĖ Ö← | +1.50*Qk.N_DA |
| 4 | 1.00*Gk | ĖĖĖĖĖ Ö← | +1.50*Qk.N_E1 |

Mat./Querschnitt

Material- und Querschnittswerte nach DIN EN 1992-1-1:2011-01

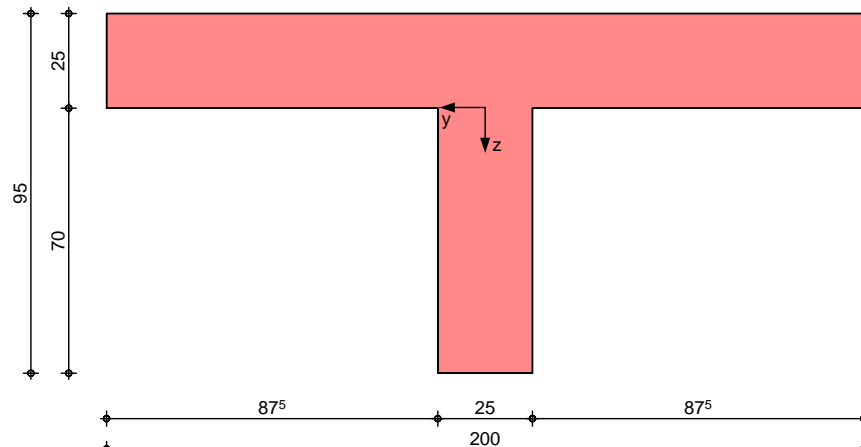
Querschnitt

| Art | b_{eff} [cm] | b_w [cm] | h [cm] | h_f [cm] | I_y [cm ⁴] |
|-------------------|-------------------|---------------|-------------|---------------|-----------------------------|
| PB | 200.0 | 25.0 | 95.0 | 25.0 | 3899769 |
| PB: Plattenbalken | | | | | |
| o: Platte oben | | | | | |

Grafik

Querschnittsgrafik [cm]

M 1:20



Bemessung (GZT)

1992-1-1:2011-01

Belastung

Abs. 6.1

1992-1-1:2011-01

Feld 1

| x | Ek | $M_{yd,o}$ | x/d_o | z_o | $A_{s,o}$ | $A_{s,o,erf}$ |
|-------------------|----|------------|---------|---------------|---------------------------------|-------------------------------------|
| [m] | | [kNm] | x/d_u | z_u [cm] | $A_{s,u}$ [cm ²] | $A_{s,u,erf}$ [cm ²] |
| (L = 7.85 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 8.04 _e |
| | 1 | - | 2.5E-4 | 86.0 | - | 12.89 _q |
| 0.13 _a | 1 | 40.93 | - | - | - | 8.04 _e |
| | 2 | 83.63 | 0.017 | 85.5 | 2.14 | 12.89 _q |
| 3.95* | 1 | 615.56 | - | - | - | - |
| | 2 | 1256.33 | 0.076 | 83.5 | 32.94 | 32.94 |
| 7.73 _a | 1 | 39.08 | - | - | - | 8.04 _e |
| | 2 | 79.81 | 0.016 | 85.5 | 2.04 | 12.19 _q |
| 7.85 | 1 | - | - | - | - | 8.04 _e |
| | 1 | - | 2.5E-4 | 86.0 | - | 12.19 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

1992-1-1:2011-01

Feld 1

| x | Ek | V_{Ed} | γ_{fl} | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|-------------------|----|---------------------|---------------|--------------|------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 7.85 m) | | | | | | |
| 0.00 | 2 | 474.14 _R | 30.1 | 1070.48 | - | - |
| 0.13 _a | 2 | 474.14 _R | 30.1 | 1070.48 | - | 15.53 _F |
| 0.99 _v | 2 | 474.14 | 30.1 | 1070.48 | 119.41 | 13.67 _F |
| 3.95 | 3 | 1.34 _R | 18.4 | 740.14 | 119.41 | 2.32 _M |
| 6.86 _v | 2 | 480.95 | 30.3 | 1073.75 | 119.41 | 13.91 _F |
| 7.73 _a | 2 | 480.95 _R | 30.3 | 1073.75 | - | 15.42 _F |
| 7.85 | 2 | 480.95 _R | 30.3 | 1073.75 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2
F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} [mm] |
|--|-------------------------|----------------------------|--------------------------------|-------------------------------|-----------------------------|
| Nöpiuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo | | | | | |
| rau (c=0.40, =0.70, =0.50) | | | | | |
| 0.74 | 526.86 | 680.69 | 1062.50 | 113.33 | 15.53 |
| 0.99 _v | 474.14 | 612.58 | 1062.50 | 113.33 | 13.67 |
| 3.29 | 102.08 | 122.13 | 1062.50 | 113.33 | 0.24 |
| 4.56 | -99.19 | 118.67 | 1062.50 | 113.33 | 0.15 |
| 6.87 _v | -480.95 | 621.39 | 1062.50 | 113.33 | 13.91 |
| 7.12 | -523.62 | 676.51 | 1062.50 | 113.33 | 15.42 |

Anschluss der Gurte

| Feld | Ek | x _A [m] | x _E [m] | #R [kNm] | #Öc [kN] | Anteil je Gurt | #Öd [kN] |
|------|----|-----------------------|-----------------------|-------------|-------------|-------------------|-------------|
| 1 | 2 | 0.00 | 1.96 | 950.7 | 1131.8 | 0.44 ^D | 495.2 |
| | 2 | 5.89 | 7.85 | 947.9 | 1128.4 | 0.44 ^D | 493.7 |

D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Querbewehrung

| Feld | Ek | x _A [m] | x _E [m] | V _{Ed} [N/mm ²] | V _{Rd,max} [N/mm ²] | a _{sf,erf} [cm ² /m] |
|------|----|-----------------------|-----------------------|---|---|---|
| 1 | 2 | 0.00 | 1.96 | 1.009 | 6.270 | 4.84 |
| | | 5.89 | 7.85 | 1.006 | 6.270 | 4.82 |

unter in die Platte einzulegen. Die Bewehrung aus T₁ in die Platte einzulegen. Die Bewehrung aus T₁ in die Platte einzulegen.

Bewehrungswahl

untere
Q₁ in die Platte einzulegen.

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 6ã42 | 12.57 | -0.13 | 8.10 | 0.15 ^h | 0.15 ^h | 1 |
| | 6ã42 | 12.57 | -0.13 | 8.10 | 0.15 ^h | 0.15 ^h | 2 |
| | 6ã42 | 12.57 | -0.13 | 8.10 | 0.15 ^h | 0.15 ^h | 3 |

h: gesonderte Verankerungsform erforderlich

~âãããQ₁ in die Platte einzulegen.

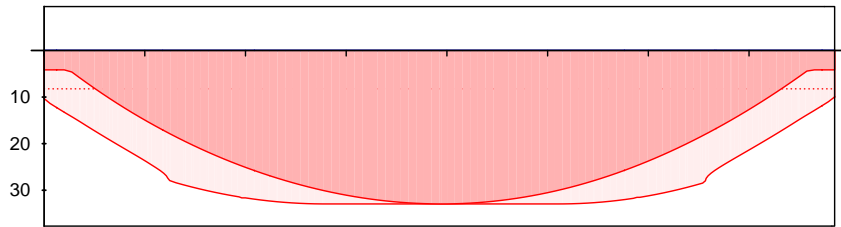
| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 5ã42 | 9.42 | -0.13 | 8.10 | 0.23 ^h | 0.23 ^h | 1 |

h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:75

As

[cm²/m]



erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung

Querkraftbewehrung
M 1:75

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 7.85 | 32 | 7.5 | 2 | 20.94 |

Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | d [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 3.93 | 10 | 30.0 | 2.62 |
| | 3.93 | 7.85 | 10 | 30.0 | 2.62 |

Querkraftbewehrung
M 1:75

Asw

[cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

Char. Auflagerkr.

Charakteristische Auflagerkräfte (je Einwirkung)

Einw. Gk

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|-------|------------------------------|------------------------------|
| A | 257.00 | 257.00 |
| B | 244.94 | 244.94 |

Einw. Im

| | | |
|---|-------|-------|
| A | 76.89 | 76.89 |
| B | 72.88 | 72.88 |

Einw. Qk.N_E1

| | | |
|---|------|------|
| A | 0.02 | 0.02 |
| B | 0.02 | 0.02 |

Einw. Qk.N_DA

| | | |
|---|--------|--------|
| A | 154.34 | 154.34 |
| B | 146.71 | 146.71 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

Ort

[-]

Expositionsklassen

OK

Biegung

OK

U-73

Schulcampus EWK \

UZ 2.3

Nachweis

Ort

[-]

Querkraft

OK

Fugenbemessung

OK

Gurtbewehrung

OK

Bewehrungswahl

OK

Pos. UZ 2.6

GHU`VYfcb!8i fW`U Zf}[Yf

Unterzug ist mit **rauer Fuge** herzustellen.

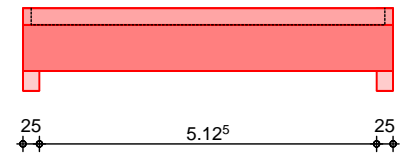
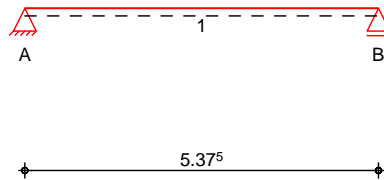
System

Ó↔^`àæ→ä\`ã†&æãÁÇGIEÈ€DİİÈ€DİĞİÈID

System

Ansicht

M 1:115



Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 5.38 | 0.00 | C 30/37 | 200.0/25.0/95.0 |
| 1 | | 5.38 | | |

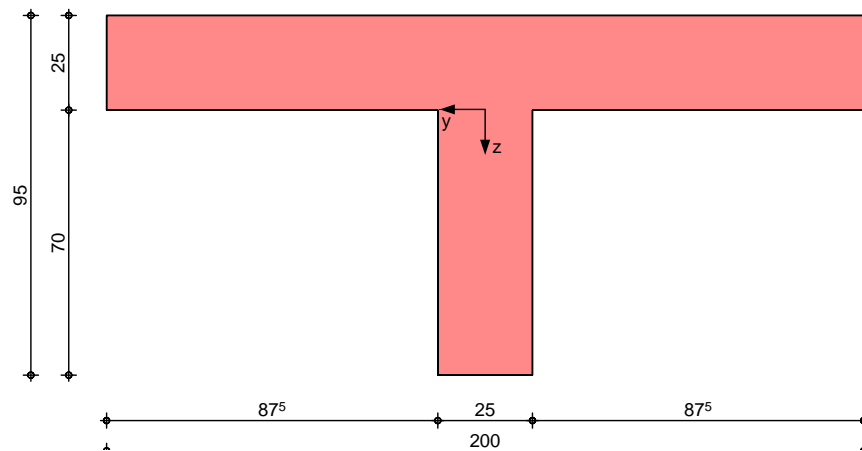
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:20



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 5.38 | 25.0 | Beton | fest |

Q†^&bà|&æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z _f [cm] | YflY | Nd YSD↑↑Y |
|------|------|------------------------|------|--------------|
| 1 | rau | 25.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

Grafik

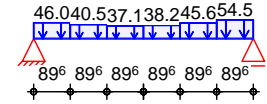
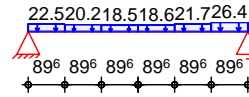
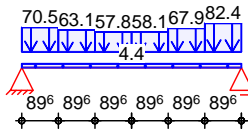
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk

Ö←

Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

Feld Komm.

a

s

Q_{li}

Q_{re}

[m]

[m]

[kN/m]

[kN/m]

| | | | | | |
|---------------|-----------------|------|------|-------|-------|
| 1 | Eigengew | 0.00 | 5.38 | | 4.38 |
| (a) 1 | UZ 2.6: Gk | 0.00 | 0.90 | 70.45 | 70.45 |
| (a) 1 | UZ 2.6: Gk | 0.90 | 0.90 | 63.09 | 63.09 |
| (a) 1 | UZ 2.6: Gk | 1.79 | 0.90 | 57.83 | 57.83 |
| (a) 1 | UZ 2.6: Gk | 2.69 | 0.90 | 58.14 | 58.14 |
| (a) 1 | UZ 2.6: Gk | 3.58 | 0.90 | 67.89 | 67.89 |
| (a) 1 | UZ 2.6: Gk | 4.48 | 0.90 | 82.39 | 82.39 |
| Einw. Im | ÜXÄGËNÍÄ Ö← | 0.00 | 0.90 | 22.54 | 22.54 |
| (a) 1 | ÜXÄGËNÍÄ Ö← | 0.90 | 0.90 | 20.17 | 20.17 |
| (a) 1 | ÜXÄGËNÍÄ Ö← | 1.79 | 0.90 | 18.48 | 18.48 |
| (a) 1 | ÜXÄGËNÍÄ Ö← | 2.69 | 0.90 | 18.60 | 18.60 |
| (a) 1 | ÜXÄGËNÍÄ Ö← | 3.58 | 0.90 | 21.74 | 21.74 |
| (a) 1 | ÜXÄGËNÍÄ Ö← | 4.48 | 0.90 | 26.39 | 26.39 |
| Einw. Qk.N_DA | UZ 2.6: Qk.N_DA | 0.00 | 0.90 | 45.98 | 45.98 |
| (a) 1 | UZ 2.6: Qk.N_DA | 0.90 | 0.90 | 40.50 | 40.50 |
| (a) 1 | UZ 2.6: Qk.N_DA | 1.79 | 0.90 | 37.08 | 37.08 |
| (a) 1 | UZ 2.6: Qk.N_DA | 2.69 | 0.90 | 38.17 | 38.17 |
| (a) 1 | UZ 2.6: Qk.N_DA | 3.58 | 0.90 | 45.58 | 45.58 |
| (a) 1 | UZ 2.6: Qk.N_DA | 4.48 | 0.90 | 54.46 | 54.46 |

(a)

aus Pos. 'D-2.OG - UZ 2.6'

Kombinationen

&æ†‡BÄËØSÄÓSÄFiiGËFËFÄ | ^äÄËØSÄÓSÄFii€

Ek (* *EW)

b\†^ä↔&Ð{~äfiäæä&Ë

| | | | |
|---|---------|-----------|---------------|
| 1 | 1.00*Gk | ÉFÈ€€€ Ö← | |
| 2 | 1.35*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_DA |
| 3 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_DA |
| 4 | 1.35*Gk | ÉFÈ€€€ Ö← | |

Bemessung (GZT)

äfiäÄäæ^ÄÖäæ^~ | b\ä^äÄäæäÜää&à†ä↔&←↔\Ä^ä^äÄËØSÄÓSÄ
1992-1-1:2011-01

Bi egung

Abs. 6.1

Ñæ†æbb | ^&ÄäfiäÄÑ↔æ&äæä^b*ä | ^ä | ^&

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | [kNm] | x/d _u | z _u | [cm ²] | [cm ²] |
| (L = 5.38 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 4.02 _e |
| | 1 | - | 2.5E-4 | 88.7 | - | 13.15 _q |
| 0.13 _a | 1 | 29.34 | - | - | - | 4.02 _e |
| | 2 | 60.23 | 0.014 | 88.3 | 1.49 | 13.15 _q |
| 2.73* | 1 | 313.91 | - | - | - | - |
| | 2 | 645.02 | 0.049 | 87.1 | 16.22 | 16.22 |
| 5.25 _a | 1 | 31.05 | - | - | - | 4.02 _e |
| | 2 | 64.09 | 0.014 | 88.2 | 1.59 | 14.00 _q |
| 5.37 | 1 | - | - | - | - | 4.02 _e |
| | 1 | - | 2.4E-4 | 88.7 | - | 14.00 _q |

a: Auflagerrand

*: maximales Feldmoment

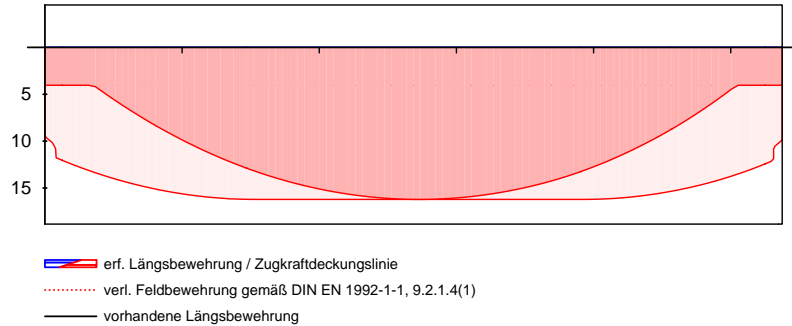
e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Längsbewehrung
M 1:55

As

[cm²/m]



Querkraftbewehrung
M 1:55

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 5.38 | 32 | 15.0 | 2 | 10.47 |

Gurtbewehrung

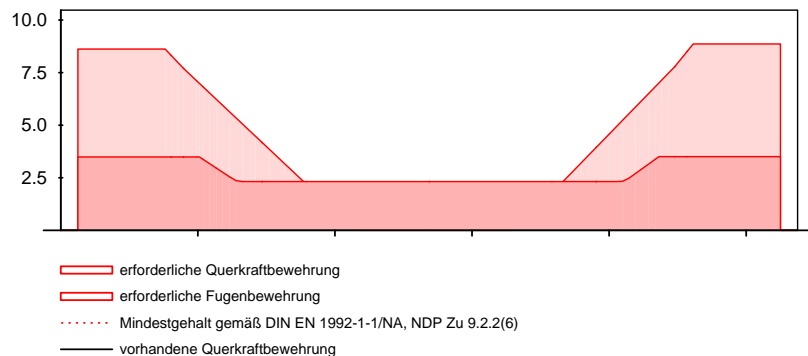
Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | d [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 2.69 | 10 | 10.0 | 7.85 |
| | 2.69 | 5.38 | 10 | 10.0 | 7.85 |

Querkraftbewehrung
M 1:55

Asw

[cm²/m]



Char. Auflagerkr.

Charakteristische Auflagerkräfte (je Einwirkung)

Einw. Gk

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|-------|------------------------------|------------------------------|
|-------|------------------------------|------------------------------|

Einw. Im

| | | |
|---|--------|--------|
| A | 185.27 | 185.27 |
| B | 196.38 | 196.38 |

Einw. Qk.N_DA

| | | |
|---|--------|--------|
| A | 55.50 | 55.50 |
| B | 59.09 | 59.09 |
| A | 112.86 | 112.86 |
| B | 121.62 | 121.62 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |

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Schulcampus EWK \

UZ 2.6

Nachweis

Ort

[-]

Gurtbewehrung

OK

Bewehrungswahl

OK

Pos. UZ 2.7

GHU `VYfcb!8 i fW `U Zf} [Yf

Verankerungslänge: Ist für UZ-2.7 in Achse B zu beachten.

Die Verankerungslänge darf maximal $25 \text{ cm} - 3 \text{ cm} = 22 \text{ cm}$ betragen.

unten:

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$l_{b,rqd} = 48 \text{ cm}$ (In Wand mit C25/30)

$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 48 \text{ cm} \cdot 2,67 \text{ cm}^2 / 4,52 \text{ cm}^2 = \mathbf{19,8 \text{ cm}}$ $l_{b,min}$

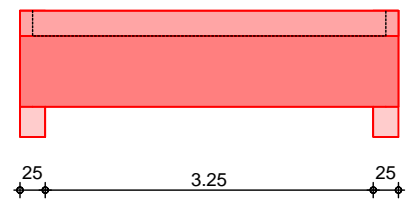
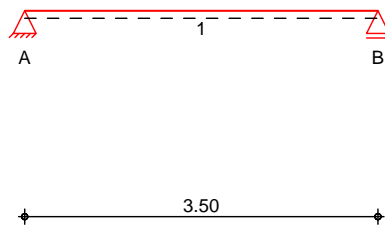
$l_{b,min} = 0,3 \cdot l_{b,rqd} = 0,3 \cdot 0,7 \cdot 48 \text{ cm} = 10,1 \text{ cm}$ $10 \varnothing_l = 12 \text{ cm}$

-> $l_{bd} = 19,8 \text{ cm}$

System

M 1 : 75

Ó↔^âæ→ä\ã†&æãÄÇGIEÈÈDÏIEÈDĞIEÈÈD
System Ansicht



Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 3.50 | 0.00 | C 30/37 | 25.0/25.0/95.0 |
| 1 | | 3.50 | | |

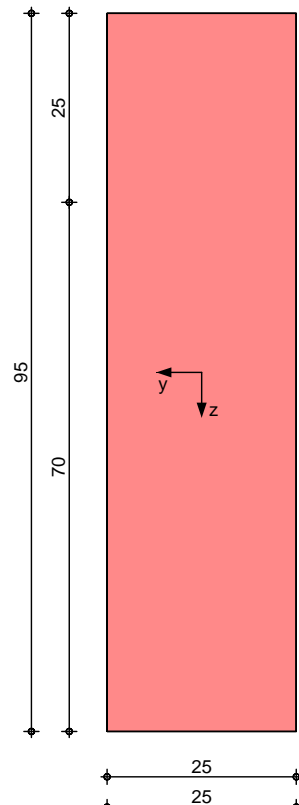
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:10



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.50 | 25.0 | Beton | fest |

Q_z & b_a | & æ^{ÄÄÄÄÄÄÄÄÄÄ}

| Feld | Fuge | z_f [cm] | $Y_{fl} \ddot{Y}$ | $Y_{SD} \uparrow \uparrow \ddot{Y}$ |
|------|-------|---------------|-------------------|-------------------------------------|
| 1 | glatt | 25.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

Grafik

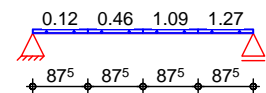
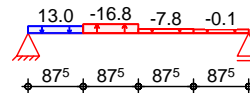
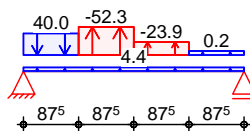
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

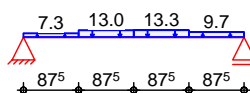
Gk

Ö←

Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

| | | Trapezlasten | | | |
|---------------|-----|--------------|-----------------|-----------------|-----------------|
| | | Feld | Komm. | a | s |
| | | | | [m] | [m] |
| | | | | Q _{li} | Q _{re} |
| | | | | [kN/m] | [kN/m] |
| Einw. Gk | | 1 | Eigengew | 0.00 | 3.50 |
| | (a) | 1 | UZ 2.7: Gk | 0.00 | 0.88 |
| | (a) | 1 | UZ 2.7: Gk | 0.88 | 0.88 |
| | (a) | 1 | UZ 2.7: Gk | 1.75 | 0.88 |
| | (a) | 1 | UZ 2.7: Gk | 2.63 | 0.88 |
| Einw. Im | (a) | 1 | ÜXÄGEÍÁ Ö← | 0.00 | 0.88 |
| | (a) | 1 | ÜXÄGEÍÁ Ö← | 0.88 | 0.88 |
| | (a) | 1 | ÜXÄGEÍÁ Ö← | 1.75 | 0.88 |
| | (a) | 1 | ÜXÄGEÍÁ Ö← | 2.63 | 0.88 |
| | (a) | 1 | ÜXÄGEÍÁ Ö← | 0.00 | 0.88 |
| Einw. Qk.N_E1 | (a) | 1 | UZ 2.7: Qk.N_E1 | 0.00 | 0.88 |
| | (a) | 1 | UZ 2.7: Qk.N_E1 | 0.88 | 0.88 |
| | (a) | 1 | UZ 2.7: Qk.N_E1 | 1.75 | 0.88 |
| | (a) | 1 | UZ 2.7: Qk.N_E1 | 2.63 | 0.88 |
| | (a) | 1 | UZ 2.7: Qk.N_E1 | 0.00 | 0.88 |
| Einw. Qk.N_DA | (a) | 1 | UZ 2.7: Qk.N_DA | 0.00 | 0.88 |
| | (a) | 1 | UZ 2.7: Qk.N_DA | 0.88 | 0.88 |
| | (a) | 1 | UZ 2.7: Qk.N_DA | 1.75 | 0.88 |
| | (a) | 1 | UZ 2.7: Qk.N_DA | 2.63 | 0.88 |
| | (a) | 1 | UZ 2.7: Qk.N_DA | 0.00 | 0.88 |

(a) aus Pos. 'D-2.OG - UZ 2.7'

Kombinationen

| | | Ek (* *EW) | | | |
|--------------------|--|-------------|---------------|-----------|---------------|
| b\†^ä↔&D{~äfiäæä&Ë | | 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| | | 2 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 |
| | | | +1.50*Qk.N_DA | | |
| | | 3 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| | | 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 |
| | | | +1.50*Qk.N_DA | | |
| | | 5 | 1.35*Gk | ÉFÈÈÈÈ Ö← | |

Bemessung (GZT)

äfiäÄäæ^ÄÖäæ^~ | b\á^äÄäæäÜäá&à†ä↔&æ↔\Á^á^äÄÖSÄÖSÄ
1992-1-1:2011-01

Belegung

Abs. 6.1

| | | Ñæ†æbb ^&ÄäfiäÄÑ↔æ&æäæ^b*ä ^á ^& | | | | | |
|--------|--|--|----|-------------------|------------------|----------------|--------------------|
| | | x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} |
| | | | | M _{yd,u} | x/d _u | z _u | A _{s,u} |
| | | [m] | | [kNm] | | [cm] | [cm ²] |
| Feld 1 | | (L = 3.50 m) | | | | | |
| | | 0.00 | 1 | - | 0.001 | 90.6 | - |
| | | | 1 | - | 0.001 | 89.1 | - |
| | | 0.13 _a | 5 | -0.60 | 0.004 | 90.5 | 0.01 |
| | | | 4 | 3.02 | 0.009 | 90.0 | 0.07 |
| | | 0.42 _* | 5 | -6.66 | 0.013 | 90.2 | 0.16 |
| | | | 4 | 5.92 | 0.014 | 89.0 | 0.14 |
| | | 1.65 | 5 | -55.83 | 0.039 | 89.4 | 1.37 |
| | | | 4 | -12.33 | - | - | - |
| | | 3.23 _* | 5 | -9.94 | 0.016 | 90.1 | 0.24 |
| | | | 4 | 0.77 | 0.011 | 86.9 | 0.02 |
| | | 3.38 _a | 5 | -4.52 | 0.010 | 90.3 | 0.11 |
| | | | 4 | 0.54 | 0.008 | 87.1 | 0.01 |
| | | 3.50 | 1 | - | 0.001 | 90.6 | - |
| | | | 1 | - | 0.001 | 89.1 | - |

a: Auflagerrand

*: maximales Feldmoment

f: {æä→†^&æä\æÄÖæ→äâæ}ÉÁ^á^áÄNâBÈÄÍÈGÈFÈHÇFDÈÄÍÈGÈFÈGÇFD

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

| | | Ñæ†æbb ^&ÄäfiäÄT æä↔ääà\äæä^b*ä ^á ^& | | | | | |
|--------|--|---|----|-----------------|---------------------|-------------------|----------------------|
| | | x | Ek | V _{Ed} | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
| | | [m] | | [kN] | YfIŸ | [kN] | [cm ² /m] |
| Feld 1 | | (L = 3.50 m) | | | | | |
| | | 0.00 | 2 | 29.11 | 18.4 | 779.73 | - |
| | | 0.13 _a | 4 | 19.91 | 18.4 | 779.73 | - |
| | | 0.42 _v | 5 | 32.13 | 18.4 | 779.73 | 55.27 |

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Schulcampus EWK \

UZ 2.7

| x [m] | Ek | V _{Ed} [kN] | γ _{fl} Ÿ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|-------------------|----|-------------------------|-------------------|-----------------------------|---------------------------|---|
| 1.03 | 5 | 54.09 | 18.4 | 779.73 | 55.27 | 2.32 _M |
| 1.65 | 2 | 3.09 | 18.4 | 779.73 | 55.27 | 2.32 _M |
| 2.47 | 5 | 35.28 | 18.4 | 779.73 | 55.27 | 2.32 _M |
| 3.23 _v | 5 | 37.42 | 18.4 | 779.73 | 55.27 | 2.32 _M |
| 3.38 _a | 5 | 36.55 | 18.4 | 779.73 | - | 2.32 _M |
| 3.50 | 5 | 35.80 | 18.4 | 779.73 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

M: Mindestbewehrung nach Abs. 9.2.2

Hinweis

An folgenden Auflagern erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| A | rechts | Vorzeichenwechsel der Querkraft in d |
| B | links | Vorzeichenwechsel der Querkraft in d |

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y ↑ Ÿ D ↑ Ÿ |
|--|-------------------------|----------------------------|--------------------------------|-------------------------------|------------------------------------|
| Nöpiuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |

| | | | | | |
|------|--------|-------|--------|-------|------|
| 0.78 | -60.44 | 74.13 | 425.00 | 56.67 | 0.56 |
| 0.87 | -67.73 | 83.06 | 425.00 | 56.67 | 0.84 |
| 1.07 | -50.76 | 56.67 | 425.00 | 56.67 | 0.00 |
| 2.72 | 40.47 | 45.10 | 425.00 | 56.67 | - |

Anschluss der Gurte

| Feld | Ek | x _A [m] | x _E [m] | #R | #Öc | Anteil je Gurt | #Öd |
|------|----|-----------------------|-----------------------|------|------|--------------------|------|
| 1 | 1 | 0.00 | 0.00 | 0.0 | 0.0 | 0.00 ^D | 0.0 |
| | 1 | 0.00 | 0.88 | 21.9 | 24.4 | -0.12 ^Z | -6.1 |
| | 2 | 0.69 | 1.39 | 21.5 | 24.0 | -0.12 ^Z | -6.0 |
| | 4 | 2.96 | 3.10 | 0.6 | 0.7 | 0.00 ^D | 0.0 |
| | 4 | 3.23 | 3.36 | 0.2 | 0.2 | 0.00 ^D | 0.0 |

D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Z: Zuggurt: Anteil aus ausgelagerter Bewehrung

Querbewehrung

| Feld | Ek | x _A [m] | x _E [m] | v _{Ed} [N/mm ²] | v _{Rd,max} [N/mm ²] | a _{sf,erf} [cm ² /m] |
|------|----|-----------------------|-----------------------|---|---|---|
| 1 | 1 | 0.00 | 0.00 | 0.000 | 0.000 | 0.00 |
| | | 0.00 | 0.88 | 0.000 | 0.000 | 0.00 |
| | 2 | 0.69 | 1.39 | 0.000 | 0.000 | 0.00 |
| | 4 | 2.96 | 3.10 | 0.000 | 0.000 | 0.00 |
| | | 3.23 | 3.36 | 0.000 | 0.000 | 0.00 |

Unter in die Platte einzulegen. Die Bewehrung aus T|æãâæ&|^&ÄääääÄ&æ†ßÄJEGEHÇIDÄ&æãæ'â^æ\Äwerden.

Bewehrungswahl

untere

Q†^&bâæ}æää|^&

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|-------------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 6ã34 | 4.52 | -0.13 | 3.75 | 0.14 ^h | 0.14 ^h | 1 |

ÇQ†^&æ^Ä&^æ→BÄÜæää^æää|^&b→†^&æ^BÄ~â^æÄU=ßæD

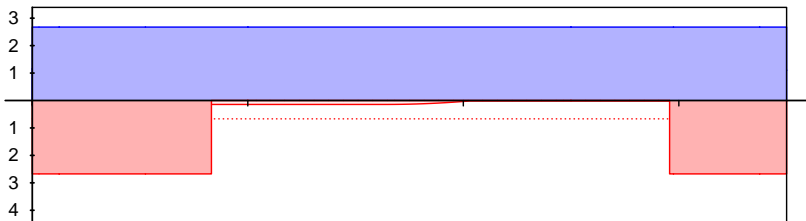
h: gesonderte Verankerungsform erforderlich

| Feld | gew. | As [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 5.34 | 3.39 | -0.13 | 3.75 | 0.14 ^h | 0.14 ^h | 1 |

h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:35

As [cm²]



erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung

Querkraftbewehrung
M 1:35

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | asw [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|-----------------------------|
| 1 | 0.00 | 3.50 | 20.0 | 2 | 5.03 | |

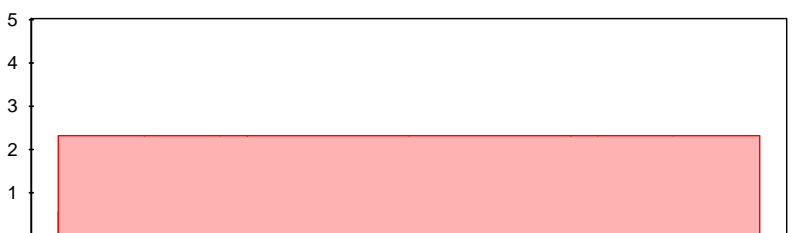
Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | s [mm] | s [cm] | asf [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|-----------------------------|
| 1 | 0.00 | 0.00 | 0 | 0.0 | - |
| | 0.00 | 3.50 | 0 | 0.0 | - |
| | 3.50 | 3.50 | 0 | 0.0 | - |
| | 3.50 | 3.23 | 0 | 0.0 | - |
| | 3.23 | 3.50 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:35

Asw [cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

Einw. Gk

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|-------|------------------------------|------------------------------|
| A | 1.82 | 1.82 |
| B | -18.10 | -18.10 |

Einw. Im

| | | |
|---|-------|-------|
| A | -1.76 | -1.76 |
| B | -8.42 | -8.42 |

Einw. Qk.N_E1

| | | |
|---|------|------|
| A | 0.84 | 0.84 |
| B | 1.73 | 1.73 |

Einw. Qk.N_DA

| | | |
|---|-------|-------|
| A | 18.11 | 18.11 |
|---|-------|-------|

| Aufl. | $F_{z,k,min}$ [kN] | $F_{z,k,max}$ [kN] |
|-------|-----------------------|-----------------------|
| B | 19.72 | 19.72 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ 2.9

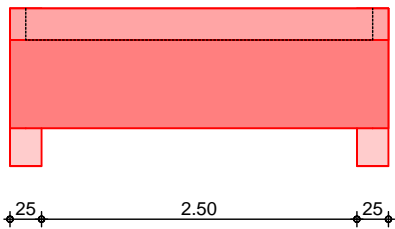
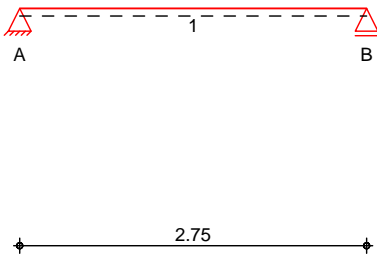
System

M 1 : 60

Systemansicht

System

Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 2.75 | 0.00 | C 30/37 | 25.0/25.0/95.0 |
| 1 | | 2.75 | | |

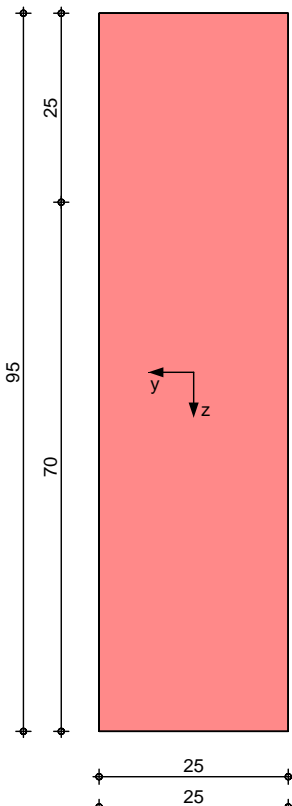
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1 : 10



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 2.75 | 25.0 | Beton | fest |

Q+^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | z_f [cm] | $y_{fl}\bar{y}$ | $y_{SD}\uparrow\bar{y}$ N_d |
|------|-------|---------------|-----------------|----------------------------------|
| 1 | glatt | 25.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

Grafik

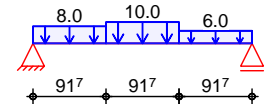
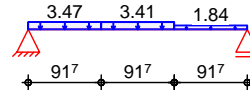
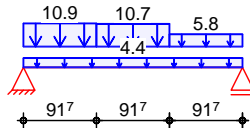
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk

Ö←

Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

| Feld | Komm. | a [m] | s [m] | q_{li} [kN/m] | q_{re} [kN/m] |
|-------|-----------------|----------|----------|--------------------|--------------------|
| 1 | Eigengew | 0.00 | 2.75 | | 4.38 |
| (a) 1 | UZ 2.9: Gk | 0.00 | 0.92 | 10.88 | 10.88 |
| (a) 1 | UZ 2.9: Gk | 0.92 | 0.92 | 10.70 | 10.70 |
| (a) 1 | UZ 2.9: Gk | 1.83 | 0.92 | 5.76 | 5.76 |
| 1 | ÜXÁGÈÏÁ Ö← | 0.00 | 0.92 | 3.47 | 3.47 |
| (a) 1 | ÜXÁGÈÏÁ Ö← | 0.92 | 0.92 | 3.41 | 3.41 |
| (a) 1 | ÜXÁGÈÏÁ Ö← | 1.83 | 0.92 | 1.84 | 1.84 |
| 1 | UZ 2.9: Qk.N_DA | 0.00 | 0.92 | 8.03 | 8.03 |
| (a) 1 | UZ 2.9: Qk.N_DA | 0.92 | 0.92 | 10.02 | 10.02 |
| (a) 1 | UZ 2.9: Qk.N_DA | 1.83 | 0.92 | 5.95 | 5.95 |

(a)

aus Pos. 'D-2.OG - UZ 2.9'

Kombinationen

&æ†BÁÆØSÁÓSÁFÏÏGÈFÈFÁ | ^áÆØSÁÓSÁFÏÏ€

b\†^ä↔&D{~äfiâæä&È

| Ek | (* *EW) | | |
|----|----------|-----------|---------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA |
| 3 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA |
| 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |

Bemessung (GZT)

äfiäÁäæ^ÁÖäæ^~ | b\á^äÄäæäÜäá&à†ä↔&æ↔\Á^á^äÆØSÁÓSÁ
1992-1-1:2011-01

Biegung

Abs. 6.1

Ñæ†æbb | ^&ÁäfiäÄÑ↔æ&æäæ^b*ä | ^á | ^&

Feld 1

| x [m] | Ek | $M_{yd,o}$ $M_{yd,u}$ [kNm] | x/d_o x/d_u | z_o z_u [cm] | $A_{s,o}$ $A_{s,u}$ [cm ²] | $A_{s,o,erf}$ $A_{s,u,erf}$ [cm ²] |
|-------------------|----|-----------------------------------|--------------------|------------------------|--|--|
| (L = 2.75 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 0.21 _e |
| | 1 | - | 0.001 | 90.6 | - | 2.67 _M |
| 0.13 _a | 1 | 2.93 | - | - | - | 0.21 _e |
| | 2 | 6.04 | 0.012 | 90.2 | 0.15 | 2.67 _M |
| 1.33* | 1 | 16.19 | - | - | - | - |
| | 2 | 34.16 | 0.030 | 89.7 | 0.83 | 2.67 _M |
| 2.63 _a | 1 | 2.47 | - | - | - | 0.21 _e |
| | 2 | 5.20 | 0.011 | 90.3 | 0.13 | 2.67 _M |
| 2.75 | 1 | - | - | - | - | 0.21 _e |
| | 1 | - | 0.001 | 90.6 | - | 2.67 _M |

a: Auflagerrand

*: maximales Feldmoment

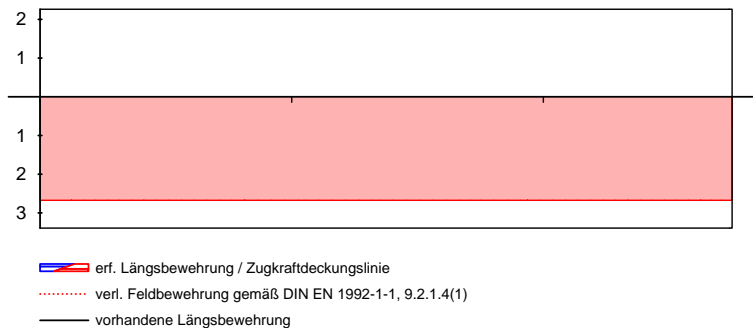
e: Endauflagereinspannung nach 9.2.1.2(1)

M: Mindestbewehrung nach Abs. 9.2.1.1

Längsbewehrung
M 1:30

As

[cm²/m]



Querkraftbewehrung
M 1:30

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 2.75 | 16 | 20.0 | 2 | 5.03 |

Gurtbewehrung

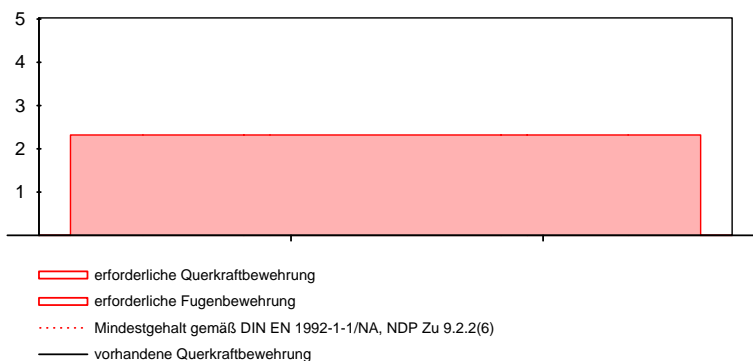
Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | d [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 1.28 | 0 | 0.0 | - |
| | 1.28 | 2.75 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:30

A_{sw}

[cm²/m]



Char. Auflagerkr.

Charakteristische Auflagerkräfte (je Einwirkung)

Einw. G_k

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|-------|------------------------------|------------------------------|
| A | 20.11 | 20.11 |
| B | 16.98 | 16.98 |
| A | 4.50 | 4.50 |
| B | 3.50 | 3.50 |
| A | 11.64 | 11.64 |
| B | 10.37 | 10.37 |

Einw. I_m

Einw. Q_{k,N,DA}

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |

U-89

Schulcampus EWK \

UZ 2.9

Nachweis

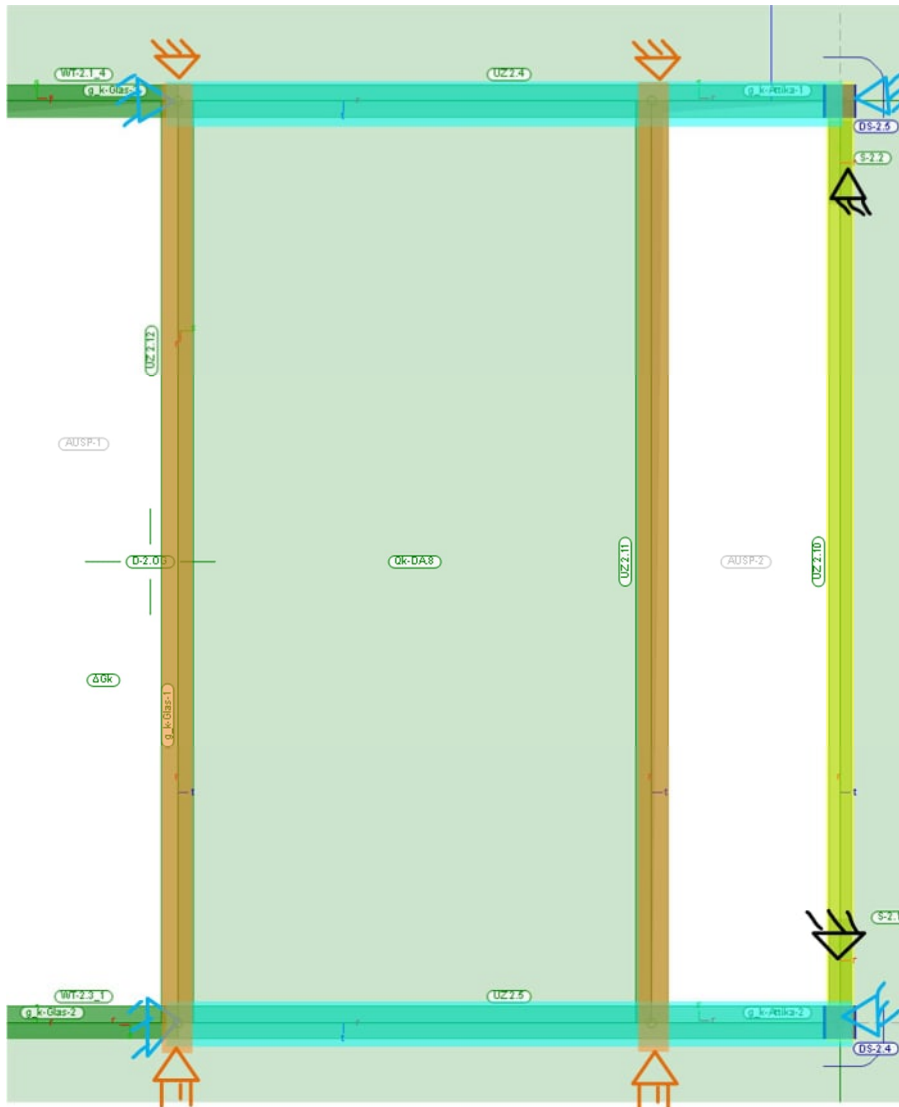
Ort

[-]

Bewehrungswahl

OK

3.2.3 Trägersystem



Das im nachfolgenden betrachtete Trägersystem bildet sich aus den Unterzügen UZ-2.11, UZ-2.12, UZ-2.4, UZ-2.5 und UZ-2.10.

UZ-2.11 (B2S III a) und UZ-2.12 (B2S III b; orange markiert) spannen als Balken auf zwei Stützen über 10 m Spannweite. UZ-2.4 (B2S II a) und UZ-2.5 (B2S II b; blau markiert) fungieren als Auflager und spannen ebenfalls als Balken auf zwei Stützen über 7,2 m. Die Auflager bilden auf der einen Seite die Wände WT-2.1_4 und WT-2.3_1, auf der anderen Seite UZ-2.10 (B2S I; gelb markiert). Dieser spannt auch als Balken auf zwei Stützen über 10 m und wird auf den Stützen S-2.1 und S-2.2 aufgelagert.

Für den Anschluss zwischen den Unterzügen wird zusätzlich ein Nachweis des Nebenträgeranschlusses erbracht.

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Übersicht der Bewehrungswahl:

| | | |
|----------|--------|--------------------------------|
| UZ-2.11: | unten: | 1. Lage: 4Ø14 2. Lage: 4Ø14 |
| | oben: | 1. Lage: 4Ø12 |
| | quer: | Ø8/20 |
| UZ-2.12: | unten: | 1. Lage: 4Ø14 2. Lage: 4Ø14 |
| | oben: | 1. Lage: 4Ø12 |
| | quer: | Ø8/20 |
| UZ-2.4: | unten: | 1. Lage: 4Ø20 2. Lage: 4Ø20 |
| | oben: | 1. Lage: 4Ø14 |
| | quer: | Ø10/10 |
| UZ-2.5: | unten: | 1. Lage: 4Ø20 2. Lage: 3Ø20 |
| | oben: | 1. Lage: 4Ø14 |
| | quer: | Ø10/12,5 |
| UZ-2.10: | unten: | 1. Lage: 4Ø14 |
| | oben: | 1. Lage: 4Ø14 |
| | quer: | Ø8/20 |

Pos. UZ 2.11

GHU`VYfcb!8i fW`U Zf}[Yf

Anschluss indirektes Auflager:

Auflagerkraft maßgebendes Auflager (A):

$$F_{Ed} = 280 \text{ kN}$$

Erforderliche Aufhängebewehrung:

$$A_{sw,erf} = 280 \text{ kN} / (43,5 \text{ kN/cm}^2) = 6,44 \text{ cm}^2$$

Verankerung der Aufhängebewehrung im Hauptträger mit Breite $b_s = 85 \text{ cm}$

gewählte Bügelbewehrung:

$$d_{qa} = 10 \text{ mm}; s_{qa} = 20 \text{ mm}$$

Vorhandene Aufhängebewehrung im Verankerungsbereich:

$$A_{sw,vorh} = 6,68 \text{ cm}^2$$

Die Bügelbewehrung ist an beiden indirekten Auflagern (A und B) im Hauptträger einzulegen.

Verankerungslänge:

Durch den indirekten Anschluss in die Hauptträger UZ-2.4 und UZ-2.5, die jeweils eine Breite von 35 cm aufweisen, sind nur maximal 32 cm Querschnittsbreite zum Verankern der Längsbewehrung vorhanden.

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 50 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 0,7 * 50 \text{ cm} * 9,06 \text{ cm}^2 / 12,32 \text{ cm}^2 = \mathbf{26 \text{ cm}} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 50 \text{ cm} = 15 \text{ cm} \quad 10 \varnothing_l = 14 \text{ cm}$$

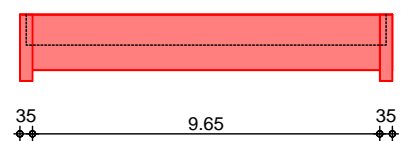
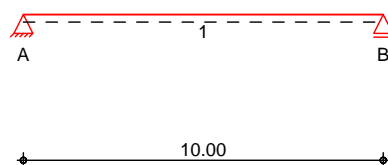
-> $l_{bd} = 26 \text{ cm}$

Die Eisen sind am Auflager mittels Kröpfung auf der Unterseite über die Längsbewehrung des Hauptträgers zu führen.

System

M 1 : 2 1 0

Ó↔^âæ→ä\ã†&æãÄÇIÈ€DFIIE€DF€€€€€D
System Ansicht



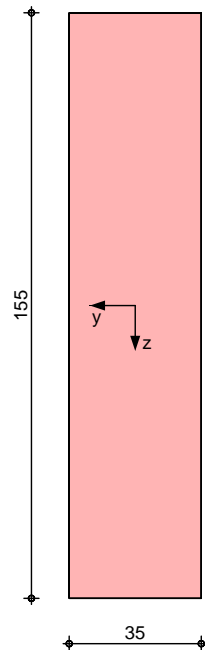
| Abmessungen | Feld | l [m] | Material | b/h [cm] |
|------------------|------|----------|----------|-------------|
| Mat./Querschnitt | 1 | 10.00 | C 30/37 | 35.0/155.0 |

Expositionsklasse XC1

Grafik

Querschnittsgrafik

M 1:20



| Auflager | Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|----------|----------------------------|----------|-----------|--------|---------------------|
| | A | 0.00 | 35.0 | indir. | fest |
| | B | 10.00 | 35.0 | indir. | fest |
| | indir.: indirekte Lagerung | | | | |

| Feld | Fuge | z_f [cm] | y_{fl} | N_d YSD↑↑ |
|------|-------|---------------|----------|----------------|
| 1 | glatt | 85.0 | 90 | 0.00 |

Belastungen

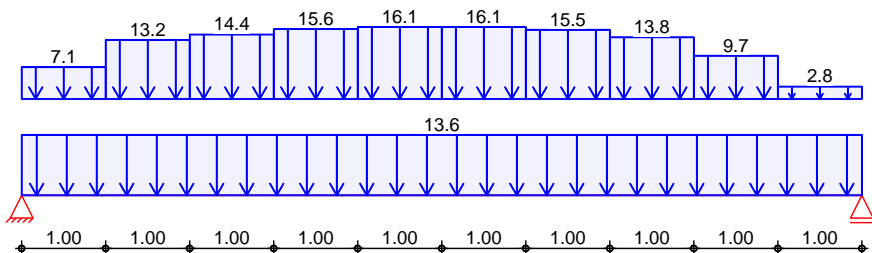
Belastungen auf das System

Grafik

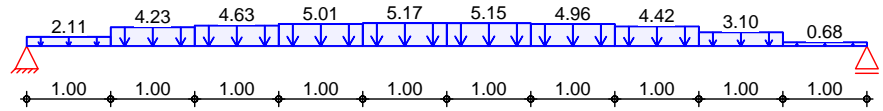
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

Gk



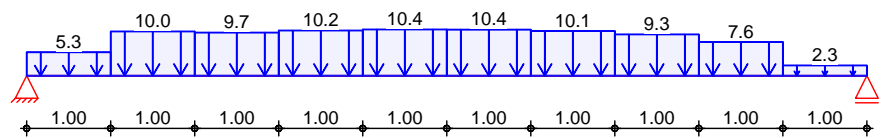
Ö←



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|------------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 10.00 | | 13.56 |
| (a) 1 | UZ 2.11: Gk | 0.00 | 1.00 | 7.10 | 7.10 |
| (a) 1 | UZ 2.11: Gk | 1.00 | 1.00 | 13.23 | 13.23 |
| (a) 1 | UZ 2.11: Gk | 2.00 | 1.00 | 14.43 | 14.43 |
| (a) 1 | UZ 2.11: Gk | 3.00 | 1.00 | 15.65 | 15.65 |
| (a) 1 | UZ 2.11: Gk | 4.00 | 1.00 | 16.14 | 16.14 |
| (a) 1 | UZ 2.11: Gk | 5.00 | 1.00 | 16.10 | 16.10 |
| (a) 1 | UZ 2.11: Gk | 6.00 | 1.00 | 15.50 | 15.50 |
| (a) 1 | UZ 2.11: Gk | 7.00 | 1.00 | 13.80 | 13.80 |
| (a) 1 | UZ 2.11: Gk | 8.00 | 1.00 | 9.68 | 9.68 |
| (a) 1 | UZ 2.11: Gk | 9.00 | 1.00 | 2.75 | 2.75 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 0.00 | 1.00 | 2.11 | 2.11 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 1.00 | 1.00 | 4.23 | 4.23 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 2.00 | 1.00 | 4.63 | 4.63 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 3.00 | 1.00 | 5.01 | 5.01 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 4.00 | 1.00 | 5.17 | 5.17 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 5.00 | 1.00 | 5.15 | 5.15 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 6.00 | 1.00 | 4.96 | 4.96 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 7.00 | 1.00 | 4.42 | 4.42 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 8.00 | 1.00 | 3.10 | 3.10 |
| (a) 1 | ÜXÁGÈFFÍÁ Ö← | 9.00 | 1.00 | 0.68 | 0.68 |
| (a) 1 | UZ 2.11: Qk.N_E1 | 0.00 | 1.00 | 0.05 | 0.05 |
| (a) 1 | UZ 2.11: Qk.N_DA | 0.00 | 1.00 | 5.28 | 5.28 |
| (a) 1 | UZ 2.11: Qk.N_DA | 1.00 | 1.00 | 9.97 | 9.97 |
| (a) 1 | UZ 2.11: Qk.N_DA | 2.00 | 1.00 | 9.73 | 9.73 |
| (a) 1 | UZ 2.11: Qk.N_DA | 3.00 | 1.00 | 10.19 | 10.19 |
| (a) 1 | UZ 2.11: Qk.N_DA | 4.00 | 1.00 | 10.43 | 10.43 |
| (a) 1 | UZ 2.11: Qk.N_DA | 5.00 | 1.00 | 10.40 | 10.40 |
| (a) 1 | UZ 2.11: Qk.N_DA | 6.00 | 1.00 | 10.10 | 10.10 |
| (a) 1 | UZ 2.11: Qk.N_DA | 7.00 | 1.00 | 9.31 | 9.31 |
| (a) 1 | UZ 2.11: Qk.N_DA | 8.00 | 1.00 | 7.63 | 7.63 |
| (a) 1 | UZ 2.11: Qk.N_DA | 9.00 | 1.00 | 2.30 | 2.30 |

Einw. Im

Einw. Qk.N_E1

Einw. Qk.N_DA

(a)

aus Pos. 'D-2.OG - UZ 2.11'

Kombi nati onen

 $b \setminus \uparrow \wedge \ddot{a} \leftrightarrow \&\mathbb{D} \{ \sim \ddot{a} \text{fi} \ddot{a} \ddot{a} \&\ddot{E}$
 $\&\ddot{a} \uparrow \ddagger \text{B} \ddot{A} \text{E} \text{O} \text{S} \ddot{A} \text{O} \text{S} \ddot{A} \text{F} \ddot{I} \ddot{I} \text{G} \ddot{E} \text{F} \ddot{E} \text{F} \ddot{A} \mid \wedge \ddot{a} \ddot{A} \text{E} \text{O} \text{S} \ddot{A} \text{O} \text{S} \ddot{A} \text{F} \ddot{I} \ddot{I} \text{E}$

Ek (* *EW)

| | | | |
|---|----------------|-----------|----------------|
| 1 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_E1 |
| | +1.50 *Qk.N_DA | | |
| 3 | 1.35 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_DA |

Ek (* *EW)

st./vor. Auflagerkr.

| | | | |
|---|----------------|-----------|----------------|
| 4 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | |
| 5 | 1.35 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_E1 |
| | +1.50 *Qk.N_DA | | |

Bemessung (GZT)

 $\ddot{a} \text{fi} \ddot{a} \ddot{A} \ddot{a} \wedge \ddot{A} \text{O} \ddot{a} \wedge \sim \sim \mid b \setminus \ddot{a} \wedge \ddot{a} \ddot{A} \ddot{a} \ddot{a} \ddot{A} \ddot{U} \ddot{a} \ddot{a} \& \ddot{a} \ddagger \ddot{a} \leftrightarrow \&\leftarrow \ddot{a} \leftrightarrow \setminus \ddot{A} \wedge \ddot{a} \ddot{A} \text{E} \text{O} \text{S} \ddot{A} \text{O} \text{S} \ddot{A}$
1992-1-1:2011-01

Bi egung

Abs. 6.1

 $\ddot{N} \ddot{a} \uparrow \ddot{a} \text{bb} \mid \wedge \& \ddot{A} \ddot{a} \text{fi} \ddot{a} \ddot{A} \ddot{N} \leftrightarrow \ddot{a} \& \ddot{a} \ddot{a} \ddot{a} \wedge \text{b} * \ddot{a} \mid \ddot{a} \mid \wedge \&$

| x | Ek | $M_{y,d,o}$ | x/d_o | z_o | $A_{s,o}$ | $A_{s,o,erf}$ |
|-------------------|----|-------------|---------|-------|--------------------|--------------------|
| [m] | | $M_{y,d,u}$ | x/d_u | z_u | $A_{s,u}$ | $A_{s,u,erf}$ |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 10.00 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 2.71 _e |
| | 1 | - | 3.5E-4 | 148.8 | - | 9.06 _q |
| 0.18 _a | 1 | 26.64 | - | - | - | 2.71 _e |
| | 2 | 47.65 | 0.018 | 147.9 | 0.71 | 9.06 _q |
| 4.96* | 1 | 409.72 | - | - | - | - |
| | 2 | 735.06 | 0.082 | 144.1 | 11.17 | 11.17 |
| 9.83 _a | 1 | 25.16 | - | - | - | 2.71 _e |
| | 2 | 44.52 | 0.017 | 147.9 | 0.66 | 8.43 _q |
| 10.00 | 1 | - | - | - | - | 2.71 _e |
| | 1 | - | 3.5E-4 | 148.8 | - | 8.43 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

 $\ddot{N} \ddot{a} \uparrow \ddot{a} \text{bb} \mid \wedge \& \ddot{A} \ddot{a} \text{fi} \ddot{a} \ddot{A} \text{T} \mid \ddot{a} \ddot{a} \leftarrow \ddot{a} \ddot{a} \setminus \ddot{a} \ddot{a} \wedge \text{b} * \ddot{a} \mid \ddot{a} \mid \wedge \&$

| x | Ek | V_{Ed} | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|-------------------|----|-------------------|------------------------|------------|----------------------|
| [m] | | [kN] | $\gamma_{f1} \ddot{Y}$ | [kN] | [cm ² /m] |
| (L = 10.00 m) | | | | | |
| 0.00 | 2 | 275.68 | 18.4 | 1792.85 | - |
| 0.18 _a | 2 | 268.90 | 18.4 | 1792.85 | 136.76 |
| 4.96 | 3 | 0.81 _R | 18.4 | 1792.85 | 136.76 |
| 9.83 _a | 2 | 252.07 | 18.4 | 1792.85 | 136.76 |
| 10.00 | 2 | 256.69 | 18.4 | 1792.85 | - |

a: Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x | V_{Ed} | $V_{Ed,i}$ | $V_{Rd,i,max}$ | $V_{Rd,i,ct}$ | $a_{sw,erf}$ |
|-----|----------|------------|----------------|---------------|--|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | $\gamma' \uparrow \ddot{Y} \mathbb{D} \uparrow \ddot{Y}$ |

 $N \textcircled{p} i u h w i g " 3$

Streckgrenze der Verbundbewehrung: $f_{yk} " ? " 722 " P l o o \leftrightarrow$

glatt (c=0.20, =0.60, =0.20)

 $\hat{O} \ddot{a} \rightarrow \ddot{a} \ddot{A} \text{F} \ddot{A} \ddot{E} \ddot{A} \text{P} \sim \wedge \setminus \ddot{a} \leftarrow \setminus \ddot{a} \rightarrow \ddagger \ddot{a} \wedge \ddot{a} \ddot{a} \leftrightarrow \setminus \ddot{a} \ddot{A} \ddot{A} \text{K} \ddot{A} \text{G} \ddot{I} \ddot{E} \text{E} \ddot{A} \uparrow$

| | | | | | |
|-------------------|---------|--------|--------|-------|------|
| 0.18 _a | 268.90 | 200.79 | 595.00 | 79.33 | 3.88 |
| 3.10 | 115.33 | 79.71 | 595.00 | 79.33 | 0.01 |
| 6.90 | -120.30 | 83.11 | 595.00 | 79.33 | 0.12 |
| 9.83 _a | -252.07 | 188.22 | 595.00 | 79.33 | 3.48 |

| | Aufl. | $F_{z,k,min}$ [kN] | $F_{z,k,max}$ [kN] |
|------------------------------------|-------|-----------------------|-----------------------|
| | B | 40.39 | 40.39 |
| Bemessungsaullagerkräfte (Min/Max) | | | |
| | Aufl. | $F_{z,d,min}$ [kN] | $F_{z,d,max}$ [kN] |
| Grundkombinationen | A | 154.21 | 275.68 |
| | B | 145.27 | 256.69 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ 2.12

GHU`VYfcb!8 i fW`U Zf}[Yf

Anschluss indirektes Auflager:

Auflagerkraft maßgebendes Auflager (A):

$$F_{Ed} = 280 \text{ kN}$$

Erforderliche Aufhängebewehrung:

$$A_{sw,erf} = 280 \text{ kN} / (43,5 \text{ kN/cm}^2) = 6,44 \text{ cm}^2$$

Verankerung der Aufhängebewehrung im Hauptträger mit Breite $b_s = 85 \text{ cm}$

gewählte Bügelbewehrung:

$$d_{qa} = 10 \text{ mm}; s_{qa} = 20 \text{ mm}$$

Vorhandene Aufhängebewehrung im Verankerungsbereich:

$$A_{sw,vorh} = 6,68 \text{ cm}^2$$

Die Bügelbewehrung ist an beiden indirekten Auflagern (A und B) im Hauptträger einzulegen.

Verankerungslänge:

Durch den indirekten Anschluss in die Hauptträger UZ-2.4 und UZ-2.5, die jeweils eine Breite von 35 cm aufweisen, sind nur maximal 32 cm Querschnittsbreite zum Verankern der Längsbewehrung vorhanden.

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 50 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 50 \text{ cm} \cdot 9,09 \text{ cm}^2 / 12,32 \text{ cm}^2 = \mathbf{26 \text{ cm}} \quad l_{b,min}$$

$$l_{b,min} = 0,3 \cdot l_{b,rqd} = 0,3 \cdot 50 \text{ cm} = 15 \text{ cm} \quad 10 \varnothing_l = 14 \text{ cm}$$

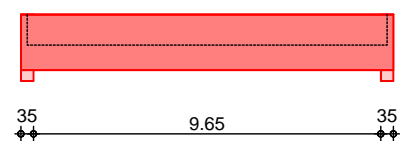
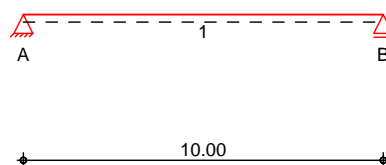
-> $l_{bd} = 26 \text{ cm}$

Die Eisen sind am Auflager mittels Kröpfung auf der Unterseite über die Längsbewehrung des Hauptträgers zu führen.

System

M 1 : 2 1 0

Ó↔^âæ→ä\ã†&æãÄÇIÈ€DFIIE€DF€€€È€
System Ansicht

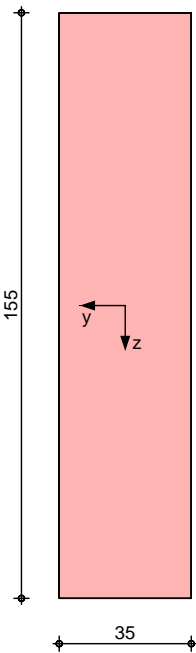


| Abmessungen | Feld | l | Material | b/h |
|------------------|------|-------|----------|------------|
| Mat./Querschnitt | | [m] | | [cm] |
| | 1 | 10.00 | C 30/37 | 35.0/155.0 |

Expositionsklasse XC1

Grafik Querschnittsgrafik

M 1 : 20



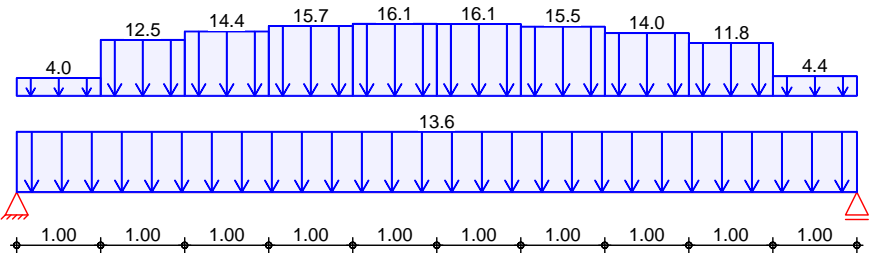
| Auflager | Lager | x | b | Art | $K_{T,z}$ |
|----------|-------|-------|------|-------|-----------|
| | | [m] | [cm] | | [kN/m] |
| | A | 0.00 | 35.0 | Beton | fest |
| | B | 10.00 | 35.0 | Beton | fest |

| Q _T & b _a & æ ^{ÄÄÄÄÄÄÄÄÄÄ} | Feld | Fuge | z_f | y_{fl} | N_d |
|---|------|-------|-------|----------|---------------------------|
| | | | [cm] | | $YSD \uparrow \uparrow Y$ |
| | 1 | glatt | 85.0 | 90 | 0.00 |

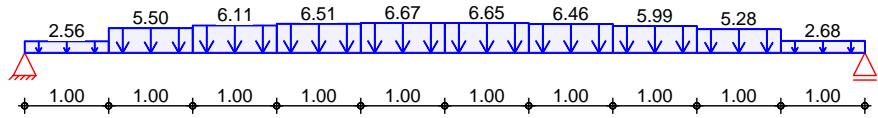
Belastungen Belastungen auf das System

Grafik Belastungsgrafiken (einwirkungsbezogen)

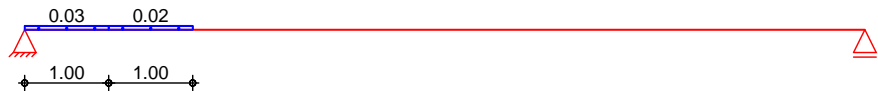
Einwirkung Gk



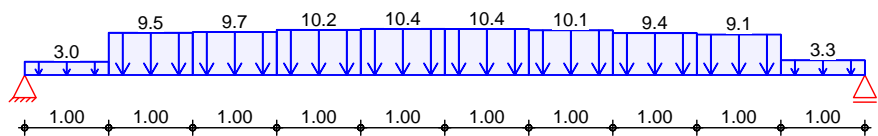
Ö←



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

Feld Komm.

a

s

Q_{li}

Q_{re}

[m]

[m]

[kN/m]

[kN/m]

| | | | | | |
|---------------|------------------|------|-------|-------|-------|
| 1 | Eigengew | 0.00 | 10.00 | | 13.56 |
| (a) 1 | UZ 2.12: Gk | 0.00 | 1.00 | 3.96 | 3.96 |
| (a) 1 | UZ 2.12: Gk | 1.00 | 1.00 | 12.54 | 12.54 |
| (a) 1 | UZ 2.12: Gk | 2.00 | 1.00 | 14.40 | 14.40 |
| (a) 1 | UZ 2.12: Gk | 3.00 | 1.00 | 15.66 | 15.66 |
| (a) 1 | UZ 2.12: Gk | 4.00 | 1.00 | 16.14 | 16.14 |
| (a) 1 | UZ 2.12: Gk | 5.00 | 1.00 | 16.09 | 16.09 |
| (a) 1 | UZ 2.12: Gk | 6.00 | 1.00 | 15.49 | 15.49 |
| (a) 1 | UZ 2.12: Gk | 7.00 | 1.00 | 14.04 | 14.04 |
| (a) 1 | UZ 2.12: Gk | 8.00 | 1.00 | 11.85 | 11.85 |
| (a) 1 | UZ 2.12: Gk | 9.00 | 1.00 | 4.37 | 4.37 |
| Einw. Im | ÜXÁGÈFGIÁ Ö← | 0.00 | 1.00 | 2.56 | 2.56 |
| (a) 1 | ÜXÁGÈFGIÁ Ö← | 1.00 | 1.00 | 5.50 | 5.50 |
| (a) 1 | ÜXÁGÈFGIÁ Ö← | 2.00 | 1.00 | 6.11 | 6.11 |
| (a) 1 | ÜXÁGÈFGIÁ Ö← | 3.00 | 1.00 | 6.51 | 6.51 |
| (a) 1 | ÜXÁGÈFGIÁ Ö← | 4.00 | 1.00 | 6.67 | 6.67 |
| (a) 1 | ÜXÁGÈFGIÁ Ö← | 5.00 | 1.00 | 6.65 | 6.65 |
| (a) 1 | ÜXÁGÈFGIÁ Ö← | 6.00 | 1.00 | 6.46 | 6.46 |
| (a) 1 | ÜXÁGÈFGIÁ Ö← | 7.00 | 1.00 | 5.99 | 5.99 |
| (a) 1 | ÜXÁGÈFGIÁ Ö← | 8.00 | 1.00 | 5.28 | 5.28 |
| (a) 1 | ÜXÁGÈFGIÁ Ö← | 9.00 | 1.00 | 2.68 | 2.68 |
| Einw. Qk.N_E1 | UZ 2.12: Qk.N_E1 | 0.00 | 1.00 | 0.03 | 0.03 |
| (a) 1 | UZ 2.12: Qk.N_E1 | 1.00 | 1.00 | 0.02 | 0.02 |
| Einw. Qk.N_DA | UZ 2.12: Qk.N_DA | 0.00 | 1.00 | 3.01 | 3.01 |
| (a) 1 | UZ 2.12: Qk.N_DA | 1.00 | 1.00 | 9.54 | 9.54 |
| (a) 1 | UZ 2.12: Qk.N_DA | 2.00 | 1.00 | 9.69 | 9.69 |
| (a) 1 | UZ 2.12: Qk.N_DA | 3.00 | 1.00 | 10.20 | 10.20 |
| (a) 1 | UZ 2.12: Qk.N_DA | 4.00 | 1.00 | 10.42 | 10.42 |
| (a) 1 | UZ 2.12: Qk.N_DA | 5.00 | 1.00 | 10.39 | 10.39 |
| (a) 1 | UZ 2.12: Qk.N_DA | 6.00 | 1.00 | 10.09 | 10.09 |
| (a) 1 | UZ 2.12: Qk.N_DA | 7.00 | 1.00 | 9.45 | 9.45 |
| (a) 1 | UZ 2.12: Qk.N_DA | 8.00 | 1.00 | 9.14 | 9.14 |
| (a) 1 | UZ 2.12: Qk.N_DA | 9.00 | 1.00 | 3.33 | 3.33 |

(a)

aus Pos. 'D-2.OG - UZ 2.12'

| | Aufl. | $F_{z,k,min}$ [kN] | $F_{z,k,max}$ [kN] |
|------------------------------------|-------|-----------------------|-----------------------|
| | B | 42.55 | 42.55 |
| Bemessungsaullagerkr fte (Min/Max) | | | |
| | Aufl. | $F_{z,d,min}$ [kN] | $F_{z,d,max}$ [kN] |
| Grundkombinationen | A | 157.53 | 276.78 |
| | B | 157.06 | 275.86 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragf higkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ 2.4

GHU `VYfcb!8 i fW `U Zf} [Yf

Anschluss indirektes Auflager:

Auflagerkraft maßgebendes Auflager (B):

$$F_{Ed} = 360 \text{ kN}$$

Erforderliche Aufhängebewehrung:

$$A_{sw,erf} = 360 \text{ kN} / (43,5 \text{ kN/cm}^2) = 8,28 \text{ cm}^2$$

Verankerung der Aufhängebewehrung im Hauptträger mit Breite $b_s = 35 + 185/3 = 96,67$ **95 cm**

gewählte Bügelbewehrung:

$$d_{qa} = 10 \text{ mm}; s_{qa} = 20 \text{ mm}$$

Vorhandene Aufhängebewehrung im Verankerungsbereich:

$$A_{sw,vorh} = 6,68 \text{ cm}^2$$

Die Bügelbewehrung ist am indirekten Auflager B im Hauptträger UZ-2.10 einzulegen.

Verankerungslänge:

Durch den indirekten Anschluss in den Hauptträger UZ-2.10, der eine Breite von 25 cm aufweist, sind nur maximal 22 cm Querschnittsbreite zum Verankern der Längsbewehrung vorhanden.

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 71 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 0,7 * 71 \text{ cm} * 9,64 \text{ cm}^2 / 25,14 \text{ cm}^2 = 20 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 71 \text{ cm} = \mathbf{21 \text{ cm}} \quad 10 \varnothing_l = 20 \text{ cm}$$

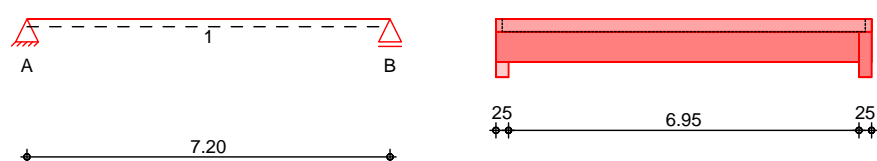
-> $l_{bd} = 21 \text{ cm}$

Die Eisen sind am Auflager mittels Kröpfung auf der Unterseite über die Längsbewehrung des Hauptträgers zu führen.

System

M 1 : 150

System Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 7.20 | 0.00 | C 30/37 | 35.0/35.0/85.0 |
| 1 | 7.20 | | | |

U-105

Schulcampus EWK \

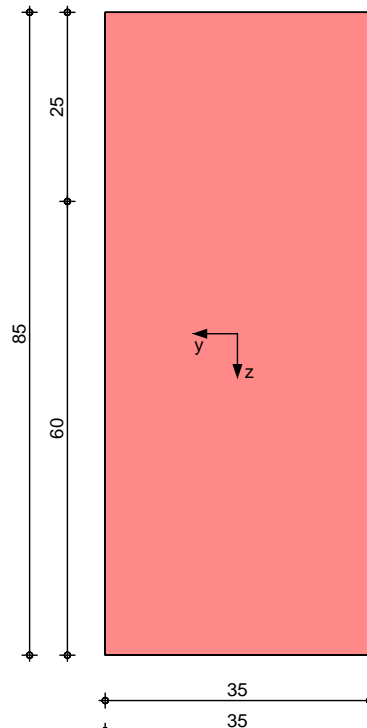
UZ 2.4

Expositionsklasse XC1

Grafik

Querschnittsgrafik

M 1:10



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|--------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 7.20 | 25.0 | indir. | fest |

indir.: indirekte Lagerung

Q₁ & b₁ | & æ ^ Á Á Á Á Á Á Á Á Á Á

| Feld | Fuge | z_f [cm] | γ_{fl} | γ_{SD} ↑ ↑ ↑ ↑ ↑ N_d |
|------|-------|---------------|---------------|----------------------------------|
| 1 | glatt | 25.0 | 90 | 0.00 |

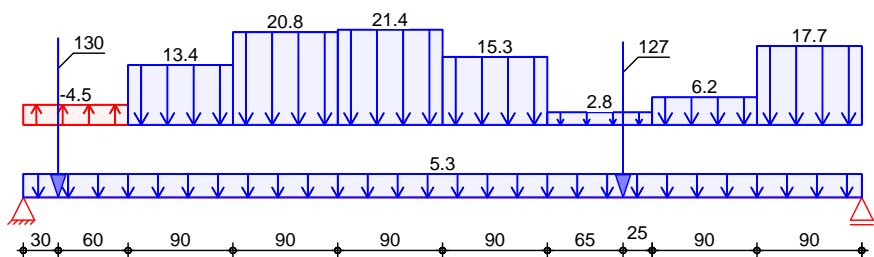
Belastungen

Belastungen auf das System

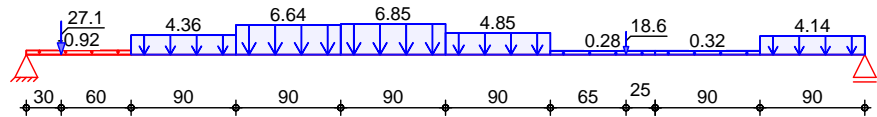
Grafik

Belastungsgrafiken (einwirkungsbezogen)

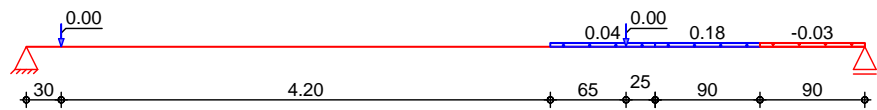
Einwirkung

G_k


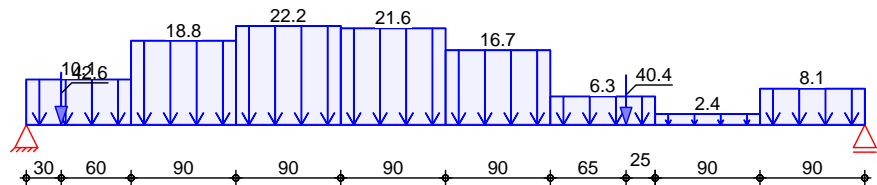
Ö←



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

Feld Komm.

a

s

Q_{li}

Q_{re}

[m]

[m]

[kN/m]

[kN/m]

| Feld | Komm. | a | s | Q _{li} | Q _{re} |
|---------------|-----------------|------|------|-----------------|-----------------|
| | | [m] | [m] | [kN/m] | [kN/m] |
| 1 | Eigengew | 0.00 | 7.20 | | 5.25 |
| (a) 1 | UZ 2.4: Gk | 0.00 | 0.90 | -4.51 | -4.51 |
| (a) 1 | UZ 2.4: Gk | 0.90 | 0.90 | 13.44 | 13.44 |
| (a) 1 | UZ 2.4: Gk | 1.80 | 0.90 | 20.80 | 20.80 |
| (a) 1 | UZ 2.4: Gk | 2.70 | 0.90 | 21.38 | 21.38 |
| (a) 1 | UZ 2.4: Gk | 3.60 | 0.90 | 15.28 | 15.28 |
| (a) 1 | UZ 2.4: Gk | 4.50 | 0.90 | 2.80 | 2.80 |
| (a) 1 | UZ 2.4: Gk | 5.40 | 0.90 | 6.18 | 6.18 |
| (a) 1 | UZ 2.4: Gk | 6.30 | 0.90 | 17.70 | 17.70 |
| Einw. Im | Ö← | 0.00 | 0.90 | -0.92 | -0.92 |
| (a) 1 | Ö← | 0.90 | 0.90 | 4.36 | 4.36 |
| (a) 1 | Ö← | 1.80 | 0.90 | 6.64 | 6.64 |
| (a) 1 | Ö← | 2.70 | 0.90 | 6.85 | 6.85 |
| (a) 1 | Ö← | 3.60 | 0.90 | 4.85 | 4.85 |
| (a) 1 | Ö← | 4.50 | 0.90 | 0.28 | 0.28 |
| (a) 1 | Ö← | 5.40 | 0.90 | 0.32 | 0.32 |
| (a) 1 | Ö← | 6.30 | 0.90 | 4.14 | 4.14 |
| Einw. Qk.N_E1 | UZ 2.4: Qk.N_E1 | 4.50 | 0.90 | 0.04 | 0.04 |
| (a) 1 | UZ 2.4: Qk.N_E1 | 5.40 | 0.90 | 0.18 | 0.18 |
| (a) 1 | UZ 2.4: Qk.N_E1 | 6.30 | 0.90 | -0.03 | -0.03 |
| Einw. Qk.N_DA | UZ 2.4: Qk.N_DA | 0.00 | 0.90 | 10.14 | 10.14 |
| (a) 1 | UZ 2.4: Qk.N_DA | 0.90 | 0.90 | 18.84 | 18.84 |
| (a) 1 | UZ 2.4: Qk.N_DA | 1.80 | 0.90 | 22.15 | 22.15 |
| (a) 1 | UZ 2.4: Qk.N_DA | 2.70 | 0.90 | 21.60 | 21.60 |
| (a) 1 | UZ 2.4: Qk.N_DA | 3.60 | 0.90 | 16.69 | 16.69 |
| (a) 1 | UZ 2.4: Qk.N_DA | 4.50 | 0.90 | 6.34 | 6.34 |
| (a) 1 | UZ 2.4: Qk.N_DA | 5.40 | 0.90 | 2.42 | 2.42 |
| (a) 1 | UZ 2.4: Qk.N_DA | 6.30 | 0.90 | 8.10 | 8.10 |

(a) aus Pos. 'D-2.OG - UZ 2.4'

Punktlasten in z-Richtung

Einzellasten

| | Feld | Komm. | a [m] | F _z [kN] |
|---------------|-------|-------|----------|------------------------|
| Einw. Gk | (a) 1 | | 0.30 | 129.91 |
| | (b) 1 | | 5.15 | 126.63 |
| Einw. Im | (a) 1 | | 0.30 | 27.15 |
| | (b) 1 | | 5.15 | 18.64 |
| Einw. Qk.N_DA | (a) 1 | | 0.30 | 42.55 |
| | (b) 1 | | 5.15 | 40.39 |

(a) aus Pos. 'UZ 2.12', Lager 'B' (Seite 11)

(b) aus Pos. 'UZ 2.11', Lager 'B' (Seite 5)

Kombi nationen

&æ†‡BÄËSÄÓSÁFïïGËFËFÁ| ^äÄËSÄÓSÁFïï€

| Ek | (* *EW) | | |
|----|---------------|-----------|---------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |
| 3 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 |
| 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA |
| Ek | (* *EW) | | |
| 5 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 6 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |

st./vor. Auflagerkr.

Bemessung (GZT)

àfiäÄäæ^ÄÖäæ^~ | b\á^äÄäæäÜäá&à†ä&æ↔\Á^á´äÄËSÄÓSÁ
1992-1-1:2011-01

Bi egung

Abs. 6.1

Ñæ†æbb | ^&ÄäfiäÄT | æäæäá^b*ä | ´ä | ^&

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|----------------------------|------------------|------------------------|--|--|
| [m] | | M _{yd,u} [kNm] | x/d _u | z _u [cm] | A _{s,u} [cm ²] | A _{s,u,erf} [cm ²] |
| (L = 7.20 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 4.68 _e |
| | 1 | - | 0.001 | 78.0 | - | 16.95 _q |
| 0.13 _a | 1 | 32.70 | - | - | - | 4.68 _e |
| | 2 | 64.37 | 0.041 | 76.9 | 1.83 | 16.95 _q |
| 4.17* | 1 | 333.78 | - | - | - | - |
| | 2 | 668.49 | 0.255 | 69.7 | 21.67 | 21.67 |
| 7.08 _a | 1 | 23.06 | - | - | - | 4.68 _e |
| | 2 | 44.21 | 0.033 | 77.1 | 1.26 | 9.64 _q |
| 7.20 | 1 | - | - | - | - | 4.68 _e |
| | 1 | - | 0.001 | 78.0 | - | 9.64 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkr aft

Abs. 6.2

Ñæ†æbb | ^&ÄäfiäÄT | æäæäá^b*ä | ´ä | ^&

| x | Ek | V _{Ed} | γ _{f1} Ÿ | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|---------------------|-------------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 7.20 m) | | | | | | |
| 0.00 | 2 | 226.31 _R | 18.4 | 939.80 | - | - |
| 0.13 _a | 2 | 226.31 _R | 18.4 | 939.80 | - | 7.94 _F |
| 0.91 _v | 2 | 226.31 | 18.4 | 939.80 | 124.31 | 7.76 _F |
| 4.17 | 3 | 14.08 | 18.4 | 939.80 | 124.31 | 3.25 _M |
| 7.08 _a | 2 | 350.63 | 21.7 | 1076.03 | 124.31 | 13.42 _F |
| 7.20 | 2 | 356.71 _R | 22.1 | 1090.50 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

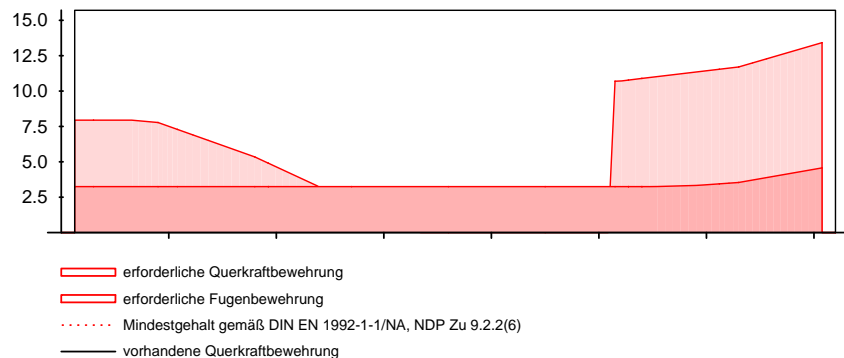
Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.13 | 7.20 | ã32 | 10.0 | 2 | 15.71 |

Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 4.70 | 0 | 0.0 | - |
| | 4.70 | 7.20 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:70Asw [cm²/m]

5i Z` U[Yf_f}ZhY

N|à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 218.00 | 218.00 |
| B | 160.09 | 160.09 |
| Einw. I _m | | |
| A | 43.59 | 43.59 |
| B | 26.07 | 26.07 |
| Einw. Q _{k,N_E1} | | |
| A | 0.04 | 0.04 |
| B | 0.14 | 0.14 |
| Einw. Q _{k,N_DA} | | |
| A | 108.48 | 108.48 |
| B | 70.12 | 70.12 |

Ñæ↑ÈËá|à→á&æã←ã‡à\æ

Bemessungsaullagerkräfte (Min/Max)

| Aufl. | F _{z,d,min} [kN] | F _{z,d,max} [kN] |
|--------------------|------------------------------|------------------------------|
| Grundkombinationen | | |
| A | 261.59 | 515.93 |
| B | 186.16 | 356.71 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ 2.5

GHU `VYfcb!8 i fW `U Zf} [Yf

Anschluss indirektes Auflager: (wie UZ-2.4)

Auflagerkraft maßgebendes Auflager (B):

$$F_{Ed} = 360 \text{ kN}$$

Erforderliche Aufhängebewehrung:

$$A_{sw,erf} = 360 \text{ kN} / (43,5 \text{ kN/cm}^2) = 8,28 \text{ cm}^2$$

Verankerung der Aufhängebewehrung im Hauptträger mit Breite $b_s = 35 + 185/3 = 96,67$ **95 cm**

gewählte Bügelbewehrung:

$$d_{qa} = 10 \text{ mm}; s_{qa} = 20 \text{ mm}$$

Vorhandene Aufhängebewehrung im Verankerungsbereich:

$$A_{sw,vorh} = 6,68 \text{ cm}^2$$

Die Bügelbewehrung ist am indirekten Auflager B im Hauptträger UZ-2.10 einzulegen.

Verankerungslänge:

Durch den indirekten Anschluss in den Hauptträger UZ-2.10, der eine Breite von 25 cm aufweisen, sind nur maximal 22 cm Querschnittsbreite zum Verankern der Längsbewehrung vorhanden.

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 71 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 71 \text{ cm} \cdot 9,19 \text{ cm}^2 / 25,14 \text{ cm}^2 = 20 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 \cdot l_{b,rqd} = 0,3 \cdot 71 \text{ cm} = \mathbf{21 \text{ cm}} \quad 10 \varnothing_l = 20 \text{ cm}$$

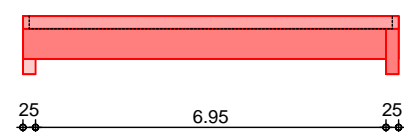
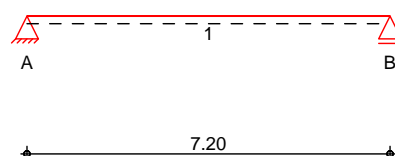
-> $l_{bd} = 21 \text{ cm}$

Die Eisen sind am Auflager mittels Kröpfung auf der Unterseite über die Längsbewehrung des Hauptträgers zu führen.

System

M 1 : 150

System Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 7.20 | 0.00 | C 30/37 | 35.0/35.0/85.0 |
| 1 | 7.20 | | | |

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Expositionsklasse XC1

| Auflager | Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|----------|----------------------------|----------|-----------|--------|---------------------|
| | A | 0.00 | 25.0 | Beton | fest |
| | B | 7.20 | 25.0 | indir. | fest |
| | indir.: indirekte Lagerung | | | | |

| Feld | Fuge | z_f [cm] | Y_{fl} | N_d $Y_{SD} \uparrow \downarrow Y_{\ddot{S}}$ |
|------|-------|---------------|----------|--|
| 1 | glatt | 25.0 | 90 | 0.00 |

Belastungen

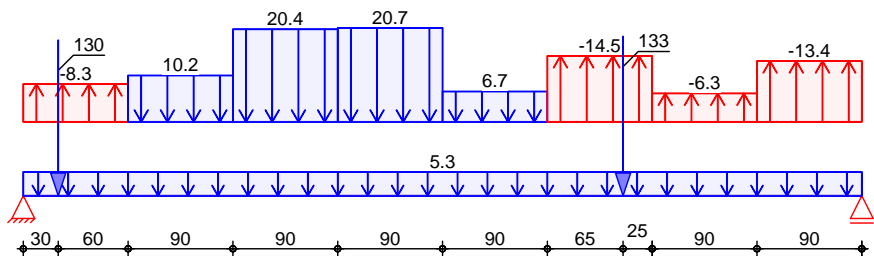
Belastungen auf das System

Grafik

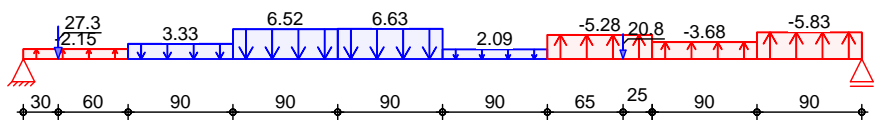
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

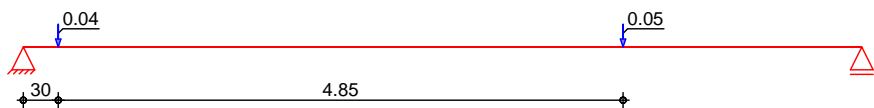
Gk



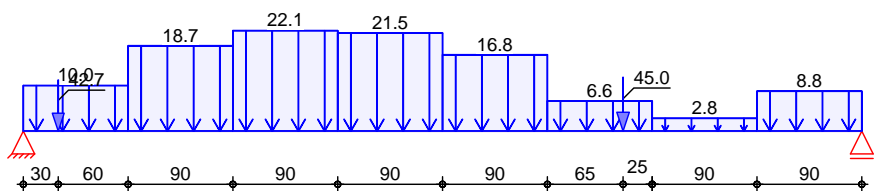
Ö←



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q_{1i} [kN/m] | Q_{re} [kN/m] |
|-------|------------|----------|----------|--------------------|--------------------|
| 1 | Eigengew | 0.00 | 7.20 | | 5.25 |
| (a) 1 | UZ 2.5: Gk | 0.00 | 0.90 | -8.31 | -8.31 |
| (a) 1 | UZ 2.5: Gk | 0.90 | 0.90 | 10.21 | 10.21 |
| (a) 1 | UZ 2.5: Gk | 1.80 | 0.90 | 20.40 | 20.40 |

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| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|-----------------|----------|----------|---------------------------|---------------------------|
| Einw. Im | (a) 1 | UZ 2.5: Gk | 2.70 | 0.90 | 20.68 | 20.68 |
| | (a) 1 | UZ 2.5: Gk | 3.60 | 0.90 | 6.68 | 6.68 |
| | (a) 1 | UZ 2.5: Gk | 4.50 | 0.90 | -14.52 | -14.52 |
| | (a) 1 | UZ 2.5: Gk | 5.40 | 0.90 | -6.27 | -6.27 |
| | (a) 1 | UZ 2.5: Gk | 6.30 | 0.90 | -13.39 | -13.39 |
| | (a) 1 | ÜXÁGÈIÁ Ö← | 0.00 | 0.90 | -2.15 | -2.15 |
| | (a) 1 | ÜXÁGÈIÁ Ö← | 0.90 | 0.90 | 3.33 | 3.33 |
| | (a) 1 | ÜXÁGÈIÁ Ö← | 1.80 | 0.90 | 6.52 | 6.52 |
| | (a) 1 | ÜXÁGÈIÁ Ö← | 2.70 | 0.90 | 6.63 | 6.63 |
| | (a) 1 | ÜXÁGÈIÁ Ö← | 3.60 | 0.90 | 2.09 | 2.09 |
| | (a) 1 | ÜXÁGÈIÁ Ö← | 4.50 | 0.90 | -5.28 | -5.28 |
| | (a) 1 | ÜXÁGÈIÁ Ö← | 5.40 | 0.90 | -3.68 | -3.68 |
| | (a) 1 | ÜXÁGÈIÁ Ö← | 6.30 | 0.90 | -5.83 | -5.83 |
| | (a) 1 | UZ 2.5: Qk.N_DA | 0.00 | 0.90 | 10.01 | 10.01 |
| Einw. Qk.N_DA | (a) 1 | UZ 2.5: Qk.N_DA | 0.90 | 0.90 | 18.75 | 18.75 |
| | (a) 1 | UZ 2.5: Qk.N_DA | 1.80 | 0.90 | 22.07 | 22.07 |
| | (a) 1 | UZ 2.5: Qk.N_DA | 2.70 | 0.90 | 21.54 | 21.54 |
| | (a) 1 | UZ 2.5: Qk.N_DA | 3.60 | 0.90 | 16.77 | 16.77 |
| | (a) 1 | UZ 2.5: Qk.N_DA | 4.50 | 0.90 | 6.62 | 6.62 |
| | (a) 1 | UZ 2.5: Qk.N_DA | 5.40 | 0.90 | 2.81 | 2.81 |
| | (a) 1 | UZ 2.5: Qk.N_DA | 6.30 | 0.90 | 8.77 | 8.77 |

(a) aus Pos. 'D-2.OG - UZ 2.5'

Punktlasten in z-Richtung

| | Feld | Komm. | a [m] | F _z [kN] |
|---------------|-------|-------|----------|------------------------|
| Einw. Gk | (a) 1 | | 0.30 | 130.26 |
| | (b) 1 | | 5.15 | 133.38 |
| Einw. Im | (a) 1 | | 0.30 | 27.27 |
| | (b) 1 | | 5.15 | 20.83 |
| Einw. Qk.N_E1 | (a) 1 | | 0.30 | 0.04 |
| | (b) 1 | | 5.15 | 0.04 |
| Einw. Qk.N_DA | (a) 1 | | 0.30 | 42.70 |
| | (b) 1 | | 5.15 | 44.95 |

(a) aus Pos. 'UZ 2.12', Lager 'A' (Seite 11)

(b) aus Pos. 'UZ 2.11', Lager 'A' (Seite 5)

Kombi nationen

| Ek | (* *EW) | |
|----|---------------|---------------|
| 1 | 1.00*Gk | ÉFÈ€€E Ö← |
| 2 | 1.35*Gk | ÉFÈĞIE Ö← |
| | +1.50*Qk.N_DA | +1.50*Qk.N_E1 |
| 3 | 1.35*Gk | ÉFÈ€€E Ö← |
| 4 | 1.00*Gk | ÉFÈĞIE Ö← |
| | | +1.50*Qk.N_E1 |
| | | +1.50*Qk.N_DA |
| Ek | (* *EW) | |
| 5 | 1.00*Gk | ÉFÈ€€E Ö← |
| 6 | 1.35*Gk | ÉFÈĞIE Ö← |
| | +1.50*Qk.N_DA | +1.50*Qk.N_E1 |

Bemessung (GZT)

àfiãÁäæ^ÁÖäæ^~ | b\á^äÄäæãÁÜäã&à†ä↔&←æ↔\Á^á´äÁÆØSÁÓSÁ
1992-1-1:2011-01

Biegung

Abs. 6.1

Feld 1

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 7.20 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 4.18 _e |
| | 1 | - | 0.001 | 78.3 | - | 16.08 _q |
| 0.13 _a | 1 | 30.10 | - | - | - | 4.18 _e |
| | 2 | 61.12 | 0.040 | 77.2 | 1.73 | 16.08 _q |
| 4.05* | 1 | 274.43 | - | - | - | - |
| | 2 | 598.49 | 0.224 | 71.0 | 18.97 | 18.97 |
| 4.50 | 1 | 275.77 | - | - | - | - |
| | 2 | 594.03 | 0.222 | 71.1 | 18.81 | 18.81 |
| 5.15 | 1 | 278.73 | - | - | - | - |
| | 2 | 583.23 | 0.217 | 71.2 | 18.42 | 18.42 |
| 5.40 | 1 | 242.96 | - | - | - | 4.18 _e |
| | 2 | 511.25 | 0.188 | 72.2 | 15.84 | 15.84 |
| 7.08 _a | 1 | 15.67 | - | - | - | 4.18 _e |
| | 2 | 35.01 | 0.029 | 77.5 | 0.99 | 9.19 _q |
| 7.20 | 1 | - | - | - | - | 4.18 _e |
| | 1 | - | 0.001 | 78.3 | - | 9.19 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus V_{Ed} im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

Feld 1

| x | Ek | V _{Ed} | V _{Ed} | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|---------------------|-----------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | Y _{fl} | [kN] | [kN] | [cm ² /m] |
| (L = 7.20 m) | | | | | | |
| 0.00 | 2 | 205.12 _R | 18.4 | 943.25 | - | - |
| 0.13 _a | 2 | 205.12 _R | 18.4 | 943.25 | - | 6.87 _F |
| 0.91 _v | 2 | 205.12 | 18.4 | 943.25 | 119.11 | 6.77 _F |
| 4.05 | 3 | 9.21 | 18.4 | 943.25 | 119.11 | 3.25 _M |
| 4.50* | 4 | 21.00 | 18.4 | 943.25 | 119.11 | 3.25 _M |
| 5.15* | 2 | 289.16 | 18.4 | 943.25 | 119.11 | 10.58 _F |
| 5.40* | 2 | 286.74 | 18.4 | 943.25 | 119.11 | 10.47 _F |
| 7.08 _a | 2 | 280.41 _R | 18.4 | 943.25 | 119.11 | 10.18 _F |
| 7.20 | 2 | 279.70 _R | 18.4 | 943.25 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

*: bemessungsrelevante Querkraft

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x | V _{Ed} | V _{Edi} | V _{Rdi,max} | V _{Rdi,ct} | a _{sw,erf} |
|--|-----------------|------------------|----------------------|---------------------|---------------------|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | Y' ↑ Y ↓ ↑ Y |
| N ₀ piuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |
| 0.66 | 207.47 | 294.46 | 595.00 | 79.33 | 6.87 |
| 0.91 _v | 205.12 | 291.12 | 595.00 | 79.33 | 6.77 |
| 3.09 | 59.10 | 82.84 | 595.00 | 79.33 | 0.11 |
| 5.15 | -289.16 | 406.06 | 595.00 | 79.33 | 10.44 |
| 7.07 _v | -280.41 | 397.99 | 595.00 | 79.33 | 10.18 |

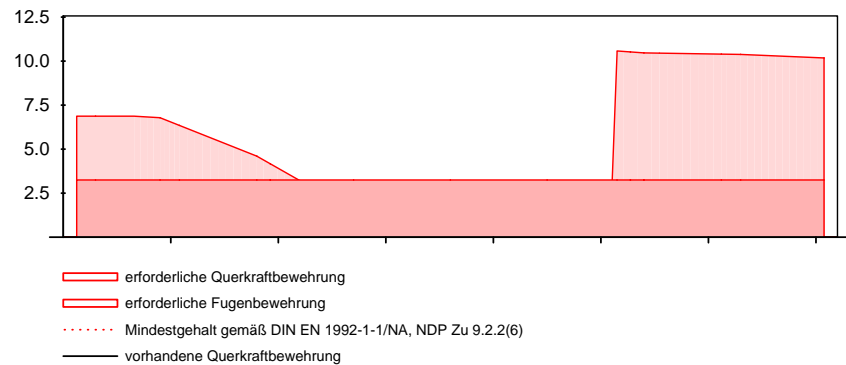
Anschluss der Gurte

| Feld | Ek | x _A | x _E | #R | # _{0c} | Anteil | # _{0d} |
|------|----|----------------|----------------|-------|-----------------|-------------------|-----------------|
| | | [m] | [m] | [kNm] | [kN] | je Gurt | [kN] |
| 1 | 1 | 0.00 | 2.58 | 240.4 | 334.4 | 0.00 ^D | 0.0 |
| | 1 | 5.15 | 6.18 | 143.9 | 211.3 | 0.00 ^D | 0.0 |

D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Querkraftbewehrung Asw
M 1:70

[cm²/m]



5i Z` U[Yf_f}ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------|------------------|------------------|
| Einw. Gk | | |
| A | 201.99 | 201.99 |
| B | 113.39 | 113.39 |
| Einw. Im | | |
| A | 38.46 | 38.46 |
| B | 11.10 | 11.10 |
| Einw. Qk.N_E1 | | |
| A | 0.05 | 0.05 |
| B | 0.03 | 0.03 |
| Einw. Qk.N_DA | | |
| A | 109.87 | 109.87 |
| B | 74.39 | 74.39 |

Ñæ↑ÈËä| à→á&æã←ã‡à\æ

Bemessungsaullagerkräfte (Min/Max)

| Aufl. | Fz,d,min [kN] | Fz,d,max [kN] |
|--------------------|------------------|------------------|
| Grundkombinationen | | |
| A | 240.45 | 489.50 |
| B | 124.49 | 279.70 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ 2.10

System

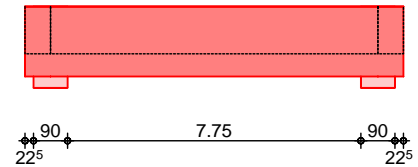
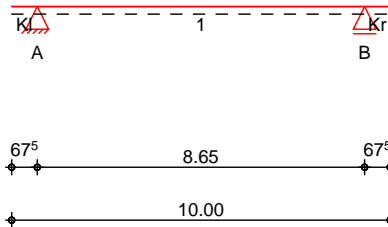
M 1:200

GHU`VYfcb!8i fW`U Zf}[Yf

Ó↔^âæ→ä\ã†&æãÁ↑↔\ÁN|b←ãá&|^&

System

Ansicht



Abmessungen

Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| Kl | 0.68 | C 30/37 | 25.0/185.0 |
| 1 | 8.65 | | |
| Kr | 0.68 | | |

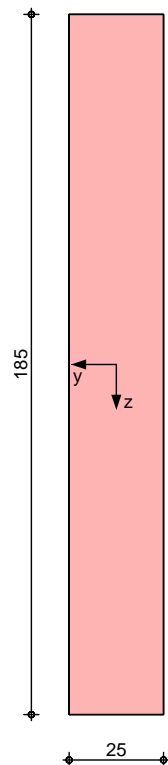
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:20



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.68 | 90.0 | Beton | fest |
| B | 9.33 | 90.0 | Beton | fest |

Q†^&bà|&æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z_F [cm] | $Y_{fl}\ddot{Y}$ | $Y_{SD}\uparrow\uparrow\ddot{Y}$ Nd |
|------|-------|---------------|------------------|--|
| Kl | glatt | 125.0 | 90 | 0.00 |
| 1 | glatt | 125.0 | 90 | 0.00 |
| Kr | glatt | 125.0 | 90 | 0.00 |

U-117

Belastungen

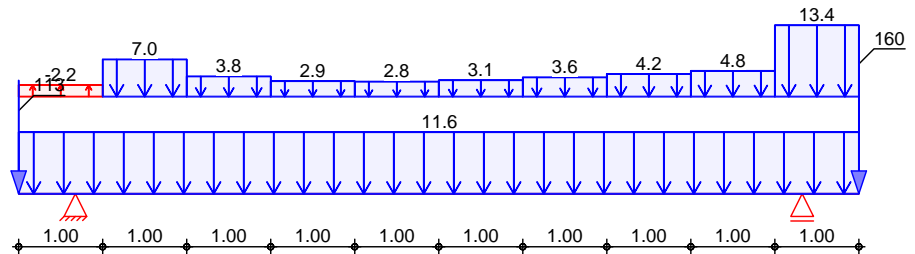
Belastungen auf das System

Grafik

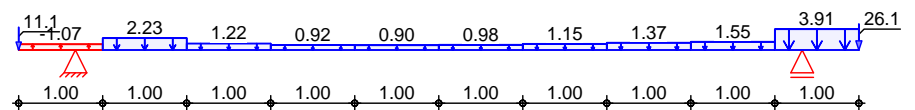
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

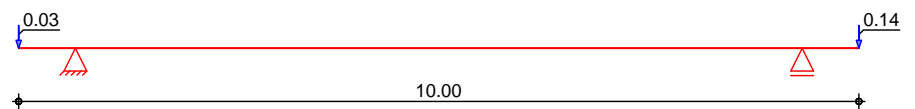
Gk



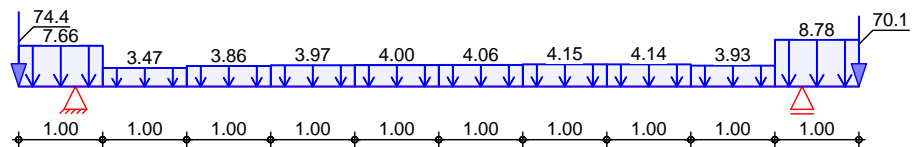
Ö←



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

| Feld | Komm. | a [m] | s [m] | q _{li} [kN/m] | q _{re} [kN/m] |
|--------|-------------|----------|----------|---------------------------|---------------------------|
| K1 | Eigengew | 0.00 | 10.00 | | 11.56 |
| (a) K1 | UZ 2.10: Gk | 0.00 | 1.00 | -2.17 | -2.17 |
| (a) K1 | UZ 2.10: Gk | 1.00 | 1.00 | 6.98 | 6.98 |
| (a) K1 | UZ 2.10: Gk | 2.00 | 1.00 | 3.78 | 3.78 |
| (a) K1 | UZ 2.10: Gk | 3.00 | 1.00 | 2.89 | 2.89 |
| (a) K1 | UZ 2.10: Gk | 4.00 | 1.00 | 2.81 | 2.81 |
| (a) K1 | UZ 2.10: Gk | 5.00 | 1.00 | 3.07 | 3.07 |
| (a) K1 | UZ 2.10: Gk | 6.00 | 1.00 | 3.60 | 3.60 |
| (a) K1 | UZ 2.10: Gk | 7.00 | 1.00 | 4.25 | 4.25 |
| (a) K1 | UZ 2.10: Gk | 8.00 | 1.00 | 4.84 | 4.84 |
| (a) K1 | UZ 2.10: Gk | 9.00 | 1.00 | 13.41 | 13.41 |
| (a) K1 | Ö← | 0.00 | 1.00 | -1.07 | -1.07 |
| (a) K1 | Ö← | 1.00 | 1.00 | 2.23 | 2.23 |
| (a) K1 | Ö← | 2.00 | 1.00 | 1.22 | 1.22 |
| (a) K1 | Ö← | 3.00 | 1.00 | 0.92 | 0.92 |
| (a) K1 | Ö← | 4.00 | 1.00 | 0.90 | 0.90 |

Einw. Im

| | Feld | Komm. | a | s | Q _{li} | Q _{re} | |
|---------------|------|-------|------------------|------|-----------------|-----------------|------|
| | | | [m] | [m] | [kN/m] | [kN/m] | |
| | (a) | Kl | ÜXÁGÈFēiÁ Ö← | 5.00 | 1.00 | 0.98 | 0.98 |
| | (a) | Kl | ÜXÁGÈFēiÁ Ö← | 6.00 | 1.00 | 1.15 | 1.15 |
| | (a) | Kl | ÜXÁGÈFēiÁ Ö← | 7.00 | 1.00 | 1.37 | 1.37 |
| | (a) | Kl | ÜXÁGÈFēiÁ Ö← | 8.00 | 1.00 | 1.55 | 1.55 |
| | (a) | Kl | ÜXÁGÈFēiÁ Ö← | 9.00 | 1.00 | 3.91 | 3.91 |
| Einw. Qk.N_DA | (a) | Kl | UZ 2.10: Qk.N_DA | 0.00 | 1.00 | 7.66 | 7.66 |
| | (a) | Kl | UZ 2.10: Qk.N_DA | 1.00 | 1.00 | 3.47 | 3.47 |
| | (a) | Kl | UZ 2.10: Qk.N_DA | 2.00 | 1.00 | 3.86 | 3.86 |
| | (a) | Kl | UZ 2.10: Qk.N_DA | 3.00 | 1.00 | 3.97 | 3.97 |
| | (a) | Kl | UZ 2.10: Qk.N_DA | 4.00 | 1.00 | 4.00 | 4.00 |
| | (a) | Kl | UZ 2.10: Qk.N_DA | 5.00 | 1.00 | 4.06 | 4.06 |
| | (a) | Kl | UZ 2.10: Qk.N_DA | 6.00 | 1.00 | 4.15 | 4.15 |
| | (a) | Kl | UZ 2.10: Qk.N_DA | 7.00 | 1.00 | 4.14 | 4.14 |
| | (a) | Kl | UZ 2.10: Qk.N_DA | 8.00 | 1.00 | 3.93 | 3.93 |
| | (a) | Kl | UZ 2.10: Qk.N_DA | 9.00 | 1.00 | 8.78 | 8.78 |

(a) aus Pos. 'D-2.OG - UZ 2.10'

Punktlasten in z-Richtung

| | Feld | Komm. | a [m] | F _z [kN] |
|---------------|------|-------|----------|------------------------|
| Einw. Gk | (a) | Kl | 0.00 | 113.39 |
| | (b) | Kr | 0.68 | 160.09 |
| Einw. Im | (a) | Kl | 0.00 | 11.10 |
| | (b) | Kr | 0.68 | 26.07 |
| Einw. Qk.N_E1 | (a) | Kl | 0.00 | 0.03 |
| | (b) | Kr | 0.68 | 0.14 |
| Einw. Qk.N_DA | (a) | Kl | 0.00 | 74.39 |
| | (b) | Kr | 0.68 | 70.12 |

(a) aus Pos. 'UZ 2.5', Lager 'B' (Seite 24)

(b) aus Pos. 'UZ 2.4', Lager 'B' (Seite 18)

Kombi nati onen

| Ek | (* *EW) | | |
|----|--------------------------|-----------|--------------------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (Kl) |
| | +1.50*Qk.N_DA (Kl) | | |
| 3 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA (1) |
| 4 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (Kl,Kr) |
| | +1.50*Qk.N_DA (Kl,Kr) | | |
| 5 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (Kl) |
| | +1.50*Qk.N_DA (Kl,1) | | |
| 6 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (Kr) |
| | +1.50*Qk.N_DA (Kr) | | |
| 7 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_DA (1) |
| 8 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (Kl,Kr) |
| | +1.50*Qk.N_DA (Kl,Kr) | | |
| 9 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_E1 (Kl) |
| | +1.50*Qk.N_DA (Kl,1) | | |

| Ek | (* *EW) | | |
|----|-------------------------|-----------|-----------------------|
| 10 | 1.35*Gk | EFEGIE Ö← | +1.50*Qk.N_E1 (Kr) |
| | +1.50*Qk.N_DA (Kr) | | |
| 11 | 1.00*Gk | EFEGIE Ö← | +1.50*Qk.N_E1 (Kl) |
| | +1.50*Qk.N_DA (Kl) | | |
| 12 | 1.35*Gk | EFEGIE Ö← | +1.50*Qk.N_E1 (Kr) |
| | +1.50*Qk.N_DA (1,Kr) | | |
| 13 | 1.00*Gk | EFEGIE Ö← | +1.50*Qk.N_E1 (Kr) |
| | +1.50*Qk.N_DA (Kr) | | |

Bemessung (GZT)

ÄfiÄÄä^ÄÖä~ | b\á^äÄäÄÜäá&à†ä↔ä←ä↔\Ä^á´äÄØSÄÓSÄ
1992-1-1:2011-01

Bi egung

Abs. 6.1

Ñæ†æbb | ^&ÄfiÄÄT | æäæäá^b*ä | ´ä | ^&

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| Kragarm links | | | | | | |
| (L = 0.68 m) | | | | | | |
| 0.00 | 1 | - | 3.4E-4 | 180.5 | - | 5.09 _M |
| | 1 | - | - | - | - | - |
| 0.23 _a | 2 | -63.51 | 0.020 | 179.3 | 0.78 | 5.09 _M |
| | 1 | -28.22 | - | - | - | - |
| 0.67 | 2 | -109.29 | 0.026 | 178.9 | 1.34 | 5.09 _M |
| | 1 | -85.93 | - | - | - | - |
| Feld 1 | | | | | | |
| (L = 8.65 m) | | | | | | |
| 0.00 | 4 | -109.29 | 0.026 | 178.9 | 1.34 | 5.09 _M |
| | 3 | -85.93 | - | - | - | - |
| 0.45 _a | 4 | -155.08 | 0.032 | 178.5 | 1.90 | 5.09 _M |
| | 3 | -46.24 | - | - | - | 1.27 _F |
| 1.07 | 4 | -109.84 | 0.027 | 178.9 | 1.35 | 5.09 _M |
| | 3 | - | 0.010 | 176.0 | - | 5.09 _M |
| 4.10* | 8 | -33.69 | 0.014 | 179.6 | 0.41 | 5.09 _M |
| | 7 | 115.36 | 0.027 | 178.8 | 1.41 | 5.09 _M |
| 8.20 _a | 4 | -207.27 | 0.037 | 178.1 | 2.55 | 5.09 _M |
| | 3 | -86.97 | - | - | - | 1.27 _F |
| 8.65 | 4 | -144.43 | 0.031 | 178.6 | 1.77 | 5.09 _M |
| | 3 | -132.24 | - | - | - | - |
| Kragarm rechts | | | | | | |
| (L = 0.68 m) | | | | | | |
| 0.00 | 10 | -144.43 | 0.031 | 178.6 | 1.77 | 5.09 _M |
| | 1 | -132.24 | - | - | - | - |
| 0.45 _a | 10 | -81.58 | 0.023 | 179.1 | 1.00 | 5.09 _M |
| | 1 | -42.62 | - | - | - | - |
| 0.67 | 1 | - | 3.4E-4 | 180.5 | - | 5.09 _M |
| | 1 | - | - | - | - | - |

a: Auflagerrand

*: maximales Feldmoment

f: {æä→†^æä\æÄÖæ→äâæ}ÈÄ^á´ääNâbÈÄIÈGÈFÈHÇFDEÄIÈGÈFÈGÇFD

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Ñæ†æbb | ^&ÄfiÄÄT | æä←äää\âæá^b*ä | ´ä | ^&

| x | Ek | V _{Ed} | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|--------------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | YΠŸ | [kN] | [cm ² /m] |
| Kragarm links | | | | | |
| (L = 0.68 m) | | | | | |
| 0.00 _v | 2 | 17.43 _R | 45.0 | 2589.05 | - |
| 0.23 _a | 2 | 22.54 _R | 45.0 | 2589.05 | 3.26 _F |
| 0.67 | 2 | 32.77 _R | 45.0 | 2589.05 | - |
| Feld 1 | | | | | |
| (L = 8.65 m) | | | | | |
| 0.00 | 5 | 57.98 _R | 18.4 | 1553.43 | - |

Kragarm rechts

| x [m] | Ek | V _{Ed} [kN] | γ _{fl} Ÿ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|-------------------|----|-------------------------|-------------------|-----------------------------|---------------------------|---|
| 0.46 _a | 5 | 57.98 _R | 18.4 | 1553.43 | - | 2.32 _M |
| 2.26 _v | 5 | 57.98 | 18.4 | 1553.43 | 96.21 | 2.32 _M |
| 4.10 | 13 | 10.61 _R | 18.4 | 1553.43 | 96.21 | 2.32 _M |
| 6.40 _v | 12 | 72.38 | 18.4 | 1553.43 | 96.21 | 2.32 _M |
| 8.20 _a | 12 | 72.38 _R | 18.4 | 1553.43 | - | 2.32 _M |
| 8.65 | 12 | 72.38 _R | 18.4 | 1553.43 | - | - |

(L = 0.68 m)

| | | | | | | |
|-------------------|----|--------------------|------|---------|---|-------------------|
| 0.00 | 10 | 57.44 _R | 45.0 | 2589.05 | - | - |
| 0.46 _a | 10 | 33.97 _R | 45.0 | 2589.05 | - | 4.50 _F |
| 0.68 _v | 10 | 22.23 _R | 45.0 | 2589.05 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ Ÿ ↑ Ÿ |
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|-----------------------------------|
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|-----------------------------------|

Nöpiuhwig"3

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

glatt (c=0.20, =0.60, =0.20)

Pää&ää↑Ä→EÄEÄP~^\'ä←\à→†'äæ^ääæ↔\æÄÄÄKÄGIEÈÄ'↑

| | | | | | |
|------|---------|--------|--------|-------|------|
| 0.00 | -279.70 | 154.96 | 425.00 | 56.67 | 3.14 |
|------|---------|--------|--------|-------|------|

Nöpiuhwig"4

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

glatt (c=0.20, =0.60, =0.20)

Ôæ→ÄÄFÄEÄP~^\'ä←\à→†'äæ^ääæ↔\æÄÄÄKÄGIEÈÄ'↑

| | | | | | |
|-------------------|---------|-------|--------|-------|------|
| 1.05 | 93.30 | 52.17 | 425.00 | 56.67 | - |
| 2.26 _v | 57.98 | 32.37 | 425.00 | 56.67 | - |
| 6.40 _v | -72.38 | 40.41 | 425.00 | 56.67 | - |
| 7.41 | -102.36 | 57.31 | 425.00 | 56.67 | 0.02 |
| 7.60 | -108.01 | 60.51 | 425.00 | 56.67 | 0.12 |

Nöpiuhwig"5

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

glatt (c=0.20, =0.60, =0.20)

Pää&ää↑ÄæEÄEÄP~^\'ä←\à→†'äæ^ääæ↔\æÄÄÄKÄGIEÈÄ'↑

| | | | | | |
|------|--------|--------|--------|-------|------|
| 0.68 | 356.71 | 197.62 | 425.00 | 56.67 | 4.50 |
|------|--------|--------|--------|-------|------|

Bewehrungswahl

untere

Q†^&bâæ}æää| ^&

| Feld | gew. | As [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|-------------|--------------------------|----------|----------|--------------------------|--------------------------|------|
| K1 | 6â36 | 6.16 | 0.00 | 10.00 | 0.53 ^h | 0.53 ^h | 1 |

ÇQ†^&æ^Ä↔↔EÄÜæää^<-æä| ^&b→†^&æ^EÄ~ä^æÄU\=ßæD

h: gesonderte Verankerungsform erforderlich

~âæääÄQ†^&bâæ}æää| ^&

| Feld | gew. | As [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|-------------|--------------------------|----------|----------|--------------------------|--------------------------|------|
| K1 | 6â36 | 6.16 | 0.00 | 10.00 | 0.76 ^{mh} | 0.76 ^{mh} | 1 |

ÇQ†^&æ^Ä↔↔EÄÜæää^<-æä| ^&b→†^&æ^EÄ~ä^æÄU\=ßæD

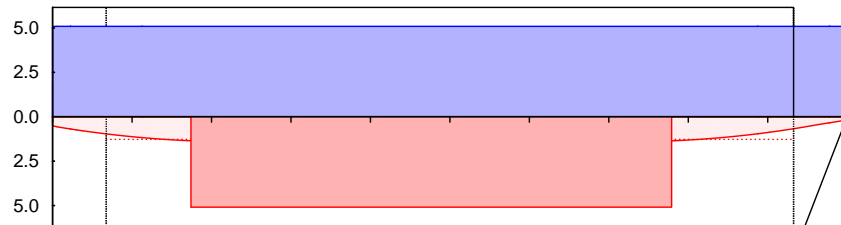
†îÄ↑†ß↔æÄÜæää|^äâæä↔&|^&æ^

h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:95

As

[cm²/m]



erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung

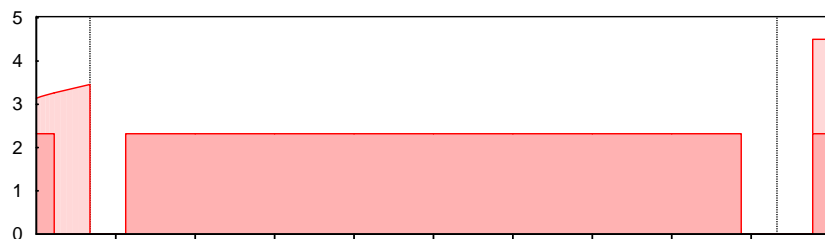
Querkraftbewehrung
M 1:95

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| K.1i | 0.00 | 10.00 | 16 | 20.0 | 2 | 5.03 |

Querkraftbewehrung
M 1:95

A_{sw}

[cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

5i Z`U[Yf_f}ZhY

N|à→á&æã←ã†à\æÁÜã†&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | |
|--|------------------------------|------------------------------|--|
| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] | |
| Einw. G _k | | | |
| A | 181.79 | 181.79 | |
| B | 250.79 | 250.79 | |
| Einw. I _m | | | |
| A | 14.10 | 14.10 | |
| B | 36.21 | 36.21 | |
| Einw. Q _{k,N_E1} | | | |
| A | -0.01 | 0.04 | |
| B | 0.00 | 0.15 | |
| Einw. Q _{k,N_DA} | | | |
| A | -5.70 | 103.55 | |
| B | -6.01 | 100.69 | |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

3.2.4 Türstürze

Der Nachweis von Sturz WS-2.18_2 gilt auch für WS-2.18_1 und WS-2.18_3.

Der Nachweis von Sturz WS-2.30_1 gilt auch für WS-2.5, WS-2.27_1, WS-2.27_2, WS-2.30_2, WS-T-2.3, WS-T-2.3.

Übersicht der Bewehrungswahl:

WS-2.18_2: unten: 1. Lage: 4Ø12

oben: 1. Lage: 2Ø12

quer: Ø8/20

WS-2.30_1: unten: 1. Lage: 4Ø12

oben: 1. Lage: 2Ø12

quer: Ø8/20

Kombinationen

b\†^ä↔&D{~äfiâæã&E

&æ†‡BÄØSÁÓSÁFiiGëFëFÁ|^äÄØSÁÓSÁFii€

Ek (* *EW)

| | | | |
|---|---------------|-----------|---------------|
| 1 | 1.00*Gk | ëFëëëë Ö← | |
| 2 | 1.35*Gk | ëFëëëë Ö← | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |

Bemessung (GZT)

äfiäÄäæ^ÄÖäæ^~ | b\á^äÄäæäÄÜäá&à†ä↔&←æ↔\Ä^á^äÄØSÁÓSÁ
1992-1-1:2011-01

Belegung

Abs. 6.1

Ñæ†æbb|^&ÄäfiäÄÑ↔æ&æäæá^b*ä|^á|^&

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| M _{yd,u} | | | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 1.84 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 0.74 _e |
| | 1 | - | 0.002 | 35.6 | - | 3.05 _q |
| 0.13 _a | 1 | 5.27 | - | - | - | 0.74 _e |
| | 2 | 11.93 | 0.046 | 35.0 | 0.75 | 3.05 _q |
| 0.92* | 1 | 20.85 | - | - | - | - |
| | 2 | 47.17 | 0.116 | 33.9 | 3.05 | 3.05 |
| 1.72 _a | 1 | 5.27 | - | - | - | 0.74 _e |
| | 2 | 11.93 | 0.046 | 35.0 | 0.75 | 3.05 _q |
| 1.84 | 1 | - | - | - | - | 0.74 _e |
| | 1 | - | 0.002 | 35.6 | - | 3.05 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

Ñæ†æbb|^&ÄäfiäÄT|æä↔äáä\âæá^b*ä|^á|^&

| x | Ek | V _{Ed} | γf _l | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|--------------------|-----------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 1.84 m) | | | | | | |
| 0.00 | 2 | 48.93 _R | 18.4 | 275.40 | - | - |
| 0.13 _a | 2 | 48.93 _R | 18.4 | 275.40 | - | 2.50 _M |
| 0.48 _v | 2 | 48.93 | 18.4 | 275.40 | 43.25 | 2.50 _M |
| 0.92 | 2 | - | 18.4 | 275.40 | 43.25 | 2.50 _M |
| 1.36 _v | 2 | 48.93 | 18.4 | 275.40 | 43.25 | 2.50 _M |
| 1.72 _a | 2 | 48.93 _R | 18.4 | 275.40 | - | 2.50 _M |
| 1.84 | 2 | 48.93 _R | 18.4 | 275.40 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

Bewehrungswahl

untere

Q†^&bâæ}æää|^&

| Feld | gew. | A _s | a | l | l _{bd,l} | l _{bd,r} | Lage |
|------|------|--------------------|-------|------|-------------------|-------------------|------|
| | | [cm ²] | [m] | [m] | [m] | [m] | |
| 1 | 6ã34 | 4.52 | -0.13 | 1.97 | 0.14 ^h | 0.14 | 1 |

ÇQ†^&æ^Ä↔^↔ëÄÜæää^←æä|^&b→†^&æ^ëÄ~á^æÄU\=BæD

h: gesonderte Verankerungsform erforderlich

~âæãæÄQ†^&bâæ}æää|^&

| Feld | gew. | A _s | a | l | l _{bd,l} | l _{bd,r} | Lage |
|------|------|--------------------|-------|------|--------------------|-------------------|------|
| | | [cm ²] | [m] | [m] | [m] | [m] | |
| 1 | 4ã34 | 2.26 | -0.13 | 1.97 | 0.22 ^{mh} | 0.22 ^m | 1 |

ÇQ†^&æ^Ä↔^↔ëÄÜæää^←æä|^&b→†^&æ^ëÄ~á^æÄU\=BæD

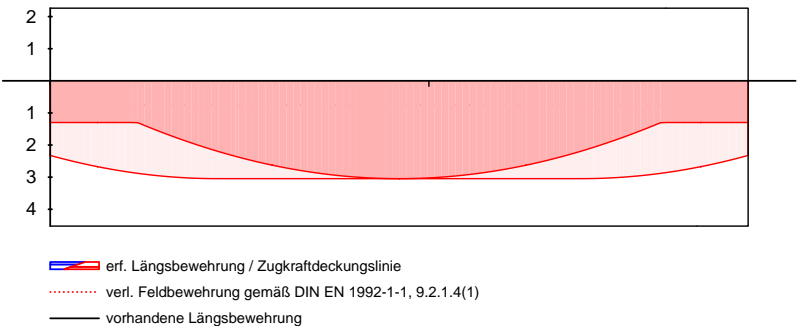
†Ä†‡B↔&æÄÜæää|^&âæä↔^&|^&æ^

h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:20

As

[cm²/m]



Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 1.84 | ã: | 20.0 | 2 | 5.03 |

Si Z` U[Yf_f}ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | |
|--|------------------------------|------------------------------|
| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
| Einw. G _k | | |
| A | 35.00 | 35.00 |
| B | 35.00 | 35.00 |
| Einw. I _m | | |
| A | 10.24 | 10.24 |
| B | 10.24 | 10.24 |
| Einw. Q _{k,N_E1} | | |
| A | 19.99 | 19.99 |
| B | 19.99 | 19.99 |
| Einw. Q _{k,N_DA} | | |
| A | 7.54 | 7.54 |
| B | 7.54 | 7.54 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Bewehrungswahl | OK | |

Pos. WS-2.30_1

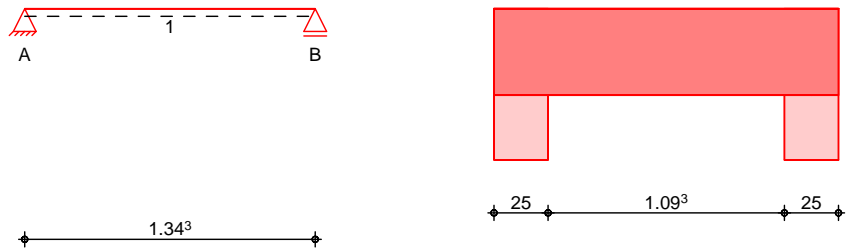
GHU `VYfcb!8 i fW `U Zf} [Yf

Dieser Nachweis gilt auch für die Stürze WS-2.5, WS-2.27_1, WS-2.27_2, WS-2.30_2, WS-T-2.3, WS-T-2.4.

System

M 1 : 35

Ó↔^âæ→ä\ã‡&æãÃÇGIEÈÐHÈÈÐFĞHÈĞD
System Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 1.34 | C 25/30 | 25.0/40.0 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 1.34 | 25.0 | Beton | fest |

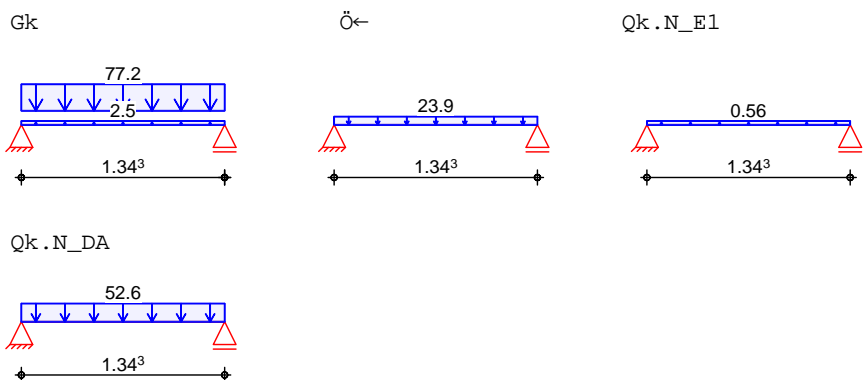
Belastungen

Belastungen auf das System

Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen



Streckenlasten in z-Richtung

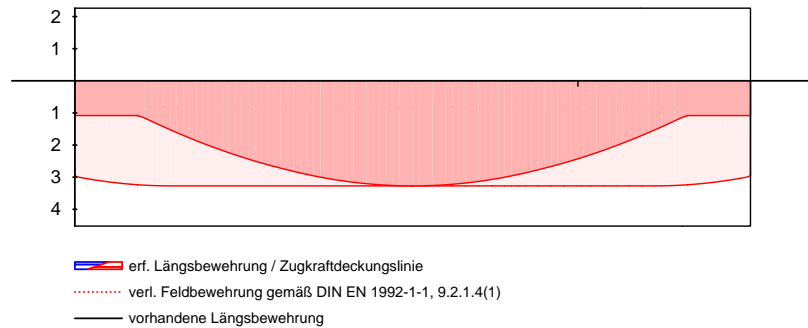
Gleichlasten

| Einw. | Feld | Komm. | a [m] | s [m] | q_{li} [kN/m] | q_{re} [kN/m] |
|---------|-------|----------|----------|----------|--------------------|--------------------|
| Gk | 1 | Eigengew | 0.00 | 1.34 | | 2.50 |
| Im | (a) 1 | | 0.00 | 1.34 | | 77.24 |
| Qk.N_E1 | (a) 1 | | 0.00 | 1.34 | | 23.93 |
| Qk.N_DA | (a) 1 | | 0.00 | 1.34 | | 0.56 |
| | (a) 1 | | 0.00 | 1.34 | | 52.57 |

Längsbewehrung
M 1:15

As

[cm²]



Querkraftbewehrung
ÇÑfi&æ→D

| Feld | xa [m] | xe [m] | ds [mm] | s [cm] | Schn. [-] | asw [cm ² /m] |
|------|-----------|-----------|------------|-----------|--------------|-----------------------------|
| 1 | 0.00 | 1.34 | ã: | 20.0 | 2 | 5.03 |

Si Z` U[Yf_f } ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | |
|--|--------------------|--------------------|-------|
| Aufl. | Fz, k, min [kN] | Fz, k, max [kN] | |
| Einw. Gk | A | 53.54 | 53.54 |
| | B | 53.54 | 53.54 |
| Einw. Im | A | 16.07 | 16.07 |
| | B | 16.07 | 16.07 |
| Einw. Qk.N_E1 | A | 0.37 | 0.37 |
| | B | 0.37 | 0.37 |
| Einw. Qk.N_DA | A | 35.30 | 35.30 |
| | B | 35.30 | 35.30 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Bewehrungswahl | OK | |

3.3 1. Obergeschoss

3.3.1 Mehrfeldträger

Übersicht der Bewehrungswahl:

| | | |
|----------|--------|---|
| UZ-1.1: | unten: | 1. Lage: 4Ø20 2. Lage: 2Ø14 (Feld 4) |
| | oben: | 1. Lage: 4Ø20 2. Lage: 2Ø20 (Feld 2-4) |
| | quer: | Ø8/15 (Feld 1-3) Ø8/7,5 (Feld 4) |
| UZ-1.8: | unten: | 1. Lage: 4Ø14 |
| | oben: | 1. Lage: 4Ø14 |
| | quer: | Ø8/15 |
| UZ-1.10: | unten: | 1. Lage: 4Ø14 2. Lage: 4Ø14 |
| | oben: | 1. Lage: 4Ø14 2. Lage: 2Ø14 |
| | quer: | Ø8/10 |
| UZ-1.11: | unten: | 1. Lage: 4Ø20 |
| | oben: | 1. Lage: 4Ø20 2. Lage: 2Ø20 |
| | quer: | Ø10/15 |
| UZ-1.12: | unten: | 1. Lage: 4Ø14 2. Lage: 4Ø14 |
| | oben: | 1. Lage: 4Ø14 2. Lage: 2Ø14 |
| | quer: | Ø8/10 |

Pos. UZ-1.1

GHU `VYfcb!8 i fW `U Zf} [Yf

Dieser Unterzug muss mit einer rauen Fuge hergestellt werden.

Verankerungslänge:

unten:

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 71 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 0,7 * 71 \text{ cm} * 7,76 \text{ cm}^2 / 18,84 \text{ cm}^2 = 21 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 0,7 * 71 \text{ cm} = 15 \text{ cm} \quad 10 \varnothing_l = 20 \text{ cm}$$

-> **$l_{bd} = 21 \text{ cm}$**

oben:

Es ist eine Verankerung mit Haken für die obere Längsbewehrung erforderlich.

$$l_{b,rqd} = 102 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 0,7 * 102 \text{ cm} * 3,17 \text{ cm}^2 / 12,56 \text{ cm}^2 = 18 \text{ cm} \quad l_{b,min}$$

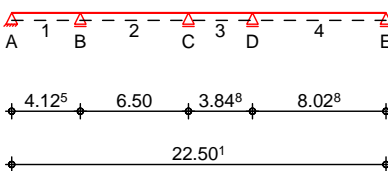
$$l_{b,min} = 0,3 * 0,7 * l_{b,rqd} = 0,3 * 0,7 * 102 \text{ cm} = 21,5 \text{ cm} \quad 10 \varnothing_l = 20 \text{ cm}$$

-> **$l_{bd} = 21,5 \text{ cm}$**

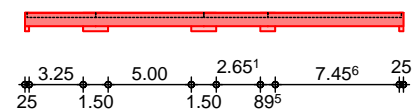
System

M 1 : 455

System



Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 4.13 | C 30/37 | 25.0/81.0 |
| 2 | 6.50 | | |
| 3 | 3.85 | | |
| 4 | 8.03 | | |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 4.13 | 150.0 | Beton | fest |
| C | 10.63 | 150.0 | Beton | fest |

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Schulcampus EWK \

UZ-1.1

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| D | 14.47 | 89.5 | Beton | fest |
| E | 22.50 | 25.0 | Beton | fest |

Q_z & b_a | & æ[^]ÄÄÄÄÄÄÄÄÄÄ

| Feld | Fuge | Z_f [cm] | γ_{fl} | γ_{SD} | N_d |
|------|------|---------------|---------------|---------------|-------|
| 1 | rau | 28.0 | 90 | | 0.00 |
| 2 | rau | 28.0 | 90 | | 0.00 |
| 3 | rau | 28.0 | 90 | | 0.00 |
| 4 | rau | 28.0 | 90 | | 0.00 |

Belastungen

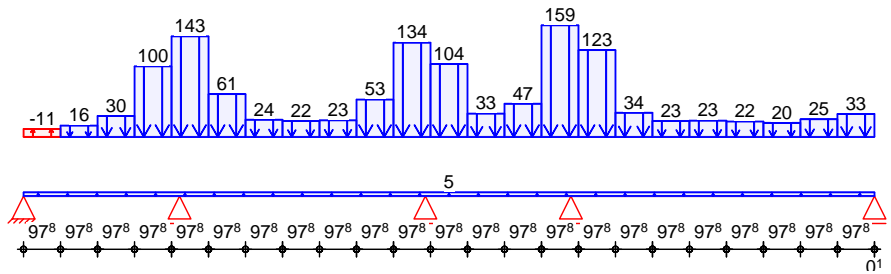
Belastungen auf das System

Grafik

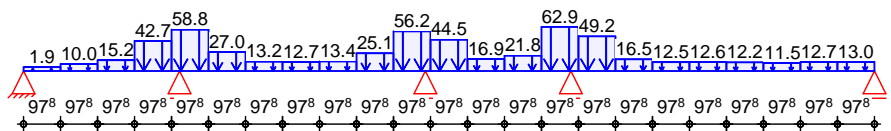
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

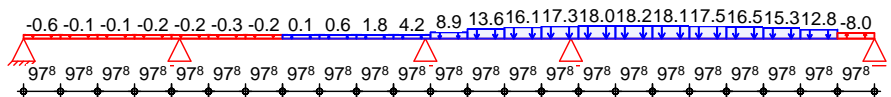
Gk



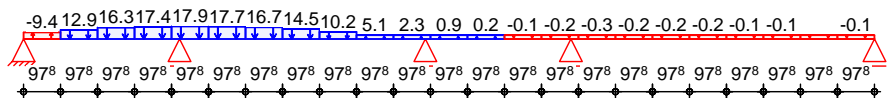
Ö←



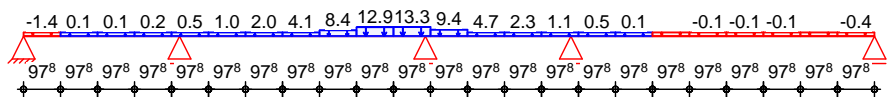
Qk.N_B1



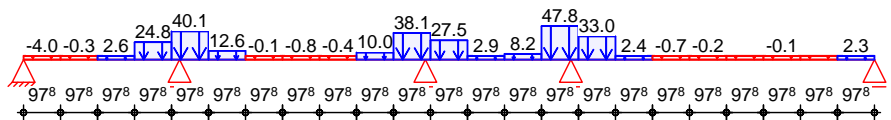
Qk.N_C1



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

| | Feld | Komm. | a [m] | s [m] | Q _{1i} [kN/m] | Q _{re} [kN/m] |
|---------------|------|-----------------|----------|----------|---------------------------|---------------------------|
| Einw. Gk | 1 | Eigengew | 0.00 | 22.50 | | 5.06 |
| (a) | 1 | UZ-1.1: Gk | 0.00 | 0.98 | -11.33 | -11.33 |
| (a) | 1 | UZ-1.1: Gk | 0.98 | 0.98 | 16.05 | 16.05 |
| (a) | 1 | UZ-1.1: Gk | 1.96 | 0.98 | 29.79 | 29.79 |
| (a) | 1 | UZ-1.1: Gk | 2.93 | 0.98 | 100.27 | 100.27 |
| (a) | 1 | UZ-1.1: Gk | 3.91 | 0.98 | 142.98 | 142.98 |
| (a) | 1 | UZ-1.1: Gk | 4.89 | 0.98 | 60.82 | 60.82 |
| (a) | 1 | UZ-1.1: Gk | 5.87 | 0.98 | 24.43 | 24.43 |
| (a) | 1 | UZ-1.1: Gk | 6.85 | 0.98 | 22.44 | 22.44 |
| (a) | 1 | UZ-1.1: Gk | 7.83 | 0.98 | 23.45 | 23.45 |
| (a) | 1 | UZ-1.1: Gk | 8.80 | 0.98 | 53.09 | 53.09 |
| (a) | 1 | UZ-1.1: Gk | 9.78 | 0.98 | 134.09 | 134.09 |
| (a) | 1 | UZ-1.1: Gk | 10.76 | 0.98 | 103.62 | 103.62 |
| (a) | 1 | UZ-1.1: Gk | 11.74 | 0.98 | 33.10 | 33.10 |
| (a) | 1 | UZ-1.1: Gk | 12.72 | 0.98 | 47.18 | 47.18 |
| (a) | 1 | UZ-1.1: Gk | 13.70 | 0.98 | 158.69 | 158.69 |
| (a) | 1 | UZ-1.1: Gk | 14.67 | 0.98 | 123.46 | 123.46 |
| (a) | 1 | UZ-1.1: Gk | 15.65 | 0.98 | 34.36 | 34.36 |
| (a) | 1 | UZ-1.1: Gk | 16.63 | 0.98 | 22.72 | 22.72 |
| (a) | 1 | UZ-1.1: Gk | 17.61 | 0.98 | 23.10 | 23.10 |
| (a) | 1 | UZ-1.1: Gk | 18.59 | 0.98 | 21.82 | 21.82 |
| (a) | 1 | UZ-1.1: Gk | 19.57 | 0.98 | 19.98 | 19.98 |
| (a) | 1 | UZ-1.1: Gk | 20.54 | 0.98 | 25.04 | 25.04 |
| (a) | 1 | UZ-1.1: Gk | 21.52 | 0.98 | 32.61 | 32.61 |
| Einw. Im | (a) | ÜXËFÈFíÁ Ö← | 0.00 | 0.98 | 1.94 | 1.94 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 0.98 | 0.98 | 10.02 | 10.02 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 1.96 | 0.98 | 15.24 | 15.24 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 2.93 | 0.98 | 42.74 | 42.74 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 3.91 | 0.98 | 58.75 | 58.75 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 4.89 | 0.98 | 27.03 | 27.03 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 5.87 | 0.98 | 13.24 | 13.24 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 6.85 | 0.98 | 12.68 | 12.68 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 7.83 | 0.98 | 13.43 | 13.43 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 8.80 | 0.98 | 25.11 | 25.11 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 9.78 | 0.98 | 56.23 | 56.23 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 10.76 | 0.98 | 44.49 | 44.49 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 11.74 | 0.98 | 16.92 | 16.92 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 12.72 | 0.98 | 21.76 | 21.76 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 13.70 | 0.98 | 62.88 | 62.88 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 14.67 | 0.98 | 49.19 | 49.19 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 15.65 | 0.98 | 16.54 | 16.54 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 16.63 | 0.98 | 12.47 | 12.47 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 17.61 | 0.98 | 12.64 | 12.64 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 18.59 | 0.98 | 12.20 | 12.20 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 19.57 | 0.98 | 11.54 | 11.54 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 20.54 | 0.98 | 12.71 | 12.71 |
| (a) | 1 | ÜXËFÈFíÁ Ö← | 21.52 | 0.98 | 13.01 | 13.01 |
| Einw. Qk.N_B1 | (a) | UZ-1.1: Qk.N_B1 | 0.00 | 0.98 | -0.57 | -0.57 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 0.98 | 0.98 | -0.07 | -0.07 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 1.96 | 0.98 | -0.13 | -0.13 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 2.93 | 0.98 | -0.21 | -0.21 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 3.91 | 0.98 | -0.25 | -0.25 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 4.89 | 0.98 | -0.26 | -0.26 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 5.87 | 0.98 | -0.17 | -0.17 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 6.85 | 0.98 | 0.08 | 0.08 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 7.83 | 0.98 | 0.65 | 0.65 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 8.80 | 0.98 | 1.80 | 1.80 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 9.78 | 0.98 | 4.23 | 4.23 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 10.76 | 0.98 | 8.88 | 8.88 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 11.74 | 0.98 | 13.57 | 13.57 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 12.72 | 0.98 | 16.11 | 16.11 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 13.70 | 0.98 | 17.33 | 17.33 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 14.67 | 0.98 | 18.02 | 18.02 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 15.65 | 0.98 | 18.22 | 18.22 |
| (a) | 1 | UZ-1.1: Qk.N_B1 | 16.63 | 0.98 | 18.08 | 18.08 |

| | Feld | Komm. | a [m] | s [m] | q _{li} [kN/m] | q _{re} [kN/m] |
|---------------|-------|-----------------|----------|----------|---------------------------|---------------------------|
| Einw. Qk.N_C1 | (a) 1 | UZ-1.1: Qk.N_B1 | 17.61 | 0.98 | 17.53 | 17.53 |
| | (a) 1 | UZ-1.1: Qk.N_B1 | 18.59 | 0.98 | 16.54 | 16.54 |
| | (a) 1 | UZ-1.1: Qk.N_B1 | 19.57 | 0.98 | 15.26 | 15.26 |
| | (a) 1 | UZ-1.1: Qk.N_B1 | 20.54 | 0.98 | 12.81 | 12.81 |
| | (a) 1 | UZ-1.1: Qk.N_B1 | 21.52 | 0.98 | -7.97 | -7.97 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 0.00 | 0.98 | -9.35 | -9.35 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 0.98 | 0.98 | 12.93 | 12.93 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 1.96 | 0.98 | 16.29 | 16.29 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 2.93 | 0.98 | 17.40 | 17.40 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 3.91 | 0.98 | 17.90 | 17.90 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 4.89 | 0.98 | 17.67 | 17.67 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 5.87 | 0.98 | 16.71 | 16.71 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 6.85 | 0.98 | 14.51 | 14.51 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 7.83 | 0.98 | 10.16 | 10.16 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 8.80 | 0.98 | 5.14 | 5.14 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 9.78 | 0.98 | 2.27 | 2.27 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 10.76 | 0.98 | 0.90 | 0.90 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 11.74 | 0.98 | 0.22 | 0.22 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 12.72 | 0.98 | -0.10 | -0.10 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 13.70 | 0.98 | -0.24 | -0.24 |
| Einw. Qk.N_E1 | (a) 1 | UZ-1.1: Qk.N_C1 | 14.67 | 0.98 | -0.26 | -0.26 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 15.65 | 0.98 | -0.24 | -0.24 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 16.63 | 0.98 | -0.20 | -0.20 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 17.61 | 0.98 | -0.16 | -0.16 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 18.59 | 0.98 | -0.12 | -0.12 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 19.57 | 0.98 | -0.08 | -0.08 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 20.54 | 0.98 | -0.04 | -0.04 |
| | (a) 1 | UZ-1.1: Qk.N_C1 | 21.52 | 0.98 | -0.14 | -0.14 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 0.00 | 0.98 | -1.42 | -1.42 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 0.98 | 0.98 | 0.06 | 0.06 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 1.96 | 0.98 | 0.11 | 0.11 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 2.93 | 0.98 | 0.19 | 0.19 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 3.91 | 0.98 | 0.47 | 0.47 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 4.89 | 0.98 | 1.00 | 1.00 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 5.87 | 0.98 | 2.02 | 2.02 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 6.85 | 0.98 | 4.13 | 4.13 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 7.83 | 0.98 | 8.43 | 8.43 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 8.80 | 0.98 | 12.88 | 12.88 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 9.78 | 0.98 | 13.33 | 13.33 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 10.76 | 0.98 | 9.41 | 9.41 |
| Einw. Qk.N_DA | (a) 1 | UZ-1.1: Qk.N_E1 | 11.74 | 0.98 | 4.73 | 4.73 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 12.72 | 0.98 | 2.26 | 2.26 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 13.70 | 0.98 | 1.08 | 1.08 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 14.67 | 0.98 | 0.47 | 0.47 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 15.65 | 0.98 | 0.13 | 0.13 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 16.63 | 0.98 | -0.04 | -0.04 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 17.61 | 0.98 | -0.11 | -0.11 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 18.59 | 0.98 | -0.13 | -0.13 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 19.57 | 0.98 | -0.10 | -0.10 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 20.54 | 0.98 | -0.04 | -0.04 |
| | (a) 1 | UZ-1.1: Qk.N_E1 | 21.52 | 0.98 | -0.43 | -0.43 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 0.00 | 0.98 | -4.00 | -4.00 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 0.98 | 0.98 | -0.32 | -0.32 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 1.96 | 0.98 | 2.62 | 2.62 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 2.93 | 0.98 | 24.80 | 24.80 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 3.91 | 0.98 | 40.14 | 40.14 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 4.89 | 0.98 | 12.62 | 12.62 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 5.87 | 0.98 | -0.08 | -0.08 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 6.85 | 0.98 | -0.77 | -0.77 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 7.83 | 0.98 | -0.37 | -0.37 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 8.80 | 0.98 | 9.97 | 9.97 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 9.78 | 0.98 | 38.14 | 38.14 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 10.76 | 0.98 | 27.50 | 27.50 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 11.74 | 0.98 | 2.94 | 2.94 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 12.72 | 0.98 | 8.15 | 8.15 |
| | (a) 1 | UZ-1.1: Qk.N_DA | 13.70 | 0.98 | 47.79 | 47.79 |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-----|------|-----------------|----------|----------|---------------------------|---------------------------|
| (a) | 1 | UZ-1.1: Qk.N_DA | 14.67 | 0.98 | 33.02 | 33.02 |
| (a) | 1 | UZ-1.1: Qk.N_DA | 15.65 | 0.98 | 2.42 | 2.42 |
| (a) | 1 | UZ-1.1: Qk.N_DA | 16.63 | 0.98 | -0.68 | -0.68 |
| (a) | 1 | UZ-1.1: Qk.N_DA | 17.61 | 0.98 | -0.17 | -0.17 |
| (a) | 1 | UZ-1.1: Qk.N_DA | 18.59 | 0.98 | -0.03 | -0.03 |
| (a) | 1 | UZ-1.1: Qk.N_DA | 19.57 | 0.98 | -0.08 | -0.08 |
| (a) | 1 | UZ-1.1: Qk.N_DA | 20.54 | 0.98 | -0.03 | -0.03 |
| (a) | 1 | UZ-1.1: Qk.N_DA | 21.52 | 0.98 | 2.28 | 2.28 |

(a) aus Pos. 'D-1.OG - UZ-1.1'

Kombi nati onen

b\†^ä↔&Đ{~ãfiâæã&Ë

&æ†‡BÄËØSÁÓŠÁFİİĞĖĖĖFÁ|^äÄËØSÁÓŠÁFİİ€

Ek (* *EW)

| | | | |
|----|--------------------------|--------------------------|--------------------------|
| 1 | 1.00*Gk | ĖFĖĖĖĖ Ö← | |
| 2 | 1.35*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.50*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (3,4) | |
| 3 | 1.00*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2) | +1.50*Qk.N_E1 (1,2) | +1.50*Qk.N_DA (2,4) |
| 4 | 1.35*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.50*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (1,3,4) | |
| 5 | 1.00*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,4) |
| 6 | 1.35*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (1,3) |
| 7 | 1.35*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (3,4) | +1.50*Qk.N_DA (1,3) |
| 8 | 1.00*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (1,3) |
| 9 | 1.35*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,4) |
| 10 | 1.00*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (3,4) | +1.50*Qk.N_DA (1,3) |
| 11 | 1.35*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2) | +1.50*Qk.N_E1 (1,2) | +1.50*Qk.N_DA (2,4) |
| 12 | 1.00*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (3,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (1,3) |
| 13 | 1.35*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.50*Qk.N_C1 (1,2) | +1.50*Qk.N_E1 (2) | |
| 14 | 1.00*Gk | ĖFĖĖĖĖ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (1,3) |

| Ek | (* *EW) | | |
|----|--------------------------|----------------------------|--------------------------|
| 15 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,4) |
| 16 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (3,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (3) |
| 17 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (1,2) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (1,2,4) |
| 18 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (3,4) | +1.50*Qk.N_E1 (3,4) | +1.50*Qk.N_DA (3) |
| 19 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (1,2) | +1.50*Qk.N_E1 (1,2) | +1.50*Qk.N_DA (1,2,4) |
| 20 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (3,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (2,3) |
| 21 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (1,2) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (1,4) |
| 22 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (2,3) |
| 23 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (1) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (1,4) |
| 24 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (2,3) |
| 25 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (1) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (1,4) |
| 26 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.50*Qk.N_E1 (1,2,3,4) | +1.50*Qk.N_DA (2,3) |
| 27 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (1) | +1.50*Qk.N_DA (1,4) | |
| 28 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.50*Qk.N_C1 (2,3,4) | +1.50*Qk.N_E1 (1,3,4) | |
| 29 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (4) |
| | +1.05*Qk.N_C1 (1) | +1.50*Qk.N_DA (1,4) | |
| 30 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (1,2,3) |
| | +1.50*Qk.N_C1 (2,3,4) | +1.50*Qk.N_E1 (1,2,3,4) | |
| 31 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |

| Ek | (* *EW) | | |
|----|--------------------------|----------------------------|--------------------------|
| | (1) | (2) | (1,2,4) |
| 32 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (3) |
| 33 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (1,2,3) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.50*Qk.N_E1 (1,2,3,4) | +1.50*Qk.N_DA (2,3) |
| 34 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (1) | +1.50*Qk.N_DA (1,2,4) | |
| 35 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.50*Qk.N_E1 (1,2,3,4) | +1.50*Qk.N_DA (3) |
| 36 | 1.00*Gk | EFEEÖ | +1.50*Qk.N_B1 (4) |
| | +1.05*Qk.N_C1 (1) | | |
| 37 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,2,3) |
| | +1.05*Qk.N_C1 (2,4) | +1.50*Qk.N_E1 (1,2,3,4) | +1.50*Qk.N_DA (2,3) |
| 38 | 1.35*Gk | EFEGIEÖ | +1.50*Qk.N_B1 (4) |
| | +1.05*Qk.N_C1 (1,3) | | |
| 39 | 1.35*Gk | EFEGIEÖ | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2) | +1.50*Qk.N_E1 (1,2) | |
| 40 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C1 (2,4) | +1.50*Qk.N_E1 (1,2,4) | +1.50*Qk.N_DA (2) |
| 41 | 1.35*Gk | EFEGIEÖ | +1.50*Qk.N_B1 (3,4) |
| | +1.05*Qk.N_C1 (1,3) | +1.50*Qk.N_E1 (3) | |
| 42 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (3,4) |
| | +1.05*Qk.N_C1 (1,3) | +1.50*Qk.N_E1 (3) | +1.50*Qk.N_DA (1,3,4) |
| 43 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.50*Qk.N_E1 (1,2,4) | +1.50*Qk.N_DA (2) |
| 44 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (3,4) |
| | +1.05*Qk.N_C1 (1) | +1.50*Qk.N_E1 (3) | +1.50*Qk.N_DA (1,3,4) |
| 45 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (3,4) |
| | +1.05*Qk.N_C1 (1,3) | +1.50*Qk.N_E1 (3,4) | +1.50*Qk.N_DA (1,3,4) |
| 46 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,2) |
| | +1.50*Qk.N_C1 (2,4) | +1.50*Qk.N_E1 (1,2) | |
| 47 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C1 (2,4) | +1.50*Qk.N_E1 (1,2,4) | +1.50*Qk.N_DA (2,4) |
| 48 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (3,4) |

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| | +1.05*Qk.N_C1 (1,3) | +1.50*Qk.N_E1 (3) | +1.50*Qk.N_DA (1,3) |
| 49 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,2) |
| | +1.50*Qk.N_C1 (2,4) | +1.50*Qk.N_E1 (1,2,4) | |
| 50 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C1 (2) | +1.50*Qk.N_E1 (1,2,4) | +1.50*Qk.N_DA (2,4) |
| 51 | 1.35*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (3,4) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (3) | +1.50*Qk.N_DA (1,3) |
| 52 | 1.35*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2) | +1.50*Qk.N_E1 (1,2,4) | +1.50*Qk.N_DA (2,4) |
| 53 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (3) | +1.50*Qk.N_DA (1,3) |
| 54 | 1.35*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.50*Qk.N_E1 (3) | +1.50*Qk.N_DA (1,3) |
| 55 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2) | +1.50*Qk.N_E1 (1,2,4) | +1.50*Qk.N_DA (2,4) |

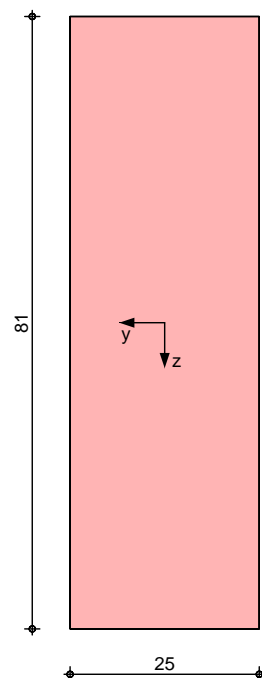
Mat./Querschnitt

Material- und Querschnittswerte nach DIN EN 1992-1-1:2011-01

Grafik

Querschnittsgrafik [cm]

M 1:10



Bemessung (GZT)

1992-1-1:2011-01

Mindestmomente

5.3.2.2(3)

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -64.61 | 0.00 | -133.41 | 0.00 |
| | C | -132.62 | 0.00 | -48.70 | 0.00 |
| | D | -54.93 | 0.00 | -406.53 | 0.00 |

Belegung

Abs. 6.1

| x | Ek | $M_{y,d,o}$ $M_{y,d,u}$ [kNm] | x/d_o x/d_u | z_o z_u [cm] | $A_{s,o}$ $A_{s,u}$ [cm ²] | $A_{s,o,erf}$ $A_{s,u,erf}$ [cm ²] |
|-------------------|----|-------------------------------------|--------------------|------------------------|--|--|
| [m] | | | | | | |
| (L = 4.12 m) | | | | | | |
| 0.00 | 1 | - | 0.001 | 76.2 | - | 2.31 _M |
| | 1 | - | 0.001 | 74.2 | - | 2.31 _M |
| 0.13 _a | 3 | -1.79 | 0.008 | 76.0 | 0.05 | 2.31 _M |
| | 2 | 2.84 | 0.011 | 74.7 | 0.08 | 2.31 _M |
| 0.98 | 3 | -11.07 | 0.020 | 75.7 | 0.32 | 2.31 _M |
| | 2 | 30.52 | 0.036 | 74.9 | 0.89 | 2.31 _M |
| 1.72 | 3 | -25.57 | 0.031 | 75.4 | 0.74 | 2.31 _M |
| | 7 | 45.10 | 0.044 | 74.7 | 1.32 | 2.31 _M |
| 3.38 _a | 15 | -176.10 | 0.098 | 73.2 | 5.27 | 5.27 |
| | 14 | -51.88 | - | - | - | 0.58 _f |
| 4.12 | 17 | -130.08 | 0.079 | 73.9 | 4.03 | 4.03 |
| | 16 | -130.08 | - | - | - | - |
| (L = 6.50 m) | | | | | | |
| 0.00 | 17 | -133.41 | 0.082 | 72.5 | 4.03 | 4.03 |
| | 16 | -130.08 | - | - | - | - |
| 0.75 _a | 21 | -133.41 | 0.082 | 72.5 | 4.03 | 4.03 |
| | 20 | -27.86 | - | - | - | 2.08 _f |
| 3.48 | 10 | 119.44 | - | - | - | - |
| | 11 | 269.63 | 0.144 | 71.7 | 8.31 | 8.31 |
| 5.75 _a | 32 | -132.62 | 0.082 | 72.5 | 4.01 | 4.01 |
| | 31 | 36.78 | 0.056 | 72.6 | 1.07 | 2.31 _M |
| 6.50 | 33 | -132.62 | 0.082 | 72.5 | 4.01 | 4.01 |
| | 36 | -99.60 | - | - | - | - |
| (L = 3.85 m) | | | | | | |
| 0.00 | 33 | -99.60 | 0.068 | 73.0 | 2.99 | 2.99 |
| | 36 | -99.60 | - | - | - | - |
| 0.75 _a | 11 | -168.46 | 0.098 | 72.0 | 5.13 | 5.13 |
| | 10 | -41.87 | - | - | - | - |
| 3.40 _a | 38 | -402.90 | 0.231 | 67.7 | 13.42 | 13.42 |
| | 37 | -192.00 | - | - | - | - |
| 3.85 | 41 | -369.03 | 0.210 | 68.3 | 13.56 | 13.56 |
| | 40 | -305.82 | - | - | - | - |
| (L = 8.03 m) | | | | | | |
| 0.00 | 41 | -406.53 | 0.233 | 67.6 | 13.56 | 13.56 |
| | 40 | -305.82 | - | - | - | - |
| 0.45 _a | 41 | -406.53 | 0.233 | 67.6 | 13.56 | 13.56 |
| | 40 | -160.89 | - | - | - | 3.75 _f |
| 4.56* | 10 | 219.97 | - | - | - | - |
| | 39 | 443.74 | 0.258 | 66.8 | 15.01 | 15.01 |
| 7.90 _a | 10 | 17.30 | - | - | - | 3.34 _e |
| | 39 | 29.92 | 0.034 | 74.0 | 0.89 | 7.98 _q |
| 8.03 | 1 | - | - | - | - | 3.34 _e |
| | 1 | - | 0.001 | 74.8 | - | 7.98 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

f: { }

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Feld 1

| x [m] | Ek | V _{Ed} [kN] | γ _{fl} Ÿ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|-------------------|----|-------------------------|-------------------|-----------------------------|---------------------------|---|
| (L = 4.12 m) | | | | | | |
| 0.00 | 2 | 21.49 | 18.4 | 655.80 | - | - |
| 0.13 _a | 2 | 23.97 | 18.4 | 655.80 | - | 2.32 _M |
| 0.89 _v | 4 | 39.35 | 18.4 | 655.80 | 77.93 | 2.32 _M |
| 0.98 | 6 | 41.40 | 18.4 | 655.80 | 77.93 | 2.32 _M |
| 1.72 | 9 | 35.43 | 18.4 | 655.80 | 77.93 | 2.32 _M |
| 2.61 _v | 13 | 98.66 | 18.4 | 655.80 | 77.93 | 2.32 _M |
| 3.38 _a | 17 | 98.66 _R | 18.4 | 655.80 | - | 2.32 _M |
| 4.12 | 19 | 98.66 _R | 18.4 | 655.80 | - | - |

Feld 2

| | | | | | | |
|-------------------|----|---------------------|------|--------|-------|-------------------|
| (L = 6.50 m) | | | | | | |
| 0.00 | 17 | 181.05 _R | 18.4 | 644.32 | - | - |
| 0.76 _a | 17 | 181.05 _R | 18.4 | 644.32 | - | 5.54 _F |
| 1.51 _v | 13 | 181.05 | 18.4 | 655.80 | 77.93 | 4.13 _F |
| 3.48 | 22 | 17.24 _R | 18.4 | 655.80 | 77.93 | 2.32 _M |
| 4.99 _v | 30 | 156.33 | 18.4 | 655.80 | 77.93 | 3.14 _F |
| 5.75 _a | 33 | 156.33 _R | 18.4 | 644.32 | - | 4.46 _F |
| 6.50 | 33 | 156.33 _R | 18.4 | 644.32 | - | - |

Feld 3

| | | | | | | |
|-------------------|----|---------------------|------|--------|-------|-------------------|
| (L = 3.85 m) | | | | | | |
| 0.00 | 36 | 140.01 _R | 18.4 | 644.32 | - | - |
| 0.76 _a | 33 | 26.27 _R | 18.4 | 644.32 | - | 2.32 _M |
| 1.50 _v | 38 | 62.43 | 18.4 | 644.32 | 88.42 | 2.32 _M |
| 2.65 _v | 41 | 181.34 | 18.4 | 644.32 | 88.42 | 4.27 _F |
| 3.40 _a | 42 | 181.34 _R | 18.4 | 644.32 | - | 5.40 _F |
| 3.85 | 42 | 181.34 _R | 18.4 | 644.32 | - | - |

Feld 4

| | | | | | | |
|-------------------|----|---------------------|------|--------|-------|--------------------|
| (L = 8.03 m) | | | | | | |
| 0.00 | 45 | 295.54 _R | 25.6 | 836.92 | - | - |
| 0.45 _a | 45 | 295.54 _R | 25.6 | 836.92 | - | 11.17 _F |
| 1.20 _v | 41 | 295.54 | 25.6 | 836.92 | 88.42 | 8.91 _F |
| 4.56 | 51 | 6.59 _R | 18.4 | 644.32 | 88.42 | 2.32 _M |
| 7.15 _v | 39 | 193.53 | 18.4 | 644.32 | 88.42 | 4.76 _F |
| 7.90 _a | 39 | 193.53 _R | 18.4 | 644.32 | - | 5.40 _F |
| 8.03 | 39 | 193.53 _R | 18.4 | 644.32 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ ↓ |
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|-------------------------------|
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|-------------------------------|

N@piuhwig"3

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

rau (c=0.40, =0.70, =0.50)

| | | | | | |
|-------------------|---------|--------|---------|--------|------|
| 0.61 | 33.54 | 44.78 | 1062.50 | 113.33 | - |
| 0.89 _v | 39.35 | 52.52 | 1062.50 | 113.33 | - |
| 2.45 | -83.29 | 121.45 | 1062.50 | 113.33 | 0.22 |
| 2.61 _v | -98.66 | 143.86 | 1062.50 | 113.33 | 0.84 |
| 2.85 | -120.02 | 175.01 | 1062.50 | 113.33 | 1.69 |

N@piuhwig"4

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

rau (c=0.40, =0.70, =0.50)

| | | | | | |
|-------------------|---------|--------|---------|--------|------|
| 1.28 | 216.58 | 315.81 | 1062.50 | 113.33 | 5.54 |
| 1.51 _v | 181.05 | 264.00 | 1062.50 | 113.33 | 4.13 |
| 2.40 | 89.60 | 130.66 | 1062.50 | 113.33 | 0.47 |
| 4.35 | -85.19 | 124.22 | 1062.50 | 113.33 | 0.30 |
| 4.99 _v | -156.33 | 227.95 | 1062.50 | 113.33 | 3.14 |
| 5.22 | -189.38 | 276.14 | 1062.50 | 113.33 | 4.46 |

N@piuhwig"5

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

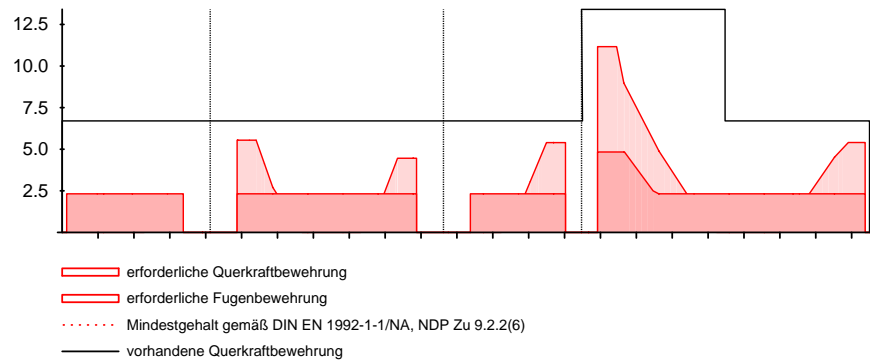
rau (c=0.40, =0.70, =0.50)

Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 14.50 | ã: | 15.0 | 2 | 6.70 |
| 4 | 0.00 | 4.00 | ã: | 7.5 | 2 | 13.40 |
| | 4.00 | 8.02 | ã: | 15.0 | 2 | 6.70 |

Querkraftbewehrung Asw
M 1:210

[cm²/m]



5i Z` U[Yf_f} ZhY

N| à→á&æã←ã†à\æÁÜã†&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 2.40 | 2.40 |
| B | 407.34 | 407.34 |
| C | 339.21 | 339.21 |
| D | 476.38 | 476.38 |
| E | 103.28 | 103.28 |
| Einw. I _m | | |
| A | 5.23 | 5.23 |
| B | 169.61 | 169.61 |
| C | 141.56 | 141.56 |
| D | 191.87 | 191.87 |
| E | 42.22 | 42.22 |
| Einw. Q _{k,N_B1} | | |
| A | -2.12 | 0.65 |
| B | -2.87 | 5.45 |
| C | -32.22 | 30.27 |
| D | -0.67 | 138.07 |
| E | -0.89 | 30.13 |
| Einw. Q _{k,N_C1} | | |
| A | -8.24 | 6.75 |
| B | -0.10 | 94.20 |
| C | -3.53 | 38.99 |
| D | -10.88 | 1.22 |
| E | -0.46 | 0.61 |
| Einw. Q _{k,N_E1} | | |
| A | -3.74 | 0.25 |
| B | -0.92 | 12.40 |
| C | 0.00 | 49.38 |
| D | -5.83 | 6.05 |
| E | -0.78 | 0.37 |
| Einw. Q _{k,N_DA} | | |
| A | -3.93 | 0.96 |
| B | -2.54 | 78.89 |
| C | -7.26 | 84.48 |
| D | -5.25 | 92.60 |
| E | -0.95 | 3.51 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-1.8

GHU`VYfcb!8i fW`U Zf}[Yf

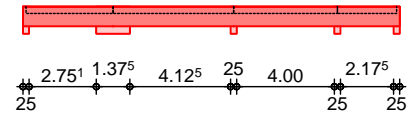
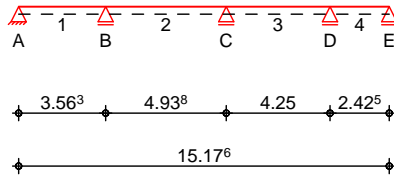
System

Ræåãäæ→ä\ã‡&æã

System

Ansicht

M 1:310



Abmessungen

Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 3.56 | C 30/37 | 25.0/81.0 |
| 2 | 4.94 | | |
| 3 | 4.25 | | |
| 4 | 2.43 | | |

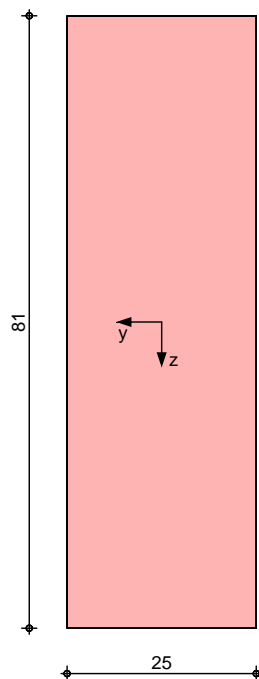
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:10



Auflager

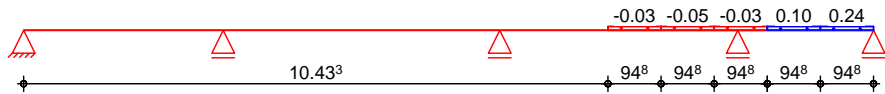
| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.56 | 137.5 | Beton | fest |
| C | 8.50 | 25.0 | Beton | fest |
| D | 12.75 | 25.0 | Beton | fest |
| E | 15.18 | 25.0 | Beton | fest |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z _f [cm] | YflŸ | Nd YSD↑↑ŸŸ |
|------|-------|------------------------|------|---------------|
| 1 | glatt | 28.0 | 90 | 0.00 |
| 2 | glatt | 28.0 | 90 | 0.00 |
| 3 | glatt | 28.0 | 90 | 0.00 |
| 4 | glatt | 28.0 | 90 | 0.00 |

U-144

Qk.N_T2



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 15.18 | | 5.06 |
| (a) 1 | UZ-1.8: Gk | 0.00 | 0.95 | -8.78 | -8.78 |
| (a) 1 | UZ-1.8: Gk | 0.95 | 0.95 | -0.77 | -0.77 |
| (a) 1 | UZ-1.8: Gk | 1.90 | 0.95 | 27.77 | 27.77 |
| (a) 1 | UZ-1.8: Gk | 2.85 | 0.95 | 95.91 | 95.91 |
| (a) 1 | UZ-1.8: Gk | 3.79 | 0.95 | 99.42 | 99.42 |
| (a) 1 | UZ-1.8: Gk | 4.74 | 0.95 | 41.78 | 41.78 |
| (a) 1 | UZ-1.8: Gk | 5.69 | 0.95 | 18.90 | 18.90 |
| (a) 1 | UZ-1.8: Gk | 6.64 | 0.95 | 16.01 | 16.01 |
| (a) 1 | UZ-1.8: Gk | 7.59 | 0.95 | 21.72 | 21.72 |
| (a) 1 | UZ-1.8: Gk | 8.54 | 0.95 | 31.22 | 31.22 |
| (a) 1 | UZ-1.8: Gk | 9.48 | 0.95 | 22.73 | 22.73 |
| (a) 1 | UZ-1.8: Gk | 10.43 | 0.95 | 12.04 | 12.04 |
| (a) 1 | UZ-1.8: Gk | 11.38 | 0.95 | 17.00 | 17.00 |
| (a) 1 | UZ-1.8: Gk | 12.33 | 0.95 | 36.82 | 36.82 |
| (a) 1 | UZ-1.8: Gk | 13.28 | 0.95 | 22.29 | 22.29 |
| (a) 1 | UZ-1.8: Gk | 14.23 | 0.95 | 8.85 | 8.85 |

Einw. Im

| | | | | | |
|-------|------------|-------|------|-------|-------|
| (a) 1 | ÜXEFÈîÁ Ö← | 0.00 | 0.95 | 0.11 | 0.11 |
| (a) 1 | ÜXEFÈîÁ Ö← | 0.95 | 0.95 | 3.41 | 3.41 |
| (a) 1 | ÜXEFÈîÁ Ö← | 1.90 | 0.95 | 15.18 | 15.18 |
| (a) 1 | ÜXEFÈîÁ Ö← | 2.85 | 0.95 | 42.19 | 42.19 |
| (a) 1 | ÜXEFÈîÁ Ö← | 3.79 | 0.95 | 41.55 | 41.55 |
| (a) 1 | ÜXEFÈîÁ Ö← | 4.74 | 0.95 | 18.46 | 18.46 |
| (a) 1 | ÜXEFÈîÁ Ö← | 5.69 | 0.95 | 10.78 | 10.78 |
| (a) 1 | ÜXEFÈîÁ Ö← | 6.64 | 0.95 | 10.05 | 10.05 |
| (a) 1 | ÜXEFÈîÁ Ö← | 7.59 | 0.95 | 11.69 | 11.69 |
| (a) 1 | ÜXEFÈîÁ Ö← | 8.54 | 0.95 | 14.32 | 14.32 |
| (a) 1 | ÜXEFÈîÁ Ö← | 9.48 | 0.95 | 11.83 | 11.83 |
| (a) 1 | ÜXEFÈîÁ Ö← | 10.43 | 0.95 | 8.54 | 8.54 |
| (a) 1 | ÜXEFÈîÁ Ö← | 11.38 | 0.95 | 9.63 | 9.63 |
| (a) 1 | ÜXEFÈîÁ Ö← | 12.33 | 0.95 | 15.13 | 15.13 |
| (a) 1 | ÜXEFÈîÁ Ö← | 13.28 | 0.95 | 10.48 | 10.48 |
| (a) 1 | ÜXEFÈîÁ Ö← | 14.23 | 0.95 | 6.93 | 6.93 |

Einw. Qk.N_B1

| | | | | | |
|-------|-----------------|-------|------|-------|-------|
| (a) 1 | UZ-1.8: Qk.N_B1 | 0.00 | 0.95 | 0.39 | 0.39 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 0.95 | 0.95 | 6.43 | 6.43 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 1.90 | 0.95 | 9.92 | 9.92 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 2.85 | 0.95 | 11.30 | 11.30 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 3.79 | 0.95 | 11.80 | 11.80 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 4.74 | 0.95 | 11.94 | 11.94 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 5.69 | 0.95 | 11.96 | 11.96 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 6.64 | 0.95 | 11.95 | 11.95 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 7.59 | 0.95 | 11.82 | 11.82 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 8.54 | 0.95 | 11.44 | 11.44 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 9.48 | 0.95 | 10.33 | 10.33 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 10.43 | 0.95 | 7.49 | 7.49 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 11.38 | 0.95 | 1.87 | 1.87 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 12.33 | 0.95 | -2.30 | -2.30 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 13.28 | 0.95 | 0.63 | 0.63 |
| (a) 1 | UZ-1.8: Qk.N_B1 | 14.23 | 0.95 | 2.62 | 2.62 |

Einw. Qk.N_C5

| | | | | | |
|-------|-----------------|-------|------|-------|-------|
| (a) 1 | UZ-1.8: Qk.N_C5 | 7.59 | 0.95 | -0.01 | -0.01 |
| (a) 1 | UZ-1.8: Qk.N_C5 | 8.54 | 0.95 | -0.02 | -0.02 |
| (a) 1 | UZ-1.8: Qk.N_C5 | 9.48 | 0.95 | -0.03 | -0.03 |
| (a) 1 | UZ-1.8: Qk.N_C5 | 10.43 | 0.95 | -0.02 | -0.02 |
| (a) 1 | UZ-1.8: Qk.N_C5 | 12.33 | 0.95 | 0.04 | 0.04 |
| (a) 1 | UZ-1.8: Qk.N_C5 | 13.28 | 0.95 | 0.04 | 0.04 |
| (a) 1 | UZ-1.8: Qk.N_C5 | 14.23 | 0.95 | 0.02 | 0.02 |

Einw. Qk.N_E1

| | | | | | |
|-------|-----------------|------|------|-------|-------|
| (a) 1 | UZ-1.8: Qk.N_E1 | 0.00 | 0.95 | -1.10 | -1.10 |
| (a) 1 | UZ-1.8: Qk.N_E1 | 0.95 | 0.95 | -0.02 | -0.02 |

| | Feld | Komm. | a | s | Q _{li} | Q _{re} | |
|---------------|------|-----------------|-----------------|-------|-----------------|-----------------|-------|
| | | | [m] | [m] | [kN/m] | [kN/m] | |
| Einw. Qk.N_DA | (a) | 1 | UZ-1.8: Qk.N_E1 | 1.90 | 0.95 | 2.35 | 2.35 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 2.85 | 0.95 | 9.75 | 9.75 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 3.79 | 0.95 | 9.12 | 9.12 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 4.74 | 0.95 | 1.53 | 1.53 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 5.69 | 0.95 | -0.08 | -0.08 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 6.64 | 0.95 | -0.02 | -0.02 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 7.59 | 0.95 | 0.04 | 0.04 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 8.54 | 0.95 | 0.06 | 0.06 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 9.48 | 0.95 | 0.09 | 0.09 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 10.43 | 0.95 | 0.12 | 0.12 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 11.38 | 0.95 | 0.24 | 0.24 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 12.33 | 0.95 | 0.45 | 0.45 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 13.28 | 0.95 | 0.07 | 0.07 |
| | (a) | 1 | UZ-1.8: Qk.N_E1 | 14.23 | 0.95 | -0.70 | -0.70 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 0.00 | 0.95 | 0.36 | 0.36 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 0.95 | 0.95 | 0.13 | 0.13 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 1.90 | 0.95 | 4.15 | 4.15 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 2.85 | 0.95 | 17.02 | 17.02 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 3.79 | 0.95 | 15.28 | 15.28 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 4.74 | 0.95 | 2.42 | 2.42 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 5.69 | 0.95 | -0.22 | -0.22 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 6.64 | 0.95 | -0.12 | -0.12 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 7.59 | 0.95 | -0.02 | -0.02 |
| | (a) | 1 | UZ-1.8: Qk.N_DA | 8.54 | 0.95 | -0.02 | -0.02 |
| (a) | 1 | UZ-1.8: Qk.N_DA | 9.48 | 0.95 | -0.06 | -0.06 | |
| (a) | 1 | UZ-1.8: Qk.N_DA | 10.43 | 0.95 | 0.11 | 0.11 | |
| (a) | 1 | UZ-1.8: Qk.N_DA | 11.38 | 0.95 | 1.87 | 1.87 | |
| (a) | 1 | UZ-1.8: Qk.N_DA | 12.33 | 0.95 | 4.37 | 4.37 | |
| (a) | 1 | UZ-1.8: Qk.N_DA | 13.28 | 0.95 | 1.66 | 1.66 | |
| (a) | 1 | UZ-1.8: Qk.N_DA | 14.23 | 0.95 | -0.26 | -0.26 | |
| Einw. Qk.N_T2 | (a) | 1 | UZ-1.8: Qk.N_T2 | 10.43 | 0.95 | -0.03 | -0.03 |
| | (a) | 1 | UZ-1.8: Qk.N_T2 | 11.38 | 0.95 | -0.05 | -0.05 |
| | (a) | 1 | UZ-1.8: Qk.N_T2 | 12.33 | 0.95 | -0.03 | -0.03 |
| | (a) | 1 | UZ-1.8: Qk.N_T2 | 13.28 | 0.95 | 0.10 | 0.10 |
| | (a) | 1 | UZ-1.8: Qk.N_T2 | 14.23 | 0.95 | 0.24 | 0.24 |

(a) aus Pos. 'D-1.OG - UZ-1.8'

Punktlasten in z-Richtung

| | | | | | |
|----------------------|-----|---|------------------------|------|--------|
| Einw. <i>Gk</i> | (a) | 1 | UZ-1.8: <i>Gk</i> | 8.50 | 107.18 |
| Einw. <i>Im</i> | (a) | 1 | ÜXEFÈÎÁ Ö← | 8.50 | 37.66 |
| Einw. <i>Qk.N_E1</i> | (a) | 1 | UZ-1.8: <i>Qk.N_E1</i> | 8.50 | 10.45 |
| Einw. <i>Qk.N_DA</i> | (a) | 1 | UZ-1.8: <i>Qk.N_DA</i> | 8.50 | 19.73 |

(a) aus Pos. 'D-1.OG - UZ-1.8'

Kombinationen

| Ek | (* *EW) | | |
|----|---------------|---------------|------------------------|
| 1 | 1.00*Gk | EFEE Ö | |
| 2 | 1.00*Gk | EFEGIE Ö | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA (1,3) |
| | (2) | (1,3,4) | (1,3) |
| 3 | 1.35*Gk | EFEE Ö | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA (2,4) |
| | (3,4) | (2) | (2,4) |
| | +1.20*Qk.N_T2 | | |
| | (3,4) | | |
| 4 | 1.00*Gk | EFEGIE Ö | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | |
| | (2) | (1,3,4) | |
| 5 | 1.00*Gk | EFEE Ö | +1.05*Qk.N_B1 |

| Ek | (* *EW) | | |
|----|------------------------|--------------------------|--------------------------|
| | | | (1,3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (1,3) |
| 6 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 7 | 1.00*Gk | ÉFÈ€€E Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (1,3) |
| 8 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2) | +1.20*Qk.N_T2 (3,4) |
| 9 | 1.00*Gk | ÉFÈ€€E Ö← | +1.50*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (3,4) | |
| 10 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (1,2) | +1.20*Qk.N_T2 (3,4) |
| 11 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (1,2) | +1.50*Qk.N_DA (1,2,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 12 | 1.00*Gk | ÉFÈ€€E Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2,3,4) | +1.50*Qk.N_DA (2,3) |
| 13 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (1) | +1.50*Qk.N_DA (1,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 14 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2,3,4) | +1.50*Qk.N_DA (2,3) |
| 15 | 1.00*Gk | ÉFÈ€€E Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (1) | +1.50*Qk.N_DA (1,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 16 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (1) | +1.20*Qk.N_T2 (3,4) |
| 17 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2) | +1.20*Qk.N_T2 (3,4) |
| 18 | 1.00*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (1) | +1.20*Qk.N_T2 (3,4) |
| 19 | 1.35*Gk | ÉFÈ€€E Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2,3,4) | +1.50*Qk.N_DA (2,3) |

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| 20 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,3,4) | |
| 21 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2,3,4) | |
| 22 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (1) | +1.20*Qk.N_T2 (3,4) |
| 23 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2,3,4) | |
| 24 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C5 (2,3,4) | +1.50*Qk.N_E1 (1) | +1.50*Qk.N_DA (1,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 25 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (2,3) |
| | +1.50*Qk.N_E1 (2,3,4) | | |
| 26 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.50*Qk.N_E1 (2,3,4) | +1.50*Qk.N_DA (2,3) | |
| 27 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,3,4) | |
| 28 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2) | +1.20*Qk.N_T2 (3,4) |
| 29 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,3,4) | |
| 30 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (1) | +1.20*Qk.N_T2 (3,4) |
| 31 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,4) | +1.20*Qk.N_T2 (3) |
| 32 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (1,3) | +1.20*Qk.N_T2 (4) |
| 33 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,3,4) | +1.50*Qk.N_DA (2,3) |
| 34 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (1) | +1.50*Qk.N_DA (1,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 35 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | |

| Ek | (* *EW) | | |
|----|------------------------|--------------------------|--------------------------|
| 36 | (3) 1.35*Gk | (2,3,4) EFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (1) | +1.20*Qk.N_T2 (3,4) |
| 37 | 1.35*Gk | EFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (1,3) | +1.50*Qk.N_DA (1,3,4) |
| | +1.20*Qk.N_T2 (4) | | |
| 38 | 1.35*Gk | EFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (1,3,4) |
| | +1.20*Qk.N_T2 (4) | | |
| 39 | 1.00*Gk | EFÈ€€€ Ö← | +1.50*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2) | +1.20*Qk.N_T2 (3) |
| 40 | 1.35*Gk | EFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (1,3,4) | +1.50*Qk.N_DA (1,3,4) |
| | +1.20*Qk.N_T2 (4) | | |
| 41 | 1.00*Gk | EFÈ€€€ Ö← | +1.50*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2) | +1.20*Qk.N_T2 (3) |
| 42 | 1.00*Gk | EFÈ€€€ Ö← | +1.50*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2,4) | +1.20*Qk.N_T2 (3,4) |
| 43 | 1.35*Gk | EFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,3) | |
| 44 | 1.35*Gk | EFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,3) | +1.20*Qk.N_T2 (4) |
| 45 | 1.00*Gk | EFÈ€€€ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2,4) | +1.50*Qk.N_DA (2,4) |
| | +1.20*Qk.N_T2 (3) | | |
| 46 | 1.00*Gk | EFÈ€€€ Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,3) | +1.20*Qk.N_T2 (4) |
| 47 | 1.35*Gk | EFÈĞIE Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2,4) | +1.50*Qk.N_DA (2,4) |
| | +1.20*Qk.N_T2 (3) | | |

Bemessung (GZT)

àfiãÄäæ^ÄÖäæ^~ | b\á^äÄäæäÁÜäá&à†â↔&←æ↔\Á^á´äÄØSÁÓSÁ
1992-1-1:2011-01

Mindestmomente
5.3.2.2(3)

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -23.45 | 0.00 | -84.50 | 0.00 |
| | C | -64.43 | 0.00 | -55.06 | 0.00 |

U-150

Biegung

Abs. 6.1

Feld 1

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|-----------|-------|-----------------|-----------------|-----------------|-----------------|
| | D | -45.95 | 0.00 | -21.39 | 0.00 |

$\tilde{x} \uparrow \tilde{a} b b \mid \wedge \& \tilde{A} \tilde{a} \tilde{f} \tilde{i} \tilde{a} \tilde{A} \tilde{N} \leftrightarrow \tilde{a} \& \tilde{a} \tilde{a} \tilde{a} \tilde{a} \wedge \tilde{b} * \tilde{a} \mid \tilde{'} \tilde{a} \mid \wedge \&$

| x [m] | Ek | $M_{y,d,o}$ $M_{y,d,u}$ [kNm] | x/d_o x/d_u | z_o z_u [cm] | $A_{s,o}$ $A_{s,u}$ [cm ²] | $A_{s,o,erf}$ $A_{s,u,erf}$ [cm ²] |
|-------------------|----|-------------------------------------|--------------------|------------------------|--|--|
| (L = 3.56 m) | | | | | | |
| 0.00 | 1 | - | 0.001 | 76.5 | - | 2.30 _M |
| | 1 | - | 0.001 | 74.7 | - | 2.30 _M |
| 0.13 _a | 3 | -1.75 | 0.008 | 76.3 | 0.05 | 2.30 _M |
| | 2 | 0.87 | 0.008 | 74.1 | 0.03 | 2.30 _M |
| 0.95 | 3 | -11.33 | 0.020 | 76.0 | 0.33 | 2.30 _M |
| | 4 | 8.37 | 0.021 | 74.6 | 0.24 | 2.30 _M |
| 1.63* | 3 | -20.02 | 0.027 | 75.8 | 0.58 | 2.30 _M |
| | 2 | 11.96 | 0.026 | 74.5 | 0.34 | 2.30 _M |
| 2.88 _a | 6 | -74.77 | 0.055 | 75.0 | 2.18 | 2.30 _M |
| | 5 | -24.33 | - | - | - | 0.58 _f |
| 3.56 | 11 | -38.12 | 0.038 | 75.5 | 2.47 | 2.47 |
| | 9 | -38.12 | - | - | - | - |

Feld 2

| | | | | | | |
|-------------------|----|---------|-------|------|------|-------------------|
| (L = 4.94 m) | | | | | | |
| 0.00 | 11 | -84.50 | 0.060 | 74.8 | 2.47 | 2.47 |
| | 9 | -38.12 | - | - | - | - |
| 0.69 _a | 15 | -84.50 | 0.060 | 74.8 | 2.47 | 2.47 |
| | 14 | 21.97 | 0.039 | 74.0 | 0.64 | 2.30 _M |
| 2.05* | 5 | 65.42 | - | - | - | - |
| | 17 | 130.94 | 0.079 | 74.2 | 3.87 | 3.87 |
| 4.81 _a | 25 | -132.50 | 0.079 | 74.2 | 3.91 | 3.91 |
| | 24 | -71.49 | - | - | - | 0.97 _f |
| 4.94 | 25 | -133.93 | 0.080 | 74.2 | 3.96 | 3.96 |
| | 24 | -84.31 | - | - | - | - |

Feld 3

| | | | | | | |
|-------------------|----|---------|-------|------|------|-------------------|
| (L = 4.25 m) | | | | | | |
| 0.00 | 25 | -133.93 | 0.080 | 74.2 | 3.96 | 3.96 |
| | 24 | -84.31 | - | - | - | - |
| 0.12 _a | 25 | -135.37 | 0.081 | 74.1 | 4.00 | 4.00 |
| | 24 | -72.38 | - | - | - | 0.58 _f |
| 1.01 | 17 | -35.48 | 0.036 | 75.5 | 1.03 | 2.30 _M |
| | 20 | - | - | - | - | 2.30 _M |
| 2.24* | 28 | 10.25 | - | - | - | - |
| | 27 | 40.19 | 0.039 | 75.5 | 1.17 | 2.30 _M |
| 4.13 _a | 32 | -45.95 | 0.042 | 75.4 | 1.34 | 2.30 _M |
| | 31 | -16.02 | - | - | - | 0.58 _f |
| 4.25 | 32 | -45.95 | 0.042 | 75.4 | 1.34 | 2.30 _M |
| | 31 | -22.73 | - | - | - | - |

Feld 4

| | | | | | | |
|-------------------|----|--------|-------|------|------|-------------------|
| (L = 2.42 m) | | | | | | |
| 0.00 | 32 | -43.63 | 0.041 | 75.4 | 1.27 | 2.30 _M |
| | 31 | -22.73 | - | - | - | - |
| 0.13 _a | 32 | -44.37 | 0.041 | 75.4 | 1.29 | 2.30 _M |
| | 31 | -15.52 | - | - | - | 0.58 _f |
| 0.48 | 43 | -19.59 | 0.026 | 75.8 | 0.57 | 2.30 _M |
| | 42 | - | - | - | - | 2.30 _M |
| 1.38* | 20 | 4.91 | - | - | - | - |
| | 6 | 19.29 | 0.026 | 75.8 | 0.56 | 2.30 _M |
| 2.30 _a | 20 | 1.74 | - | - | - | 0.14 _e |
| | 17 | 4.16 | 0.012 | 76.2 | 0.12 | 2.30 _M |
| 2.42 | 1 | - | - | - | - | 0.14 _e |
| | 1 | - | 0.001 | 76.5 | - | 2.30 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

f: { $\tilde{a} \tilde{a} \rightarrow \tilde{t} \wedge \tilde{a} \tilde{a} \backslash \tilde{a} \tilde{O} \tilde{a} \rightarrow \tilde{a} \tilde{a} \tilde{a}$ } $\tilde{E} \tilde{A} \wedge \tilde{a} \tilde{'}$ $\tilde{A} \tilde{N} \tilde{a} \tilde{b} \tilde{E} \tilde{A} \tilde{I} \tilde{E} \tilde{G} \tilde{E} \tilde{F} \tilde{E} \tilde{H} \tilde{C} \tilde{F} \tilde{D} \tilde{E} \tilde{A} \tilde{I} \tilde{E} \tilde{G} \tilde{E} \tilde{F} \tilde{E} \tilde{G} \tilde{C} \tilde{F} \tilde{D}$

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

| | x [m] | Ek | V _{Ed} [kN] | γ _{f1} | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|--------|-------------------|----|-------------------------|-----------------|-----------------------------|---------------------------|---|
| Feld 1 | (L = 3.56 m) | | | | | | |
| | 0.00 | 3 | 14.28 | 18.4 | 658.38 | - | - |
| | 0.13 _a | 3 | 13.66 | 18.4 | 658.38 | - | 2.32 _M |
| | 0.89 _v | 4 | 10.77 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 0.95 | 4 | 11.01 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 1.63 | 6 | 16.52 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 2.11 _v | 8 | 36.30 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 2.88 _a | 10 | 36.30 _R | 18.4 | 658.38 | - | 2.32 _M |
| | 3.56 | 11 | 36.30 _R | 18.4 | 658.38 | - | - |
| Feld 2 | (L = 4.94 m) | | | | | | |
| | 0.00 | 11 | 67.80 _R | 18.4 | 658.38 | - | - |
| | 0.69 _a | 11 | 67.80 _R | 18.4 | 658.38 | - | 2.49 _F |
| | 1.45 _v | 16 | 67.80 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 2.05 | 19 | 13.21 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 4.05 _v | 21 | 131.41 | 18.4 | 658.38 | 61.56 | 4.29 _F |
| | 4.81 _a | 25 | 131.41 _R | 18.4 | 658.38 | - | 5.05 _F |
| | 4.94 | 26 | 131.41 _R | 18.4 | 658.38 | - | - |
| Feld 3 | (L = 4.25 m) | | | | | | |
| | 0.00 | 25 | 97.08 _R | 18.4 | 658.38 | - | - |
| | 0.13 _a | 25 | 97.08 _R | 18.4 | 658.38 | - | 3.63 _F |
| | 0.89 _v | 25 | 97.08 | 18.4 | 658.38 | 61.56 | 2.69 _F |
| | 2.24 | 29 | 14.82 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 3.36 _v | 32 | 51.49 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 4.13 _a | 37 | 51.49 _R | 18.4 | 658.38 | - | 2.32 _M |
| | 4.25 | 37 | 51.49 _R | 18.4 | 658.38 | - | - |
| Feld 4 | (L = 2.42 m) | | | | | | |
| | 0.00 | 38 | 34.75 _R | 18.4 | 658.38 | - | - |
| | 0.13 _a | 40 | 34.75 _R | 18.4 | 658.38 | - | 2.32 _M |
| | 0.89 _v | 32 | 34.75 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 1.38 | 44 | 9.48 _R | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 1.54 _v | 47 | 7.80 | 18.4 | 658.38 | 61.56 | 2.32 _M |
| | 2.30 _a | 20 | 12.67 _R | 18.4 | 658.38 | - | 2.32 _M |
| | 2.42 | 20 | 15.13 _R | 18.4 | 658.38 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ ↓ ↑ Y |
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|-----------------------------------|
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|-----------------------------------|

N@piuhwig"3

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

glatt (c=0.20, =0.60, =0.20)

0æ→äÁFÁĖĖP~^\'á←\à→†'äæ^ääæ↔\æÁÁÁKÁGIEĖĖÁ'↑

| | | | | | |
|-------------------|--------|-------|--------|-------|------|
| 0.61 | -11.28 | 14.82 | 425.00 | 56.67 | - |
| 0.89 _v | 10.77 | 14.45 | 425.00 | 56.67 | - |
| 2.11 _v | -36.30 | 48.01 | 425.00 | 56.67 | - |
| 2.25 | -47.61 | 63.04 | 425.00 | 56.67 | 0.20 |
| 2.35 | -55.03 | 72.93 | 425.00 | 56.67 | 0.52 |

N@piuhwig"4

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

glatt (c=0.20, =0.60, =0.20)

0æ→äÁGÁĖĖP~^\'á←\à→†'äæ^ääæ↔\æÁÁÁKÁGIEĖĖÁ'↑

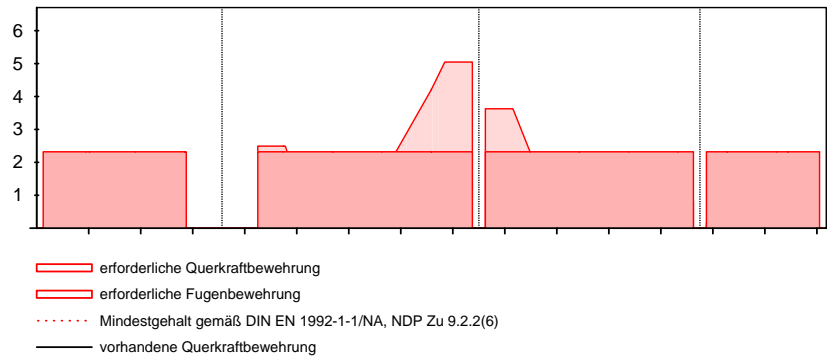
| | | | | | |
|-------------------|---------|--------|--------|-------|------|
| 1.22 | 92.73 | 134.68 | 425.00 | 56.67 | 2.49 |
| 1.45 _v | 67.80 | 98.47 | 425.00 | 56.67 | 1.34 |
| 1.65 | 46.50 | 62.56 | 425.00 | 56.67 | 0.19 |
| 2.60 | -44.38 | 59.66 | 425.00 | 56.67 | 0.10 |
| 4.05 _v | -131.41 | 190.86 | 425.00 | 56.67 | 4.29 |
| 4.28 | -147.79 | 214.66 | 425.00 | 56.67 | 5.05 |

N@piuhwig"5

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

Querkraftbewehrung Asw
M 1:145

[cm²/m]



5i Z` U[Yf_f}ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------|------------------|------------------|
| Einw. Gk | | |
| A | -4.83 | -4.83 |
| B | 268.18 | 268.18 |
| C | 252.27 | 252.27 |
| D | 92.69 | 92.69 |
| E | 14.73 | 14.73 |
| Einw. Im | | |
| A | 0.60 | 0.60 |
| B | 112.25 | 112.25 |
| C | 99.34 | 99.34 |
| D | 37.54 | 37.54 |
| E | 6.34 | 6.34 |
| Einw. Qk.N_B1 | | |
| A | -4.59 | 6.98 |
| B | -2.41 | 52.86 |
| C | -2.01 | 55.94 |
| D | -7.30 | 13.17 |
| E | -3.36 | 4.17 |
| Einw. Qk.N_C5 | | |
| A | 0.00 | 0.00 |
| B | 0.00 | 0.01 |
| C | -0.07 | 0.00 |
| D | -0.02 | 0.05 |
| E | 0.00 | 0.04 |
| Einw. Qk.N_E1 | | |
| A | -0.89 | 0.13 |
| B | -0.04 | 20.20 |
| C | -0.52 | 12.54 |
| D | -0.64 | 0.84 |
| E | -0.60 | 0.19 |
| Einw. Qk.N_DA | | |
| A | -1.47 | 2.14 |
| B | -0.09 | 34.98 |
| C | -1.16 | 22.96 |
| D | -1.02 | 7.28 |
| E | -0.46 | 0.83 |
| Einw. Qk.N_T2 | | |
| A | 0.00 | 0.00 |
| B | 0.00 | 0.01 |
| C | -0.03 | 0.00 |
| D | -0.08 | 0.11 |
| E | 0.00 | 0.22 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | |
|--------------------|-----|--|
| Expositionsklassen | OK | |
| Biegung | OK | |

U-154

Schulcampus EWK \

UZ-1.8

Nachweis

Ort

[-]

Querkraft

OK

Fugenbemessung

OK

Bewehrungswahl

OK

Pos. UZ-1.10

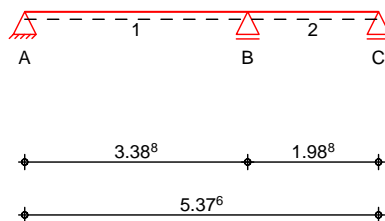
GHU `VYfcb!8 i fW `U Zf} [Yf

Dieser Unterzug muss mit einer rauen Fuge hergestellt werden.

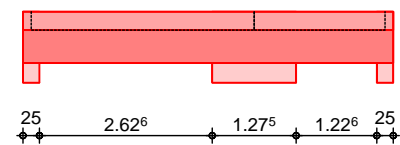
System

M 1:115

Ræäääæ→ä\ã‡&æã
System



Ansicht



Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 3.39 | 0.00 | C 30/37 | 25.0/25.0/78.0 |
| 1 | | 3.39 | | |
| 2 | 1.99 | 0.00 | | |
| 2 | | 1.99 | | |

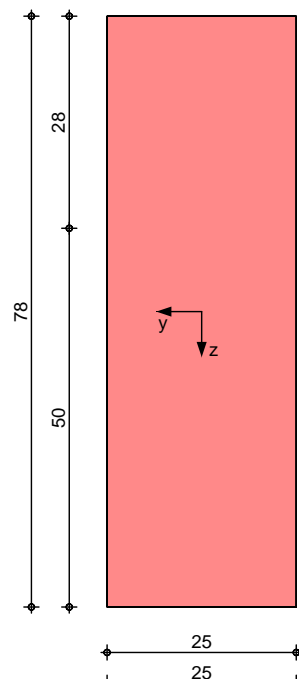
Expositionsklasse

XC1

Grafik

M 1:10

Querschnittsgrafik



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.39 | 127.5 | Beton | fest |
| C | 5.38 | 25.0 | Beton | fest |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z _f [cm] | YflŸ | Nd YSD↑↑YŸ |
|------|------|------------------------|------|---------------|
| 1 | rau | 28.0 | 90 | 0.00 |
| 2 | rau | 28.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

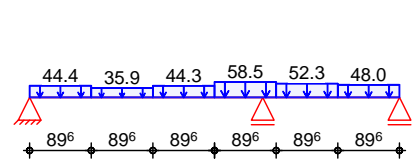
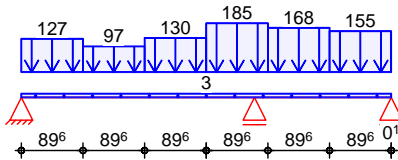
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

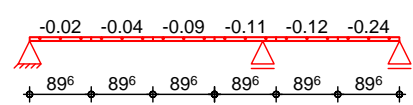
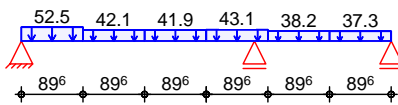
Gk

Ö←



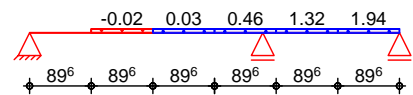
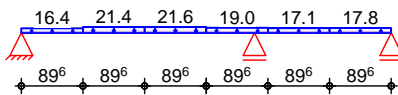
Qk.N_B1

Qk.N_C1

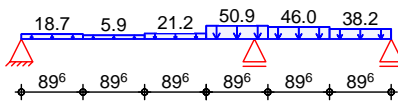


Qk.N_C5

Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|-------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 5.38 | | 3.12 |
| (a) 1 | UZ-1.10: Gk | 0.00 | 0.90 | 126.68 | 126.68 |
| (a) 1 | UZ-1.10: Gk | 0.90 | 0.90 | 97.46 | 97.46 |
| (a) 1 | UZ-1.10: Gk | 1.79 | 0.90 | 129.84 | 129.84 |
| (a) 1 | UZ-1.10: Gk | 2.69 | 0.90 | 185.14 | 185.14 |
| (a) 1 | UZ-1.10: Gk | 3.58 | 0.90 | 168.32 | 168.32 |
| (a) 1 | UZ-1.10: Gk | 4.48 | 0.90 | 155.02 | 155.02 |

Einw. Im

| | | | | | |
|-------|----|------|------|-------|-------|
| (a) 1 | Ö← | 0.00 | 0.90 | 44.43 | 44.43 |
| (a) 1 | Ö← | 0.90 | 0.90 | 35.89 | 35.89 |
| (a) 1 | Ö← | 1.79 | 0.90 | 44.26 | 44.26 |
| (a) 1 | Ö← | 2.69 | 0.90 | 58.53 | 58.53 |
| (a) 1 | Ö← | 3.58 | 0.90 | 52.35 | 52.35 |
| (a) 1 | Ö← | 4.48 | 0.90 | 48.00 | 48.00 |

Einw. Qk.N_B1

| | | | | | |
|-------|------------------|------|------|-------|-------|
| (a) 1 | UZ-1.10: Qk.N_B1 | 0.00 | 0.90 | 52.47 | 52.47 |
| (a) 1 | UZ-1.10: Qk.N_B1 | 0.90 | 0.90 | 42.06 | 42.06 |
| (a) 1 | UZ-1.10: Qk.N_B1 | 1.79 | 0.90 | 41.89 | 41.89 |
| (a) 1 | UZ-1.10: Qk.N_B1 | 2.69 | 0.90 | 43.13 | 43.13 |
| (a) 1 | UZ-1.10: Qk.N_B1 | 3.58 | 0.90 | 38.21 | 38.21 |
| (a) 1 | UZ-1.10: Qk.N_B1 | 4.48 | 0.90 | 37.29 | 37.29 |

Einw. Qk.N_C1

| | | | | | |
|-------|------------------|------|------|-------|-------|
| (a) 1 | UZ-1.10: Qk.N_C1 | 0.00 | 0.90 | -0.02 | -0.02 |
| (a) 1 | UZ-1.10: Qk.N_C1 | 0.90 | 0.90 | -0.04 | -0.04 |
| (a) 1 | UZ-1.10: Qk.N_C1 | 1.79 | 0.90 | -0.09 | -0.09 |
| (a) 1 | UZ-1.10: Qk.N_C1 | 2.69 | 0.90 | -0.11 | -0.11 |
| (a) 1 | UZ-1.10: Qk.N_C1 | 3.58 | 0.90 | -0.12 | -0.12 |
| (a) 1 | UZ-1.10: Qk.N_C1 | 4.48 | 0.90 | -0.24 | -0.24 |

Einw. Qk.N_C5

| | | | | | |
|-------|------------------|------|------|-------|-------|
| (a) 1 | UZ-1.10: Qk.N_C5 | 0.00 | 0.90 | 16.42 | 16.42 |
| (a) 1 | UZ-1.10: Qk.N_C5 | 0.90 | 0.90 | 21.41 | 21.41 |
| (a) 1 | UZ-1.10: Qk.N_C5 | 1.79 | 0.90 | 21.64 | 21.64 |
| (a) 1 | UZ-1.10: Qk.N_C5 | 2.69 | 0.90 | 19.03 | 19.03 |
| (a) 1 | UZ-1.10: Qk.N_C5 | 3.58 | 0.90 | 17.11 | 17.11 |

| | Feld | Komm. | a [m] | s [m] | q _{li} [kN/m] | q _{re} [kN/m] |
|---------------|-------|------------------|----------|----------|---------------------------|---------------------------|
| Einw. Qk.N_E1 | (a) 1 | UZ-1.10: Qk.N_C5 | 4.48 | 0.90 | 17.79 | 17.79 |
| | (a) 1 | UZ-1.10: Qk.N_E1 | 0.90 | 0.90 | -0.02 | -0.02 |
| | (a) 1 | UZ-1.10: Qk.N_E1 | 1.79 | 0.90 | 0.03 | 0.03 |
| | (a) 1 | UZ-1.10: Qk.N_E1 | 2.69 | 0.90 | 0.46 | 0.46 |
| | (a) 1 | UZ-1.10: Qk.N_E1 | 3.58 | 0.90 | 1.32 | 1.32 |
| | (a) 1 | UZ-1.10: Qk.N_E1 | 4.48 | 0.90 | 1.94 | 1.94 |
| Einw. Qk.N_DA | (a) 1 | UZ-1.10: Qk.N_DA | 0.00 | 0.90 | 18.74 | 18.74 |
| | (a) 1 | UZ-1.10: Qk.N_DA | 0.90 | 0.90 | 5.88 | 5.88 |
| | (a) 1 | UZ-1.10: Qk.N_DA | 1.79 | 0.90 | 21.22 | 21.22 |
| | (a) 1 | UZ-1.10: Qk.N_DA | 2.69 | 0.90 | 50.85 | 50.85 |
| | (a) 1 | UZ-1.10: Qk.N_DA | 3.58 | 0.90 | 45.98 | 45.98 |
| | (a) 1 | UZ-1.10: Qk.N_DA | 4.48 | 0.90 | 38.22 | 38.22 |

(a) aus Pos. 'D-1.OG - UZ-1.10'

Kombinationen

| Ek | (* *EW) | | |
|----|------------------------|------------------------|------------------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (1) |
| | +1.50*Qk.N_DA (1) | | |
| 3 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (1) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2) | | |
| 4 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (1) |
| 5 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_C1 (2) |
| | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (1) | +1.50*Qk.N_DA (1) |
| 6 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C1 (1) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2) | | |
| 7 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_C1 (1,2) |
| | +1.50*Qk.N_E1 (1) | | |
| 8 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C5 (1,2) | +1.50*Qk.N_E1 (2) | |
| 9 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C5 (1,2) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (1,2) |
| 10 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_C1 (1,2) |
| 11 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C5 (1,2) | +1.50*Qk.N_E1 (1,2) | +1.50*Qk.N_DA (1,2) |
| 12 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (1) |

| Ek | (* *EW) | | |
|----|------------------------|------------------------|----------------------|
| | +1.50*Qk.N_DA (1) | | |
| 13 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (1) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2) | | |
| 14 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (1,2) | +1.50*Qk.N_DA (1) |
| 15 | 1.00*Gk | ÉFÈ€€E Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (1,2) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_DA (2) |

Bemessung (GZT)

àfiãÄäæ^ÄÖäæ^~ | b\á^äÄäæãÁÜäá&à†â&←æ↔\Á^á´äÆØSÁÓSÁ
1992-1-1:2011-01

Mindestmomente

5.3.2.2(3)

| Kombinat. | Aufl. | min M1 [kNm] | max M1 [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -185.09 | 0.00 | -60.35 | 0.00 |

Bi egung

Abs. 6.1

Ñæ†æbb | ^&ÄàfiãÄÑ↔æ&æäæá^b*ã | ´â | ^&

| x | Ek | M _{yd,o} M _{yd,u} [kNm] | x/d _o x/d _u | z _o z _u [cm] | A _{s,o} A _{s,u} [cm ²] | A _{s,o,erf} A _{s,u,erf} [cm ²] |
|-------------------|----|---|--------------------------------------|--|--|--|
| [m] | | | | | | |
| (L = 3.39 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 2.23 _e |
| | 1 | - | 0.001 | 71.8 | - | 9.69 _q |
| 0.13 _a | 3 | 25.68 | - | - | - | 2.23 _e |
| | 2 | 51.69 | 0.048 | 70.6 | 1.60 | 9.69 _q |
| 1.41* | 3 | 136.84 | - | - | - | - |
| | 2 | 289.07 | 0.176 | 66.5 | 9.69 | 9.69 |
| 2.75 _a | 3 | -185.09 | 0.111 | 69.1 | 5.87 | 5.87 |
| | 2 | 19.99 | 0.056 | 67.6 | 0.62 | 2.42 _f |
| 3.39 | 11 | -185.09 | 0.111 | 69.1 | 5.87 | 5.87 |
| | 10 | -64.68 | - | - | - | - |

Feld 2

| | | | | | | |
|-------------------|----|---------|-------|------|------|-------------------|
| (L = 1.99 m) | | | | | | |
| 0.00 | 11 | -64.68 | 0.054 | 71.0 | 2.00 | 2.26 _M |
| | 10 | -64.68 | - | - | - | - |
| 0.64 _a | 2 | -111.55 | 0.076 | 70.3 | 3.48 | 3.48 |
| | 3 | 0.24 | 0.044 | 66.2 | 0.01 | 2.28 _M |
| 1.21 | 12 | -9.67 | 0.019 | 71.9 | 0.29 | 2.26 _M |
| | 13 | 82.65 | 0.064 | 70.1 | 2.58 | 2.67 _q |
| 1.33* | 12 | 0.08 | - | - | - | - |
| | 13 | 85.59 | 0.065 | 70.1 | 2.67 | 2.67 _q |
| 1.86 _a | 12 | 6.86 | - | - | - | 0.65 _e |
| | 13 | 29.46 | 0.035 | 70.9 | 0.91 | 2.67 _q |
| 1.99 | 1 | - | - | - | - | 0.65 _e |
| | 1 | - | 0.001 | 71.8 | - | 2.67 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

f: {æã→†^æä\æÄÖæ→ääæ}ÈÄ^á´äÄNábÈÄIÈGÈFÈHÇFÈÄIÈGÈFÈHÇFÈD

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Ñæ†æbb | ^&ÄàfiãÄT | æã←äää\âæá^b*ã | ´â | ^&

| x | Ek | V _{Ed} [kN] | YfIŸ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|-------------------|----|-------------------------|------|-----------------------------|---------------------------|---|
| [m] | | | | | | |
| (L = 3.39 m) | | | | | | |
| 0.00 | 2 | 151.91 _R | 18.4 | 617.93 | - | - |
| 0.13 _a | 2 | 151.91 _R | 18.4 | 617.93 | - | 7.30 _F |
| 0.84 _v | 4 | 151.91 | 18.4 | 617.93 | 75.15 | 3.33 _F |

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Feld 2

| x [m] | Ek | V _{Ed} [kN] | γ _{fl} Ÿ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|-------------------|----|-------------------------|-------------------|-----------------------------|---------------------------|---|
| 1.41 | 3 | 12.40 _R | 18.4 | 617.93 | 75.15 | 2.32 _M |
| 2.03 _v | 8 | 189.74 | 18.4 | 617.93 | 75.15 | 4.94 _F |
| 2.75 _a | 11 | 189.74 _R | 18.4 | 617.93 | - | 7.94 _F |
| 3.39 | 11 | 189.74 _R | 26.3 | 823.58 | - | - |
| (L = 1.99 m) | | | | | | |
| 0.00 | 11 | 180.95 _R | 18.4 | 622.81 | - | - |
| 0.64 _a | 11 | 180.95 _R | 18.4 | 622.81 | - | 2.35 _F |
| 0.99 _v | 11 | 178.58 _R | 18.4 | 617.93 | 75.15 | 2.35 _F |
| 1.33 | 2 | 75.75 | 18.4 | 617.93 | - | 2.32 _M |
| 1.86 _a | 13 | 210.93 | 19.7 | 652.74 | - | 2.32 _M |
| 1.99 | 13 | 260.04 _R | 24.1 | 767.68 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Hinweis

An folgendem Auflager erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|-------|--------------------------------------|
| C | links | Vorzeichenwechsel der Querkraft in d |

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ ¥ D ↑ Ÿ |
|---|-------------------------|----------------------------|--------------------------------|-------------------------------|-------------------------------------|
| N@piuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo↔ | | | | | |
| rau (c=0.40, =0.70, =0.50) | | | | | |
| Ôæ→äÄFÄĖÄP~^\'ä←\à→†´ääÄ↔↑ÄŠää& ä\ÊÄääKÄÄ _{eff} | | | | | |
| 0.56 | 245.55 | 379.99 | 1062.50 | 113.33 | 7.30 |
| 0.84 _v | 151.91 | 235.08 | 1062.50 | 113.33 | 3.33 |
| 1.08 | 87.23 | 134.99 | 1062.50 | 113.33 | 0.59 |
| 1.69 | -83.89 | 129.83 | 1062.50 | 113.33 | 0.45 |
| 2.03 _v | -189.74 | 293.63 | 1062.50 | 113.33 | 4.94 |
| 2.25 | -260.68 | 403.40 | 1062.50 | 113.33 | 7.94 |

N@piuhwig"4

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

rau (c=0.40, =0.70, =0.50)

| | | | | | |
|--|--------|--------|---------|--------|------|
| Ôæ→äÄGÄĖÄP~^\'ä←\à→†´ääÄ↔↑ÄŠää& ä\ÊÄääKÄÄ _{eff} | | | | | |
| 1.14 | 129.81 | 199.31 | 1062.50 | 113.33 | 2.35 |
| 1.31 _v | 82.79 | 128.12 | 1062.50 | 113.33 | 0.40 |
| 1.32 | 78.94 | 122.16 | 1062.50 | 113.33 | 0.24 |
| 1.43 | 49.76 | 70.97 | 1062.50 | 113.33 | - |

Anschluss der Gurte

| Feld | Ek | x _A [m] | x _E [m] | #R [kNm] | #Ö _c [kN] | Anteil je Gurt | #Ö _d [kN] |
|------|----|-----------------------|-----------------------|-------------|-------------------------|--------------------|-------------------------|
| 1 | 1 | 0.00 | 0.70 | 113.2 | 166.8 | 0.00 ^D | 0.0 |
| | 1 | 1.39 | 2.07 | 33.9 | 53.8 | 0.00 ^D | 0.0 |
| | 1 | 2.75 | 3.07 | 85.6 | 123.8 | -0.12 ^Z | -31.0 |
| 2 | 1 | 3.39 | 3.84 | 120.7 | 176.9 | -0.12 ^Z | -44.2 |
| | 1 | 4.29 | 4.59 | 24.1 | 34.4 | 0.00 ^D | 0.0 |
| | 1 | 4.88 | 5.13 | 9.0 | 13.0 | 0.00 ^D | 0.0 |

D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Z: Zuggurt: Anteil aus ausgelagerter Bewehrung

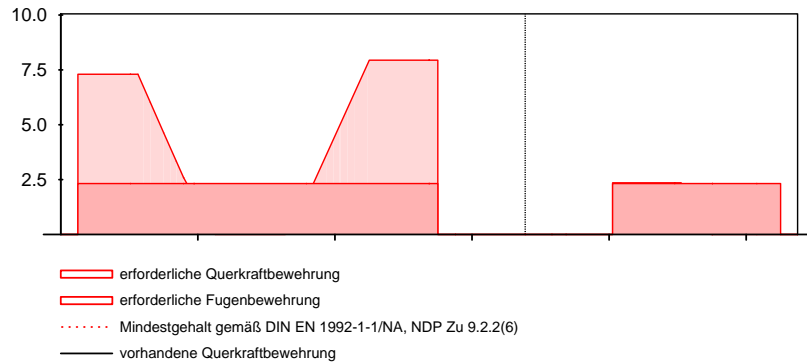
Querbewehrung

| Feld | Ek | x _A [m] | x _E [m] | v _{Ed} [N/mm ²] | v _{Rd,max} [N/mm ²] | a _{sf,erf} [cm ² /m] |
|------|----|-----------------------|-----------------------|---|---|---|
| 1 | 1 | 0.00 | 0.70 | 0.000 | 0.000 | 0.00 |
| | | 1.39 | 2.07 | 0.000 | 0.000 | 0.00 |
| | | 2.75 | 3.07 | 0.000 | 0.000 | 0.00 |

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | asf [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|-----------------------------|
| 2 | 3.39 | 4.29 | 10 | 20.0 | 3.93 |
| | 4.29 | 4.30 | 10 | 20.0 | 3.93 |
| | 4.30 | 4.88 | 10 | 20.0 | 3.93 |
| | 4.88 | 5.38 | 10 | 20.0 | 3.93 |

Querkraftbewehrung Asw
M 1:55

[cm²/m]



5i Z` U[Yf_f} ZhY

N|à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 165.86 | 165.86 |
| B | 536.37 | 536.37 |
| C | 87.16 | 87.16 |
| Einw. I _m | | |
| A | 57.30 | 57.30 |
| B | 172.00 | 172.00 |
| C | 24.62 | 24.62 |
| Einw. Q _{k,N_B1} | | |
| A | -2.05 | 67.75 |
| B | 0.00 | 148.74 |
| C | -19.81 | 33.85 |
| Einw. Q _{k,N_C1} | | |
| A | -0.06 | 0.01 |
| B | -0.36 | 0.00 |
| C | -0.19 | 0.03 |
| Einw. Q _{k,N_C5} | | |
| A | -0.94 | 26.81 |
| B | 0.00 | 69.15 |
| C | -9.32 | 15.88 |
| Einw. Q _{k,N_E1} | | |
| A | -0.08 | 0.01 |
| B | 0.00 | 1.85 |
| C | -0.03 | 1.59 |
| Einw. Q _{k,N_DA} | | |
| A | -2.34 | 22.63 |
| B | 0.00 | 114.35 |
| C | -8.94 | 36.34 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-1.11

GHU `VYtc b!8 i fW `U Zf} [Yf

Dieser Unterzug muss mit einer **rauen Fuge** hergestellt werden.

Verankerungslänge:

unten:

$$l_{b,rqd} = 71 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 71 \text{ cm} * 2,37 \text{ cm}^2 / 12,57 \text{ cm}^2 = 14 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 71 \text{ cm} = \mathbf{21,5 \text{ cm}} \quad 10 \varnothing_l = 20 \text{ cm}$$

-> $l_{bd} = 21,5 \text{ cm}$

oben:

Es ist eine Verankerung mit Haken für die obere Längsbewehrung erforderlich.

$$l_{b,rqd} = 102 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 0,7 * 102 \text{ cm} * 2,63 \text{ cm}^2 / 18,85 \text{ cm}^2 = 10 \text{ cm} \quad l_{b,min}$$

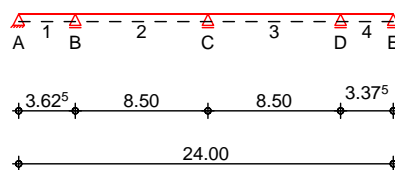
$$l_{b,min} = 0,3 * 0,7 * l_{b,rqd} = 0,3 * 0,7 * 102 \text{ cm} = \mathbf{21,5 \text{ cm}} \quad 10 \varnothing_l = 20 \text{ cm}$$

-> $l_{bd} = 21,5 \text{ cm}$

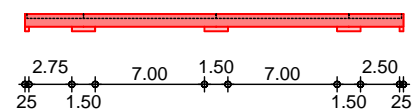
System

M 1 : 48 5

System



Ansicht



Abmessungen

Mat./Querschnitt

Feld

1

[m]

Material

b/h

[cm]

1

3.63

C 30/37

25.0/81.0

2-3

8.50

4

3.38

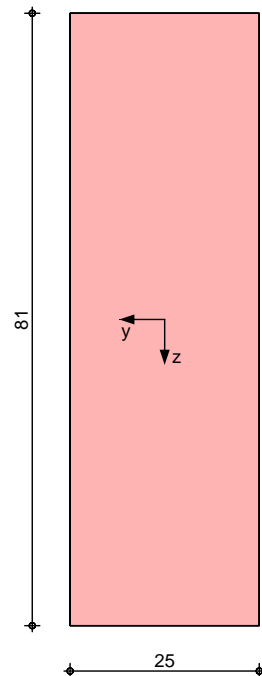
Expositionsklasse

XC1

Grafik

M 1:10

Querschnittsgrafik



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.63 | 150.0 | Beton | fest |
| C | 12.13 | 150.0 | Beton | fest |
| D | 20.63 | 150.0 | Beton | fest |
| E | 24.00 | 25.0 | Beton | fest |

Q_z & b_z | & æ^{ÄÄÄÄÄÄÄÄÄÄÄÄ}

| Feld | Fuge | Z_F [cm] | Y_{fl} [cm] | Y_{SD} [cm] | N_d [kN/m] |
|------|------|---------------|------------------|------------------|-----------------|
| 1 | rau | 28.0 | 90 | 0.00 | 0.00 |
| 2 | rau | 28.0 | 90 | 0.00 | 0.00 |
| 3 | rau | 28.0 | 90 | 0.00 | 0.00 |
| 4 | rau | 28.0 | 90 | 0.00 | 0.00 |

Belastungen

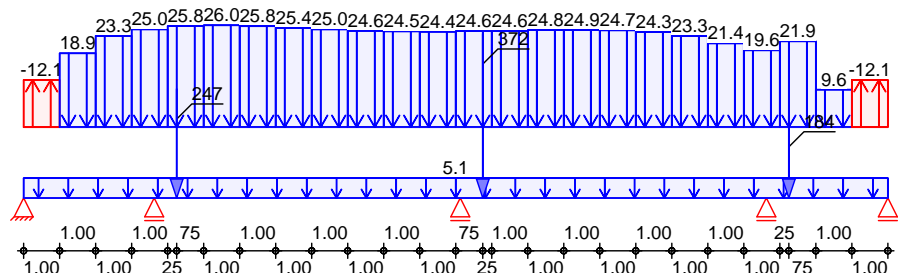
Belastungen auf das System

Grafik

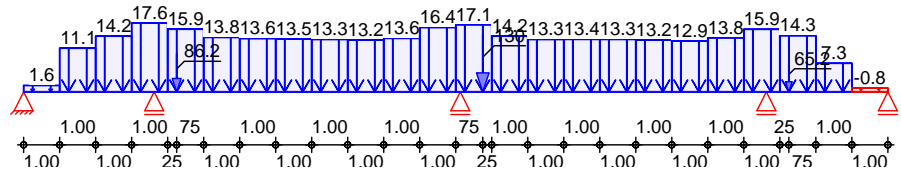
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

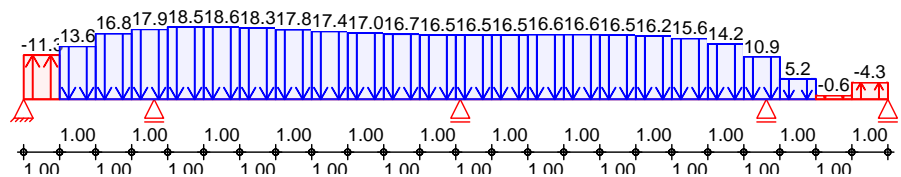
Gk



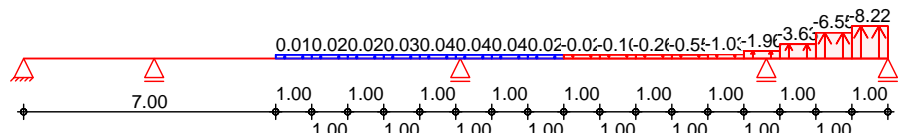
Ö←



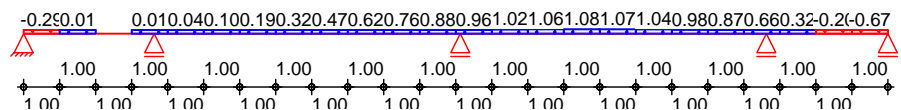
Qk.N_B1



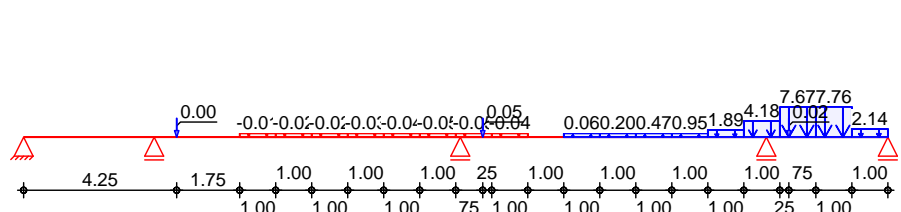
Qk.N_C1



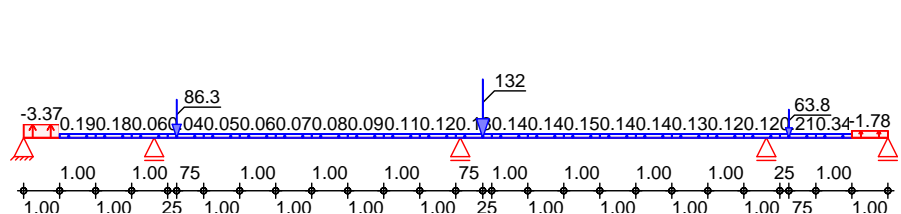
Qk.N_C5



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{1i} [kN/m] | Q _{re} [kN/m] |
|-------|-------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 24.00 | | 5.06 |
| (a) 1 | UZ-1.11: Gk | 0.00 | 1.00 | -12.06 | -12.06 |
| (a) 1 | UZ-1.11: Gk | 1.00 | 1.00 | 18.88 | 18.88 |
| (a) 1 | UZ-1.11: Gk | 2.00 | 1.00 | 23.33 | 23.33 |
| (a) 1 | UZ-1.11: Gk | 3.00 | 1.00 | 24.97 | 24.97 |
| (a) 1 | UZ-1.11: Gk | 4.00 | 1.00 | 25.85 | 25.85 |
| (a) 1 | UZ-1.11: Gk | 5.00 | 1.00 | 26.04 | 26.04 |
| (a) 1 | UZ-1.11: Gk | 6.00 | 1.00 | 25.81 | 25.81 |
| (a) 1 | UZ-1.11: Gk | 7.00 | 1.00 | 25.40 | 25.40 |

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| | | Feld | Komm. | a | s | Q _{li} | Q _{re} | |
|-------|---------|------------------|-------|------------------|-------|-----------------|-----------------|--------|
| | | | | [m] | [m] | [kN/m] | [kN/m] | |
| Einw. | Im | (a) | 1 | UZ-1.11: Gk | 8.00 | 1.00 | 24.97 | 24.97 |
| | | (a) | 1 | UZ-1.11: Gk | 9.00 | 1.00 | 24.63 | 24.63 |
| | | (a) | 1 | UZ-1.11: Gk | 10.00 | 1.00 | 24.46 | 24.46 |
| | | (a) | 1 | UZ-1.11: Gk | 11.00 | 1.00 | 24.38 | 24.38 |
| | | (a) | 1 | UZ-1.11: Gk | 12.00 | 1.00 | 24.56 | 24.56 |
| | | (a) | 1 | UZ-1.11: Gk | 13.00 | 1.00 | 24.60 | 24.60 |
| | | (a) | 1 | UZ-1.11: Gk | 14.00 | 1.00 | 24.81 | 24.81 |
| | | (a) | 1 | UZ-1.11: Gk | 15.00 | 1.00 | 24.85 | 24.85 |
| | | (a) | 1 | UZ-1.11: Gk | 16.00 | 1.00 | 24.73 | 24.73 |
| | | (a) | 1 | UZ-1.11: Gk | 17.00 | 1.00 | 24.30 | 24.30 |
| | | (a) | 1 | UZ-1.11: Gk | 18.00 | 1.00 | 23.34 | 23.34 |
| | | (a) | 1 | UZ-1.11: Gk | 19.00 | 1.00 | 21.39 | 21.39 |
| | | (a) | 1 | UZ-1.11: Gk | 20.00 | 1.00 | 19.63 | 19.63 |
| | | (a) | 1 | UZ-1.11: Gk | 21.00 | 1.00 | 21.93 | 21.93 |
| | | (a) | 1 | UZ-1.11: Gk | 22.00 | 1.00 | 9.58 | 9.58 |
| | | (a) | 1 | UZ-1.11: Gk | 23.00 | 1.00 | -12.07 | -12.07 |
| | | (a) | 1 | ÜXËFÈFFIÁ Ö← | 0.00 | 1.00 | 1.61 | 1.61 |
| | | (a) | 1 | ÜXËFÈFFIÁ Ö← | 1.00 | 1.00 | 11.11 | 11.11 |
| | | (a) | 1 | ÜXËFÈFFIÁ Ö← | 2.00 | 1.00 | 14.18 | 14.18 |
| | | (a) | 1 | ÜXËFÈFFIÁ Ö← | 3.00 | 1.00 | 17.55 | 17.55 |
| | | (a) | 1 | ÜXËFÈFFIÁ Ö← | 4.00 | 1.00 | 15.95 | 15.95 |
| | | (a) | 1 | ÜXËFÈFFIÁ Ö← | 5.00 | 1.00 | 13.85 | 13.85 |
| | | (a) | 1 | ÜXËFÈFFIÁ Ö← | 6.00 | 1.00 | 13.57 | 13.57 |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 7.00 | 1.00 | 13.47 | 13.47 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 8.00 | 1.00 | 13.33 | 13.33 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 9.00 | 1.00 | 13.20 | 13.20 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 10.00 | 1.00 | 13.62 | 13.62 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 11.00 | 1.00 | 16.38 | 16.38 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 12.00 | 1.00 | 17.10 | 17.10 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 13.00 | 1.00 | 14.17 | 14.17 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 14.00 | 1.00 | 13.33 | 13.33 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 15.00 | 1.00 | 13.36 | 13.36 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 16.00 | 1.00 | 13.35 | 13.35 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 17.00 | 1.00 | 13.18 | 13.18 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 18.00 | 1.00 | 12.93 | 12.93 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 19.00 | 1.00 | 13.77 | 13.77 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 20.00 | 1.00 | 15.93 | 15.93 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 21.00 | 1.00 | 14.31 | 14.31 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 22.00 | 1.00 | 7.27 | 7.27 | | |
| (a) | 1 | ÜXËFÈFFIÁ Ö← | 23.00 | 1.00 | -0.81 | -0.81 | | |
| Einw. | Qk.N_B1 | (a) | 1 | UZ-1.11: Qk.N_B1 | 0.00 | 1.00 | -11.30 | -11.30 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 1.00 | 1.00 | 13.55 | 13.55 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 2.00 | 1.00 | 16.82 | 16.82 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 3.00 | 1.00 | 17.92 | 17.92 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 4.00 | 1.00 | 18.49 | 18.49 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 5.00 | 1.00 | 18.56 | 18.56 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 6.00 | 1.00 | 18.29 | 18.29 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 7.00 | 1.00 | 17.85 | 17.85 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 8.00 | 1.00 | 17.37 | 17.37 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 9.00 | 1.00 | 16.95 | 16.95 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 10.00 | 1.00 | 16.68 | 16.68 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 11.00 | 1.00 | 16.48 | 16.48 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 12.00 | 1.00 | 16.51 | 16.51 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 13.00 | 1.00 | 16.47 | 16.47 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 14.00 | 1.00 | 16.57 | 16.57 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 15.00 | 1.00 | 16.58 | 16.58 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 16.00 | 1.00 | 16.49 | 16.49 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 17.00 | 1.00 | 16.21 | 16.21 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 18.00 | 1.00 | 15.56 | 15.56 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 19.00 | 1.00 | 14.15 | 14.15 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 20.00 | 1.00 | 10.92 | 10.92 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 21.00 | 1.00 | 5.25 | 5.25 |
| | | (a) | 1 | UZ-1.11: Qk.N_B1 | 22.00 | 1.00 | -0.59 | -0.59 |
| (a) | 1 | UZ-1.11: Qk.N_B1 | 23.00 | 1.00 | -4.28 | -4.28 | | |
| Einw. | Qk.N_C1 | (a) | 1 | UZ-1.11: Qk.N_C1 | 7.00 | 1.00 | 0.01 | 0.01 |
| | | (a) | 1 | UZ-1.11: Qk.N_C1 | 8.00 | 1.00 | 0.02 | 0.02 |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|--------------------|----------|----------|---------------------------|---------------------------|
| | (a) 1 | UZ-1.11: Qk.N_C1 | 9.00 | 1.00 | 0.02 | 0.02 |
| | (a) 1 | UZ-1.11: Qk.N_C11 | 0.00 | 1.00 | 0.03 | 0.03 |
| | (a) 1 | UZ-1.11: Qk.N_C111 | 0.00 | 1.00 | 0.04 | 0.04 |
| | (a) 1 | UZ-1.11: Qk.N_C112 | 0.00 | 1.00 | 0.04 | 0.04 |
| | (a) 1 | UZ-1.11: Qk.N_C113 | 0.00 | 1.00 | 0.04 | 0.04 |
| | (a) 1 | UZ-1.11: Qk.N_C114 | 0.00 | 1.00 | 0.02 | 0.02 |
| | (a) 1 | UZ-1.11: Qk.N_C115 | 0.00 | 1.00 | -0.02 | -0.02 |
| | (a) 1 | UZ-1.11: Qk.N_C116 | 0.00 | 1.00 | -0.10 | -0.10 |
| | (a) 1 | UZ-1.11: Qk.N_C117 | 0.00 | 1.00 | -0.26 | -0.26 |
| | (a) 1 | UZ-1.11: Qk.N_C118 | 0.00 | 1.00 | -0.55 | -0.55 |
| | (a) 1 | UZ-1.11: Qk.N_C119 | 0.00 | 1.00 | -1.03 | -1.03 |
| | (a) 1 | UZ-1.11: Qk.N_C120 | 0.00 | 1.00 | -1.96 | -1.96 |
| | (a) 1 | UZ-1.11: Qk.N_C121 | 0.00 | 1.00 | -3.63 | -3.63 |
| | (a) 1 | UZ-1.11: Qk.N_C122 | 0.00 | 1.00 | -6.55 | -6.55 |
| | (a) 1 | UZ-1.11: Qk.N_C123 | 0.00 | 1.00 | -8.22 | -8.22 |
| Einw. Qk.N_C5 | (a) 1 | UZ-1.11: Qk.N_C5 | 0.00 | 1.00 | -0.29 | -0.29 |
| | (a) 1 | UZ-1.11: Qk.N_C5 | 1.00 | 1.00 | 0.01 | 0.01 |
| | (a) 1 | UZ-1.11: Qk.N_C5 | 3.00 | 1.00 | 0.01 | 0.01 |
| | (a) 1 | UZ-1.11: Qk.N_C5 | 4.00 | 1.00 | 0.04 | 0.04 |
| | (a) 1 | UZ-1.11: Qk.N_C5 | 5.00 | 1.00 | 0.10 | 0.10 |
| | (a) 1 | UZ-1.11: Qk.N_C5 | 6.00 | 1.00 | 0.19 | 0.19 |
| | (a) 1 | UZ-1.11: Qk.N_C5 | 7.00 | 1.00 | 0.32 | 0.32 |
| | (a) 1 | UZ-1.11: Qk.N_C5 | 8.00 | 1.00 | 0.47 | 0.47 |
| | (a) 1 | UZ-1.11: Qk.N_C5 | 9.00 | 1.00 | 0.62 | 0.62 |
| | (a) 1 | UZ-1.11: Qk.N_C510 | 0.00 | 1.00 | 0.76 | 0.76 |
| | (a) 1 | UZ-1.11: Qk.N_C511 | 0.00 | 1.00 | 0.88 | 0.88 |
| | (a) 1 | UZ-1.11: Qk.N_C512 | 0.00 | 1.00 | 0.96 | 0.96 |
| | (a) 1 | UZ-1.11: Qk.N_C513 | 0.00 | 1.00 | 1.02 | 1.02 |
| | (a) 1 | UZ-1.11: Qk.N_C514 | 0.00 | 1.00 | 1.06 | 1.06 |
| | (a) 1 | UZ-1.11: Qk.N_C515 | 0.00 | 1.00 | 1.08 | 1.08 |
| | (a) 1 | UZ-1.11: Qk.N_C516 | 0.00 | 1.00 | 1.07 | 1.07 |
| | (a) 1 | UZ-1.11: Qk.N_C517 | 0.00 | 1.00 | 1.04 | 1.04 |
| | (a) 1 | UZ-1.11: Qk.N_C518 | 0.00 | 1.00 | 0.98 | 0.98 |
| | (a) 1 | UZ-1.11: Qk.N_C519 | 0.00 | 1.00 | 0.87 | 0.87 |
| | (a) 1 | UZ-1.11: Qk.N_C520 | 0.00 | 1.00 | 0.66 | 0.66 |
| | (a) 1 | UZ-1.11: Qk.N_C521 | 0.00 | 1.00 | 0.32 | 0.32 |
| | (a) 1 | UZ-1.11: Qk.N_C522 | 0.00 | 1.00 | -0.20 | -0.20 |
| | (a) 1 | UZ-1.11: Qk.N_C523 | 0.00 | 1.00 | -0.67 | -0.67 |
| Einw. Qk.N_E1 | (a) 1 | UZ-1.11: Qk.N_E1 | 6.00 | 1.00 | -0.01 | -0.01 |
| | (a) 1 | UZ-1.11: Qk.N_E1 | 7.00 | 1.00 | -0.02 | -0.02 |
| | (a) 1 | UZ-1.11: Qk.N_E1 | 8.00 | 1.00 | -0.02 | -0.02 |
| | (a) 1 | UZ-1.11: Qk.N_E1 | 9.00 | 1.00 | -0.03 | -0.03 |
| | (a) 1 | UZ-1.11: Qk.N_E110 | 0.00 | 1.00 | -0.04 | -0.04 |
| | (a) 1 | UZ-1.11: Qk.N_E111 | 0.00 | 1.00 | -0.05 | -0.05 |
| | (a) 1 | UZ-1.11: Qk.N_E112 | 0.00 | 1.00 | -0.05 | -0.05 |
| | (a) 1 | UZ-1.11: Qk.N_E113 | 0.00 | 1.00 | -0.04 | -0.04 |
| | (a) 1 | UZ-1.11: Qk.N_E115 | 0.00 | 1.00 | 0.06 | 0.06 |
| | (a) 1 | UZ-1.11: Qk.N_E116 | 0.00 | 1.00 | 0.20 | 0.20 |
| | (a) 1 | UZ-1.11: Qk.N_E117 | 0.00 | 1.00 | 0.47 | 0.47 |
| | (a) 1 | UZ-1.11: Qk.N_E118 | 0.00 | 1.00 | 0.95 | 0.95 |
| | (a) 1 | UZ-1.11: Qk.N_E119 | 0.00 | 1.00 | 1.89 | 1.89 |
| | (a) 1 | UZ-1.11: Qk.N_E120 | 0.00 | 1.00 | 4.18 | 4.18 |
| | (a) 1 | UZ-1.11: Qk.N_E121 | 0.00 | 1.00 | 7.67 | 7.67 |
| | (a) 1 | UZ-1.11: Qk.N_E122 | 0.00 | 1.00 | 7.76 | 7.76 |
| | (a) 1 | UZ-1.11: Qk.N_E123 | 0.00 | 1.00 | 2.14 | 2.14 |
| Einw. Qk.N_DA | (a) 1 | UZ-1.11: Qk.N_DA | 0.00 | 1.00 | -3.37 | -3.37 |
| | (a) 1 | UZ-1.11: Qk.N_DA | 1.00 | 1.00 | 0.19 | 0.19 |
| | (a) 1 | UZ-1.11: Qk.N_DA | 2.00 | 1.00 | 0.18 | 0.18 |
| | (a) 1 | UZ-1.11: Qk.N_DA | 3.00 | 1.00 | 0.06 | 0.06 |
| | (a) 1 | UZ-1.11: Qk.N_DA | 4.00 | 1.00 | 0.04 | 0.04 |
| | (a) 1 | UZ-1.11: Qk.N_DA | 5.00 | 1.00 | 0.05 | 0.05 |
| | (a) 1 | UZ-1.11: Qk.N_DA | 6.00 | 1.00 | 0.06 | 0.06 |
| | (a) 1 | UZ-1.11: Qk.N_DA | 7.00 | 1.00 | 0.07 | 0.07 |
| | (a) 1 | UZ-1.11: Qk.N_DA | 8.00 | 1.00 | 0.08 | 0.08 |
| | (a) 1 | UZ-1.11: Qk.N_DA | 9.00 | 1.00 | 0.09 | 0.09 |
| | (a) 1 | UZ-1.11: Qk.N_DA10 | 0.00 | 1.00 | 0.11 | 0.11 |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-----|------|-----------------------|----------|----------|---------------------------|---------------------------|
| (a) | 1 | UZ-1.11: Qk.N_DA11.00 | 1.00 | 1.00 | 0.12 | 0.12 |
| (a) | 1 | UZ-1.11: Qk.N_DA12.00 | 1.00 | 1.00 | 0.13 | 0.13 |
| (a) | 1 | UZ-1.11: Qk.N_DA13.00 | 1.00 | 1.00 | 0.14 | 0.14 |
| (a) | 1 | UZ-1.11: Qk.N_DA14.00 | 1.00 | 1.00 | 0.14 | 0.14 |
| (a) | 1 | UZ-1.11: Qk.N_DA15.00 | 1.00 | 1.00 | 0.15 | 0.15 |
| (a) | 1 | UZ-1.11: Qk.N_DA16.00 | 1.00 | 1.00 | 0.14 | 0.14 |
| (a) | 1 | UZ-1.11: Qk.N_DA17.00 | 1.00 | 1.00 | 0.14 | 0.14 |
| (a) | 1 | UZ-1.11: Qk.N_DA18.00 | 1.00 | 1.00 | 0.13 | 0.13 |
| (a) | 1 | UZ-1.11: Qk.N_DA19.00 | 1.00 | 1.00 | 0.12 | 0.12 |
| (a) | 1 | UZ-1.11: Qk.N_DA20.00 | 1.00 | 1.00 | 0.12 | 0.12 |
| (a) | 1 | UZ-1.11: Qk.N_DA21.00 | 1.00 | 1.00 | 0.21 | 0.21 |
| (a) | 1 | UZ-1.11: Qk.N_DA22.00 | 1.00 | 1.00 | 0.34 | 0.34 |
| (a) | 1 | UZ-1.11: Qk.N_DA23.00 | 1.00 | 1.00 | -1.78 | -1.78 |

(a) aus Pos. 'D-1.OG - UZ-1.11'

Punktlasten in z-Richtung

| | Feld | Komm. | a [m] | F _z [kN] |
|---------------|------|--------------------|----------|------------------------|
| Einw. Gk | (a) | 1 UZ-1.11: Gk | 12.75 | 372.26 |
| | (a) | 1 UZ-1.11: Gk | 4.25 | 247.50 |
| | (a) | 1 UZ-1.11: Gk | 21.25 | 184.45 |
| Einw. Im | (a) | 1 ÜXËFÈFFIÁ Ö← | 12.75 | 130.29 |
| | (a) | 1 ÜXËFÈFFIÁ Ö← | 4.25 | 86.24 |
| | (a) | 1 ÜXËFÈFFIÁ Ö← | 21.25 | 65.20 |
| Einw. Qk.N_E1 | (a) | 1 UZ-1.11: Qk.N_E1 | 12.75 | 0.05 |
| | (a) | 1 UZ-1.11: Qk.N_E1 | 21.25 | 0.02 |
| Einw. Qk.N_DA | (a) | 1 UZ-1.11: Qk.N_DA | 12.75 | 132.40 |
| | (a) | 1 UZ-1.11: Qk.N_DA | 4.25 | 86.34 |
| | (a) | 1 UZ-1.11: Qk.N_DA | 21.25 | 63.83 |

(a) aus Pos. 'D-1.OG - UZ-1.11'

Kombi nati onen

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|------------------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2,3) |
| | +1.50*Qk.N_DA (3) | | |
| 3 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (1,2) | +1.50*Qk.N_E1 (4) |
| | +1.50*Qk.N_DA (1,2,4) | | |
| 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2,3) |
| 5 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_E1 (2,3) |
| 6 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (4) |
| | +1.50*Qk.N_DA (2,4) | | |
| 7 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_E1 (2,3) |

| Ek | (* *EW) | | |
|----|--------------------------|----------------------------|--------------------------|
| | +1.50*Qk.N_DA (1,3) | | |
| 8 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (4) |
| | +1.50*Qk.N_DA (2,4) | | |
| 9 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (4) |
| 10 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_E1 (2,3) |
| | +1.50*Qk.N_DA (1,2,3) | | |
| 11 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_E1 (2,3) |
| | +1.50*Qk.N_DA (1,2,3) | | |
| 12 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (4) |
| 13 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_E1 (2,3) |
| | +1.50*Qk.N_DA (1,2,3) | | |
| 14 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (4) |
| 15 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (1,2) | +1.50*Qk.N_E1 (4) |
| 16 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C1 (3) | +1.50*Qk.N_E1 (2,4) | +1.50*Qk.N_DA (4) |
| 17 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (1,2,3,4) | +1.50*Qk.N_E1 (3) |
| | +1.50*Qk.N_DA (1,2,3) | | |
| 18 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (1,2) | +1.50*Qk.N_E1 (4) |
| 19 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2,3) |
| | +1.50*Qk.N_DA (3) | | |
| 20 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (1,2,3,4) | +1.50*Qk.N_E1 (3) |
| 21 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 |

| Ek | (* *EW) | | |
|----|--------------------------|----------------------------|--------------------------|
| | | | (1,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.50*Qk.N_E1 (2,4) | +1.50*Qk.N_DA (4) |
| 22 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1,2,3,4) | +1.50*Qk.N_E1 (3) |
| | +1.50*Qk.N_DA (1,2,3) | | |
| 23 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C1 (3) | +1.50*Qk.N_E1 (2,4) | +1.50*Qk.N_DA (3,4) |
| 24 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C1 (3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,4) |
| | +1.50*Qk.N_DA (3,4) | | |
| 25 | 1.00*Gk | EFEGEE Ö← | +1.50*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (3) |
| 26 | 1.35*Gk | EFEGIE Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2,3) |
| 27 | 1.00*Gk | EFEGIE Ö← | +1.50*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (1,2,3,4) | +1.50*Qk.N_E1 (3) |
| 28 | 1.35*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C1 (3) | +1.50*Qk.N_E1 (2,4) | +1.50*Qk.N_DA (3,4) |
| 29 | 1.00*Gk | EFEGEE Ö← | +1.50*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.05*Qk.N_C5 (1,2,4) | |
| 30 | 1.35*Gk | EFEGIE Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,3,4) | |
| 31 | 1.00*Gk | EFEGEE Ö← | +1.50*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (1,2,3,4) | +1.50*Qk.N_E1 (3) |
| 32 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C1 (3) | +1.50*Qk.N_E1 (2,4) | +1.50*Qk.N_DA (3,4) |
| 33 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,3,4) | +1.50*Qk.N_DA (3,4) |
| 34 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2,3,4) | +1.50*Qk.N_DA (3,4) |
| 35 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (2) |
| | +1.50*Qk.N_C1 (2,3,4) | +1.05*Qk.N_C5 (1,2) | |
| 36 | 1.00*Gk | EFEGEE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (4) |

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| | +1.50*Qk.N_DA (1,2,4) | | |
| 37 | 1.35*Gk | EFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,3) |
| 38 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.50*Qk.N_C1 (2,3,4) | +1.05*Qk.N_C5 (1,2,4) | |
| 39 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_DA (1,2,4) |
| 40 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (1,2) | +1.50*Qk.N_E1 (4) |
| | +1.50*Qk.N_DA (1,2,4) | | |
| 41 | 1.35*Gk | EFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,3,4) | |
| 42 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_DA (1,2,4) |
| 43 | 1.35*Gk | EFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,3) | |
| 44 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,3,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (4) |
| | +1.50*Qk.N_DA (1,2,4) | | |
| 45 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (1,2) | +1.50*Qk.N_E1 (4) |
| | +1.50*Qk.N_DA (1,2,4) | | |
| 46 | 1.35*Gk | EFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (3,4) | +1.50*Qk.N_E1 (2,3) |

Bemessung (GZT)

àfiãÄäæ^ÄÖäæ^~|b\á^äÄäæäÜäá&à†ä↔æ↔\Á^á´äÄØSÁÓSÁ
1992-1-1:2011-01

Mindestmomente 5.3.2.2(3)

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -34.09 | 0.00 | -230.48 | 0.00 |
| | C | -226.65 | 0.00 | -223.42 | 0.00 |
| | D | -220.84 | 0.00 | -18.32 | 0.00 |

Biegung

Abs. 6.1

Feld 1

| x | Ek | $M_{y,d,o}$ $M_{y,d,u}$ | x/d_o x/d_u | z_o z_u | $A_{s,o}$ $A_{s,u}$ | $A_{s,o,erf}$ $A_{s,u,erf}$ |
|-------------------|----|----------------------------|--------------------|----------------|------------------------|--------------------------------|
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 3.62 m) | | | | | | |
| 0.00 | 1 | - | 0.001 | 74.6 | - | 3.36 _q |
| | 1 | - | - | - | - | - |
| 0.13 _a | 3 | -12.67 | 0.022 | 74.1 | 0.37 | 3.36 _q |
| | 2 | -3.37 | - | - | - | - |
| 2.88 _a | 3 | -351.36 | 0.200 | 68.5 | 11.51 | 11.51 |
| | 2 | -130.37 | - | - | - | - |
| 3.62 | 8 | -189.72 | 0.108 | 71.4 | 7.15 | 7.15 |
| | 7 | -189.72 | - | - | - | - |

Feld 2

| | | | | | | |
|-------------------|----|---------|-------|------|-------|-------------------|
| (L = 8.50 m) | | | | | | |
| 0.00 | 8 | -230.48 | 0.127 | 70.7 | 7.15 | 7.15 |
| | 7 | -189.72 | - | - | - | - |
| 0.75 _a | 12 | -230.48 | 0.127 | 70.7 | 7.15 | 7.15 |
| | 11 | 105.54 | 0.077 | 73.4 | 3.12 | 3.12 |
| 3.56* | 2 | 135.12 | - | - | - | - |
| | 15 | 339.87 | 0.185 | 70.1 | 10.83 | 10.83 |
| 7.75 _a | 22 | -515.59 | 0.308 | 65.1 | 18.00 | 18.00 |
| | 21 | -281.49 | - | - | - | 2.71 _f |
| 8.50 | 17 | -324.15 | 0.183 | 69.0 | 10.50 | 10.50 |
| | 16 | -324.15 | - | - | - | - |

Feld 3

| | | | | | | |
|-------------------|----|---------|-------|------|-------|-------------------|
| (L = 8.50 m) | | | | | | |
| 0.00 | 17 | -324.15 | 0.183 | 69.0 | 10.50 | 10.50 |
| | 16 | -324.15 | - | - | - | - |
| 0.75 _a | 20 | -223.42 | 0.123 | 70.9 | 6.91 | 6.91 |
| | 23 | 45.52 | 0.065 | 72.1 | 1.33 | 3.04 _f |
| 3.91* | 18 | 149.20 | - | - | - | - |
| | 26 | 376.24 | 0.207 | 69.5 | 12.16 | 12.16 |
| 7.75 _a | 33 | -256.94 | 0.142 | 70.2 | 8.08 | 8.08 |
| | 29 | -110.12 | - | - | - | 3.04 _f |
| 8.50 | 33 | -222.61 | 0.122 | 70.9 | 6.88 | 6.88 |
| | 29 | -222.61 | - | - | - | - |

Feld 4

| | | | | | | |
|-------------------|----|---------|-------|------|------|-------------------|
| (L = 3.38 m) | | | | | | |
| 0.00 | 33 | -222.61 | 0.122 | 70.9 | 6.88 | 6.88 |
| | 29 | -222.61 | - | - | - | - |
| 0.62 | 37 | -194.23 | 0.110 | 71.3 | 5.96 | 5.96 |
| | 36 | - | - | - | - | 2.32 _M |
| 0.75 _a | 37 | -188.29 | 0.107 | 71.4 | 5.77 | 5.77 |
| | 36 | 8.18 | 0.055 | 70.3 | 0.24 | 2.32 _M |
| 1.66* | 26 | -109.20 | 0.072 | 72.7 | 3.29 | 3.29 |
| | 40 | 26.77 | 0.052 | 71.9 | 0.78 | 2.32 _M |
| 3.25 _a | 46 | -9.56 | 0.019 | 74.2 | 0.28 | 2.57 _q |
| | 45 | 1.93 | 0.018 | 71.0 | 0.06 | 2.32 _M |
| 3.37 | 1 | - | 0.001 | 74.6 | - | 2.57 _q |
| | 1 | - | 0.001 | 73.0 | - | 2.32 _M |

a: Auflagerrand

*: maximales Feldmoment

f: {x → t^x & x → x^x} E^x a^x a^x N^x b^x E^x I^x E^x G^x F^x E^x H^x C^x F^x D^x E^x A^x I^x E^x G^x F^x E^x G^x C^x F^x D^x

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Feld 1

| x | Ek | V_{Ed} | γ_{fl} | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|-------------------|----|---------------------|---------------|--------------|------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 3.62 m) | | | | | | |
| 0.00 | 3 | 102.19 | 18.4 | 642.60 | - | - |
| 0.13 _a | 3 | 100.61 | 18.4 | 642.60 | 88.31 | 2.32 _M |
| 0.87 | 6 | 91.59 | 18.4 | 642.60 | 88.31 | 2.32 _M |
| 2.13 _v | 8 | 147.18 | 18.4 | 642.60 | 88.31 | 2.89 _F |
| 2.88 _a | 9 | 147.18 _R | 18.4 | 642.60 | - | 3.58 _F |
| 3.62 | 9 | 147.18 _R | 18.4 | 642.60 | - | - |

Feld 2

(L = 8.50 m)

| | x [m] | Ek | V _{Ed} [kN] | y _{fl} [m] | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|--------|-------------------|----|-------------------------|------------------------|-----------------------------|---------------------------|---|
| Feld 3 | 0.00 | 8 | 181.71 _R | 31.5 | 953.99 | - | - |
| | 0.75 _a | 9 | 181.71 _R | 18.4 | 642.60 | - | 5.00 _F |
| | 1.51 _v | 9 | 181.71 | 18.4 | 654.08 | 77.82 | 4.17 _F |
| | 3.56 | 11 | 46.89 | 18.4 | 654.08 | 77.82 | 2.32 _M |
| | 7.01 _v | 20 | 307.33 | 26.3 | 850.18 | 88.31 | 9.42 _F |
| | 7.75 _a | 20 | 307.33 _R | 26.3 | 850.18 | - | 10.16 _F |
| | 8.50 | 20 | 307.33 _R | 26.3 | 850.18 | - | - |
| | (L = 8.50 m) | | | | | | |
| | 0.00 | 17 | 218.70 _R | 45.0 | 1071.00 | - | - |
| | 0.75 _a | 20 | 218.70 _R | 19.6 | 676.71 | - | 6.43 _F |
| Feld 4 | 1.51 _v | 20 | 218.70 | 19.2 | 675.89 | 77.82 | 5.65 _F |
| | 3.91 | 28 | 18.64 _R | 18.4 | 654.08 | 77.82 | 2.32 _M |
| | 7.01 _v | 30 | 257.67 | 23.2 | 775.03 | 88.31 | 7.40 _F |
| | 7.75 _a | 30 | 257.67 _R | 23.2 | 775.03 | - | 8.10 _F |
| | 8.50 | 30 | 257.67 _R | 23.2 | 775.03 | - | - |
| | (L = 3.38 m) | | | | | | |
| | 0.00 | 35 | 102.24 _R | 18.4 | 642.60 | - | - |
| | 0.76 _a | 30 | 80.10 _R | 18.4 | 642.60 | - | 2.32 _M |
| | 1.50 _v | 41 | 80.10 | 18.4 | 642.60 | 88.31 | 2.32 _M |
| | 1.66 | 41 | 73.52 | 18.4 | 642.60 | 88.31 | 2.32 _M |
| | 2.50 _v | 37 | 56.95 | 18.4 | 642.60 | 88.31 | 2.32 _M |
| | 3.25 _a | 46 | 74.86 | 18.4 | 642.60 | - | 2.32 _M |
| | 3.37 | 46 | 78.15 | 18.4 | 642.60 | - | - |
| | | | | | | | |
| | | | | | | | |

a: Auflagerrand
v: Abstand d vom Auflagerrand
R: Querkraft reduziert
M: Mindestbewehrung nach Abs. 9.2.2
F: Verbundbewehrung aus Fugenbemessung

Hinweis

An folgendem Auflager erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

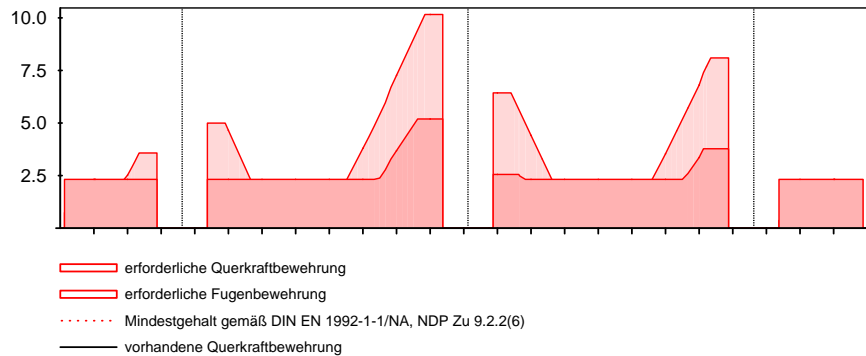
| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| A | rechts | Querkraft wirkt am Auflager abhebend |

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ ↓ ↑ ↓ Y' |
|---|-------------------------|----------------------------|--------------------------------|-------------------------------|--------------------------------------|
| N@piuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo↔ | | | | | |
| rau (c=0.40, =0.70, =0.50) | | | | | |
| Öæ→ääÁÁÉÁP~^\'á←\à→†´ää^ääæ↔\æääÁKÁGIBèÁ´↑ | | | | | |
| 0.62 | -94.42 | 140.50 | 1062.50 | 113.33 | 0.74 |
| 0.87 | -91.59 | 136.30 | 1062.50 | 113.33 | 0.63 |
| 2.13 _v | -147.18 | 219.01 | 1062.50 | 113.33 | 2.89 |
| 2.35 | -163.90 | 243.90 | 1062.50 | 113.33 | 3.58 |
| N@piuhwig"4 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo↔ | | | | | |
| rau (c=0.40, =0.70, =0.50) | | | | | |
| Öæ→ääÁÁÉÁP~^\'á←\à→†´ää^ääæ↔\æääÁKÁGIBèÁ´↑ | | | | | |
| 1.28 | 202.32 | 295.80 | 1062.50 | 113.33 | 5.00 |
| 1.51 _v | 181.71 | 265.66 | 1062.50 | 113.33 | 4.17 |
| 2.54 | 90.44 | 132.22 | 1062.50 | 113.33 | 0.52 |
| 4.21 | -85.38 | 124.83 | 1062.50 | 113.33 | 0.31 |
| 7.00 _v | -307.33 | 457.33 | 1062.50 | 113.33 | 9.42 |
| 7.22 | -325.55 | 484.44 | 1062.50 | 113.33 | 10.16 |
| N@piuhwig"5 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo↔ | | | | | |
| rau (c=0.40, =0.70, =0.50) | | | | | |
| Öæ→ääÁÁÉÁP~^\'á←\à→†´ää^ääæ↔\æääÁKÁGIBèÁ´↑ | | | | | |
| 1.28 | 238.23 | 348.28 | 1062.50 | 113.33 | 6.43 |

Querkraftbewehrung Asw
M 1:225

[cm²/m]



5i Z` U[Yf_f} ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------|------------------|------------------|
| Einw. Gk | | |
| A | -33.60 | -33.60 |
| B | 441.71 | 441.71 |
| C | 645.98 | 645.98 |
| D | 371.85 | 371.85 |
| E | -11.91 | -11.91 |
| Einw. Im | | |
| A | -8.91 | -8.91 |
| B | 181.92 | 181.92 |
| C | 260.51 | 260.51 |
| D | 158.39 | 158.39 |
| E | -4.47 | -4.47 |
| Einw. Qk.N_B1 | | |
| A | -24.98 | 8.19 |
| B | -14.66 | 133.41 |
| C | -1.35 | 155.09 |
| D | -16.51 | 99.00 |
| E | -27.29 | 6.59 |
| Einw. Qk.N_C1 | | |
| A | -0.06 | 0.07 |
| B | -0.17 | 0.17 |
| C | -0.33 | 0.58 |
| D | -11.96 | 0.00 |
| E | -10.89 | 0.50 |
| Einw. Qk.N_C5 | | |
| A | -0.71 | 0.35 |
| B | -0.97 | 1.50 |
| C | 0.00 | 7.49 |
| D | -0.45 | 6.07 |
| E | -2.14 | 0.18 |
| Einw. Qk.N_E1 | | |
| A | -0.08 | 0.12 |
| B | -0.32 | 0.21 |
| C | -0.71 | 0.77 |
| D | 0.00 | 18.78 |
| E | -0.95 | 7.33 |
| Einw. Qk.N_DA | | |
| A | -11.75 | 3.52 |
| B | -9.62 | 92.75 |
| C | -1.79 | 136.06 |
| D | -1.70 | 69.41 |
| E | -5.13 | 8.48 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |

U-175

Schulcampus EWK \

UZ-1.11

Nachweis

Ort

[-]

Querkraft

OK

Fugenbemessung

OK

Bewehrungswahl

OK

Pos. UZ-1.12

GHU `VYfcb!8 i fW`U Zf} [Yf

Dieser Unterzug muss mit einer **rauen Fuge** hergestellt werden.

Verankerungslänge:

unten:

$$l_{b,rqd} = 50 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 50 \text{ cm} * 2,41 \text{ cm}^2 / 6,16 \text{ cm}^2 = 20 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 50 \text{ cm} = \mathbf{15 \text{ cm}} \quad 10 \varnothing_l = 14 \text{ cm}$$

-> $l_{bd} = 15 \text{ cm}$

oben:

$$l_{b,rqd} = 71 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 71 \text{ cm} * 0,82 \text{ cm}^2 / 9,24 \text{ cm}^2 = 6,5 \text{ cm} \quad l_{b,min}$$

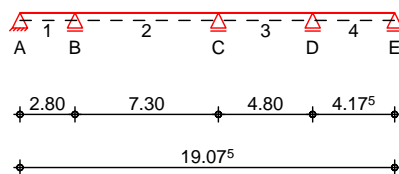
$$l_{b,min} = 0,3 * 0,7 * l_{b,rqd} = 0,3 * 71 \text{ cm} = \mathbf{21,5 \text{ cm}} \quad 10 \varnothing_l = 14 \text{ cm}$$

-> $l_{bd} = 21,5 \text{ cm}$

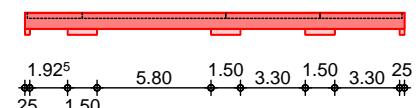
System

M 1 : 3 8 5

Ræääæ→ä\ã†&æã
System



Ansicht



Abmessungen
Mat./Querschnitt

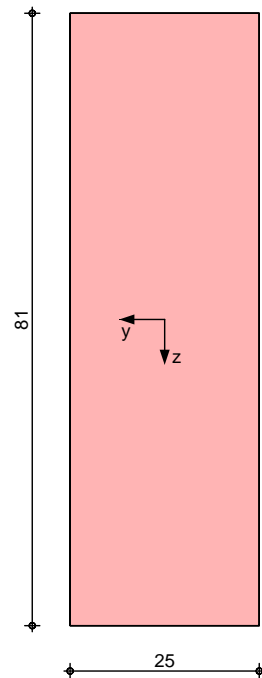
| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|------------------|
| 1 | 2.80 | C 30/37 | 25.0/81.0 |
| 2 | 7.30 | | |
| 3 | 4.80 | | |
| 4 | 4.18 | | |

Expositionsklasse XC1

Grafik

Querschnittsgrafik

M 1:10



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 2.80 | 150.0 | Beton | fest |
| C | 10.10 | 150.0 | Beton | fest |
| D | 14.90 | 150.0 | Beton | fest |
| E | 19.08 | 25.0 | Beton | fest |

Q_z & b_z | &æ^{ÄÄÄÄÄÄÄÄÄÄ}

| Feld | Fuge | Z_F [cm] | Y_{fl} | $Y_{SD} \uparrow \downarrow$ | N_d Y_{fl} |
|------|-------|---------------|----------|------------------------------|-------------------|
| 1 | glatt | 28.0 | 90 | | 0.00 |
| 2 | glatt | 28.0 | 90 | | 0.00 |
| 3 | glatt | 28.0 | 90 | | 0.00 |
| 4 | glatt | 28.0 | 90 | | 0.00 |

Belastungen

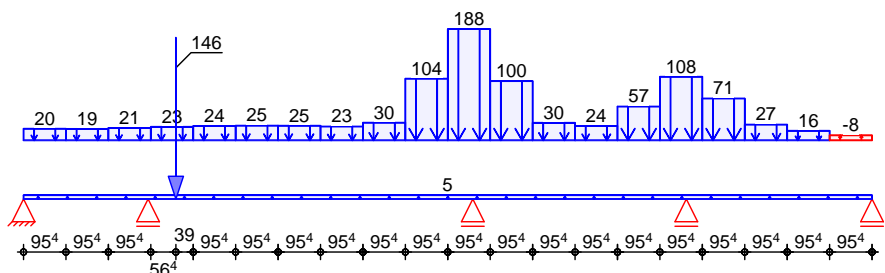
Belastungen auf das System

Grafik

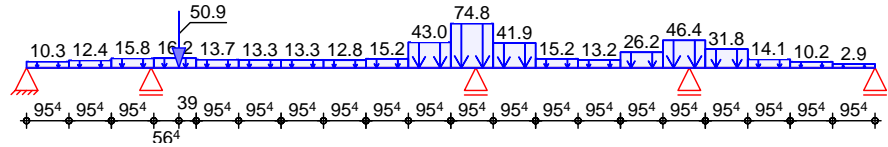
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

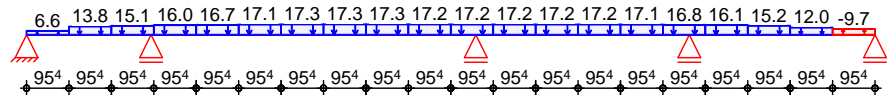
Gk



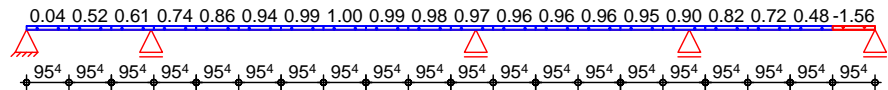
Ö←



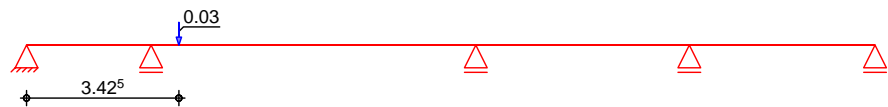
Qk.N_B1



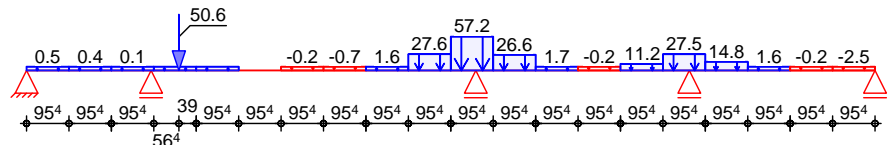
Qk.N_C5



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

| Feld | Komm. | a [m] | s [m] | q _{li} [kN/m] | q _{re} [kN/m] |
|-------|-------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 19.08 | | 5.06 |
| (a) 1 | UZ-1.12: Gk | 0.00 | 0.95 | 19.70 | 19.70 |
| (a) 1 | UZ-1.12: Gk | 0.95 | 0.95 | 19.40 | 19.40 |
| (a) 1 | UZ-1.12: Gk | 1.91 | 0.95 | 21.04 | 21.04 |
| (a) 1 | UZ-1.12: Gk | 2.86 | 0.95 | 22.95 | 22.95 |
| (a) 1 | UZ-1.12: Gk | 3.82 | 0.95 | 24.27 | 24.27 |
| (a) 1 | UZ-1.12: Gk | 4.77 | 0.95 | 24.90 | 24.90 |
| (a) 1 | UZ-1.12: Gk | 5.72 | 0.95 | 24.77 | 24.77 |
| (a) 1 | UZ-1.12: Gk | 6.68 | 0.95 | 23.40 | 23.40 |
| (a) 1 | UZ-1.12: Gk | 7.63 | 0.95 | 29.90 | 29.90 |
| (a) 1 | UZ-1.12: Gk | 8.58 | 0.95 | 104.38 | 104.38 |
| (a) 1 | UZ-1.12: Gk | 9.54 | 0.95 | 188.33 | 188.33 |
| (a) 1 | UZ-1.12: Gk | 10.49 | 0.95 | 100.20 | 100.20 |
| (a) 1 | UZ-1.12: Gk | 11.45 | 0.95 | 29.73 | 29.73 |
| (a) 1 | UZ-1.12: Gk | 12.40 | 0.95 | 24.28 | 24.28 |
| (a) 1 | UZ-1.12: Gk | 13.35 | 0.95 | 57.20 | 57.20 |
| (a) 1 | UZ-1.12: Gk | 14.31 | 0.95 | 107.64 | 107.64 |
| (a) 1 | UZ-1.12: Gk | 15.26 | 0.95 | 70.80 | 70.80 |
| (a) 1 | UZ-1.12: Gk | 16.21 | 0.95 | 26.66 | 26.66 |
| (a) 1 | UZ-1.12: Gk | 17.17 | 0.95 | 16.22 | 16.22 |

U-179

| | | Feld | Komm. | a [m] | s [m] | q _{li} [kN/m] | q _{re} [kN/m] |
|---------------|-----|------|------------------|----------|----------|---------------------------|---------------------------|
| Einw. Im | (a) | 1 | UZ-1.12: Gk | 18.12 | 0.95 | -8.45 | -8.45 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 0.00 | 0.95 | 10.35 | 10.35 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 0.95 | 0.95 | 12.37 | 12.37 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 1.91 | 0.95 | 15.81 | 15.81 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 2.86 | 0.95 | 16.16 | 16.16 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 3.82 | 0.95 | 13.73 | 13.73 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 4.77 | 0.95 | 13.32 | 13.32 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 5.72 | 0.95 | 13.29 | 13.29 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 6.68 | 0.95 | 12.80 | 12.80 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 7.63 | 0.95 | 15.21 | 15.21 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 8.58 | 0.95 | 42.98 | 42.98 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 9.54 | 0.95 | 74.76 | 74.76 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 10.49 | 0.95 | 41.91 | 41.91 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 11.45 | 0.95 | 15.21 | 15.21 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 12.40 | 0.95 | 13.15 | 13.15 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 13.35 | 0.95 | 26.21 | 26.21 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 14.31 | 0.95 | 46.42 | 46.42 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 15.26 | 0.95 | 31.84 | 31.84 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 16.21 | 0.95 | 14.12 | 14.12 |
| | (a) | 1 | ÜXËFÈFGIÁ Ö← | 17.17 | 0.95 | 10.15 | 10.15 |
| Einw. Qk.N_B1 | (a) | 1 | ÜXËFÈFGIÁ Ö← | 18.12 | 0.95 | 2.92 | 2.92 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 0.00 | 0.95 | 6.64 | 6.64 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 0.95 | 0.95 | 13.80 | 13.80 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 1.91 | 0.95 | 15.11 | 15.11 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 2.86 | 0.95 | 16.05 | 16.05 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 3.82 | 0.95 | 16.74 | 16.74 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 4.77 | 0.95 | 17.10 | 17.10 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 5.72 | 0.95 | 17.27 | 17.27 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 6.68 | 0.95 | 17.31 | 17.31 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 7.63 | 0.95 | 17.28 | 17.28 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 8.58 | 0.95 | 17.24 | 17.24 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 9.54 | 0.95 | 17.17 | 17.17 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 10.49 | 0.95 | 17.15 | 17.15 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 11.45 | 0.95 | 17.18 | 17.18 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 12.40 | 0.95 | 17.17 | 17.17 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 13.35 | 0.95 | 17.09 | 17.09 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 14.31 | 0.95 | 16.76 | 16.76 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 15.26 | 0.95 | 16.15 | 16.15 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 16.21 | 0.95 | 15.21 | 15.21 |
| | (a) | 1 | UZ-1.12: Qk.N_B1 | 17.17 | 0.95 | 12.03 | 12.03 |
| Einw. Qk.N_C5 | (a) | 1 | UZ-1.12: Qk.N_B1 | 18.12 | 0.95 | -9.71 | -9.71 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 0.00 | 0.95 | 0.04 | 0.04 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 0.95 | 0.95 | 0.52 | 0.52 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 1.91 | 0.95 | 0.61 | 0.61 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 2.86 | 0.95 | 0.74 | 0.74 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 3.82 | 0.95 | 0.86 | 0.86 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 4.77 | 0.95 | 0.94 | 0.94 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 5.72 | 0.95 | 0.99 | 0.99 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 6.68 | 0.95 | 1.00 | 1.00 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 7.63 | 0.95 | 0.99 | 0.99 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 8.58 | 0.95 | 0.98 | 0.98 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 9.54 | 0.95 | 0.97 | 0.97 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 10.49 | 0.95 | 0.96 | 0.96 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 11.45 | 0.95 | 0.96 | 0.96 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 12.40 | 0.95 | 0.96 | 0.96 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 13.35 | 0.95 | 0.95 | 0.95 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 14.31 | 0.95 | 0.90 | 0.90 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 15.26 | 0.95 | 0.82 | 0.82 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 16.21 | 0.95 | 0.72 | 0.72 |
| | (a) | 1 | UZ-1.12: Qk.N_C5 | 17.17 | 0.95 | 0.48 | 0.48 |
| Einw. Qk.N_DA | (a) | 1 | UZ-1.12: Qk.N_C5 | 18.12 | 0.95 | -1.56 | -1.56 |
| | (a) | 1 | UZ-1.12: Qk.N_DA | 0.00 | 0.95 | 0.51 | 0.51 |
| | (a) | 1 | UZ-1.12: Qk.N_DA | 0.95 | 0.95 | 0.35 | 0.35 |
| | (a) | 1 | UZ-1.12: Qk.N_DA | 1.91 | 0.95 | 0.10 | 0.10 |
| | (a) | 1 | UZ-1.12: Qk.N_DA | 2.86 | 0.95 | 0.05 | 0.05 |
| | (a) | 1 | UZ-1.12: Qk.N_DA | 3.82 | 0.95 | 0.04 | 0.04 |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-----|------|-------------------|----------|----------|---------------------------|---------------------------|
| (a) | 1 | UZ-1.12: Qk.N_DA | 5.72 | 0.95 | -0.17 | -0.17 |
| (a) | 1 | UZ-1.12: Qk.N_DA | 6.68 | 0.95 | -0.69 | -0.69 |
| (a) | 1 | UZ-1.12: Qk.N_DA | 7.63 | 0.95 | 1.57 | 1.57 |
| (a) | 1 | UZ-1.12: Qk.N_DA | 8.58 | 0.95 | 27.56 | 27.56 |
| (a) | 1 | UZ-1.12: Qk.N_DA | 9.54 | 0.95 | 57.25 | 57.25 |
| (a) | 1 | UZ-1.12: Qk.N_DA1 | 10.49 | 0.95 | 26.62 | 26.62 |
| (a) | 1 | UZ-1.12: Qk.N_DA1 | 11.45 | 0.95 | 1.67 | 1.67 |
| (a) | 1 | UZ-1.12: Qk.N_DA1 | 12.40 | 0.95 | -0.25 | -0.25 |
| (a) | 1 | UZ-1.12: Qk.N_DA1 | 13.35 | 0.95 | 11.17 | 11.17 |
| (a) | 1 | UZ-1.12: Qk.N_DA1 | 14.31 | 0.95 | 27.50 | 27.50 |
| (a) | 1 | UZ-1.12: Qk.N_DA1 | 15.26 | 0.95 | 14.80 | 14.80 |
| (a) | 1 | UZ-1.12: Qk.N_DA1 | 16.21 | 0.95 | 1.60 | 1.60 |
| (a) | 1 | UZ-1.12: Qk.N_DA1 | 17.17 | 0.95 | -0.21 | -0.21 |
| (a) | 1 | UZ-1.12: Qk.N_DA1 | 18.12 | 0.95 | -2.54 | -2.54 |

(a) aus Pos. 'D-1.OG - UZ-1.12'

Punktlasten in z-Richtung

Einw. Gk
Einw. Im
Einw. Qk.N_E1
Einw. Qk.N_DA

Einzellasten

| | Feld | Komm. | a [m] | F _z [kN] |
|-----|------|------------------|----------|------------------------|
| (a) | 1 | UZ-1.12: Gk | 3.43 | 145.78 |
| (a) | 1 | ÜXEFÈFGIÄ Ö← | 3.43 | 50.93 |
| (a) | 1 | UZ-1.12: Qk.N_E1 | 3.43 | 0.03 |
| (a) | 1 | UZ-1.12: Qk.N_DA | 3.43 | 50.60 |

(a) aus Pos. 'D-1.OG - UZ-1.12'

Kombi nati onen

b\†^ä↔&Đ{~äfiâæä&È

&æ†‡ßÄÆØSÄÓSÄFİİĞĖFĖFÄ|^äÄÆØSÄÓSÄFİİ€

Ek (* *EW)

| | | | |
|----|--------------------------|----------------------|--------------------------|
| 1 | 1.00*Gk | ÉFÈ€€€ Ö← | |
| 2 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (1,3) | | |
| 3 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,4) |
| 4 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_DA (3) | |
| 5 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (1,2,4) |
| 6 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_DA (3) | |
| 7 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (2) | |
| 8 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (1,2,4) |
| 9 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,3) |
| 10 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (1,2,4) | | |

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| 11 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (3) |
| 12 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,3) |
| 13 | 1.00*Gk | EFEEÖ | +1.50*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (1,2,4) | | |
| 14 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,3) |
| 15 | 1.00*Gk | EFEEÖ | +1.50*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C5 (1,4) | | |
| 16 | 1.35*Gk | EFEGIEÖ | +1.50*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (2) | |
| 17 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_DA (1,3) | |
| 18 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_DA (1,2,4) | |
| 19 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (3) |
| 20 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_DA (1,2,4) | |
| 21 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C5 (1,4) | +1.50*Qk.N_DA (1,2,4) | |
| 22 | 1.35*Gk | EFEGIEÖ | +1.50*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (2) | |
| 23 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (3) |
| 24 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C5 (1,4) | +1.50*Qk.N_DA (1,4) | |
| 25 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_DA (1,3,4) | |
| 26 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2) |
| 27 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_DA | |

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| 28 | (1,4) 1.35*Gk | (1,3,4) ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_DA (1,3) | |
| 29 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,4) |
| 30 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2) |
| 31 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (1,3,4) | | |
| 32 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_DA (1,3,4) | |
| 33 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,3) |
| 34 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C5 (1,4) | +1.50*Qk.N_DA (1,4) | |
| 35 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,4) |
| 36 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_DA (1,3) | |
| 37 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (2) | +1.50*Qk.N_DA (2,4) |
| 38 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2) | |
| 39 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_DA (1,3) | |

Bemessung (GZT)

àfiãÄäæ^ÄÖäæ^~ ~ |b\á^äÄäæäÄÜäá&à†ä&←æ↔\Á^á´äÄÈSÁÓSÁ
1992-1-1:2011-01

Mindestmomente 5.3.2.2(3)

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -22.50 | 0.00 | -157.49 | 0.00 |
| | C | -181.69 | 0.00 | -66.96 | 0.00 |
| | D | -61.84 | 0.00 | -65.56 | 0.00 |

Biegung

Abs. 6.1

Feld 1

| x | E_k | $M_{y,d,o}$ $M_{y,d,u}$ | x/d_o x/d_u | z_o z_u | $A_{s,o}$ $A_{s,u}$ | $A_{s,o,erf}$ $A_{s,u,erf}$ |
|------------------------|-------|----------------------------|--------------------|----------------|------------------------|--------------------------------|
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| $(L = 2.80 \text{ m})$ | | | | | | |
| 0.00 | 1 | - | 0.001 | 75.3 | - | 2.94 _q |
| | 1 | - | - | - | - | - |
| 0.13 _a | 3 | -11.57 | 0.020 | 74.8 | 0.34 | 2.94 _q |
| | 2 | -2.21 | - | - | - | - |
| 2.05 _a | 3 | -284.76 | 0.156 | 70.5 | 8.96 | 8.96 |
| | 2 | -133.02 | - | - | - | - |
| 2.80 | 8 | -174.04 | 0.099 | 72.4 | 5.27 | 5.27 |
| | 6 | -174.04 | - | - | - | - |

Feld 2

| | | | | | | |
|------------------------|----|---------|-------|------|------|-------------------|
| $(L = 7.30 \text{ m})$ | | | | | | |
| 0.00 | 8 | -174.04 | 0.099 | 72.4 | 5.27 | 5.27 |
| | 6 | -174.04 | - | - | - | - |
| 0.75 _a | 10 | -157.49 | 0.092 | 72.7 | 4.75 | 4.75 |
| | 9 | -0.13 | - | - | - | 2.43 _f |
| 3.67* | 17 | 146.39 | - | - | - | - |
| | 16 | 303.94 | 0.170 | 69.5 | 9.74 | 9.74 |
| 6.55 _a | 23 | -181.69 | 0.102 | 72.3 | 5.51 | 5.51 |
| | 21 | -48.00 | - | - | - | 2.43 _f |
| 7.30 | 14 | -181.69 | 0.102 | 72.3 | 5.51 | 5.51 |
| | 15 | -173.51 | - | - | - | - |

Feld 3

| | | | | | | |
|------------------------|----|---------|-------|------|------|-------------------|
| $(L = 4.80 \text{ m})$ | | | | | | |
| 0.00 | 14 | -173.51 | 0.099 | 72.4 | 5.25 | 5.25 |
| | 15 | -173.51 | - | - | - | - |
| 0.75 _a | 26 | -219.75 | 0.119 | 71.6 | 6.72 | 6.72 |
| | 25 | -82.82 | - | - | - | 0.65 _f |
| 2.82* | 29 | -5.20 | 0.013 | 75.0 | 0.15 | 2.34 _M |
| | 28 | 86.22 | 0.062 | 73.1 | 2.58 | 2.58 |
| 4.05 _a | 34 | -61.84 | 0.050 | 74.0 | 1.83 | 2.34 _M |
| | 33 | 11.66 | 0.038 | 70.7 | 0.34 | 2.36 _M |
| 4.80 | 32 | -61.84 | 0.050 | 74.0 | 1.94 | 2.34 _M |
| | 30 | -27.35 | - | - | - | - |

Feld 4

| | | | | | | |
|------------------------|----|--------|-------|------|------|-------------------|
| $(L = 4.18 \text{ m})$ | | | | | | |
| 0.00 | 32 | -65.56 | 0.052 | 74.0 | 1.94 | 2.34 _M |
| | 30 | -27.35 | - | - | - | - |
| 0.75 _a | 17 | -65.56 | 0.052 | 74.0 | 1.94 | 2.34 _M |
| | 3 | 40.49 | 0.050 | 72.3 | 1.20 | 2.36 _M |
| 1.97* | 17 | 34.68 | - | - | - | - |
| | 3 | 117.42 | 0.075 | 72.7 | 3.54 | 3.54 |
| 3.22 | 17 | 25.78 | - | - | - | 0.86 _e |
| | 16 | 67.42 | 0.053 | 73.4 | 2.01 | 2.36 _M |
| 4.05 _a | 39 | 3.28 | - | - | - | 0.86 _e |
| | 38 | 8.04 | 0.017 | 74.4 | 0.24 | 2.36 _M |
| 4.17 | 1 | - | - | - | - | 0.86 _e |
| | 1 | - | 0.001 | 74.8 | - | 2.36 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

f: { }

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Feld 1

| x | E_k | V_{Ed} | $\gamma_{fl,Y}$ | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|------------------------|-------|---------------------|-----------------|--------------|------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| $(L = 2.80 \text{ m})$ | | | | | | |
| 0.00 | 3 | 89.61 | 18.4 | 648.62 | - | - |
| 0.13 _a | 3 | 95.54 | 18.4 | 648.62 | 69.94 | 3.79 _F |
| 0.88 | 3 | 131.26 | 18.4 | 648.62 | 69.94 | 4.37 _F |
| 1.30 _v | 5 | 152.00 | 18.4 | 648.62 | 69.94 | 5.35 _F |
| 2.05 _a | 7 | 152.00 _R | 18.4 | 648.62 | - | 5.96 _F |
| 2.80 | 7 | 152.00 _R | 18.4 | 648.62 | - | - |

| | x [m] | Ek | V _{Ed} [kN] | γ _{fl} | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|--------|---|----|-------------------------|-----------------|-----------------------------|---------------------------|---|
| Feld 2 | (L = 7.30 m) | | | | | | |
| | 0.00 | 8 | 185.47 _R | 18.4 | 648.62 | - | - |
| | 0.75 _a | 10 | 185.47 _R | 18.4 | 648.62 | - | 7.86 _F |
| | 1.50 _v | 10 | 185.47 | 18.4 | 643.75 | 76.69 | 6.99 _F |
| | 3.67 | 11 | 9.73 _R | 18.4 | 643.75 | 76.69 | 2.32 _M |
| | 5.80 _v | 22 | 196.85 | 18.4 | 643.75 | 76.69 | 7.53 _F |
| | 6.55 _a | 14 | 196.85 _R | 18.4 | 648.62 | - | 9.94 _F |
| | 7.30 | 14 | 196.85 _R | 22.7 | 771.02 | - | - |
| Feld 3 | (L = 4.80 m) | | | | | | |
| | 0.00 | 14 | 141.10 _R | 18.4 | 648.62 | - | - |
| | 0.75 _a | 14 | 141.10 _R | 18.4 | 648.62 | - | 6.23 _F |
| | 1.50 _v | 22 | 141.10 | 18.4 | 648.62 | 69.94 | 4.83 _F |
| | 2.82 | 26 | 37.49 | 18.4 | 643.75 | 60.87 | 2.32 _M |
| | 3.30 _v | 31 | 48.56 | 18.4 | 643.75 | 60.87 | 2.32 _M |
| | 4.05 _a | 30 | 55.09 _R | 18.4 | 643.75 | - | 2.32 _M |
| | 4.80 | 30 | 163.40 _R | 18.4 | 648.62 | - | - |
| Feld 4 | (L = 4.18 m) | | | | | | |
| | 0.00 | 32 | 58.70 _R | 18.4 | 648.62 | - | - |
| | 0.75 _a | 32 | 58.70 _R | 18.4 | 648.62 | - | 2.32 _M |
| | 1.50 _v | 31 | 58.70 | 18.4 | 643.75 | 60.87 | 2.32 _M |
| | 1.97 | 36 | 19.77 _R | 18.4 | 643.75 | 60.87 | 2.32 _M |
| | 3.22 | 16 | 78.66 | 18.4 | 643.75 | 60.87 | 2.32 _M |
| | 3.30 _v | 16 | 77.38 | 18.4 | 643.75 | 60.87 | 2.32 _M |
| | 4.05 _a | 38 | 65.27 | 18.4 | 643.75 | - | 2.32 _M |
| | 4.17 | 38 | 63.38 _R | 18.4 | 643.75 | - | - |
| | a: Auflagerrand v: Abstand d vom Auflagerrand R: Querkraft reduziert M: Mindestbewehrung nach Abs. 9.2.2 F: Verbundbewehrung aus Fugenbemessung | | | | | | |

Hinweis

An folgendem Auflager erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| A | rechts | Querkraft wirkt am Auflager abhebend |

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ ↓ ↑ ↓ |
|---|-------------------------|----------------------------|--------------------------------|-------------------------------|-----------------------------------|
| N@piuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"P1oo↔ | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |
| 0x→äÄFÄÄP~^\'ä←\à→†'äx^ääx↔\xÄÄKÄGIEëÄ'↑ | | | | | |
| 0.62 | -118.90 | 175.30 | 425.00 | 56.67 | 3.79 |
| 0.88 | -131.26 | 193.51 | 425.00 | 56.67 | 4.37 |
| 1.30 | -152.00 | 224.08 | 425.00 | 56.67 | 5.35 |
| 1.52 | -164.98 | 243.23 | 425.00 | 56.67 | 5.96 |
| N@piuhwig"4 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"P1oo↔ | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |
| 0x→äÄGÄÄP~^\'ä←\à→†'äx^ääx↔\xÄÄKÄGIEëÄ'↑ | | | | | |
| 1.28 | 203.81 | 302.75 | 425.00 | 56.67 | 7.86 |
| 1.50 _v | 185.47 | 275.50 | 425.00 | 56.67 | 6.99 |
| 3.08 | 51.18 | 73.33 | 425.00 | 56.67 | 0.53 |
| 4.19 | -49.68 | 71.25 | 425.00 | 56.67 | 0.47 |
| 5.80 _v | -196.85 | 292.40 | 425.00 | 56.67 | 7.53 |
| 6.02 | -247.56 | 367.74 | 425.00 | 56.67 | 9.94 |
| N@piuhwig"5 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"P1oo↔ | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |

Querkraftbewehrung

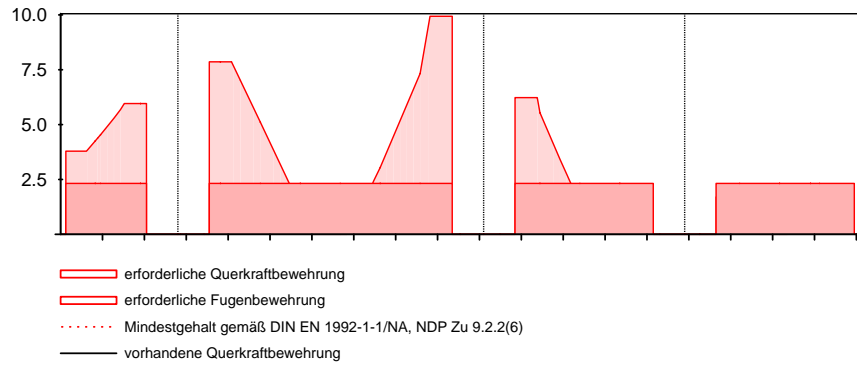
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 19.07 | ã: | 10.0 | 2 | 10.05 |

Querkraftbewehrung

M 1:180

A_{sw} [cm²/m]



5i Z`U[Yf_f}ZhY

N|â→á&æã←ã‡à\æÁŨã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | -27.26 | -27.26 |
| B | 348.85 | 348.85 |
| C | 513.20 | 513.20 |
| D | 269.26 | 269.26 |
| E | 22.68 | 22.68 |
| Einw. I _m | | |
| A | -10.01 | -10.01 |
| B | 148.20 | 148.20 |
| C | 206.39 | 206.39 |
| D | 114.62 | 114.62 |
| E | 13.95 | 13.95 |
| Einw. Q _{k,N_B1} | | |
| A | -22.95 | 14.67 |
| B | -5.40 | 107.48 |
| C | -4.88 | 118.57 |
| D | -17.27 | 83.19 |
| E | -5.30 | 9.15 |
| Einw. Q _{k,N_C5} | | |
| A | -1.26 | 0.43 |
| B | -0.30 | 5.38 |
| C | -0.18 | 6.69 |
| D | -0.97 | 4.18 |
| E | -0.96 | 0.19 |
| Einw. Q _{k,N_E1} | | |
| A | 0.00 | 0.00 |
| B | 0.00 | 0.03 |
| C | 0.00 | 0.00 |
| D | 0.00 | 0.00 |
| E | 0.00 | 0.00 |
| Einw. Q _{k,N_DA} | | |
| A | -9.25 | 1.90 |
| B | -3.30 | 61.79 |
| C | -1.54 | 111.94 |
| D | -7.00 | 56.10 |
| E | -2.62 | 1.77 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |

Nachweis

Ort

[-]

Fugenbemessung

OK

Bewehrungswahl

OK

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

3.3.2 Einfeldträger

Übersicht Bewehrungswahl:

| | | |
|---------|--------|-----------------------------------|
| UZ-1.2: | unten: | 1. Lage: 2Ø14 |
| | oben: | 1. Lage: 2Ø12 |
| | quer: | Ø8/20 |
| UZ-1.3: | unten: | 1. Lage: 4Ø20 |
| | | 2. Lage: 4Ø20 |
| | | 3. Lage: 2Ø20 |
| | oben: | 1. Lage: 2Ø20 |
| UZ-1.6: | quer: | Ø12/10 |
| | Gurt: | Ø10/10 (in Platte oben und unten) |
| | unten: | 1. Lage: 4Ø20 |
| | | 2. Lage: 4Ø20 |
| UZ-1.7: | | 3. Lage: 2Ø20 |
| | oben: | 1. Lage: 2Ø20 |
| | quer: | Ø12/10 |
| | Gurt: | Ø10/10 (in Platte oben und unten) |
| UZ-1.7: | unten: | 1. Lage: 4Ø14 |
| | oben: | 1. Lage: 2Ø14 |
| | quer: | Ø8/20 |

Pos. UZ-1.2

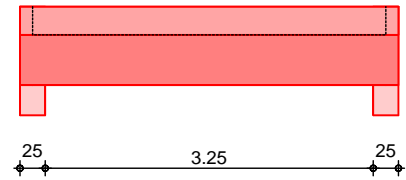
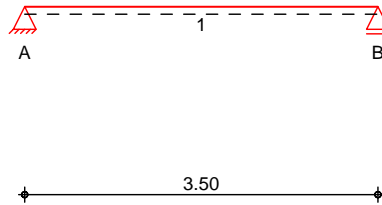
System

M 1 : 75

Systemansicht

System

Ansicht



Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 3.50 | 0.00 | C 30/37 | 25.0/25.0/78.0 |
| 1 | | 3.50 | | |

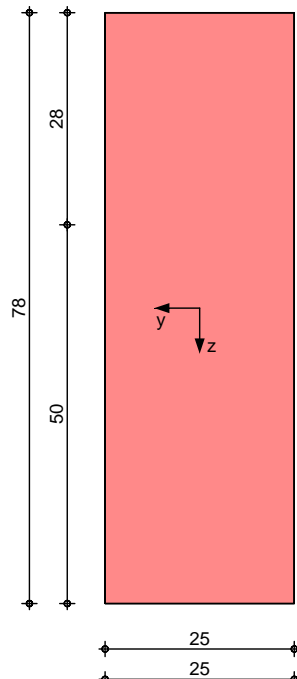
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1 : 10



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.50 | 25.0 | Beton | fest |

Querschnitt

| Feld | Fuge | z_f [cm] | γ_{fl} | γ_{SD} |
|------|-------|---------------|---------------|---------------|
| 1 | glatt | 28.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

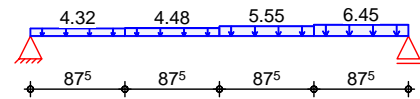
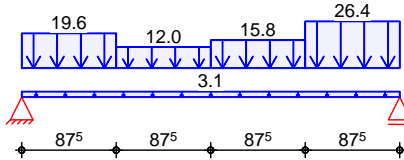
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

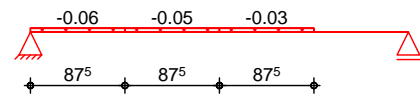
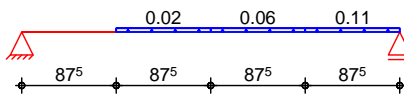
Gk

Ö←



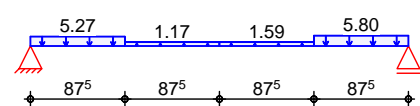
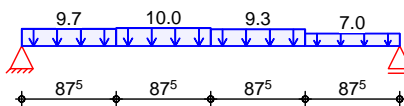
Qk.N_B1

Qk.N_C1

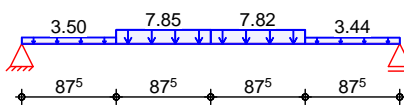


Qk.N_C5

Qk.N_DA



Qk.N_T2

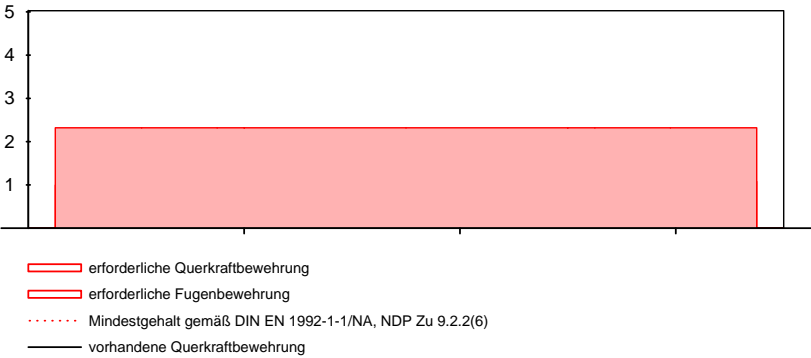


Streckenlasten in z-Richtung

Trapezlasten

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|-----------------|----------|----------|---------------------------|---------------------------|
| Einw. Gk | 1 | Eigengew | 0.00 | 3.50 | | 3.12 |
| | (a) 1 | UZ-1.2: Gk | 0.00 | 0.88 | 19.64 | 19.64 |
| | (a) 1 | UZ-1.2: Gk | 0.88 | 0.88 | 11.97 | 11.97 |
| | (a) 1 | UZ-1.2: Gk | 1.75 | 0.88 | 15.82 | 15.82 |
| | (a) 1 | UZ-1.2: Gk | 2.63 | 0.88 | 26.40 | 26.40 |
| Einw. Im | (a) 1 | Ö← | 0.00 | 0.88 | 4.32 | 4.32 |
| | (a) 1 | Ö← | 0.88 | 0.88 | 4.48 | 4.48 |
| | (a) 1 | Ö← | 1.75 | 0.88 | 5.55 | 5.55 |
| | (a) 1 | Ö← | 2.63 | 0.88 | 6.45 | 6.45 |
| Einw. Qk.N_B1 | (a) 1 | UZ-1.2: Qk.N_B1 | 0.88 | 0.88 | 0.02 | 0.02 |
| | (a) 1 | UZ-1.2: Qk.N_B1 | 1.75 | 0.88 | 0.06 | 0.06 |
| | (a) 1 | UZ-1.2: Qk.N_B1 | 2.63 | 0.88 | 0.11 | 0.11 |
| Einw. Qk.N_C1 | (a) 1 | UZ-1.2: Qk.N_C1 | 0.00 | 0.88 | -0.06 | -0.06 |
| | (a) 1 | UZ-1.2: Qk.N_C1 | 0.88 | 0.88 | -0.05 | -0.05 |
| | (a) 1 | UZ-1.2: Qk.N_C1 | 1.75 | 0.88 | -0.03 | -0.03 |
| Einw. Qk.N_C5 | (a) 1 | UZ-1.2: Qk.N_C5 | 0.00 | 0.88 | 9.66 | 9.66 |
| | (a) 1 | UZ-1.2: Qk.N_C5 | 0.88 | 0.88 | 10.00 | 10.00 |
| | (a) 1 | UZ-1.2: Qk.N_C5 | 1.75 | 0.88 | 9.34 | 9.34 |
| | (a) 1 | UZ-1.2: Qk.N_C5 | 2.63 | 0.88 | 6.97 | 6.97 |
| Einw. Qk.N_DA | (a) 1 | UZ-1.2: Qk.N_DA | 0.00 | 0.88 | 5.27 | 5.27 |
| | (a) 1 | UZ-1.2: Qk.N_DA | 0.88 | 0.88 | 1.17 | 1.17 |
| | (a) 1 | UZ-1.2: Qk.N_DA | 1.75 | 0.88 | 1.59 | 1.59 |
| | (a) 1 | UZ-1.2: Qk.N_DA | 2.63 | 0.88 | 5.80 | 5.80 |
| Einw. Qk.N_T2 | (a) 1 | UZ-1.2: Qk.N_T2 | 0.00 | 0.88 | 3.50 | 3.50 |
| | (a) 1 | UZ-1.2: Qk.N_T2 | 0.88 | 0.88 | 7.85 | 7.85 |
| | (a) 1 | UZ-1.2: Qk.N_T2 | 1.75 | 0.88 | 7.82 | 7.82 |
| | (a) 1 | UZ-1.2: Qk.N_T2 | 2.63 | 0.88 | 3.44 | 3.44 |

Querkraftbewehrung Asw [cm²/m]
M 1:35



5i Z` U[Yf_f}ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | |
|--|------------------|------------------|-------|
| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] | |
| Einw. Gk | A | 35.13 | 35.13 |
| | B | 40.41 | 40.41 |
| Einw. Im | A | 8.29 | 8.29 |
| | B | 9.92 | 9.92 |
| Einw. Qk.N_B1 | A | 0.04 | 0.04 |
| | B | 0.12 | 0.12 |
| Einw. Qk.N_C1 | A | -0.08 | -0.08 |
| | B | -0.04 | -0.04 |
| Einw. Qk.N_C5 | A | 16.69 | 16.69 |
| | B | 14.78 | 14.78 |
| Einw. Qk.N_DA | A | 5.83 | 5.83 |
| | B | 6.27 | 6.27 |
| Einw. Qk.N_T2 | A | 9.91 | 9.91 |
| | B | 9.87 | 9.87 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-1.3

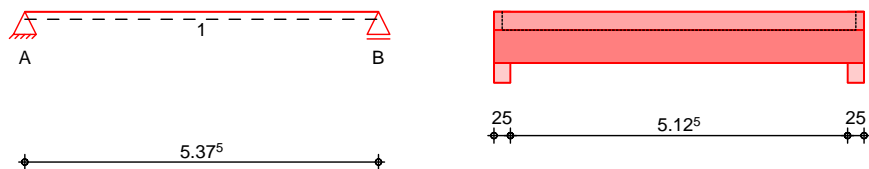
GHU `VYfcb!8 i fW`U Zf}[Yf

Dieser Unterzug muss mit einer rauen Fuge hergestellt werden.

System

M 1:115

System Ansicht



Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 5.38 | 0.00 | C 30/37 | 200.0/25.0/78.0 |
| 1 | | 5.38 | | |

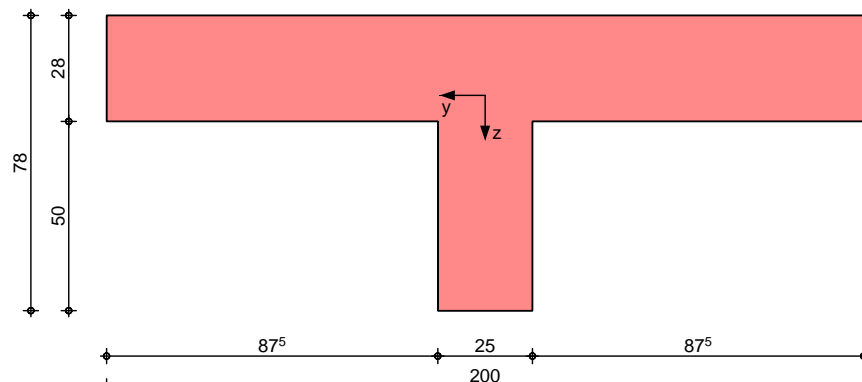
Expositionsklasse

XC1

Grafik

M 1:20

Querschnittsgrafik



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 5.38 | 25.0 | Beton | fest |

Qf^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z_f [cm] | $Y_{fl}\ddot{Y}$ | N_d $YSD\uparrow\uparrow\ddot{Y}$ |
|------|------|---------------|------------------|--|
| 1 | rau | 28.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

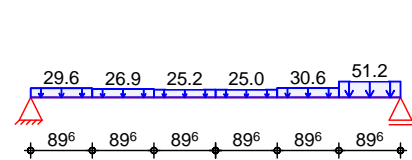
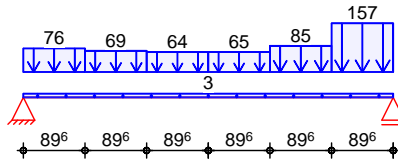
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

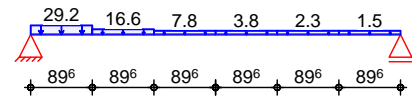
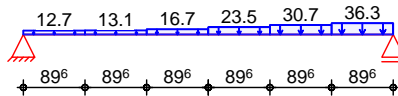
Gk

Ö←



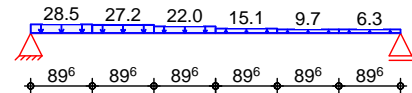
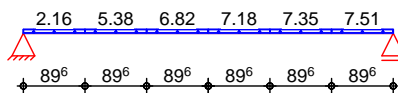
Qk.N_B1

Qk.N_C1

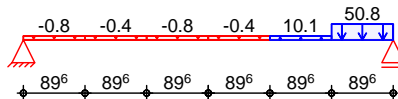


Qk.N_C5

Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 5.38 | | 3.12 |
| (a) 1 | UZ-1.3: Gk | 0.00 | 0.90 | 76.16 | 76.16 |
| (a) 1 | UZ-1.3: Gk | 0.90 | 0.90 | 68.69 | 68.69 |
| (a) 1 | UZ-1.3: Gk | 1.79 | 0.90 | 64.38 | 64.38 |
| (a) 1 | UZ-1.3: Gk | 2.69 | 0.90 | 64.98 | 64.98 |
| (a) 1 | UZ-1.3: Gk | 3.58 | 0.90 | 84.61 | 84.61 |
| (a) 1 | UZ-1.3: Gk | 4.48 | 0.90 | 157.28 | 157.28 |

Einw. Im

| | | | | | |
|-------|----|------|------|-------|-------|
| (a) 1 | Ö← | 0.00 | 0.90 | 29.57 | 29.57 |
| (a) 1 | Ö← | 0.90 | 0.90 | 26.87 | 26.87 |
| (a) 1 | Ö← | 1.79 | 0.90 | 25.17 | 25.17 |
| (a) 1 | Ö← | 2.69 | 0.90 | 25.04 | 25.04 |
| (a) 1 | Ö← | 3.58 | 0.90 | 30.60 | 30.60 |
| (a) 1 | Ö← | 4.48 | 0.90 | 51.20 | 51.20 |

Einw. Qk.N_B1

| | | | | | |
|-------|-----------------|------|------|-------|-------|
| (a) 1 | UZ-1.3: Qk.N_B1 | 0.00 | 0.90 | 12.68 | 12.68 |
| (a) 1 | UZ-1.3: Qk.N_B1 | 0.90 | 0.90 | 13.06 | 13.06 |
| (a) 1 | UZ-1.3: Qk.N_B1 | 1.79 | 0.90 | 16.69 | 16.69 |
| (a) 1 | UZ-1.3: Qk.N_B1 | 2.69 | 0.90 | 23.53 | 23.53 |
| (a) 1 | UZ-1.3: Qk.N_B1 | 3.58 | 0.90 | 30.74 | 30.74 |
| (a) 1 | UZ-1.3: Qk.N_B1 | 4.48 | 0.90 | 36.29 | 36.29 |

Einw. Qk.N_C1

| | | | | | |
|-------|-----------------|------|------|-------|-------|
| (a) 1 | UZ-1.3: Qk.N_C1 | 0.00 | 0.90 | 29.19 | 29.19 |
| (a) 1 | UZ-1.3: Qk.N_C1 | 0.90 | 0.90 | 16.56 | 16.56 |
| (a) 1 | UZ-1.3: Qk.N_C1 | 1.79 | 0.90 | 7.78 | 7.78 |
| (a) 1 | UZ-1.3: Qk.N_C1 | 2.69 | 0.90 | 3.83 | 3.83 |
| (a) 1 | UZ-1.3: Qk.N_C1 | 3.58 | 0.90 | 2.28 | 2.28 |
| (a) 1 | UZ-1.3: Qk.N_C1 | 4.48 | 0.90 | 1.54 | 1.54 |

Einw. Qk.N_C5

| | | | | | |
|-------|-----------------|------|------|------|------|
| (a) 1 | UZ-1.3: Qk.N_C5 | 0.00 | 0.90 | 2.16 | 2.16 |
| (a) 1 | UZ-1.3: Qk.N_C5 | 0.90 | 0.90 | 5.38 | 5.38 |
| (a) 1 | UZ-1.3: Qk.N_C5 | 1.79 | 0.90 | 6.82 | 6.82 |
| (a) 1 | UZ-1.3: Qk.N_C5 | 2.69 | 0.90 | 7.18 | 7.18 |
| (a) 1 | UZ-1.3: Qk.N_C5 | 3.58 | 0.90 | 7.35 | 7.35 |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|-----------------|----------|----------|---------------------------|---------------------------|
| Einw. Qk.N_E1 | (a) 1 | UZ-1.3: Qk.N_C5 | 4.48 | 0.90 | 7.51 | 7.51 |
| | (a) 1 | UZ-1.3: Qk.N_E1 | 0.00 | 0.90 | 28.52 | 28.52 |
| | (a) 1 | UZ-1.3: Qk.N_E1 | 0.90 | 0.90 | 27.20 | 27.20 |
| | (a) 1 | UZ-1.3: Qk.N_E1 | 1.79 | 0.90 | 22.00 | 22.00 |
| | (a) 1 | UZ-1.3: Qk.N_E1 | 2.69 | 0.90 | 15.13 | 15.13 |
| | (a) 1 | UZ-1.3: Qk.N_E1 | 3.58 | 0.90 | 9.65 | 9.65 |
| Einw. Qk.N_DA | (a) 1 | UZ-1.3: Qk.N_E1 | 4.48 | 0.90 | 6.32 | 6.32 |
| | (a) 1 | UZ-1.3: Qk.N_DA | 0.00 | 0.90 | -0.82 | -0.82 |
| | (a) 1 | UZ-1.3: Qk.N_DA | 0.90 | 0.90 | -0.45 | -0.45 |
| | (a) 1 | UZ-1.3: Qk.N_DA | 1.79 | 0.90 | -0.85 | -0.85 |
| | (a) 1 | UZ-1.3: Qk.N_DA | 2.69 | 0.90 | -0.37 | -0.37 |
| | (a) 1 | UZ-1.3: Qk.N_DA | 3.58 | 0.90 | 10.08 | 10.08 |
| | (a) 1 | UZ-1.3: Qk.N_DA | 4.48 | 0.90 | 50.76 | 50.76 |

(a) aus Pos. 'D-1.OG - UZ-1.3'

Kombi nati onen

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| 3 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_DA | |
| 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_C1 |
| | +1.50*Qk.N_E1 | | |
| 5 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |

Bemessung (GZT)

àfiãÄäæ^ÁÖäæ^~ ~ | b\á^äÄäæãÁÜää&à†â&æ↔\Á^á´äÄØSÁÓSÁ
1992-1-1:2011-01

Bi egung

Abs. 6.1

Ñæ†æbb | ^&ÁàfiãÄÑ↔æ&æâæá^b*ã | ´â | ^&

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|----------------------------|------------------|------------------------|---------------------------|-------------------------------|
| [m] | | M _{yd,u} [kNm] | x/d _u | z _u [cm] | A _{s,u} [cm²] | A _{s,u,erf} [cm²] |
| (L = 5.38 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 6.12 _e |
| | 1 | - | 3.1E-4 | 70.4 | - | 11.19 _q |
| 0.13 _a | 1 | 34.30 | - | - | - | 6.12 _e |
| | 2 | 72.99 | 0.019 | 69.9 | 2.29 | 11.19 _q |
| 2.74* | 1 | 381.85 | - | - | - | - |
| | 2 | 784.94 | 0.073 | 68.5 | 25.10 | 25.10 |
| 5.25 _a | 1 | 44.19 | - | - | - | 6.12 _e |
| | 5 | 88.14 | 0.021 | 69.9 | 2.76 | 13.72 _q |
| 5.37 | 1 | - | - | - | - | 6.12 _e |
| | 1 | - | 3.1E-4 | 70.4 | - | 13.72 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

Ñæ†æbb | ^&ÁàfiãÄT | æã↔ääà\âæá^b*ã | ´â | ^&

| x | Ek | V _{Ed} | yflŸ | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|---------------------|------|---------------------|-------------------|---------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm²/m] |
| (L = 5.38 m) | | | | | | |
| 0.00 | 2 | 398.71 _R | 30.4 | 881.29 | - | - |
| 0.13 _a | 2 | 398.71 _R | 30.4 | 881.29 | - | 17.05 _F |
| 0.83 _v | 2 | 398.71 | 30.4 | 881.29 | 101.70 | 14.13 _F |
| 2.74 | 3 | 27.23 _R | 18.4 | 605.88 | 101.70 | 2.32 _M |
| 4.55 _v | 2 | 394.74 | 30.3 | 879.46 | 101.70 | 13.96 _F |
| 5.25 _a | 5 | 394.74 _R | 30.3 | 879.46 | - | 18.56 _F |
| 5.37 | 5 | 394.74 _R | 30.3 | 879.46 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

Längsbewehrung
M 1:55

As

[cm²/m]

oben
Lage 1:

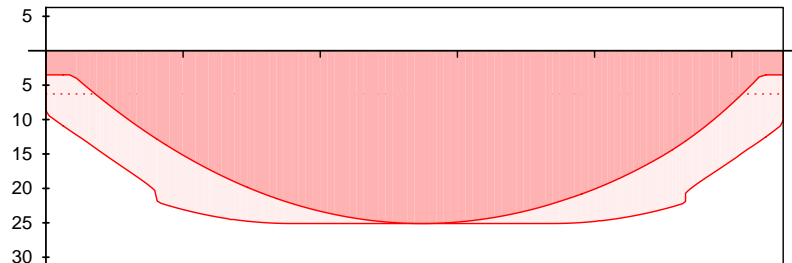
2Ø20

unten
Lage 1:
Lage 2:
Lage 3:

4Ø20

4Ø20

2Ø20



erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung Verankerungslängen

Querkraftbewehrung
M 1:55

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 5.38 | 34 | 10.0 | 2 | 22.62 |

Gurtbewehrung

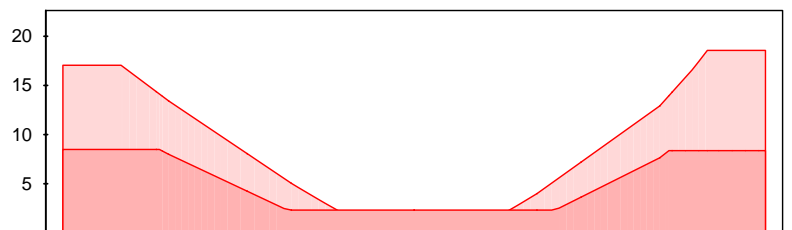
Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | d [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 2.79 | 10 | 10.0 | 7.85 |
| | 2.79 | 5.38 | 10 | 10.0 | 7.85 |

Querkraftbewehrung
M 1:55

A_{sw}

[cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

Einw. G_k

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|-------|------------------------------|------------------------------|
| A | 205.68 | 205.68 |
| B | 273.44 | 273.44 |

Einw. I_m

| | | |
|---|-------|-------|
| A | 75.51 | 75.51 |
| B | 93.31 | 93.31 |

Einw. Q_{k,N_B1}

| | | |
|---|-------|-------|
| A | 46.29 | 46.29 |
| B | 72.85 | 72.85 |

Einw. Q_{k,N_C1}

| | | |
|---|-------|-------|
| A | 41.22 | 41.22 |
| B | 13.59 | 13.59 |

Einw. Q_{k,N_C5}

| | | |
|---|-------|-------|
| A | 13.84 | 13.84 |
|---|-------|-------|

U-199

| | Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------|-------|------------------|------------------|
| Einw. Qk.N_E1 | B | 18.77 | 18.77 |
| | A | 61.47 | 61.47 |
| Einw. Qk.N_DA | B | 36.01 | 36.01 |
| | A | 4.50 | 4.50 |
| | B | 47.78 | 47.78 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Gurtbewehrung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-1.6

GHU`VYfcb!8i fW`U Zf}[Yf

Der Unterzug ist mit rauer Fuge herzustellen.

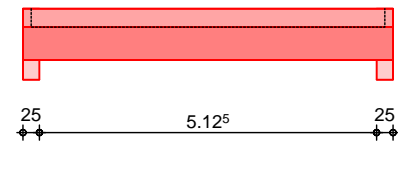
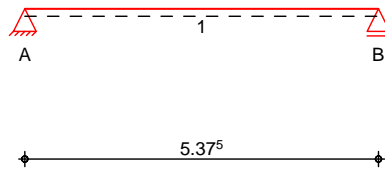
System

Ó↔^àæ→ä\ã‡&æãÁÇGIEÈÈÍÊÈÈÍĞÍÈID

System

Ansicht

M 1:115



Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 5.38 | 0.00 | C 30/37 | 200.0/25.0/78.0 |
| 1 | | 5.38 | | |

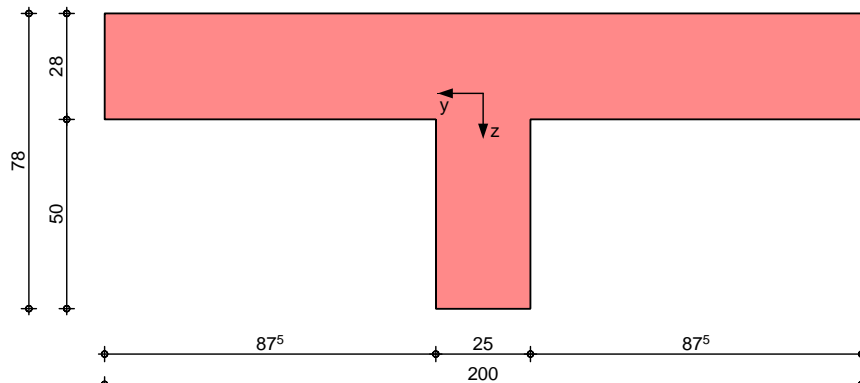
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:20



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 5.38 | 25.0 | Beton | fest |

Q†^&bà|&æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z _f [cm] | YflŸ | Nd YSD↑↑ŸŸ |
|------|------|------------------------|------|---------------|
| 1 | rau | 28.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

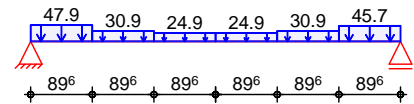
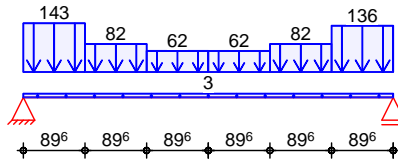
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

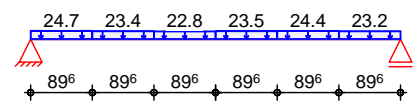
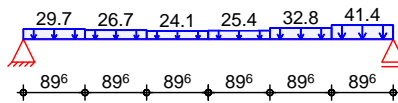
Gk

Ö←

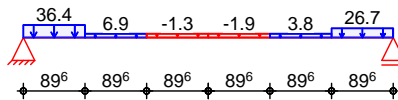


Qk.N_B1

Qk.N_C5



Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-----------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 5.38 | | 3.12 |
| (a) 1 | UZ-1.6: Gk | 0.00 | 0.90 | 143.10 | 143.10 |
| (a) 1 | UZ-1.6: Gk | 0.90 | 0.90 | 82.29 | 82.29 |
| (a) 1 | UZ-1.6: Gk | 1.79 | 0.90 | 62.15 | 62.15 |
| (a) 1 | UZ-1.6: Gk | 2.69 | 0.90 | 62.05 | 62.05 |
| (a) 1 | UZ-1.6: Gk | 3.58 | 0.90 | 82.12 | 82.12 |
| (a) 1 | UZ-1.6: Gk | 4.48 | 0.90 | 136.08 | 136.08 |
| Einw. Im | | | | | |
| (a) 1 | Ö← | 0.00 | 0.90 | 47.92 | 47.92 |
| (a) 1 | Ö← | 0.90 | 0.90 | 30.87 | 30.87 |
| (a) 1 | Ö← | 1.79 | 0.90 | 24.86 | 24.86 |
| (a) 1 | Ö← | 2.69 | 0.90 | 24.86 | 24.86 |
| (a) 1 | Ö← | 3.58 | 0.90 | 30.87 | 30.87 |
| (a) 1 | Ö← | 4.48 | 0.90 | 45.73 | 45.73 |
| Einw. Qk.N_B1 | | | | | |
| (a) 1 | UZ-1.6: Qk.N_B1 | 0.00 | 0.90 | 29.75 | 29.75 |
| (a) 1 | UZ-1.6: Qk.N_B1 | 0.90 | 0.90 | 26.66 | 26.66 |
| (a) 1 | UZ-1.6: Qk.N_B1 | 1.79 | 0.90 | 24.08 | 24.08 |
| (a) 1 | UZ-1.6: Qk.N_B1 | 2.69 | 0.90 | 25.44 | 25.44 |
| (a) 1 | UZ-1.6: Qk.N_B1 | 3.58 | 0.90 | 32.81 | 32.81 |
| (a) 1 | UZ-1.6: Qk.N_B1 | 4.48 | 0.90 | 41.41 | 41.41 |
| Einw. Qk.N_C5 | | | | | |
| (a) 1 | UZ-1.6: Qk.N_C5 | 0.00 | 0.90 | 24.71 | 24.71 |
| (a) 1 | UZ-1.6: Qk.N_C5 | 0.90 | 0.90 | 23.38 | 23.38 |
| (a) 1 | UZ-1.6: Qk.N_C5 | 1.79 | 0.90 | 22.83 | 22.83 |
| (a) 1 | UZ-1.6: Qk.N_C5 | 2.69 | 0.90 | 23.54 | 23.54 |
| (a) 1 | UZ-1.6: Qk.N_C5 | 3.58 | 0.90 | 24.44 | 24.44 |
| (a) 1 | UZ-1.6: Qk.N_C5 | 4.48 | 0.90 | 23.19 | 23.19 |
| Einw. Qk.N_DA | | | | | |
| (a) 1 | UZ-1.6: Qk.N_DA | 0.00 | 0.90 | 36.38 | 36.38 |
| (a) 1 | UZ-1.6: Qk.N_DA | 0.90 | 0.90 | 6.87 | 6.87 |
| (a) 1 | UZ-1.6: Qk.N_DA | 1.79 | 0.90 | -1.31 | -1.31 |
| (a) 1 | UZ-1.6: Qk.N_DA | 2.69 | 0.90 | -1.87 | -1.87 |
| (a) 1 | UZ-1.6: Qk.N_DA | 3.58 | 0.90 | 3.76 | 3.76 |
| (a) 1 | UZ-1.6: Qk.N_DA | 4.48 | 0.90 | 26.75 | 26.75 |

(a)

aus Pos. 'D-1.OG - UZ-1.6'

Kombi nati onen

 $b \setminus t^{\wedge} \ddot{a} \leftrightarrow \&D \{ \sim \ddot{a} f i \hat{a} \ddot{a} \&B$
 $\&\ddot{a} \uparrow \ddagger \beta \tilde{A} \tilde{E} \tilde{O} \tilde{S} \tilde{A} \tilde{O} \tilde{S} \tilde{A} \tilde{F} \tilde{I} \tilde{I} \tilde{G} \tilde{E} \tilde{F} \tilde{E} \tilde{F} \tilde{A} \mid \wedge \tilde{a} \tilde{A} \tilde{E} \tilde{O} \tilde{S} \tilde{A} \tilde{O} \tilde{S} \tilde{A} \tilde{F} \tilde{I} \tilde{I} \tilde{e}$

Ek (* *EW)

| | | | |
|---|---------------|---------------|---------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_DA | |
| 3 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 |
| | +1.05*Qk.N_C5 | | |
| 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 |
| | +1.05*Qk.N_C5 | | |
| 5 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_DA |

Bemessung (GZT)

 $\hat{a} f i \hat{a} \hat{A} \hat{a} \hat{a}^{\wedge} \hat{A} \hat{O} \hat{a} \hat{a}^{\sim} \mid b \setminus \acute{a}^{\wedge} \hat{a} \hat{A} \hat{a} \hat{a} \hat{A} \hat{U} \hat{a} \hat{a} \& \hat{a} \hat{t} \hat{a} \leftrightarrow \& \leftarrow \hat{A}^{\wedge} \acute{a}^{\wedge} \hat{a} \hat{A} \tilde{E} \tilde{O} \tilde{S} \tilde{A} \tilde{O} \tilde{S} \tilde{A}$
1992-1-1:2011-01

Bi egung

Abs. 6.1

 $\tilde{N} \ddot{a} \uparrow \ddot{a} b b \mid \wedge \& \tilde{A} \hat{a} f i \hat{a} \tilde{A} \tilde{N} \leftrightarrow \ddot{a} \& \hat{a} \hat{a} \hat{a}^{\wedge} b^* \tilde{a} \mid \acute{a} \mid \wedge \&$

Feld 1

| x | Ek | Myd,o | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|--------|------------------|----------------|--------------------|----------------------|
| Myd,u | | | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 5.38 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 6.11 _e |
| | 1 | - | 3.2E-4 | 69.6 | - | 12.80 _q |
| 0.13 _a | 1 | 43.24 | - | - | - | 6.11 _e |
| | 2 | 82.46 | 0.021 | 69.1 | 2.61 | 12.80 _q |
| 2.71* | 1 | 396.62 | - | - | - | - |
| | 3 | 774.27 | 0.073 | 67.7 | 25.05 | 25.05 |
| 5.25 _a | 1 | 42.44 | - | - | - | 6.11 _e |
| | 2 | 81.24 | 0.021 | 69.1 | 2.58 | 12.53 _q |
| 5.37 | 1 | - | - | - | - | 6.11 _e |
| | 1 | - | 3.1E-4 | 69.6 | - | 12.53 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

 $\tilde{N} \ddot{a} \uparrow \ddot{a} b b \mid \wedge \& \tilde{A} \hat{a} f i \hat{a} \tilde{A} \tilde{T} \mid \ddot{a} \tilde{a} \leftarrow \tilde{a} \hat{a} \hat{a} \setminus \hat{a} \hat{a} \hat{a}^{\wedge} b^* \tilde{a} \mid \acute{a} \mid \wedge \&$

Feld 1

| x | Ek | V _{Ed} | γ _{f1} Ÿ | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|---------------------|-------------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 5.38 m) | | | | | | |
| 0.00 | 2 | 389.68 _R | 30.3 | 866.56 | - | - |
| 0.13 _a | 2 | 389.68 _R | 30.3 | 866.56 | - | 18.00 _F |
| 0.82 _v | 3 | 389.68 | 30.3 | 866.56 | 101.13 | 13.93 _F |
| 2.71 | 5 | 6.04 _R | 18.4 | 596.70 | 101.13 | 2.32 _M |
| 4.55 _v | 3 | 394.35 | 30.4 | 868.70 | 101.13 | 14.13 _F |
| 5.25 _a | 3 | 394.35 _R | 30.4 | 868.70 | - | 18.25 _F |
| 5.37 | 2 | 394.35 _R | 30.4 | 868.70 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x | V _{Ed} | V _{Edi} | V _{Rdi,max} | V _{Rdi,ct} | a _{sw,erf} |
|-----|-----------------|------------------|----------------------|---------------------|---------------------|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | Ÿ' ↑ ¥Đ ↑ Ÿ |

N@piuhwig"3

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

rau (c=0.40, =0.70, =0.50)

 $\hat{O} \ddot{a} \rightarrow \hat{a} \hat{A} \hat{F} \hat{A} \hat{E} \hat{A} \hat{P} \sim \wedge \setminus \acute{a} \leftarrow \setminus \hat{a} \rightarrow \ddagger \acute{a} \ddot{a} \hat{A} \leftrightarrow \uparrow \hat{A} \hat{S} \hat{a} \hat{a} \& \mid \tilde{a} \setminus \hat{E} \hat{A} \hat{A} \hat{K} \hat{A} \hat{A}_{eff}$

| | | | | | |
|-------------------|---------|--------|---------|--------|-------|
| 0.54 | 482.82 | 770.78 | 1062.50 | 113.33 | 18.00 |
| 0.82 _v | 389.68 | 622.09 | 1062.50 | 113.33 | 13.93 |
| 2.24 | 84.94 | 125.39 | 1062.50 | 113.33 | 0.33 |
| 3.14 | -79.76 | 117.76 | 1062.50 | 113.33 | 0.12 |
| 4.55 _v | -394.35 | 629.54 | 1062.50 | 113.33 | 14.13 |
| 4.83 | -488.46 | 779.79 | 1062.50 | 113.33 | 18.25 |

Anschluss der Gurte

| Feld | Ek | x _A [m] | x _E [m] | #R [kNm] | #Öc [kN] | Anteil je Gurt | #Öd [kN] |
|------|----|-----------------------|-----------------------|-------------|-------------|-------------------|-------------|
| 1 | 3 | 0.00 | 1.34 | 601.2 | 883.8 | 0.44 ^D | 386.7 |
| | 3 | 4.03 | 5.38 | 607.5 | 893.2 | 0.44 ^D | 390.8 |

D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Querbewehrung

| Feld | Ek | x _A [m] | x _E [m] | v _{Ed} [N/mm ²] | v _{Rd,max} [N/mm ²] | asf,erf [cm ² /m] |
|------|----|-----------------------|-----------------------|---|---|---------------------------------|
| 1 | 3 | 0.00 | 1.34 | 1.028 | 6.270 | 5.52 |
| | | 4.03 | 5.38 | 1.039 | 6.270 | 5.57 |

unter in die Platte einzulegen. Die Bewehrung aus T₁ in die Platte einzulegen. Die Bewehrung aus T₁ in die Platte einzulegen.

Bewehrungswahl

untere

Q₁ in die Platte einzulegen

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 6ã42 | 12.57 | -0.13 | 5.63 | 0.15 ^h | 0.15 ^h | 1 |
| | 6ã42 | 12.57 | -0.13 | 5.63 | 0.15 ^h | 0.15 ^h | 2 |
| | 4ã42 | 6.28 | -0.13 | 5.63 | 0.15 ^h | 0.15 ^h | 3 |

ÇQ₁ in die Platte einzulegen
h: gesonderte Verankerungsform erforderlich

~ããããQ₁ in die Platte einzulegen

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 4ã42 | 6.28 | -0.13 | 5.63 | 0.23 ^h | 0.23 ^h | 1 |

ÇQ₁ in die Platte einzulegen
h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:55

A_s [cm²]

oben
Lage 1:

2Ø20

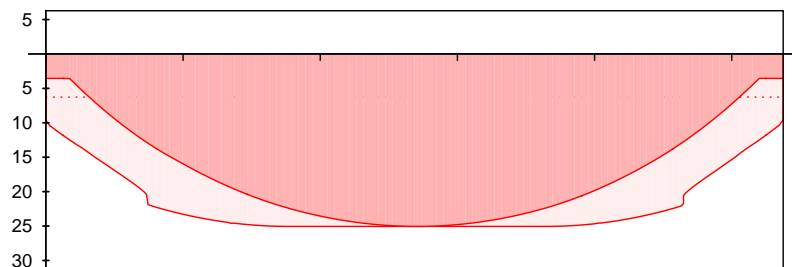
unten
Lage 1:
Lage 2:
Lage 3:

4Ø20

4Ø20

2Ø20

erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung Verankerungslängen



Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | asw [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|-----------------------------|
| 1 | 0.00 | 5.38 | ã34 | 10.0 | 2 | 22.62 |

Gurtbewehrung

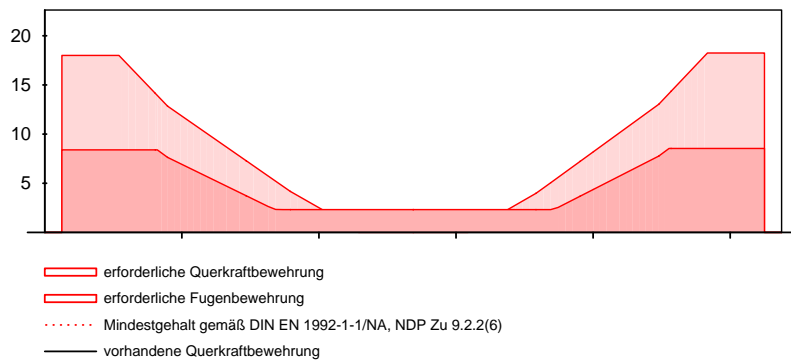
Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | asf [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|-----------------------------|
| 1 | 0.00 | 2.69 | 10 | 10.0 | 7.85 |
| | 2.69 | 5.38 | 10 | 10.0 | 7.85 |

Querkraftbewehrung M 1:55

Asw

[cm²/m]



5i Z` U[Yf_} } ZhY

N| à→á&æã←ã†à\æÁÜã†&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 265.38 | 265.38 |
| B | 260.05 | 260.05 |
| Einw. I _m | | |
| A | 92.68 | 92.68 |
| B | 91.05 | 91.05 |
| Einw. Q _{k,N_B1} | | |
| A | 74.86 | 74.86 |
| B | 86.52 | 86.52 |
| Einw. Q _{k,N_C5} | | |
| A | 63.92 | 63.92 |
| B | 63.36 | 63.36 |
| Einw. Q _{k,N_DA} | | |
| A | 35.95 | 35.95 |
| B | 27.28 | 27.28 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Gurtbewehrung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-1.7

GHU`VYfcb!8 i fW`U Zf}[Yf

Verankerungslänge:

unten:

$$l_{b,rqd} = 50 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 50 \text{ cm} * 2,19 \text{ cm}^2 / 6,16 \text{ cm}^2 = 18 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 50 \text{ cm} = 15 \text{ cm} \quad 10 \varnothing_l = 14 \text{ cm}$$

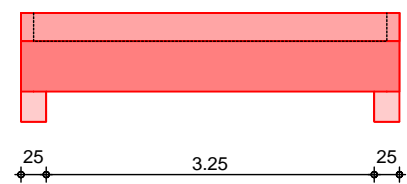
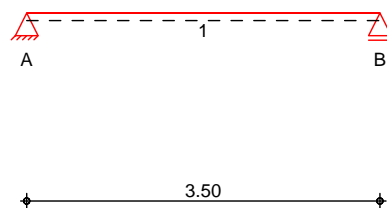
-> $l_{bd} = 18 \text{ cm}$

Die obere Bewehrung kann in der Decke verankert werden.

System

M 1 : 75

Ó↔^âæ→ä\ã†&æãÁÇGIEÈDÍÊÈDĞIEÈD
System Ansicht



Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 3.50 | 0.00 | C 30/37 | 25.0/25.0/78.0 |
| 1 | | 3.50 | | |

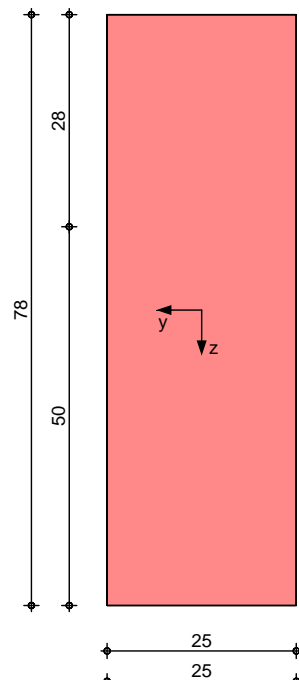
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:10



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.50 | 25.0 | Beton | fest |

Q_z & b_z | &æ^{ÄÄÄÄÄÄÄÄÄÄ}

| Feld | Fuge | z_f [cm] | γ_{fl} | $\gamma_{SD} \uparrow \uparrow \uparrow \uparrow$ γ_{fl} |
|------|-------|---------------|---------------|--|
| 1 | glatt | 28.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

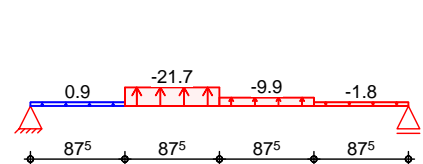
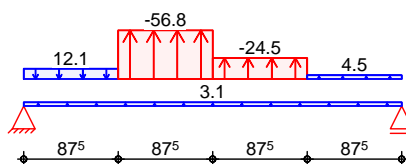
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

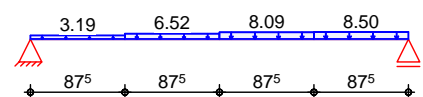
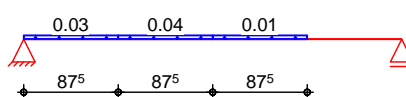
Gk

Ö←



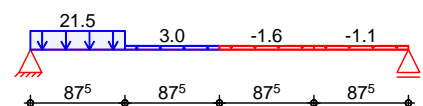
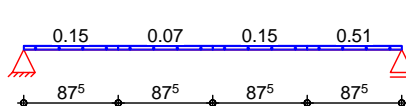
Qk.N_C1

Qk.N_C5

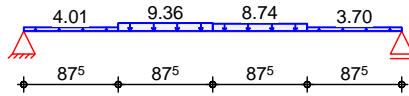


Qk.N_E1

Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-----------------|-----------------|----------|----------|---------------------------|---------------------------|
| Einw. Gk | 1 | Eigengew | 0.00 | 3.50 | | 3.12 |
| (a) 1 | UZ-1.7: Gk | 0.00 | 0.88 | 12.07 | 12.07 | |
| (a) 1 | UZ-1.7: Gk | 0.88 | 0.88 | -56.77 | -56.77 | |
| (a) 1 | UZ-1.7: Gk | 1.75 | 0.88 | -24.54 | -24.54 | |
| (a) 1 | UZ-1.7: Gk | 2.63 | 0.88 | 4.46 | 4.46 | |
| Einw. Im | (a) 1 | ÜXEFÉÍÁ Ö← | 0.00 | 0.88 | 0.93 | 0.93 |
| (a) 1 | ÜXEFÉÍÁ Ö← | 0.88 | 0.88 | -21.73 | -21.73 | |
| (a) 1 | ÜXEFÉÍÁ Ö← | 1.75 | 0.88 | -9.91 | -9.91 | |
| (a) 1 | ÜXEFÉÍÁ Ö← | 2.63 | 0.88 | -1.76 | -1.76 | |
| Einw. Qk.N_C1 | (a) 1 | UZ-1.7: Qk.N_C1 | 0.00 | 0.88 | 0.03 | 0.03 |
| (a) 1 | UZ-1.7: Qk.N_C1 | 0.88 | 0.88 | 0.04 | 0.04 | |
| (a) 1 | UZ-1.7: Qk.N_C1 | 1.75 | 0.88 | 0.01 | 0.01 | |
| Einw. Qk.N_C5 | (a) 1 | UZ-1.7: Qk.N_C5 | 0.00 | 0.88 | 3.19 | 3.19 |
| (a) 1 | UZ-1.7: Qk.N_C5 | 0.88 | 0.88 | 6.52 | 6.52 | |
| (a) 1 | UZ-1.7: Qk.N_C5 | 1.75 | 0.88 | 8.09 | 8.09 | |
| (a) 1 | UZ-1.7: Qk.N_C5 | 2.63 | 0.88 | 8.50 | 8.50 | |
| Einw. Qk.N_E1 | (a) 1 | UZ-1.7: Qk.N_E1 | 0.00 | 0.88 | 0.15 | 0.15 |
| (a) 1 | UZ-1.7: Qk.N_E1 | 0.88 | 0.88 | 0.07 | 0.07 | |
| (a) 1 | UZ-1.7: Qk.N_E1 | 1.75 | 0.88 | 0.15 | 0.15 | |
| (a) 1 | UZ-1.7: Qk.N_E1 | 2.63 | 0.88 | 0.51 | 0.51 | |
| Einw. Qk.N_DA | (a) 1 | UZ-1.7: Qk.N_DA | 0.00 | 0.88 | 21.51 | 21.51 |
| (a) 1 | UZ-1.7: Qk.N_DA | 0.88 | 0.88 | 2.99 | 2.99 | |
| (a) 1 | UZ-1.7: Qk.N_DA | 1.75 | 0.88 | -1.63 | -1.63 | |
| (a) 1 | UZ-1.7: Qk.N_DA | 2.63 | 0.88 | -1.09 | -1.09 | |
| Einw. Qk.N_T2 | (a) 1 | UZ-1.7: Qk.N_T2 | 0.00 | 0.88 | 4.01 | 4.01 |
| (a) 1 | UZ-1.7: Qk.N_T2 | 0.88 | 0.88 | 9.36 | 9.36 | |
| (a) 1 | UZ-1.7: Qk.N_T2 | 1.75 | 0.88 | 8.74 | 8.74 | |
| (a) 1 | UZ-1.7: Qk.N_T2 | 2.63 | 0.88 | 3.70 | 3.70 | |

(a)

aus Pos. 'D-1.OG - UZ-1.7'

Kombi nati onen

æ†‡BÁÆØSÁÓSÁFíiGÉFÉFÁ | ^äÆØSÁÓSÁFíiæ

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| 1 | 1.00*Gk | ÉFÈÉÉÉ Ö← | |
| 2 | 1.00*Gk | ÉFÈÉÉÉ Ö← | +1.05*Qk.N_C1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | +1.20*Qk.N_T2 | | |
| 3 | 1.35*Gk | ÉFÈÉÉÉ Ö← | |
| 4 | 1.00*Gk | ÉFÈÉÉÉ Ö← | +1.05*Qk.N_C1 |
| | +1.50*Qk.N_C5 | +1.50*Qk.N_E1 | +1.20*Qk.N_T2 |
| 5 | 1.35*Gk | ÉFÈÉÉÉ Ö← | +1.50*Qk.N_DA |
| 6 | 1.00*Gk | ÉFÈÉÉÉ Ö← | +1.05*Qk.N_C1 |
| | +1.50*Qk.N_C5 | +1.50*Qk.N_E1 | +1.20*Qk.N_T2 |
| 7 | 1.35*Gk | ÉFÈÉÉÉ Ö← | +1.05*Qk.N_C1 |
| | +1.50*Qk.N_DA | | |

Bemessung (GZT)

äfiäÄäæ^ÄÖäæ^~ | b\ä^äÄäæäÜää&ä†ä&ææ\Á^á'äÆØSÁÓSÁ
1992-1-1:2011-01

Z: Zuggurt: Anteil aus ausgelagerter Bewehrung

Querbewehrung

| Feld | Ek | x _A [m] | x _E [m] | v _{Ed} [N/mm ²] | v _{Rd,max} [N/mm ²] | asf,erf [cm ² /m] |
|------|----|-----------------------|-----------------------|---|---|---------------------------------|
| 1 | 1 | 0.00 | 0.88 | 0.000 | 0.000 | 0.00 |
| | 2 | 0.21 | 0.31 | 0.000 | 0.000 | 0.00 |
| | | 0.42 | 1.19 | 0.000 | 0.000 | 0.00 |

Die Bewehrung aus T₁ wird in die Platte einzulegen. Die Bewehrung aus T₂ wird in die Platte einzulegen. Die Bewehrung aus T₃ wird in die Platte einzulegen.

Bewehrungswahl

untere

Q₁ + b₁ x a₁ | ^

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 6ã36 | 6.16 | -0.13 | 3.75 | 0.14 ^h | 0.53 ^h | 1 |

Q₁ + b₁ x a₁ | ^
 h: gesonderte Verankerungsform erforderlich

~ããããQ₁ + b₁ x a₁ | ^

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 4ã36 | 3.08 | -0.13 | 3.75 | 0.16 ^h | 0.16 ^h | 1 |

Q₁ + b₁ x a₁ | ^
 h: gesonderte Verankerungsform erforderlich

L₁ngsbewehrung

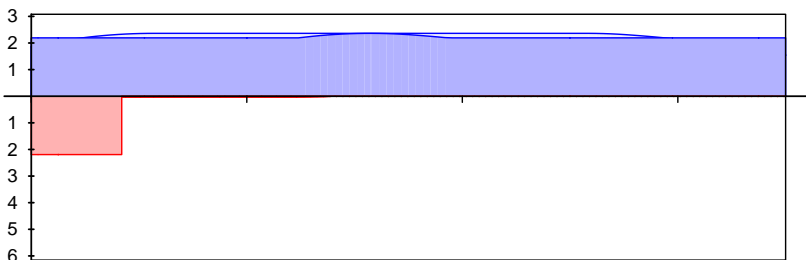
M 1 : 35

A_s [cm²]

oben

Lage 1:

2Ø14



unten

Lage 1:

4Ø14

erf. Längsbewehrung / Zugkraftdeckungsline
 verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
 vorhandene Längsbewehrung Verankerungslängen

Querkraftbewehrung

Q₁fi + a₁ → D

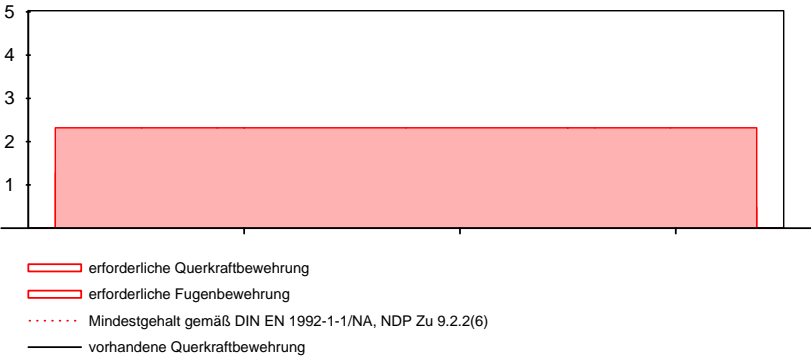
| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | asw [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|-----------------------------|
| 1 | 0.00 | 3.50 | ã: | 20.0 | 2 | 5.03 |

Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | asf [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|-----------------------------|
| 1 | 0.00 | 3.50 | 0 | 0.0 | - |
| | 3.50 | 0.42 | 0 | 0.0 | - |
| | 0.42 | 3.50 | 0 | 0.0 | - |

Querkraftbewehrung Asw [cm²/m]
M 1:35



5i Z` U[Yf_f}ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | |
|--|------------------|------------------|--------|
| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] | |
| Einw. Gk | A | -23.90 | -23.90 |
| | B | -21.84 | -21.84 |
| Einw. Im | A | -14.62 | -14.62 |
| | B | -13.80 | -13.80 |
| Einw. Qk.N_C1 | A | 0.05 | 0.05 |
| | B | 0.02 | 0.02 |
| Einw. Qk.N_C5 | A | 9.59 | 9.59 |
| | B | 13.42 | 13.42 |
| Einw. Qk.N_E1 | A | 0.26 | 0.26 |
| | B | 0.51 | 0.51 |
| Einw. Qk.N_DA | A | 17.45 | 17.45 |
| | B | 1.61 | 1.61 |
| Einw. Qk.N_T2 | A | 11.46 | 11.46 |
| | B | 11.12 | 11.12 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

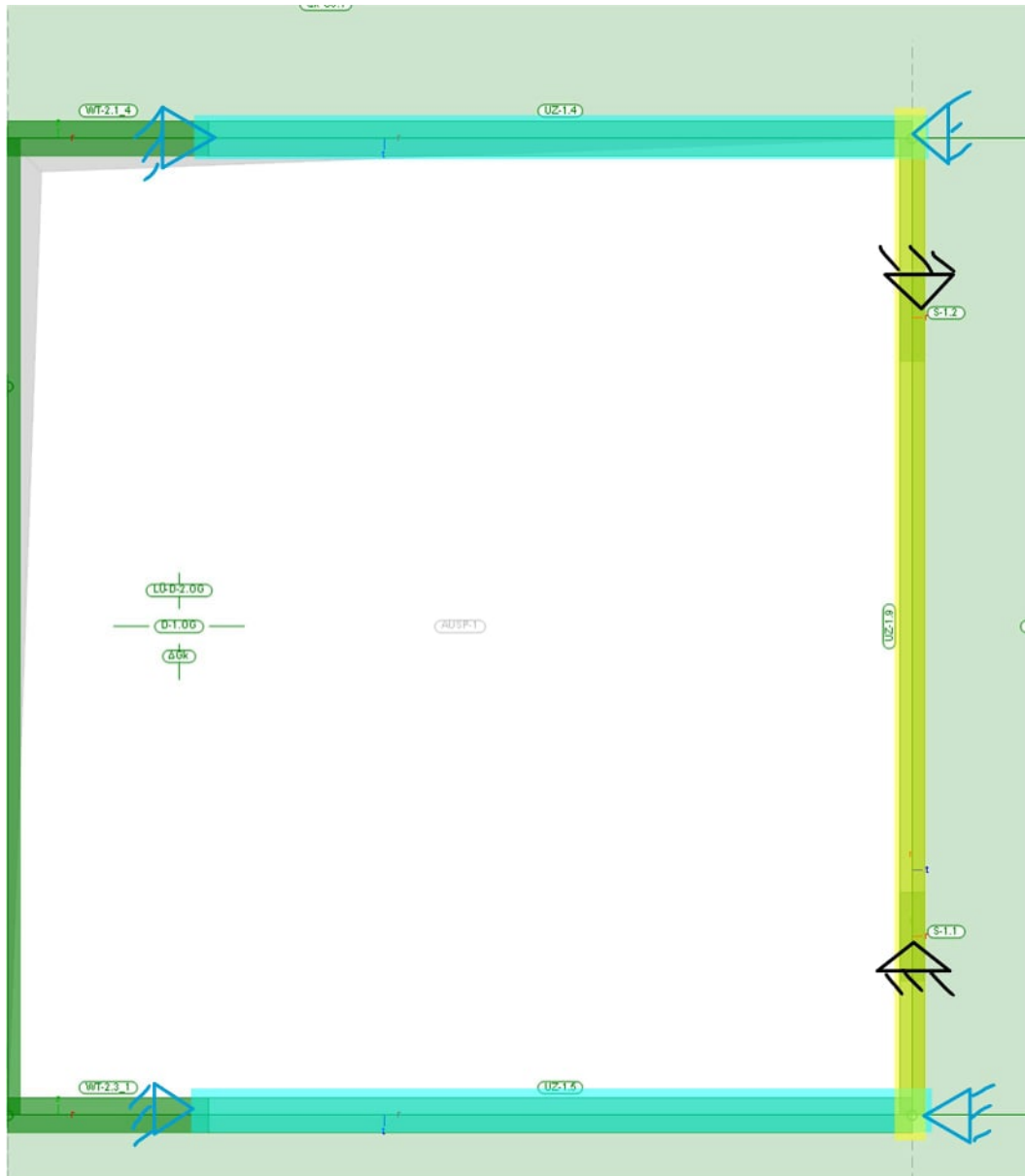
Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

3.3.3 Trägersystem



Das im nachfolgenden betrachtete Trägersystem bildet sich aus den Unterzügen UZ-1.4, UZ-1.5 und UZ-2.9. Hierbei spannen UZ-1.4 (B2S II a) und UZ-1.5 (B2S II b; blau markiert) als Balken auf zwei Stützen über 7,2 m Spannweite. Die Auflager bilden auf der einen Seite die Wände WT-2.1_4 und WT-2.3_1, auf der anderen Seite UZ-1.9 (B2S I; gelb markiert). Dieser spannt als Balken auf zwei Stützen über 10 m und wird auf den Stützen S-1.1 und S-1.2 aufgelagert.

Für den Anschluss zwischen den Unterzügen wird zusätzlich ein Nachweis des Nebenträgeranschlusses erbracht.

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Genehmigungsplanung Tragwerksplanung

Übersicht der Bewehrungswahl:

| | | |
|---------|--------|--------------------------------|
| UZ-1.4: | unten: | 1. Lage: 4Ø14 2. Lage: 4Ø14 |
| | oben: | 1. Lage: 2Ø14 |
| | quer: | Ø8/20 |
| UZ-1.5: | unten: | 1. Lage: 4Ø14 2. Lage: 4Ø14 |
| | oben: | 1. Lage: 2Ø14 |
| | quer: | Ø8/20 |
| UZ-1.9: | unten: | 1. Lage: 2Ø14 |
| | oben: | 1. Lage: 4Ø14 2. Lage: 4Ø14 |
| | quer: | Ø8/10 |

Die Bewehrung von UZ-1.4 und UZ-1.5 ist bis zum Deckenaufleger W-1.23 durch die Wand WT-2.1_4 und WT-2.3_1 durchzuführen.

Pos. UZ-1.4

GHU `VYfcb!8 i fW `U Zf} [Yf

Anschluss indirektes Auflager:

Auflagerkraft maßgebendes Auflager (B):

$$F_{Ed} = 170 \text{ kN}$$

Erforderliche Aufhängebewehrung:

$$A_{sw,erf} = 170 \text{ kN} / (43,5 \text{ kN/cm}^2) = 3,91 \text{ cm}^2$$

Verankerung der Aufhängebewehrung im Kreuzungspunkt mit Breite $b_s = 35 \text{ cm}$

gewählte Bügelbewehrung:

$$d_{qa} = 10 \text{ mm}; s_{qa} = 10 \text{ mm}$$

Vorhandene Aufhängebewehrung im Verankerungsbereich:

$$A_{sw,vorh} = 5,5 \text{ cm}^2$$

Die Bügelbewehrung ist am indirekten Auflager B im Hauptträger UZ-1.9 einzulegen.

Verankerungslänge:

Durch den indirekten Anschluss in den Hauptträger UZ-1.9, der eine Breite von 25 cm aufweisen, sind nur maximal 21 cm Querschnittsbreite zum Verankern der Längsbewehrung vorhanden.

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 50 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 0,7 \cdot 50 \text{ cm} \cdot 7,36 \text{ cm}^2 / 12,32 \text{ cm}^2 = 21 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 \cdot l_{b,rqd} = 0,3 \cdot 0,7 \cdot 50 \text{ cm} = 11 \text{ cm} \quad 10 \varnothing_l = 14 \text{ cm}$$

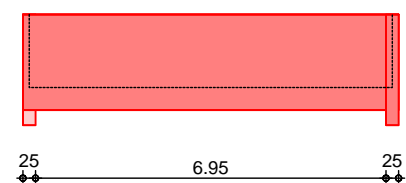
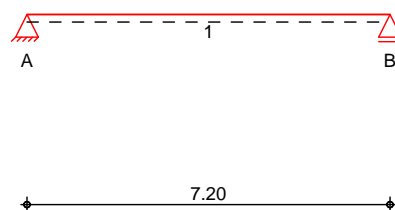
-> $l_{bd} = 21 \text{ cm}$

Die Eisen sind am Auflager mittels Kröpfung auf der Unterseite über die Längsbewehrung des Hauptträgers zu führen.

System

M 1 : 150

Ó↔^âæ→ä\ã†&æãÄÇİÈÈÐFİÈÈÐÍĞÈÈÐ
System Ansicht

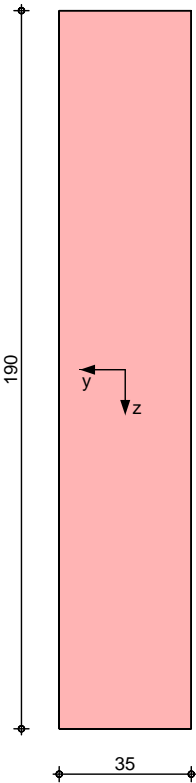


| Abmessungen | Feld | l | Material | b/h |
|------------------|------|------|----------|------------|
| Mat./Querschnitt | | [m] | | [cm] |
| | 1 | 7.20 | C 30/37 | 35.0/190.0 |

ExpositionsklasseXC1

GrafikQuerschnittsgrafik

M 1 : 20



| Auflager | Lager | x | b | Art | K _{T,z} |
|----------|----------------------------|------|------|--------|------------------|
| | | [m] | [cm] | | [kN/m] |
| | A | 0.00 | 25.0 | Beton | fest |
| | B | 7.20 | 25.0 | indir. | fest |
| | indir.: indirekte Lagerung | | | | |

| Feld | Fuge | z _f | Y _f | N _d |
|------|-------|----------------|----------------|----------------|
| | | [cm] | Y _f | Y _D |
| 1 | glatt | 145.0 | 90 | 0.00 |

Belastungen

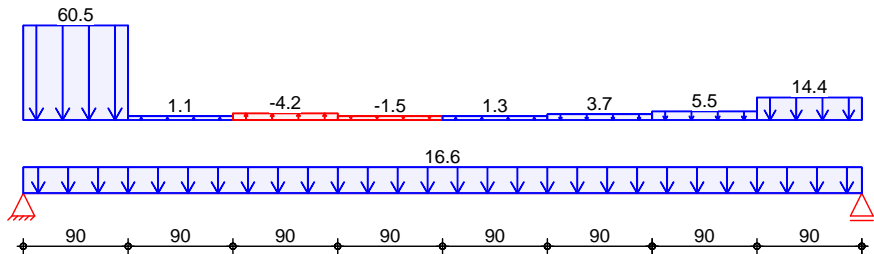
Belastungen auf das System

Grafik

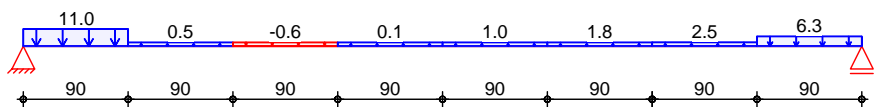
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

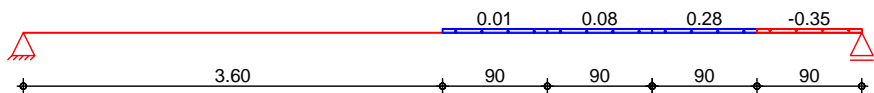
Gk



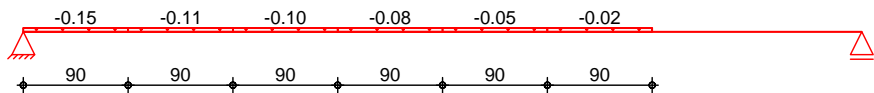
Ö←



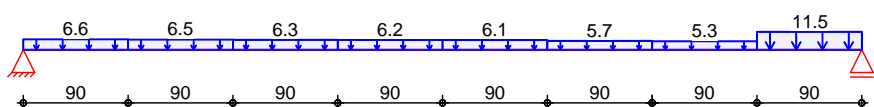
Qk.N_B1



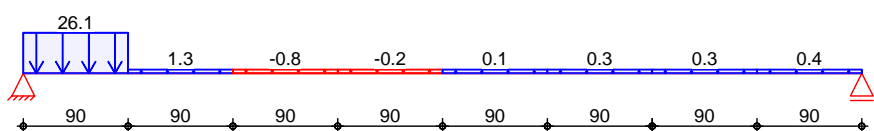
Qk.N_C1



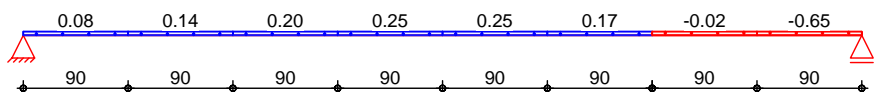
Qk.N_C5



Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 7.20 | | 16.62 |
| (a) 1 | UZ-1.4: Gk | 0.00 | 0.90 | 60.49 | 60.49 |
| (a) 1 | UZ-1.4: Gk | 0.90 | 0.90 | 1.08 | 1.08 |
| (a) 1 | UZ-1.4: Gk | 1.80 | 0.90 | -4.22 | -4.22 |
| (a) 1 | UZ-1.4: Gk | 2.70 | 0.90 | -1.54 | -1.54 |

Einw. Gk

U-216

Schulcampus EWK \

UZ-1.4

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|-----------------|----------|----------|---------------------------|---------------------------|
| Einw. Im | (a) 1 | UZ-1.4: Gk | 3.60 | 0.90 | 1.31 | 1.31 |
| | (a) 1 | UZ-1.4: Gk | 4.50 | 0.90 | 3.70 | 3.70 |
| | (a) 1 | UZ-1.4: Gk | 5.40 | 0.90 | 5.49 | 5.49 |
| | (a) 1 | UZ-1.4: Gk | 6.30 | 0.90 | 14.39 | 14.39 |
| | (a) 1 | ÜXËFÈHÍÁ Ö← | 0.00 | 0.90 | 11.04 | 11.04 |
| | (a) 1 | ÜXËFÈHÍÁ Ö← | 0.90 | 0.90 | 0.50 | 0.50 |
| | (a) 1 | ÜXËFÈHÍÁ Ö← | 1.80 | 0.90 | -0.57 | -0.57 |
| | (a) 1 | ÜXËFÈHÍÁ Ö← | 2.70 | 0.90 | 0.08 | 0.08 |
| | (a) 1 | ÜXËFÈHÍÁ Ö← | 3.60 | 0.90 | 0.97 | 0.97 |
| | (a) 1 | ÜXËFÈHÍÁ Ö← | 4.50 | 0.90 | 1.78 | 1.78 |
| Einw. Qk.N_B1 | (a) 1 | ÜXËFÈHÍÁ Ö← | 5.40 | 0.90 | 2.47 | 2.47 |
| | (a) 1 | ÜXËFÈHÍÁ Ö← | 6.30 | 0.90 | 6.27 | 6.27 |
| | (a) 1 | UZ-1.4: Qk.N_B1 | 3.60 | 0.90 | 0.01 | 0.01 |
| | (a) 1 | UZ-1.4: Qk.N_B1 | 4.50 | 0.90 | 0.08 | 0.08 |
| Einw. Qk.N_C1 | (a) 1 | UZ-1.4: Qk.N_B1 | 5.40 | 0.90 | 0.28 | 0.28 |
| | (a) 1 | UZ-1.4: Qk.N_B1 | 6.30 | 0.90 | -0.35 | -0.35 |
| | (a) 1 | UZ-1.4: Qk.N_C1 | 0.00 | 0.90 | -0.15 | -0.15 |
| | (a) 1 | UZ-1.4: Qk.N_C1 | 0.90 | 0.90 | -0.11 | -0.11 |
| Einw. Qk.N_C5 | (a) 1 | UZ-1.4: Qk.N_C1 | 1.80 | 0.90 | -0.10 | -0.10 |
| | (a) 1 | UZ-1.4: Qk.N_C1 | 2.70 | 0.90 | -0.08 | -0.08 |
| | (a) 1 | UZ-1.4: Qk.N_C1 | 3.60 | 0.90 | -0.05 | -0.05 |
| | (a) 1 | UZ-1.4: Qk.N_C1 | 4.50 | 0.90 | -0.02 | -0.02 |
| | (a) 1 | UZ-1.4: Qk.N_C5 | 0.00 | 0.90 | 6.57 | 6.57 |
| | (a) 1 | UZ-1.4: Qk.N_C5 | 0.90 | 0.90 | 6.46 | 6.46 |
| | (a) 1 | UZ-1.4: Qk.N_C5 | 1.80 | 0.90 | 6.35 | 6.35 |
| | (a) 1 | UZ-1.4: Qk.N_C5 | 2.70 | 0.90 | 6.25 | 6.25 |
| | (a) 1 | UZ-1.4: Qk.N_C5 | 3.60 | 0.90 | 6.10 | 6.10 |
| | (a) 1 | UZ-1.4: Qk.N_C5 | 4.50 | 0.90 | 5.69 | 5.69 |
| Einw. Qk.N_DA | (a) 1 | UZ-1.4: Qk.N_C5 | 5.40 | 0.90 | 5.32 | 5.32 |
| | (a) 1 | UZ-1.4: Qk.N_C5 | 6.30 | 0.90 | 11.45 | 11.45 |
| | (a) 1 | UZ-1.4: Qk.N_DA | 0.00 | 0.90 | 26.09 | 26.09 |
| | (a) 1 | UZ-1.4: Qk.N_DA | 0.90 | 0.90 | 1.34 | 1.34 |
| | (a) 1 | UZ-1.4: Qk.N_DA | 1.80 | 0.90 | -0.81 | -0.81 |
| | (a) 1 | UZ-1.4: Qk.N_DA | 2.70 | 0.90 | -0.15 | -0.15 |
| | (a) 1 | UZ-1.4: Qk.N_DA | 3.60 | 0.90 | 0.15 | 0.15 |
| | (a) 1 | UZ-1.4: Qk.N_DA | 4.50 | 0.90 | 0.27 | 0.27 |
| | (a) 1 | UZ-1.4: Qk.N_DA | 5.40 | 0.90 | 0.28 | 0.28 |
| | (a) 1 | UZ-1.4: Qk.N_DA | 6.30 | 0.90 | 0.41 | 0.41 |
| Einw. Qk.N_T2 | (a) 1 | UZ-1.4: Qk.N_T2 | 0.00 | 0.90 | 0.08 | 0.08 |
| | (a) 1 | UZ-1.4: Qk.N_T2 | 0.90 | 0.90 | 0.14 | 0.14 |
| | (a) 1 | UZ-1.4: Qk.N_T2 | 1.80 | 0.90 | 0.20 | 0.20 |
| | (a) 1 | UZ-1.4: Qk.N_T2 | 2.70 | 0.90 | 0.25 | 0.25 |
| | (a) 1 | UZ-1.4: Qk.N_T2 | 3.60 | 0.90 | 0.25 | 0.25 |
| | (a) 1 | UZ-1.4: Qk.N_T2 | 4.50 | 0.90 | 0.17 | 0.17 |
| | (a) 1 | UZ-1.4: Qk.N_T2 | 5.40 | 0.90 | -0.02 | -0.02 |
| | (a) 1 | UZ-1.4: Qk.N_T2 | 6.30 | 0.90 | -0.65 | -0.65 |

(a) aus Pos. 'D-1.OG - UZ-1.4'

Kombi nati onen

| Ek | (* *EW) | &æ†‡BÁCØSÁÓSÁFiiGÈFÈFÁ ^äÁCØSÁÓSÁFii€ |
|--------------------|----------|---|
| b\†^ä↔&D{~äfiâæä&È | 1 | 1.00*Gk |
| | 2 | 1.35*Gk |
| | | +1.05*Qk.N_C5 |
| | 3 | 1.00*Gk |
| | 4 | 1.35*Gk |
| | | +1.50*Qk.N_C5 |
| | 5 | 1.35*Gk |
| | | +1.50*Qk.N_C5 |
| | 6 | 1.00*Gk |
| | | +1.50*Qk.N_DA |
| | 7 | 1.35*Gk |
| | | +1.50*Qk.N_C1 |
| | 8 | 1.00*Gk |
| | | +1.50*Qk.N_DA |
| | 9 | 1.35*Gk |

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| 10 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C1 | +1.20*Qk.N_T2 | |
| 11 | 1.00*Gk | EFEEÖ | +1.50*Qk.N_C1 |
| | +1.20*Qk.N_T2 | | |
| 12 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C5 | | |

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| 13 | 1.00*Gk | EFEEÖ | +1.50*Qk.N_C1 |
| 14 | 1.35*Gk | EFEGIEÖ | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_DA | +1.20*Qk.N_T2 |
| 15 | 1.00*Gk | EFEEÖ | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C1 | +1.20*Qk.N_T2 | |
| 16 | 1.35*Gk | EFEGIEÖ | +1.50*Qk.N_C5 |

Bemessung (GZT)

1992-1-1:2011-01

Bi egung

Abs. 6.1

| x | Ek | $M_{y,d,o}$ | x/d_o | z_o | $A_{s,o}$ | $A_{s,o,erf}$ |
|-------------------|----|-------------|---------|-------|--------------------|--------------------|
| [m] | | $M_{y,d,u}$ | x/d_u | z_u | $A_{s,u}$ | $A_{s,u,erf}$ |
| [kNm] | | | | [cm] | [cm ²] | [cm ²] |
| (L = 7.20 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 0.72 _e |
| | 1 | - | 2.8E-4 | 183.8 | - | 7.38 _M |
| 0.13 _a | 3 | 14.58 | - | - | - | 0.72 _e |
| | 2 | 26.73 | 0.011 | 183.1 | 0.32 | 7.38 _M |
| 3.69* | 3 | 133.65 | - | - | - | - |
| | 4 | 243.34 | 0.033 | 181.7 | 2.93 | 7.38 _M |
| 7.08 _a | 10 | 10.92 | - | - | - | 0.72 _e |
| | 9 | 19.51 | 0.009 | 183.2 | 0.23 | 7.38 _M |
| 7.20 | 1 | - | - | - | - | 0.72 _e |
| | 1 | - | 2.8E-4 | 183.8 | - | 7.38 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

| x | Ek | V_{Ed} | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|-------------------|----|---------------------|--------------|------------|----------------------|
| [m] | | [kN] | [kN] | [kN] | [cm ² /m] |
| (L = 7.20 m) | | | | | |
| 0.00 | 2 | 49.31 _R | 18.4 | 2214.56 | - |
| 0.13 _a | 2 | 49.31 _R | 18.4 | 2214.56 | - |
| 1.96 _v | 5 | 49.31 | 18.4 | 2214.56 | 153.20 |
| 3.69 | 8 | 1.97 _R | 18.4 | 2214.56 | 153.20 |
| 7.08 _a | 12 | 151.90 | 18.4 | 2214.56 | 153.20 |
| 7.20 | 9 | 160.33 _R | 18.4 | 2214.56 | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

Fugenbemessung

| x | V_{Ed} | V_{Edi} | $V_{Rdi,max}$ | $V_{Rdi,ct}$ | $a_{sw,erf}$ |
|---|----------|-----------|---------------|--------------|----------------------|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | [cm ² /m] |
| N@piuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f_{yk} "?"722"P100 | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |
| 0.51 | 139.54 | 76.44 | 595.00 | 79.33 | - |
| 1.96 _v | 49.31 | 27.11 | 595.00 | 79.33 | - |
| 7.01 | -147.57 | 80.58 | 595.00 | 79.33 | 0.04 |
| 7.07 _v | -151.90 | 82.90 | 595.00 | 79.33 | 0.11 |

5i Z` U[Yf_f} ZhY

N|à→á&æã←ã‡à\æÁŮã‡&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | |
|--|----------|----------|--------|
| Aufl. | Fz,k,min | Fz,k,max | |
| | [kN] | [kN] | |
| Einw. Gk | A | 111.58 | 111.58 |
| | B | 80.75 | 80.75 |
| Einw. Im | A | 11.02 | 11.02 |
| | B | 9.27 | 9.27 |
| Einw. Qk.N_B1 | A | 0.05 | 0.05 |
| | B | -0.03 | -0.03 |
| Einw. Qk.N_C1 | A | -0.32 | -0.32 |
| | B | -0.12 | -0.12 |
| Einw. Qk.N_C5 | A | 22.90 | 22.90 |
| | B | 25.87 | 25.87 |
| Einw. Qk.N_DA | A | 22.62 | 22.62 |
| | B | 2.20 | 2.20 |
| Einw. Qk.N_T2 | A | 0.53 | 0.53 |
| | B | -0.14 | -0.14 |

Ñæ↑ÈËÁ|à→á&æã←ã‡à\æ

| Bemessungsaullagerkräfte (Min/Max) | | | |
|------------------------------------|----------|----------|--------|
| Aufl. | Fz,d,min | Fz,d,max | |
| | [kN] | [kN] | |
| Grundkombinationen | A | 122.11 | 224.17 |
| | B | 89.63 | 160.33 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

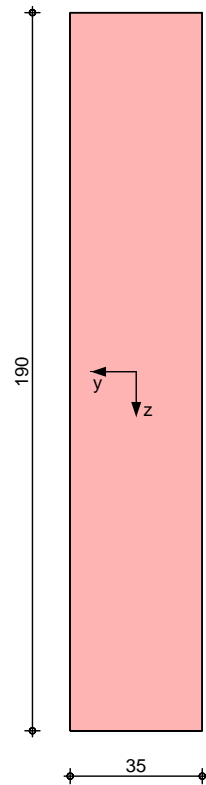
| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

| Abmessungen | Feld | l | Material | b/h |
|------------------|------|------|----------|------------|
| Mat./Querschnitt | | [m] | | [cm] |
| | 1 | 7.20 | C 30/37 | 35.0/190.0 |

Expositionsklasse XC1

Grafik Querschnittsgrafik

M 1:20



| Auflager | Lager | x | b | Art | $K_{T,z}$ |
|----------|----------------------------|------|------|--------|-----------|
| | | [m] | [cm] | | [kN/m] |
| | A | 0.00 | 25.0 | Beton | fest |
| | B | 7.20 | 25.0 | indir. | fest |
| | indir.: indirekte Lagerung | | | | |

| Q _t [^] &bà &æ^ÁÁÁÁÁÁÁÁÁÁ | Feld | Fuge | z_f | γ_{fl} | γ_{SD} | N_d |
|---|------|-------|-------|---------------|---------------|-------|
| | | | [cm] | | | |
| | 1 | glatt | 145.0 | 90 | | 0.00 |

Belastungen

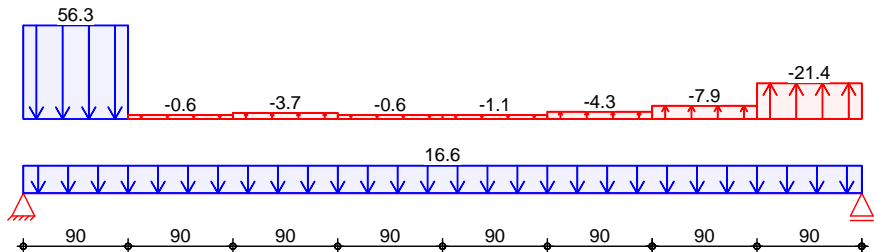
Belastungen auf das System

Grafik

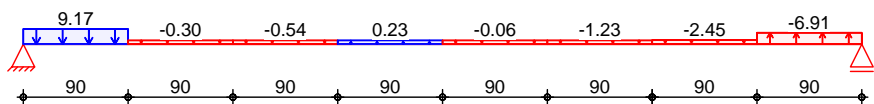
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

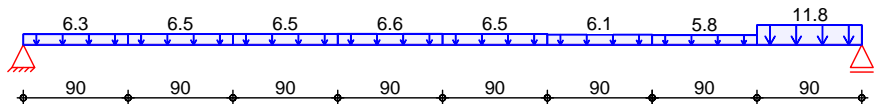
Gk



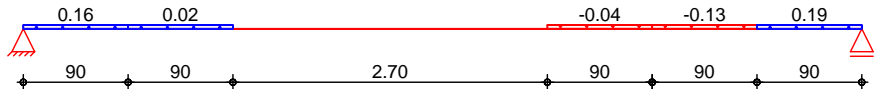
Ö←



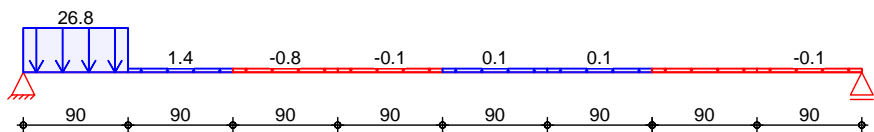
Qk.N_C5



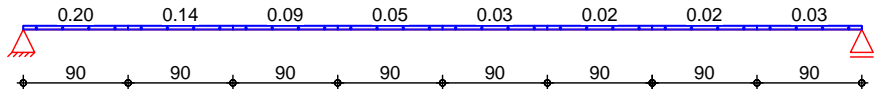
Qk.N_E1



Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|----------|------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 7.20 | | 16.62 |
| (a) 1 | UZ-1.5: Gk | 0.00 | 0.90 | 56.30 | 56.30 |
| (a) 1 | UZ-1.5: Gk | 0.90 | 0.90 | -0.58 | -0.58 |
| (a) 1 | UZ-1.5: Gk | 1.80 | 0.90 | -3.65 | -3.65 |
| (a) 1 | UZ-1.5: Gk | 2.70 | 0.90 | -0.63 | -0.63 |
| (a) 1 | UZ-1.5: Gk | 3.60 | 0.90 | -1.05 | -1.05 |
| (a) 1 | UZ-1.5: Gk | 4.50 | 0.90 | -4.34 | -4.34 |
| (a) 1 | UZ-1.5: Gk | 5.40 | 0.90 | -7.95 | -7.95 |
| (a) 1 | UZ-1.5: Gk | 6.30 | 0.90 | -21.42 | -21.42 |
| Einw. Im | Ö← | 0.00 | 0.90 | 9.17 | 9.17 |
| (a) 1 | Ö← | 0.90 | 0.90 | -0.30 | -0.30 |
| (a) 1 | Ö← | 1.80 | 0.90 | -0.54 | -0.54 |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|-----------------|----------|----------|---------------------------|---------------------------|
| Einw. Qk.N_C5 | (a) 1 | ÜXËFÈIÁ Ö← | 2.70 | 0.90 | 0.23 | 0.23 |
| | (a) 1 | ÜXËFÈIÁ Ö← | 3.60 | 0.90 | -0.06 | -0.06 |
| | (a) 1 | ÜXËFÈIÁ Ö← | 4.50 | 0.90 | -1.23 | -1.23 |
| | (a) 1 | ÜXËFÈIÁ Ö← | 5.40 | 0.90 | -2.45 | -2.45 |
| | (a) 1 | ÜXËFÈIÁ Ö← | 6.30 | 0.90 | -6.91 | -6.91 |
| | (a) 1 | UZ-1.5: Qk.N_C5 | 0.00 | 0.90 | 6.34 | 6.34 |
| | (a) 1 | UZ-1.5: Qk.N_C5 | 0.90 | 0.90 | 6.45 | 6.45 |
| | (a) 1 | UZ-1.5: Qk.N_C5 | 1.80 | 0.90 | 6.55 | 6.55 |
| | (a) 1 | UZ-1.5: Qk.N_C5 | 2.70 | 0.90 | 6.60 | 6.60 |
| | (a) 1 | UZ-1.5: Qk.N_C5 | 3.60 | 0.90 | 6.51 | 6.51 |
| Einw. Qk.N_E1 | (a) 1 | UZ-1.5: Qk.N_C5 | 4.50 | 0.90 | 6.11 | 6.11 |
| | (a) 1 | UZ-1.5: Qk.N_C5 | 5.40 | 0.90 | 5.77 | 5.77 |
| | (a) 1 | UZ-1.5: Qk.N_C5 | 6.30 | 0.90 | 11.83 | 11.83 |
| | (a) 1 | UZ-1.5: Qk.N_E1 | 0.00 | 0.90 | 0.16 | 0.16 |
| | (a) 1 | UZ-1.5: Qk.N_E1 | 0.90 | 0.90 | 0.02 | 0.02 |
| | (a) 1 | UZ-1.5: Qk.N_E1 | 4.50 | 0.90 | -0.04 | -0.04 |
| | (a) 1 | UZ-1.5: Qk.N_E1 | 5.40 | 0.90 | -0.13 | -0.13 |
| | (a) 1 | UZ-1.5: Qk.N_E1 | 6.30 | 0.90 | 0.19 | 0.19 |
| | (a) 1 | UZ-1.5: Qk.N_DA | 0.00 | 0.90 | 26.84 | 26.84 |
| | (a) 1 | UZ-1.5: Qk.N_DA | 0.90 | 0.90 | 1.36 | 1.36 |
| Einw. Qk.N_DA | (a) 1 | UZ-1.5: Qk.N_DA | 1.80 | 0.90 | -0.83 | -0.83 |
| | (a) 1 | UZ-1.5: Qk.N_DA | 2.70 | 0.90 | -0.14 | -0.14 |
| | (a) 1 | UZ-1.5: Qk.N_DA | 3.60 | 0.90 | 0.10 | 0.10 |
| | (a) 1 | UZ-1.5: Qk.N_DA | 4.50 | 0.90 | 0.06 | 0.06 |
| | (a) 1 | UZ-1.5: Qk.N_DA | 5.40 | 0.90 | -0.04 | -0.04 |
| | (a) 1 | UZ-1.5: Qk.N_DA | 6.30 | 0.90 | -0.08 | -0.08 |
| | (a) 1 | UZ-1.5: Qk.N_T2 | 0.00 | 0.90 | 0.20 | 0.20 |
| | (a) 1 | UZ-1.5: Qk.N_T2 | 0.90 | 0.90 | 0.14 | 0.14 |
| | (a) 1 | UZ-1.5: Qk.N_T2 | 1.80 | 0.90 | 0.09 | 0.09 |
| | (a) 1 | UZ-1.5: Qk.N_T2 | 2.70 | 0.90 | 0.05 | 0.05 |
| Einw. Qk.N_T2 | (a) 1 | UZ-1.5: Qk.N_T2 | 3.60 | 0.90 | 0.03 | 0.03 |
| | (a) 1 | UZ-1.5: Qk.N_T2 | 4.50 | 0.90 | 0.02 | 0.02 |
| | (a) 1 | UZ-1.5: Qk.N_T2 | 5.40 | 0.90 | 0.02 | 0.02 |
| | (a) 1 | UZ-1.5: Qk.N_T2 | 6.30 | 0.90 | 0.03 | 0.03 |

(a) aus Pos. 'D-1.OG - UZ-1.5'

Kombi nati onen

| Ek | (* *EW) | | |
|----------------------|----------|---------------|---------------|
| b\†^ä↔&D{~äfiâæã&È | 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← |
| | 2 | 1.35*Gk | ÉFÈĞIE Ö← |
| | | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | 3 | 1.35*Gk | ÉFÈÈÈÈ Ö← |
| | | +1.50*Qk.N_E1 | +1.20*Qk.N_T2 |
| | 4 | 1.00*Gk | ÉFÈĞIE Ö← |
| | 5 | 1.35*Gk | ÉFÈÈÈÈ Ö← |
| | | +1.20*Qk.N_T2 | +1.50*Qk.N_C5 |
| | 6 | 1.00*Gk | ÉFÈĞIE Ö← |
| | | +1.50*Qk.N_DA | +1.50*Qk.N_E1 |
| | 7 | 1.35*Gk | ÉFÈÈÈÈ Ö← |
| | | +1.20*Qk.N_T2 | +1.50*Qk.N_C5 |
| | 8 | 1.00*Gk | ÉFÈĞIE Ö← |
| | 9 | 1.00*Gk | ÉFÈÈÈÈ Ö← |
| | 10 | 1.35*Gk | ÉFÈĞIE Ö← |
| | | +1.50*Qk.N_DA | +1.20*Qk.N_T2 |
| st./vor. Auflagerkr. | Ek | (* *EW) | |
| | 11 | 1.00*Gk | ÉFÈÈÈÈ Ö← |
| | 12 | 1.35*Gk | ÉFÈĞIE Ö← |
| | | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | 13 | 1.35*Gk | ÉFÈFIE Ö← |
| | | +1.50*Qk.N_E1 | +1.20*Qk.N_T2 |

Bemessung (GZT)

äfiäÄäæ^ÄÖäæ^~ | b\á^äÄäæäÜää&à†ä↔&æ↔\Ä^á´äÄØSÄÓSÄ
1992-1-1:2011-01

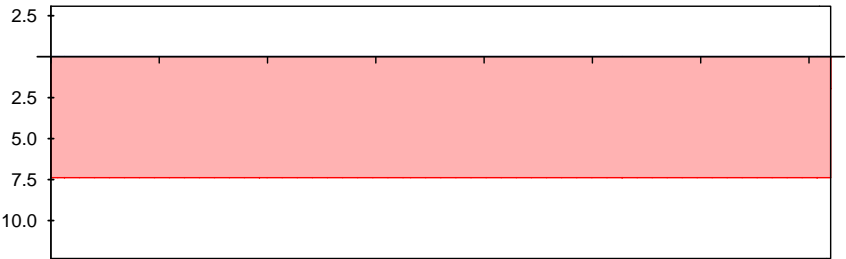
Längsbewehrung
M 1:70

As

[cm²/m]

oben
Lage 1:

2Ø14



unten
Lage 1:
Lage 2:

4Ø14

4Ø14

erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung
Verankerungslängen

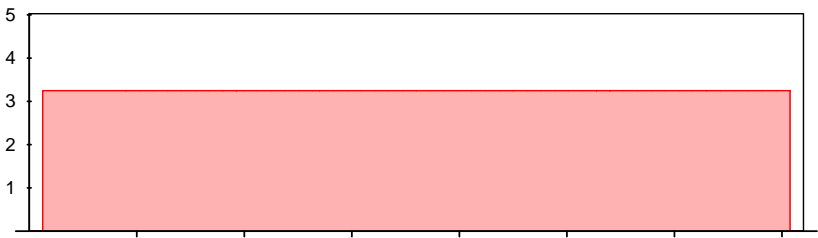
Querkraftbewehrung
M 1:70

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-------------------------|-------------------------|--------------------------|-------------|----------------|---|
| 1 | 0.00 | 7.20 | 16 | 20.0 | 2 | 5.03 |

Querkraftbewehrung
M 1:70

Asw

[cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

Char. Auflagerkr.

Charakteristische Auflagerkräfte (je Einwirkung)

Char. Auflagerkr.

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|--------------------------------|--------------------------------|
| Einw. G _k | | |
| A | 100.17 | 100.17 |
| B | 34.54 | 34.54 |
| Einw. I _m | | |
| A | 6.13 | 6.13 |
| B | -8.01 | -8.01 |
| Einw. Q _{k,N_C5} | | |
| A | 23.38 | 23.38 |
| B | 27.16 | 27.16 |
| Einw. Q _{k,N_E1} | | |
| A | 0.13 | 0.13 |
| B | 0.05 | 0.05 |
| Einw. Q _{k,N_DA} | | |
| A | 23.10 | 23.10 |
| B | 1.45 | 1.45 |
| Einw. Q _{k,N_T2} | | |
| A | 0.37 | 0.37 |
| B | 0.15 | 0.15 |

| | Bemessungsaullagerkräfte (Min/Max) | | |
|--------------------|------------------------------------|------------------|------------------|
| | Aufl. | Fz,d,min [kN] | Fz,d,max [kN] |
| Grundkombinationen | A | 106.30 | 203.33 |
| | B | 26.53 | 78.41 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | |
|--------------------|-----|-----|
| | | [-] |
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-1.9

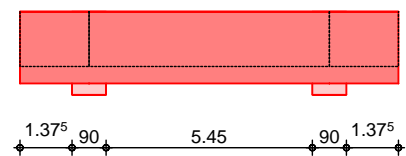
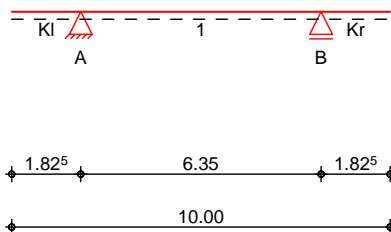
GHU `VYfcb!8 i fW`U Zf} [Yf

Dieser Unterzug ist mit rauer Fuge herzustellen.

System

M 1 : 200

Ó↔^`àæ→ä\`ã‡&æãÁ↑↔\`ÁN | b←ãá& | ^&
System Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| Kl | 1.83 | C 30/37 | 25.0/190.0 |
| 1 | 6.35 | | |
| Kr | 1.83 | | |

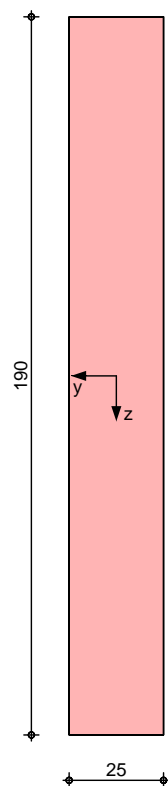
Expositionsklasse

XC1

Grafik

M 1 : 20

Querschnittsgrafik



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 1.83 | 90.0 | Beton | fest |
| B | 8.18 | 90.0 | Beton | fest |

Q₁ & b_a | & æ^{ÁÁÁÁÁÁÁÁÁÁ}

| Feld | Fuge | Z _F [cm] | Y _F Y _V | N _d Y _S D ₁ ↑ Y _V |
|------|------|--------------------------|---------------------------------|--|
| Kl | rau | 145.0 | 90 | 0.00 |
| l | rau | 145.0 | 90 | 0.00 |
| Kr | rau | 145.0 | 90 | 0.00 |

Belastungen

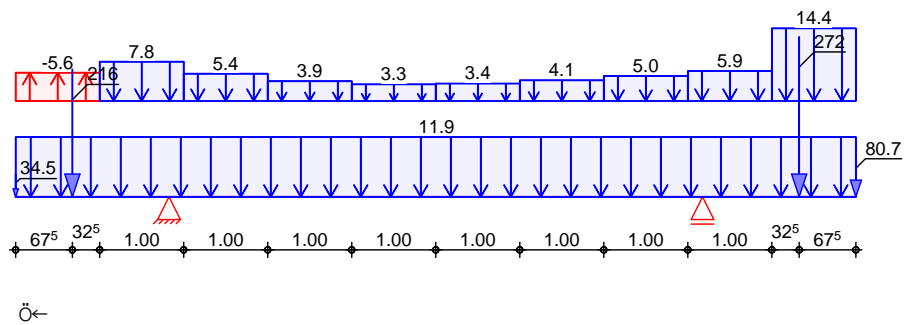
Belastungen auf das System

Grafik

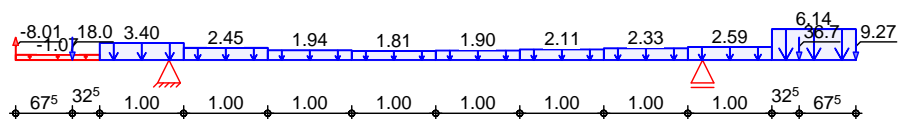
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

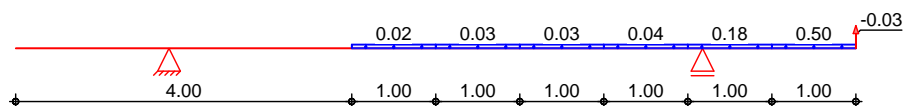
G_k



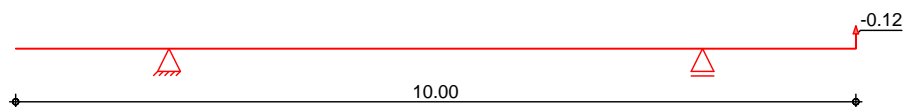
Ö←



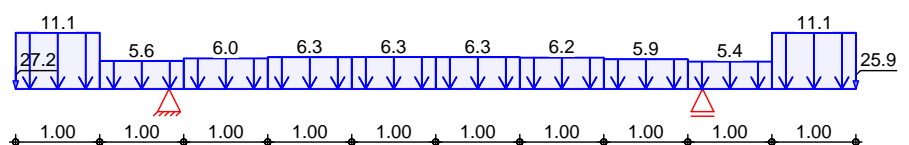
Q_k.N_{B1}



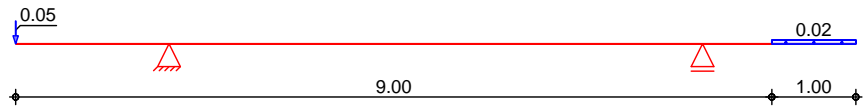
Q_k.N_{C1}



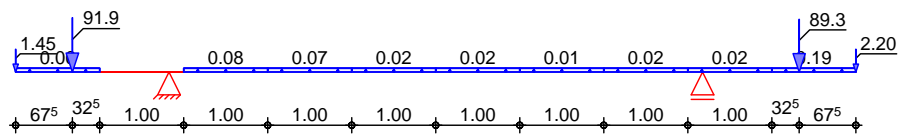
Q_k.N_{C5}



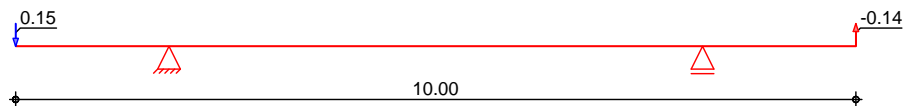
Qk.N_E1



Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

| Feld | Komm. | a | s | Q _{li} | Q _{re} |
|--------|-----------------|------|-------|-----------------|-----------------|
| | | [m] | [m] | [kN/m] | [kN/m] |
| K1 | Eigengew | 0.00 | 10.00 | | 11.88 |
| (a) K1 | UZ-1.9: Gk | 0.00 | 1.00 | -5.61 | -5.61 |
| (a) K1 | UZ-1.9: Gk | 1.00 | 1.00 | 7.80 | 7.80 |
| (a) K1 | UZ-1.9: Gk | 2.00 | 1.00 | 5.41 | 5.41 |
| (a) K1 | UZ-1.9: Gk | 3.00 | 1.00 | 3.90 | 3.90 |
| (a) K1 | UZ-1.9: Gk | 4.00 | 1.00 | 3.29 | 3.29 |
| (a) K1 | UZ-1.9: Gk | 5.00 | 1.00 | 3.45 | 3.45 |
| (a) K1 | UZ-1.9: Gk | 6.00 | 1.00 | 4.09 | 4.09 |
| (a) K1 | UZ-1.9: Gk | 7.00 | 1.00 | 4.96 | 4.96 |
| (a) K1 | UZ-1.9: Gk | 8.00 | 1.00 | 5.93 | 5.93 |
| (a) K1 | UZ-1.9: Gk | 9.00 | 1.00 | 14.43 | 14.43 |
| (a) K1 | ÜXEFÈiÁ Ö← | 0.00 | 1.00 | -1.07 | -1.07 |
| (a) K1 | ÜXEFÈiÁ Ö← | 1.00 | 1.00 | 3.40 | 3.40 |
| (a) K1 | ÜXEFÈiÁ Ö← | 2.00 | 1.00 | 2.45 | 2.45 |
| (a) K1 | ÜXEFÈiÁ Ö← | 3.00 | 1.00 | 1.94 | 1.94 |
| (a) K1 | ÜXEFÈiÁ Ö← | 4.00 | 1.00 | 1.81 | 1.81 |
| (a) K1 | ÜXEFÈiÁ Ö← | 5.00 | 1.00 | 1.90 | 1.90 |
| (a) K1 | ÜXEFÈiÁ Ö← | 6.00 | 1.00 | 2.11 | 2.11 |
| (a) K1 | ÜXEFÈiÁ Ö← | 7.00 | 1.00 | 2.33 | 2.33 |
| (a) K1 | ÜXEFÈiÁ Ö← | 8.00 | 1.00 | 2.59 | 2.59 |
| (a) K1 | ÜXEFÈiÁ Ö← | 9.00 | 1.00 | 6.14 | 6.14 |
| (a) K1 | UZ-1.9: Qk.N_B1 | 4.00 | 1.00 | 0.02 | 0.02 |
| (a) K1 | UZ-1.9: Qk.N_B1 | 5.00 | 1.00 | 0.03 | 0.03 |
| (a) K1 | UZ-1.9: Qk.N_B1 | 6.00 | 1.00 | 0.03 | 0.03 |
| (a) K1 | UZ-1.9: Qk.N_B1 | 7.00 | 1.00 | 0.04 | 0.04 |
| (a) K1 | UZ-1.9: Qk.N_B1 | 8.00 | 1.00 | 0.18 | 0.18 |
| (a) K1 | UZ-1.9: Qk.N_B1 | 9.00 | 1.00 | 0.50 | 0.50 |
| (a) K1 | UZ-1.9: Qk.N_C5 | 0.00 | 1.00 | 11.14 | 11.14 |
| (a) K1 | UZ-1.9: Qk.N_C5 | 1.00 | 1.00 | 5.56 | 5.56 |
| (a) K1 | UZ-1.9: Qk.N_C5 | 2.00 | 1.00 | 6.04 | 6.04 |
| (a) K1 | UZ-1.9: Qk.N_C5 | 3.00 | 1.00 | 6.28 | 6.28 |
| (a) K1 | UZ-1.9: Qk.N_C5 | 4.00 | 1.00 | 6.30 | 6.30 |
| (a) K1 | UZ-1.9: Qk.N_C5 | 5.00 | 1.00 | 6.28 | 6.28 |

Einw. Im

Einw. Qk.N_B1

Einw. Qk.N_C5

| | Feld | Komm. | a | s | Q _{li} | Q _{re} | |
|---------------|------|-------|-----------------|------|-----------------|-----------------|-------|
| | | | [m] | [m] | [kN/m] | [kN/m] | |
| | (a) | Kl | UZ-1.9: Qk.N_C5 | 6.00 | 1.00 | 6.20 | 6.20 |
| | (a) | Kl | UZ-1.9: Qk.N_C5 | 7.00 | 1.00 | 5.87 | 5.87 |
| | (a) | Kl | UZ-1.9: Qk.N_C5 | 8.00 | 1.00 | 5.42 | 5.42 |
| | (a) | Kl | UZ-1.9: Qk.N_C5 | 9.00 | 1.00 | 11.14 | 11.14 |
| Einw. Qk.N_E1 | (a) | Kl | UZ-1.9: Qk.N_E1 | 9.00 | 1.00 | 0.02 | 0.02 |
| Einw. Qk.N_DA | (a) | Kl | UZ-1.9: Qk.N_DA | 0.00 | 1.00 | 0.06 | 0.06 |
| | (a) | Kl | UZ-1.9: Qk.N_DA | 2.00 | 1.00 | 0.08 | 0.08 |
| | (a) | Kl | UZ-1.9: Qk.N_DA | 3.00 | 1.00 | 0.07 | 0.07 |
| | (a) | Kl | UZ-1.9: Qk.N_DA | 4.00 | 1.00 | 0.02 | 0.02 |
| | (a) | Kl | UZ-1.9: Qk.N_DA | 5.00 | 1.00 | 0.02 | 0.02 |
| | (a) | Kl | UZ-1.9: Qk.N_DA | 6.00 | 1.00 | 0.01 | 0.01 |
| | (a) | Kl | UZ-1.9: Qk.N_DA | 7.00 | 1.00 | 0.02 | 0.02 |
| | (a) | Kl | UZ-1.9: Qk.N_DA | 8.00 | 1.00 | 0.02 | 0.02 |
| | (a) | Kl | UZ-1.9: Qk.N_DA | 9.00 | 1.00 | 0.19 | 0.19 |

(a) aus Pos. 'D-1.OG - UZ-1.9'

Punktlasten in z-Richtung

| | Feld | Komm. | a [m] | F _z [kN] |
|---------------|------|-------|-----------------|------------------------|
| Einw. Gk | (a) | Kl | UZ-1.9: Gk | 216.48 |
| | (a) | Kl | UZ-1.9: Gk | 271.67 |
| | (b) | Kl | | 34.55 |
| | (c) | Kr | | 80.75 |
| Einw. Im | (a) | Kl | ÜXEFÈIÄ Ö← | 18.03 |
| | (a) | Kl | ÜXEFÈIÄ Ö← | 36.73 |
| | (b) | Kl | | -8.01 |
| | (c) | Kr | | 9.27 |
| Einw. Qk.N_B1 | (c) | Kr | | -0.03 |
| Einw. Qk.N_C1 | (c) | Kr | | -0.12 |
| Einw. Qk.N_C5 | (b) | Kl | | 27.16 |
| | (c) | Kr | | 25.87 |
| Einw. Qk.N_E1 | (b) | Kl | | 0.05 |
| Einw. Qk.N_DA | (a) | Kl | UZ-1.9: Qk.N_DA | 91.94 |
| | (a) | Kl | UZ-1.9: Qk.N_DA | 89.29 |
| | (b) | Kl | | 1.45 |
| | (c) | Kr | | 2.20 |
| Einw. Qk.N_T2 | (b) | Kl | | 0.15 |
| | (c) | Kr | | -0.14 |

(a) aus Pos. 'D-1.OG - UZ-1.9'

(b) aus Pos. 'UZ-1.5', Lager 'B' (Seite 13)

(c) aus Pos. 'UZ-1.4', Lager 'B' (Seite 7)

Kombi nationen

| Ek | (* *EW) | EFÈÈÈÈ Ö← | EFÈÈÈÈ Ö← | EFÈÈÈÈ Ö← |
|----|-----------------------|-----------------------|-----------------------|-----------|
| 1 | 1.00*Gk | EFÈÈÈÈ Ö← | | |
| 2 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) | |
| | +1.05*Qk.N_C1 (Kr) | +1.50*Qk.N_E1 (Kr) | +1.50*Qk.N_T2 (Kr) | |
| 3 | 1.35*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (Kr) | |
| | +1.50*Qk.N_C5 (Kl) | +1.50*Qk.N_E1 (Kl) | +1.20*Qk.N_T2 (Kl) | |
| 4 | 1.00*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) | |
| | +1.05*Qk.N_C1 (Kr) | +1.50*Qk.N_E1 (Kr) | +1.50*Qk.N_T2 (Kr) | |
| 5 | 1.35*Gk | EFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (Kr) | |
| | +1.05*Qk.N_C5 (Kl) | +1.50*Qk.N_E1 (Kl) | +1.50*Qk.N_DA (Kl) | |

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| | +1.20*Qk.N_T2 (Kl) | | |
| 6 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (Kr) | +1.50*Qk.N_C5 (1) | +1.20*Qk.N_T2 (Kr) |
| 7 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (Kr) |
| | +1.05*Qk.N_C5 (Kl,Kr) | +1.50*Qk.N_E1 (Kl,Kr) | +1.50*Qk.N_DA (Kl,Kr) |
| | +1.20*Qk.N_T2 (Kl) | | |
| 8 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (Kr) | +1.05*Qk.N_C5 (Kl,1) | +1.50*Qk.N_E1 (Kl) |
| | +1.50*Qk.N_DA (Kl,1) | +1.20*Qk.N_T2 (Kl,Kr) | |
| 9 | 1.00*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (Kr) |
| | +1.05*Qk.N_C5 (Kr) | +1.50*Qk.N_E1 (Kr) | +1.50*Qk.N_DA (Kr) |
| 10 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (Kr) | +1.05*Qk.N_C5 (Kl,1) | +1.50*Qk.N_E1 (Kl) |
| | +1.50*Qk.N_DA (Kl) | +1.20*Qk.N_T2 (Kl,Kr) | |
| 11 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (Kr) |
| | +1.05*Qk.N_C5 (Kr) | +1.50*Qk.N_E1 (Kr) | +1.50*Qk.N_DA (1,Kr) |
| 12 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_C1 (Kr) |
| | +1.05*Qk.N_C5 (Kl) | +1.50*Qk.N_E1 (Kl) | +1.50*Qk.N_DA (Kl) |
| | +1.20*Qk.N_T2 (Kl,Kr) | | |
| 13 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,Kr) |
| | +1.05*Qk.N_C5 (1,Kr) | +1.50*Qk.N_E1 (Kr) | +1.50*Qk.N_DA (1,Kr) |
| 14 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) |
| | +1.50*Qk.N_C1 (Kr) | +1.05*Qk.N_C5 (1) | +1.20*Qk.N_T2 (Kr) |
| 15 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_C1 (Kr) |
| | +1.20*Qk.N_T2 (Kr) | | |
| 16 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (Kr) |
| | +1.05*Qk.N_C5 (Kr) | +1.50*Qk.N_E1 (Kr) | +1.50*Qk.N_DA (Kr) |
| 17 | 1.35*Gk | ÉFÈĞİE Ö← | +1.50*Qk.N_C5 (Kr) |
| 18 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (Kr) |
| | +1.50*Qk.N_C1 (Kr) | +1.20*Qk.N_T2 (Kr) | |
| 19 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (Kr) |
| | +1.50*Qk.N_C5 (Kr) | +1.50*Qk.N_E1 (Kr) | |

Bemessung (GZT)

àfiäÄäæ^ÄÖäæ^~|b\á^äÄäæÄÜäá&à†â↔&←↔\Á^á´äÄØSÁÓSÁ
1992-1-1:2011-01

U-232

Schulcampus EWK \

UZ-1.9

Biegung

Abs. 6.1

Kragarm links

| x | Ek | $M_{yd,o}$ $M_{yd,u}$ | x/d_o x/d_u | z_o z_u | $A_{s,o}$ $A_{s,u}$ | $A_{s,o,erf}$ $A_{s,u,erf}$ |
|-------------------|----|--------------------------|--------------------|----------------|------------------------|--------------------------------|
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 1.82 m) | | | | | | |
| 0.00 | 1 | - | 3.3E-4 | 183.8 | - | 5.27 _M |
| | 1 | - | - | - | - | - |
| 1.38 _a | 5 | -429.01 | 0.055 | 180.1 | 5.22 | 5.27 _M |
| | 4 | -206.80 | - | - | - | - |
| 1.82 | 5 | -550.34 | 0.064 | 179.5 | 6.72 | 6.72 |
| | 4 | -332.84 | - | - | - | - |

Feld 1

| | | | | | | |
|-------------------|----|---------|-------|-------|-------|-------|
| (L = 6.35 m) | | | | | | |
| 0.00 | 7 | -550.34 | 0.064 | 179.5 | 6.72 | 6.72 |
| | 6 | -332.84 | - | - | - | - |
| 0.45 _a | 7 | -671.67 | 0.073 | 178.8 | 8.23 | 8.23 |
| | 6 | -313.03 | - | - | - | - |
| 5.90 _a | 7 | -941.42 | 0.092 | 177.2 | 11.64 | 11.64 |
| | 6 | -515.35 | - | - | - | - |
| 6.35 | 7 | -793.59 | 0.082 | 178.1 | 9.76 | 9.76 |
| | 14 | -568.23 | - | - | - | - |

Kragarm rechts

| | | | | | | |
|-------------------|----|---------|--------|-------|------|-------------------|
| (L = 1.82 m) | | | | | | |
| 0.00 | 16 | -793.59 | 0.082 | 178.1 | 9.76 | 9.76 |
| | 15 | -568.23 | - | - | - | - |
| 0.45 _a | 16 | -645.76 | 0.071 | 178.9 | 7.90 | 7.90 |
| | 15 | -369.00 | - | - | - | - |
| 1.82 | 1 | - | 3.4E-4 | 183.8 | - | 5.27 _M |
| | 1 | - | - | - | - | - |

a: Auflagerrand

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Kragarm links

| x | Ek | V_{Ed} | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|-------------------|----|---------------------|--------------|------------|----------------------|
| [m] | | [kN] | [kN] | [kN] | [cm ² /m] |
| (L = 1.82 m) | | | | | |
| 0.00 _v | 3 | 24.76 _R | 42.6 | 2626.94 | - |
| 1.38 _a | 5 | 137.42 _R | 42.6 | 2626.94 | 6.07 _F |
| 1.82 | 5 | 154.07 _R | 42.6 | 2626.94 | - |

Feld 1

| | | | | | |
|-------------------|----|---------------------|------|---------|--------|
| (L = 6.35 m) | | | | | |
| 0.00 | 8 | 20.60 _R | 18.4 | 1581.83 | - |
| 0.45 | 9 | 25.45 _R | 18.4 | 1581.83 | - |
| 2.29 _v | 11 | 65.61 | 18.4 | 1581.83 | 122.42 |
| 4.06 _v | 13 | 112.52 | 18.4 | 1581.83 | 122.42 |
| 5.90 _a | 13 | 112.52 _R | 18.4 | 1581.83 | - |
| 6.35 | 13 | 112.52 _R | 18.4 | 1581.83 | - |

Kragarm rechts

| | | | | | |
|-------------------|----|---------------------|------|---------|---|
| (L = 1.82 m) | | | | | |
| 0.00 | 16 | 245.51 _R | 42.6 | 2626.94 | - |
| 0.46 _a | 16 | 230.47 _R | 42.6 | 2626.94 | - |
| 1.83 _v | 17 | 59.97 _R | 42.6 | 2626.94 | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

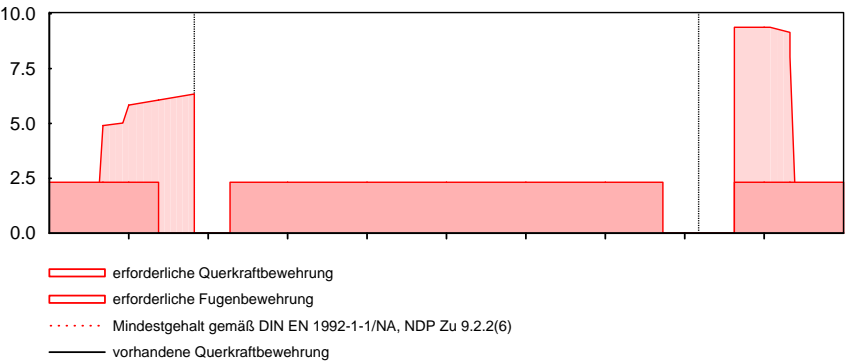
Fugenbemessung

| x | V_{Ed} | V_{Edi} | $V_{Rdi,max}$ | $V_{Rdi,ct}$ | $a_{sw,erf}$ |
|---|----------|-----------|---------------|--------------|----------------------|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | [cm ² /m] |
| N@piuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f_{yk} "?"722"Ploo | | | | | |
| rau (c=0.40, =0.70, =0.50) | | | | | |
| Pää&ää↑Á→BÄÄÄP~^ä<-\à→†'äæ^ääæ↔\æÄÄKÄGIEÄ'↑ | | | | | |
| 0.00 | -79.62 | 42.92 | 1062.50 | 113.33 | - |
| 0.67 | -533.96 | 292.38 | 1062.50 | 113.33 | 4.90 |
| 0.93 | -538.66 | 296.61 | 1062.50 | 113.33 | 5.02 |

N@piuhwig"4

Streckgrenze der Verbundbewehrung: f_{yk} "?"722"Ploo

Querkraftbewehrung Asw [cm²/m]
M 1:95



5i Z` U[Yf_f}ZhY

N|à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------|------------------|------------------|
| Einw. Gk | | |
| A | 297.90 | 297.90 |
| B | 471.94 | 471.94 |
| Einw. Im | | |
| A | 8.79 | 8.79 |
| B | 70.83 | 70.83 |
| Einw. Qk.N_B1 | | |
| A | -0.10 | 0.03 |
| B | 0.00 | 0.83 |
| Einw. Qk.N_C1 | | |
| A | 0.00 | 0.03 |
| B | -0.15 | 0.00 |
| Einw. Qk.N_C5 | | |
| A | -10.05 | 72.87 |
| B | -10.43 | 70.88 |
| Einw. Qk.N_E1 | | |
| A | 0.00 | 0.06 |
| B | -0.01 | 0.02 |
| Einw. Qk.N_DA | | |
| A | -16.84 | 110.68 |
| B | -17.08 | 108.60 |
| Einw. Qk.N_T2 | | |
| A | 0.00 | 0.24 |
| B | -0.23 | 0.00 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

3.3.4 Türstürze

Der Nachweis von WS-1.20_2 gilt auch für WS-1.20_1 und WS-1.20_3.

Der Nachweis von WS-1.26_1 gilt auch für WS-1.5 und WS-1.11, WS-1.26_2 und WS-1.26_3.

Übersicht der Bewehrungswahl:

WS-1.20_2: unten: 1. Lage: 5Ø14

oben: 1. Lage: 2Ø12

quer: Ø8/20

WS-1.26_1: unten: 1. Lage: 2Ø12

oben: 1. Lage: 2Ø12

quer: Ø8/20

WS-T-1.2: unten: 1. Lage: 2Ø12

oben: 1. Lage: 2Ø12

quer: Ø8/20

Pos. WS-1.20_2

GHU `VYfcb!8 i fW`U Zf}[Yf

) V o o 1.20_1 und WS-1.20_3.

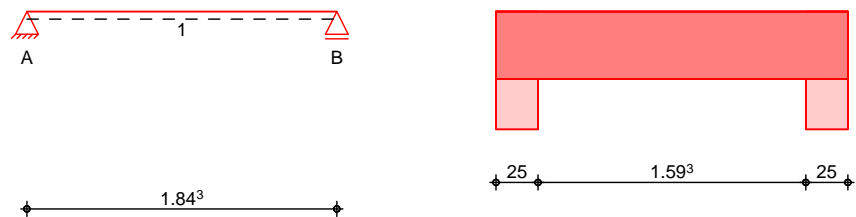
System

Ó↔^àæ→ä\ã‡&æãÁÇGIEÈÐHÈÈÐFÎHÈĞD

System

Ansicht

M 1 : 45



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 1.84 | C 25/30 | 25.0/40.0 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 1.84 | 25.0 | Beton | fest |

Belastungen

Belastungen auf das System

Grafik

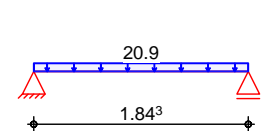
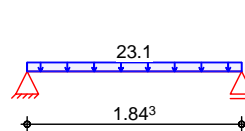
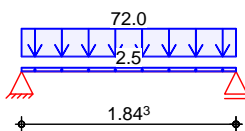
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk

Ö↔

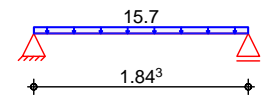
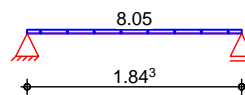
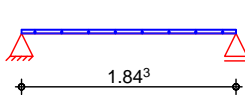
Qk.N_B1



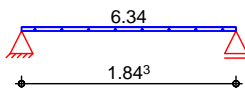
Qk.N_C1

Qk.N_C5

Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Gleichlasten

| Feld | Komm. | a [m] | s [m] | Q_{li} [kN/m] | Q_{re} [kN/m] |
|-------|----------|----------|----------|--------------------|--------------------|
| 1 | Eigengew | 0.00 | 1.84 | | 2.50 |
| (a) 1 | | 0.00 | 1.84 | | 71.98 |
| (a) 1 | | 0.00 | 1.84 | | 23.11 |
| (a) 1 | | 0.00 | 1.84 | | 20.85 |
| (a) 1 | | 0.00 | 1.84 | | 8.05 |
| (a) 1 | | 0.00 | 1.84 | | 15.71 |
| (a) 1 | | 0.00 | 1.84 | | 6.33 |

Einw. Gk

Einw. Im

Einw. Qk.N_B1

Einw. Qk.N_C5

Einw. Qk.N_E1

Einw. Qk.N_DA

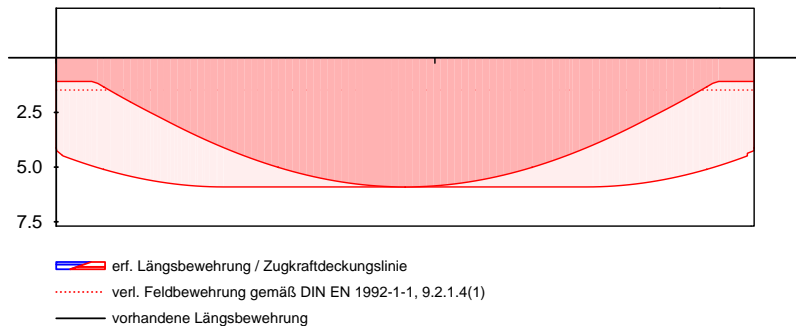
U-237

Schulcampus EWK \ WS-1.20_2

Längsbewehrung
M 1:20

As

[cm²]



Querkraftbewehrung
ÇÑfi&æ→D

| Feld | xa [m] | xe [m] | ds [mm] | s [cm] | Schn. [-] | asw [cm ² /m] |
|------|-----------|-----------|------------|-----------|--------------|-----------------------------|
| 1 | 0.00 | 1.84 | ã: | 20.0 | 2 | 5.03 |

Si Z` U[Yf_f } ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | |
|--|------------------|------------------|--|
| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] | |
| Einw. Gk | A 68.63 | 68.63 | |
| | B 68.63 | 68.63 | |
| Einw. Im | A 21.29 | 21.29 | |
| | B 21.29 | 21.29 | |
| Einw. Qk.N_B1 | A 19.22 | 19.22 | |
| | B 19.22 | 19.22 | |
| Einw. Qk.N_C1 | A 0.00 | 0.00 | |
| | B 0.00 | 0.00 | |
| Einw. Qk.N_C5 | A 7.42 | 7.42 | |
| | B 7.42 | 7.42 | |
| Einw. Qk.N_E1 | A 14.47 | 14.47 | |
| | B 14.47 | 14.47 | |
| Einw. Qk.N_DA | A 5.84 | 5.84 | |
| | B 5.84 | 5.84 | |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Bewehrungswahl | OK | |

Pos. WS-1.26_1

GHU `VYfcb!8 i fW `U Zf}[Yf

) V o ± 0-1.5, WS-1.11, WS-1.26_2 und WS-1.26_3.

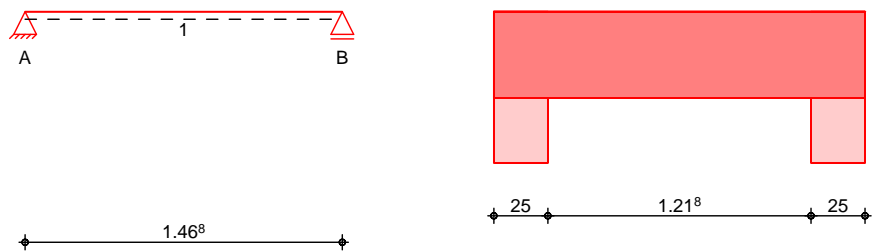
System

Ó↔^àæ→ä\ã‡&æãÁÇGIE€ÐH€E€ÐFHWJÊÎÐ

System

Ansicht

M 1:35



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 1.47 | C 25/30 | 25.0/40.0 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 1.47 | 25.0 | Beton | fest |

Belastungen

Belastungen auf das System

Grafik

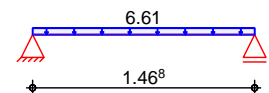
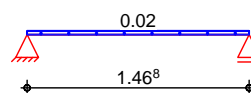
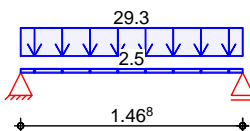
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk

Ö←

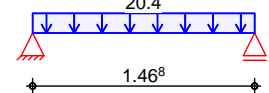
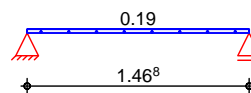
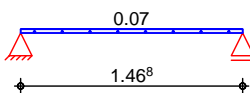
Qk.N_B1



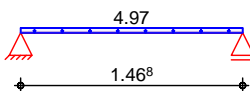
Qk.N_C1

Qk.N_C5

Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Gleichlasten

| Feld | Komm. | a [m] | s [m] | q_{li} [kN/m] | q_{re} [kN/m] |
|-------|----------|----------|----------|--------------------|--------------------|
| 1 | Eigengew | 0.00 | 1.47 | | 2.50 |
| (a) 1 | | 0.00 | 1.47 | | 29.29 |
| (a) 1 | | 0.00 | 1.47 | | 0.02 |
| (a) 1 | | 0.00 | 1.47 | | 6.61 |
| (a) 1 | | 0.00 | 1.47 | | 0.07 |
| (a) 1 | | 0.00 | 1.47 | | 0.19 |

Einw. Gk

Einw. Im

Einw. Qk.N_B1

Einw. Qk.N_C1

Einw. Qk.N_C5

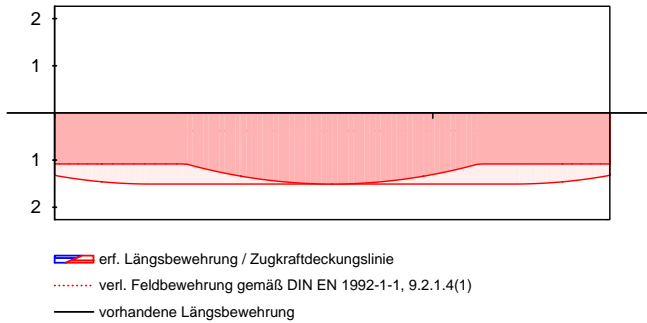
U-240

ÇQ†^&æ^Ä↔^↔→ËÄÜæää^↔æää | ^&b→†^&æ^ËÄ~â^æÄU\=ßæD
↑†Ä††ß↔↔æÄÜæää | ^ääæää↔^& | ^&æ^
h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:20

As

[cm²/m]



Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 1.47 | ã: | 20.0 | 2 | 5.03 |

5i Z` U[Yf_f} ZhY

N| à→á&æã←ã†à\æÄÜã†&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | |
|--|------------------------------|------------------------------|-------|
| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] | |
| Einw. G _k | | | |
| A | 23.34 | 23.34 | 23.34 |
| B | 23.34 | 23.34 | 23.34 |
| Einw. I _m | | | |
| A | 0.02 | 0.02 | 0.02 |
| B | 0.02 | 0.02 | 0.02 |
| Einw. Q _{k,N_B1} | | | |
| A | 4.85 | 4.85 | 4.85 |
| B | 4.85 | 4.85 | 4.85 |
| Einw. Q _{k,N_C1} | | | |
| A | 0.05 | 0.05 | 0.05 |
| B | 0.05 | 0.05 | 0.05 |
| Einw. Q _{k,N_C5} | | | |
| A | 0.14 | 0.14 | 0.14 |
| B | 0.14 | 0.14 | 0.14 |
| Einw. Q _{k,N_E1} | | | |
| A | 14.98 | 14.98 | 14.98 |
| B | 14.98 | 14.98 | 14.98 |
| Einw. Q _{k,N_DA} | | | |
| A | 3.65 | 3.65 | 3.65 |
| B | 3.65 | 3.65 | 3.65 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Bewehrungswahl | OK | |

Pos. WS-T-1.2

System

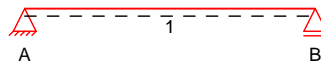
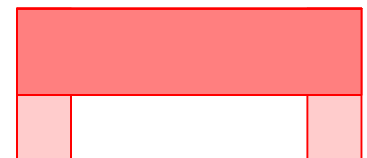
M 1 : 35

GHU`VYfcb!8 i fW`U Zf}[Yf

Ó↔^àæ→ä\ã†&æãÁÇGIEÈÐHÈÈÐFĞHÈĞÐ

System

Ansicht


1.34³

25 1.09³ 25

Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 1.34 | C 25/30 | 25.0/40.0 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 1.34 | 25.0 | Beton | fest |

Belastungen

Belastungen auf das System

Grafik

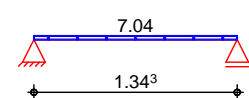
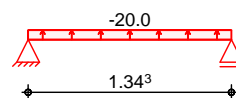
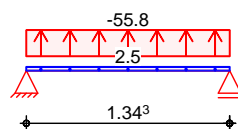
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk

Ö←

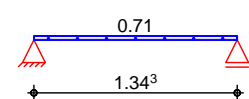
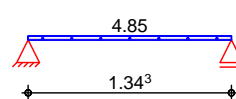
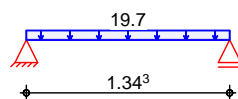
Qk.N_B1



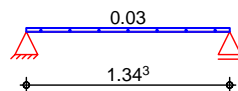
Qk.N_C5

Qk.N_E1

Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

Gleichlasten

Einw. Gk

Einw. Im

Einw. Qk.N_B1

Einw. Qk.N_C5

Einw. Qk.N_E1

Einw. Qk.N_DA

Einw. Qk.N_T2

| Feld | Komm. | a [m] | s [m] | Q _{i,i} [kN/m] | Q _{re} [kN/m] |
|-------|----------|----------|----------|----------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 1.34 | | 2.50 |
| (a) 1 | | 0.00 | 1.34 | | -55.76 |
| (a) 1 | | 0.00 | 1.34 | | -20.03 |
| (a) 1 | | 0.00 | 1.34 | | 7.04 |
| (a) 1 | | 0.00 | 1.34 | | 19.70 |
| (a) 1 | | 0.00 | 1.34 | | 4.85 |
| (a) 1 | | 0.00 | 1.34 | | 0.70 |
| (a) 1 | | 0.00 | 1.34 | | 0.03 |

(a)

aus Pos. 'D-1.OG', Lager 'WS-T-1.2'

Kombinationen

 $b \setminus t^{\wedge} \ddot{a} \leftrightarrow \&D \{ \sim \ddot{a} f i \ddot{a} \ddot{a} \&E$
 $\&\ddot{a} \uparrow \ddagger \beta \ddot{A} \&E \&S \ddot{A} \ddot{O} \&S \ddot{A} \ddot{F} \ddot{I} \ddot{I} \&G \ddot{E} \ddot{F} \ddot{E} \ddot{F} \ddot{A} \mid \wedge \ddot{a} \&E \&S \ddot{A} \ddot{O} \&S \ddot{A} \ddot{F} \ddot{I} \ddot{I} \epsilon$

Ek (* *EW)

| | | | |
|---|-------------------|-------------------|-------------------|
| 1 | 1.00 * Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.00 * Gk | ÉFÈÈÈÈ Ö← | +1.05 * Qk . N_B1 |
| | +1.50 * Qk . N_C5 | +1.50 * Qk . N_E1 | +1.20 * Qk . N_T2 |
| 3 | 1.35 * Gk | ÉFÈÈÈÈ Ö← | |

Bemessung (GZT)

 $\ddot{a} f i \ddot{a} \ddot{A} \ddot{a} \wedge \ddot{A} \ddot{O} \ddot{a} \wedge \sim \mid b \setminus \acute{a} \wedge \ddot{a} \ddot{A} \ddot{a} \ddot{a} \ddot{U} \ddot{a} \acute{a} \& \ddagger \acute{a} \leftrightarrow \& \leftarrow \ddot{a} \leftrightarrow \setminus \acute{a} \wedge \acute{a} \wedge \ddot{A} \&E \&S \ddot{A} \ddot{O} \&S \ddot{A}$
1992-1-1:2011-01

Belegung

Abs. 6.1

 $\ddot{N} \ddot{a} \uparrow \ddot{a} b b \mid \wedge \& \ddot{A} \ddot{a} f i \ddot{a} \ddot{A} \ddot{N} \leftrightarrow \ddot{a} \& \ddot{a} \ddot{a} \acute{a} \wedge b * \ddot{a} \mid \acute{a} \mid \wedge \&$

Feld 1

| x | Ek | $M_{y d, o}$ | x / d_o | z_o | $A_{s, o}$ | $A_{s, o, e r f}$ |
|-------------------|----|--------------|-----------|-------|--------------------|--------------------|
| [m] | | $M_{y d, u}$ | x / d_u | z_u | $A_{s, u}$ | $A_{s, u, e r f}$ |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 1.34 m) | | | | | | |
| 0.00 | 1 | - | 0.002 | 35.6 | - | 1.41 _q |
| | 1 | - | - | - | - | - |
| 0.13 _a | 3 | -7.53 | 0.040 | 35.1 | 0.47 | 1.41 _q |
| | 2 | -2.21 | - | - | - | - |
| 0.67 | 3 | -22.31 | 0.076 | 34.6 | 1.41 | 1.41 |
| | 2 | -6.55 | - | - | - | - |
| 1.22 _a | 3 | -7.53 | 0.040 | 35.1 | 0.47 | 1.41 _q |
| | 2 | -2.21 | - | - | - | - |
| 1.34 | 1 | - | 0.002 | 35.6 | - | 1.41 _q |
| | 1 | - | - | - | - | - |

a: Auflagerrand

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

 $\ddot{N} \ddot{a} \uparrow \ddot{a} b b \mid \wedge \& \ddot{A} \ddot{a} f i \ddot{a} \ddot{A} \ddot{T} \mid \ddot{a} \ddot{a} \leftarrow \ddot{a} \ddot{a} \ddot{a} \setminus \hat{\ddot{a}} \ddot{a} \wedge b * \ddot{a} \mid \acute{a} \mid \wedge \&$

Feld 1

| x | Ek | $V_{E d}$ | $y_{f l \ddot{Y}}$ | $V_{R d, m a x}$ | $V_{R d, c}$ | $a_{s w, e r f}$ |
|-------------------|----|-----------|--------------------|------------------|--------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 1.34 m) | | | | | | |
| 0.00 | 3 | 66.44 | 18.4 | 229.50 | - | - |
| 0.13 _a | 3 | 54.07 | 18.4 | 229.50 | 36.04 | 2.08 _M |
| 0.48 | 3 | 18.85 | 18.4 | 229.50 | 36.04 | 2.08 _M |
| 0.67 | 3 | - | 18.4 | 229.50 | 36.04 | 2.08 _M |
| 0.86 | 3 | 18.85 | 18.4 | 229.50 | 36.04 | 2.08 _M |
| 1.22 _a | 3 | 54.07 | 18.4 | 229.50 | 36.04 | 2.08 _M |
| 1.34 | 3 | 66.44 | 18.4 | 229.50 | - | - |

a: Auflagerrand

M: Mindestbewehrung nach Abs. 9.2.2

Hinweis

An folgenden Auflagern erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| A | rechts | Querkraft wirkt am Auflager abhebend |
| B | links | Querkraft wirkt am Auflager abhebend |

Bewehrungswahl

untere
 $Q \ddagger \wedge \& b \hat{\ddot{a}} \ddot{a} \} \ddot{a} \ddot{a} \mid \wedge \&$

| Feld | gew. | A_s | a | l | l _{bd, l} | l _{bd, r} | Lage |
|------|------|--------------------|-------|------|--------------------|--------------------|------|
| | | [cm ²] | [m] | [m] | [m] | [m] | |
| 1 | 4ã34 | 2.26 | -0.13 | 1.50 | 0.51 ^h | 0.51 | 1 |

 $\zeta Q \ddagger \wedge \& \wedge \acute{A} \leftrightarrow \wedge \leftrightarrow \ddot{E} \ddot{A} \ddot{U} \ddot{a} \acute{a} \wedge \leftarrow \ddot{a} \ddot{a} \mid \wedge \& b \ddagger \wedge \wedge \& \wedge \hat{\acute{E}} \acute{A} \sim \acute{a} \wedge \ddot{a} \acute{A} \setminus = \& \& D$

h: gesonderte Verankerungsform erforderlich

 $\sim \hat{\ddot{a}} \ddot{a} \ddot{a} \acute{A} Q \ddagger \wedge \& b \hat{\ddot{a}} \ddot{a} \} \ddot{a} \ddot{a} \mid \wedge \&$

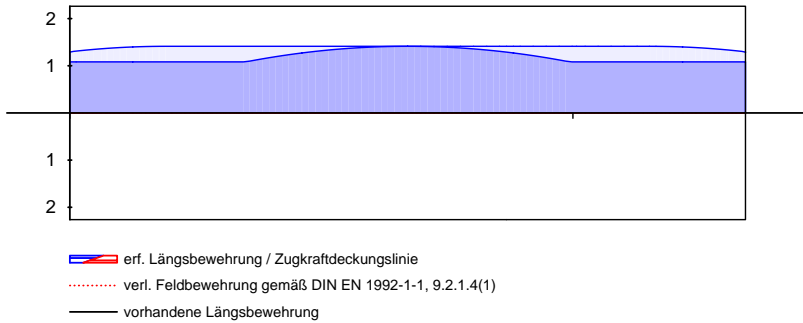
| Feld | gew. | A_s | a | l | l _{bd, l} | l _{bd, r} | Lage |
|------|------|--------------------|-------|------|--------------------|--------------------|------|
| | | [cm ²] | [m] | [m] | [m] | [m] | |
| 1 | 4ã34 | 2.26 | -0.13 | 1.50 | 0.22 ^{mh} | 0.22 ^m | 1 |

ÇQ†^&æ^Ä↔^↔→ËÄÛæää^↔æää | ^&b→†^&æ^ËÄ~â^æÄU\=ßæD
↑†Ä††ß↔↔æÄÛæääâ | ^ääæää↔^& | ^&æ^
h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:15

As

[cm²/m]



Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 1.35 | ä: | 20.0 | 2 | 5.03 |

5i Z` U[Yf_f } ZhY

N| à→á&æã←ã†à\æÄÛã†&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | |
|--|------------------------------|------------------------------|--------|
| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] | |
| Einw. G _k | | | |
| A | -35.77 | -35.77 | -35.77 |
| B | -35.77 | -35.77 | -35.77 |
| Einw. I _m | | | |
| A | -13.45 | -13.45 | -13.45 |
| B | -13.45 | -13.45 | -13.45 |
| Einw. Q _{k,N_B1} | | | |
| A | 4.72 | 4.72 | 4.72 |
| B | 4.72 | 4.72 | 4.72 |
| Einw. Q _{k,N_C5} | | | |
| A | 13.23 | 13.23 | 13.23 |
| B | 13.23 | 13.23 | 13.23 |
| Einw. Q _{k,N_E1} | | | |
| A | 3.26 | 3.26 | 3.26 |
| B | 3.26 | 3.26 | 3.26 |
| Einw. Q _{k,N_DA} | | | |
| A | 0.47 | 0.47 | 0.47 |
| B | 0.47 | 0.47 | 0.47 |
| Einw. Q _{k,N_T2} | | | |
| A | 0.02 | 0.02 | 0.02 |
| B | 0.02 | 0.02 | 0.02 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Bewehrungswahl | OK | |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

3.4 Erdgeschoss

3.4.1 Mehrfeldträger

- UZ-0.6: unten: 1. Lage: 4Ø16
 2. Lage: 4Ø16 (Feld 3)
- oben: 1. Lage: 4Ø20
 2. Lage: 3Ø20 (Feld 3-4)
- quer: Ø8/20 (Feld 1)
 Ø8/10 (Feld 2)
 Ø8/7,5 (Feld 3)
 Ø8/20 (Feld 4)
- UZ-0.8: unten: 1. Lage: 3Ø14
- oben: 1. Lage: 4Ø16
- quer: Ø8/15
- UZ-0.9: unten: 1. Lage: 4Ø16
 2. Lage: 2Ø16 (Feld 2)
- oben: 1. Lage: 5Ø16
- quer: Ø10/20 (Feld 1, Feld 3-4)
 Ø10/12,5 (Feld 3)

Pos. UZ-0.6

GHU `VYfcb!8 i fW`U Zf}[Yf

Verankerungslänge:

An Auflager A weist die Wand W-0.16 eine Breite von 25 cm auf. Dadurch sind nur maximal 22 cm zum Verankern der unteren und oberen Längsbewehrung vorhanden.

oben:

Es ist eine Verankerung mit Haken für die obere Längsbewehrung erforderlich.

$$l_{b,rqd} = 102 \text{ cm}$$

$$l_{bd} = 0,7 * l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 0,7 * 102 \text{ cm} * 0,71 \text{ cm}^2 / 12,57 \text{ cm}^2 = 4 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * 0,7 * l_{b,rqd} = 0,3 * 0,7 * 102 \text{ cm} = \mathbf{21,4 \text{ cm}} \quad 10 \varnothing_l = 20 \text{ cm}$$

-> **$l_{bd} = 21,4 \text{ cm}$**

unten:

$$l_{b,rqd} = 57 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 57 \text{ cm} * 2,36 \text{ cm}^2 / 8,04 \text{ cm}^2 = 16,7 \text{ cm} \quad l_{b,min}$$

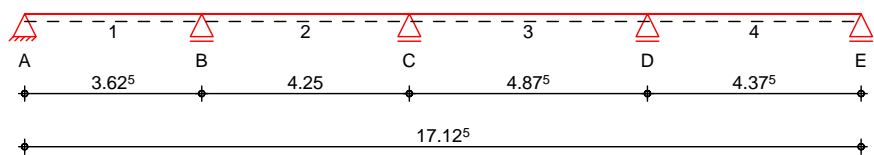
$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 57 \text{ cm} = \mathbf{17,1 \text{ cm}} \quad 10 \varnothing_l = 16 \text{ cm}$$

-> **$l_{bd} = 17,1 \text{ cm}$**

System

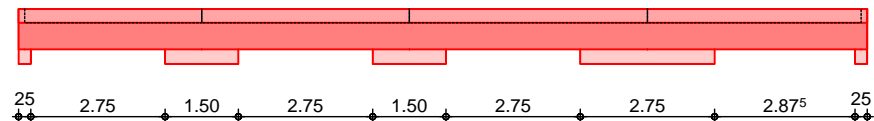
M 1 : 155

Ræäääæ→ä\ä†&æä
System



Ansicht

M 1 : 155



Abmessungen
Mat./Querschnitt

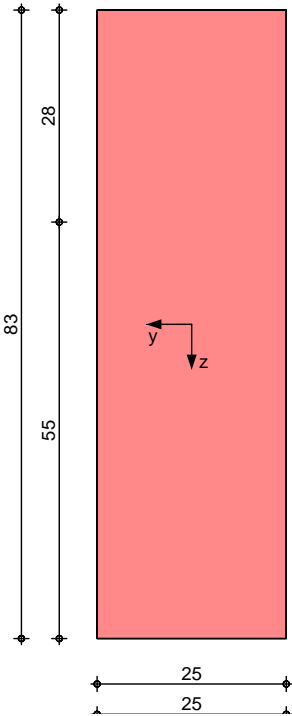
| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 3.63 | 0.00 | C 30/37 | 25.0/25.0/83.0 |
| 1 | | 3.63 | | |
| 2 | 4.25 | 0.00 | | |
| 2 | | 4.25 | | |
| 3 | 4.88 | 0.00 | | |
| 3 | | 4.88 | | |
| 4 | 4.38 | 0.00 | | |

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 4 | | 4.38 | | |

Expositionsklasse XC1

Grafik Querschnittsgrafik

M 1:10



| Auflager | Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|----------|-------|----------|-----------|-------|----------------------------|
| | A | 0.00 | 25.0 | Beton | fest |
| | B | 3.63 | 150.0 | Beton | fest |
| | C | 7.88 | 150.0 | Beton | fest |
| | D | 12.75 | 275.0 | Beton | fest |
| | E | 17.13 | 25.0 | Beton | fest |

| Feld | Fuge | z _f [cm] | Y _f | N _d |
|------|-------|------------------------|----------------|----------------|
| 1 | glatt | 28.0 | 90 | 0.00 |
| 2 | glatt | 28.0 | 90 | 0.00 |
| 3 | glatt | 28.0 | 90 | 0.00 |
| 4 | glatt | 28.0 | 90 | 0.00 |

Belastungen

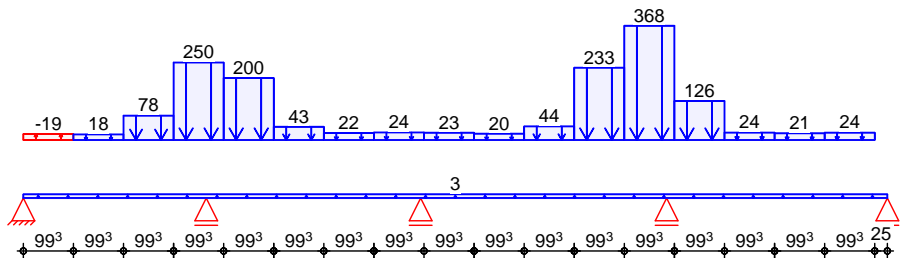
Belastungen auf das System

Grafik

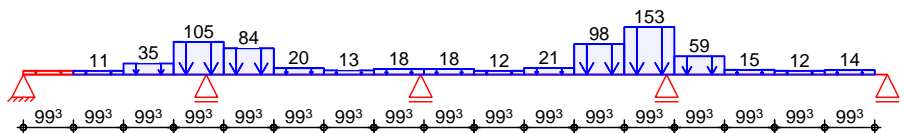
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

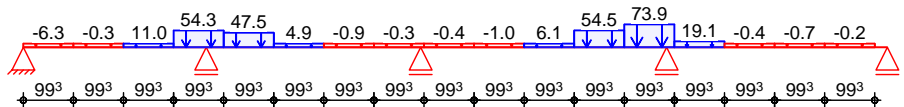
Gk



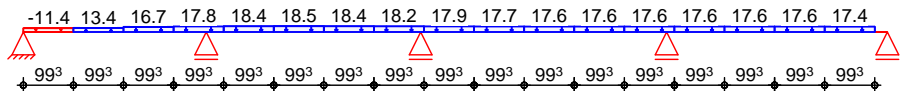
Ö←



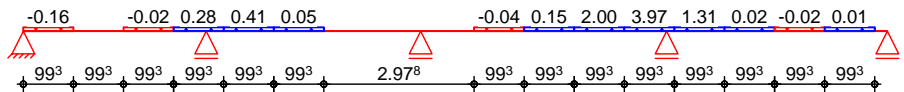
Qk.N_B1



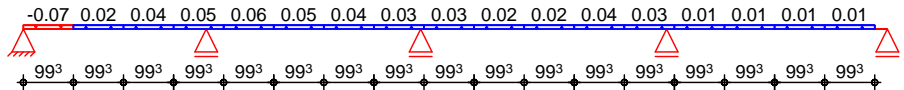
Qk.N_C1



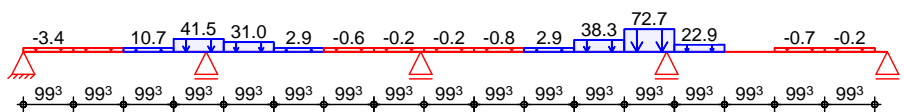
Qk.N_C5



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

Feld Komm.

| | | a | s | Q _{li} | Q _{re} |
|-----|---|------------|------|-----------------|-----------------|
| | | [m] | [m] | [kN/m] | [kN/m] |
| | 1 | Eigengew | 0.00 | 17.13 | 3.44 |
| (a) | 1 | UZ-0.6: Gk | 0.00 | 0.99 | -18.95 |
| (a) | 1 | UZ-0.6: Gk | 0.99 | 0.99 | 17.69 |
| (a) | 1 | UZ-0.6: Gk | 1.99 | 0.99 | 78.47 |

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Schulcampus EWK \

UZ-0.6

| | | Feld | Komm. | a | s | Q _{li} | Q _{re} | |
|---------------|---------------|------|-----------------|-----------------|------|-----------------|-----------------|--------|
| | | | | [m] | [m] | [kN/m] | [kN/m] | |
| | (a) | 1 | UZ-0.6: Gk | 2.98 | 0.99 | 249.78 | 249.78 | |
| | (a) | 1 | UZ-0.6: Gk | 3.97 | 0.99 | 199.58 | 199.58 | |
| | (a) | 1 | UZ-0.6: Gk | 4.96 | 0.99 | 42.61 | 42.61 | |
| | (a) | 1 | UZ-0.6: Gk | 5.96 | 0.99 | 22.22 | 22.22 | |
| | (a) | 1 | UZ-0.6: Gk | 6.95 | 0.99 | 24.08 | 24.08 | |
| | (a) | 1 | UZ-0.6: Gk | 7.94 | 0.99 | 23.44 | 23.44 | |
| | (a) | 1 | UZ-0.6: Gk | 8.93 | 0.99 | 20.29 | 20.29 | |
| | (a) | 1 | UZ-0.6: Gk | 9.93 | 0.99 | 43.63 | 43.63 | |
| | (a) | 1 | UZ-0.6: Gk | 10.92 | 0.99 | 233.19 | 233.19 | |
| | (a) | 1 | UZ-0.6: Gk | 11.91 | 0.99 | 368.50 | 368.50 | |
| | (a) | 1 | UZ-0.6: Gk | 12.90 | 0.99 | 125.53 | 125.53 | |
| | (a) | 1 | UZ-0.6: Gk | 13.90 | 0.99 | 23.73 | 23.73 | |
| | (a) | 1 | UZ-0.6: Gk | 14.89 | 0.99 | 21.29 | 21.29 | |
| | (a) | 1 | UZ-0.6: Gk | 15.88 | 0.99 | 23.58 | 23.58 | |
| | Einw. Im | (a) | 1 | ÜXËËËNÍÁ Ö← | 0.00 | 0.99 | -0.07 | -0.07 |
| | | (a) | 1 | ÜXËËËNÍÁ Ö← | 0.99 | 0.99 | 10.60 | 10.60 |
| | | (a) | 1 | ÜXËËËNÍÁ Ö← | 1.99 | 0.99 | 35.50 | 35.50 |
| | | (a) | 1 | ÜXËËËNÍÁ Ö← | 2.98 | 0.99 | 105.43 | 105.43 |
| | | (a) | 1 | ÜXËËËNÍÁ Ö← | 3.97 | 0.99 | 84.36 | 84.36 |
| | | (a) | 1 | ÜXËËËNÍÁ Ö← | 4.96 | 0.99 | 20.35 | 20.35 |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 5.96 | 0.99 | 13.25 | 13.25 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 6.95 | 0.99 | 18.19 | 18.19 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 7.94 | 0.99 | 17.50 | 17.50 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 8.93 | 0.99 | 12.12 | 12.12 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 9.93 | 0.99 | 21.03 | 21.03 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 10.92 | 0.99 | 98.50 | 98.50 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 11.91 | 0.99 | 152.74 | 152.74 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 12.90 | 0.99 | 58.65 | 58.65 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 13.90 | 0.99 | 15.32 | 15.32 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 14.89 | 0.99 | 11.92 | 11.92 | |
| (a) | | 1 | ÜXËËËNÍÁ Ö← | 15.88 | 0.99 | 14.03 | 14.03 | |
| Einw. Qk.N_B1 | | (a) | 1 | UZ-0.6: Qk.N_B1 | 0.00 | 0.99 | -6.31 | -6.31 |
| | | (a) | 1 | UZ-0.6: Qk.N_B1 | 0.99 | 0.99 | -0.26 | -0.26 |
| | | (a) | 1 | UZ-0.6: Qk.N_B1 | 1.99 | 0.99 | 11.05 | 11.05 |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 2.98 | 0.99 | 54.34 | 54.34 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 3.97 | 0.99 | 47.45 | 47.45 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 4.96 | 0.99 | 4.93 | 4.93 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 5.96 | 0.99 | -0.87 | -0.87 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 6.95 | 0.99 | -0.33 | -0.33 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 7.94 | 0.99 | -0.38 | -0.38 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 8.93 | 0.99 | -1.03 | -1.03 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 9.93 | 0.99 | 6.09 | 6.09 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 10.92 | 0.99 | 54.49 | 54.49 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 11.91 | 0.99 | 73.86 | 73.86 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 12.90 | 0.99 | 19.14 | 19.14 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 13.90 | 0.99 | -0.36 | -0.36 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 14.89 | 0.99 | -0.66 | -0.66 | |
| | (a) | 1 | UZ-0.6: Qk.N_B1 | 15.88 | 0.99 | -0.20 | -0.20 | |
| | Einw. Qk.N_C1 | (a) | 1 | UZ-0.6: Qk.N_C1 | 0.00 | 0.99 | -11.39 | -11.39 |
| | | (a) | 1 | UZ-0.6: Qk.N_C1 | 0.99 | 0.99 | 13.35 | 13.35 |
| | | (a) | 1 | UZ-0.6: Qk.N_C1 | 1.99 | 0.99 | 16.65 | 16.65 |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 2.98 | 0.99 | 17.76 | 17.76 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 3.97 | 0.99 | 18.38 | 18.38 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 4.96 | 0.99 | 18.53 | 18.53 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 5.96 | 0.99 | 18.39 | 18.39 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 6.95 | 0.99 | 18.20 | 18.20 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 7.94 | 0.99 | 17.89 | 17.89 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 8.93 | 0.99 | 17.71 | 17.71 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 9.93 | 0.99 | 17.58 | 17.58 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 10.92 | 0.99 | 17.58 | 17.58 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 11.91 | 0.99 | 17.62 | 17.62 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 12.90 | 0.99 | 17.61 | 17.61 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 13.90 | 0.99 | 17.58 | 17.58 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 14.89 | 0.99 | 17.58 | 17.58 | |
| (a) | | 1 | UZ-0.6: Qk.N_C1 | 15.88 | 0.99 | 17.44 | 17.44 | |
| Einw. Qk.N_C5 | | (a) | 1 | UZ-0.6: Qk.N_C5 | 0.00 | 0.99 | -0.16 | -0.16 |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|-----------------|----------|----------|---------------------------|---------------------------|
| | (a) 1 | UZ-0.6: Qk.N_C5 | 1.99 | 0.99 | -0.02 | -0.02 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 2.98 | 0.99 | 0.28 | 0.28 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 3.97 | 0.99 | 0.41 | 0.41 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 4.96 | 0.99 | 0.05 | 0.05 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 8.93 | 0.99 | -0.04 | -0.04 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 9.93 | 0.99 | 0.15 | 0.15 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 10.92 | 0.99 | 2.00 | 2.00 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 11.91 | 0.99 | 3.97 | 3.97 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 12.90 | 0.99 | 1.31 | 1.31 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 13.90 | 0.99 | 0.02 | 0.02 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 14.89 | 0.99 | -0.02 | -0.02 |
| | (a) 1 | UZ-0.6: Qk.N_C5 | 15.88 | 0.99 | 0.01 | 0.01 |
| Einw. Qk.N_E1 | (a) 1 | UZ-0.6: Qk.N_E1 | 0.00 | 0.99 | -0.07 | -0.07 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 0.99 | 0.99 | 0.02 | 0.02 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 1.99 | 0.99 | 0.04 | 0.04 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 2.98 | 0.99 | 0.05 | 0.05 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 3.97 | 0.99 | 0.06 | 0.06 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 4.96 | 0.99 | 0.05 | 0.05 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 5.96 | 0.99 | 0.04 | 0.04 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 6.95 | 0.99 | 0.03 | 0.03 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 7.94 | 0.99 | 0.03 | 0.03 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 8.93 | 0.99 | 0.02 | 0.02 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 9.93 | 0.99 | 0.02 | 0.02 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 10.92 | 0.99 | 0.04 | 0.04 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 11.91 | 0.99 | 0.03 | 0.03 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 12.90 | 0.99 | 0.01 | 0.01 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 13.90 | 0.99 | 0.01 | 0.01 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 14.89 | 0.99 | 0.01 | 0.01 |
| | (a) 1 | UZ-0.6: Qk.N_E1 | 15.88 | 0.99 | 0.01 | 0.01 |
| Einw. Qk.N_DA | (a) 1 | UZ-0.6: Qk.N_DA | 0.00 | 0.99 | -3.40 | -3.40 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 0.99 | 0.99 | -0.04 | -0.04 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 1.99 | 0.99 | 10.71 | 10.71 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 2.98 | 0.99 | 41.48 | 41.48 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 3.97 | 0.99 | 30.99 | 30.99 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 4.96 | 0.99 | 2.94 | 2.94 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 5.96 | 0.99 | -0.59 | -0.59 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 6.95 | 0.99 | -0.20 | -0.20 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 7.94 | 0.99 | -0.24 | -0.24 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 8.93 | 0.99 | -0.83 | -0.83 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 9.93 | 0.99 | 2.89 | 2.89 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 10.92 | 0.99 | 38.26 | 38.26 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 11.91 | 0.99 | 72.68 | 72.68 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 12.90 | 0.99 | 22.95 | 22.95 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 14.89 | 0.99 | -0.69 | -0.69 |
| | (a) 1 | UZ-0.6: Qk.N_DA | 15.88 | 0.99 | -0.16 | -0.16 |

(a) aus Pos. 'D-EG - UZ-0.6'

Kombi nati onen

| Ek | (* *EW) | EFÈ€€E Ö← | EFÈ€€E Ö← | EFÈ€€E Ö← |
|----|------------------------|--------------------------|--------------------------|-----------|
| 1 | 1.00*Gk | EFÈ€€E Ö← | | |
| 2 | 1.35*Gk | EFÈ€€E Ö← | +1.05*Qk.N_B1 (3) | |
| | +1.05*Qk.N_C1 (1,3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (3) | |
| | +1.50*Qk.N_DA (1,3) | | | |
| 3 | 1.00*Gk | EFÈ€€E Ö← | +1.05*Qk.N_B1 (1,2,4) | |
| | +1.05*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (1,2,4) | |
| | +1.50*Qk.N_DA (2,4) | | | |
| 4 | 1.35*Gk | EFÈ€€E Ö← | +1.05*Qk.N_B1 (1,3) | |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | |

| Ek | (* *EW) | | |
|----|---------------|---------------|------------------------|
| | (1,3) | (3) | (3) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |
| 5 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (2,4) | (1,2,4) | (1,2,4) |
| | +1.50*Qk.N_DA | | |
| | (2,4) | | |
| 6 | 1.35*Gk | ÉFÈĞİ€ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,3) | (1,3) | (1,3) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |
| 7 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (2,4) | (2,4) | (2,4) |
| | +1.50*Qk.N_DA | | |
| | (2,4) | | |
| 8 | 1.35*Gk | ÉFÈĞİ€ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,3) | (3) | (1,3) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |
| 9 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (2,4) | (1,2,4) | (2,4) |
| | +1.50*Qk.N_DA | | |
| | (2,4) | | |
| 10 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (3) | (1,3) | (1,3) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |
| 11 | 1.35*Gk | ÉFÈĞİ€ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,2,4) | (2,4) | (2,4) |
| | +1.50*Qk.N_DA | | |
| | (2,4) | | |
| 12 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (3) | (1,3) | (3) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |
| 13 | 1.35*Gk | ÉFÈĞİ€ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,2,4) | (2,4) | (1,2,4) |
| 14 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,3) | (1,3) | (1,3) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |
| 15 | 1.35*Gk | ÉFÈĞİ€ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (2,4) | (2,4) | (2,4) |
| | +1.50*Qk.N_DA | | |
| | (2,4) | | |

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| 16 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (3) | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_E1 (3) |
| | +1.50*Qk.N_DA (3) | | |
| 17 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (1,2,4) | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (1,2,4) |
| | +1.50*Qk.N_DA (1,2,4) | | |
| 18 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (3) |
| | +1.50*Qk.N_DA (3) | | |
| 19 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (1,2,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (1,2,4) |
| | +1.50*Qk.N_DA (1,2,4) | | |
| 20 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (3) | +1.05*Qk.N_C5 (1,2,3) | +1.50*Qk.N_E1 (3) |
| | +1.50*Qk.N_DA (2,3) | | |
| 21 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C1 (1,2,4) | +1.05*Qk.N_C5 (4) | +1.50*Qk.N_E1 (1,2,4) |
| | +1.50*Qk.N_DA (1,4) | | |
| 22 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (1,2,3) | +1.50*Qk.N_E1 (2,3) |
| | +1.50*Qk.N_DA (2,3) | | |
| 23 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C1 (1,4) | +1.05*Qk.N_C5 (4) | +1.50*Qk.N_E1 (1,4) |
| | +1.50*Qk.N_DA (1,4) | | |
| 24 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (2,4) |
| | +1.50*Qk.N_DA (2,4) | | |
| 25 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (1,3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (1,3) |
| | +1.50*Qk.N_DA (1,3) | | |
| 26 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.50*Qk.N_C1 (1,2,4) | +1.05*Qk.N_C5 (4) | +1.50*Qk.N_E1 (1,2,4) |
| 27 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |

| Ek | (* *EW) | | |
|----|--------------------------------|--------------------------------|--------------------------------|
| | (3) | (1 , 2 , 3) | (3) |
| | +1.50*Qk.N_DA (2 , 3) | | |
| 28 | 1.00*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2 , 4) |
| | +1.50*Qk.N_C1 (2 , 4) | +1.05*Qk.N_C5 (1 , 2 , 4) | +1.50*Qk.N_E1 (2 , 4) |
| 29 | 1.35*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (1 , 3) |
| | +1.05*Qk.N_C1 (1 , 3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (1 , 3) |
| | +1.50*Qk.N_DA (1 , 3) | | |
| 30 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (2 , 4) |
| | +1.50*Qk.N_C1 (2 , 4) | +1.05*Qk.N_C5 (1 , 2 , 4) | +1.50*Qk.N_E1 (2 , 4) |
| 31 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2 , 3) |
| | +1.50*Qk.N_C1 (2 , 3) | +1.05*Qk.N_C5 (1 , 2 , 3) | +1.50*Qk.N_E1 (2 , 3) |
| 32 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (1 , 4) |
| | +1.50*Qk.N_C1 (1 , 3 , 4) | +1.05*Qk.N_C5 (4) | +1.50*Qk.N_E1 (1 , 3 , 4) |
| 33 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2 , 3) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (1 , 2 , 3) | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2 , 3) | | |
| 34 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1 , 3) |
| | +1.50*Qk.N_C1 (1 , 3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (1 , 3) |
| 35 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2 , 3) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (1 , 2 , 3) | +1.50*Qk.N_E1 (2 , 3) |
| | +1.50*Qk.N_DA (2 , 3) | | |
| 36 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (1 , 4) |
| | +1.50*Qk.N_C1 (1 , 3 , 4) | +1.05*Qk.N_C5 (4) | +1.50*Qk.N_E1 (1 , 4) |
| 37 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (1 , 2) | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2) | | |
| 38 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1 , 3 , 4) |
| | +1.50*Qk.N_C1 (1 , 3 , 4) | +1.05*Qk.N_C5 (3 , 4) | +1.50*Qk.N_E1 (1 , 3 , 4) |
| 39 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (1 , 4) |
| | +1.50*Qk.N_C1 (1 , 4) | +1.05*Qk.N_C5 (4) | +1.50*Qk.N_E1 (1 , 4) |
| 40 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1 , 3 , 4) |
| | +1.05*Qk.N_C1 (1 , 3 , 4) | +1.05*Qk.N_C5 (3 , 4) | +1.50*Qk.N_E1 (1 , 3 , 4) |
| | +1.50*Qk.N_DA (1 , 3 , 4) | | |
| 41 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (2 , 3) |

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (1,2,3) | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2,3) | | |
| 42 | 1.35*Gk | EFÈĞIE Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.50*Qk.N_C1 (1,3,4) | +1.05*Qk.N_C5 (4) | +1.50*Qk.N_E1 (1,3,4) |
| 43 | 1.35*Gk | EFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.50*Qk.N_C1 (1,3,4) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (1,3,4) |
| 44 | 1.00*Gk | EFÈ€€E Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (2) |
| | +1.50*Qk.N_DA (2,4) | | |
| 45 | 1.35*Gk | EFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3) | | |
| 46 | 1.35*Gk | EFÈĞIE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.50*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (2,4) |
| 47 | 1.00*Gk | EFÈĞIE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (1,2,4) | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (2,4) |
| | +1.50*Qk.N_DA (2,4) | | |

Bemessung (GZT)

àfiãÄäæ^ÄÖäæ^~ | b\á^äÄäæäÜäá&à†ä↔&←↔\Á^á'äÄØSÁÓSÁ
1992-1-1:2011-01

Mindestmomente 5.3.2.2(3)

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -50.24 | 0.00 | -76.44 | 0.00 |
| | C | -44.87 | 0.00 | -40.68 | 0.00 |
| | D | -68.34 | 0.00 | -57.15 | 0.00 |

Bi egung

Abs. 6.1

Ñæ↑æbb | ^&ÄfiãÄÑ↔æ&äæä^b*ã | 'ä | ^&

Feld 1

| x [m] | Ek | M _{y,d,o} M _{y,d,u} [kNm] | x/d _o x/d _u | z _o z _u [cm] | A _{s,o} A _{s,u} [cm ²] | A _{s,o,erf} A _{s,u,erf} [cm ²] |
|-------------------|----|---|--------------------------------------|--|--|--|
| (L = 3.62 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 0.71 _e |
| | 1 | - | 0.001 | 78.4 | - | 2.36 _M |
| 0.13 _a | 3 | 0.32 | - | - | - | 0.71 _e |
| | 2 | 4.30 | 0.012 | 78.1 | 0.12 | 2.36 _M |
| 0.99 | 9 | 9.94 | - | - | - | 0.71 _e |
| | 8 | 52.80 | 0.044 | 77.2 | 1.50 | 2.36 _M |
| 2.08* | 9 | 10.19 | - | - | - | - |
| | 8 | 100.70 | 0.064 | 76.5 | 2.88 | 2.88 |
| 2.88 _a | 15 | -50.24 | 0.043 | 77.0 | 1.43 | 2.37 _M |
| | 14 | 37.39 | 0.042 | 76.5 | 1.06 | 2.36 _M |
| 3.62 | 17 | -303.30 | 0.154 | 73.2 | 9.45 | 9.45 |
| | 16 | -145.53 | - | - | - | - |

Feld 2

| | | | | | | |
|-------------------|----|---------|-------|------|------|------|
| (L = 4.25 m) | | | | | | |
| 0.00 | 17 | -303.30 | 0.162 | 71.3 | 9.45 | 9.45 |
| | 16 | -145.53 | - | - | - | - |
| 0.75 _a | 23 | 15.46 | - | - | - | - |

| | x [m] | Ek | V _{Ed} [kN] | γ _{fl} | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|--------|-------------------|----|-------------------------|-----------------|-----------------------------|---------------------------|---|
| Feld 4 | 4.87 | 40 | 1265.97 _R | 45.0 | 1097.09 | - | - |
| | (L = 4.38 m) | | | | | | |
| | 0.00 | 40 | 626.16 _R | 33.5 | 1010.27 | - | - |
| | 1.38 _a | 43 | 150.68 | 18.4 | 658.26 | - | 3.15 _F |
| | 2.14 _v | 45 | 90.57 | 18.4 | 658.26 | 94.08 | 2.32 _M |
| | 3.03 | 8 | 40.83 | 18.4 | 658.26 | 94.08 | 2.32 _M |
| | 3.48 _v | 46 | 36.57 | 18.4 | 659.24 | 67.33 | 2.32 _M |
| | 4.25 _a | 46 | 36.57 _R | 18.4 | 659.24 | - | 2.32 _M |
| | 4.37 | 46 | 36.57 _R | 18.4 | 659.24 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Hinweis

An folgendem Auflager erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|-------|--------------------------------------|
| D | links | Vorzeichenwechsel der Querkraft in d |

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ ↓ |
|---|-------------------------|----------------------------|--------------------------------|-------------------------------|-------------------------------|
| N@piuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo↔ | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |
| 0.63 | 59.13 | 76.25 | 425.00 | 56.67 | 0.63 |
| 0.91 _v | 71.70 | 101.61 | 425.00 | 56.67 | 1.44 |
| 0.99 | 75.46 | 106.94 | 425.00 | 56.67 | 1.61 |
| 1.51 | 46.26 | 60.27 | 425.00 | 56.67 | 0.12 |
| 2.09 _v | -32.04 | 41.86 | 425.00 | 56.67 | - |
| 2.28 | -65.79 | 85.88 | 425.00 | 56.67 | 0.93 |
| 2.33 | -73.72 | 96.20 | 425.00 | 56.67 | 1.26 |

N@piuhwig"4

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔
glatt (c=0.20, =0.60, =0.20)

| | | | | | |
|-------------------|---------|--------|--------|-------|------|
| 1.30 | -36.28 | 49.15 | 425.00 | 56.67 | - |
| 1.34 | -51.58 | 69.89 | 425.00 | 56.67 | 0.42 |
| 1.52 _v | -69.24 | 100.43 | 425.00 | 56.67 | 1.40 |
| 2.74 _v | -182.11 | 264.56 | 425.00 | 56.67 | 6.64 |
| 2.95 | -197.18 | 286.44 | 425.00 | 56.67 | 7.34 |

N@piuhwig"5

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔
glatt (c=0.20, =0.60, =0.20)

| | | | | | |
|-------------------|--------|--------|--------|-------|-------|
| 1.30 | 275.38 | 399.45 | 425.00 | 56.67 | 10.95 |
| 1.52 _v | 261.42 | 379.19 | 425.00 | 56.67 | 10.30 |
| 2.95 | 126.81 | 183.94 | 425.00 | 56.67 | 4.07 |

N@piuhwig"6

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔
glatt (c=0.20, =0.60, =0.20)

| | | | | | |
|-------------------|--------|--------|--------|-------|------|
| 1.93 | 106.84 | 155.21 | 425.00 | 56.67 | 3.15 |
| 2.14 _v | 90.57 | 120.57 | 425.00 | 56.67 | 2.04 |
| 2.97 | 43.79 | 57.70 | 425.00 | 56.67 | 0.03 |
| 3.48 _v | -36.57 | 48.62 | 425.00 | 56.67 | - |

| x [m] | V_{ed} [kN] | V_{edi} [kN/m] | $V_{rdi,max}$ [kN/m] | $V_{rdi,ct}$ [kN/m] | $a_{sw,erf}$ Y' ↑ ∇ D ↑ Y |
|------------|------------------|---------------------|-------------------------|------------------------|-------------------------------------|
| 3.58 | -44.23 | 58.75 | 425.00 | 56.67 | 0.07 |
| 3.76 | -59.37 | 78.70 | 425.00 | 56.67 | 0.70 |

Anschluss der Gurte

| Feld | Ek | xA [m] | xE [m] | #R [kNm] | #Oc [kN] | Anteil je Gurt | #Od [kN] |
|------|----|-----------|-----------|-------------|-------------|--------------------|-------------|
| 1 | 1 | 0.00 | 1.00 | 25.2 | 32.6 | 0.00 ^D | 0.0 |
| | 1 | 1.99 | 2.42 | 10.5 | 13.7 | 0.00 ^D | 0.0 |
| | 1 | 2.84 | 3.23 | 56.0 | 73.7 | -0.12 ^Z | -18.4 |
| 2 | 1 | 3.63 | 3.90 | 94.5 | 130.3 | -0.12 ^Z | -32.6 |
| | 1 | 4.17 | 4.53 | 56.8 | 76.3 | 0.00 ^D | 0.0 |
| | 1 | 4.88 | 5.60 | 22.7 | 31.2 | 0.00 ^D | 0.0 |
| | 1 | 6.31 | 7.09 | 85.7 | 116.3 | -0.12 ^Z | -29.1 |
| 3 | 1 | 7.88 | 8.42 | 105.5 | 143.1 | -0.12 ^Z | -35.8 |
| | 1 | 8.97 | 10.01 | 143.7 | 199.8 | 0.00 ^D | 0.0 |
| | 1 | 11.05 | 11.64 | 51.3 | 80.2 | 0.00 ^D | 0.0 |
| | 1 | 12.22 | 12.49 | 134.9 | 186.4 | -0.12 ^Z | -46.6 |
| 4 | 1 | 12.75 | 13.94 | 232.5 | 359.9 | -0.12 ^Z | -90.0 |
| | 1 | 15.12 | 15.63 | 14.4 | 19.2 | 0.00 ^D | 0.0 |
| | 1 | 16.13 | 16.63 | 5.2 | 7.0 | 0.00 ^D | 0.0 |

D: Druckgurt: Anteil einer Gurtbreite an beff

Z: Zuggurt: Anteil aus ausgelagerter Bewehrung

Querbewehrung

| Feld | Ek | xA [m] | xE [m] | vEd [N/mm ²] | vRd,max [N/mm ²] | asf,erf [cm ² /m] |
|------|----|-----------|-----------|-----------------------------|---------------------------------|---------------------------------|
| 1 | 1 | 0.00 | 1.00 | 0.000 | 0.000 | 0.00 |
| | | 1.99 | 2.42 | 0.000 | 0.000 | 0.00 |
| | | 2.84 | 3.23 | 0.000 | 0.000 | 0.00 |
| 2 | | 3.63 | 3.90 | 0.000 | 0.000 | 0.00 |
| | | 4.17 | 4.53 | 0.000 | 0.000 | 0.00 |
| | | 4.88 | 5.60 | 0.000 | 0.000 | 0.00 |
| | | 6.31 | 7.09 | 0.000 | 0.000 | 0.00 |
| 3 | | 7.88 | 8.42 | 0.000 | 0.000 | 0.00 |
| | | 8.97 | 10.01 | 0.000 | 0.000 | 0.00 |
| | | 11.05 | 11.64 | 0.000 | 0.000 | 0.00 |
| | | 12.22 | 12.49 | 0.000 | 0.000 | 0.00 |
| 4 | | 12.75 | 13.94 | 0.000 | 0.000 | 0.00 |
| | | 15.12 | 15.63 | 0.000 | 0.000 | 0.00 |
| | | 16.13 | 16.63 | 0.000 | 0.000 | 0.00 |

$\mathbb{E} \leftrightarrow \mathfrak{x} \hat{A} T \mid \mathfrak{x} \tilde{a} \hat{a} \mathfrak{x} \mid \mathfrak{x} \hat{a} \tilde{a} \mid \wedge \hat{A} \leftrightarrow b \setminus \hat{A} \downarrow \mathfrak{x} \mid \mathfrak{x} \leftrightarrow b \hat{A} \sim \mid \tilde{a} \hat{A} \dot{\vdash} \rightarrow \hat{a} \setminus \mathfrak{x} \hat{A} \sim \hat{a} \mathfrak{x} \hat{A} \mid \wedge \hat{a} \hat{A}$
 unten in die Platte einzulegen. Die Bewehrung aus
 $T \mid \mathfrak{x} \hat{a} \tilde{a} \leftrightarrow \mathfrak{x} \hat{a} \mid \wedge \hat{A} \hat{a} \hat{a} \hat{a} \hat{a} \hat{A} \& \mathfrak{x} \uparrow \mathfrak{B} \hat{A} \mathbb{N} \mathbb{E} \mathbb{G} \mathbb{E} \mathbb{H} \mathbb{C} \mathbb{I} \mathbb{D} \hat{A} \hat{a} \wedge \& \mathfrak{x} \hat{a} \mathfrak{x} \hat{a} \setminus \hat{a} \mathfrak{x} \setminus \hat{A}$ werden.

Bewehrungswahl

untere

$$Q \nmid \wedge \{ \text{æ} \} \text{ã} \mid \wedge$$

| Feld | gew. | As [cm ²] | a [m] | l [m] | lbd,l [m] | lbd,r [m] | Lage |
|------|------|--------------------------|----------|----------|-------------------|-------------------|------|
| 1 | 6ã38 | 8.04 | -0.13 | 17.38 | 0.14 ^h | 0.14 ^h | 1 |
| 2 | 6ã38 | 8.04 | 3.50 | 7.00 | 0.61 | 0.61 | 2 |

CO‡^&æ^Á↔^↔ÈÄÜæãä^←æã| ^&b‡‡^&æ^ÊÁ~â^æÁU\=ßæD

h: gesonderte Verankerungsform erforderlich

$$\sim \hat{a} \tilde{a} \hat{A} Q \pm \wedge \& \hat{b} \hat{a} \tilde{a} \} \tilde{a} \hat{a} \tilde{a} \mid \wedge \&$$

| Feld | gew. | As [cm ²] | a [m] | l [m] | lbd,l [m] | lbd,r [m] | Lage |
|------|------|--------------------------|----------|----------|-------------------|-------------------|------|
| 1 | 6~42 | 12.57 | -0.13 | 17.38 | 0.23 ^h | 0.23 ^h | 1 |
| 3 | 5~42 | 9.42 | 2.88 | 6.38 | 0.76 | 0.23 | 2 |

CO‡^&æ^Á↔^↔ÈÄÜæãä^←æã| ^&b‡‡^&æ^ÊÁ~â^æÁU\=ßæD

h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:160

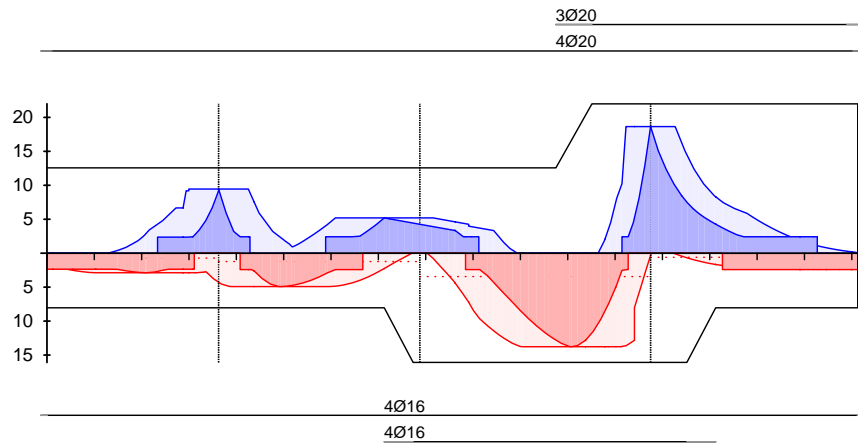
As

[cm²/m]

oben

Lage 2:

Lage 1:



Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|----------------|---|
| 1 | 0.00 | 3.62 | ã: | 20.0 | 2 | 5.03 |
| 2 | 0.00 | 4.25 | ã: | 10.0 | 2 | 10.05 |
| 3 | 0.00 | 4.88 | ã: | 7.5 | 2 | 13.40 |
| 4 | 0.00 | 4.38 | ã: | 20.0 | 2 | 5.03 |

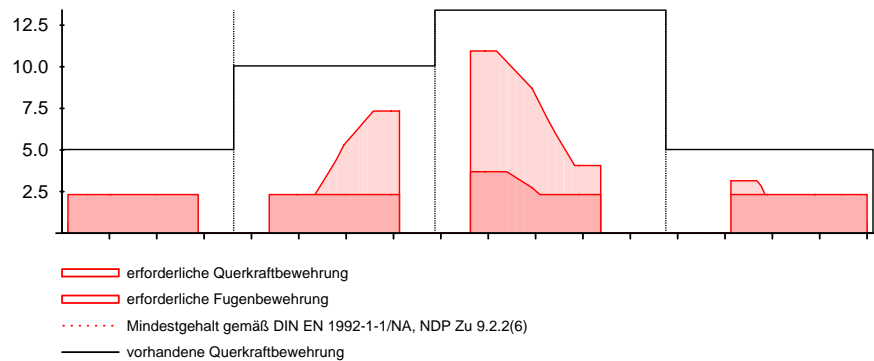
Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 1.99 | 0 | 0.0 | - |
| | 1.99 | 2.84 | 0 | 0.0 | - |
| | 2.84 | 3.63 | 0 | 0.0 | - |
| 2 | 3.63 | 4.17 | 0 | 0.0 | - |
| | 4.17 | 4.88 | 0 | 0.0 | - |
| | 4.88 | 6.31 | 0 | 0.0 | - |
| | 6.31 | 7.88 | 0 | 0.0 | - |
| 3 | 7.88 | 8.97 | 0 | 0.0 | - |
| | 8.97 | 11.05 | 0 | 0.0 | - |
| | 11.05 | 12.22 | 0 | 0.0 | - |
| | 12.22 | 12.75 | 0 | 0.0 | - |
| 4 | 12.75 | 15.13 | 0 | 0.0 | - |
| | 15.13 | 16.13 | 0 | 0.0 | - |
| | 16.13 | 17.13 | 0 | 0.0 | - |

Querkraftbewehrung Asw
M 1:160

[cm²/m]



5i Z` U[Yf_f } ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------|------------------|------------------|
| Einw. Gk | | |
| A | 7.97 | 7.97 |
| B | 520.03 | 520.03 |
| C | 247.82 | 247.82 |
| D | 751.14 | 751.14 |
| E | 19.47 | 19.47 |
| Einw. Im | | |
| A | 9.53 | 9.53 |
| B | 221.73 | 221.73 |
| C | 118.81 | 118.81 |
| D | 322.12 | 322.12 |
| E | 12.14 | 12.14 |
| Einw. Qk.N_B1 | | |
| A | -5.55 | 1.44 |
| B | -7.24 | 107.98 |
| C | -4.28 | 36.43 |
| D | -2.42 | 138.39 |
| E | -7.45 | 1.70 |
| Einw. Qk.N_C1 | | |
| A | -5.43 | 3.49 |
| B | -8.90 | 77.57 |
| C | -10.80 | 93.67 |
| D | -5.20 | 96.91 |
| E | -5.02 | 30.18 |
| Einw. Qk.N_C5 | | |
| A | -0.17 | 0.06 |
| B | -0.28 | 0.68 |
| C | -0.12 | 1.09 |
| D | -0.02 | 6.86 |
| E | -0.30 | 0.14 |
| Einw. Qk.N_E1 | | |
| A | -0.05 | 0.00 |
| B | -0.01 | 0.18 |
| C | -0.01 | 0.16 |
| D | -0.01 | 0.11 |
| E | -0.01 | 0.02 |
| Einw. Qk.N_DA | | |
| A | -3.06 | 2.09 |
| B | -5.32 | 79.72 |
| C | -4.37 | 25.59 |
| D | -1.57 | 125.85 |
| E | -5.79 | 2.00 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |

U-260

Schulcampus EWK \

UZ-0.6

Nachweis

Ort

[-]

Querkraft

OK

Fugenbemessung

OK

Bewehrungswahl

OK

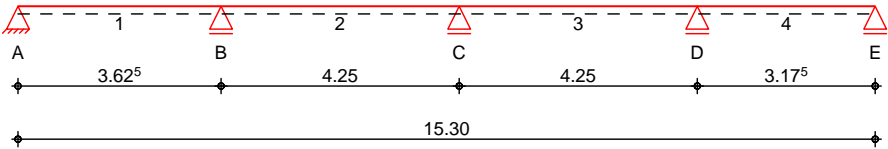
Pos. UZ-0.8

System

M 1 : 135

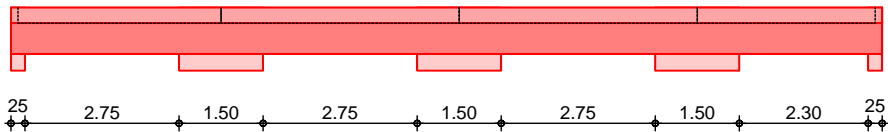
GHU `VYfcb!8 i fW `U Zf}[Yf

Ræåãäæ→ä\ã†&æã
System



M 1 : 135

Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 3.63 | 0.00 | C 30/37 | 25.0/25.0/83.0 |
| 1 | | 3.63 | | |
| 2 | 4.25 | 0.00 | | |
| 2 | | 4.25 | | |
| 3 | 4.25 | 0.00 | | |
| 3 | | 4.25 | | |
| 4 | 3.18 | 0.00 | | |
| 4 | | 3.18 | | |

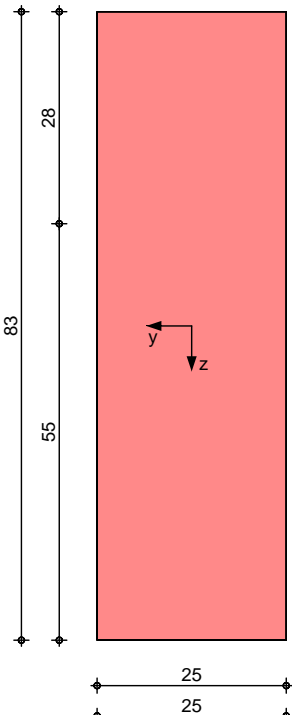
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1 : 10



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 3.63 | 150.0 | Beton | fest |
| C | 7.88 | 150.0 | Beton | fest |
| D | 12.13 | 150.0 | Beton | fest |
| E | 15.30 | 25.0 | Beton | fest |

Q_z & b_a | & æ^{ÄÄÄÄÄÄÄÄÄÄ}

| Feld | Fuge | z_f [cm] | Yfl ^Y | YSD ^{↑↑↑} | Nd ^Y |
|------|-------|---------------|------------------|--------------------|-----------------|
| 1 | glatt | 28.0 | 90 | | 0.00 |
| 2 | glatt | 28.0 | 90 | | 0.00 |
| 3 | glatt | 28.0 | 90 | | 0.00 |
| 4 | glatt | 28.0 | 90 | | 0.00 |

Belastungen

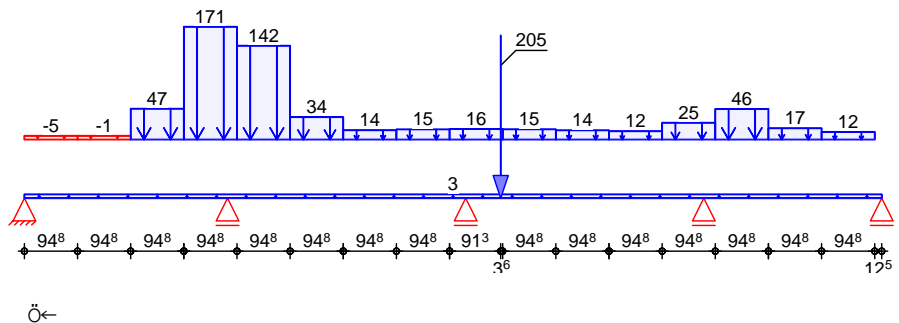
Belastungen auf das System

Grafik

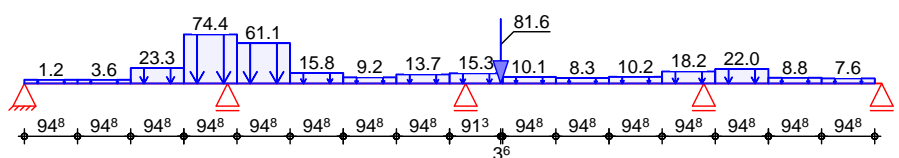
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

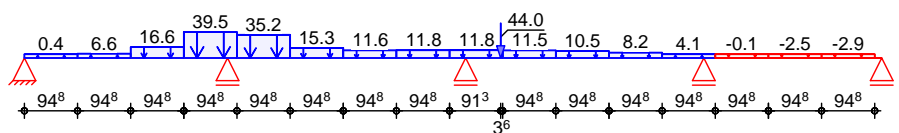
G_k



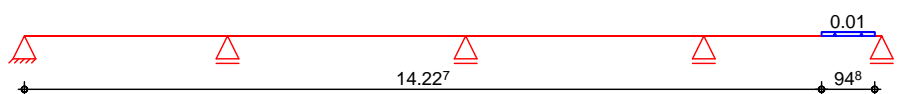
Ö←



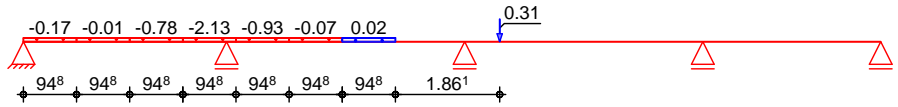
Q_k.N_{B1}



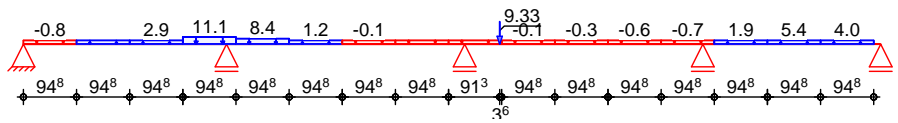
Q_k.N_{C1}



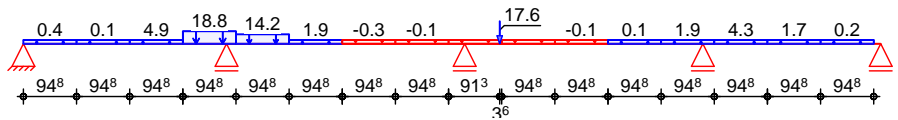
Qk.N_C5



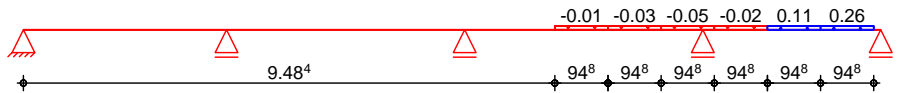
Qk.N_E1



Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|-------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 15.30 | | 3.44 |
| (a) 1 | UZ-0.8: Gk | 0.00 | 0.95 | -5.13 | -5.13 |
| (a) 1 | UZ-0.8: Gk | 0.95 | 0.95 | -0.51 | -0.51 |
| (a) 1 | UZ-0.8: Gk | 1.90 | 0.95 | 46.67 | 46.67 |
| (a) 1 | UZ-0.8: Gk | 2.85 | 0.95 | 170.69 | 170.69 |
| (a) 1 | UZ-0.8: Gk | 3.79 | 0.95 | 141.98 | 141.98 |
| (a) 1 | UZ-0.8: Gk | 4.74 | 0.95 | 33.82 | 33.82 |
| (a) 1 | UZ-0.8: Gk | 5.69 | 0.95 | 13.99 | 13.99 |
| (a) 1 | UZ-0.8: Gk | 6.64 | 0.95 | 15.31 | 15.31 |
| (a) 1 | UZ-0.8: Gk | 7.59 | 0.95 | 15.86 | 15.86 |
| (a) 1 | UZ-0.8: Gk | 8.54 | 0.95 | 15.39 | 15.39 |
| (a) 1 | UZ-0.8: Gk | 9.48 | 0.95 | 13.88 | 13.88 |
| (a) 1 | UZ-0.8: Gk | 10.43 | 0.95 | 12.49 | 12.49 |
| (a) 1 | UZ-0.8: Gk | 11.38 | 0.95 | 25.45 | 25.45 |
| (a) 1 | UZ-0.8: Gk | 12.33 | 0.95 | 46.22 | 46.22 |
| (a) 1 | UZ-0.8: Gk | 13.28 | 0.95 | 16.99 | 16.99 |
| (a) 1 | UZ-0.8: Gk | 14.23 | 0.95 | 11.62 | 11.62 |
| (a) 1 | ÜxËcËfiÄ Ö← | 0.00 | 0.95 | 1.24 | 1.24 |
| (a) 1 | ÜxËcËfiÄ Ö← | 0.95 | 0.95 | 3.55 | 3.55 |
| (a) 1 | ÜxËcËfiÄ Ö← | 1.90 | 0.95 | 23.32 | 23.32 |
| (a) 1 | ÜxËcËfiÄ Ö← | 2.85 | 0.95 | 74.36 | 74.36 |
| (a) 1 | ÜxËcËfiÄ Ö← | 3.79 | 0.95 | 61.12 | 61.12 |
| (a) 1 | ÜxËcËfiÄ Ö← | 4.74 | 0.95 | 15.83 | 15.83 |
| (a) 1 | ÜxËcËfiÄ Ö← | 5.69 | 0.95 | 9.23 | 9.23 |
| (a) 1 | ÜxËcËfiÄ Ö← | 6.64 | 0.95 | 13.65 | 13.65 |
| (a) 1 | ÜxËcËfiÄ Ö← | 7.59 | 0.95 | 15.34 | 15.34 |

Einw. Im

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|------|-------|-----------------|----------|---------------------------|---------------------------|
| | (a) | 1 | ÜxËëËfiÄ Ö← | 8.54 | 0.95 | 10.08 |
| | (a) | 1 | ÜxËëËfiÄ Ö← | 9.48 | 0.95 | 8.29 |
| | (a) | 1 | ÜxËëËfiÄ Ö← | 10.43 | 0.95 | 10.25 |
| | (a) | 1 | ÜxËëËfiÄ Ö← | 11.38 | 0.95 | 18.20 |
| | (a) | 1 | ÜxËëËfiÄ Ö← | 12.33 | 0.95 | 21.97 |
| | (a) | 1 | ÜxËëËfiÄ Ö← | 13.28 | 0.95 | 8.78 |
| | (a) | 1 | ÜxËëËfiÄ Ö← | 14.23 | 0.95 | 7.65 |
| Einw. Qk.N_B1 | (a) | 1 | UZ-0.8: Qk.N_B1 | 0.00 | 0.95 | 0.42 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 0.95 | 0.95 | 6.58 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 1.90 | 0.95 | 16.61 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 2.85 | 0.95 | 39.47 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 3.79 | 0.95 | 35.21 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 4.74 | 0.95 | 15.28 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 5.69 | 0.95 | 11.55 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 6.64 | 0.95 | 11.77 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 7.59 | 0.95 | 11.81 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 8.54 | 0.95 | 11.50 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 9.48 | 0.95 | 10.53 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 10.43 | 0.95 | 8.15 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 11.38 | 0.95 | 4.06 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 12.33 | 0.95 | -0.10 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 13.28 | 0.95 | -2.51 |
| | (a) | 1 | UZ-0.8: Qk.N_B1 | 14.23 | 0.95 | -2.87 |
| Einw. Qk.N_C1 | (a) | 1 | UZ-0.8: Qk.N_C1 | 14.23 | 0.95 | 0.01 |
| Einw. Qk.N_C5 | (a) | 1 | UZ-0.8: Qk.N_C5 | 0.00 | 0.95 | -0.17 |
| | (a) | 1 | UZ-0.8: Qk.N_C5 | 0.95 | 0.95 | -0.01 |
| | (a) | 1 | UZ-0.8: Qk.N_C5 | 1.90 | 0.95 | -0.78 |
| | (a) | 1 | UZ-0.8: Qk.N_C5 | 2.85 | 0.95 | -2.13 |
| | (a) | 1 | UZ-0.8: Qk.N_C5 | 3.79 | 0.95 | -0.93 |
| | (a) | 1 | UZ-0.8: Qk.N_C5 | 4.74 | 0.95 | -0.07 |
| | (a) | 1 | UZ-0.8: Qk.N_C5 | 5.69 | 0.95 | 0.02 |
| Einw. Qk.N_E1 | (a) | 1 | UZ-0.8: Qk.N_E1 | 0.00 | 0.95 | -0.85 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 0.95 | 0.95 | 0.03 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 1.90 | 0.95 | 2.91 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 2.85 | 0.95 | 11.07 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 3.79 | 0.95 | 8.44 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 4.74 | 0.95 | 1.20 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 5.69 | 0.95 | -0.11 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 6.64 | 0.95 | -0.05 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 7.59 | 0.95 | -0.04 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 8.54 | 0.95 | -0.10 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 9.48 | 0.95 | -0.26 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 10.43 | 0.95 | -0.60 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 11.38 | 0.95 | -0.66 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 12.33 | 0.95 | 1.91 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 13.28 | 0.95 | 5.43 |
| | (a) | 1 | UZ-0.8: Qk.N_E1 | 14.23 | 0.95 | 4.01 |
| Einw. Qk.N_DA | (a) | 1 | UZ-0.8: Qk.N_DA | 0.00 | 0.95 | 0.39 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 0.95 | 0.95 | 0.11 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 1.90 | 0.95 | 4.89 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 2.85 | 0.95 | 18.84 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 3.79 | 0.95 | 14.16 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 4.74 | 0.95 | 1.87 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 5.69 | 0.95 | -0.30 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 6.64 | 0.95 | -0.13 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 7.59 | 0.95 | -0.05 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 8.54 | 0.95 | -0.05 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 9.48 | 0.95 | -0.07 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 10.43 | 0.95 | 0.13 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 11.38 | 0.95 | 1.92 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 12.33 | 0.95 | 4.30 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 13.28 | 0.95 | 1.69 |
| | (a) | 1 | UZ-0.8: Qk.N_DA | 14.23 | 0.95 | 0.22 |
| Einw. Qk.N_T2 | (a) | 1 | UZ-0.8: Qk.N_T2 | 9.48 | 0.95 | -0.01 |
| | (a) | 1 | UZ-0.8: Qk.N_T2 | 10.43 | 0.95 | -0.03 |
| | (a) | 1 | UZ-0.8: Qk.N_T2 | 11.38 | 0.95 | -0.05 |

| | Feld | Komm. | a [m] | s [m] | q _{li} [kN/m] | q _{re} [kN/m] |
|-----|------|-----------------|----------|----------|---------------------------|---------------------------|
| (a) | 1 | UZ-0.8: Qk.N_T2 | 12.33 | 0.95 | -0.02 | -0.02 |
| (a) | 1 | UZ-0.8: Qk.N_T2 | 13.28 | 0.95 | 0.11 | 0.11 |
| (a) | 1 | UZ-0.8: Qk.N_T2 | 14.23 | 0.95 | 0.26 | 0.26 |

(a) aus Pos. 'D-EG - UZ-0.8'

Punktlasten in z-Richtung

Einw. Gk
Einw. Im
Einw. Qk.N_B1
Einw. Qk.N_C5
Einw. Qk.N_E1
Einw. Qk.N_DA

Einzellasten

| | Feld | Komm. | a [m] | F _z [kN] |
|-----|------|-----------------|----------|------------------------|
| (a) | 1 | UZ-0.8: Gk | 8.50 | 204.91 |
| (a) | 1 | UZ-0.8: Im | 8.50 | 81.58 |
| (a) | 1 | UZ-0.8: Qk.N_B1 | 8.50 | 43.98 |
| (a) | 1 | UZ-0.8: Qk.N_C5 | 8.50 | 0.31 |
| (a) | 1 | UZ-0.8: Qk.N_E1 | 8.50 | 9.33 |
| (a) | 1 | UZ-0.8: Qk.N_DA | 8.50 | 17.62 |

(a) aus Pos. 'D-EG - UZ-0.8'

Kombinationen

b\+^ä↔&D{~äfiäæã&È

&æ†‡ßÁÆØSÁÓSÁFīīGĖFĖFÁ|^ääÆØSÁÓSÁFīī€

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| 1 | 1.00*Gk | ÉFÈ€€€ Ö← | |
| 2 | 1.35*Gk | ÉFÈĜIE Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3) | |
| 3 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 4 | 1.35*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (3,4) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3) | +1.50*Qk.N_DA (1,3) |
| 5 | 1.00*Gk | ÉFÈĜIE Ö← | +1.50*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 6 | 1.35*Gk | ÉFÈĜIE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3) | +1.50*Qk.N_DA (1,3) |
| 7 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_B1 (3,4) |
| | +1.05*Qk.N_C5 (1,2,3) | +1.50*Qk.N_E1 (3) | |
| 8 | 1.35*Gk | ÉFÈĜIE Ö← | +1.50*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C1 (4) | +1.50*Qk.N_E1 (1,2,4) | +1.20*Qk.N_T2 (3,4) |
| 9 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3) | +1.50*Qk.N_DA (1,3) |
| 10 | 1.35*Gk | ÉFÈĜIE Ö← | +1.50*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 11 | 1.35*Gk | ÉFÈĜIE Ö← | +1.05*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C1 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |

| Ek | (* *EW) | | |
|----|--------------------------|------------------------|--------------------------|
| | (4) | (1,2,4) | (1,2,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 12 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (3,4) |
| | +1.50*Qk.N_C5 (1,2,3) | +1.50*Qk.N_E1 (3) | |
| 13 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,3,4) |
| | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_E1 (2,3) | +1.50*Qk.N_DA (2,3) |
| 14 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,4) |
| | +1.50*Qk.N_DA (1,4) | +1.20*Qk.N_T2 (3,4) | |
| 15 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (2,3,4) |
| | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_E1 (2,3) | +1.50*Qk.N_DA (2,3) |
| 16 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,4) |
| | +1.50*Qk.N_DA (1,4) | +1.20*Qk.N_T2 (3,4) | |
| 17 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3) | |
| 18 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (1,2) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (1,4) |
| | +1.20*Qk.N_T2 (3,4) | | |
| 19 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (3,4) |
| | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_E1 (2,3) | +1.50*Qk.N_DA (2,3) |
| 20 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (2,3,4) |
| | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_E1 (2,3) | |
| 21 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (3,4) |
| | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_E1 (2,3) | |
| 22 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3,4) | +1.20*Qk.N_T2 (3,4) | |
| 23 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2) | |
| 24 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3,4) | +1.20*Qk.N_T2 (3,4) | |
| 25 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (2,4) |

| Ek | (* *EW) | | |
|----|--------------------------|------------------------|--------------------------|
| | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2) | |
| 26 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (2,3,4) |
| | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2) | |
| 27 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3,4) | +1.20*Qk.N_T2 (3,4) | |
| 28 | 1.00*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (2,3,4) |
| | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2) | |
| 29 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3,4) | +1.20*Qk.N_T2 (3,4) | |
| 30 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2,4) |
| | +1.50*Qk.N_DA (2,4) | +1.20*Qk.N_T2 (3,4) | |
| 31 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2) | +1.20*Qk.N_T2 (3) |
| 32 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3,4) |
| | +1.20*Qk.N_T2 (4) | | |
| 33 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1) | |
| 34 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2,3,4) |
| | +1.50*Qk.N_DA (2,4) | +1.20*Qk.N_T2 (3,4) | |
| 35 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 (2,3,4) |
| | +1.05*Qk.N_C5 (1) | +1.50*Qk.N_E1 (2) | |
| 36 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,4) | +1.20*Qk.N_T2 (3,4) | |
| 37 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1) |
| | +1.05*Qk.N_C1 (4) | +1.05*Qk.N_C5 (2,3) | +1.50*Qk.N_E1 (1,3,4) |
| | +1.50*Qk.N_DA (1,3,4) | +1.20*Qk.N_T2 (3,4) | |
| 38 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| | (4) | (2,3) | (1,3,4) |
| | +1.50*Qk.N_DA | +1.20*Qk.N_T2 | |
| | (1,3,4) | (4) | |
| 39 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 |
| | | | (2) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (4) | (1) | (2,4) |
| | +1.50*Qk.N_DA | +1.20*Qk.N_T2 | |
| | (2,4) | (3,4) | |
| 40 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 |
| | | | (2,4) |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | (1) | (2) | (2,4) |
| | +1.20*Qk.N_T2 | | |
| | (3) | | |
| 41 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 |
| | | | (1,3,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (4) | (2,3) | (1,3) |
| | +1.20*Qk.N_T2 | | |
| | (4) | | |
| 42 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 |
| | | | (2) |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | (1) | (2,4) | (2,4) |
| | +1.20*Qk.N_T2 | | |
| | (3) | | |
| 43 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_B1 |
| | | | (1,3,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (4) | (2,3) | (1,3) |
| 44 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 |
| | | | (2) |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | (1) | (2,4) | (2,4) |
| | +1.20*Qk.N_T2 | | |
| | (3,4) | | |
| 45 | 1.35*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 |
| | | | (3,4) |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | (1,3) | (2,3) | (2,3) |
| 46 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_B1 |
| | | | (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (4) | (2,3) | (1,3) |
| | +1.20*Qk.N_T2 | | |
| | (4) | | |

Bemessung (GZT)

àfiãÄäæ^ÁÖäæ^~|b\á^äÄäæäÁÜäá&à†ä↔&←æ↔\Á^á´äÁÆØSÁÓSÁ
1992-1-1:2011-01

Mindestmomente 5.3.2.2(3)

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -33.36 | 0.00 | -42.44 | 0.00 |
| | C | -28.10 | 0.00 | -21.39 | 0.00 |
| | D | -20.37 | 0.00 | -24.21 | 0.00 |

Biegung

Abs. 6.1

Feld 1

| x | E_k | $M_{y,d,o}$ $M_{y,d,u}$ | x/d_o x/d_u | z_o z_u | $A_{s,o}$ $A_{s,u}$ | $A_{s,o,erf}$ $A_{s,u,erf}$ |
|------------------------|-------|----------------------------|--------------------|----------------|------------------------|--------------------------------|
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| $(L = 3.62 \text{ m})$ | | | | | | |
| 0.00 | 1 | - | - | - | - | 0.55 _e |
| | 1 | - | 0.001 | 78.5 | - | 2.36 _M |
| 0.13 _a | 3 | 1.25 | - | - | - | 0.55 _e |
| | 2 | 5.42 | 0.013 | 78.1 | 0.15 | 2.36 _M |
| 0.95 | 3 | 9.70 | - | - | - | 0.55 _e |
| | 2 | 41.59 | 0.039 | 77.4 | 1.18 | 2.36 _M |
| 2.11* | 3 | 16.13 | - | - | - | - |
| | 2 | 78.18 | 0.055 | 76.9 | 2.23 | 2.36 _M |
| 2.88 _a | 3 | -33.36 | 0.034 | 77.5 | 0.94 | 2.36 _M |
| | 6 | 40.76 | 0.041 | 77.0 | 1.15 | 2.36 _M |
| 3.62 | 8 | -195.66 | 0.102 | 75.2 | 5.70 | 5.70 |
| | 7 | -97.22 | - | - | - | - |

Feld 2

| | | | | | | |
|------------------------|----|---------|-------|------|------|-------------------|
| $(L = 4.25 \text{ m})$ | | | | | | |
| 0.00 | 8 | -195.66 | 0.102 | 75.2 | 5.70 | 5.70 |
| | 7 | -97.22 | - | - | - | - |
| 0.75 _a | 16 | 1.24 | - | - | - | - |
| | 15 | 45.91 | 0.041 | 77.4 | 1.30 | 2.36 _M |
| 1.47* | 17 | 20.37 | - | - | - | - |
| | 10 | 85.01 | 0.058 | 76.9 | 2.42 | 2.42 |
| 3.50 _a | 21 | -103.05 | 0.065 | 76.5 | 2.95 | 2.95 |
| | 18 | -49.60 | - | - | - | 0.61 _f |
| 4.25 | 20 | -225.80 | 0.114 | 74.7 | 6.62 | 6.62 |
| | 16 | -117.87 | - | - | - | - |

Feld 3

| | | | | | | |
|------------------------|----|---------|-------|------|------|-------------------|
| $(L = 4.25 \text{ m})$ | | | | | | |
| 0.00 | 20 | -225.80 | 0.114 | 74.7 | 6.62 | 6.62 |
| | 16 | -117.87 | - | - | - | - |
| 0.75 _a | 25 | 51.04 | - | - | - | - |
| | 24 | 128.83 | 0.075 | 76.3 | 3.70 | 3.70 |
| 1.12* | 3 | 54.48 | - | - | - | - |
| | 2 | 132.14 | 0.077 | 76.2 | 3.80 | 3.80 |
| 3.50 _a | 37 | -21.87 | 0.027 | 77.7 | 0.62 | 2.36 _M |
| | 35 | -8.21 | - | - | - | 0.95 _f |
| 4.25 | 32 | -29.70 | 0.032 | 77.5 | 0.84 | 2.36 _M |
| | 31 | -29.70 | - | - | - | - |

Feld 4

| | | | | | | |
|------------------------|----|--------|-------|------|------|-------------------|
| $(L = 3.18 \text{ m})$ | | | | | | |
| 0.00 | 32 | -29.70 | 0.032 | 77.5 | 0.84 | 2.36 _M |
| | 31 | -29.70 | - | - | - | - |
| 0.75 _a | 2 | -37.53 | 0.036 | 77.4 | 1.06 | 2.36 _M |
| | 30 | -5.09 | - | - | - | 0.59 _f |
| 0.84 | 2 | -31.15 | 0.033 | 77.5 | 0.88 | 2.36 _M |
| | 30 | - | - | - | - | 2.36 _M |
| 1.94* | 17 | 1.92 | - | - | - | - |
| | 39 | 30.39 | 0.033 | 77.6 | 0.86 | 2.36 _M |
| 3.05 _a | 17 | 1.37 | - | - | - | 0.21 _e |
| | 39 | 5.45 | 0.013 | 78.1 | 0.15 | 2.36 _M |
| 3.17 | 1 | - | - | - | - | 0.21 _e |
| | 1 | - | 0.001 | 78.5 | - | 2.36 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

f: { $\alpha \rightarrow t^{\wedge} \alpha \alpha \backslash \alpha \hat{O} \alpha \rightarrow \alpha \alpha \}$ $\hat{E} \hat{A}^{\wedge} \hat{a}^{\wedge} \hat{A} \hat{N} \hat{a} \hat{b} \hat{E} \hat{A} \hat{I} \hat{E} \hat{G} \hat{F} \hat{E} \hat{H} \hat{C} \hat{F} \hat{D} \hat{E} \hat{A} \hat{I} \hat{E} \hat{G} \hat{F} \hat{E} \hat{G} \hat{C} \hat{F} \hat{D}$

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Feld 1

| x | E_k | V_{Ed} | $y_{fl} \ddot{y}$ | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|------------------------|-------|----------|-------------------|--------------|------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| $(L = 3.62 \text{ m})$ | | | | | | |
| 0.00 | 2 | 43.29 | 18.4 | 675.59 | - | - |
| 0.13 _a | 2 | 43.44 | 18.4 | 675.59 | - | 2.32 _M |
| 0.91 _v | 2 | 44.41 | 18.4 | 675.59 | 56.65 | 2.32 _M |

| | x [m] | Ek | V _{Ed} [kN] | γ _{fl} Ÿ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|--------|-------------------|----|-------------------------|-------------------|-----------------------------|---------------------------|---|
| Feld 2 | 0.95 | 2 | 44.43 | 18.4 | 675.59 | 56.65 | 2.32 _M |
| | 2.09 _v | 5 | 10.48 | 18.4 | 675.59 | 56.65 | 2.32 _M |
| | 2.11 | 5 | 10.48 _R | 18.4 | 675.59 | - | 2.32 _M |
| | 2.88 _a | 7 | 60.85 _R | 18.4 | 675.59 | - | 2.32 _M |
| | 3.62 | 12 | 245.23 _R | 21.1 | 756.02 | - | - |
| | (L = 4.25 m) | | | | | | |
| | 0.00 | 7 | 239.23 _R | 20.6 | 739.59 | - | - |
| | 0.76 _a | 7 | 78.20 _R | 18.4 | 675.59 | - | 2.32 _M |
| | 1.47 | 45 | 20.15 _R | 18.4 | 675.59 | - | 2.32 _M |
| | 1.54 _v | 19 | 25.36 | 18.4 | 675.59 | 56.65 | 2.32 _M |
| Feld 3 | 2.72 _v | 20 | 102.53 | 18.4 | 675.59 | 56.65 | 2.83 _F |
| | 3.50 _a | 20 | 102.53 _R | 18.4 | 674.73 | - | 3.39 _F |
| | 4.25 | 20 | 102.53 _R | 18.4 | 674.73 | - | - |
| | (L = 4.25 m) | | | | | | |
| | 0.00 | 20 | 131.56 _R | 18.4 | 674.73 | - | - |
| | 0.76 _a | 26 | 31.62 | 18.4 | 675.59 | - | 2.32 _M |
| | 1.12 | 29 | 12.42 _R | 18.4 | 675.59 | - | 2.32 _M |
| Feld 4 | 1.54 | 24 | 28.50 | 18.4 | 675.59 | 56.65 | 2.32 _M |
| | 2.72 _v | 32 | 83.85 | 18.4 | 675.59 | 56.65 | 2.32 _M |
| | 3.50 _a | 32 | 83.85 _R | 18.4 | 674.73 | - | 2.48 _F |
| | 4.25 | 32 | 83.85 _R | 18.4 | 674.73 | - | - |
| | (L = 3.18 m) | | | | | | |
| | 0.00 | 38 | 30.25 _R | 18.4 | 674.73 | - | - |
| | 0.76 _a | 38 | 30.25 _R | 18.4 | 674.73 | - | 2.32 _M |
| | 1.54 _v | 32 | 30.25 | 18.4 | 675.59 | 56.65 | 2.32 _M |
| | 1.94 | 46 | 11.98 | 18.4 | 675.59 | 56.65 | 2.32 _M |
| | 2.27 _v | 44 | 14.04 | 18.4 | 675.59 | 56.65 | 2.32 _M |
| | 3.05 _a | 39 | 14.04 _R | 18.4 | 675.59 | - | 2.32 _M |
| | 3.17 | 39 | 14.04 _R | 18.4 | 675.59 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Hinweis

An folgendem Auflager erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| C | rechts | Vorzeichenwechsel der Querkraft in d |

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y'↑¥D↑Ÿ |
|---|-------------------------|----------------------------|--------------------------------|-------------------------------|--------------------------------|
| N@piuhwig"3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} "?"722"Ploo↔ | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |
| Ôæ→äÄFÄÉÄP~^{\ä←\à→†'äæÄ↔↑ÄŠäæä& ä\ÊÄäÄKÄÄ_eff | | | | | |
| 0.63 | 44.07 | 56.74 | 425.00 | 56.67 | 0.00 |
| 0.91 _v | 44.41 | 57.33 | 425.00 | 56.67 | 0.02 |
| 0.95 | 44.46 | 57.41 | 425.00 | 56.67 | 0.02 |
| 2.09 _v | -10.48 | 13.62 | 425.00 | 56.67 | - |
| 2.33 | -39.34 | 51.10 | 425.00 | 56.67 | - |

N@piuhwig"4

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

glatt (c=0.20, =0.60, =0.20)

| | | | | | |
|--|---------|--------|--------|-------|------|
| Ôæ→äÄGÄÉÄP~^{\ä←\à→†'äæÄ↔↑ÄŠäæä& ä\ÊÄäÄKÄÄ_eff | | | | | |
| 1.30 | 23.52 | 30.60 | 425.00 | 56.67 | - |
| 1.54 _v | -25.36 | 32.99 | 425.00 | 56.67 | - |
| 1.83 | -47.73 | 62.04 | 425.00 | 56.67 | 0.17 |
| 2.72 _v | -102.53 | 145.12 | 425.00 | 56.67 | 2.83 |
| 2.95 | -114.97 | 162.93 | 425.00 | 56.67 | 3.39 |

Bewehrungswahl

| untere | Feld | gew. | As [cm ²] | a [m] | l [m] | lbd,l [m] | lbd,r [m] | Lage |
|-------------------------------------|------|------|--------------------------|----------|----------|-------------------|-------------------|------|
| Q _z & b _z ^ | 1 | 5ã36 | 4.62 | -0.13 | 15.55 | 0.14 ^h | 0.14 ^h | 1 |

ÇQ_z & ^Ä ↔ ÆÄÜæää | ^ & b → ^ & æ ^ ÆÄ ~ ä ^ æÄU \ = ßæD
h: gesonderte Verankerungsform erforderlich

| ~âæääÄQ _z & b _z ^ | Feld | gew. | As [cm ²] | a [m] | l [m] | lbd,l [m] | lbd,r [m] | Lage |
|---|------|------|--------------------------|----------|----------|-------------------|-------------------|------|
| | 1 | 6ã38 | 8.04 | -0.13 | 15.55 | 0.18 ^h | 0.18 ^h | 1 |

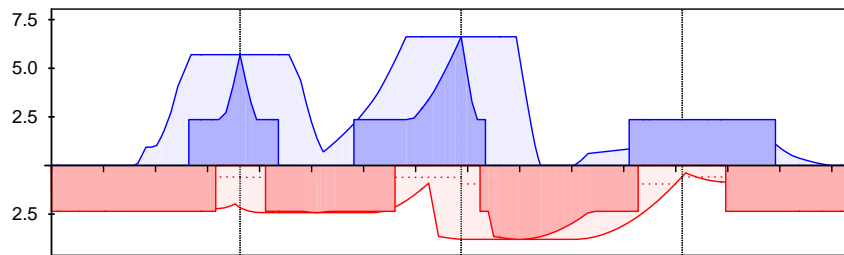
ÇQ_z & ^Ä ↔ ÆÄÜæää | ^ & b → ^ & æ ^ ÆÄ ~ ä ^ æÄU \ = ßæD
h: gesonderte Verankerungsform erforderlich

Längsbewehrung M 1:145 As [cm²]

oben

Lage 1:

4Ø16



unten

Lage 1:

3Ø14

erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung Verankerungslängen

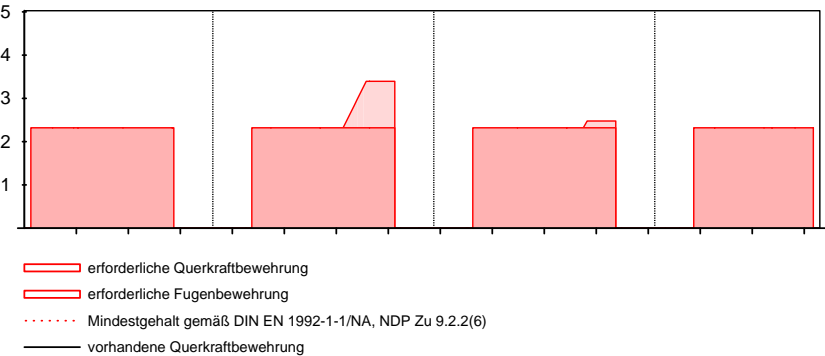
| Querkraftbewehrung | Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | asw [cm ² /m] |
|--------------------|------|-----------------------|-----------------------|------------------------|-----------|--------------|-----------------------------|
| ÇÑfi & æ → D | 1 | 0.00 | 15.30 | ã: | 20.0 | 2 | 5.03 |

Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | asf [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|-----------------------------|
| 1 | 0.00 | 2.09 | 0 | 0.0 | - |
| | 2.09 | 3.01 | 0 | 0.0 | - |
| | 3.01 | 3.63 | 0 | 0.0 | - |
| 2 | 3.63 | 4.21 | 0 | 0.0 | - |
| | 4.21 | 5.00 | 0 | 0.0 | - |
| | 5.00 | 6.25 | 0 | 0.0 | - |
| | 6.25 | 7.88 | 0 | 0.0 | - |
| 3 | 7.88 | 8.28 | 0 | 0.0 | - |
| | 8.28 | 8.90 | 0 | 0.0 | - |
| | 8.90 | 11.18 | 0 | 0.0 | - |
| | 11.18 | 12.13 | 0 | 0.0 | - |
| 4 | 12.13 | 13.19 | 0 | 0.0 | - |
| | 13.19 | 14.20 | 0 | 0.0 | - |
| | 14.20 | 15.30 | 0 | 0.0 | - |

Querkraftbewehrung Asw [cm²/m]
M 1:145



5i Z` U[Yf_f}ZhY

N|à→á&æã←ã‡à\æÁŮã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------|------------------|------------------|
| Einw. Gk | | |
| A | 11.07 | 11.07 |
| B | 348.43 | 348.43 |
| C | 289.88 | 289.88 |
| D | 137.03 | 137.03 |
| E | 16.16 | 16.16 |
| Einw. Im | | |
| A | 7.71 | 7.71 |
| B | 152.47 | 152.47 |
| C | 133.66 | 133.66 |
| D | 67.77 | 67.77 |
| E | 7.22 | 7.22 |
| Einw. Qk.N_B1 | | |
| A | -4.90 | 11.15 |
| B | -7.54 | 103.16 |
| C | -4.47 | 101.16 |
| D | -7.22 | 27.51 |
| E | -7.87 | 1.30 |
| Einw. Qk.N_C1 | | |
| A | 0.00 | 0.00 |
| B | 0.00 | 0.00 |
| C | 0.00 | 0.00 |
| D | 0.00 | 0.00 |
| E | 0.00 | 0.01 |
| Einw. Qk.N_C5 | | |
| A | -0.44 | 0.07 |
| B | -3.55 | 0.00 |
| C | -0.15 | 0.50 |
| D | -0.06 | 0.09 |
| E | -0.02 | 0.01 |
| Einw. Qk.N_E1 | | |
| A | -0.68 | 0.75 |
| B | -0.73 | 21.07 |
| C | -1.66 | 10.04 |
| D | -0.44 | 6.36 |
| E | -0.24 | 5.50 |
| Einw. Qk.N_DA | | |
| A | -1.07 | 2.82 |
| B | -1.57 | 35.58 |
| C | -1.96 | 19.39 |
| D | -0.70 | 9.73 |
| E | -0.77 | 1.62 |
| Einw. Qk.N_T2 | | |
| A | 0.00 | 0.00 |
| B | 0.00 | 0.01 |
| C | -0.04 | 0.00 |
| D | -0.06 | 0.10 |
| E | 0.00 | 0.23 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-0.9

GHU `VYfcb!8 i fW`U Zf}[Yf

Verankerungslänge:

An Auflager B weist die Wand W-0.42 eine Breite von 25 cm auf. Dadurch sind nur maximal 22 cm zum Verankern der unteren und oberen Längsbewehrung vorhanden.

oben:

Es ist eine Verankerung mit Haken für die obere Längsbewehrung erforderlich.

$$l_{b,rqd} = 82 \text{ cm}$$

$$l_{bd} = 0,7 * l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 0,7 * 82 \text{ cm} * 0,88 \text{ cm}^2 / 10,05 \text{ cm}^2 = 5,04 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * 0,7 * l_{b,rqd} = 0,3 * 0,7 * 82 \text{ cm} = \mathbf{17,2 \text{ cm}} \quad 10 \emptyset_l = 16 \text{ cm}$$

-> **$l_{bd} = 17,2 \text{ cm}$**

unten:

$$l_{b,rqd} = 57 \text{ cm}$$

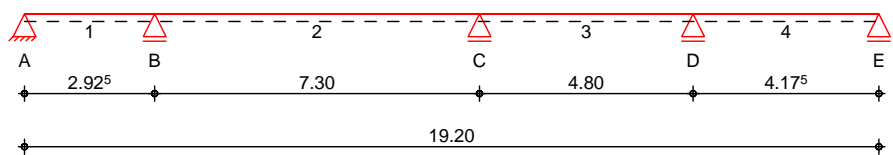
$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 57 \text{ cm} * 2,37 \text{ cm}^2 / 8,04 \text{ cm}^2 = 16,8 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 57 \text{ cm} = \mathbf{17,1 \text{ cm}} \quad 10 \emptyset_l = 16 \text{ cm}$$

-> **$l_{bd} = 17,1 \text{ cm}$**

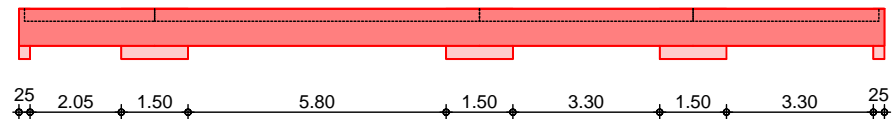
System

M 1 : 170

Ræäääæ→ä\ä†&æä
System


Ansicht

M 1 : 170


Abmessungen
Mat./Querschnitt

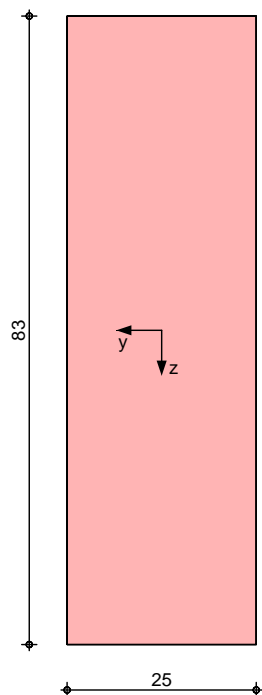
| Feld | l [m] | x [m] | Material | b/h [cm] |
|------|----------|----------|----------|-------------|
| 1 | 2.93 | 0.00 | C 30/37 | 25.0/83.0 |
| 1 | | 2.93 | | |
| 2 | 7.30 | 0.00 | | |
| 2 | | 7.30 | | |
| 3 | 4.80 | 0.00 | | |
| 3 | | 4.80 | | |
| 4 | 4.18 | -0.00 | | |

| Feld | l [m] | x [m] | Material | b/h [cm] |
|------|----------|----------|----------|-------------|
| 4 | | 4.18 | | |

Expositionsklasse XC1

Grafik Querschnittsgrafik

M 1:10



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 2.93 | 150.0 | Beton | fest |
| C | 10.23 | 150.0 | Beton | fest |
| D | 15.03 | 150.0 | Beton | fest |
| E | 19.20 | 25.0 | Beton | fest |

| Feld | Fuge | z_f [cm] | y_{fl} | y_{sd} | N_d |
|------|-------|---------------|----------|----------|-------|
| 1 | glatt | 28.0 | 90 | 0.00 | 0.00 |
| 2 | glatt | 28.0 | 90 | 0.00 | 0.00 |
| 3 | glatt | 28.0 | 90 | 0.00 | 0.00 |
| 4 | glatt | 28.0 | 90 | 0.00 | 0.00 |

Belastungen

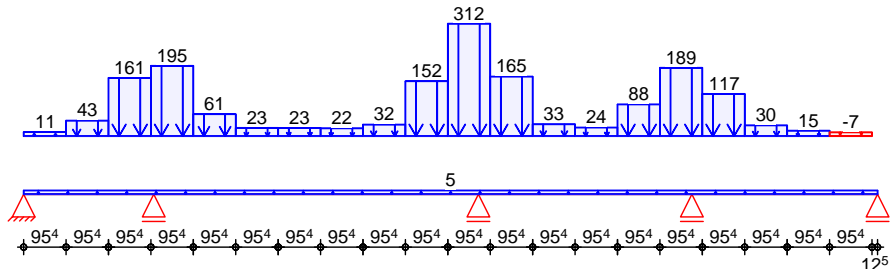
Belastungen auf das System

Grafik

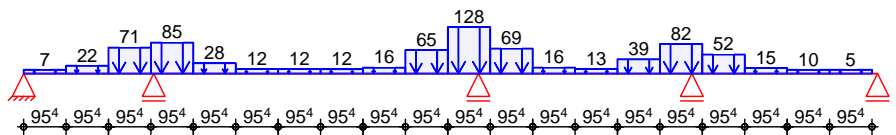
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

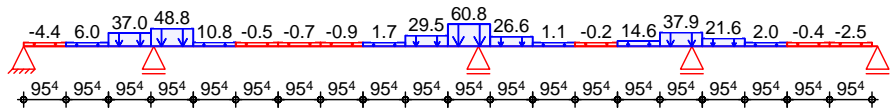
Gk



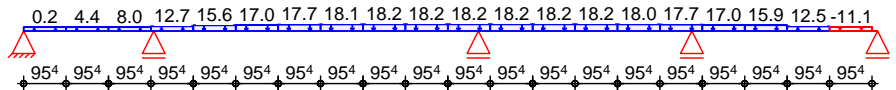
Ö←



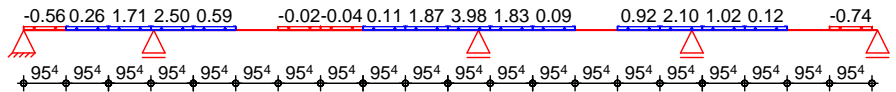
Qk.N_B1



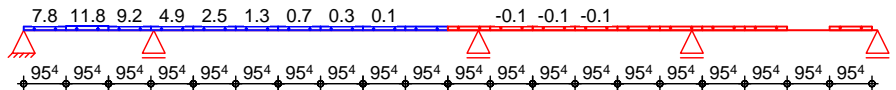
Qk.N_C1



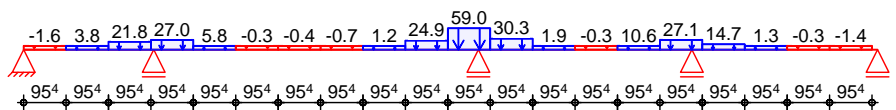
Qk.N_C5



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Trapezlasten

Feld Komm.

| | | a | s | Q _{li} | Q _{re} |
|-----|---|------------|------|-----------------|-----------------|
| | | [m] | [m] | [kN/m] | [kN/m] |
| | 1 | Eigengew | 0.00 | 19.20 | 5.19 |
| (a) | 1 | UZ-0.9: Gk | 0.00 | 0.95 | 11.44 |
| (a) | 1 | UZ-0.9: Gk | 0.95 | 0.95 | 43.03 |
| (a) | 1 | UZ-0.9: Gk | 1.91 | 0.95 | 161.38 |

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Schulcampus EWK \

UZ-0.9

| | | Feld | Komm. | a | s | Q _{li} | Q _{re} | | | |
|-------|---------|-------------|---------|-----------------|-------|-----------------|-----------------|--------|-------|-------|
| | | | | [m] | [m] | [kN/m] | [kN/m] | | | |
| Einw. | Im | (a) | 1 | UZ-0.9: Gk | 2.86 | 0.95 | 194.79 | 194.79 | | |
| | | (a) | 1 | UZ-0.9: Gk | 3.82 | 0.95 | 60.83 | 60.83 | | |
| | | (a) | 1 | UZ-0.9: Gk | 4.77 | 0.95 | 22.98 | 22.98 | | |
| | | (a) | 1 | UZ-0.9: Gk | 5.72 | 0.95 | 22.82 | 22.82 | | |
| | | (a) | 1 | UZ-0.9: Gk | 6.68 | 0.95 | 21.63 | 21.63 | | |
| | | (a) | 1 | UZ-0.9: Gk | 7.63 | 0.95 | 32.03 | 32.03 | | |
| | | (a) | 1 | UZ-0.9: Gk | 8.58 | 0.95 | 152.13 | 152.13 | | |
| | | (a) | 1 | UZ-0.9: Gk | 9.54 | 0.95 | 311.50 | 311.50 | | |
| | | (a) | 1 | UZ-0.9: Gk | 10.49 | 0.95 | 165.00 | 165.00 | | |
| | | (a) | 1 | UZ-0.9: Gk | 11.45 | 0.95 | 32.86 | 32.86 | | |
| | | (a) | 1 | UZ-0.9: Gk | 12.40 | 0.95 | 23.88 | 23.88 | | |
| | | (a) | 1 | UZ-0.9: Gk | 13.35 | 0.95 | 87.83 | 87.83 | | |
| | | (a) | 1 | UZ-0.9: Gk | 14.31 | 0.95 | 189.37 | 189.37 | | |
| | | (a) | 1 | UZ-0.9: Gk | 15.26 | 0.95 | 117.09 | 117.09 | | |
| | | (a) | 1 | UZ-0.9: Gk | 16.21 | 0.95 | 29.78 | 29.78 | | |
| | | (a) | 1 | UZ-0.9: Gk | 17.17 | 0.95 | 15.21 | 15.21 | | |
| | | (a) | 1 | UZ-0.9: Gk | 18.12 | 0.95 | -6.54 | -6.54 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 0.00 | 0.95 | 7.14 | 7.14 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 0.95 | 0.95 | 21.57 | 21.57 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 1.91 | 0.95 | 71.26 | 71.26 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 2.86 | 0.95 | 84.98 | 84.98 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 3.82 | 0.95 | 28.44 | 28.44 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 4.77 | 0.95 | 12.45 | 12.45 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 5.72 | 0.95 | 12.38 | 12.38 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 6.68 | 0.95 | 11.92 | 11.92 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 7.63 | 0.95 | 16.17 | 16.17 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 8.58 | 0.95 | 64.64 | 64.64 | | |
| | | (a) | 1 | ÜxËcèiîÄ Ö← | 9.54 | 0.95 | 127.82 | 127.82 | | |
| (a) | 1 | ÜxËcèiîÄ Ö← | 10.49 | 0.95 | 68.63 | 68.63 | | | | |
| (a) | 1 | ÜxËcèiîÄ Ö← | 11.45 | 0.95 | 16.33 | 16.33 | | | | |
| (a) | 1 | ÜxËcèiîÄ Ö← | 12.40 | 0.95 | 12.87 | 12.87 | | | | |
| (a) | 1 | ÜxËcèiîÄ Ö← | 13.35 | 0.95 | 39.04 | 39.04 | | | | |
| (a) | 1 | ÜxËcèiîÄ Ö← | 14.31 | 0.95 | 81.54 | 81.54 | | | | |
| (a) | 1 | ÜxËcèiîÄ Ö← | 15.26 | 0.95 | 52.25 | 52.25 | | | | |
| (a) | 1 | ÜxËcèiîÄ Ö← | 16.21 | 0.95 | 15.46 | 15.46 | | | | |
| (a) | 1 | ÜxËcèiîÄ Ö← | 17.17 | 0.95 | 9.63 | 9.63 | | | | |
| (a) | 1 | ÜxËcèiîÄ Ö← | 18.12 | 0.95 | 5.05 | 5.05 | | | | |
| Einw. | Qk.N_B1 | (a) | 1 | UZ-0.9: Qk.N_B1 | 0.00 | 0.95 | -4.44 | -4.44 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 0.95 | 0.95 | 5.98 | 5.98 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 1.91 | 0.95 | 36.96 | 36.96 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 2.86 | 0.95 | 48.76 | 48.76 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 3.82 | 0.95 | 10.78 | 10.78 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 4.77 | 0.95 | -0.50 | -0.50 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 5.72 | 0.95 | -0.65 | -0.65 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 6.68 | 0.95 | -0.87 | -0.87 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 7.63 | 0.95 | 1.74 | 1.74 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 8.58 | 0.95 | 29.53 | 29.53 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 9.54 | 0.95 | 60.79 | 60.79 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 10.49 | 0.95 | 26.62 | 26.62 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 11.45 | 0.95 | 1.10 | 1.10 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 12.40 | 0.95 | -0.17 | -0.17 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 13.35 | 0.95 | 14.58 | 14.58 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 14.31 | 0.95 | 37.94 | 37.94 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 15.26 | 0.95 | 21.62 | 21.62 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 16.21 | 0.95 | 2.02 | 2.02 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 17.17 | 0.95 | -0.38 | -0.38 | | |
| | | (a) | 1 | UZ-0.9: Qk.N_B1 | 18.12 | 0.95 | -2.48 | -2.48 | | |
| | | Einw. | Qk.N_C1 | (a) | 1 | UZ-0.9: Qk.N_C1 | 0.00 | 0.95 | 0.17 | 0.17 |
| | | | | (a) | 1 | UZ-0.9: Qk.N_C1 | 0.95 | 0.95 | 4.41 | 4.41 |
| | | | | (a) | 1 | UZ-0.9: Qk.N_C1 | 1.91 | 0.95 | 7.96 | 7.96 |
| | | | | (a) | 1 | UZ-0.9: Qk.N_C1 | 2.86 | 0.95 | 12.69 | 12.69 |
| | | | | (a) | 1 | UZ-0.9: Qk.N_C1 | 3.82 | 0.95 | 15.55 | 15.55 |
| | | | | (a) | 1 | UZ-0.9: Qk.N_C1 | 4.77 | 0.95 | 16.97 | 16.97 |
| | | | | (a) | 1 | UZ-0.9: Qk.N_C1 | 5.72 | 0.95 | 17.70 | 17.70 |
| | | | | (a) | 1 | UZ-0.9: Qk.N_C1 | 6.68 | 0.95 | 18.06 | 18.06 |
| (a) | 1 | | | UZ-0.9: Qk.N_C1 | 7.63 | 0.95 | 18.22 | 18.22 | | |

| | Feld | Komm. | a | s | q _{li} | q _{re} | |
|---------------|---------------|-------|-----------------|-----------------|-----------------|-----------------|--------|
| | | | [m] | [m] | [kN/m] | [kN/m] | |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 8.58 | 0.95 | 18.19 | 18.19 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 9.54 | 0.95 | 18.22 | 18.22 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 10.49 | 0.95 | 18.20 | 18.20 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 11.45 | 0.95 | 18.20 | 18.20 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 12.40 | 0.95 | 18.18 | 18.18 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 13.35 | 0.95 | 18.05 | 18.05 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 14.31 | 0.95 | 17.70 | 17.70 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 15.26 | 0.95 | 17.00 | 17.00 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 16.21 | 0.95 | 15.92 | 15.92 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 17.17 | 0.95 | 12.46 | 12.46 |
| | (a) | 1 | UZ-0.9: Qk.N_C1 | 18.12 | 0.95 | -11.08 | -11.08 |
| | Einw. Qk.N_C5 | (a) | 1 | UZ-0.9: Qk.N_C5 | 0.00 | 0.95 | -0.56 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 0.95 | 0.95 | 0.26 | 0.26 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 1.91 | 0.95 | 1.71 | 1.71 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 2.86 | 0.95 | 2.50 | 2.50 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 3.82 | 0.95 | 0.59 | 0.59 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 5.72 | 0.95 | -0.02 | -0.02 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 6.68 | 0.95 | -0.04 | -0.04 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 7.63 | 0.95 | 0.11 | 0.11 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 8.58 | 0.95 | 1.87 | 1.87 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 9.54 | 0.95 | 3.98 | 3.98 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 10.49 | 0.95 | 1.83 | 1.83 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 11.45 | 0.95 | 0.09 | 0.09 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 13.35 | 0.95 | 0.92 | 0.92 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 14.31 | 0.95 | 2.10 | 2.10 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 15.26 | 0.95 | 1.02 | 1.02 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 16.21 | 0.95 | 0.12 | 0.12 |
| | (a) | 1 | UZ-0.9: Qk.N_C5 | 18.12 | 0.95 | -0.74 | -0.74 |
| Einw. Qk.N_E1 | (a) | 1 | UZ-0.9: Qk.N_E1 | 0.00 | 0.95 | 7.82 | 7.82 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 0.95 | 0.95 | 11.84 | 11.84 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 1.91 | 0.95 | 9.24 | 9.24 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 2.86 | 0.95 | 4.92 | 4.92 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 3.82 | 0.95 | 2.45 | 2.45 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 4.77 | 0.95 | 1.30 | 1.30 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 5.72 | 0.95 | 0.69 | 0.69 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 6.68 | 0.95 | 0.33 | 0.33 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 7.63 | 0.95 | 0.13 | 0.13 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 8.58 | 0.95 | 0.02 | 0.02 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 9.54 | 0.95 | -0.04 | -0.04 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 10.49 | 0.95 | -0.06 | -0.06 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 11.45 | 0.95 | -0.06 | -0.06 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 12.40 | 0.95 | -0.06 | -0.06 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 13.35 | 0.95 | -0.05 | -0.05 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 14.31 | 0.95 | -0.04 | -0.04 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 15.26 | 0.95 | -0.03 | -0.03 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 16.21 | 0.95 | -0.02 | -0.02 |
| | (a) | 1 | UZ-0.9: Qk.N_E1 | 18.12 | 0.95 | -0.04 | -0.04 |
| Einw. Qk.N_DA | (a) | 1 | UZ-0.9: Qk.N_DA | 0.00 | 0.95 | -1.63 | -1.63 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 0.95 | 0.95 | 3.75 | 3.75 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 1.91 | 0.95 | 21.81 | 21.81 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 2.86 | 0.95 | 26.96 | 26.96 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 3.82 | 0.95 | 5.77 | 5.77 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 4.77 | 0.95 | -0.30 | -0.30 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 5.72 | 0.95 | -0.41 | -0.41 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 6.68 | 0.95 | -0.74 | -0.74 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 7.63 | 0.95 | 1.20 | 1.20 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 8.58 | 0.95 | 24.88 | 24.88 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 9.54 | 0.95 | 58.99 | 58.99 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 10.49 | 0.95 | 30.31 | 30.31 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 11.45 | 0.95 | 1.90 | 1.90 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 12.40 | 0.95 | -0.32 | -0.32 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 13.35 | 0.95 | 10.64 | 10.64 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 14.31 | 0.95 | 27.10 | 27.10 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 15.26 | 0.95 | 14.74 | 14.74 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 16.21 | 0.95 | 1.30 | 1.30 |
| | (a) | 1 | UZ-0.9: Qk.N_DA | 17.17 | 0.95 | -0.27 | -0.27 |

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|-----------------|----------|----------|---------------------------|---------------------------|
| (a) 1 | UZ-0.9: Qk.N_DA | 18.12 | 0.95 | -1.38 | -1.38 |

(a) aus Pos. 'D-EG - UZ-0.9'

Kombi nationen

b\+^ä↔&D{~ãfiâæã&È

&æ↑‡ßÁÆØSÁÓSÁFİİĜĖFĖFÁ|^äÁÆØSÁÓSÁFİİ€

Ek (* *EW)

| | | | |
|----|--------------------------|--------------------------|--------------------------|
| 1 | 1.00*Gk | ÉFÈ€€€ Ö← | |
| 2 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (1,3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (1,4) |
| | +1.50*Qk.N_DA (1,3) | | |
| 3 | 1.35*Gk | ÉFÈĜİE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.50*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (2,3) |
| 4 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (1,3) | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_E1 (1,4) |
| | +1.50*Qk.N_DA (1,3) | | |
| 5 | 1.35*Gk | ÉFÈĜİE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.50*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (2,3) |
| 6 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (1,3) | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_E1 (4) |
| | +1.50*Qk.N_DA (1,3) | | |
| 7 | 1.35*Gk | ÉFÈĜİE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.50*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (1,2,3) |
| 8 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (4) |
| | +1.50*Qk.N_DA (3) | | |
| 9 | 1.35*Gk | ÉFÈĜİE Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.05*Qk.N_C1 (1,2,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (1,2,3) |
| | +1.50*Qk.N_DA (1,2,4) | | |
| 10 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,4) |
| | +1.50*Qk.N_DA (3) | | |
| 11 | 1.35*Gk | ÉFÈĜİE Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.50*Qk.N_C1 (1,2,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (1,3) |
| 12 | 1.35*Gk | ÉFÈĜİE Ö← | +1.05*Qk.N_B1 (1,2,4) |
| | +1.50*Qk.N_C1 (1,2,4) | +1.05*Qk.N_C5 (1,2,4) | +1.50*Qk.N_E1 (1,2,3) |
| 13 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |

| Ek | (* *EW) | | |
|----|--------------------------------|--------------------------------|--------------------------------|
| | (3) | (2 , 3) | (2 , 4) |
| | +1.50*Qk.N_DA (2 , 3) | | |
| 14 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1 , 4) |
| | +1.50*Qk.N_C1 (1 , 2 , 4) | +1.05*Qk.N_C5 (1 , 4) | +1.50*Qk.N_E1 (1 , 3) |
| 15 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2 , 3) |
| | +1.05*Qk.N_C1 (3) | +1.05*Qk.N_C5 (2 , 3) | +1.50*Qk.N_E1 (2 , 4) |
| | +1.50*Qk.N_DA (2 , 3) | | |
| 16 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (1 , 4) |
| | +1.05*Qk.N_C1 (1 , 2 , 4) | +1.05*Qk.N_C5 (1 , 4) | +1.50*Qk.N_E1 (1 , 3) |
| | +1.50*Qk.N_DA (1 , 4) | | |
| 17 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2 , 3) |
| | +1.05*Qk.N_C1 (2 , 3) | +1.05*Qk.N_C5 (2 , 3) | +1.50*Qk.N_E1 (2 , 4) |
| | +1.50*Qk.N_DA (2 , 3) | | |
| 18 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (1 , 4) |
| | +1.05*Qk.N_C1 (1 , 4) | +1.05*Qk.N_C5 (1 , 4) | +1.50*Qk.N_E1 (1 , 3) |
| | +1.50*Qk.N_DA (1 , 4) | | |
| 19 | 1.35*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (1 , 2 , 4) |
| | +1.05*Qk.N_C1 (1 , 4) | +1.05*Qk.N_C5 (1 , 2 , 4) | +1.50*Qk.N_E1 (1 , 3) |
| | +1.50*Qk.N_DA (1 , 2 , 4) | | |
| 20 | 1.00*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (2 , 3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2 , 4) |
| | +1.50*Qk.N_DA (3) | | |
| 21 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2 , 3) |
| | +1.50*Qk.N_C1 (2 , 3) | +1.05*Qk.N_C5 (2 , 3) | +1.50*Qk.N_E1 (2 , 4) |
| 22 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1 , 2 , 4) |
| | +1.05*Qk.N_C1 (1 , 2 , 4) | +1.05*Qk.N_C5 (1 , 2 , 4) | +1.50*Qk.N_E1 (1 , 3) |
| | +1.50*Qk.N_DA (1 , 2 , 4) | | |
| 23 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (3) |
| | +1.05*Qk.N_C1 (3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2 , 4) |
| | +1.50*Qk.N_DA (3) | | |
| 24 | 1.00*Gk | ÉFÈÈÈE Ö← | +1.05*Qk.N_B1 (1 , 2 , 4) |
| | +1.05*Qk.N_C1 (1 , 4) | +1.05*Qk.N_C5 (1 , 2 , 4) | +1.50*Qk.N_E1 (1 , 3) |
| | +1.50*Qk.N_DA (1 , 2 , 4) | | |
| 25 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (3) |

| Ek | (* *EW) | | |
|----|--------------------------|--------------------------|--------------------------|
| | +1.05*Qk.N_C1 (2,3) | +1.05*Qk.N_C5 (3) | +1.50*Qk.N_E1 (2,4) |
| | +1.50*Qk.N_DA (3) | | |
| 26 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_E1 (1) |
| | +1.50*Qk.N_DA (1,3,4) | | |
| 27 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2,3,4) |
| | +1.50*Qk.N_DA (2) | | |
| 28 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (2,3) |
| | +1.50*Qk.N_DA (2,4) | | |
| 29 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.05*Qk.N_C1 (1,4) | +1.05*Qk.N_C5 (1,4) | +1.50*Qk.N_E1 (1,3) |
| | +1.50*Qk.N_DA (1,3,4) | | |
| 30 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,3) |
| | +1.05*Qk.N_C1 (1,3) | +1.05*Qk.N_C5 (1,3) | +1.50*Qk.N_E1 (1,4) |
| | +1.50*Qk.N_DA (1,3) | | |
| 31 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2,4) |
| | +1.05*Qk.N_C1 (2,4) | +1.05*Qk.N_C5 (2,4) | +1.50*Qk.N_E1 (2,3) |
| | +1.50*Qk.N_DA (2,4) | | |
| 32 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (2,3) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2,3,4) |
| | +1.50*Qk.N_DA (2) | | |
| 33 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (1,4) |
| | +1.50*Qk.N_C1 (1,3,4) | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_E1 (1) |
| 34 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 (2) |
| | +1.05*Qk.N_C1 (2) | +1.05*Qk.N_C5 (2) | +1.50*Qk.N_E1 (2,3,4) |
| | +1.50*Qk.N_DA (2) | | |
| 35 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.50*Qk.N_C1 (1,3,4) | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_E1 (1) |
| 36 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 (1,3,4) |
| | +1.05*Qk.N_C1 (1,3,4) | +1.05*Qk.N_C5 (1,3,4) | +1.50*Qk.N_E1 (1) |
| | +1.50*Qk.N_DA (1,3,4) | | |
| 37 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 |

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| | | | (2,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (2) | (2,3) | (2,3,4) |
| | +1.50*Qk.N_DA | | |
| | (2,3) | | |
| 38 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 |
| | | | (1,4) |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,3,4) | (1,4) | (1) |
| 39 | 1.00*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 |
| | | | (2,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (2,4) | (2,4) | (2,3) |
| | +1.50*Qk.N_DA | | |
| | (2,4) | | |
| 40 | 1.35*Gk | ÉFÈ€€E Ö← | +1.05*Qk.N_B1 |
| | | | (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,3) | (1,3) | (1,4) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |
| 41 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 |
| | | | (1,3) |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,3,4) | (1,3) | (1) |
| 42 | 1.00*Gk | ÉFÈ€€E Ö← | +1.05*Qk.N_B1 |
| | | | (2,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (2) | (2,4) | (2,3,4) |
| | +1.50*Qk.N_DA | | |
| | (2,4) | | |
| 43 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 |
| | | | (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,3) | (1,3) | (1) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |
| 44 | 1.00*Gk | ÉFÈ€€E Ö← | +1.05*Qk.N_B1 |
| | | | (2,4) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (2,4) | (2,4) | (2,3,4) |
| | +1.50*Qk.N_DA | | |
| | (2,4) | | |
| 45 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 |
| | | | (2,4) |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (2,4) | (2) | (2,3) |
| 46 | 1.00*Gk | ÉFÈ€€E Ö← | +1.05*Qk.N_B1 |
| | | | (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,3) | (1,3,4) | (1,4) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |
| 47 | 1.35*Gk | ÉFÈĞİE Ö← | +1.05*Qk.N_B1 |
| | | | (1,3) |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | (1,3,4) | (1,3) | (1) |
| | +1.50*Qk.N_DA | | |
| | (1,3) | | |

Bemessung (GZT)

àfiãÄäæ^ÁÖäæ^~|b\á^äÄäæäÁÜäá&à†â&←æ←\Á^á´äÁÆØSÁÓSÁ
1992-1-1:2011-01

Mindestmomente
5.3.2.2(3)

| Kombinat. | Aufl. | min M1 [kNm] | max M1 [kNm] | min Mr [kNm] | max Mr [kNm] |
|------------|-------|-----------------|-----------------|-----------------|-----------------|
| Grundkomb. | B | -43.04 | 0.00 | -184.44 | 0.00 |
| | C | -218.50 | 0.00 | -77.56 | 0.00 |

U-284

Biegung

Abs. 6.1

Feld 1

| Kombinat. | Aufl. | min Ml [kNm] | max Ml [kNm] | min Mr [kNm] | max Mr [kNm] |
|-----------|-------|-----------------|-----------------|-----------------|-----------------|
| | D | -78.82 | 0.00 | -67.48 | 0.00 |

 $\tilde{x} \uparrow \tilde{a} b b \mid \wedge \& \tilde{A} \tilde{a} f i \tilde{a} \tilde{A} \tilde{N} \leftrightarrow \tilde{a} \& \tilde{a} \tilde{a} \tilde{a} \wedge b * \tilde{a} \mid \tilde{a} \mid \wedge \&$

| x | Ek | $M_{y,d,o}$ $M_{y,d,u}$ | x/d_o x/d_u | z_o z_u | $A_{s,o}$ $A_{s,u}$ | $A_{s,o,erf}$ $A_{s,u,erf}$ |
|-------------------|----|----------------------------|--------------------|----------------|------------------------|--------------------------------|
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 2.92 m) | | | | | | |
| 0.00 | 1 | - | 0.001 | 78.2 | - | 2.37 _M |
| | 1 | - | 0.001 | 76.3 | - | 2.37 _M |
| 0.13 _a | 3 | -7.23 | 0.015 | 77.8 | 0.20 | 2.37 _M |
| | 2 | 3.38 | 0.015 | 75.6 | 0.10 | 2.37 _M |
| 0.97* | 5 | -69.56 | 0.052 | 76.8 | 1.99 | 2.37 _M |
| | 4 | 14.74 | 0.035 | 75.1 | 0.42 | 2.37 _M |
| 2.17 _a | 5 | -251.71 | 0.126 | 74.1 | 7.45 | 7.45 |
| | 4 | -68.75 | - | - | - | 0.59 _f |
| 2.92 | 9 | -189.59 | 0.100 | 75.1 | 5.53 | 5.53 |
| | 8 | -189.59 | - | - | - | - |

Feld 2

| | | | | | | |
|-------------------|----|---------|-------|------|-------|-------------------|
| (L = 7.30 m) | | | | | | |
| 0.00 | 9 | -189.59 | 0.100 | 75.1 | 5.53 | 5.53 |
| | 8 | -189.59 | - | - | - | - |
| 0.75 _a | 11 | -184.44 | 0.098 | 75.2 | 5.38 | 5.38 |
| | 10 | -50.05 | - | - | - | 2.70 _f |
| 3.90* | 4 | 152.87 | - | - | - | - |
| | 5 | 343.44 | 0.182 | 71.2 | 10.78 | 10.78 |
| 6.55 _a | 25 | -218.50 | 0.112 | 74.6 | 6.41 | 6.41 |
| | 24 | -21.63 | - | - | - | 2.70 _f |
| 7.30 | 17 | -218.50 | 0.112 | 74.6 | 6.41 | 6.41 |
| | 18 | -201.76 | - | - | - | - |

Feld 3

| | | | | | | |
|-------------------|----|---------|-------|------|------|-------------------|
| (L = 4.80 m) | | | | | | |
| 0.00 | 17 | -201.76 | 0.105 | 74.9 | 5.90 | 5.90 |
| | 18 | -201.76 | - | - | - | - |
| 0.75 _a | 27 | -281.38 | 0.142 | 73.6 | 8.45 | 8.45 |
| | 26 | -97.28 | - | - | - | 0.94 _f |
| 3.14* | 31 | 17.53 | - | - | - | - |
| | 30 | 130.36 | 0.076 | 76.0 | 3.76 | 3.76 |
| 4.05 _a | 18 | -78.82 | 0.056 | 76.6 | 2.25 | 2.37 _M |
| | 17 | 44.17 | 0.046 | 76.2 | 1.25 | 2.37 _M |
| 4.80 | 36 | -78.82 | 0.056 | 76.6 | 2.25 | 2.37 _M |
| | 34 | -28.23 | - | - | - | - |

Feld 4

| | | | | | | |
|-------------------|----|--------|-------|------|------|-------------------|
| (L = 4.18 m) | | | | | | |
| 0.00 | 36 | -67.48 | 0.051 | 76.8 | 1.93 | 2.37 _M |
| | 34 | -28.23 | - | - | - | - |
| 0.75 _a | 40 | -67.48 | 0.051 | 76.8 | 1.93 | 2.37 _M |
| | 39 | 47.95 | 0.047 | 76.4 | 1.36 | 2.37 _M |
| 1.91* | 4 | 23.79 | - | - | - | - |
| | 5 | 124.95 | 0.074 | 76.0 | 3.60 | 3.60 |
| 3.10 | 46 | 22.54 | - | - | - | 0.89 _e |
| | 45 | 75.24 | 0.054 | 76.7 | 2.15 | 2.37 _M |
| 4.05 _a | 46 | 2.81 | - | - | - | 0.89 _e |
| | 45 | 8.03 | 0.016 | 77.8 | 0.23 | 2.37 _M |
| 4.17 | 1 | - | - | - | - | 0.89 _e |
| | 1 | - | 0.001 | 78.2 | - | 2.37 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

f: { $\tilde{a} \rightarrow \tilde{t} \wedge \& \tilde{a} \backslash \tilde{a} \tilde{O} \tilde{a} \rightarrow \tilde{a} \tilde{a} \tilde{a}$ } $\tilde{E} \tilde{A} \wedge \tilde{a} \tilde{a} \tilde{N} \tilde{a} b \tilde{E} \tilde{A} \tilde{I} \tilde{E} \tilde{G} \tilde{F} \tilde{E} \tilde{H} \tilde{C} \tilde{F} \tilde{D} \tilde{E} \tilde{A} \tilde{I} \tilde{B} \tilde{G} \tilde{F} \tilde{E} \tilde{G} \tilde{C} \tilde{F} \tilde{D}$

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

| | x [m] | Ek | V _{Ed} [kN] | γ _{f1} Ÿ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|--------|-------------------|----|-------------------------|-------------------|-----------------------------|---------------------------|---|
| Feld 1 | (L = 2.92 m) | | | | | | |
| | 0.00 | 3 | 55.89 | 18.4 | 673.01 | - | - |
| | 0.13 _a | 3 | 59.83 | 18.4 | 673.01 | - | 2.32 _M |
| | 0.91 _v | 5 | 84.90 | 18.4 | 673.01 | 73.28 | 2.32 _M |
| | 0.97 | 5 | 88.29 | 18.4 | 673.01 | 73.28 | 2.32 _M |
| | 1.39 _v | 7 | 128.11 | 18.4 | 673.01 | 73.28 | 4.00 _F |
| | 2.18 _a | 9 | 128.11 _R | 18.4 | 673.01 | - | 5.19 _F |
| | 2.92 | 9 | 128.11 _R | 18.4 | 673.01 | - | - |
| Feld 2 | (L = 7.30 m) | | | | | | |
| | 0.00 | 9 | 223.84 _R | 24.6 | 848.66 | - | - |
| | 0.75 _a | 12 | 223.84 _R | 19.0 | 691.38 | - | 10.20 _F |
| | 1.21 | 12 | 223.84 _R | 19.4 | 692.33 | - | 10.20 _F |
| | 1.52 _v | 12 | 223.84 | 19.4 | 692.33 | 77.27 | 8.51 _F |
| | 3.90 | 22 | 12.32 _R | 18.4 | 662.68 | 77.27 | 2.32 _M |
| | 5.78 _v | 21 | 211.96 | 18.4 | 662.68 | 77.27 | 7.96 _F |
| | 6.55 _a | 17 | 211.96 _R | 18.4 | 673.01 | - | 11.61 _F |
| | 7.30 | 17 | 211.96 _R | 45.0 | 1121.68 | - | - |
| Feld 3 | (L = 4.80 m) | | | | | | |
| | 0.00 | 17 | 175.56 _R | 26.4 | 893.48 | - | - |
| | 0.76 _a | 17 | 175.56 _R | 18.4 | 673.01 | - | 7.23 _F |
| | 1.53 _v | 21 | 175.56 | 18.4 | 673.01 | 73.28 | 6.16 _F |
| | 3.14 | 32 | 51.80 _R | 18.4 | 673.01 | 68.03 | 2.32 _M |
| | 3.27 _v | 35 | 38.46 | 18.4 | 673.01 | 68.03 | 2.32 _M |
| | 4.05 _a | 34 | 73.60 _R | 18.4 | 673.01 | - | 2.32 _M |
| | 4.80 | 34 | 276.13 _R | 23.6 | 823.61 | - | - |
| Feld 4 | (L = 4.18 m) | | | | | | |
| | 0.00 | 36 | 58.02 _R | 18.4 | 673.01 | - | - |
| | 0.75 | 36 | 58.02 _R | 18.4 | 673.01 | - | 2.32 _M |
| | 1.53 _v | 41 | 58.02 | 18.4 | 673.01 | 68.03 | 2.32 _M |
| | 1.91 | 47 | 24.57 | 18.4 | 673.01 | 68.03 | 2.32 _M |
| | 3.10 | 5 | 77.57 | 18.4 | 673.01 | 68.03 | 2.32 _M |
| | 3.27 _v | 5 | 75.06 | 18.4 | 673.01 | 68.03 | 2.32 _M |
| | 4.05 _a | 45 | 63.78 | 18.4 | 673.01 | - | 2.32 _M |
| | 4.17 | 45 | 64.66 | 18.4 | 673.01 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Y' ↑ Ÿ ↑ Ÿ |
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|-----------------------------------|
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|-----------------------------------|

N@piuhwig"3

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

glatt (c=0.20, =0.60, =0.20)

Ôæ→äÄFÄËÄP~^\'á←\à→†'äæ^ääæ↔\æÄÄKÄGIEëÄ'↑

| | | | | | |
|-------------------|---------|--------|--------|-------|------|
| 0.63 | -75.92 | 107.87 | 425.00 | 56.67 | 1.64 |
| 0.91 _v | -84.90 | 120.64 | 425.00 | 56.67 | 2.04 |
| 1.39 | -128.11 | 182.03 | 425.00 | 56.67 | 4.00 |
| 1.63 | -154.27 | 219.19 | 425.00 | 56.67 | 5.19 |

N@piuhwig"4

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

glatt (c=0.20, =0.60, =0.20)

Ôæ→äÄGÄËÄP~^\'á←\à→†'äæ^ääæ↔\æÄÄKÄGIEëÄ'↑

| | | | | | |
|-------------------|---------|--------|--------|-------|-------|
| 1.30 | 260.45 | 375.84 | 425.00 | 56.67 | 10.20 |
| 1.52 _v | 223.84 | 322.99 | 425.00 | 56.67 | 8.51 |
| 3.43 | 43.32 | 60.73 | 425.00 | 56.67 | 0.13 |
| 4.39 | -49.71 | 69.68 | 425.00 | 56.67 | 0.42 |
| 5.78 _v | -211.96 | 305.86 | 425.00 | 56.67 | 7.96 |
| 6.00 | -291.15 | 420.12 | 425.00 | 56.67 | 11.61 |

N@piuhwig"5

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 2.92 | ã32 | 20.0 | 2 | 7.85 |
| 2 | 0.00 | 7.30 | ã32 | 12.5 | 2 | 12.57 |
| 3 | 0.00 | 4.80 | ã32 | 20.0 | 2 | 7.85 |
| 4 | 0.00 | 4.18 | ã32 | 20.0 | 2 | 7.85 |

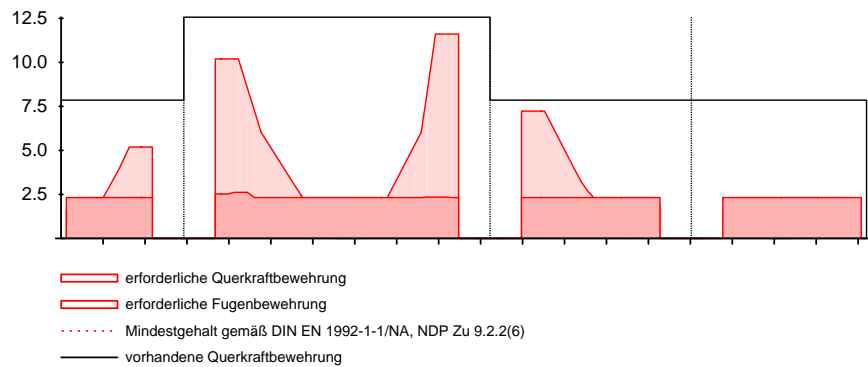
Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 2.93 | 0 | 0.0 | - |
| | 2.93 | 1.50 | 0 | 0.0 | - |
| | 1.50 | 2.93 | 0 | 0.0 | - |
| 2 | 2.93 | 4.03 | 0 | 0.0 | - |
| | 4.03 | 6.80 | 0 | 0.0 | - |
| | 6.80 | 9.28 | 0 | 0.0 | - |
| | 9.28 | 10.23 | 0 | 0.0 | - |
| 3 | 10.23 | 12.10 | 0 | 0.0 | - |
| | 12.10 | 13.49 | 0 | 0.0 | - |
| | 13.49 | 14.38 | 0 | 0.0 | - |
| | 14.38 | 15.03 | 0 | 0.0 | - |
| 4 | 15.03 | 15.77 | 0 | 0.0 | - |
| | 15.77 | 17.10 | 0 | 0.0 | - |
| | 17.10 | 19.20 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:180

Asw [cm²/m]



5i Z`U[Yf_f}ZhY

N|à→á&æã←ã‡à\æÁÚã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | -5.91 | -5.91 |
| B | 538.57 | 538.57 |
| C | 746.32 | 746.32 |
| D | 408.91 | 408.91 |
| E | 22.53 | 22.53 |
| Einw. I _m | | |
| A | -2.29 | -2.29 |
| B | 231.25 | 231.25 |
| C | 306.25 | 306.25 |
| D | 174.69 | 174.69 |
| E | 14.49 | 14.49 |
| Einw. Q _{k,N_B1} | | |
| A | -9.02 | 5.50 |
| B | -3.14 | 100.72 |
| C | -3.08 | 119.84 |

| | Aufl. | Fz , k , min [kN] | Fz , k , max [kN] |
|---------------|-------|------------------------|------------------------|
| Einw. Qk.N_C1 | D | -8.58 | 74.09 |
| | E | -3.27 | 2.51 |
| | A | -21.64 | 5.34 |
| | B | -5.57 | 91.82 |
| | C | -4.17 | 124.22 |
| Einw. Qk.N_C5 | D | -17.84 | 85.72 |
| | E | -5.56 | 7.81 |
| | A | -0.60 | 0.08 |
| | B | -0.21 | 5.10 |
| | C | -0.12 | 7.84 |
| Einw. Qk.N_E1 | D | -0.54 | 4.00 |
| | E | -0.63 | 0.11 |
| | A | -1.51 | 12.44 |
| | B | 0.00 | 25.31 |
| | C | -1.07 | 1.84 |
| Einw. Qk.N_DA | D | -0.83 | 0.37 |
| | E | -0.11 | 0.14 |
| | A | -5.91 | 4.61 |
| | B | -3.14 | 59.49 |
| | C | -2.02 | 113.92 |
| | D | -7.07 | 54.63 |
| | E | -2.77 | 2.16 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

3.4.2 Einfeldträger

Übersicht Bewehrungswahl:

| | | | |
|----------|--------|---|---|
| UZ-0.1: | unten: | 1. Lage: 4Ø16 2. Lage: 4Ø16 3. Lage: 4Ø16 | |
| | oben: | 1. Lage: 4Ø16 2. Lage: 2Ø16 | |
| | quer: | Ø8/10 (In Auflagernähe) Ø8/20 (Im Feld) | |
| UZ-0.2: | unten: | 1. Lage: 4Ø12 | (gilt auch für UZ-0.3, UZ-0.4 und UZ-0.5) |
| | oben: | 1. Lage: 2Ø12 | |
| | quer: | Ø8/20 | |
| UZ-0.7: | unten: | 1. Lage: 4Ø12 | |
| | oben: | 1. Lage: 2Ø12 | |
| | quer: | Ø8/20 | |
| UZ-0.10: | unten: | 1. Lage: 3Ø25 2. Lage: 3Ø25 | |
| | oben: | 1. Lage: 2Ø25 | |
| | quer: | Ø12/10 | |
| | Gurt: | Ø10/20 (in Platte oben und unten) | |
| UZ-0.11: | unten: | 1. Lage: 3Ø12 | |
| | oben: | 1. Lage: 3Ø12 | |
| | quer: | Ø8/20 | |
| UZ-0.12: | unten: | 1. Lage: 4Ø12 | |
| | oben: | 1. Lage: 2Ø12 | |
| | quer: | Ø8/20 | |

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UZ-0.14: unten: 1. Lage: 3Ø12

oben: 1. Lage: 2Ø12

quer: Ø8/20

UZ-0.17: unten: 1. Lage: 4Ø16
2. Lage: 2Ø16

oben: 1. Lage: 2Ø16

quer: Ø8/10

Bereich Durchbruch oben:

unten 1. Lage: 2Ø16

quer: 6Ø8

Bereich Durchbruch unten:

oben: 1. Lage: 2Ø16

unten 2. Lage: 2Ø16 (entspricht 2. Lage unten in Bereich ohne Durchbruch)

quer: 6Ø8

Pos. UZ-0.1

GHU `VYfcb!8 i fW `U Zf} [Yf

Verankerungslänge:

An Auflager B weist die Wand W-0.26 eine Breite von 25 cm auf. Dadurch sind nur maximal 22 cm zum Verankern der unteren und oberen Längsbewehrung vorhanden.

oben:

Es ist eine Verankerung mit Haken für die obere Längsbewehrung erforderlich.

$$l_{b,rqd} = 82 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 0,7 * 82 \text{ cm} * 3,76 \text{ cm}^2 / 12,06 \text{ cm}^2 = 18 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 0,7 * 82 \text{ cm} = 12,3 \text{ cm} \quad 10 \varnothing_l = 16 \text{ cm}$$

-> $l_{bd} = 18 \text{ cm}$

unten:

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 57 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 0,7 * 57 \text{ cm} * 8,73 \text{ cm}^2 / 24,12 \text{ cm}^2 = 14,4 \text{ cm} \quad l_{b,min}$$

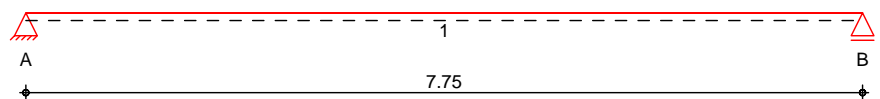
$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 0,7 * 57 \text{ cm} = 12 \text{ cm} \quad 10 \varnothing_l = 16 \text{ cm}$$

-> $l_{bd} = 16 \text{ cm}$

System

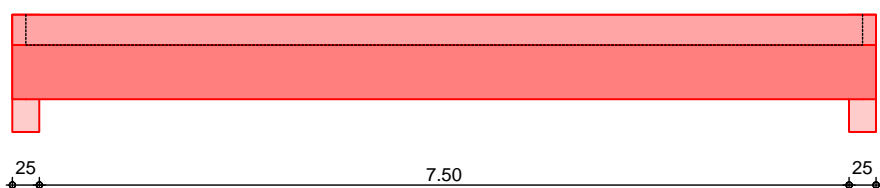
M 1 : 70

Ó↔^âæ→ä\ã†&æãÄÇH€E€DÍÎE€DÍÍIE€D
System



Ansicht

M 1 : 70



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 7.75 | 0.00 | C 30/37 | 40.0/40.0/78.0 |

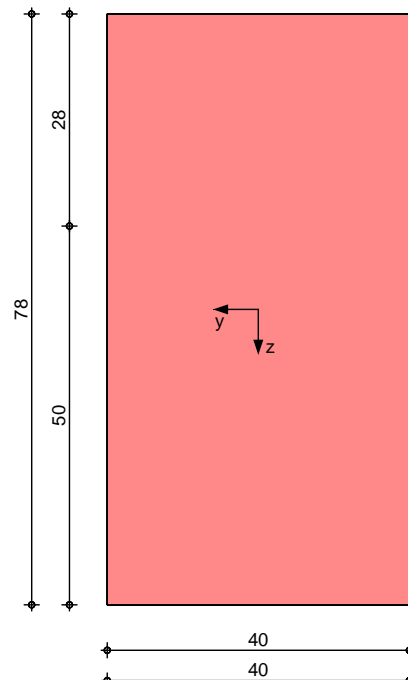
U-292

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | | 7.75 | | |

Expositionsklasse XC1

Grafik Querschnittsgrafik

M 1:10



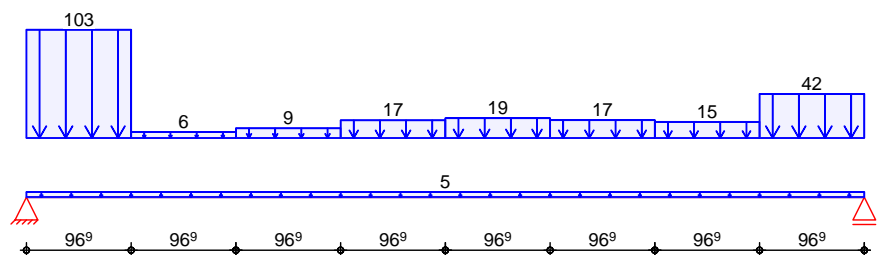
| Auflager | Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|----------|-------|----------|-----------|-------|---------------------|
| | A | 0.00 | 25.0 | Beton | fest |
| | B | 7.75 | 25.0 | Beton | fest |

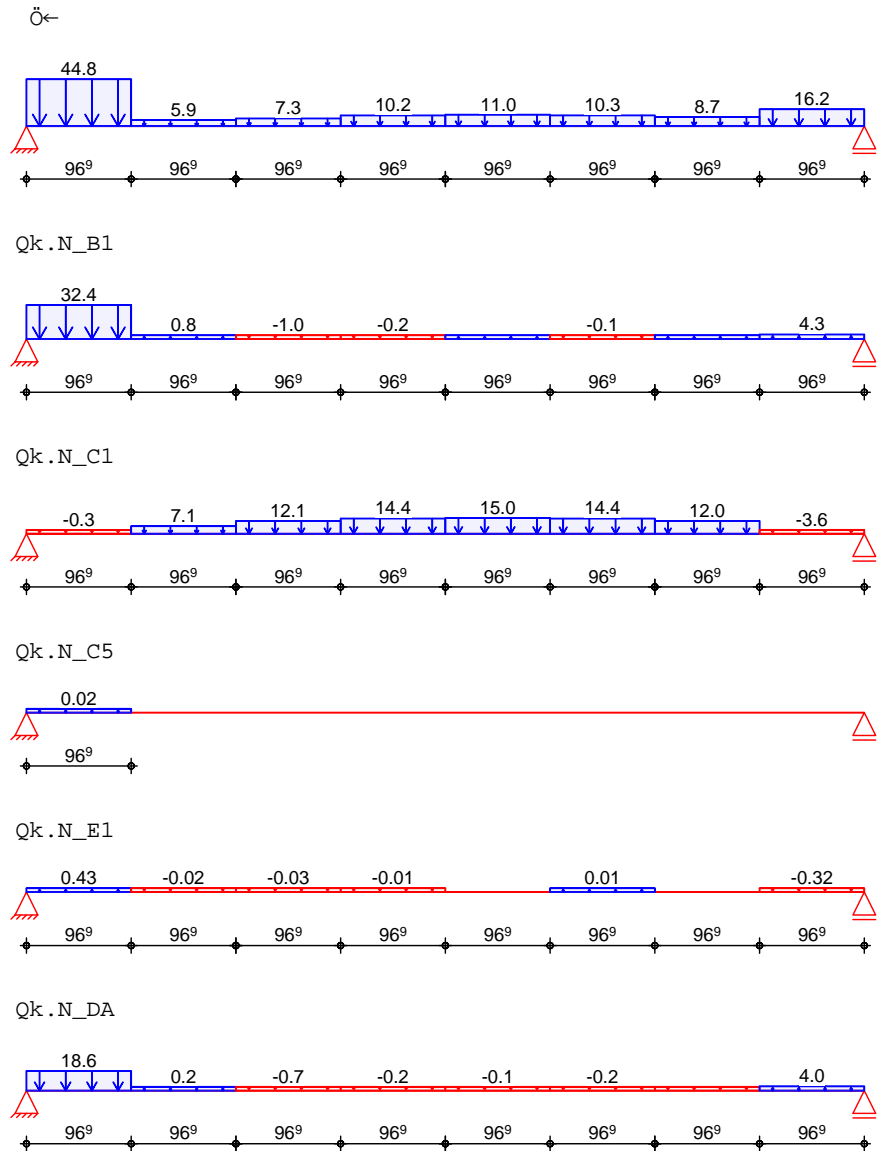
| Feld | Fuge | z_F [cm] | Y_{fl} | N_d $Y_{SD} \uparrow \uparrow Y_{fl}$ |
|------|-------|---------------|----------|--|
| 1 | glatt | 28.0 | 90 | 0.00 |

Belastungen Belastungen auf das System

Grafik Belastungsgrafiken (einwirkungsbezogen)

Einwirkung Gk





Streckenlasten in z-Richtung

Einw. *Gk*

Trapezlasten

Feld Komm.

a

s

*Q*_{li}
*Q*_{re}

[m]

[m]

[kN/m]

[kN/m]

Einw. *Im*

Einw. *Qk.N_B1*

| | | | a | s | <i>Q</i> _{li} | <i>Q</i> _{re} |
|----------------------|-------|-----------------|------|------|------------------------|------------------------|
| | | | [m] | [m] | [kN/m] | [kN/m] |
| Einw. <i>Gk</i> | 1 | Eigengew | 0.00 | 7.75 | | 5.00 |
| | (a) 1 | UZ-0.1: Gk | 0.00 | 0.97 | 103.26 | 103.26 |
| | (a) 1 | UZ-0.1: Gk | 0.97 | 0.97 | 5.57 | 5.57 |
| | (a) 1 | UZ-0.1: Gk | 1.94 | 0.97 | 9.18 | 9.18 |
| | (a) 1 | UZ-0.1: Gk | 2.91 | 0.97 | 16.80 | 16.80 |
| | (a) 1 | UZ-0.1: Gk | 3.88 | 0.97 | 18.81 | 18.81 |
| | (a) 1 | UZ-0.1: Gk | 4.84 | 0.97 | 16.94 | 16.94 |
| | (a) 1 | UZ-0.1: Gk | 5.81 | 0.97 | 15.30 | 15.30 |
| | (a) 1 | UZ-0.1: Gk | 6.78 | 0.97 | 41.97 | 41.97 |
| Einw. <i>Im</i> | (a) 1 | Ö← | 0.00 | 0.97 | 44.85 | 44.85 |
| | (a) 1 | Ö← | 0.97 | 0.97 | 5.87 | 5.87 |
| | (a) 1 | Ö← | 1.94 | 0.97 | 7.35 | 7.35 |
| | (a) 1 | Ö← | 2.91 | 0.97 | 10.24 | 10.24 |
| | (a) 1 | Ö← | 3.88 | 0.97 | 11.01 | 11.01 |
| | (a) 1 | Ö← | 4.84 | 0.97 | 10.27 | 10.27 |
| | (a) 1 | Ö← | 5.81 | 0.97 | 8.69 | 8.69 |
| | (a) 1 | Ö← | 6.78 | 0.97 | 16.17 | 16.17 |
| Einw. <i>Qk.N_B1</i> | (a) 1 | UZ-0.1: Qk.N_B1 | 0.00 | 0.97 | 32.42 | 32.42 |
| | (a) 1 | UZ-0.1: Qk.N_B1 | 0.97 | 0.97 | 0.81 | 0.81 |
| | (a) 1 | UZ-0.1: Qk.N_B1 | 1.94 | 0.97 | -1.03 | -1.03 |
| | (a) 1 | UZ-0.1: Qk.N_B1 | 2.91 | 0.97 | -0.19 | -0.19 |
| | (a) 1 | UZ-0.1: Qk.N_B1 | | | | |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|--------------------------------|-------|-----------------|----------|----------|---------------------------|---------------------------|
| Einw. Qk.N_C1 | (a) 1 | UZ-0.1: Qk.N_B1 | 3.88 | 0.97 | 0.02 | 0.02 |
| | (a) 1 | UZ-0.1: Qk.N_B1 | 4.84 | 0.97 | -0.08 | -0.08 |
| | (a) 1 | UZ-0.1: Qk.N_B1 | 5.81 | 0.97 | 0.05 | 0.05 |
| | (a) 1 | UZ-0.1: Qk.N_B1 | 6.78 | 0.97 | 4.33 | 4.33 |
| | (a) 1 | UZ-0.1: Qk.N_C1 | 0.00 | 0.97 | -0.28 | -0.28 |
| | (a) 1 | UZ-0.1: Qk.N_C1 | 0.97 | 0.97 | 7.14 | 7.14 |
| | (a) 1 | UZ-0.1: Qk.N_C1 | 1.94 | 0.97 | 12.10 | 12.10 |
| | (a) 1 | UZ-0.1: Qk.N_C1 | 2.91 | 0.97 | 14.42 | 14.42 |
| | (a) 1 | UZ-0.1: Qk.N_C1 | 3.88 | 0.97 | 14.99 | 14.99 |
| | (a) 1 | UZ-0.1: Qk.N_C1 | 4.84 | 0.97 | 14.39 | 14.39 |
| Einw. Qk.N_C5 Einw. Qk.N_E1 | (a) 1 | UZ-0.1: Qk.N_C1 | 5.81 | 0.97 | 12.03 | 12.03 |
| | (a) 1 | UZ-0.1: Qk.N_C1 | 6.78 | 0.97 | -3.64 | -3.64 |
| | (a) 1 | UZ-0.1: Qk.N_C5 | 0.00 | 0.97 | 0.02 | 0.02 |
| | (a) 1 | UZ-0.1: Qk.N_E1 | 0.00 | 0.97 | 0.43 | 0.43 |
| | (a) 1 | UZ-0.1: Qk.N_E1 | 0.97 | 0.97 | -0.02 | -0.02 |
| | (a) 1 | UZ-0.1: Qk.N_E1 | 1.94 | 0.97 | -0.03 | -0.03 |
| | (a) 1 | UZ-0.1: Qk.N_E1 | 2.91 | 0.97 | -0.01 | -0.01 |
| | (a) 1 | UZ-0.1: Qk.N_E1 | 4.84 | 0.97 | 0.01 | 0.01 |
| | (a) 1 | UZ-0.1: Qk.N_E1 | 6.78 | 0.97 | -0.32 | -0.32 |
| | (a) 1 | UZ-0.1: Qk.N_DA | 0.00 | 0.97 | 18.60 | 18.60 |
| Einw. Qk.N_DA | (a) 1 | UZ-0.1: Qk.N_DA | 0.97 | 0.97 | 0.20 | 0.20 |
| | (a) 1 | UZ-0.1: Qk.N_DA | 1.94 | 0.97 | -0.66 | -0.66 |
| | (a) 1 | UZ-0.1: Qk.N_DA | 2.91 | 0.97 | -0.16 | -0.16 |
| | (a) 1 | UZ-0.1: Qk.N_DA | 3.88 | 0.97 | -0.06 | -0.06 |
| | (a) 1 | UZ-0.1: Qk.N_DA | 4.84 | 0.97 | -0.17 | -0.17 |
| | (a) 1 | UZ-0.1: Qk.N_DA | 5.81 | 0.97 | -0.04 | -0.04 |
| | (a) 1 | UZ-0.1: Qk.N_DA | 6.78 | 0.97 | 4.03 | 4.03 |

(a) aus Pos. 'D-EG - UZ-0.1'

Kombinationen

| Ek | (* EW) | | |
|----|---------------|---------------|---------------|
| 1 | 1.00*Gk | EFEEÖ | |
| 2 | 1.35*Gk | EFEGÖ | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |
| 3 | 1.35*Gk | EFEGÖ | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| 4 | 1.35*Gk | EFEGÖ | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | |
| 5 | 1.00*Gk | EFEEÖ | +1.50*Qk.N_E1 |
| 6 | 1.00*Gk | EFEEÖ | +1.50*Qk.N_C1 |
| 7 | 1.35*Gk | EFEGÖ | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| 8 | 1.00*Gk | EFEGÖ | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |

Bemessung (GZT)

àfiãÄäæ^ÄÖäæ^~ | b\á^äÄäæãÄÜäã&à†ä&æ\Ä^á^äÄÖSÄÖSÄ
1992-1-1:2011-01

Belastung

Abs. 6.1

Ñæ†æbb | ^&ÄäfiãÄÑæ&æäæá^b*ä | ^ä | ^&

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|----------------------------|------------------|------------------------|--|--|
| [m] | | M _{yd,u} [kNm] | x/d _u | z _u [cm] | A _{s,u} [cm ²] | A _{s,u,erf} [cm ²] |
| (L = 7.75 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 3.74 _e |
| | 1 | - | 0.001 | 69.8 | - | 12.67 _q |
| 0.13 _a | 1 | 25.98 | - | - | - | 3.74 _e |
| | 2 | 46.11 | 0.036 | 68.9 | 1.47 | 12.67 _q |
| 3.91* | 5 | 255.52 | - | - | - | - |
| | 4 | 490.96 | 0.200 | 64.0 | 17.20 | 17.20 |
| 7.63 _a | 5 | 18.58 | - | - | - | 3.74 _e |
| | 4 | 32.44 | 0.030 | 69.1 | 1.03 | 8.70 _q |
| 7.75 | 1 | - | - | - | - | 3.74 _e |
| | 1 | - | 0.001 | 69.8 | - | 8.70 _q |

U-295

a: Auflagerrand
*: maximales Feldmoment
e: Endauflagereinspannung nach 9.2.1.2(1)
q: aus VED im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

Feld 1

| x | Ek | V _{Ed} | V _{Edi} | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|---------------------|------------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | [kN/m] | [kN/m] | [kN] | [cm ² /m] |
| (L = 7.75 m) | | | | | | |
| 0.00 | 2 | 177.63 _R | 18.4 | 961.15 | - | - |
| 0.13 _a | 2 | 177.63 _R | 18.4 | 961.15 | - | 9.57 _F |
| 0.82 _v | 4 | 177.63 | 18.4 | 961.15 | 126.87 | 6.14 _F |
| 3.91 | 8 | 2.94 _R | 18.4 | 961.15 | 126.87 | 3.71 _M |
| 6.93 _v | 4 | 195.44 | 18.4 | 961.15 | 126.87 | 7.04 _F |
| 7.63 _a | 4 | 195.44 _R | 18.4 | 961.15 | - | 8.24 _F |
| 7.75 | 4 | 195.44 _R | 18.4 | 961.15 | - | - |

a: Auflagerrand
v: Abstand d vom Auflagerrand
R: Querkraft reduziert
M: Mindestbewehrung nach Abs. 9.2.2
F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x | V _{Ed} | V _{Edi} | V _{Rdi,max} | V _{Rdi,ct} | a _{sw,erf} |
|--|-----------------|------------------|----------------------|---------------------|----------------------|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | [cm ² /m] |
| Nöpiuhwig" 3 | | | | | |
| Streckgrenze der Verbundbewehrung: f _{yk} = 722 N/mm ² | | | | | |
| glatt (c=0.20, =0.60, =0.20) | | | | | |
| 0.54 | 245.08 | 390.12 | 680.00 | 90.67 | 9.57 |
| 0.82 _v | 177.63 | 282.77 | 680.00 | 90.67 | 6.14 |
| 2.98 | 62.47 | 97.05 | 680.00 | 90.67 | 0.20 |
| 4.77 | -59.98 | 93.23 | 680.00 | 90.67 | 0.08 |
| 6.93 _v | -195.44 | 311.11 | 680.00 | 90.67 | 7.04 |
| 7.21 | -219.05 | 348.69 | 680.00 | 90.67 | 8.24 |

Anschluss der Gurte

| Feld | Ek | x _A | x _E | #R | #Ö _c | Anteil | #Ö _d |
|------|----|----------------|----------------|-------|-----------------|-------------------|-----------------|
| | | [m] | [m] | [kNm] | [kN] | je Gurt | [kN] |
| 1 | 1 | 0.00 | 1.94 | 197.9 | 302.2 | 0.00 ^P | 0.0 |
| | 1 | 3.88 | 5.81 | 61.7 | 103.6 | 0.00 ^P | 0.0 |

D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Querbewehrung

| Feld | Ek | x _A | x _E | v _{Ed} | v _{Rd,max} | a _{sf,erf} |
|------|----|----------------|----------------|----------------------|----------------------|----------------------|
| | | [m] | [m] | [N/mm ²] | [N/mm ²] | [cm ² /m] |
| 1 | 1 | 0.00 | 1.94 | 0.000 | 0.000 | 0.00 |
| | | 3.88 | 5.81 | 0.000 | 0.000 | 0.00 |

Ö|ä\ä^b'ä→|bb←ä†à\äÁÇ†äß&äâä^ääNâb'ä^↔\\bää\ä^D
unten in die Platte einzulegen. Die Bewehrung aus
T|äâä↔ä&|^äÄäääää&ä††ßÄJEGEHÇIDää^ä&ää'ä^ä\Äwerden.

Bewehrungswahl

untere
Q†^äbâä}äâä|^ä&

| Feld | gew. | A _s | a | l | l _{bd,l} | l _{bd,r} | Lage |
|------|------|--------------------|-------|------|-------------------|-------------------|------|
| | | [cm ²] | [m] | [m] | [m] | [m] | |
| 1 | 6ä38 | 8.04 | -0.13 | 8.00 | 0.14 ^h | 0.14 ^h | 1 |
| | 6ä38 | 8.04 | -0.13 | 8.00 | 0.14 ^h | 0.14 ^h | 2 |
| | 6ä38 | 8.04 | -0.13 | 8.00 | 0.14 ^h | 0.14 ^h | 3 |

ÇQ†^ä&ä^Ä↔^↔→ÄÄÜäää^ä&|^ä&b→†^ä&ä^ÄÄ~ä^äÄU\=ßäD
h: gesonderte Verankerungsform erforderlich

| Feld | gew. | As [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 6ã38 | 8.04 | -0.13 | 8.00 | 0.18 ^h | 0.18 ^h | 1 |
| | 4ã38 | 4.02 | -0.13 | 8.00 | 0.18 ^h | 0.18 ^h | 1 |

ÇQ†^&æ^Á↔^↔→ËÄÜæää^<æã|^&b→†^&æ^ÊÁ~â^æÁU\=ßæD
h: gesonderte Verankerungsform erforderlich

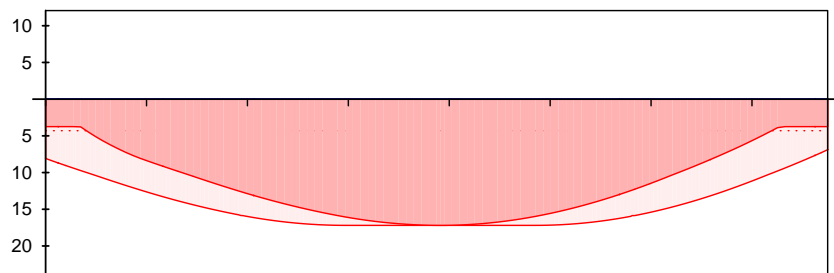
Längsbewehrung
M 1:75

As [cm²]

oben

Lage 1:

| |
|------|
| 2Ø16 |
| 4Ø16 |



unten

Lage 1:

Lage 2:

Lage 3:

| |
|------|
| 4Ø16 |
| 4Ø16 |
| 4Ø16 |

erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung Verankerungslängen

Querkraftbewehrung
ÇÑfi&æ→D

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | asw [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|-----------------------------|
| 1 | 0.00 | 1.50 | ã: | 10.0 | 2 | 10.05 |
| | 1.50 | 6.00 | ã: | 20.0 | 2 | 5.03 |
| | 6.00 | 7.75 | ã: | 10.0 | 2 | 10.05 |

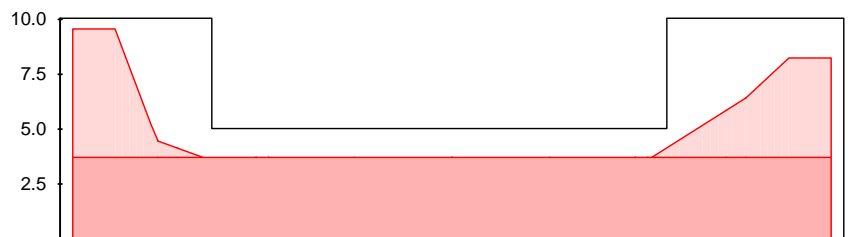
Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | asf [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|-----------------------------|
| 1 | 0.00 | 3.88 | 0 | 0.0 | - |
| | 3.88 | 7.75 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:75

Asw [cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

5i Z` U[Yf_f} ZhY

N|à→á&æã←ã‡à\æÁŮã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | A 151.22 | 151.22 |
| | B 108.22 | 108.22 |
| Einw. I _m | A 66.15 | 66.15 |
| | B 44.70 | 44.70 |
| Einw. Q _{k,N_B1} | A 29.54 | 29.54 |
| | B 5.64 | 5.64 |
| Einw. Q _{k,N_C1} | A 33.95 | 33.95 |
| | B 34.97 | 34.97 |
| Einw. Q _{k,N_C5} | A 0.02 | 0.02 |
| | B 0.00 | 0.00 |
| Einw. Q _{k,N_E1} | A 0.33 | 0.33 |
| | B -0.28 | -0.28 |
| Einw. Q _{k,N_DA} | A 16.69 | 16.69 |
| | B 4.38 | 4.38 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-0.2

GHU `VYfcb!8 i fW `U Zf} [Yf

Verankerungslänge:

An Auflager A weist die Wand W-0.22 eine Breite von 25 cm auf. Dadurch sind nur maximal 22 cm zum Verankern der unteren und oberen Längsbewehrung vorhanden.

oben:

$$l_{b,rqd} = 61 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 61 \text{ cm} * 0,1 \text{ cm}^2 / 2,26 \text{ cm}^2 = 3 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 61 \text{ cm} = \mathbf{18,3 \text{ cm}} \quad 10 \varnothing_l = 12 \text{ cm}$$

-> $l_{bd} = 18,3 \text{ cm}$

unten:

$$l_{b,rqd} = 43 \text{ cm}$$

$$l_{bd} = l_{b,rqd} * A_{s,erf} / A_{s,vorh} = 43 \text{ cm} * 2,32 \text{ cm}^2 / 4,52 \text{ cm}^2 = \mathbf{22 \text{ cm}} \quad l_{b,min}$$

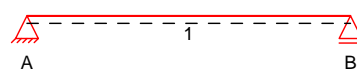
$$l_{b,min} = 0,3 * l_{b,rqd} = 0,3 * 43 \text{ cm} = 12,9 \text{ cm} \quad 10 \varnothing_l = 16 \text{ cm}$$

-> $l_{bd} = 22 \text{ cm}$

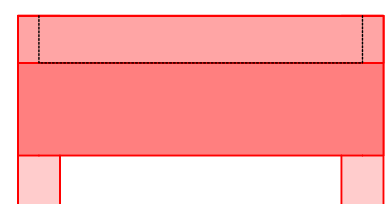
System

M 1 : 45

System Ansicht



1.925



25 1.675 25

Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 1.93 | 0.00 | C 30/37 | 25.0/25.0/83.0 |
| 1 | | 1.93 | | |

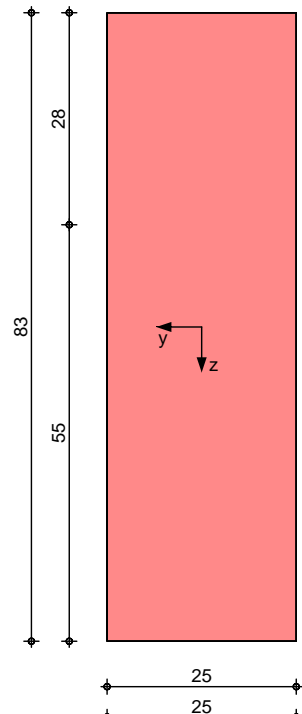
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:10



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 1.93 | 25.0 | Beton | fest |

| Feld | Fuge | Z_f [cm] | γ_{fl} | N_d YS \uparrow \downarrow γ_{fl} |
|------|-------|---------------|---------------|---|
| 1 | glatt | 28.0 | 90 | 0.00 |

**** WARNUNG ****

Cpygpfwpiuitgp|gp"Ädgtuejtkvvvp."fc"ko"Hgnf"3"
ycpfctvkigt"Vt®igt"xqtnkgiv0

Belastungen

Belastungen auf das System

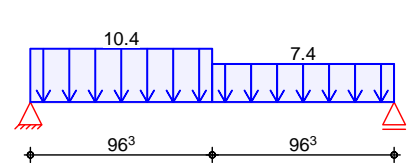
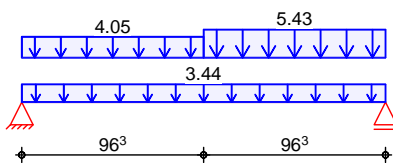
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

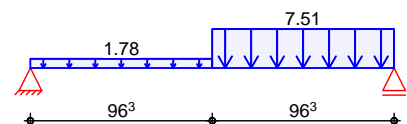
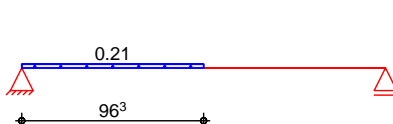
Gk

Ö←

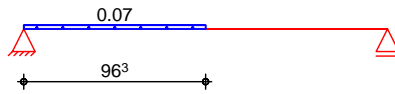


Qk.N_B1

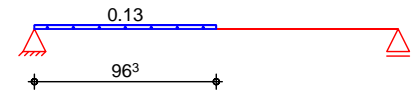
Qk.N_C1



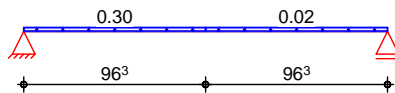
Qk.N_C5



Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Einw. Gk

Einw. Im

Einw. Qk.N_B1

Einw. Qk.N_C1

Einw. Qk.N_C5

Einw. Qk.N_E1

Einw. Qk.N_DA

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|-----------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 1.93 | | 3.44 |
| (a) 1 | UZ-0.2: Gk | 0.00 | 0.96 | 4.05 | 4.05 |
| (a) 1 | UZ-0.2: Gk | 0.96 | 0.96 | 5.43 | 5.43 |
| (a) 1 | ÜXEEGIA Ö← | 0.00 | 0.96 | 10.35 | 10.35 |
| (a) 1 | ÜXEEGIA Ö← | 0.96 | 0.96 | 7.41 | 7.41 |
| (a) 1 | UZ-0.2: Qk.N_B1 | 0.00 | 0.96 | 0.21 | 0.21 |
| (a) 1 | UZ-0.2: Qk.N_C1 | 0.00 | 0.96 | 1.78 | 1.78 |
| (a) 1 | UZ-0.2: Qk.N_C1 | 0.96 | 0.96 | 7.51 | 7.51 |
| (a) 1 | UZ-0.2: Qk.N_C5 | 0.00 | 0.96 | 0.07 | 0.07 |
| (a) 1 | UZ-0.2: Qk.N_E1 | 0.00 | 0.96 | 0.13 | 0.13 |
| (a) 1 | UZ-0.2: Qk.N_DA | 0.00 | 0.96 | 0.30 | 0.30 |
| (a) 1 | UZ-0.2: Qk.N_DA | 0.96 | 0.96 | 0.02 | 0.02 |

(a)

aus Pos. 'D-EG - UZ-0.2'

Kombi nati onen

b\†^ä↔&D{~ãfiâæã&È

&æ†‡BÄEØSÁÓSÁFiiGÈFÈFÁ|^äÄEØSÁÓSÁFiiE

Ek (* *EW)

| | | | |
|---|---------------|---------------|---------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| 3 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_C1 |
| 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| 5 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_C1 |
| 6 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |

Bemessung (GZT)

àfiäÄäæ^ÄÖäæ^~ | b\á^äÄäæãÁÜäã&à†ä↔&æ↔\Á^á^äÄEØSÁÓSÁ
1992-1-1:2011-01

Bi egung

Abs. 6.1

Ñæ†æbb|^&ÄäfiäÄÑ↔æ&æäá^b*ä|^'ä|^&

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|--------------|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| Feld 1 | (L = 1.93 m) | | | | | |
| 0.00 | 1 | - | - | - | - | 0.10 _e |
| | 1 | - | 0.001 | 78.6 | - | 2.35 _M |
| 0.13 _a | 1 | 1.96 | - | - | - | 0.10 _e |
| | 2 | 3.25 | 0.010 | 78.3 | 0.09 | 2.35 _M |
| 1.01* | 1 | 7.87 | - | - | - | - |
| | 2 | 14.04 | 0.022 | 78.0 | 0.39 | 2.35 _M |
| 1.80 _a | 1 | 1.88 | - | - | - | 0.10 _e |
| | 2 | 3.56 | 0.011 | 78.3 | 0.10 | 2.35 _M |
| 1.92 | 1 | - | - | - | - | 0.10 _e |
| | 1 | - | 0.001 | 78.6 | - | 2.35 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

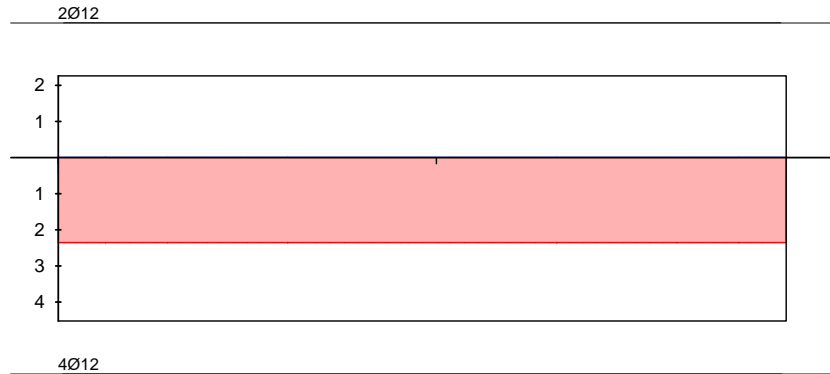
M: Mindestbewehrung nach Abs. 9.2.1.1

Längsbewehrung
M 1:20

As

[cm²/m]

oben
Lage 1:



unten
Lage 1:

erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung Verankerungslängen

Querkraftbewehrung
M 1:20

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 1.93 | 8 | 20.0 | 2 | 5.03 |

Gurtbewehrung

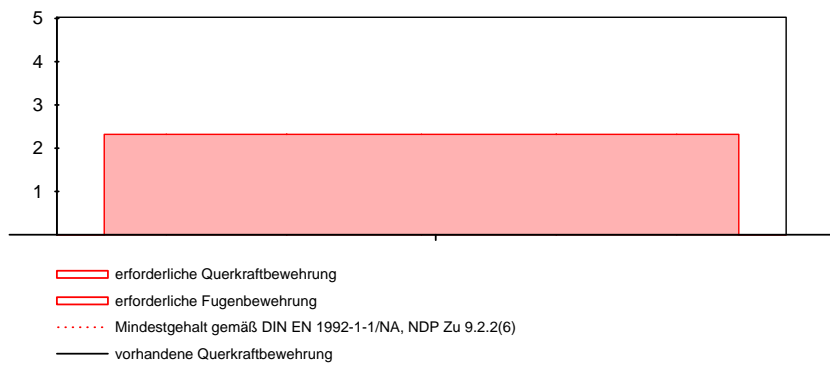
Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | s [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 0.96 | 0 | 0.0 | - |
| | 0.96 | 1.93 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:20

Asw

[cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

5i Z` U[Yf_f } ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 7.54 | 7.54 |
| B | 8.20 | 8.20 |
| Einw. I _m | | |
| A | 9.26 | 9.26 |
| B | 7.84 | 7.84 |
| Einw. Q _{k,N_B1} | | |
| A | 0.15 | 0.15 |
| B | 0.05 | 0.05 |
| Einw. Q _{k,N_C1} | | |
| A | 3.09 | 3.09 |
| B | 5.85 | 5.85 |
| Einw. Q _{k,N_C5} | | |
| A | 0.05 | 0.05 |
| B | 0.02 | 0.02 |
| Einw. Q _{k,N_E1} | | |
| A | 0.10 | 0.10 |
| B | 0.03 | 0.03 |

U-303

Schulcampus EWK \

UZ-0.2

| | Aufl. | $F_{z,k,min}$ [kN] | $F_{z,k,max}$ [kN] |
|--------------------|-------|-----------------------|-----------------------|
| Einw. $Q_{k,N,DA}$ | A | 0.22 | 0.22 |
| | B | 0.08 | 0.08 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

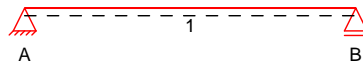
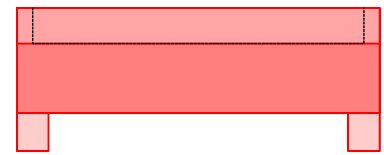
Pos. UZ-0.7
GHU`VYfcb!8i fW`U Zf}[Yf
System

Ó↔^àæ→ä\ã†&æãÁÇGIÈ€ÐÎĞÈ€ÐGJGÈID

System

Ansicht

M 1:60


2.62⁵

25 2.37⁵ 25

Abmessungen

Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 2.63 | 0.00 | C 30/37 | 25.0/25.0/83.0 |
| 1 | 2.63 | | | |

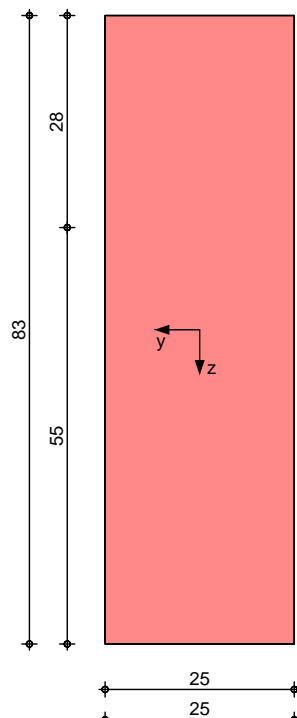
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:10



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 2.63 | 25.0 | Beton | fest |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | z _f [cm] | YflŸ | YSD↑↑ŸŸ |
|------|-------|------------------------|------|---------|
| 1 | glatt | 28.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

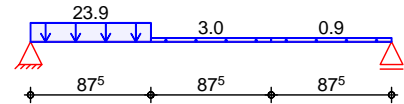
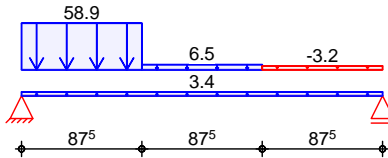
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

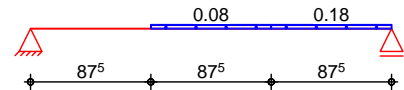
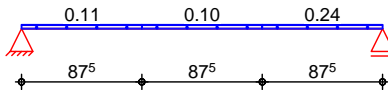
Gk

Ö←



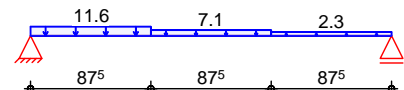
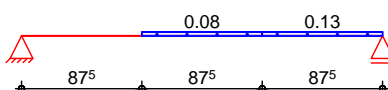
Qk.N_B1

Qk.N_C1

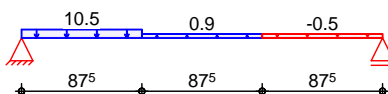


Qk.N_C5

Qk.N_E1



Qk.N_DA



Streckenlasten in z-Richtung

Trapezlasten

Feld Komm.

a

s

Q_{li}

Q_{re}

[m]

[m]

[kN/m]

[kN/m]

Einw. Gk

(a)

1 Eigengew

0.00

2.63

58.87

3.44

Einw. Im

(a)

1 UZ-0.7: Gk

0.00

0.88

23.91

23.91

Einw. Qk.N_B1

(a)

1 UZ-0.7: Qk.N_B1

0.00

0.88

0.11

0.11

Einw. Qk.N_C1

(a)

1 UZ-0.7: Qk.N_C1

0.88

0.88

0.10

0.10

Einw. Qk.N_C5

(a)

1 UZ-0.7: Qk.N_C5

0.88

0.88

0.08

0.08

Einw. Qk.N_E1

(a)

1 UZ-0.7: Qk.N_E1

0.00

0.88

11.64

11.64

Einw. Qk.N_DA

(a)

1 UZ-0.7: Qk.N_DA

0.88

0.88

7.15

7.15

(a)

1 UZ-0.7: Qk.N_E1

1.75

0.88

2.33

2.33

(a)

1 UZ-0.7: Qk.N_DA

0.00

0.88

10.53

10.53

(a)

1 UZ-0.7: Qk.N_DA

0.88

0.88

0.89

0.89

(a)

1 UZ-0.7: Qk.N_DA

1.75

0.88

-0.51

-0.51

(a)

aus Pos. 'D-EG - UZ-0.7'

Kombinationen

b\†^ä↔&D{~äfiäæä&E

&æ†‡BÄEØSÁÓSÁFiïGëFëFÁ|^äÄEØSÁÓSÁFiïE

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| 1 | 1.00*Gk | ÉFëëëë Ö← | |
| 2 | 1.35*Gk | ÉFëëëë Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |
| 3 | 1.00*Gk | ÉFëëëë Ö← | +1.50*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| 4 | 1.35*Gk | ÉFëëëë Ö← | +1.50*Qk.N_DA |
| 5 | 1.00*Gk | ÉFëëëë Ö← | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |

Bemessung (GZT)

äfiäÄäæ^ÄÖäæ^~ | b\á^äÄäæäÄÜäá&à†ä↔&æ↔\Á^á^äÄEØSÁÓSÁ
1992-1-1:2011-01

Belegung

Abs. 6.1

Ñæ†æbb|^&ÄäfiäÄÑ↔æ&æäæá^b*ä|^á|^&

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 2.62 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 0.35 _e |
| | 1 | - | 0.001 | 78.6 | - | 2.35 _M |
| 0.13 _a | 1 | 7.91 | - | - | - | 0.35 _e |
| | 2 | 14.20 | 0.022 | 78.0 | 0.40 | 2.35 _M |
| 0.82* | 1 | 27.32 | - | - | - | - |
| | 2 | 50.45 | 0.043 | 77.4 | 1.43 | 2.35 _M |
| 2.50 _a | 1 | 2.37 | - | - | - | 0.35 _e |
| | 2 | 4.76 | 0.012 | 78.3 | 0.13 | 2.35 _M |
| 2.62 | 1 | - | - | - | - | 0.35 _e |
| | 1 | - | 0.001 | 78.6 | - | 2.35 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Ñæ†æbb|^&ÄäfiäÄT|æä↔äää\äæá^b*ä|^á|^&

| x | Ek | V _{Ed} | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|--------------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | YñŸ | [kN] | [cm ² /m] |
| (L = 2.62 m) | | | | | |
| 0.00 | 2 | 122.92 | 18.4 | 676.45 | - |
| 0.13 _a | 2 | 104.20 | 18.4 | 676.45 | 2.32 _M |
| 0.82 | 4 | 3.80 _R | 18.4 | 676.45 | 2.32 _M |
| 0.91 | 4 | 11.63 | 18.4 | 676.45 | 56.30 |
| 1.71 _v | 2 | 33.10 | 18.4 | 676.45 | 56.30 |
| 2.50 _a | 2 | 33.10 _R | 18.4 | 676.45 | 2.32 _M |
| 2.62 | 2 | 33.10 _R | 18.4 | 676.45 | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

Hinweis

An folgendem Auflager erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| A | rechts | Vorzeichenwechsel der Querkraft in d |

Fugenbemessung

| x | V _{Ed} | V _{Edi} | V _{Rdi,max} | V _{Rdi,ct} | a _{sw,erf} |
|-----|-----------------|------------------|----------------------|---------------------|---------------------|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | Y'↑ŸD↑Ÿ |

N@piuhwig"3

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔

glatt (c=0.20, =0.60, =0.20)

Öæ↔äÄFÄEÄP~^ \ä↔\à↔†^äæÄ↔†ÄŠäæä&|ä\ÊÄäÄKÄÄ_{eff}

| | | | | | |
|-------------------|-------|-------|--------|-------|---|
| 0.63 | 28.43 | 36.70 | 425.00 | 56.67 | - |
| 0.84 _v | -6.00 | 7.76 | 425.00 | 56.67 | - |

Gurtbewehrung

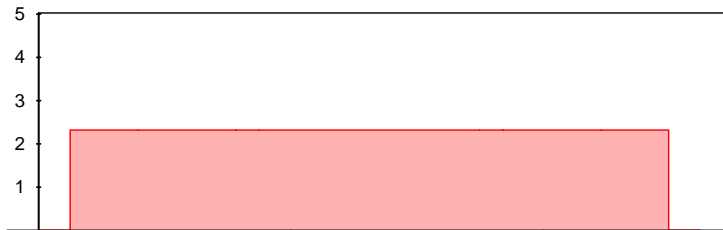
Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | a _s [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|--|
| 1 | 0.00 | 0.78 | 0 | 0.0 | - |
| | 0.78 | 2.63 | 0 | 0.0 | - |

Querkraftbewehrung M 1:30

A_{sw}

[cm²/m]



- erforderliche Querkraftbewehrung
- erforderliche Fugenbewehrung
- Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
- vorhandene Querkraftbewehrung

5i Z` U[Yf_f} ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 49.80 | 49.80 |
| B | 13.59 | 13.59 |
| Einw. I _m | | |
| A | 18.87 | 18.87 |
| B | 5.43 | 5.43 |
| Einw. Q _{k,N_B1} | | |
| A | 0.16 | 0.16 |
| B | 0.23 | 0.23 |
| Einw. Q _{k,N_C1} | | |
| A | 0.06 | 0.06 |
| B | 0.17 | 0.17 |
| Einw. Q _{k,N_C5} | | |
| A | 0.06 | 0.06 |
| B | 0.13 | 0.13 |
| Einw. Q _{k,N_E1} | | |
| A | 11.96 | 11.96 |
| B | 6.53 | 6.53 |
| Einw. Q _{k,N_DA} | | |
| A | 7.99 | 7.99 |
| B | 1.56 | 1.56 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-0.10

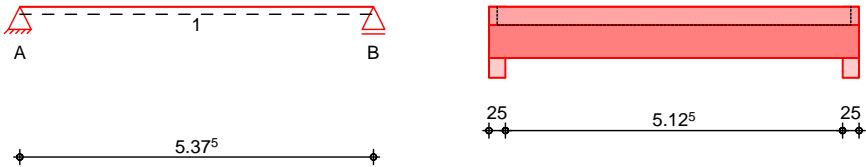
GHU`VYfcb!8 i fW`U Zf}[Yf

Dieser Unterzug ist mit einer rauen Fuge herzustellen.

System

M 1:115

Ó↔^àæ→ä\ã†&æãÁÇGIEÈÈÍÊÈÍĞÍÈID
System Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 5.38 | 0.00 | C 30/37 | 200.0/25.0/78.0 |
| 1 | | 5.38 | | |

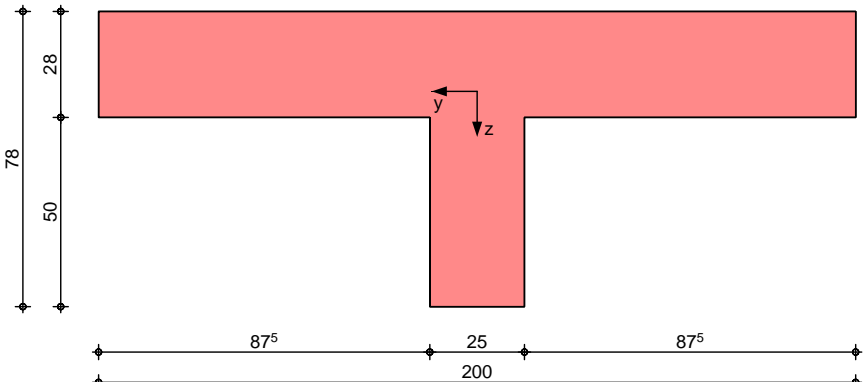
Expositionsklasse

XC1

Grafik

M 1:20

Querschnittsgrafik



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 5.38 | 25.0 | Beton | fest |

Q†^&bà|&æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | Z _f [cm] | YflY | Nd YSð↑↑Y |
|------|------|------------------------|------|--------------|
| 1 | rau | 28.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

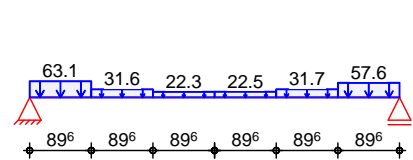
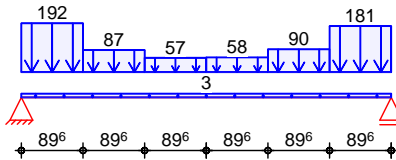
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

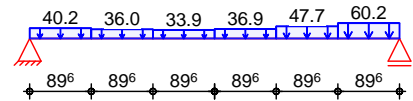
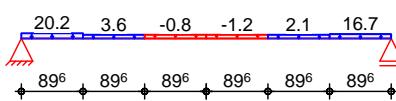
Gk

Ö←



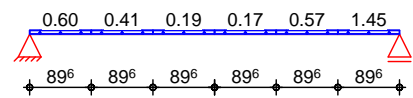
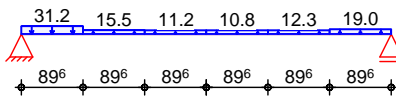
Qk.N_B1

Qk.N_C1



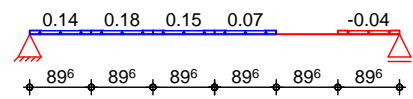
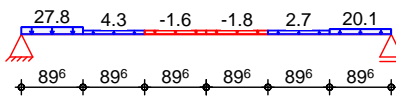
Qk.N_C5

Qk.N_E1



Qk.N_DA

Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-------|------------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 5.38 | | 3.12 |
| (a) 1 | UZ-0.10: Gk | 0.00 | 0.90 | 191.79 | 191.79 |
| (a) 1 | UZ-0.10: Gk | 0.90 | 0.90 | 86.62 | 86.62 |
| (a) 1 | UZ-0.10: Gk | 1.79 | 0.90 | 56.65 | 56.65 |
| (a) 1 | UZ-0.10: Gk | 2.69 | 0.90 | 57.86 | 57.86 |
| (a) 1 | UZ-0.10: Gk | 3.58 | 0.90 | 89.67 | 89.67 |
| (a) 1 | UZ-0.10: Gk | 4.48 | 0.90 | 180.79 | 180.79 |
| (a) 1 | Ö← | 0.00 | 0.90 | 63.15 | 63.15 |
| (a) 1 | Ö← | 0.90 | 0.90 | 31.57 | 31.57 |
| (a) 1 | Ö← | 1.79 | 0.90 | 22.31 | 22.31 |
| (a) 1 | Ö← | 2.69 | 0.90 | 22.52 | 22.52 |
| (a) 1 | Ö← | 3.58 | 0.90 | 31.66 | 31.66 |
| (a) 1 | Ö← | 4.48 | 0.90 | 57.62 | 57.62 |
| (a) 1 | UZ-0.10: Qk.N_B1 | 0.00 | 0.90 | 20.18 | 20.18 |
| (a) 1 | UZ-0.10: Qk.N_B1 | 0.90 | 0.90 | 3.57 | 3.57 |
| (a) 1 | UZ-0.10: Qk.N_B1 | 1.79 | 0.90 | -0.84 | -0.84 |
| (a) 1 | UZ-0.10: Qk.N_B1 | 2.69 | 0.90 | -1.21 | -1.21 |
| (a) 1 | UZ-0.10: Qk.N_B1 | 3.58 | 0.90 | 2.08 | 2.08 |
| (a) 1 | UZ-0.10: Qk.N_B1 | 4.48 | 0.90 | 16.70 | 16.70 |
| (a) 1 | UZ-0.10: Qk.N_C1 | 0.00 | 0.90 | 40.24 | 40.24 |
| (a) 1 | UZ-0.10: Qk.N_C1 | 0.90 | 0.90 | 36.01 | 36.01 |
| (a) 1 | UZ-0.10: Qk.N_C1 | 1.79 | 0.90 | 33.85 | 33.85 |
| (a) 1 | UZ-0.10: Qk.N_C1 | 2.69 | 0.90 | 36.93 | 36.93 |
| (a) 1 | UZ-0.10: Qk.N_C1 | 3.58 | 0.90 | 47.72 | 47.72 |
| (a) 1 | UZ-0.10: Qk.N_C1 | 4.48 | 0.90 | 60.23 | 60.23 |
| (a) 1 | UZ-0.10: Qk.N_C5 | 0.00 | 0.90 | 31.20 | 31.20 |
| (a) 1 | UZ-0.10: Qk.N_C5 | 0.90 | 0.90 | 15.45 | 15.45 |
| (a) 1 | UZ-0.10: Qk.N_C5 | 1.79 | 0.90 | 11.15 | 11.15 |
| (a) 1 | UZ-0.10: Qk.N_C5 | 2.69 | 0.90 | 10.85 | 10.85 |
| (a) 1 | UZ-0.10: Qk.N_C5 | 3.58 | 0.90 | 12.32 | 12.32 |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|------------------|----------|----------|---------------------------|---------------------------|
| Einw. Qk.N_E1 | (a) 1 | UZ-0.10: Qk.N_C5 | 4.48 | 0.90 | 18.96 | 18.96 |
| | (a) 1 | UZ-0.10: Qk.N_E1 | 0.00 | 0.90 | 0.60 | 0.60 |
| | (a) 1 | UZ-0.10: Qk.N_E1 | 0.90 | 0.90 | 0.41 | 0.41 |
| | (a) 1 | UZ-0.10: Qk.N_E1 | 1.79 | 0.90 | 0.19 | 0.19 |
| | (a) 1 | UZ-0.10: Qk.N_E1 | 2.69 | 0.90 | 0.17 | 0.17 |
| | (a) 1 | UZ-0.10: Qk.N_E1 | 3.58 | 0.90 | 0.57 | 0.57 |
| Einw. Qk.N_DA | (a) 1 | UZ-0.10: Qk.N_E1 | 4.48 | 0.90 | 1.45 | 1.45 |
| | (a) 1 | UZ-0.10: Qk.N_DA | 0.00 | 0.90 | 27.84 | 27.84 |
| | (a) 1 | UZ-0.10: Qk.N_DA | 0.90 | 0.90 | 4.35 | 4.35 |
| | (a) 1 | UZ-0.10: Qk.N_DA | 1.79 | 0.90 | -1.60 | -1.60 |
| | (a) 1 | UZ-0.10: Qk.N_DA | 2.69 | 0.90 | -1.76 | -1.76 |
| | (a) 1 | UZ-0.10: Qk.N_DA | 3.58 | 0.90 | 2.73 | 2.73 |
| Einw. Qk.N_T2 | (a) 1 | UZ-0.10: Qk.N_DA | 4.48 | 0.90 | 20.08 | 20.08 |
| | (a) 1 | UZ-0.10: Qk.N_T2 | 0.00 | 0.90 | 0.14 | 0.14 |
| | (a) 1 | UZ-0.10: Qk.N_T2 | 0.90 | 0.90 | 0.18 | 0.18 |
| | (a) 1 | UZ-0.10: Qk.N_T2 | 1.79 | 0.90 | 0.15 | 0.15 |
| | (a) 1 | UZ-0.10: Qk.N_T2 | 2.69 | 0.90 | 0.07 | 0.07 |
| | (a) 1 | UZ-0.10: Qk.N_T2 | 4.48 | 0.90 | -0.04 | -0.04 |

(a) aus Pos. 'D-EG - UZ-0.10'

Kombi nationen

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| 1 | 1.00*Gk | EFEE Ö← | |
| 2 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.20*Qk.N_T2 | | |
| 3 | 1.00*Gk | EFEE Ö← | +1.50*Qk.N_C1 |
| | +1.50*Qk.N_E1 | | |
| 4 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_DA | +1.20*Qk.N_T2 |
| 5 | 1.00*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_DA | +1.20*Qk.N_T2 |

Mat./Querschnitt

Material- und Querschnittswerte nach DIN EN 1992-1-1:2011-01

Querschnitt

| Art | b _{eff} [cm] | b _w [cm] | h [cm] | h _f [cm] | I _y [cm ⁴] |
|-----|--------------------------|------------------------|-----------|------------------------|--------------------------------------|
| PB | 200.0 | 25.0 | 78.0 | 28.0 | 2180590 |

PB: Plattenbalken
o: Platte oben

Bemessung (GZT)

1992-1-1:2011-01

Bi egung

Abs. 6.1

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 5.38 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 6.63 _e |
| | 1 | - | 3.1E-4 | 70.0 | - | 14.58 _q |
| 0.13 _a | 1 | 49.66 | - | - | - | 6.63 _e |
| | 2 | 95.05 | 0.022 | 69.5 | 3.00 | 14.58 _q |
| 2.72* | 1 | 414.23 | - | - | - | - |
| | 2 | 834.60 | 0.076 | 68.0 | 26.87 | 26.87 |
| 5.25 _a | 1 | 48.45 | - | - | - | 6.63 _e |
| | 2 | 95.45 | 0.022 | 69.5 | 3.01 | 14.50 _q |
| 5.37 | 1 | - | - | - | - | 6.63 _e |
| | 1 | - | 3.1E-4 | 70.0 | - | 14.50 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

Längsbewehrung
M 1:55

As

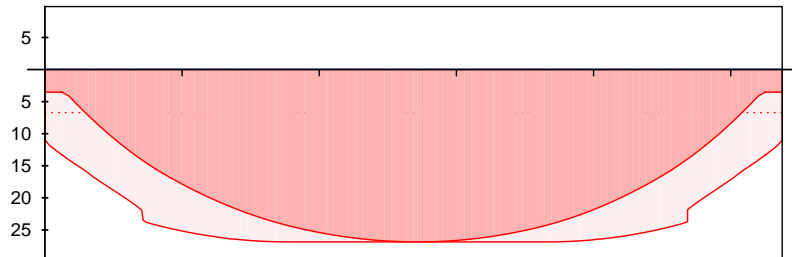
[cm²/m]

oben
Lage 1:

2Ø25

unten
Lage 1:
Lage 2:

3Ø25
3Ø25



erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung
Verankerungslängen

Querkraftbewehrung
M 1:55

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 5.38 | 34 | 10.0 | 2 | 22.62 |

Gurtbewehrung

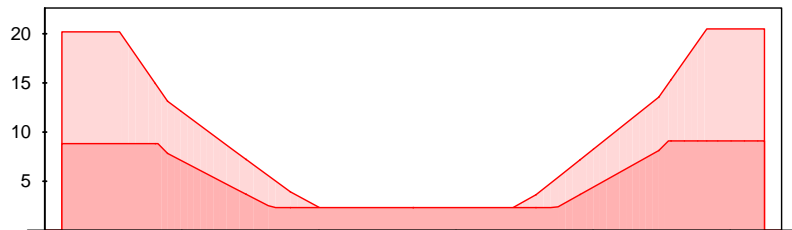
Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | d [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 2.69 | 10 | 20.0 | 3.93 |
| | 2.69 | 5.38 | 10 | 20.0 | 3.93 |

Querkraftbewehrung
M 1:55

Asw

[cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

5i Z` U[Yf_f}ZhY

N|à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | A 308.87 | 308.87 |
| | B 302.19 | 302.19 |
| Einw. I _m | A 104.52 | 104.52 |
| | B 100.46 | 100.46 |
| Einw. Q _{k,N_B1} | A 19.79 | 19.79 |
| | B 16.47 | 16.47 |
| Einw. Q _{k,N_C1} | A 103.89 | 103.89 |
| | B 124.52 | 124.52 |
| Einw. Q _{k,N_C5} | A 50.06 | 50.06 |
| | B 39.47 | 39.47 |
| Einw. Q _{k,N_E1} | A 1.17 | 1.17 |

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Schulcampus EWK \

UZ-0.10

| | Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------------|-------|------------------|------------------|
| Einw. Q_{k,N_DA} | B | 1.87 | 1.87 |
| | A | 26.40 | 26.40 |
| Einw. Q_{k,N_T2} | B | 19.86 | 19.86 |
| | A | 0.34 | 0.34 |
| | B | 0.11 | 0.11 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Gurtbewehrung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-0.11

GHU`VYfcb!8i fW`U Zf}[Yf

Verankerungslänge:

An Auflager B weist die Wand W-0.36 eine Breite von 25 cm auf. Dadurch sind nur maximal 22 cm zum Verankern der unteren Längsbewehrung vorhanden.

unten:

$$l_{b,rqd} = 43 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 43 \text{ cm} \cdot 0,55 \text{ cm}^2 / 3,39 \text{ cm}^2 = 7 \text{ cm} \quad l_{b,min}$$

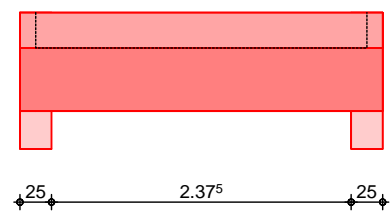
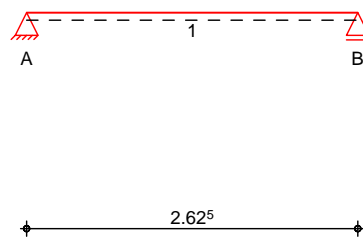
$$l_{b,min} = 0,3 \cdot l_{b,rqd} = 0,3 \cdot 43 \text{ cm} = \mathbf{12,9 \text{ cm}} \quad 10 \varnothing_l = 12 \text{ cm}$$

-> $l_{bd} = 12,9 \text{ cm}$

System

M 1 : 60

Ó↔^âæ→ä\ã†&æãÄÇGIEÈÉÍÊËÊDGWGEID
System Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | $b_{eff}/b_w/h$ [cm] |
|------|----------|----------|----------|-------------------------|
| 1 | 2.63 | 0.00 | C 30/37 | 25.0/25.0/78.0 |
| 1 | | 2.63 | | |

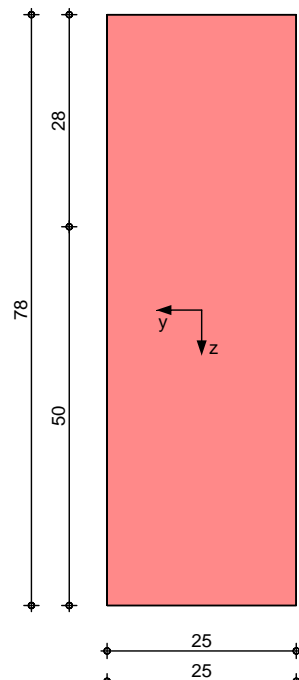
Expositionsklasse

XC1

Grafik

M 1:10

Querschnittsgrafik



Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 2.63 | 25.0 | Beton | fest |

Q_z & b_z | & æ^{ÄÄÄÄÄÄÄÄÄÄ}

| Feld | Fuge | z_f [cm] | γ_{fl} | γ_{SD} | γ_{Y} |
|------|-------|---------------|---------------|---------------|--------------|
| 1 | glatt | 28.0 | 90 | 0.00 | |

Belastungen

Belastungen auf das System

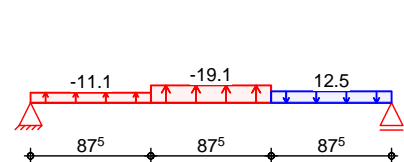
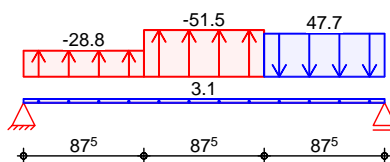
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

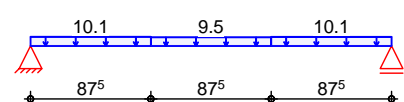
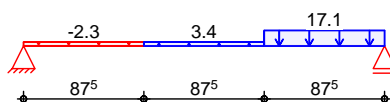
Gk

Ö←



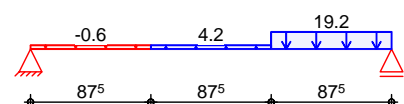
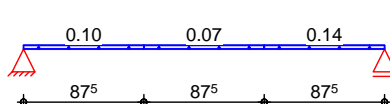
Qk.N_B1

Qk.N_C5

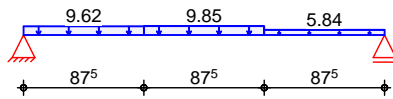


Qk.N_E1

Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|------------------|------------------|----------|----------|---------------------------|---------------------------|
| Einw. Gk | 1 | Eigengew | 0.00 | 2.63 | | 3.12 |
| (a) 1 | UZ-0.11: Gk | 0.00 | 0.88 | -28.81 | -28.81 | |
| (a) 1 | UZ-0.11: Gk | 0.88 | 0.88 | -51.48 | -51.48 | |
| (a) 1 | UZ-0.11: Gk | 1.75 | 0.88 | 47.68 | 47.68 | |
| Einw. Im | (a) 1 | UX-EFFIA Ö← | 0.00 | 0.88 | -11.14 | -11.14 |
| (a) 1 | UX-EFFIA Ö← | 0.88 | 0.88 | -19.12 | -19.12 | |
| (a) 1 | UX-EFFIA Ö← | 1.75 | 0.88 | 12.53 | 12.53 | |
| Einw. Qk.N_B1 | (a) 1 | UZ-0.11: Qk.N_B1 | 0.00 | 0.88 | -2.34 | -2.34 |
| (a) 1 | UZ-0.11: Qk.N_B1 | 0.88 | 0.88 | 3.43 | 3.43 | |
| (a) 1 | UZ-0.11: Qk.N_B1 | 1.75 | 0.88 | 17.12 | 17.12 | |
| Einw. Qk.N_C5 | (a) 1 | UZ-0.11: Qk.N_C5 | 0.00 | 0.88 | 10.15 | 10.15 |
| (a) 1 | UZ-0.11: Qk.N_C5 | 0.88 | 0.88 | 9.49 | 9.49 | |
| (a) 1 | UZ-0.11: Qk.N_C5 | 1.75 | 0.88 | 10.07 | 10.07 | |
| Einw. Qk.N_E1 | (a) 1 | UZ-0.11: Qk.N_E1 | 0.00 | 0.88 | 0.10 | 0.10 |
| (a) 1 | UZ-0.11: Qk.N_E1 | 0.88 | 0.88 | 0.07 | 0.07 | |
| (a) 1 | UZ-0.11: Qk.N_E1 | 1.75 | 0.88 | 0.14 | 0.14 | |
| Einw. Qk.N_DA | (a) 1 | UZ-0.11: Qk.N_DA | 0.00 | 0.88 | -0.56 | -0.56 |
| (a) 1 | UZ-0.11: Qk.N_DA | 0.88 | 0.88 | 4.20 | 4.20 | |
| (a) 1 | UZ-0.11: Qk.N_DA | 1.75 | 0.88 | 19.19 | 19.19 | |
| Einw. Qk.N_T2 | (a) 1 | UZ-0.11: Qk.N_T2 | 0.00 | 0.88 | 9.62 | 9.62 |
| (a) 1 | UZ-0.11: Qk.N_T2 | 0.88 | 0.88 | 9.85 | 9.85 | |
| (a) 1 | UZ-0.11: Qk.N_T2 | 1.75 | 0.88 | 5.84 | 5.84 | |

(a)

aus Pos. 'D-EG - UZ-0.11'

Kombi nati onen

Ek (* *EW)

b\†^ä↔&D{~äfiäæã&È

| | | | |
|---|---------------|---------------|---------------|
| 1 | 1.00*Gk | EFEE Ö← | |
| 2 | 1.00*Gk | EFEE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | +1.20*Qk.N_T2 | | |
| 3 | 1.35*Gk | EFEGIE Ö← | |
| 4 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_DA | | |
| 5 | 1.00*Gk | EFEE Ö← | +1.50*Qk.N_C5 |
| | +1.50*Qk.N_E1 | +1.20*Qk.N_T2 | |
| 6 | 1.35*Gk | EFEE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | +1.20*Qk.N_T2 | | |
| 7 | 1.00*Gk | EFEGIE Ö← | |

Bemessung (GZT)

äfiäÄä^ÄÖä^~ | b\ä^äÄäÄÜää&ä†ä↔&↔\Ä^ä^äÄÖSÄÖSÄ
1992-1-1:2011-01

Bi egung

Abs. 6.1

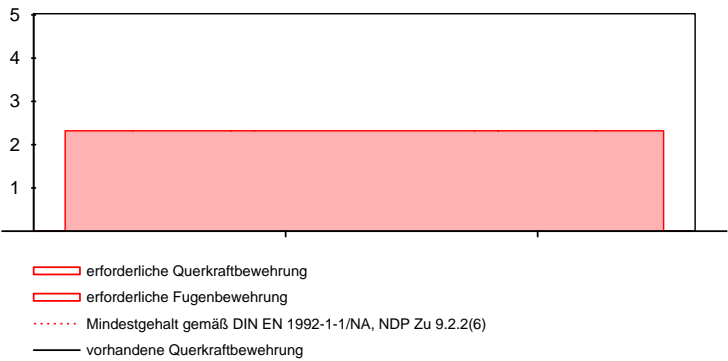
Ñæ†æbb | ^&ÄäfiäÄÑ↔æ&æäæ^b*ä | ^ä | ^&

| | x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|--------|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| | | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| | [m] | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| Feld 1 | (L = 2.62 m) | | | | | | |
| | 0.00 | 1 | - | 0.001 | 73.6 | - | 2.22 _M |
| | | 1 | - | - | - | - | - |
| | 0.13 _a | 3 | -7.57 | 0.017 | 73.2 | 0.23 | 2.22 _M |
| | | 2 | -1.10 | - | - | - | 0.55 _f |
| | 1.08 | 3 | -38.86 | 0.040 | 72.6 | 1.17 | 2.22 _M |
| | | 2 | - | 0.024 | 69.2 | - | 2.22 _M |
| | 1.10 | 3 | -38.87 | 0.040 | 72.6 | 1.17 | 2.22 _M |
| | | 2 | 0.23 | 0.024 | 69.3 | 0.01 | 2.22 _M |

U-318

Querkraftbewehrung Asw
M 1:30

[cm²/m]



5i Z` U[Yf_f}ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | |
|--|----------|--------|----------|
| Aufl. | Fz,k,min | | Fz,k,max |
| | [kN] | | [kN] |
| Einw. Gk | A | -32.47 | -32.47 |
| | B | 12.14 | 12.14 |
| Einw. Im | A | -14.66 | -14.66 |
| | B | -0.85 | -0.85 |
| Einw. Qk.N_B1 | A | 2.29 | 2.29 |
| | B | 13.64 | 13.64 |
| Einw. Qk.N_C5 | A | 13.02 | 13.02 |
| | B | 12.97 | 12.97 |
| Einw. Qk.N_E1 | A | 0.12 | 0.12 |
| | B | 0.14 | 0.14 |
| Einw. Qk.N_DA | A | 4.23 | 4.23 |
| | B | 15.75 | 15.75 |
| Einw. Qk.N_T2 | A | 12.17 | 12.17 |
| | B | 9.97 | 9.97 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-0.12

GHU`VYfcb!8i fW`U Zf}[Yf

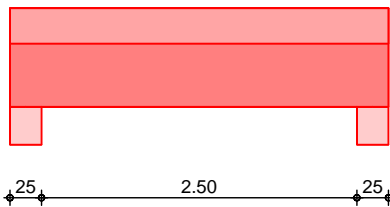
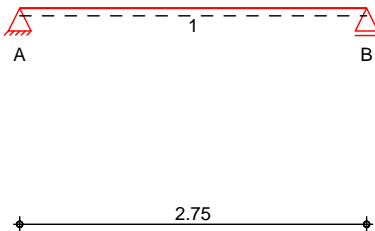
System

Ó↔^àæ→ä\ã†&æãÁÇGIÈ€DÍÎÈ€DGÍÈ€D

M 1 : 60

System

Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 2.75 | 0.00 | C 30/37 | 25.0/25.0/78.0 |
| 1 | | 2.75 | | |

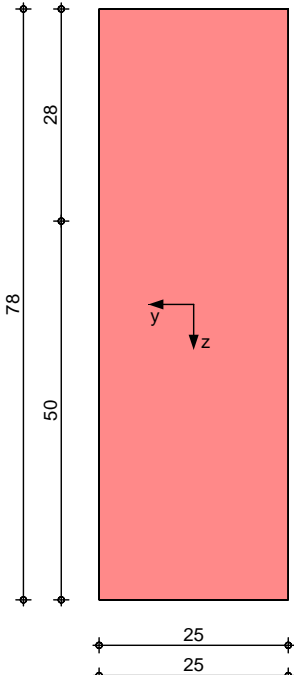
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1 : 10



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 2.75 | 25.0 | Beton | fest |

Belastungen

Belastungen auf das System

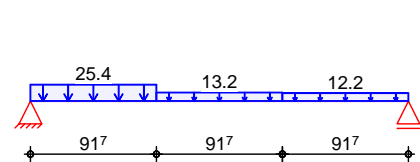
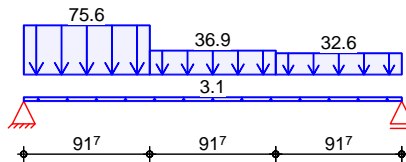
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

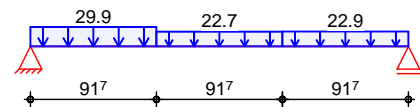
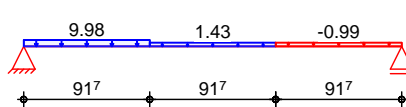
Gk

Ö←



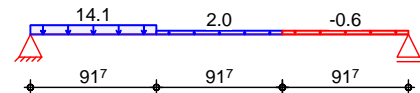
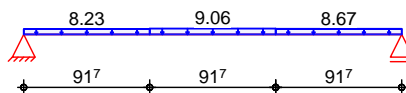
Qk.N_B1

Qk.N_C1



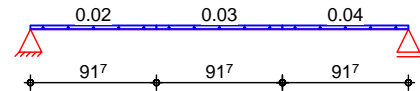
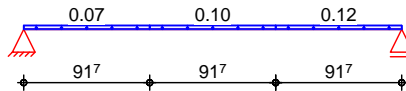
Qk.N_C5

Qk.N_E1



Qk.N_DA

Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|------------------|----------|----------|---------------------------|---------------------------|
| Einw. Gk | 1 | Eigengew | 0.00 | 2.75 | | 3.12 |
| | (a) 1 | UZ-0.12: Gk | 0.00 | 0.92 | 75.56 | 75.56 |
| | (a) 1 | UZ-0.12: Gk | 0.92 | 0.92 | 36.86 | 36.86 |
| | (a) 1 | UZ-0.12: Gk | 1.83 | 0.92 | 32.61 | 32.61 |
| Einw. Im | (a) 1 | Ö← | 0.00 | 0.92 | 25.42 | 25.42 |
| | (a) 1 | Ö← | 0.92 | 0.92 | 13.24 | 13.24 |
| | (a) 1 | Ö← | 1.83 | 0.92 | 12.25 | 12.25 |
| | (a) 1 | Ö← | 1.83 | 0.92 | 12.25 | 12.25 |
| Einw. Qk.N_B1 | (a) 1 | UZ-0.12: Qk.N_B1 | 0.00 | 0.92 | 9.98 | 9.98 |
| | (a) 1 | UZ-0.12: Qk.N_B1 | 0.92 | 0.92 | 1.43 | 1.43 |
| | (a) 1 | UZ-0.12: Qk.N_B1 | 1.83 | 0.92 | -0.99 | -0.99 |
| | (a) 1 | UZ-0.12: Qk.N_B1 | 1.83 | 0.92 | -0.99 | -0.99 |
| Einw. Qk.N_C1 | (a) 1 | UZ-0.12: Qk.N_C1 | 0.00 | 0.92 | 29.85 | 29.85 |
| | (a) 1 | UZ-0.12: Qk.N_C1 | 0.92 | 0.92 | 22.72 | 22.72 |
| | (a) 1 | UZ-0.12: Qk.N_C1 | 1.83 | 0.92 | 22.90 | 22.90 |
| | (a) 1 | UZ-0.12: Qk.N_C1 | 1.83 | 0.92 | 22.90 | 22.90 |
| Einw. Qk.N_C5 | (a) 1 | UZ-0.12: Qk.N_C5 | 0.00 | 0.92 | 8.23 | 8.23 |
| | (a) 1 | UZ-0.12: Qk.N_C5 | 0.92 | 0.92 | 9.06 | 9.06 |
| | (a) 1 | UZ-0.12: Qk.N_C5 | 1.83 | 0.92 | 8.67 | 8.67 |
| | (a) 1 | UZ-0.12: Qk.N_C5 | 1.83 | 0.92 | 8.67 | 8.67 |
| Einw. Qk.N_E1 | (a) 1 | UZ-0.12: Qk.N_E1 | 0.00 | 0.92 | 14.06 | 14.06 |
| | (a) 1 | UZ-0.12: Qk.N_E1 | 0.92 | 0.92 | 1.97 | 1.97 |
| | (a) 1 | UZ-0.12: Qk.N_E1 | 1.83 | 0.92 | -0.62 | -0.62 |
| | (a) 1 | UZ-0.12: Qk.N_E1 | 1.83 | 0.92 | -0.62 | -0.62 |
| Einw. Qk.N_DA | (a) 1 | UZ-0.12: Qk.N_DA | 0.00 | 0.92 | 0.07 | 0.07 |
| | (a) 1 | UZ-0.12: Qk.N_DA | 0.92 | 0.92 | 0.10 | 0.10 |
| | (a) 1 | UZ-0.12: Qk.N_DA | 1.83 | 0.92 | 0.12 | 0.12 |
| | (a) 1 | UZ-0.12: Qk.N_DA | 1.83 | 0.92 | 0.12 | 0.12 |
| Einw. Qk.N_T2 | (a) 1 | UZ-0.12: Qk.N_T2 | 0.00 | 0.92 | 0.02 | 0.02 |
| | (a) 1 | UZ-0.12: Qk.N_T2 | 0.92 | 0.92 | 0.03 | 0.03 |
| | (a) 1 | UZ-0.12: Qk.N_T2 | 1.83 | 0.92 | 0.04 | 0.04 |
| | (a) 1 | UZ-0.12: Qk.N_T2 | 1.83 | 0.92 | 0.04 | 0.04 |

(a)

aus Pos. 'D-EG - UZ-0.12'

Kombi nati onen

 $b \setminus t^{\wedge} \ddot{a} \leftrightarrow \&D \{ \sim \ddot{a} f i \hat{a} \ddot{a} \& \ddot{E}$
 $\& \ddot{a} \uparrow \ddagger \beta \ddot{A} \& \emptyset \ddot{S} \ddot{A} \ddot{O} \ddot{S} \ddot{A} \ddot{F} \ddot{I} \ddot{I} \& \ddot{E} \ddot{F} \ddot{E} \ddot{F} \ddot{A} \mid \wedge \ddot{a} \ddot{A} \& \emptyset \ddot{S} \ddot{A} \ddot{O} \ddot{S} \ddot{A} \ddot{F} \ddot{I} \ddot{I} \&$

Ek (* *EW)

| | | | |
|---|---------------|---------------|---------------|
| 1 | 1.00*Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35*Gk | ÉFÈĞIE Ö← | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.20*Qk.N_T2 | | |
| 3 | 1.35*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_C1 |
| | +1.05*Qk.N_C5 | +1.20*Qk.N_T2 | |
| 4 | 1.00*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 |
| | +1.50*Qk.N_E1 | | |
| 5 | 1.00*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_C1 |
| | +1.05*Qk.N_C5 | +1.20*Qk.N_T2 | |
| 6 | 1.35*Gk | ÉFÈÈÈÈ Ö← | +1.50*Qk.N_B1 |
| | +1.50*Qk.N_E1 | | |

Bemessung (GZT)

 $\ddot{a} f i \ddot{A} \ddot{A} \ddot{a} \ddot{A} \ddot{O} \ddot{a} \ddot{e} \sim \sim \mid b \setminus \acute{a} \wedge \ddot{A} \ddot{A} \ddot{a} \ddot{A} \ddot{U} \ddot{a} \acute{a} \& \acute{a} \ddagger \acute{a} \leftrightarrow \& \leftarrow \& \leftrightarrow \setminus \acute{A} \wedge \acute{a} \acute{a} \ddot{A} \& \emptyset \ddot{S} \ddot{A} \ddot{O} \ddot{S} \ddot{A}$
1992-1-1:2011-01

Bi egung

Abs. 6.1

 $\ddot{N} \ddot{a} \uparrow \ddot{a} b b \mid \wedge \& \ddot{A} \ddot{a} f i \ddot{a} \ddot{A} \ddot{N} \leftrightarrow \& \& \hat{a} \ddot{a} \acute{a} \wedge b^* \ddot{a} \mid \acute{a} \mid \wedge \&$

Feld 1

| x | Ek | $M_{y d, o}$ | x/d_o | z_o | $A_{s, o}$ | $A_{s, o, erf}$ |
|-------------------|----|--------------|---------|-------|--------------------|--------------------|
| [m] | | $M_{y d, u}$ | x/d_u | z_u | $A_{s, u}$ | $A_{s, u, erf}$ |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 2.75 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 1.01 _e |
| | 1 | - | 0.001 | 73.6 | - | 4.12 _q |
| 0.13 _a | 1 | 13.09 | - | - | - | 1.01 _e |
| | 2 | 28.68 | 0.034 | 72.7 | 0.86 | 4.12 _q |
| 1.22* | 1 | 60.59 | - | - | - | - |
| | 2 | 134.08 | 0.085 | 71.2 | 4.12 | 4.12 |
| 2.63 _a | 1 | 9.24 | - | - | - | 1.01 _e |
| | 2 | 20.50 | 0.028 | 72.9 | 0.62 | 4.12 _q |
| 2.75 | 1 | - | - | - | - | 1.01 _e |
| | 1 | - | 0.001 | 73.6 | - | 4.12 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

 $\ddot{N} \ddot{a} \uparrow \ddot{a} b b \mid \wedge \& \ddot{A} \ddot{a} f i \ddot{a} \ddot{A} \ddot{T} \mid \ddot{a} \ddot{a} \leftarrow \ddot{a} \acute{a} \ddot{a} \setminus \hat{a} \ddot{a} \acute{a} \wedge b^* \ddot{a} \mid \acute{a} \mid \wedge \&$

Feld 1

| x | Ek | V_{Ed} | $\gamma f l \ddot{Y}$ | $V_{Rd, max}$ | $V_{Rd, c}$ | $a_{sw, erf}$ |
|-------------------|----|--------------------|-----------------------|---------------|-------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 2.75 m) | | | | | | |
| 0.00 | 2 | 50.63 _R | 18.4 | 633.42 | - | - |
| 0.13 _a | 2 | 50.63 _R | 18.4 | 633.42 | - | 2.32 _M |
| 0.86 _v | 3 | 50.63 | 18.4 | 633.42 | 54.49 | 2.32 _M |
| 1.22 | 6 | 5.79 _R | 18.4 | 633.42 | 54.49 | 2.32 _M |
| 1.89 _v | 2 | 79.10 | 18.4 | 633.42 | 54.49 | 2.32 _M |
| 2.63 _a | 2 | 79.10 _R | 18.4 | 633.42 | - | 2.32 _M |
| 2.75 | 2 | 79.10 _R | 18.4 | 633.42 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

Anschluss der Gurte

 $\ddot{O} \mid \ddot{a} \setminus \acute{a} \wedge b^* \acute{a} \rightarrow \mid b b \leftarrow \ddot{a} \ddagger \acute{a} \setminus \ddot{a} \acute{A} \ddot{C} \uparrow \acute{a} \beta \& \hat{a} \ddot{a} \wedge \ddot{a} \ddot{A} \ddot{N} \hat{a} b^* \acute{a} \wedge \leftrightarrow \setminus \setminus b \acute{a} \acute{a} \setminus \ddot{a} \wedge D$

| Feld | Ek | x_A | x_E | #R | #Oc | Anteil | #Od |
|------|----|-------|-------|-------|------|-------------------|------|
| | | [m] | [m] | [kNm] | [kN] | je Gurt | [kN] |
| 1 | 1 | 0.00 | 0.59 | 47.5 | 66.3 | 0.00 ^D | 0.0 |
| | 1 | 1.18 | 1.96 | 14.9 | 21.4 | 0.00 ^D | 0.0 |

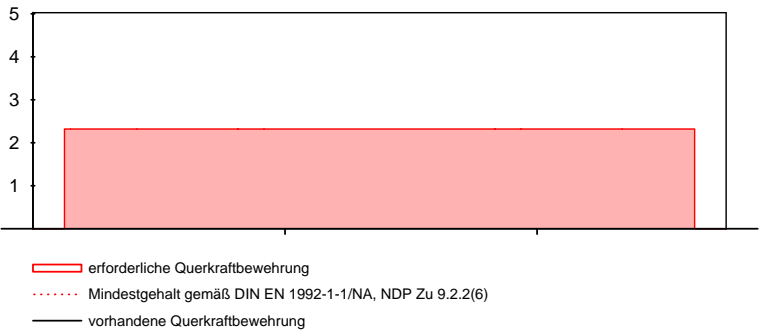
D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Querbewehrung

| Feld | Ek | x_A | x_E | v_{Ed} | $v_{Rd, max}$ | $a_{sf, erf}$ |
|------|----|-------|-------|----------------------|----------------------|----------------------|
| | | [m] | [m] | [N/mm ²] | [N/mm ²] | [cm ² /m] |
| 1 | 1 | 0.00 | 0.59 | 0.000 | 0.000 | 0.00 |

Querkraftbewehrung Asw
M 1:30

[cm²/m]



5i Z`U[Yf_f}ZhY

N|à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------|------------------|------------------|
| Einw. Gk | A 83.89 | 83.89 |
| | B 57.64 | 57.64 |
| Einw. Im | A 27.36 | 27.36 |
| | B 19.31 | 19.31 |
| Einw. Qk.N_B1 | A 8.13 | 8.13 |
| | B 1.43 | 1.43 |
| Einw. Qk.N_C1 | A 36.71 | 36.71 |
| | B 32.46 | 32.46 |
| Einw. Qk.N_C5 | A 11.76 | 11.76 |
| | B 12.03 | 12.03 |
| Einw. Qk.N_E1 | A 11.55 | 11.55 |
| | B 2.57 | 2.57 |
| Einw. Qk.N_DA | A 0.12 | 0.12 |
| | B 0.15 | 0.15 |
| Einw. Qk.N_T2 | A 0.03 | 0.03 |
| | B 0.05 | 0.05 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-0.14

GHU`VYfcb!8 i fW`U Zf}[Yf

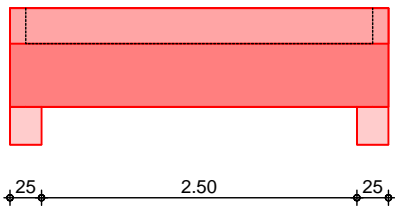
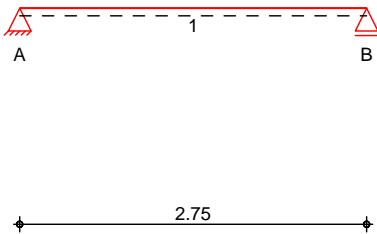
System

Ó↔^àæ→ä\ã†&æãÁÇGIÈ€DÍÎÈ€DGÍÎÈ€D

M 1 : 60

System

Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 2.75 | 0.00 | C 30/37 | 25.0/25.0/78.0 |
| 1 | | 2.75 | | |

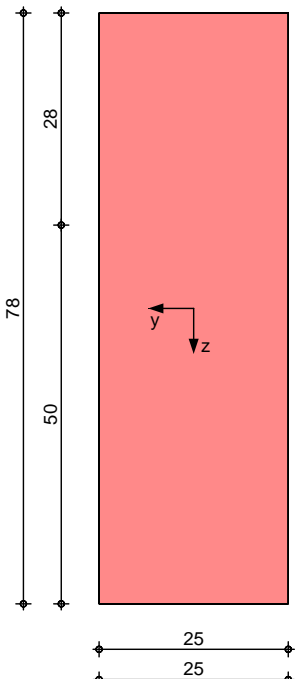
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1 : 10



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 2.75 | 25.0 | Beton | fest |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | z _f [cm] | YflŸ | YSD↑↑ŸŸ |
|------|-------|------------------------|------|---------|
| 1 | glatt | 28.0 | 90 | 0.00 |

Belastungen

Belastungen auf das System

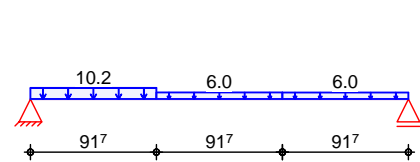
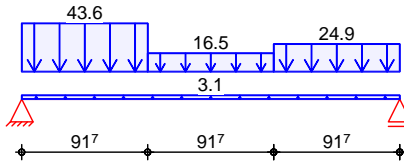
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

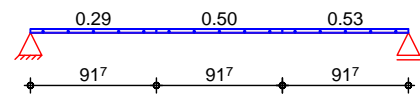
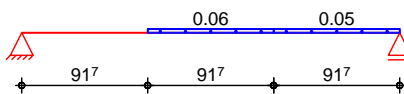
Gk

Ö←



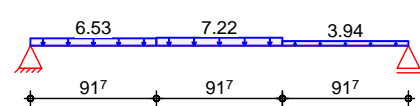
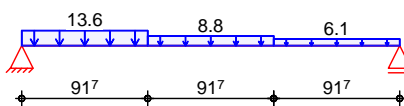
Qk.N_B1

Qk.N_C1



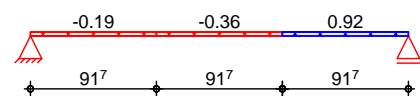
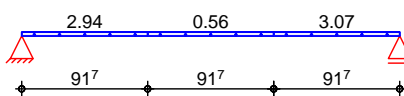
Qk.N_C5

Qk.N_E1



Qk.N_DA

Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------|------------------|----------|----------|---------------------------|---------------------------|
| 1 | Eigengew | 0.00 | 2.75 | | 3.12 |
| (a) 1 | UZ-0.14: Gk | 0.00 | 0.92 | 43.60 | 43.60 |
| (a) 1 | UZ-0.14: Gk | 0.92 | 0.92 | 16.55 | 16.55 |
| (a) 1 | UZ-0.14: Gk | 1.83 | 0.92 | 24.87 | 24.87 |
| Einw. Im | Ö← | 0.00 | 0.92 | 10.21 | 10.21 |
| (a) 1 | Ö← | 0.92 | 0.92 | 6.03 | 6.03 |
| (a) 1 | Ö← | 1.83 | 0.92 | 6.00 | 6.00 |
| Einw. Qk.N_B1 | UZ-0.14: Qk.N_B1 | 0.92 | 0.92 | 0.06 | 0.06 |
| (a) 1 | UZ-0.14: Qk.N_B1 | 1.83 | 0.92 | 0.05 | 0.05 |
| Einw. Qk.N_C1 | UZ-0.14: Qk.N_C1 | 0.00 | 0.92 | 0.29 | 0.29 |
| (a) 1 | UZ-0.14: Qk.N_C1 | 0.92 | 0.92 | 0.50 | 0.50 |
| (a) 1 | UZ-0.14: Qk.N_C1 | 1.83 | 0.92 | 0.53 | 0.53 |
| Einw. Qk.N_C5 | UZ-0.14: Qk.N_C5 | 0.00 | 0.92 | 13.62 | 13.62 |
| (a) 1 | UZ-0.14: Qk.N_C5 | 0.92 | 0.92 | 8.80 | 8.80 |
| (a) 1 | UZ-0.14: Qk.N_C5 | 1.83 | 0.92 | 6.07 | 6.07 |
| Einw. Qk.N_E1 | UZ-0.14: Qk.N_E1 | 0.00 | 0.92 | 6.53 | 6.53 |
| (a) 1 | UZ-0.14: Qk.N_E1 | 0.92 | 0.92 | 7.22 | 7.22 |
| (a) 1 | UZ-0.14: Qk.N_E1 | 1.83 | 0.92 | 3.94 | 3.94 |
| Einw. Qk.N_DA | UZ-0.14: Qk.N_DA | 0.00 | 0.92 | 2.94 | 2.94 |
| (a) 1 | UZ-0.14: Qk.N_DA | 0.92 | 0.92 | 0.56 | 0.56 |
| (a) 1 | UZ-0.14: Qk.N_DA | 1.83 | 0.92 | 3.07 | 3.07 |
| Einw. Qk.N_T2 | UZ-0.14: Qk.N_T2 | 0.00 | 0.92 | -0.19 | -0.19 |
| (a) 1 | UZ-0.14: Qk.N_T2 | 0.92 | 0.92 | -0.36 | -0.36 |
| (a) 1 | UZ-0.14: Qk.N_T2 | 1.83 | 0.92 | 0.92 | 0.92 |

(a)

aus Pos. 'D-EG - UZ-0.14'

Kombi nati onen

b\†^ä↔&D{~äfiâæä&È

&æ†‡ßÄÆØSÄÓSÄFïïĠĜĖĖĖFÄ|^äÄÆØSÄÓSÄFïï€

Ek (* *EW)

| | | | |
|---|---------------|---------------|---------------|
| 1 | 1.00*Gk | ÉFÈ€€€ Ö← | |
| 2 | 1.35*Gk | ÉFÈĜIE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.50*Qk.N_C5 | +1.50*Qk.N_E1 |
| 3 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_T2 |
| 4 | 1.00*Gk | ÉFÈĜIE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.50*Qk.N_E1 | +1.50*Qk.N_DA |
| | +1.20*Qk.N_T2 | | |
| 5 | 1.35*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_C5 |
| 6 | 1.35*Gk | ÉFÈĜIE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.50*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.20*Qk.N_T2 | | |
| 7 | 1.35*Gk | ÉFÈ€€€ Ö← | |

Bemessung (GZT)

äfiäÄäæ^ÄÖäæ^~ | b\á^äÄäæäÄÜää&à†ä↔&æ↔\Ä^á^äÄÆØSÄÓSÄ
1992-1-1:2011-01

Bi egung

Abs. 6.1

Ñæ†æbb|^&ÄäfiäÄÑ↔æ&äæá^b*ä|^á|^&

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 2.75 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 0.50 _e |
| | 1 | - | 0.001 | 73.6 | - | 2.22 _M |
| 0.13 _a | 3 | 7.08 | - | - | - | 0.50 _e |
| | 2 | 13.99 | 0.023 | 73.0 | 0.42 | 2.22 _M |
| 1.26* | 3 | 32.76 | - | - | - | - |
| | 2 | 67.05 | 0.054 | 72.2 | 2.04 | 2.22 _M |
| 2.63 _a | 1 | 5.54 | - | - | - | 0.50 _e |
| | 6 | 10.91 | 0.020 | 73.1 | 0.33 | 2.22 _M |
| 2.75 | 1 | - | - | - | - | 0.50 _e |
| | 1 | - | 0.001 | 73.6 | - | 2.22 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Ñæ†æbb|^&ÄäfiäÄT|æä↔ääà\äæá^b*ä|^á|^&

| x | Ek | V _{Ed} | V _{Ed} | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|--------------------|-----------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | YflŸ | [kN] | [kN] | [cm ² /m] |
| (L = 2.75 m) | | | | | | |
| 0.00 | 2 | 26.15 _R | 18.4 | 633.42 | - | - |
| 0.13 _a | 2 | 26.15 _R | 18.4 | 633.42 | - | 2.32 _M |
| 0.86 _v | 2 | 26.15 | 18.4 | 633.42 | 53.33 | 2.32 _M |
| 1.26 | 7 | 0.84 _R | 18.4 | 633.42 | 53.33 | 2.32 _M |
| 1.89 _v | 2 | 37.62 | 18.4 | 633.42 | 53.33 | 2.32 _M |
| 2.63 _a | 6 | 37.62 _R | 18.4 | 633.42 | - | 2.32 _M |
| 2.75 | 6 | 37.62 _R | 18.4 | 633.42 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

Fugenbemessung

| x | V _{Ed} | V _{Edi} | V _{Rdi,max} | V _{Rdi,ct} | a _{sw,erf} |
|-----|-----------------|------------------|----------------------|---------------------|---------------------|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | Y'†ŸD†Ÿ |

N@piuhwig"3

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"P1oo↔

glatt (c=0.20, =0.60, =0.20)

Öæ→äÄFÄÉÄP~^\'ä↔\à→†^äæÄ↔†ÄŠäæä&|ä\ÊÄäÄKÄÄ_{eff}

| | | | | | |
|-------------------|--------|-------|--------|-------|------|
| 0.58 | 56.23 | 77.67 | 425.00 | 56.67 | 0.67 |
| 0.71 | 42.10 | 58.24 | 425.00 | 56.67 | 0.05 |
| 0.86 _v | 26.15 | 36.21 | 425.00 | 56.67 | - |
| 1.89 _v | -37.62 | 52.01 | 425.00 | 56.67 | - |
| 1.96 | -42.14 | 58.23 | 425.00 | 56.67 | 0.05 |

U-329

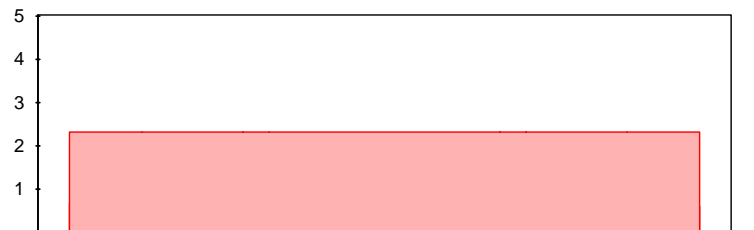
Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | asf [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|-----------------------------|
| 1 | 0.00 | 1.28 | 0 | 0.0 | - |
| | 1.28 | 2.75 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:30

Asw [cm²/m]



- erforderliche Querkraftbewehrung
- erforderliche Fugenbewehrung
- Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
- vorhandene Querkraftbewehrung

5i Z` U[Yf _f} ZhY

N| à→á&æã←ã†à\æÁÜã†&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 48.99 | 48.99 |
| B | 37.54 | 37.54 |
| Einw. I _m | | |
| A | 11.48 | 11.48 |
| B | 8.90 | 8.90 |
| Einw. Q _{k,N,B1} | | |
| A | 0.04 | 0.04 |
| B | 0.07 | 0.07 |
| Einw. Q _{k,N,C1} | | |
| A | 0.53 | 0.53 |
| B | 0.68 | 0.68 |
| Einw. Q _{k,N,C5} | | |
| A | 15.37 | 15.37 |
| B | 10.75 | 10.75 |
| Einw. Q _{k,N,E1} | | |
| A | 8.90 | 8.90 |
| B | 7.32 | 7.32 |
| Einw. Q _{k,N,DA} | | |
| A | 2.97 | 2.97 |
| B | 3.05 | 3.05 |
| Einw. Q _{k,N,T2} | | |
| A | -0.17 | -0.17 |
| B | 0.51 | 0.51 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-----|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

Pos. UZ-0.17-a

Stahlbeton-Durchlaufträger

Umbemessung zur Berücksichtigung des Durchbruchs in der LP5

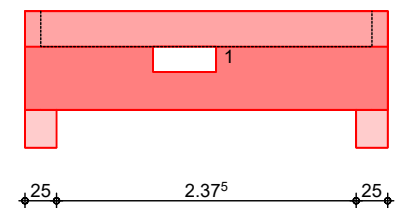
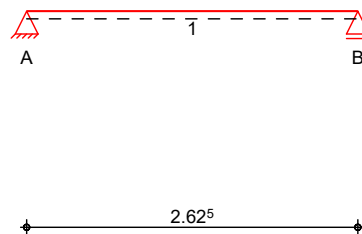
System

Einfeldträger (25.0/78.0/262.5)

System

Ansicht

M 1:60



Abmessungen
Mat./Querschnitt

| Feld | 1 | x | Material | $b_{eff}/b_w/h$ |
|------|------|------|----------|-----------------|
| | [m] | [m] | | [cm] |
| 1 | 2.63 | 0.00 | C 30/37 | 25.0/25.0/78.0 |
| 1 | | 2.63 | | |

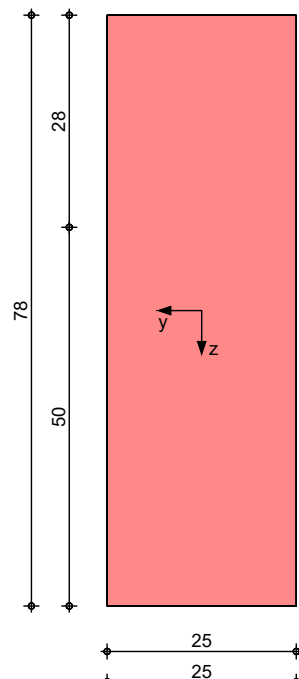
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1:10



Auflager

| Lager | x | b | Art | $K_{T,z}$ |
|-------|------|------|-------|-----------|
| | [m] | [cm] | | [kN/m] |
| A | 0.00 | 25.0 | Beton | fest |
| B | 2.63 | 25.0 | Beton | fest |

Längsfugen

| Feld | Oberfläche | z_f | α | σ_n |
|------|------------|-------|----------|------------|
| | | [cm] | [°] | [N/mm²] |
| 1 | glatt | 28.0 | 90 | 0.00 |

Öffnungen

| Nr. | Feld | x [m] | y [m] | l_1 [m] | d_a [m] | d'_o [cm] | d'_u [cm] |
|-----|------|----------|----------|--------------|--------------|----------------|----------------|
| 1 | 1 | 1.14 | 0.40 | 0.50 | 0.20 | 3.8 | 3.8 |

Belastungen

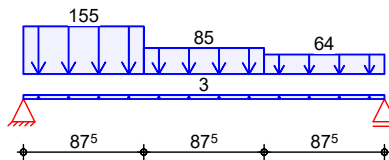
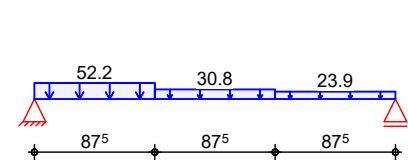
Belastungen auf das System

Grafik

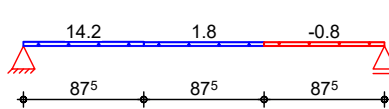
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

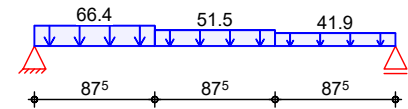
Gk


 ΔGk


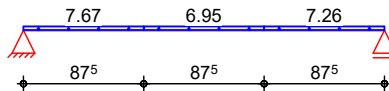
Qk.N_B1



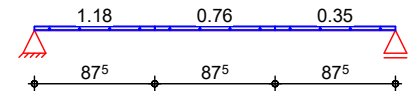
Qk.N_C1



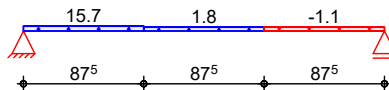
Qk.N_C5



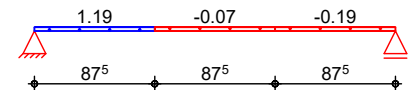
Qk.N_E1



Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten

Einw. Gk

| Feld | Komm. | a [m] | s [m] | q_{li} [kN/m] | q_{re} [kN/m] |
|-------------------|----------------------|----------|----------|--------------------|--------------------|
| 1 | Eigengew | 0.00 | 2.63 | | 3.12 |
| (a) 1 | UZ-0.17: Gk | 0.00 | 0.88 | 155.14 | 155.14 |
| (a) 1 | UZ-0.17: Gk | 0.88 | 0.88 | 84.59 | 84.59 |
| (a) 1 | UZ-0.17: Gk | 1.75 | 0.88 | 63.74 | 63.74 |
| Einw. ΔGk | | | | | |
| (a) 1 | UZ-0.17: ΔGk | 0.00 | 0.88 | 52.23 | 52.23 |
| (a) 1 | UZ-0.17: ΔGk | 0.88 | 0.88 | 30.84 | 30.84 |
| (a) 1 | UZ-0.17: ΔGk | 1.75 | 0.88 | 23.89 | 23.89 |
| Einw. Qk.N_B1 | | | | | |
| (a) 1 | UZ-0.17: Qk.N_B1 | 0.00 | 0.88 | 14.22 | 14.22 |
| (a) 1 | UZ-0.17: Qk.N_B1 | 0.88 | 0.88 | 1.81 | 1.81 |
| (a) 1 | UZ-0.17: Qk.N_B1 | 1.75 | 0.88 | -0.82 | -0.82 |
| Einw. Qk.N_C1 | | | | | |
| (a) 1 | UZ-0.17: Qk.N_C1 | 0.00 | 0.88 | 66.40 | 66.40 |
| (a) 1 | UZ-0.17: Qk.N_C1 | 0.88 | 0.88 | 51.45 | 51.45 |
| (a) 1 | UZ-0.17: Qk.N_C1 | 1.75 | 0.88 | 41.94 | 41.94 |
| Einw. Qk.N_C5 | | | | | |
| (a) 1 | UZ-0.17: Qk.N_C5 | 0.00 | 0.88 | 7.67 | 7.67 |
| (a) 1 | UZ-0.17: Qk.N_C5 | 0.88 | 0.88 | 6.95 | 6.95 |
| (a) 1 | UZ-0.17: Qk.N_C5 | 1.75 | 0.88 | 7.26 | 7.26 |
| Einw. Qk.N_E1 | | | | | |
| (a) 1 | UZ-0.17: Qk.N_E1 | 0.00 | 0.88 | 1.18 | 1.18 |
| (a) 1 | UZ-0.17: Qk.N_E1 | 0.88 | 0.88 | 0.76 | 0.76 |
| (a) 1 | UZ-0.17: Qk.N_E1 | 1.75 | 0.88 | 0.35 | 0.35 |
| Einw. Qk.N_DA | | | | | |
| (a) 1 | UZ-0.17: Qk.N_DA | 0.00 | 0.88 | 15.65 | 15.65 |
| (a) 1 | UZ-0.17: Qk.N_DA | 0.88 | 0.88 | 1.77 | 1.77 |
| (a) 1 | UZ-0.17: Qk.N_DA | 1.75 | 0.88 | -1.08 | -1.08 |
| Einw. Qk.N_T2 | | | | | |
| (a) 1 | UZ-0.17: Qk.N_T2 | 0.00 | 0.88 | 1.19 | 1.19 |
| (a) 1 | UZ-0.17: Qk.N_T2 | 0.88 | 0.88 | -0.07 | -0.07 |
| (a) 1 | UZ-0.17: Qk.N_T2 | 1.75 | 0.88 | -0.19 | -0.19 |

(a)

aus Pos. 'D-EG - UZ-0.17'

Kombinationen

ständig/vorüberg.

gemäß DIN EN 1992-1-1 und DIN EN 1990

| Ek | $\Sigma (\gamma \cdot \psi \cdot E W)$ | | |
|----|--|---------------|---------------|
| 1 | 1.00*Gk | +1.00*ΔGk | |
| 2 | 1.35*Gk | +1.35*ΔGk | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.20*Qk.N_T2 | | |
| 3 | 1.35*Gk | +1.35*ΔGk | +1.50*Qk.N_C1 |
| | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | |
| 4 | 1.00*Gk | +1.00*ΔGk | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_DA | +1.20*Qk.N_T2 | |
| 5 | 1.00*Gk | +1.00*ΔGk | +1.50*Qk.N_C1 |
| | +1.05*Qk.N_C5 | | |
| 6 | 1.35*Gk | +1.35*ΔGk | +1.05*Qk.N_B1 |
| | +1.50*Qk.N_E1 | +1.50*Qk.N_DA | +1.20*Qk.N_T2 |

Bemessung (GZT)

für den Grenzzustand der Tragfähigkeit nach DIN EN 1992-1-1:2011-01

Biegung

Abs. 6.1

Bemessung für Biegebeanspruchung

| x | Ek | $M_{y,d,o}$ | x/d_o | z_o | $A_{s,o}$ | $A_{s,o,erf}$ |
|-------------------|----|-------------|---------|-------|-----------|-------------------|
| [m] | | $M_{y,d,u}$ | x/d_u | z_u | $A_{s,u}$ | $A_{s,u,erf}$ |
| (L = 2.62 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 1.79 _e |
| | 1 | - | 0.001 | 72.2 | - | 6.21 _q |
| 0.13 _a | 1 | 25.68 | - | - | - | 1.79 _e |
| | 2 | 51.21 | 0.048 | 71.0 | 1.58 | 6.21 _q |
| 1.14 | 1 | 115.64 | - | - | - | - |
| | 2 | 235.52 | 0.139 | 68.0 | 7.64 | 7.64 |
| 1.18* | 1 | 115.66 | - | - | - | - |
| | 2 | 235.77 | 0.140 | 68.0 | 7.65 | 7.65 |
| 2.50 _a | 1 | 17.88 | - | - | - | 1.79 _e |
| | 2 | 37.05 | 0.040 | 71.2 | 1.14 | 6.15 _q |
| 2.62 | 1 | - | - | - | - | 1.79 _e |
| | 1 | - | 0.001 | 72.2 | - | 6.15 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

Bemessung für Querkraftbeanspruchung

| x | Ek | V_{Ed} | θ | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|-------------------|----|---------------------|----------|--------------|------------|----------------------|
| [m] | | [kN] | [°] | [kN] | [kN] | [cm ² /m] |
| (L = 2.62 m) | | | | | | |
| 0.00 | 2 | 89.34 ^R | 37.5 | 1000.42 | - | - |
| 0.13 _a | 2 | 89.34 ^R | 37.5 | 1000.42 | - | 8.16 ^F |
| 0.85 _v | 3 | 89.34 | 37.5 | 1000.42 | 74.85 | 2.58 ^F |
| 1.78 _v | 2 | 145.37 | 28.8 | 874.30 | 74.85 | 5.34 ^F |
| 2.50 _a | 2 | 145.37 ^R | 28.8 | 874.30 | - | 7.99 ^F |
| 2.62 | 2 | 145.37 ^R | 28.8 | 874.30 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x | V_{Ed} | V_{Edi} | $V_{Rdi,max}$ | $V_{Rdi,ct}$ | $a_{sw,erf}$ |
|-----|----------|-----------|---------------|--------------|----------------------|
| [m] | [kN] | [kN/m] | [kN/m] | [kN/m] | [cm ² /m] |

Längsfuge 1

Streckgrenze der Verbundbewehrung: $f_{yk} = 500 \text{ N/mm}^2$

glatt (c=0.20, μ =0.60, ν =0.20)

Feld 1 - Kontaktfläche im Obergurt, $b = b_{eff}$

| | | | | | |
|-------------------|--------|--------|--------|-------|------|
| 0.57 | 202.83 | 312.14 | 425.00 | 56.67 | 8.16 |
| 0.85 _v | 89.34 | 137.49 | 425.00 | 56.67 | 2.58 |
| 1.03 | 40.38 | 59.33 | 425.00 | 56.67 | 0.09 |
| 1.34 | -39.61 | 58.19 | 425.00 | 56.67 | 0.05 |

U-334a

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} [cm ² /m] |
|-------------------|-------------------------|----------------------------|--------------------------------|-------------------------------|---|
| 1.78 _v | -145.37 | 223.72 | 425.00 | 56.67 | 5.34 |
| 2.06 | -199.28 | 306.67 | 425.00 | 56.67 | 7.99 |

Öffnungsbemessung

Öffnung 1 Biegung

(Feld: 1, x' = 1.14m):

| Gurt | | M _d [kNm] | N _d [kN] | A _{s,u} [cm ²] | M _d [kNm] | N _d [kN] | A _{s,o} [cm ²] |
|-------|----|-------------------------|------------------------|--|-------------------------|------------------------|--|
| oben | li | -2.75 | -216.3 | - | -9.33 | -397.5 | - |
| | re | -2.43 | -214.4 | - | -4.94 | -369.1 | - |
| unten | li | 35.66 | 404.68 | 8.70 | 34.92 | 397.46 | 0.18 |
| | re | 36.48 | 404.68 | 8.78 | 33.09 | 369.12 | 0.10 |

Querkraft

| Gurt | | V _{Ed} [kN] | V _{rd,ct} [kN] | θ [°] | V _{Rd,max} [kN] | a _{sw,erf} [cm ² /m] |
|-------|----|-------------------------|----------------------------|----------|-----------------------------|---|
| oben | li | 63.44 | 39.86 | 20.7 | 221.70 | 2.61 |
| | re | -32.49 | 30.11 | 18.4 | 201.39 | 2.33 |
| unten | li | 11.19 | 6.74 | 45.0 | 325.13 | 2.33 |
| | re | -5.73 | 16.15 | 45.0 | 325.13 | 2.33 |

Aufhängebewehrung

| Rand | | D [kN] | x [cm] | Z _M [kN] | Z _V [kN] | A _{sv} [cm ²] |
|--------|--|-----------|-----------|------------------------|------------------------|---------------------------------------|
| links | | 544.98 | 10.76 | 0.00 | 18.13 | 0.42 |
| rechts | | 544.98 | 10.76 | 0.00 | 12.47 | 0.29 |

Anschluss der Gurte

Gurtanschlusskräfte (maßgebende Abschnittsdaten)

| Feld | Ek | x _A [m] | x _E [m] | ΔM [kNm] | ΔF _c [kN] | Anteil je Gurt | ΔF _d [kN] |
|------|----|-----------------------|-----------------------|-------------|-------------------------|-------------------|-------------------------|
| 1 | 1 | 0.00 | 0.58 | 91.7 | 133.0 | 0.00 ^D | 0.0 |
| | 1 | 1.17 | 1.90 | 31.5 | 48.2 | 0.00 ^D | 0.0 |

D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Querbewehrung

| Feld | Ek | x _A [m] | x _E [m] | v _{Ed} [N/mm ²] | v _{Rd,max} [N/mm ²] | a _{sf,erf} [cm ² /m] |
|------|----|-----------------------|-----------------------|---|---|---|
| 1 | 1 | 0.00 | 0.58 | 0.000 | 0.000 | 0.00 |
| | | 1.17 | 1.90 | 0.000 | 0.000 | 0.00 |

Die Querbewehrung ist jeweils zur Hälfte oben und unten in die Platte einzulegen. Die Bewehrung aus Querbiegung darf gemäß 6.2.4(5) angerechnet werden.

Bewehrungswahl

Untere Längsbew

untere Längsbewehrung

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 4ø16 | 8.04 | -0.13 | 2.88 | 0.14h | 0.14h | 1 |
| | 2ø16 | 4.02 | -0.13 | 2.88 | 0.14h | 0.14h | 2 |

(Längen inkl. Verankerungslängen, ohne Stöße)
h: gesonderte Verankerungsform erforderlich

Obere Längsbew

obere Längsbewehrung

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 2ø16 | 4.02 | -0.13 | 2.88 | 0.18h | 0.18h | 1 |

(Längen inkl. Verankerungslängen, ohne Stöße)
h: gesonderte Verankerungsform erforderlich

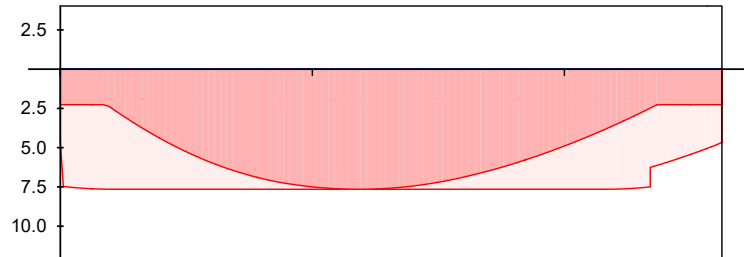
Längsbewehrung
M 1:30

As

[cm²]

oben
Lage 1:

2Ø16



unten
Lage 1:
Lage 2:

4Ø16

2Ø16

— erf. Längsbewehrung / Zugkraftdeckungsline
..... verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
— vorhandene Längsbewehrung — Verankerungslängen

Querkraftbew

Querkraftbewehrung (Bügel)

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 0.89 | Ø8 | 10.0 | 2 | 10.05 |
| | 1.39 | 2.62 | Ø8 | 10.0 | 2 | 10.05 |

Gurtbewehrung

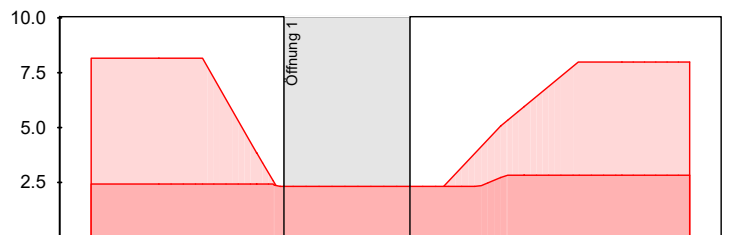
Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | Ø [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 1.17 | 10 | 20.0 | 3.93 |
| | 1.17 | 2.63 | 10 | 20.0 | 3.93 |

Querkraftbewehrung
M 1:30

Asw

[cm² / m]



— erforderliche Querkraftbewehrung
— erforderliche Fugenbewehrung
..... Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
— vorhandene Querkraftbewehrung

Öffnung 1:
Längsbewehrung

| Gurt | Lage | gew. | As [cm ²] | l [m] | l _{b,1} [cm] | l _{b,r} [cm] | Lagen |
|---------|-------|------|--------------------------|----------|--------------------------|--------------------------|-------|
| Oberg. | oben | — | — | — | — | — | — |
| | unten | 2Ø16 | 4.02 | 1.63 | 20.0 | 20.0 | 1 |
| Unterg. | oben | 2Ø16 | 4.02 | 1.68 | 20.0 | 20.0 | 1 |
| | unten | 2Ø16 | 4.02 | 1.68 | 20.0 | 20.0 | 2 |

Querkr/Aufhängebew

Querkraft- und Aufhängebewehrung

| Gurt/Rand | Anz. | d _s [mm] | Abst. [cm] | Schn. | a _{sw} [cm ² /m] |
|-------------|------|------------------------|---------------|-------|---|
| Obergurt | 6 | 8 | 8.3 | 2 | 12.06 |
| Untergurt | 6 | 8 | 8.3 | 2 | 12.06 |
| Rand links | 2 | 8 | 10.0 | 2 | 10.05 |
| Rand rechts | 2 | 8 | 10.0 | 2 | 10.05 |

U-336a

Auflagerkräfte

Auflagerkräfte Träger

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|--------------------|------------------|------------------|
| Einw. G_k | A 163.53 | 163.53 |
| | B 110.21 | 110.21 |
| Einw. ΔG_k | A 55.06 | 55.06 |
| | B 38.53 | 38.53 |
| Einw. $Q_k.N_{B1}$ | A 11.04 | 11.04 |
| | B 2.27 | 2.27 |
| Einw. $Q_k.N_{C1}$ | A 77.04 | 77.04 |
| | B 62.78 | 62.78 |
| Einw. $Q_k.N_{C5}$ | A 9.69 | 9.69 |
| | B 9.46 | 9.46 |
| Einw. $Q_k.N_{E1}$ | A 1.24 | 1.24 |
| | B 0.76 | 0.76 |
| Einw. $Q_k.N_{DA}$ | A 12.03 | 12.03 |
| | B 2.27 | 2.27 |
| Einw. $Q_k.N_{T2}$ | A 0.81 | 0.81 |
| | B 0.00 | 0.00 |

Zusammenfassung

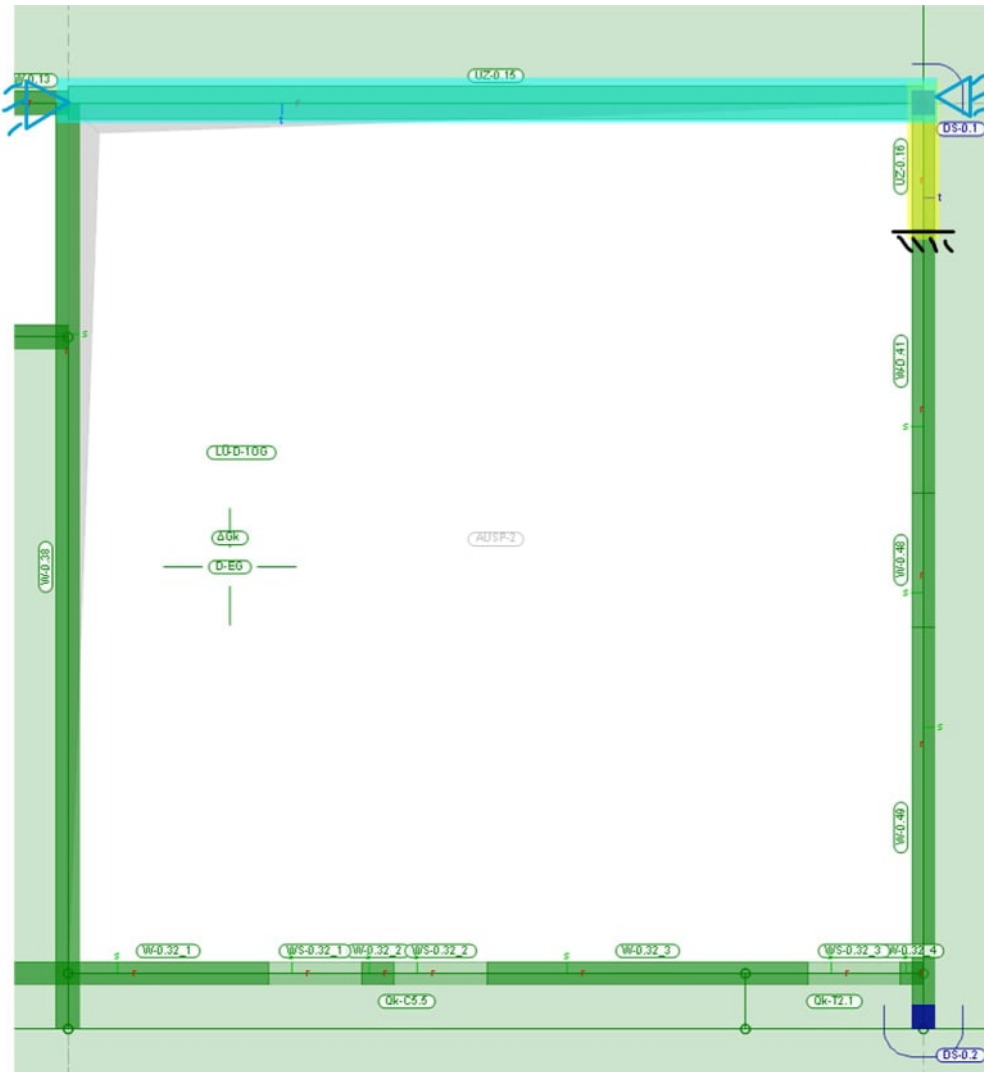
Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | η [-] |
|--------------------|-----|---------------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Öffnungsbemessung | OK | |
| Bewehrungswahl | OK | |

3.4.3 Trägersystem



Das im nachfolgenden betrachtete Trägersystem bildet sich aus den Unterzügen UZ-0.15 und UZ-0.16. UZ-0.15 (B2S II; blau markiert) spannt über 10 m als Balken auf zwei Stützen. Die Auflager bilden auf der einen Seite die Wand W-0.13 und auf der anderen Seite der Unterzug UZ-0.16 (KA I; gelb markiert). Dieser spannt als Kragarm über 1,375 m und lagert auf der Wand W-0.41. Die Bewehrung ist ausreichend über dem Wandauflager zu verankern.

Für den Anschluss zwischen den Unterzügen wird zusätzlich ein Nachweis des Nebenträgeranschlusses erbracht.

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Übersicht der Bewehrungswahl:

UZ-0.15: unten: 1. Lage: 4Ø16
 2. Lage: 2Ø16

 oben: 1. Lage: 2Ø16

 quer: Ø8/20

UZ-0.16: unten: 1. Lage: 2Ø12

 oben: 1. Lage: 4Ø20

 quer: Ø10/10

Pos. UZ-0.15

GHU`VYfcb!8i fW`U Zf}[Yf

Anschluss indirektes Auflager:

Auflagerkraft maßgebendes Auflager (B):

$$F_{Ed} = 180 \text{ kN}$$

Erforderliche Aufhängebewehrung:

$$A_{sw,erf} = 180 \text{ kN} / (43,5 \text{ kN/cm}^2) = 4,14 \text{ cm}^2$$

Verankerung der Aufhängebewehrung im Kreuzungspunkt mit Breite $b_s = 25 \text{ cm}$

gewählte Bügelbewehrung:

$$d_{qa} = 10 \text{ mm}; s_{qa} = 7,5 \text{ mm}$$

Vorhandene Aufhängebewehrung im Verankerungsbereich:

$$A_{sw,vorh} = 5,24 \text{ cm}^2$$

Die Bügelbewehrung ist am indirekten Auflager B im Hauptträger UZ-0.16 einzulegen.

Verankerungslänge:

Durch den indirekten Anschluss in den Hauptträger UZ-0.16, der eine Breite von 25 cm aufweisen, sind nur maximal 22 cm Querschnittsbreite zum Verankern der Längsbewehrung vorhanden.

Es ist eine Verankerung mit Haken für die untere Längsbewehrung erforderlich.

$$l_{b,rqd} = 57 \text{ cm}$$

$$l_{bd} = l_{b,rqd} \cdot A_{s,erf} / A_{s,vorh} = 57 \text{ cm} \cdot 4,63 \text{ cm}^2 / 12,6 \text{ cm}^2 = 21 \text{ cm} \quad l_{b,min}$$

$$l_{b,min} = 0,3 \cdot l_{b,rqd} = 0,3 \cdot 50 \text{ cm} = 17,1 \text{ cm} \quad 10 \varnothing_l = 16 \text{ cm}$$

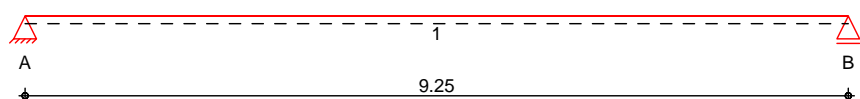
-> $l_{bd} = 21 \text{ cm}$

Die Eisen sind am Auflager mittels Kröpfung auf der Unterseite über die Längsbewehrung des Hauptträgers zu führen.

System

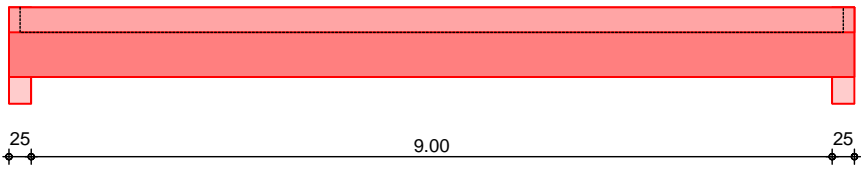
M 1 : 85

Ó↔^âæ→ä\ã†&æãÄÇİÈÈĐÍÎÈĐİĞİÈÈ
System



M 1 : 85

Ansicht



Abmessungen
Mat./Querschnitt

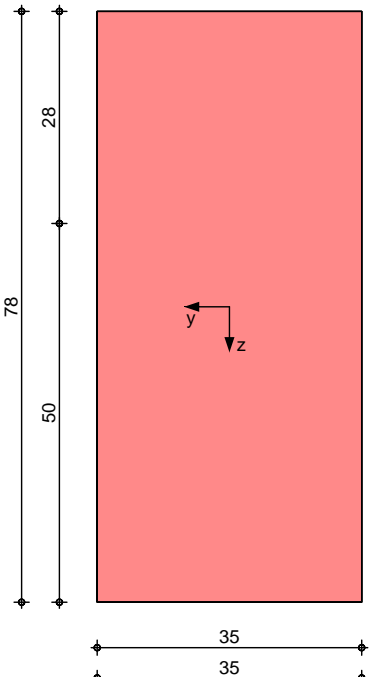
| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 9.25 | 0.00 | C 30/37 | 35.0/35.0/78.0 |
| 1 | | 9.25 | | |

Expositionsklasse XC1

Grafik

Querschnittsgrafik

M 1 : 10



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 9.25 | 25.0 | Beton | fest |

Q_z & b_a | & æ ^ Á Á Á Á Á Á Á Á Á Á

| Feld | Fuge | z _f [cm] | Y _{fl} Y | YSD↑↑Y _Y Nd |
|------|-------|------------------------|-------------------|---------------------------|
| 1 | glatt | 28.0 | 90 | 0.00 |

Belastungen

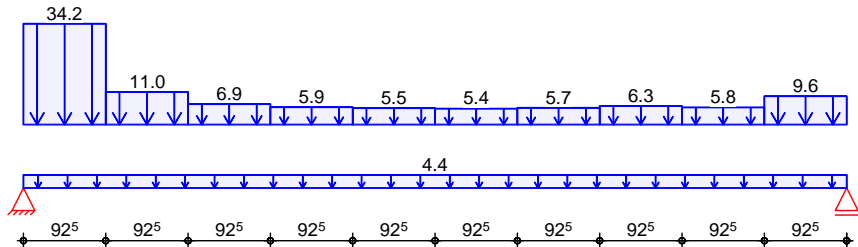
Grafik

Einwirkung

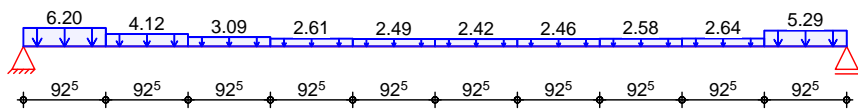
Belastungen auf das System

Belastungsgrafiken (einwirkungsbezogen)

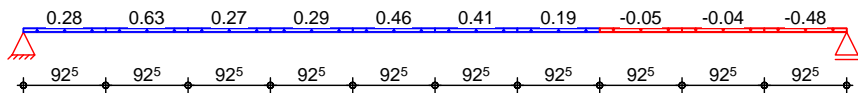
Gk



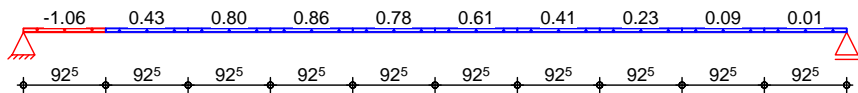
Ö←



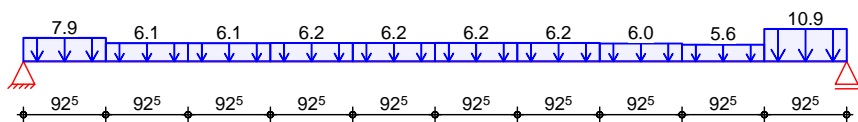
Qk.N_B1



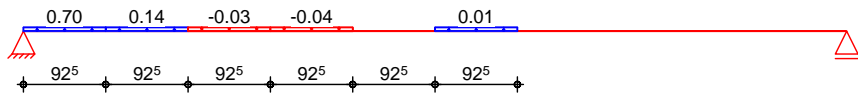
Qk.N_C1



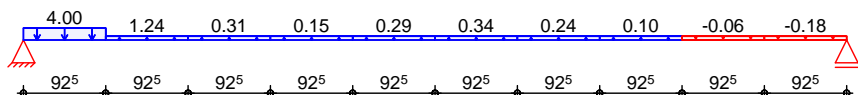
Qk.N_C5



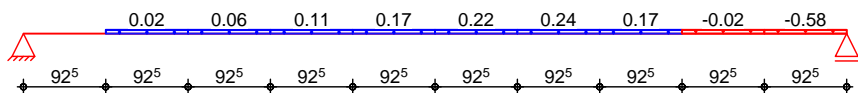
Qk.N_E1



Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

| | | Trapezlasten | | | | |
|--------------------|-----|--------------|-----------------------|------|------|----------|
| | | Feld | Komm. | a | s | |
| | | | | [m] | [m] | |
| | | | | | | Q_{ii} |
| | | | | | | [kN/m] |
| | | | | | | Q_{re} |
| | | | | | | [kN/m] |
| Einw. G_k | | 1 | Eigengew | 0.00 | 9.25 | 4.37 |
| | (a) | 1 | UZ-0.15: G_k | 0.00 | 0.93 | 34.16 |
| | (a) | 1 | UZ-0.15: G_k | 0.93 | 0.93 | 11.03 |
| | (a) | 1 | UZ-0.15: G_k | 1.85 | 0.93 | 6.90 |
| | (a) | 1 | UZ-0.15: G_k | 2.78 | 0.93 | 5.86 |
| | (a) | 1 | UZ-0.15: G_k | 3.70 | 0.93 | 5.55 |
| | (a) | 1 | UZ-0.15: G_k | 4.63 | 0.93 | 5.40 |
| | (a) | 1 | UZ-0.15: G_k | 5.55 | 0.93 | 5.69 |
| | (a) | 1 | UZ-0.15: G_k | 6.48 | 0.93 | 6.26 |
| | (a) | 1 | UZ-0.15: G_k | 7.40 | 0.93 | 5.80 |
| Einw. I_m | (a) | 1 | UZ-0.15: G_k | 8.33 | 0.92 | 9.59 |
| | (a) | 1 | UZ-0.15: G_k | 0.00 | 0.93 | 6.20 |
| | (a) | 1 | UZ-0.15: G_k | 0.93 | 0.93 | 4.12 |
| | (a) | 1 | UZ-0.15: G_k | 1.85 | 0.93 | 3.09 |
| | (a) | 1 | UZ-0.15: G_k | 2.78 | 0.93 | 2.61 |
| | (a) | 1 | UZ-0.15: G_k | 3.70 | 0.93 | 2.49 |
| | (a) | 1 | UZ-0.15: G_k | 4.63 | 0.93 | 2.42 |
| | (a) | 1 | UZ-0.15: G_k | 5.55 | 0.93 | 2.46 |
| | (a) | 1 | UZ-0.15: G_k | 6.48 | 0.93 | 2.58 |
| | (a) | 1 | UZ-0.15: G_k | 7.40 | 0.93 | 2.64 |
| Einw. $Q_k.N_{B1}$ | (a) | 1 | UZ-0.15: G_k | 8.33 | 0.92 | 5.29 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 0.00 | 0.93 | 0.28 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 0.93 | 0.93 | 0.63 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 1.85 | 0.93 | 0.27 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 2.78 | 0.93 | 0.29 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 3.70 | 0.93 | 0.46 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 4.63 | 0.93 | 0.41 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 5.55 | 0.93 | 0.19 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 6.48 | 0.93 | -0.05 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 7.40 | 0.93 | -0.04 |
| Einw. $Q_k.N_{C1}$ | (a) | 1 | UZ-0.15: $Q_k.N_{B1}$ | 8.33 | 0.92 | -0.48 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 0.00 | 0.93 | -1.06 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 0.93 | 0.93 | 0.43 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 1.85 | 0.93 | 0.80 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 2.78 | 0.93 | 0.86 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 3.70 | 0.93 | 0.78 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 4.63 | 0.93 | 0.61 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 5.55 | 0.93 | 0.41 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 6.48 | 0.93 | 0.23 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 7.40 | 0.93 | 0.09 |
| Einw. $Q_k.N_{C5}$ | (a) | 1 | UZ-0.15: $Q_k.N_{C1}$ | 8.33 | 0.92 | 0.01 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 0.00 | 0.93 | 7.92 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 0.93 | 0.93 | 6.09 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 1.85 | 0.93 | 6.08 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 2.78 | 0.93 | 6.16 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 3.70 | 0.93 | 6.21 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 4.63 | 0.93 | 6.23 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 5.55 | 0.93 | 6.22 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 6.48 | 0.93 | 6.00 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 7.40 | 0.93 | 5.63 |
| Einw. $Q_k.N_{E1}$ | (a) | 1 | UZ-0.15: $Q_k.N_{C5}$ | 8.33 | 0.92 | 10.92 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{E1}$ | 0.00 | 0.93 | 0.70 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{E1}$ | 0.93 | 0.93 | 0.14 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{E1}$ | 1.85 | 0.93 | -0.03 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{E1}$ | 2.78 | 0.93 | -0.04 |
| Einw. $Q_k.N_{DA}$ | (a) | 1 | UZ-0.15: $Q_k.N_{E1}$ | 4.63 | 0.93 | 0.01 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{DA}$ | 0.00 | 0.93 | 4.00 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{DA}$ | 0.93 | 0.93 | 1.24 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{DA}$ | 1.85 | 0.93 | 0.31 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{DA}$ | 2.78 | 0.93 | 0.15 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{DA}$ | 3.70 | 0.93 | 0.29 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{DA}$ | 4.63 | 0.93 | 0.34 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{DA}$ | 5.55 | 0.93 | 0.24 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{DA}$ | 6.48 | 0.93 | 0.10 |
| | (a) | 1 | UZ-0.15: $Q_k.N_{DA}$ | 7.40 | 0.93 | -0.06 |

| | Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|---------------------------|-------|------------------------------|----------|----------|---------------------------|---------------------------|
| Einw. Q _{k,N,T2} | (a) 1 | UZ-0.15: Q _{k,N,DA} | 8.33 | 0.92 | -0.18 | -0.18 |
| | (a) 1 | UZ-0.15: Q _{k,N,T2} | 0.93 | 0.93 | 0.02 | 0.02 |
| | (a) 1 | UZ-0.15: Q _{k,N,T2} | 1.85 | 0.93 | 0.06 | 0.06 |
| | (a) 1 | UZ-0.15: Q _{k,N,T2} | 2.78 | 0.93 | 0.11 | 0.11 |
| | (a) 1 | UZ-0.15: Q _{k,N,T2} | 3.70 | 0.93 | 0.17 | 0.17 |
| | (a) 1 | UZ-0.15: Q _{k,N,T2} | 4.63 | 0.93 | 0.22 | 0.22 |
| | (a) 1 | UZ-0.15: Q _{k,N,T2} | 5.55 | 0.93 | 0.24 | 0.24 |
| | (a) 1 | UZ-0.15: Q _{k,N,T2} | 6.48 | 0.93 | 0.17 | 0.17 |
| | (a) 1 | UZ-0.15: Q _{k,N,T2} | 7.40 | 0.93 | -0.02 | -0.02 |
| | (a) 1 | UZ-0.15: Q _{k,N,T2} | 8.33 | 0.92 | -0.58 | -0.58 |

(a) aus Pos. 'D-EG - UZ-0.15'

Kombinationen

| Ek | (* *EW) | | |
|----|---------------------------|---------------------------|---------------------------|
| 1 | 1.00*G _k | EFEE Ö | |
| 2 | 1.35*G _k | EFEGIE Ö | +1.05*Q _{k,N,B1} |
| | +1.05*Q _{k,N,C1} | +1.50*Q _{k,N,C5} | +1.50*Q _{k,N,E1} |
| | +1.20*Q _{k,N,T2} | | |
| 3 | 1.00*G _k | EFEGIE Ö | +1.50*Q _{k,N,C5} |
| | +1.20*Q _{k,N,T2} | | |
| 4 | 1.35*G _k | EFEE Ö | +1.05*Q _{k,N,B1} |
| | +1.05*Q _{k,N,C1} | +1.50*Q _{k,N,E1} | +1.50*Q _{k,N,DA} |
| 5 | 1.00*G _k | EFEE Ö | +1.50*Q _{k,N,T2} |
| 6 | 1.35*G _k | EFEGIE Ö | +1.05*Q _{k,N,B1} |
| | +1.05*Q _{k,N,C1} | +1.50*Q _{k,N,C5} | +1.50*Q _{k,N,E1} |

| Ek | (* *EW) | | |
|----|---------------------------|---------------------------|---------------------------|
| 7 | 1.00*G _k | EFEE Ö | |
| 8 | 1.35*G _k | EFEGIE Ö | +1.05*Q _{k,N,B1} |
| | +1.05*Q _{k,N,C1} | +1.50*Q _{k,N,C5} | +1.50*Q _{k,N,E1} |
| | +1.20*Q _{k,N,T2} | | |
| 9 | 1.00*G _k | EFEE Ö | +1.50*Q _{k,N,T2} |
| 10 | 1.35*G _k | EFEGIE Ö | +1.05*Q _{k,N,B1} |
| | +1.05*Q _{k,N,C1} | +1.50*Q _{k,N,C5} | +1.50*Q _{k,N,E1} |

Bemessung (GZT)

1992-1-1:2011-01

Belastung

Abs. 6.1

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|-------------------|------------------|----------------|--------------------|----------------------|
| [m] | | M _{yd,u} | x/d _u | z _u | A _{s,u} | A _{s,u,erf} |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 9.25 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 2.38 _e |
| | 1 | - | 0.001 | 72.2 | - | 5.78 _q |
| 0.13 _a | 1 | 11.34 | - | - | - | 2.38 _e |
| | 2 | 21.42 | 0.025 | 71.6 | 0.66 | 5.78 _q |
| 4.48* | 1 | 149.54 | - | - | - | - |
| | 2 | 313.40 | 0.132 | 68.2 | 10.10 | 10.10 |
| 9.13 _a | 1 | 8.27 | - | - | - | 2.38 _e |
| | 2 | 17.34 | 0.022 | 71.7 | 0.53 | 4.64 _q |
| 9.25 | 1 | - | - | - | - | 2.38 _e |
| | 1 | - | 0.001 | 72.2 | - | 4.64 _q |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

Querkraft

Abs. 6.2

| x | Ek | V _{Ed} | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|---------------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | [kN] | [kN] | [cm ² /m] |
| (L = 9.25 m) | | | | | |
| 0.00 | 2 | 114.52 _R | 18.4 | 869.92 | - |
| 0.13 _a | 2 | 114.52 _R | 18.4 | 869.92 | - |

U-343

Längsbewehrung
M 1:90

As

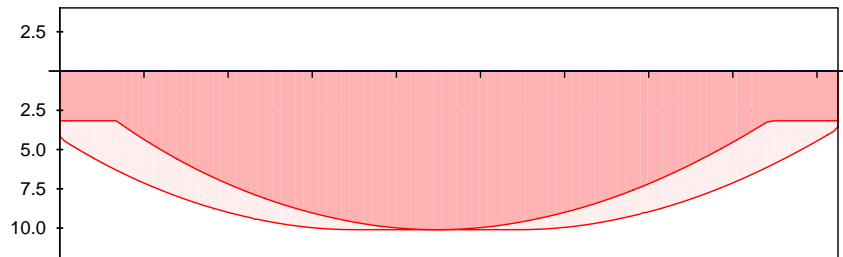
[cm²/m]

oben
Lage 1:

2Ø16

unten
Lage 1:
Lage 2:

4Ø16
2Ø16



erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung Verankerungslängen

Querkraftbewehrung
M 1:90

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.00 | 9.25 | 16 | 20.0 | 2 | 5.03 |

Gurtbewehrung

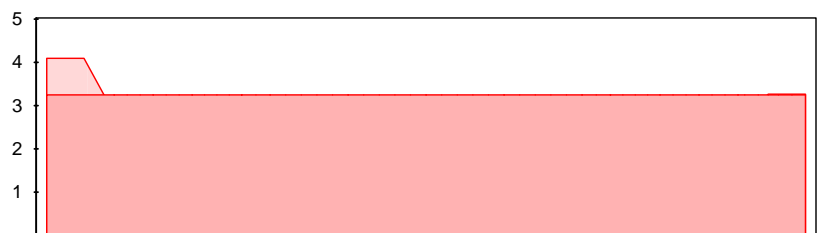
Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | d [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 4.38 | 0 | 0.0 | - |
| | 4.38 | 9.25 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:90

Asw

[cm²/m]



erforderliche Querkraftbewehrung
erforderliche Fugenbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

5i Z` U[Yf_f}ZhY

N|à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 76.84 | 76.84 |
| B | 52.64 | 52.64 |
| Einw. I _m | | |
| A | 16.68 | 16.68 |
| B | 14.69 | 14.69 |
| Einw. Q _{k,N_B1} | | |
| A | 1.53 | 1.53 |
| B | 0.28 | 0.28 |
| Einw. Q _{k,N_C1} | | |
| A | 1.33 | 1.33 |
| B | 1.60 | 1.60 |
| Einw. Q _{k,N_C5} | | |
| A | 30.11 | 30.11 |
| B | 32.28 | 32.28 |
| Einw. Q _{k,N_E1} | | |
| A | 0.69 | 0.69 |

U-345

Schulcampus EWK \

UZ-0.15

| | Aufl. | Fz,k,min [kN] | Fz,k,max [kN] |
|---------------|-------|------------------|------------------|
| Einw. Qk.N_DA | B | 0.04 | 0.04 |
| | A | 5.17 | 5.17 |
| Einw. Qk.N_T2 | B | 0.78 | 0.78 |
| | A | 0.39 | 0.39 |
| | B | -0.03 | -0.03 |

Ñæ↑ÈËÁ|à→á&æã←ã‡à\æ

Bemessungsaflagerkräfte (Min/Max)

| | Aufl. | Fz,d,min [kN] | Fz,d,max [kN] |
|--------------------|-------|------------------|------------------|
| Grundkombinationen | A | 93.52 | 175.92 |
| | B | 67.28 | 141.35 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

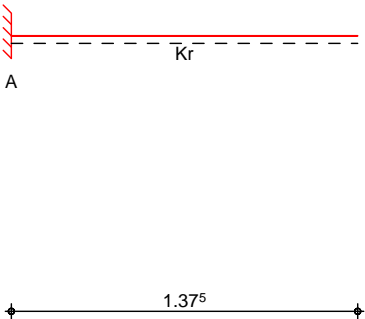
Pos. UZ-0.16

System

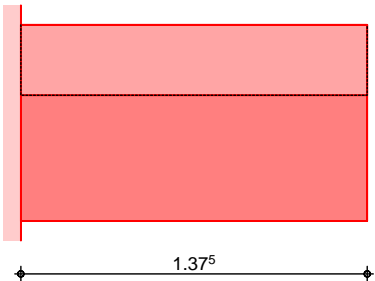
M 1 : 30

GHU`VYfcb!8 i fW`U Zf}[Yf

Rechtsseitiger Kragarm
System



Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|---|
| Kr | 1.38 | C 30/37 | 25.0/25.0/78.0 |

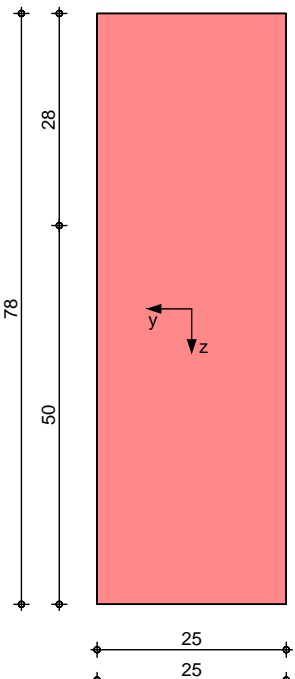
Expositionsklasse

XC1

Grafik

M 1 : 10

Querschnittsgrafik



Auflager

| Lager | x [m] | K _{T,z} [kN/m] | K _{R,y} [kNm/rad] |
|-------|----------|----------------------------|-------------------------------|
| A | 0.00 | fest | fest |

| Lager | b [cm] | Art |
|-------|-----------|-------|
| A | 25.0 | Beton |

Q†^&bà | &æ^ÁÁÁÁÁÁÁÁÁÁ

| Feld | Fuge | z _f [cm] | YflY | YSD↑↑Y |
|------|-------|------------------------|------|--------|
| Kr | glatt | 28.0 | 90 | 0.00 |

Belastungen

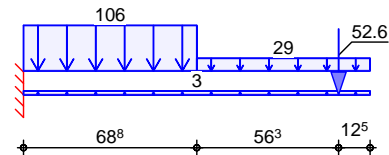
Belastungen auf das System

Grafik

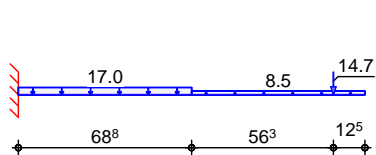
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

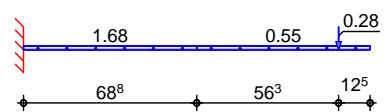
Gk



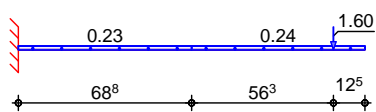
Ö←



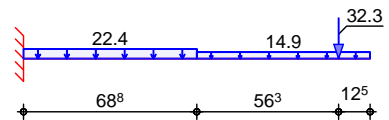
Qk.N_B1



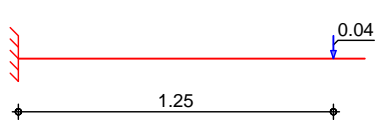
Qk.N_C1



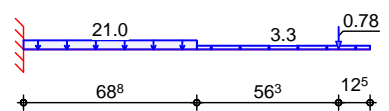
Qk.N_C5



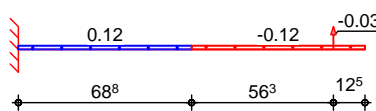
Qk.N_E1



Qk.N_DA



Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten

| Feld | Komm. | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|--------|------------------|----------|----------|---------------------------|---------------------------|
| Kr | Eigengew | 0.00 | 1.38 | | 3.12 |
| (a) Kr | UZ-0.16: Gk | 0.00 | 0.69 | 105.74 | 105.74 |
| (a) Kr | UZ-0.16: Gk | 0.69 | 0.69 | 29.03 | 29.03 |
| (a) Kr | Ö← | 0.00 | 0.69 | 16.96 | 16.96 |
| (a) Kr | Ö← | 0.69 | 0.69 | 8.50 | 8.50 |
| (a) Kr | UZ-0.16: Qk.N_B1 | 0.00 | 0.69 | 1.68 | 1.68 |
| (a) Kr | UZ-0.16: Qk.N_B1 | 0.69 | 0.69 | 0.55 | 0.55 |
| (a) Kr | UZ-0.16: Qk.N_C1 | 0.00 | 0.69 | 0.23 | 0.23 |
| (a) Kr | UZ-0.16: Qk.N_C1 | 0.69 | 0.69 | 0.24 | 0.24 |
| (a) Kr | UZ-0.16: Qk.N_C5 | 0.00 | 0.69 | 22.43 | 22.43 |
| (a) Kr | UZ-0.16: Qk.N_C5 | 0.69 | 0.69 | 14.94 | 14.94 |
| (a) Kr | UZ-0.16: Qk.N_DA | 0.00 | 0.69 | 20.98 | 20.98 |
| (a) Kr | UZ-0.16: Qk.N_DA | 0.69 | 0.69 | 3.33 | 3.33 |
| (a) Kr | UZ-0.16: Qk.N_T2 | 0.00 | 0.69 | 0.12 | 0.12 |
| (a) Kr | UZ-0.16: Qk.N_T2 | 0.69 | 0.69 | -0.12 | -0.12 |

(a)

aus Pos. 'D-EG - UZ-0.16'

Punktlasten in z-Richtung

Einzellasten

| Feld | Komm. | a [m] | F _z [kN] |
|--------|-------|----------|------------------------|
| (a) Kr | | 1.25 | 52.64 |
| (a) Kr | | 1.25 | 14.69 |
| (a) Kr | | 1.25 | 0.28 |
| (a) Kr | | 1.25 | 1.60 |
| (a) Kr | | 1.25 | 32.28 |

| | Feld | Komm. | a [m] | F _z [kN] |
|---------------|------|-------|----------|------------------------|
| Einw. Qk.N_E1 | (a) | Kr | 1.25 | 0.04 |
| Einw. Qk.N_DA | (a) | Kr | 1.25 | 0.78 |
| Einw. Qk.N_T2 | (a) | Kr | 1.25 | -0.03 |

(a) aus Pos. 'UZ-0.15', Lager 'B' (Seite 7)

Kombinationen

b\†^ä↔&D{~äfiâæã&È

&æ†‡ßÁÆØSÁÓŠÁFİİĞĖĖĖFÁ|^äÁÆØSÁÓŠÁFİİē

Ek (* *EW)

| | | | |
|---|---------------|---------------|---------------|
| 1 | 1.00*Gk | ĖĖĖĖĖ Ė← | +1.50*Qk.N_T2 |
| 2 | 1.35*Gk | ĖĖĖĖĖ Ė← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.50*Qk.N_C5 | +1.50*Qk.N_E1 |
| 3 | 1.35*Gk | ĖĖĖĖĖ Ė← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |
| 4 | 1.00*Gk | ĖĖĖĖĖ Ė← | |

Bemessung (GZT)

äfiäÄäæ^ÁÖäæ^~ | b\á^äÄäæäÁÜäá&à†ä↔&æ↔\Á^á^äÁÆØSÁÓŠÁ
1992-1-1:2011-01

Bi egung

Abs. 6.1

Ñæ†æbb|^&ÄäfiäÄÑ↔æ&æäæá^b*ä|^'ä|^&

Kragarm rechts

| x [m] | Ek | M _{yd,o} M _{yd,u} [kNm] | x/d _o x/d _u | z _o z _u [cm] | A _{s,o} A _{s,u} [cm ²] | A _{s,o,erf} A _{s,u,erf} [cm ²] |
|-------------------|----|---|--------------------------------------|--|--|--|
| (L = 1.38 m) | | | | | | |
| 0.00 _a | 2 | -280.64 | 0.164 | 68.0 | 9.18 | 9.18 |
| | 1 | -142.58 | - | - | - | - |
| 1.37 | 4 | - | 0.001 | 73.0 | - | 2.24 _M |
| | 4 | - | - | - | - | - |

a: Auflagerrand

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

Ñæ†æbb|^&ÄäfiäÄT|æä↔ääà\äæá^b*ä|^'ä|^&

Kragarm rechts

| x [m] | Ek | V _{Ed} [kN] | γ _{fl} Ÿ | V _{Rd,max} [kN] | V _{Rd,c} [kN] | a _{sw,erf} [cm ² /m] |
|-------------------|----|-------------------------|-------------------|-----------------------------|---------------------------|---|
| (L = 1.38 m) | | | | | | |
| 0.00 _a | 3 | 318.08 _R | 27.1 | 849.95 | 76.29 | 14.55 _F |
| 1.37 | 4 | - | 26.0 | 824.34 | 147.33 | 2.32 _M |

a: Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

F: Verbundbewehrung aus Fugenbemessung

Fugenbemessung

| x [m] | V _{Ed} [kN] | V _{Edi} [kN/m] | V _{Rdi,max} [kN/m] | V _{Rdi,ct} [kN/m] | a _{sw,erf} Ÿ'†ŸD†Ÿ |
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|--------------------------------|
|----------|-------------------------|----------------------------|--------------------------------|-------------------------------|--------------------------------|

N@piuhwig"3

Streckgrenze der Verbundbewehrung: f_{yk}"?"722"Ploo↔
glatt (c=0.20, =0.60, =0.20)

Päá&ää†ÄäæÈÄĖÄP~^\'ä↔\ä→†'äæÄ↔†ÁŠäæ&|ä\ĖÄÄÄKÄa_{eff}

| | | | | | |
|------|--------|--------|--------|-------|------|
| 0.73 | 191.74 | 291.84 | 425.00 | 56.67 | 7.51 |
| 1.25 | 151.11 | 207.33 | 425.00 | 56.67 | 4.81 |
| 1.37 | 0.00 | 0.00 | 425.00 | 56.67 | - |

Anschluss der Gurte

Ö|ä\á^b^'ä→|bb↔ä†à\æÁÇ†áß&æäæ^äæÄNâb^'ä↔\\bää\æ^D

| Feld | Ek | x _A [m] | x _E [m] | #R [kNm] | #Öc [kN] | Anteil je Gurt | #Öd [kN] |
|------|----|-----------------------|-----------------------|-------------|-------------|-------------------|-------------|
|------|----|-----------------------|-----------------------|-------------|-------------|-------------------|-------------|

| | | | | | | | |
|----|---|------|------|------|-------|--------------------|-------|
| Kr | 1 | 0.00 | 0.69 | 95.2 | 143.0 | -0.12 ^Z | -35.7 |
|----|---|------|------|------|-------|--------------------|-------|

Z: Zuggurt: Anteil aus ausgelagerter Bewehrung

Querbewehrung

| Feld | Ek | x _A [m] | x _E [m] | v _{Ed} [N/mm ²] | v _{Rd,max} [N/mm ²] | a _{sf,erf} [cm ² /m] |
|------|----|-----------------------|-----------------------|---|---|---|
| Kr | 1 | 0.00 | 0.69 | 0.000 | 0.000 | 0.00 |

unter in die Platte einzulegen. Die Bewehrung aus T werden.

Bewehrungswahl

untere
Q

| Feld | gew. | As [cm ²] | a [m] | l [m] | lbd,l [m] | lbd,r [m] | Lage |
|------|------|--------------------------|----------|----------|-------------------|-------------------|------|
| Kr | 4 | 2.26 | -0.13 | 1.50 | 0.46 ^h | 0.46 ^h | 1 |

h: gesonderte Verankerungsform erforderlich

~Q

| Feld | gew. | As [cm ²] | a [m] | l [m] | lbd,l [m] | lbd,r [m] | Lage |
|------|------|--------------------------|----------|----------|-------------------|-------------------|------|
| Kr | 6 | 12.57 | -0.13 | 1.50 | 0.23 ^h | 0.75 ^h | 1 |

h: gesonderte Verankerungsform erforderlich

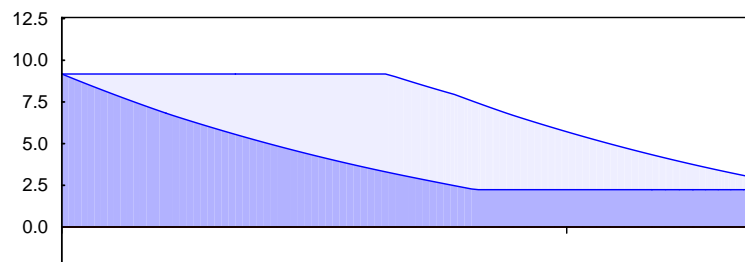
Längsbewehrung
M 1:15

As [cm²]

oben

Lage 1:

4Ø20



unten

Lage 1:

2Ø12

erf. Längsbewehrung / Zugkraftdeckungsline
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung Verankerungslängen

Querkraftbewehrung
Q

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | asw [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|-----------------------------|
| K.re | 0.00 | 1.38 | 32 | 10.0 | 2 | 15.71 |

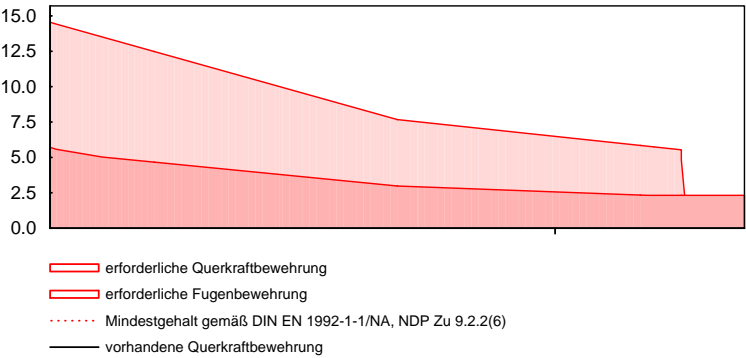
Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | - [mm] | s [cm] | asf [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|-----------------------------|
| Kr | 0.00 | 1.38 | 0 | 0.0 | - |

Querkraftbewehrung Asw
M 1:15

[cm²/m]



5i Z` U[Yf_f } ZhY

N| à→á&æã←ã‡à\æÁÜã‡&æã

Char. Auflagerkr.

| charakteristische Auflagerkräfte (je Einwirkung) | | | | |
|---|------------------|------------------|-------------------|-------------------|
| Aufl. | Fz,k,min [kN] | Fz,k,max [kN] | My,k,min [kNm] | My,k,max [kNm] |
| A | 149.59 | 149.59 | -114.32 | -114.32 |
| A | 32.19 | 32.19 | -28.39 | -28.39 |
| A | 1.81 | 1.81 | -1.14 | -1.14 |
| A | 1.92 | 1.92 | -2.22 | -2.22 |
| A | 57.98 | 57.98 | -56.25 | -56.25 |
| A | 0.04 | 0.04 | -0.05 | -0.05 |
| A | 17.49 | 17.49 | -8.29 | -8.29 |
| A | -0.03 | -0.03 | 0.09 | 0.09 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Fugenbemessung | OK | |
| Bewehrungswahl | OK | |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

3.4.4 Türstürze

Der Nachweis von WS-0.17 gilt auch für WS-0.39_2, WS-0.39_3, WS-0.32_1, WS-0.32_2, WS-0.32_3 und WS-0.11.

Der Nachweis von WS-0.39_1 gilt auch für WS-0.39_2 und WS-0.39_3.

Der Nachweis von WS-0.44_2 gilt auch für WS-0.44_1, WS-0.44_3 und WS-0.24.

Hinweis: Die Position WS-0.24 existiert im Deckenmodell nicht. Sie bezieht sich auf den Türsturz in der Wand W-0.24. Aufgrund der gleichen Abmessungen und kleineren angrenzenden Deckenfeldern wird der Nachweis von WS-0.44_2 als repräsentativ angesehen.

Übersicht Bewehrungswahl:

WS-0.17: unten: 1. Lage: 4Ø12
 oben: 1. Lage: 2Ø12
 quer: Ø8/20

WS-0.39_1: unten: 1. Lage: 4Ø12
 oben: 1. Lage: 2Ø12
 quer: Ø8/20

WS-0.44_2: unten: 1. Lage: 4Ø12
 oben: 1. Lage: 2Ø12
 quer: Ø8/20

Pos. WS-0.17

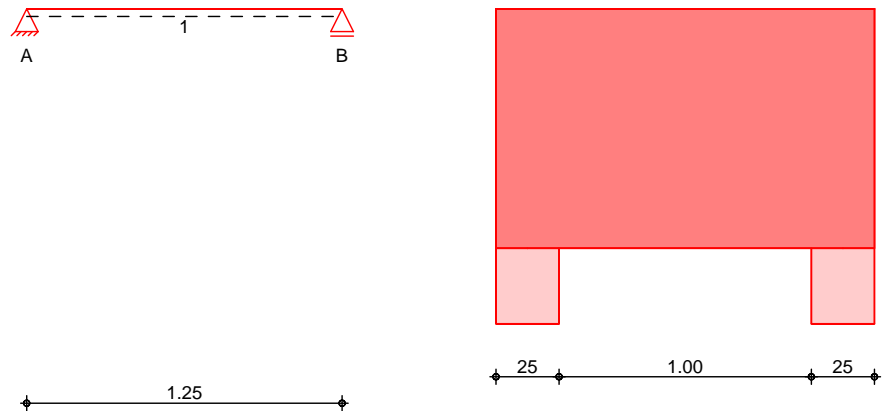
GHU`VYfcb!8i fW`U Zf}[Yf

Der Nachweis für diesen Sturz gilt auch für WS-0.39_2, WS-0.39_3, WS-0.32_1, WS-0.32_2, WS-0.32_3, WS-0.11.

System

M 1 : 30

Ó↔^`àæ→ä\`ã‡&æãÁÇGIÈ€DİİÈ€DFGIÈ€D
System Ansicht



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 1.25 | C 25/30 | 25.0/95.0 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 1.25 | 25.0 | Beton | fest |

**** WARNUNG ****

Cpygpfwpiuitgp|gp"Ãdgtuejtkvvgp."fc"ko"Hgnf"3"
ycpfctvkigt"Vt®igt"xqtnkgiv0

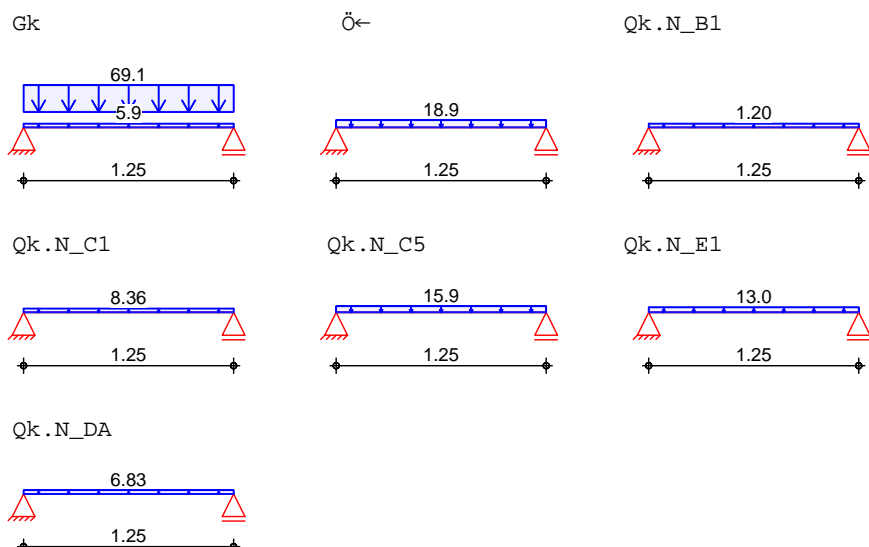
Belastungen

Belastungen auf das System

Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen



Streckenlasten in z-Richtung

| | Feld | Komm. | a [m] | s [m] | Q _{1i} [kN/m] | Q _{re} [kN/m] |
|---------------|-------|----------|----------|----------|---------------------------|---------------------------|
| Einw. Gk | 1 | Eigengew | 0.00 | 1.25 | | 5.94 |
| | (a) 1 | | 0.00 | 1.25 | | 69.11 |
| Einw. Im | (a) 1 | | 0.00 | 1.25 | | 18.85 |
| Einw. Qk.N_B1 | (a) 1 | | 0.00 | 1.25 | | 1.20 |
| Einw. Qk.N_C1 | (a) 1 | | 0.00 | 1.25 | | 8.36 |
| Einw. Qk.N_C5 | (a) 1 | | 0.00 | 1.25 | | 15.90 |
| Einw. Qk.N_E1 | (a) 1 | | 0.00 | 1.25 | | 12.98 |
| Einw. Qk.N_DA | (a) 1 | | 0.00 | 1.25 | | 6.83 |

(a) aus Pos. 'D-EG', Lager 'WS-0.17'

Kombinationen

| Ek | (* *EW) | | | |
|----|---|---|--------------------------------|--|
| 1 | 1.00*Gk | EFEEEE Ö← | | |
| 2 | 1.35*Gk +1.05*Qk.N_C1 +1.50*Qk.N_DA | EFEGIE Ö← +1.05*Qk.N_C5 +1.50*Qk.N_E1 | +1.05*Qk.N_B1 +1.50*Qk.N_E1 | |

Bemessung (GZT)

1992-1-1:2011-01

Biegung

Abs. 6.1

| x | Ek | M _{yd,o} | x/d _o | z _o | A _{s,o} | A _{s,o,erf} |
|-------------------|----|----------------------------|------------------|------------------------|--|--|
| [m] | | M _{yd,u} [kNm] | x/d _u | z _u [cm] | A _{s,u} [cm ²] | A _{s,u,erf} [cm ²] |
| (L = 1.25 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 0.22 _e |
| | 1 | - | 0.001 | 90.6 | - | 2.40 _M |
| 0.13 _a | 1 | 6.60 | - | - | - | 0.22 _e |
| | 2 | 12.88 | 0.020 | 90.0 | 0.31 | 2.40 _M |
| 0.63 _* | 1 | 18.34 | - | - | - | - |
| | 2 | 35.78 | 0.034 | 89.5 | 0.88 | 2.40 _M |
| 1.13 _a | 1 | 6.60 | - | - | - | 0.22 _e |
| | 2 | 12.88 | 0.020 | 90.0 | 0.31 | 2.40 _M |
| 1.25 | 1 | - | - | - | - | 0.22 _e |
| | 1 | - | 0.001 | 90.6 | - | 2.40 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

| x | Ek | V _{Ed} | γ _{f1} | V _{Rd,max} | V _{Rd,c} | a _{sw,erf} |
|-------------------|----|-----------------|-----------------|---------------------|-------------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 1.25 m) | | | | | | |
| 0.00 | 2 | 114.50 | 18.4 | 649.77 | - | - |
| 0.13 _a | 2 | 91.60 | 18.4 | 649.77 | - | 2.08 _M |
| 0.63 _v | 2 | - | 18.4 | 649.77 | 56.90 | 2.08 _M |
| 1.13 _a | 2 | 91.60 | 18.4 | 649.77 | - | 2.08 _M |
| 1.25 | 2 | 114.50 | 18.4 | 649.77 | - | - |

a: Auflagerrand

v: Abstand d vom Auflagerrand

M: Mindestbewehrung nach Abs. 9.2.2

Hinweis

An folgendem Auflager erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| A | rechts | Vorzeichenwechsel der Querkraft in d |

Nachweis

Ort

[-]

Querkraft

OK

Bewehrungswahl

OK

Pos. WS-0.39_1

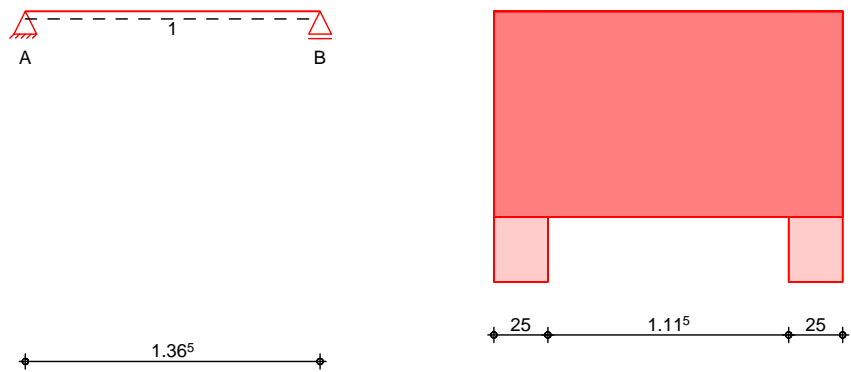
GHU `VYfcb!8 i fW `U Zf} [Yf

Der Nachweis für diesen Sturz gilt auch für WS-0.39_2 und WS-0.39_3.

System

Ó↔^âæ→ä\ã‡&æãÁÇGIE€ĐİİÈ€DFĞWÈID
System Ansicht

M 1:35



Abmessungen
Mat./Querschnitt

| Feld | l [m] | Material | b/h [cm] |
|------|----------|----------|-------------|
| 1 | 1.37 | C 25/30 | 25.0/95.0 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | b [cm] | Art | $K_{T,z}$ [kN/m] |
|-------|----------|-----------|-------|---------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 1.37 | 25.0 | Beton | fest |

**** WARNUNG ****

Cpygpfwpiuitgp|gp"Ãdgtuejtkvvvp."fc"ko"Hgnf"3"
ycpfctvkigt"Vt®igt"xqtnkgiv0

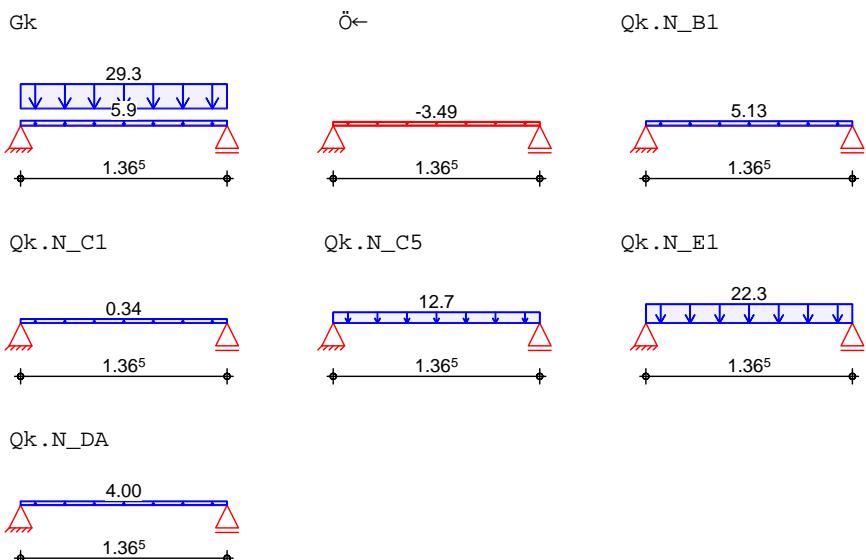
Belastungen

Belastungen auf das System

Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen



Nachweis

Ort

[-]

Querkraft

OK

Bewehrungswahl

OK

Pos. WS-0.44_2

GhU `VYhcb!8 i fW `Ui Zf} [Yf

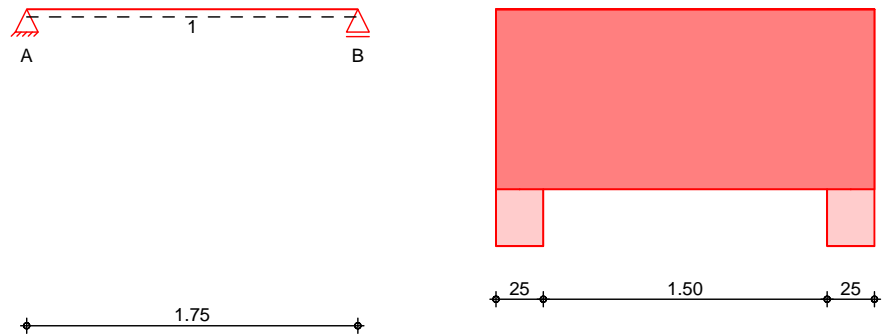
Der Nachweis für diesen Sturz gilt auch für WS-0.44_1, WS-0.44_3 und WS-0.24.

Hinweis: WS-0.24 existiert nicht im Deckenmodell.

System

| | |
|--------------------------------|---------|
| Ó↔^àæ→ä\ã‡&æÃÇGIÈ€ĐİİÈ€ƉFÍİÈ€Đ | |
| System | Ansicht |

M 1 : 40



| | | | | |
|------------------|------|------|----------|-----------|
| Abmessungen | Feld | l | Material | b/h |
| Mat./Querschnitt | | [m] | | [cm] |
| | 1 | 1.75 | C 25/30 | 25.0/95.0 |

Expositionsklasse

XC1

Auflager

| Lager | x | b | Art | K _{T,z} |
|-------|------|------|-------|------------------|
| | [m] | [cm] | | [kN/m] |
| A | 0.00 | 25.0 | Beton | fest |
| B | 1.75 | 25.0 | Beton | fest |

*** WARNING ***

Cpygpfwpiuitgp|gp"Ãdgtuejtkvvgp."fc"ko"Hgnf"3"
ycpfctvkigt"Vt®igt"xqtnkgiv0

Belastungen

Belastungen auf das System

Grafi k

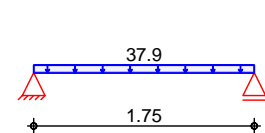
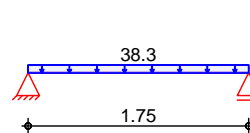
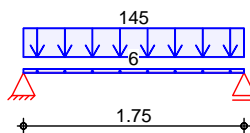
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk

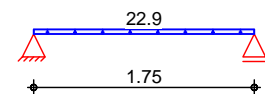
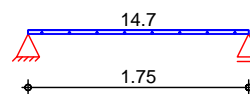
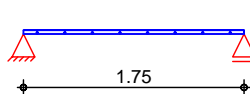
 $\ddot{O} \leftarrow$

Qk.N_B1

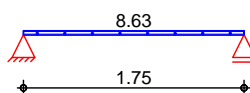

$$Q_k \cdot N_{C1}$$

Qk.N_C5

Qk.N_E1



Qk . N_DA



Nachweis

Ort

[-]

Querkraft

OK

Bewehrungswahl

OK

T

Treppen und Podeste

Inhaltsverzeichnis

| Inhalt | Seite |
|----------------------------|--------------|
| 1. Vorbemerkungen | T-3 |
| 2. Treppenläufe – TR-1-EG | T-4 |
| 3. Zwischenpodest – TR-1-P | T-12 |
| 4. Atriumstufen | T-41 |
| 4.1. AT-1 | T-41 |
| 4.2. UZ-AT-1 | T-73 |
| 4.3. AT-2 | T-80 |
| | |

1 Vorbemerkungen

In diesem Kapitel werden die Positionen der Treppen und Podeste nachgewiesen. Die Positionen werden in Treppenhaus und Atrium unterschieden:

Treppenhaus:

Für die Treppen in den Treppenhäusern 1 und 2 wird repräsentativ für alle Treppen die Treppenposition **TR-1-EG** im EG in Treppenhaus 2 nachgewiesen. Ebenso wird das Zwischenpodest der EG-Treppe in Treppenhaus 2 mit Position **TR-1-P** repräsentativ für alle Zwischenpodeste nachgewiesen. Die sich hierbei ergebende erforderliche Bewehrung ist auch bei Treppen und Podesten mit abweichender Geometrie analog und zweckgemäß einzubauen.

Atrium:

Für die Bemessung der Treppe im Atrium wird unterschieden zwischen dem Treppenlauf, welcher zwischen Bodenplatte und Podest bzw. Podest und Decke über EG spannt, und den einzelnen Stufen, die quer zum Treppenlauf zwischen zusätzlich gestellten Wänden spannen.

Der Treppenlauf wird nicht gesondert nachgewiesen. Er ist analog zur Treppe TR-1 zu bewehren. Die Stufen werden mit Position **AT-1** und **AT-2** als Balken nachgewiesen. Das Zwischenpodest, ebenso wie die zusätzlichen Wände der Atriumtreppe werden nicht gesondert nachgewiesen und ist analog zu TR-1-P zu bewehren.

Die Treppenläufe werden als Vollfertigteile im Werk hergestellt und auf der Baustelle montiert.

Der unterste Treppenlauf ist auf der Bodenplatte durch Schubdorne horizontal zu sichern.

Die Treppenläufe in den Treppenhäusern spannen i.d.R. einachsig und werden über Konsolausbildung mit Schallentkopplung durch Elastomerlager auf die Zwischen- und Hauptpodeste aufgelegt. Die Zwischenpodeste werden rückwertig über Rückbiegeanschlüsse (siehe Anlage 1) an die Stahlbetonwände angeschlossen.

Der seitliche Anschluss der vorher genannten Zwischenpodestpositionen erfolgt monolithisch über in den Wänden vorgesehene Auflagertaschen.

Zwischen den Auflagertaschen werden in der oberen sowie unteren Lage jeweils 3Ø14 in die Tasche geführt und dort entsprechend verankert (untere Lage) und „verbügelt“.

Zu übertragende Querkräfte:

| Position | V_{Ed} in [kN/m] |
|----------|---|
| TR-1-EG | $\geq 76,9 \text{ kN}$ $\leq 117,3 \text{ kN}$ |

gewählter Rückbiegeanschluss:

HBT 150-12/10-23-1150

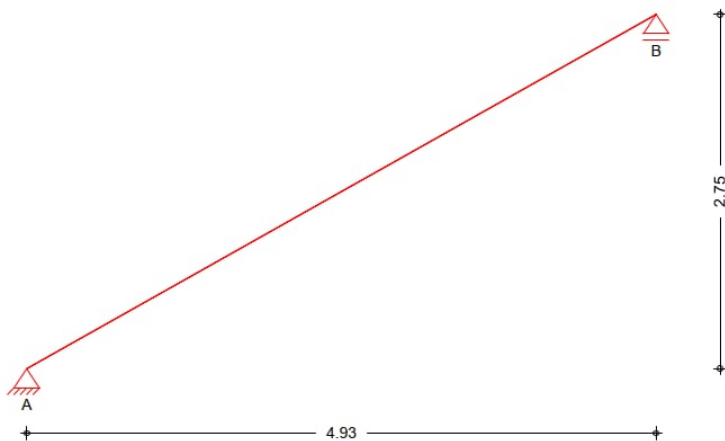
l o. glw.

2 Treppenläufe – TR-1-EG

Im Folgenden wird ein Treppenlauf repräsentativ für alle Treppenläufe im Gebäude nachgewiesen. Der repräsentative Treppenlauf befindet sich im EG in Treppenhaus 2.

Statisches System:

Gerader Treppenlauf



| Feld | Kommentar | l [m] | h [cm] | Mat. |
|------|-------------|----------|-----------|---------|
| Tr. | Treppenlauf | 4.93 | 20.0 | C 30/37 |

XC1

| | | | | |
|---------------------|----------|---|-------|----|
| Neigung Treppenlauf | α | = | 29.19 | ° |
| Steigung | s | = | 16.20 | cm |
| Auftritt | a | = | 29.00 | cm |

- 17 Stufen

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung TragwerksplanungMaterial:

| | | |
|--------------------|-----------------------|---------------|
| Dicke: | 20 cm | |
| Betonstahl: | B500B | |
| Beton: | C30/37 | |
| Expositionsklasse: | XC1, W0 | Innenbauteile |
| Betondeckung: | $c_v = 30 \text{ mm}$ | |

Belastung:

| | | |
|----------------|----------------------------------|------------------------------------|
| $g_k =$ | $0,2 * 25 = 5,00 \text{ kN/m}^2$ | wird programmintern berücksichtigt |
| | + Eigengewicht der Treppenstufen | wird programmintern berücksichtigt |
| $\Delta g_k =$ | $2,50 \text{ kN/m}^2$ | |
| $q_k =$ | $5,00 \text{ kN/m}^2$ | |

Bewehrungswahl:

| | | | |
|----------|---------|---------------------------------|-------------------------------|
| Oben: | #Ø10/10 | = $7,85 \text{ cm}^2/\text{m}$ | |
| Unten: | Ø12/10 | = $11,31 \text{ cm}^2/\text{m}$ | in Tragrichtung |
| | Ø8/20 | = $2,51 \text{ cm}^2/\text{m}$ | quer zur Tragrichtung |
| Konsole: | Ø8/10 | = $5,03 \text{ cm}^2/\text{m}$ | Bügelanordnung gem. Bemessung |

Bemessung:

Siehe folgende Seiten.

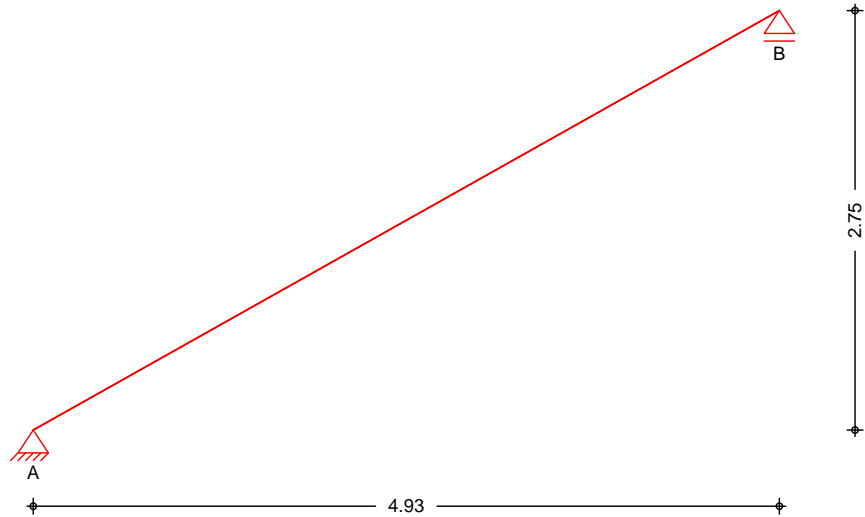
Pos. TR-1-EG

Gerader Stb.-Treppenlauf

System

Gerader Treppenlauf

M 1 : 50



Abmessungen

Mat./Querschnitt

| Feld | Kommentar | l [m] | h [cm] | Mat. |
|------|-------------|----------|-----------|---------|
| Tr. | Treppenlauf | 4.93 | 20.0 | C 30/37 |

Expositionsklasse

XC1

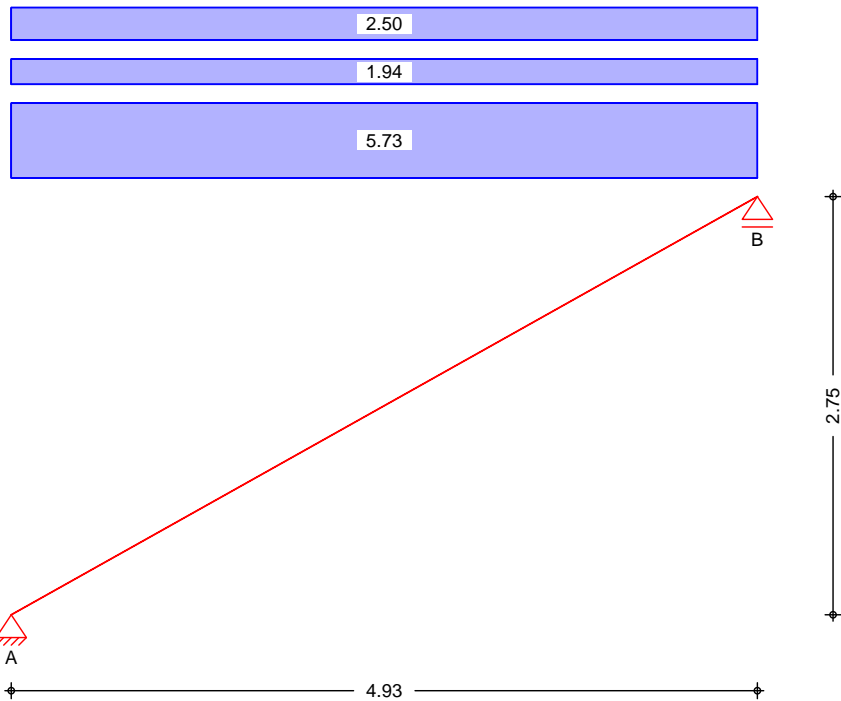
Treppe

| | | | |
|---------------------|-----|-------|----|
| Neigung Treppenlauf | = | 29.19 | fl |
| Steigung | s = | 16.20 | cm |
| Auftritt | a = | 29.00 | cm |

Belastungen
Grafik
Einwirkungen
M 1:50

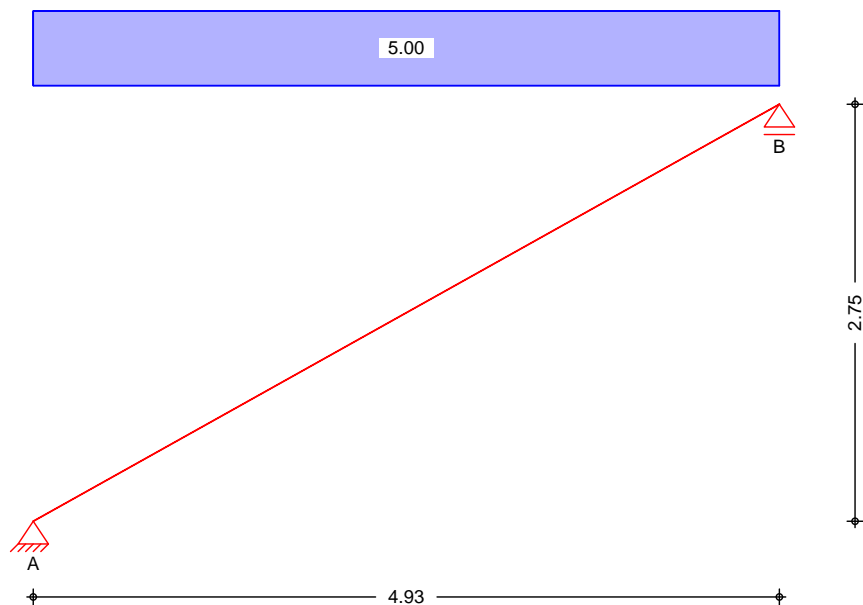
Belastungen auf das System

Gk



Einwirkungen
M 1:50

Qk.N_T2



Eigengewicht
und Bodenbelag

Gleichlasten

| | Feld | Kommentar | q_z [kN/m ²] |
|-------------|----------------------------|--------------------------|-------------------------------|
| Einw. G_k | Tr. Eigen. Tr. | $25.00 * 0.20 / 0.873 =$ | 5.73 |
| | Tr. Eigen. St. | $0.50 * 24.00 * 0.16 =$ | 1.94 |
| Einw. G_k | Tr. Lasten des Bodenbelags | | 2.50 |

Einwirkungen

Einw. $Q_{k,N,T2}$

Gleichflächenlasten

| Feld | Komm. | a [m] | s [m] | q_{li} Y←SD↑YY | q_{re} Y←SD↑YY |
|------|-------|----------|----------|---------------------|---------------------|
| Tr. | | 0.00 | 4.93 | | 5.00 |

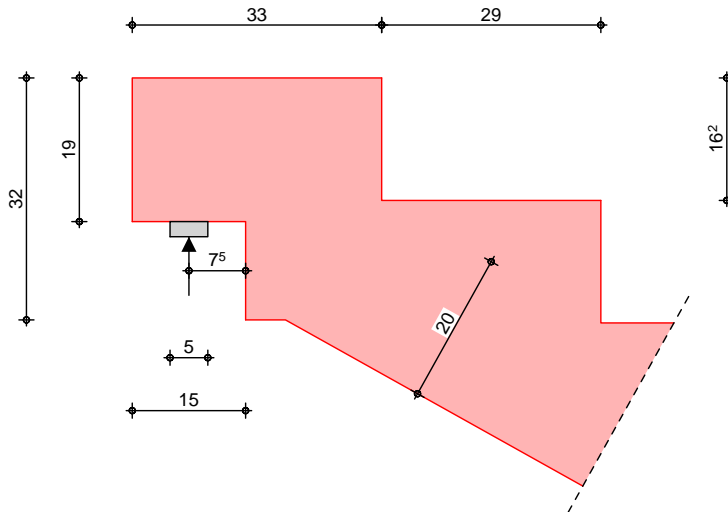
Material- und Querschnittswerte

Material- und Querschnittswerte nach DIN EN 1992-1-1:2011-01

Grafik

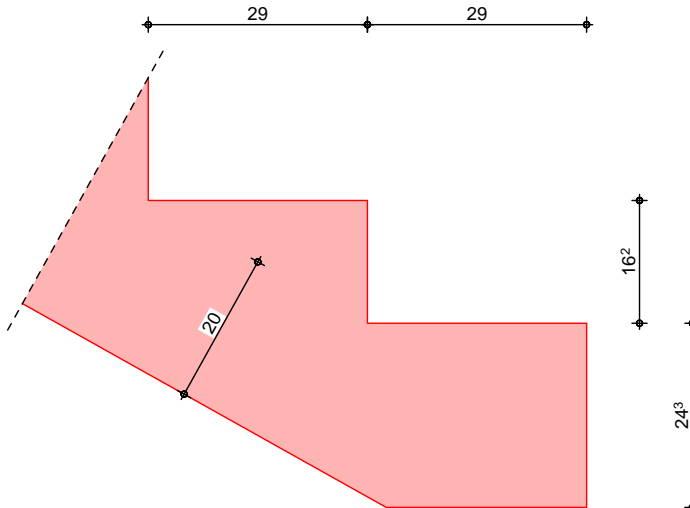
M 1:10

Austritt



M 1:10

Antritt



7\Uf" ` GWb] hh[f" fYb

´ääääá←\æã↔b\↔b´ääÁU´á^↔\&ã=ßæ^

Tabelle

Schnittgrößen (je Einwirkung)

| Feld | x [m] | $M_{y,k}$ [kNm/m] | $V_{z,k}$ [kN/m] |
|---------------------|----------|----------------------|---------------------|
| Einw. G_k | Tr. 0.00 | 0.00 * | 25.07 * |
| | 2.47 | 30.90 * | 0.00 |
| | 4.93 | 0.00 | -25.07 * |
| Einw. Q_{k,N_T2} | Tr. 0.00 | 0.00 * | 12.32 * |
| | 2.47 | 15.19 * | 0.00 |
| | 4.93 | 0.00 | -12.32 * |

Kombinationen

Kombinationsbildung nach DIN EN 1990
Darstellung der maßgebenden Kombinationen

| Ek | (* *EW) |
|----|-----------------------------------|
| 1 | 1.35*Gk |
| 2 | 1.35*Gk +1.50*Q _{k,N_T2} |

Bemessung (GZT)

nach DIN EN 1992-1-1:2011-01

Biegung

| Feld | x [m] | Ek | $M_{y,d}$ [kNm/m] | z [cm] | $a_{s,o}$ $a_{s,u}$ [cm ² /m] | $a_{s,o,erf}$ $a_{s,u,erf}$ [cm ² /m] |
|------|----------|----|----------------------|-----------|--|--|
| Tr. | 2.47 | 2 | 64.50 | 15.11 | - | - |
| | | | | | 9.55 | 9.55 |

Querbewehrung

| Feld | b/h | $a_{s,l,erf,o}$ $a_{s,l,erf,u}$ [cm ² /m] | $a_{s,q,vorh,o}$ $a_{s,q,vorh,u}$ [cm ² /m] | $a_{s,q,min,o}$ $a_{s,q,min,u}$ [cm ² /m] |
|------|------|--|--|--|
| Tr. | 5.00 | - | - | - |
| | | 9.55 | 2.51 | 1.91 |

Schub

| Feld | x [m] | Ek | $V_{z,d}$ [kN/m] | $Y_{fl,Y}$ | $V_{rd,max}$ [kN/m] | $V_{rd,c}$ [kN/m] | $a_{sw,erf}$ [cm ² /m ²] |
|------|----------|----|---------------------|------------|------------------------|----------------------|--|
| Tr. | 0.00 | 2 | 48.85 | 18.4 | 397.80 | 90.04 | - |

Bewehrungswahl

Biege- und Querkraftbewehrung

untere Bewehrung

" " " " Ö " " 34 " 1 " 3202 " eo

$a_{s,l,u} = 11.31$ ´↑¥Ð↑

" XG " Ö " " : " 1 " 4202 " eo

$a_{s,q,u} = 2.51$ ´↑¥Ð↑

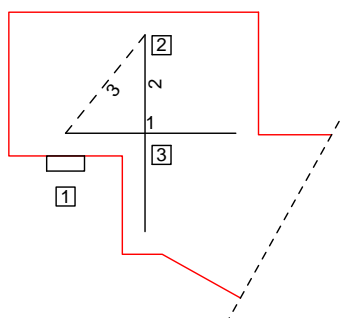
Bemessung (GZT)

äfiäÄäæ^ÄÖäæ^~ | b\á^äÄäæäÁÜäá&à†á↔&←æ↔\Ä^á´ääÆØSÁÓSÁ
1992-1-1:2011-01

Auskl i nkungen

Austri tt

M 1:10



Abmessungen

| hk [cm] | lk [cm] | hs [cm] | ls [cm] | bx,Pl [cm] | ak [cm] |
|------------|------------|------------|------------|---------------|------------|
| 19.0 | 15.0 | 32.0 | 33.0 | 5.0 | 7.5 |

Belastungen

| Ek | h [kN/m] | fe,d [kN/m] |
|----|-------------|----------------|
| 2 | 10.47 | 52.33 |

20% der Vertikallast werden als Horizontallast angesetzt.

Stab

| Stab | EK | Fi [kN/m] | As,erf [cm²/m] | gew. [-] | As,vorh [cm²/m] |
|------|----|--------------|-------------------|-------------|--------------------|
| 1 | 2 | 62.7 | 1.44 | 1.0 | 5.03 |
| 2 | 2 | 52.3 | 1.20 | 1.0 | 5.03 |

Verankerung

| Stab | Kn. | Art | Dmin [mm] | i [-] | Verbund | lbd [cm] | lbd,vorh [cm] |
|------|-----|--------|--------------|----------|---------|-------------|------------------|
| 1 | 1 | Haken | 32 | 0.7 | gut | 5.4 | 6.3 |
| 1 | 3 | gerade | - | 1.0 | gut | 8.6 | 8.6 |

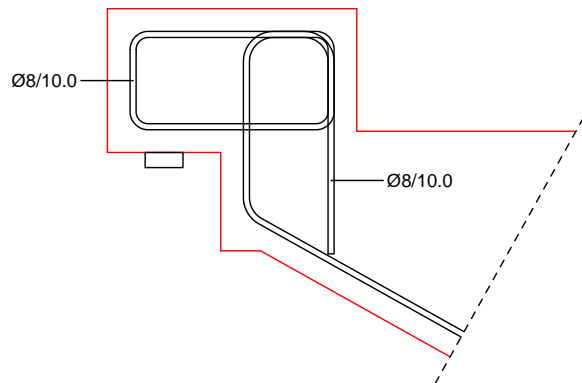
Knotenspannungen

| Kn. | Bez. | Kraft [kN] | ai [cm] | ti [cm] | [N/mm²] | rd [N/mm²] | [-] |
|-----|------|---------------|------------|------------|---------|---------------|------|
| 1 | F1 | 52.3 | 5.0 | 100.0 | 1.05 | 14.45 | 0.07 |
| 2 | F2 | 52.3 | 6.8 | 100.0 | 0.77 | 12.75 | 0.06 |

Ed/fcd

| a0 [cm] | dk [cm] | [-] | a0,grenz [cm] | [-] |
|------------|------------|------|------------------|------|
| 0.4 | 11.8 | 0.45 | 5.3 | 0.08 |

M 1:10



Mindestabmessungen, Abs. 10.9.5.2

| Ed/fcd | a1,min [mm] | a1 [mm] | a2,min [mm] | a2 [mm] | | | |
|----------------|----------------|------------|----------------|--------------|-----------|------|------|
| 0.06 | 25 | 50 | 0.50 | 5 | 50 | 0.10 | |
| a3,min [mm] | a3 [mm] | a2 [mm] | a3 [mm] | aerf [mm] | a [mm] | | |
| 15 | 50 | 0.30 | 10 | 2 | 55 | 150 | 0.37 |

Randabstand

Bewehrung, Bild 10.5

| ci [mm] | ai [mm] | ri [mm] | i [mm] | di [mm] |
|------------|------------|------------|-----------|------------|
| 30 | 2 | 16 | 48 | 50 |
| 0.96 | | | | |

Knotenverankerung, Bild 10.5

| lb,vorh [mm] | a1+ a+r [mm] |
|-----------------|-----------------|
| 70 | 51 |
| 0.73 | |

5i Z` U[Yf_f} ZhY

Oääää←\æã↔b\↔b´ääÁ | ^ääÑæ↑æbb | ^&bá | à→á&æã←ã‡à\æ

Char. Auflagerkr.

| | Aufl. | $F_{z,k}$ [kN/m] |
|--------------------|-------|---------------------|
| Einw. G_k | A | 25.07 |
| | B | 25.07 |
| Einw. $Q_k.N_{T2}$ | A | 12.33 |
| | B | 12.33 |

Ñæ↑ÈËá | à→á&æã←ã‡à\æ
b\‡^ä↔&Ð{~ãfiâæã&È

| Aufl. | $F_{z,d,min}$ [kN/m] | EK | $F_{z,d,max}$ [kN/m] | EK |
|-------|-------------------------|----|-------------------------|----|
| A | 25.07 | 3 | 52.33 | 2 |
| B | 25.07 | 3 | 52.33 | 2 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| | Nachweis | [-] |
|------------|--------------------------------|-----|
| Betonstahl | Expositionsklassen | OK |
| | Austritt | OK |
| | Ñæ}æää ^&b}ää→Á ^\æ^Á→‡^&b | OK |
| | Bewehrungswahl unten quer | OK |

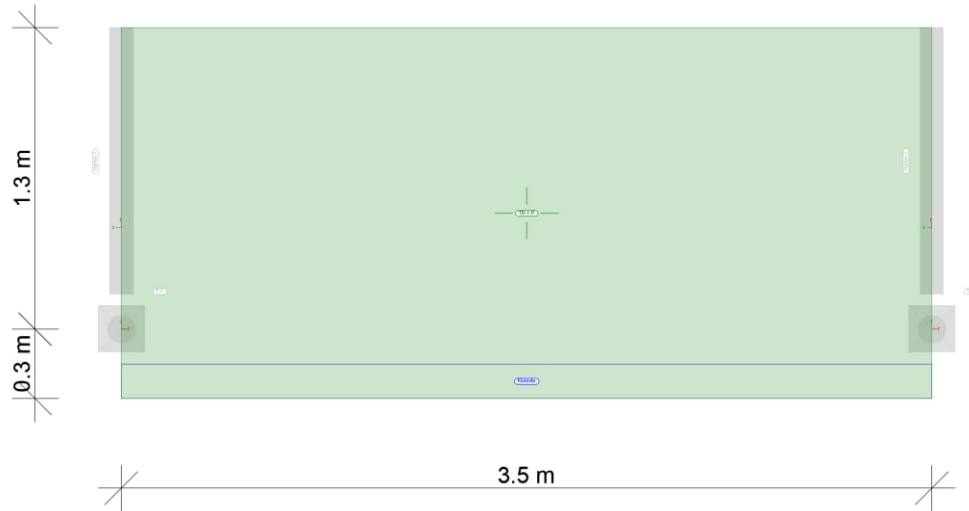
3 Zwischenpodest – TR-1-P

| | |
|--|------|
| Zwischenpodest – TR-1-P | |
| Ausgangswerte | T-13 |
| Positionsplan | T-15 |
| Statik-Protokoll | T-17 |
| Einwirkungen / Lastfälle / Lastgruppen / Lastkombinationen / Lastpläne | T-20 |
| Auswertung | T-25 |
| Biegebemessung | T-25 |
| Bemessungsparameter | T-25 |
| Biegebemessung (erf. a_s) | T-27 |
| Biegebemessung (Δa_s) | T-32 |
| Querkraftbemessung | T-37 |
| Bemessungsparameter | T-37 |
| Querkraftausnutzung – $V_{Ed,res} / V_{Rd,max}$ | T-38 |
| Querkraftbemessung – erf. a_{sw} | T-40 |

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Stat. System:



Material:

Dicke: 20 cm
Betonstahl: B500B
Beton: C30/37
Expositionsklasse: XC1, W0 | Innenbauteil
Betondeckung: $c_v = 30 \text{ mm}$

Belastung:

Eigenlast:

Wird automatisch, programmintern, generiert:

$$g_k = 0,2 \cdot 25 = 5 \text{ kN/m}^2$$

Flächenlasten:

Ausbaulasten

$$\Delta g_k = 2,5 \text{ kN/m}^2$$

Nutzlasten

$$q_k = 5,0 \text{ kN/m}^2$$

Linienlasten:

Treppenlauf (aus TR-1-EG Auflager B)

$$g_k = 25,07 \text{ kN/m}$$

$$Q_{k,DA} = 12,33 \text{ kN/m}$$

Bewehrungswahl:

- oben: # Ø14/10 = 15,39 cm²/m
- unten: # Ø14/10 = 15,39 cm²/m

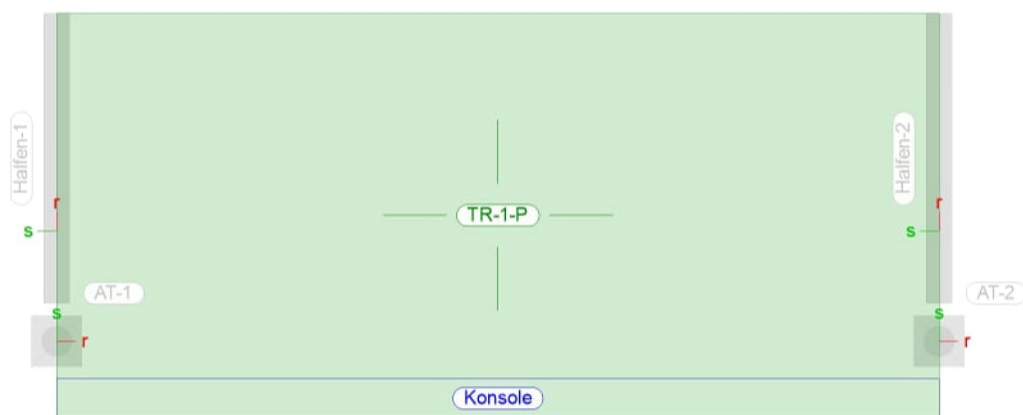
AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Hinweise zur Bewehrungsführung (Kapitel 07 – Decken, Abschnitt 2) – Regeldetail Auflagerbereich Treppen-
lauf / Anschluss Treppenpodeste an Wand – beachten.

Bemessung:

Siehe folgende Seiten.



Bauteil-Positionen

| | | | |
|---|------------------------------|-------------------------------------|------------|
|  | Modell | TR-1-P Treppenpodest | T 15 • 015 |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | KREBS+KIEFER Ingenieure GmbH | | |

Posi ti onspl an

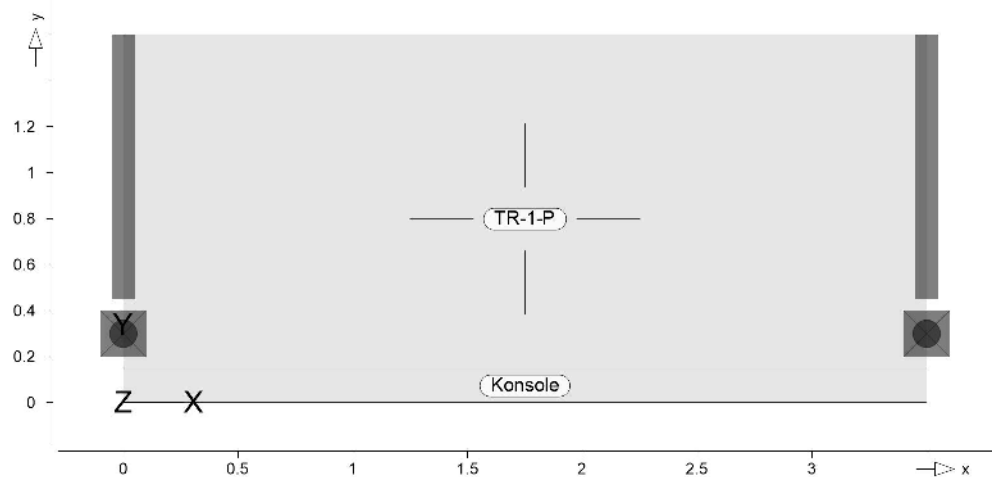
Positionsplan

Bauteile

Bauteil-Positionen

Posi ti onsgrafi k

©âæãb↔´ ¨ \ ÁäæãÁÑá | \ æ↔→ËŞ~b↔\ ↔~ ^æ^

Pl atten

Platten-Positionen

Stahl beton

| Position | Winkel yflȳ | Art | Material Quer | Dicke [cm] |
|----------|----------------|-----|------------------------------|---------------|
| TR-1-P | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 20.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: $\vec{Oab} \mapsto \vec{b} = \vec{a} | \sqrt{\frac{A}{\pi}}$

Exposi ti onskl asse

&æ↑‡ΒΆΕ∅ΣΆΌΣΆFÏÏGĚFĚFÊÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|---------------------------|
| TR-1-P | umlaufend | XC1 | \~'←^Á~äãÄb\‡^ä↔Ä nass |

Di ckenberei che

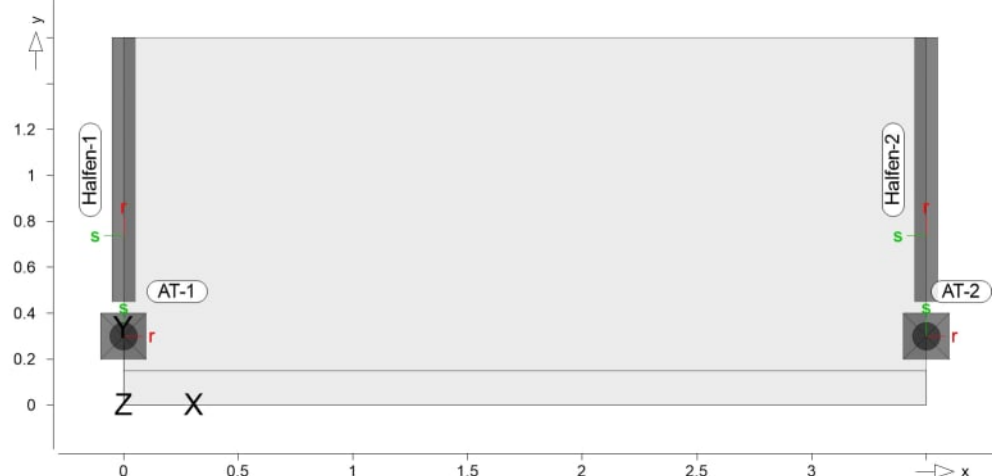
| Position | Dicke [cm] |
|----------|---------------|
| Konsole | 14.0 |

Aufgaben

Auflager-Positionen

Posi ti onsgrafi k

©âæãb↔´ º\ÁäæãÁN| à→á&æãËŞ~b↔\↔~^æ^



POSITION

TR-1-P

Punkt l ager

| Position | $K_{R,r}$ [kNm/rad] | $K_{R,s}$ [kNm/rad] | $K_{T,t}$ [kN/m] |
|------------------------------|------------------------|------------------------|---------------------|
| AT-1 <i>Auflagertasche 1</i> | frei | frei | +/- 30000000 |
| AT-2 <i>Auflagertasche 2</i> | frei | frei | +/- 30000000 |

Li ni en l ager

| Position | $K_{R,r}$ [kNm/rad/m] | $K_{R,s}$ [kNm/rad/m] | $K_{T,t}$ [kN/m/m] |
|--|--------------------------|--------------------------|-----------------------|
| Halften-1, Halften-2 <i>Halften-Anschluss Ausklappbewehrung 1</i> | frei | frei | +/- 30000000 |

Materi al

Materialkennwerte

Stahl beton

DIN EN 1992-1-1

| Position | Material | Wichte γ | E_{cm} G | f_{ck} f_{ctm} |
|----------------------------------|-----------|--------------------|----------------|-----------------------|
| TR-1-P | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |
| Q: $\sigma_b \leq \sigma_{b,Rd}$ | | | | |

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte γ | E_s G | f_{yk} $f_{tk,cal}$ |
|----------|----------|--------------------|-----------------|--------------------------|
| TR-1-P | B 500SB | 78.50 | 200000 77000 | 500.00 525.00 |

Stati k-Protokol l

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 269 | 288 | 864 | 40205 | 314 KB |

Berechnung

Statische Berechnung

| | |
|----------------------------------|--------|
| $\sigma_b \leq \sigma_{b,Rd}$ | Einst. |
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Q**ab** \ $\sigma_b \leq \sigma_{b,Rd}$
Spei cher

Speicherplatzbedarf

| | | |
|-------------------|-------------------------------|-----------|
| Arbeitsspeicher | $\sigma_b \leq \sigma_{b,Rd}$ | vorhanden |
| Standardverfahren | 662 KB | ja |

| | | | |
|---------|-------------------------------|-----------|-----------------------|
| Festpl. | $\sigma_b \leq \sigma_{b,Rd}$ | vorhanden | Laufwerk: \Pfad |
| Ergebn. | 339 KB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b | $\sigma_b \leq \sigma_{b,Rd}$

Berechnungszeit : 0 sec

Bel astung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | P_x [kN] A_x [kN] | P_y [kN] A_y [kN] | P_z [kN] A_z [kN] |
|------------|--------------------------|--------------------------|--------------------------|
| LF-1 | 0.00 0.00 | 0.00 0.00 | -27.21 27.21 |
| BS-Gk | 0.00 0.00 | 0.00 0.00 | -87.75 87.75 |
| BS-Qk.N_T2 | 0.00 0.00 | 0.00 0.00 | -43.14 43.14 |
| LF-2 | 0.00 | 0.00 | -14.00 |

T-17

Schulcampus EWK \

TR-1-P

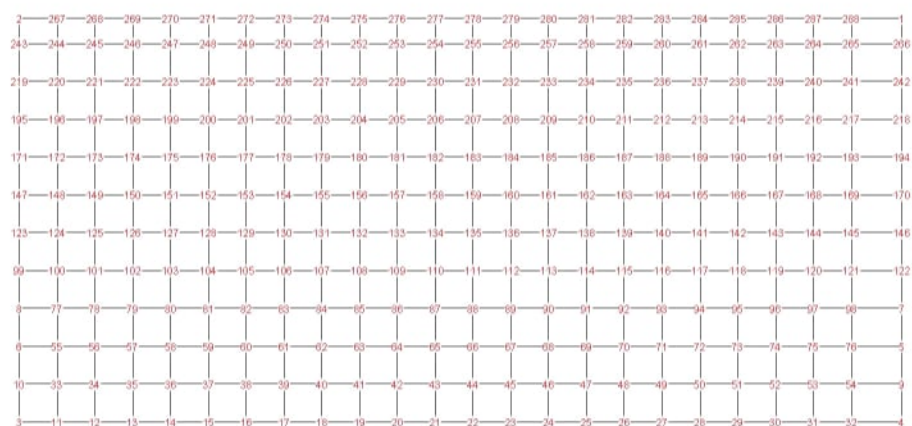
| Lastfall | Px [kN] Ax [kN] | Py [kN] Ay [kN] | Pz [kN] Az [kN] |
|----------|--------------------|--------------------|--------------------|
| | 0.00 | 0.00 | 14.00 |
| LF-3 | 0.00 | 0.00 | -28.00 |
| | 0.00 | 0.00 | 28.00 |
| Summe | 0.00 | 0.00 | -200.10 |
| | 0.00 | 0.00 | 200.10 |

Aufbau der Ergebnisse : 0 sec

Ende der statischen Analyse


Gesamtdauer : 1 sec

*** Berechnung erfolgreich abgeschlossen ***



FE-Netz:

0,15 m x 0,15 m

| | | | |
|---|------------------------------|-------------------------------------|-----------|
| Knotennummern | | Anzahl Knoten = 288 | |
| | | | |
|  | Modell | TR-1-P Treppenpodest | Tabelle 1 |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | KREBS+KIEFER Ingenieure GmbH | | |

Belastungen

Einwirkungen

DIN EN 1990

Einwirkungen nach DIN EN 1990

| Pflicht | Beschreibung |
|---------|--------------|
| Gk | Eigenlasten |
| Ö | Ausbaulasten |
| Qk.N_T2 | Schneelasten |

Einwirkungen

Einwirkungen nach DIN EN 1990

Gk
Ö
Qk.N_T2

LF-1, BS-Gk
LF-2
BS-Qk.N_T2, LF-3

Lastgruppen

Lastgruppen nach DIN EN 1990

| Lastfall | Typ | Beschreibung |
|------------|-----|-----------------|
| LF-1 | s | Eigengewicht |
| BS-Gk | s | aus Lastabtrag |
| BS-Qk.N_T2 | v | aus Lastabtrag |
| LF-2 | s | Ausbau |
| LF-3 | v | Nutzlast Treppe |

Lastkombinationen

Lastkombinationen nach DIN EN 1990

Kombinationen

Manuell vorgegebene Lastkombinationen

| Ew | Einwirkungsname | | | | |
|------|-----------------|------|------|------------|---------|
| Lg | Lastgruppenname | | | | |
| Lf | Lastfallname | | | | |
| Ew | Gk | Gk | Ö← | Qk.N_T2 | Qk.N_T2 |
| Lg | . | . | . | . | . |
| Lf | BS-Gk | LF-1 | LF-2 | BS-Qk.N_T2 | LF-3 |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lastplan

Lasten des FE-Modells

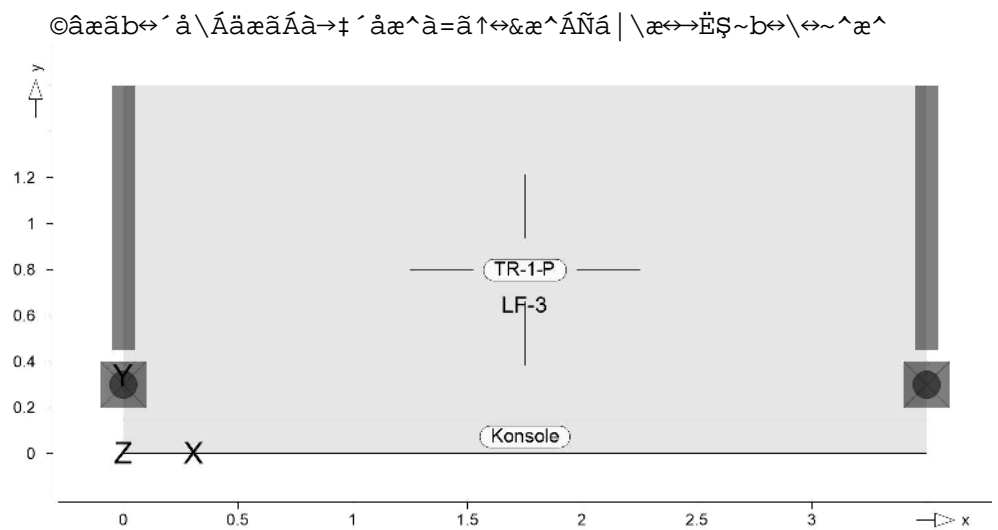
Bauteillasten

Bauteilbezogene Lasten

Einwirkungen

Einwirkungen nach DIN EN 1990

Positionsgrafik



Eigengewicht

| Position | EW | Lastfall | Art | g |
|----------|----|----------|-----|----------------------|
| | | | | [kN/m ²] |
| TR-1-P | Gk | LF-1 | PGr | von 3.50 |
| | | | | bis 5.00 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Dickenbereiche

| Bereiche mit abweichender Regeldicke | | g |
|--------------------------------------|----------------|----------------------|
| Position | Dickenbereiche | [kN/m ²] |
| TR-1-P | Konsole | 3.50 |

Nutzlast

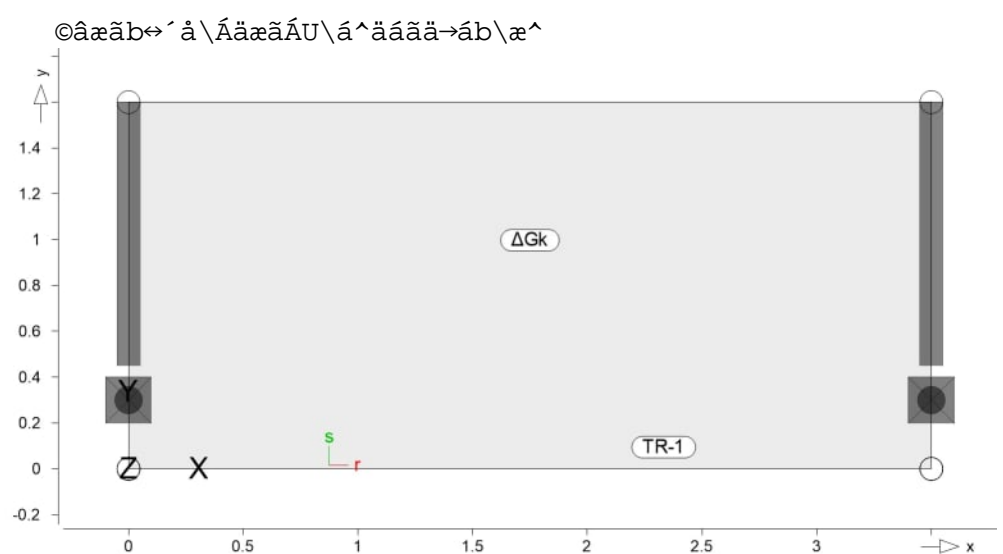
| Position | EW | Lastfall je Lastfeld | Art | p |
|----------|---------|----------------------|-----|----------------------|
| | | | | [kN/m ²] |
| TR-1-P | Qk.N_T2 | LF-3 | PGr | 5.00 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Standardlasten

Standardlasten im FE-Modell

Positionsgrafik



Li ni enl asten

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|--|---------|------------|-----|-------------------------------|-------------------------------|
| (a) TR-1 | Gk | BS-Gk | pGr | 25.07 | 25.07 |
| (a) | Qk.N_T2 | BS-Qk.N_T2 | pGr | 12.33 | 12.33 |
| pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | | |

(a) aus Pos. 'TR-1-EG', Lager 'B'

Positionen

| Position | EW | Lastfall | Art | p |
|--|--------|----------|-----|------|
| Ö← | Ausbau | LF-2 | PGr | 2.50 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

5 i ZU Yf_f} ZhY

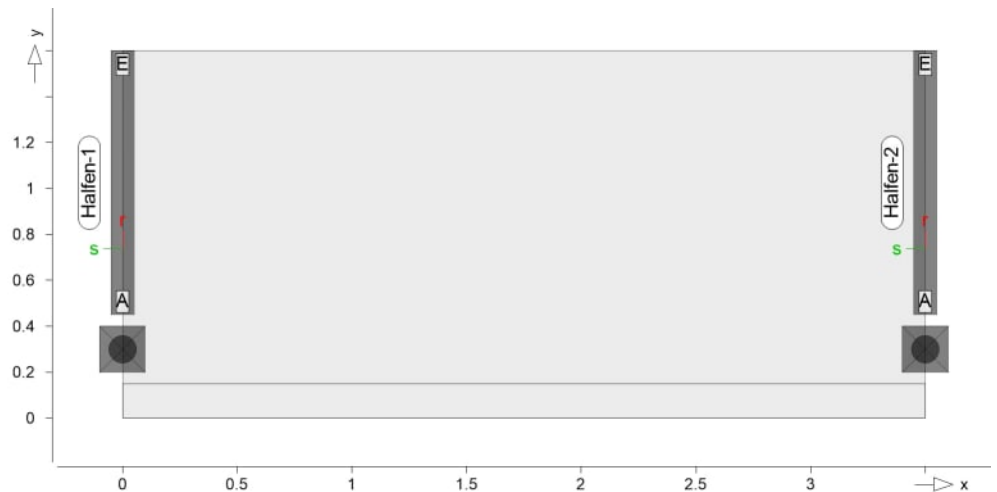
@ b] Yb` U[Yf_f} ZhY`
char.

Q↔^↔æ^→á&æã←ã‡à\æÃæ↔^}↔ã←|^&b}æ↔bæ

ËÃ´ááãá←\æã↔b↔b´áæÃN|à→á&æã←ã‡à\æÃ↓æÃÓ↔^}↔ã←|^&
ËÃ↑↔^Đ↑á[Á@âæã→á&æã|^&ÃäæãÁQáb\à‡→æÃ↓æÃÓ↔^}↔ã←|^&

Posi ti onsgrafi k

©âæãb↔´á\ÃäæãÁQ↔^↔æ^→á&æã



Tabel l e

Úáâæ→→áã↔b´áæÃN|b&áâæÃäæãÃN|à→á&æã←ã‡à\æ

l okal , F_t -Achse

Halften-1

| EW | $F_{t,A,min}$ $F_{t,A,max}$ [kN/m] | $F_{t,M,min}$ $F_{t,M,max}$ [kN/m] | $F_{t,E,min}$ $F_{t,E,max}$ [kN/m] | $F_{t,min}$ $F_{t,max}$ [kN] | e_{min} e_{max} [m] |
|--------------|--|--|--|------------------------------------|-------------------------------|
| (L = 1.15 m) | | | | | |
| Gk | -39.20 | -14.15 | 10.89 | -16.28 | -0.34 |
| Ö← | 0.42 | 3.38 | 6.34 | 3.89 | 0.17 |
| Qk.N_T2 | -19.82 | -10.35 | -0.88 | -11.91 | -0.18 |
| | 0.85 | 6.76 | 12.68 | 7.78 | 0.17 |
| | -19.82 | -10.35 | -0.88 | -11.91 | -0.18 |
| | 0.85 | 6.76 | 12.68 | 7.78 | 0.17 |
| | -19.82 | -10.35 | -0.88 | -11.91 | -0.18 |
| | 0.85 | 6.76 | 12.68 | 7.78 | 0.17 |

Halften-2

| | | | | | |
|--------------|--------|--------|-------|--------|-------|
| (L = 1.15 m) | | | | | |
| Gk | -40.87 | -14.54 | 11.79 | -16.72 | -0.35 |
| Ö← | 0.36 | 3.37 | 6.37 | 3.87 | 0.17 |
| Qk.N_T2 | -20.59 | -10.53 | -0.47 | -12.11 | -0.18 |
| | 0.73 | 6.74 | 12.75 | 7.75 | 0.17 |
| | -20.59 | -10.53 | -0.47 | -12.11 | -0.18 |
| | 0.73 | 6.74 | 12.75 | 7.75 | 0.17 |
| | -20.59 | -10.53 | -0.47 | -12.11 | -0.18 |
| | 0.73 | 6.74 | 12.75 | 7.75 | 0.17 |

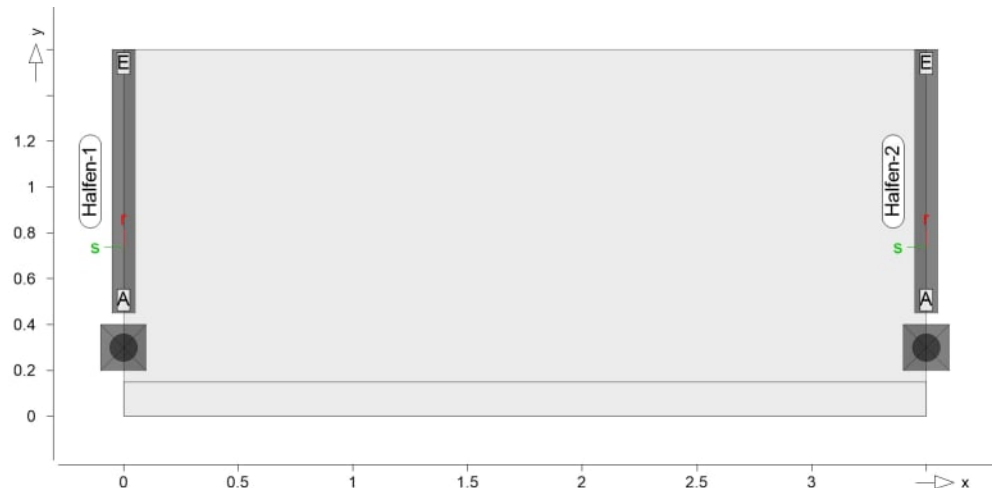
@ b] Yb` U[Yf_f} ZhY`
des.

Q↔^↔æ^→á&æã←ã‡à\æÁ→áb\←~↑â↔^á\↔~^b}æ↔bæ

ĒÁá | bÁRØSÐRNVĚ©âæã→á&æã | ^&ÁfiâæãÁQÔSÁ | ^äÁQPS

Posi ti onsgrafi k

©âæãb↔´â\ÁäæãÁQ↔^↔æ^→á&æã



Tabel l e

Úáâæ→áã↔b´âæÁN | b&áâæÁäæãÁN | à→á&æã←ã‡à\æ

l okal , F_t -Achse

| | | $F_{t,A,min}$ $F_{t,A,max}$ [kN/m] | $F_{t,M,min}$ $F_{t,M,max}$ [kN/m] | $F_{t,E,min}$ $F_{t,E,max}$ [kN/m] | $F_{t,min}$ $F_{t,max}$ [kN] | e_{min} e_{max} [m] |
|----------|--------------------------|--|--|--|------------------------------------|-------------------------------|
| Halben-1 | ($L = 1.15 \text{ m}$) | | | | | |
| | min M | -58.60 | -21.13 | 16.35 | -24.30 | -0.34 |
| | max M | -37.93 | -4.01 | 29.91 | -4.61 | -1.62 |
| Halben-2 | ($L = 1.15 \text{ m}$) | | | | | |
| | min M | -61.09 | -21.70 | 17.69 | -24.96 | -0.35 |
| | max M | -39.78 | -4.44 | 30.91 | -5.10 | -1.53 |

Di b_h` U[Yf_f} ZhY`
char.

Ş | ^←\→á&æã←ã‡à\æÁæ↔^}↔ã← | ^&b}æ↔bæ

ĒÁ´âáãá←\æã↔b\↔b´âæÁN | à→á&æã←ã‡à\æÁ↓æÁÓ↔^}↔ã← | ^&

ĒÁ↑↔^Đ↑á [Á©âæã→á&æã | ^&ÁäæãÁQáb\à‡→æÁ↓æÁÓ↔^}↔ã← | ^&

Tabel l e

Úáâæ→áã↔b´âæÁN | b&áâæÁäæãÁN | à→á&æã←ã‡à\æ

| | EW | $F_{r,min}$ $F_{r,max}$ [kN] | $F_{s,min}$ $F_{s,max}$ [kN] | $F_{t,min}$ $F_{t,max}$ [kN] | $M_{r,min}$ $M_{r,max}$ [kNm] | $M_{s,min}$ $M_{s,max}$ [kNm] | $M_{t,min}$ $M_{t,max}$ [kNm] |
|------|---------|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| AT-1 | Gk | - | - | 73.76 | - | - | - |
| | Ö← | - | - | 3.11 | - | - | - |
| | Qk.N_T2 | - | - | 0.00 | - | - | - |
| | | - | - | 39.70 | - | - | - |
| AT-2 | Gk | - | - | 74.20 | - | - | - |
| | Ö← | - | - | 3.13 | - | - | - |
| | Qk.N_T2 | - | - | 0.00 | - | - | - |
| | | - | - | 39.93 | - | - | - |

Di b_h` U[Yf_f} ZhY`
des.

Ş | ^←\→á&æã←ã‡à\æÁ→áb\←~↑â↔^á\↔~^b}æ↔bæ

ĒÁá | bÁRØSÐRNVĚ©âæã→á&æã | ^&ÁfiâæãÁQÔSÁ | ^äÁQPS

Tabelle

Übungsgruppe → a ã ↔ b ´ å æ Å Ñ | b & a ã æ Å ä æ ã Å Ñ | à → á & æ ã ← ã ‡ à \ æ

| | | F_x [kN] | F_s [kN] | F_t [kN] | M_x [kNm] | M_s [kNm] | M_t [kNm] |
|------|-----|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| AT-1 | min | - | - | 76.87 | - | - | - |
| | max | | - | 116.57 | - | - | - |
| AT-2 | min | - | - | 77.33 | - | - | - |
| | max | | - | 117.26 | - | - | - |

Alle Nachweise

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 2 | 3 | -0.49 | 2.61 | 6.64 | 6.15 | 2.75 |
| 63 | 4 | 87.96 | -6.93 | 7.86 | 95.82 | 16.22 |
| 68 | 4 | 88.97 | -6.89 | -6.91 | 95.88 | 16.23 |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 3 | 3 | 2.90 | -0.15 | 1.70 | 1.55 | 2.19 |
| 22 | 4 | 34.69 | 0.02 | -0.38 | 0.40 | 2.19 |
| 32 | 4 | 4.52 | 0.12 | -3.69 | 3.82 | 2.19 |
| 68 | 7 | 54.35 | -3.08 | -3.58 | 0.50 | 2.75 |
| 99 | 4 | -0.09 | 5.75 | 33.31 | 39.06 | 5.78 |
| 122 | 4 | 0.12 | 6.42 | -33.38 | 39.79 | 5.90 |
| 176 | 4 | 50.46 | -5.08 | 13.21 | 8.13 | 2.75 |
| 189 | 4 | 53.07 | -5.27 | -12.60 | 7.33 | 2.75 |
| 277 | 3 | 57.60 | 0.01 | 0.90 | 0.90 | 2.75 |

as, r, oben

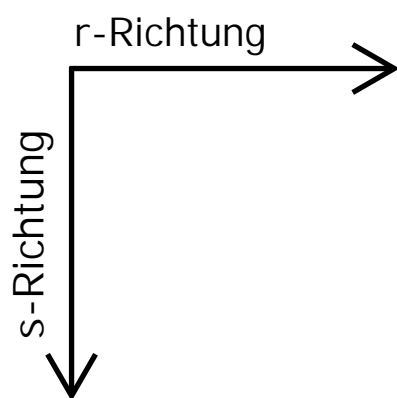
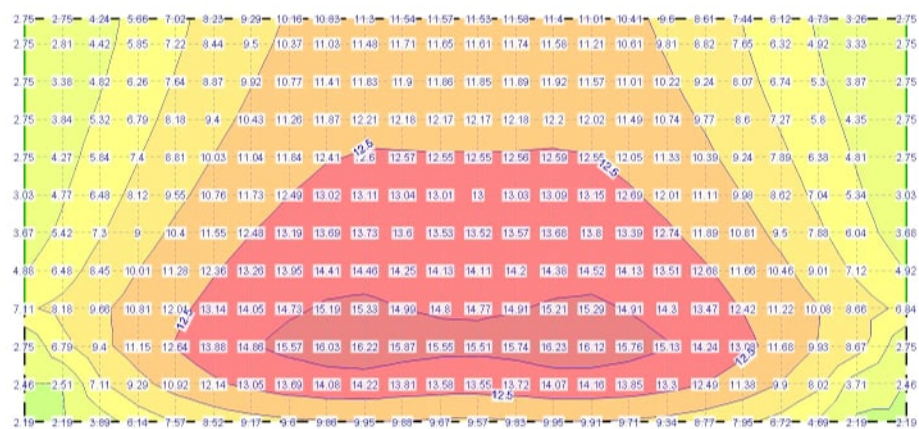
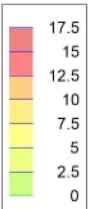
Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 2 | 3 | -0.49 | 2.61 | 6.64 | -7.13 | 2.75 |
| 7 | 4 | 1.34 | -9.79 | -44.06 | -42.73 | 6.39 |
| 8 | 4 | 1.08 | -7.73 | 45.91 | -44.83 | 6.75 |
| 11 | 4 | 2.81 | 0.21 | 3.07 | -0.26 | 2.19 |
| 120 | 3 | 25.89 | -10.44 | -26.32 | -0.43 | 2.75 |
| 125 | 1 | 10.91 | -2.27 | 11.53 | -0.62 | 2.75 |
| 172 | 3 | 9.20 | -1.03 | 17.84 | -8.64 | 2.75 |
| 193 | 3 | 12.19 | -1.41 | -17.70 | -5.52 | 2.75 |
| 217 | 3 | 11.74 | -0.54 | -15.41 | -3.67 | 2.75 |
| 220 | 3 | 8.35 | 1.37 | 13.30 | -4.96 | 2.75 |
| 266 | 3 | 0.36 | 7.69 | -9.96 | -9.61 | 2.75 |

as, s, oben


Erforderliche obere Bewehrung $a_{s,so}$

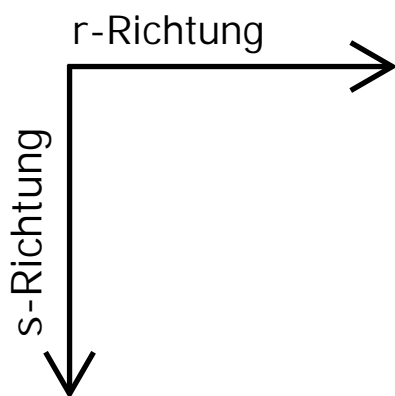
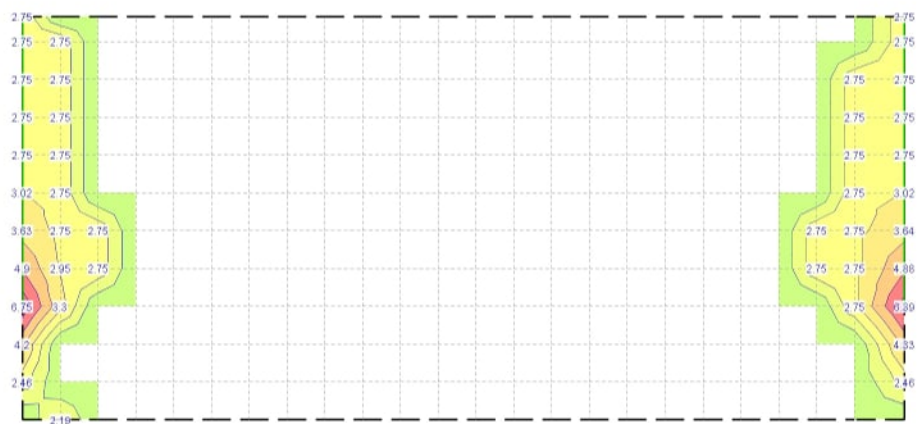
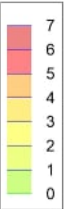
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 5 | 4 | -3.10 | -106.7 | -26.52 | -133.3 | 24.78 |
| 6 | 4 | -2.37 | -111.1 | 26.37 | -137.5 | 25.89 |
| 59 | 3 | 55.82 | -8.68 | 18.14 | -14.57 | 2.75 |
| 98 | 4 | 20.65 | -23.47 | -35.32 | -58.79 | 9.16 |
| 183 | 3 | 63.68 | -6.91 | -0.68 | -6.92 | 2.75 |
| 218 | 3 | 0.02 | 0.22 | -15.87 | -15.65 | 2.75 |



Biegebemessung:


erf. Bewehrung
- untere Lage r-Richtung -

| | | | |
|---|------------------------------|-------------------------------------|----------------|
| : ``} W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf | |
| Max = 16.23 (Kn. 68), Min = 2.19 (Kn. 3), Step = 2.5 | | | |
| Bew.-Abstand d' = 44 mm | | | |
| Beton C 30/37 | | | |
| Bauteildicke h = 14.00...20.00 cm | | | |
|  | Modell | TR-1-P-o.Bw. Treppenpodest | T a • ca h K E |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | KREBS+KIEFER Ingenieure GmbH | | |



Biegebemessung:

erf. Bewehrung
- obere Lage r-Richtung -

| | | |
|---|-------------|-------------------------------------|
| : } W YbVYa Yggi b[| | Erforderliche Bewehrung as, erf |
| Max = 6.75 (Kn. 8), Min = 0 (Kn. 3), Step = 1 | | |
| Bew.-Abstand d' = 44 mm | | |
| Beton C 30/37 | | aus allen Nachweisen |
| Bauteildicke h = 14.00...20.00 cm | | !EJ&@ } * A à^} A A\ Q á |
|  | Modell | TR-1-P-o.Bw. Treppenpodest |
| | Bauvorhaben | Schulcampus EWK Schwesternschule |
| KREBS+KIEFER Ingenieure GmbH | | T æ • cãk FKE |

Bemessung (GZT)

| | |
|---------------------|---|
| Bemessungsparameter | Biegebemessung der Platten (Stahlbeton) nach DIN EN |
| <u>Bi e g u n g</u> | 1992-1-1 |

| Mat. / Querschnitt | Position | Winkel Yfl \vec{Y} | Art | Material Quer | Dicke [cm] |
|---|----------|-------------------------|-----|------------------------------|---------------|
| TR-1-P | | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 20.0 |
| Winkel: Bewehrungsrichtung r iso: isotropes Material Q: $\vec{a} \leftrightarrow \vec{b} \leftarrow \vec{a} \wedge \vec{A} \vec{a} \leftrightarrow \vec{a}$ | | | | | |

| | | | |
|------------------|---------------------------------|-----|-------------------------------|
| Expositionskasse | &a↑†ßÁÆØSÁÓSÁFïïGëFëFêÁÚââÊÄHëF | | |
| Position | Seite | Kl | Kommentar |
| TR-1-P | umlaufend | XC1 | \ä~´←a^Ä~äääAb\†^ä↔&Ä nass |

Bewehrung Vorgaben zur Bewehrungsdefinition

| Bewehrungsrichtung | Orthogonale Bewehrung | | | | |
|--------------------|-----------------------|------------|------------|------------|------------|
| | Position | ro YflY | so YflY | ru YflY | su YflY |
| TR-1-P | | 0.00 | 90.00 | 0.00 | 90.00 |

| Position | | C_{min} [mm] | $\#_{def}'$ [mm] | C_{nom} [mm] | C_v [mm] | d'_r [mm] | d'_s [mm] |
|----------|---|-------------------|---------------------|-------------------|---------------|----------------|----------------|
| TR-1-P | o | 14 | 10 | 24 | 30 | 37 | 51 |
| | u | 14 | 10 | 24 | 30 | 37 | 51 |

| Grundbewehrung | | Position | RÄ\ æBÄU\ tâæ ~Y↑↑YĐbY'↑Y | d'r [mm] | a _{sg,r} [cm ² /m] | d's [mm] | a _{sg,s} [cm ² /m] |
|----------------|---|----------|------------------------------|-------------|---|-------------|---|
| TR-1-P | u | r | Ö3613202 | 37 | 15.39 | | |
| | u | s | Ö3613202 | | | 51 | 15.39 |
| | o | r | Ö3613202 | 37 | 15.39 | | |
| | o | s | Ö3613202 | | | 51 | 15.39 |

Bemessungsparameter ãfiãÄäæ^ÄÖãæ^~ | b\á^äÄäæãÁÜãä&à‡ã&←æ↔\Á^á´äÁ∅SÁÓSÁ
1992-1-1

| Position | Mindestbewehrung |
|---|------------------|
| TR-1-P | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | |

TR-1-P Ñæ↑æbb| ^&ÁàfiãÁ\$→á\\æÁÇU\`áâ→âæ\~^DÁÚPĖĖĖ\$

| Erf. Bewehrung | Erforderliche Bewehrung |
|----------------|-------------------------|
|----------------|-------------------------|

Kombi nati onen Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á'ăÁĖØSÁÓSÁFİİ€

| | |
|-----|------------------------|
| Ew | Einwirkungsname |
| Lkn | Lastkombinationsnummer |

€→æÃÑæ\æ↔↔&|^&Ãæ↔^~æ→^æãÃQáb\à†→æÁ↔^~æããã→âÃeiner
 Einwirkung wird mit diesem Ausgabeformat nicht
 dokumentiert.

qh} bX] [#i cf ~ VYf ["

| Grundkombinationen | | | | |
|--------------------|----|------|------|-------------|
| Lkn | Ew | Gk | Ö← | Qk.N_T2 |
| 1 | | 1.00 | 1.00 | . |
| 2 | | 1.00 | 1.35 | . |
| 3 | | 1.35 | 1.00 | 1.50 |
| 4-6 | | 1.35 | 1.35 | 1.50 |

| Lkn | Ew | Gk | Ö← | Qk.N_T2 |
|-----|----|------|------|-------------|
| 7 | | 1.00 | 1.35 | 1.50 |

Alle Nachweise

Óã~ãäæã↔´åæÁQ‡^&bâæ}æã | ^&Áá | bÁá→æ^ÁSá´å}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$ (Differenzbew.)

ÖbÄ↔b\Ä←æ↔^æÄ~|b‡\~↗'ääÄÑæ}æää|^&Äää~ääää↗'âÊÄda
die vorhandene Bewehrung ausreichend ist.

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$ (Differenzbew.)

ÖbÄ↔b\Ä←æ↔^æÃ~|b‡\~↗'äæÃÑæ}æää|^&Äæää~ääää↗'âÊÄda
die vorhandene Bewehrung ausreichend ist.

as, r, oben

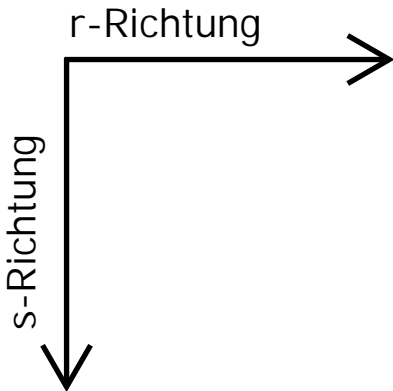
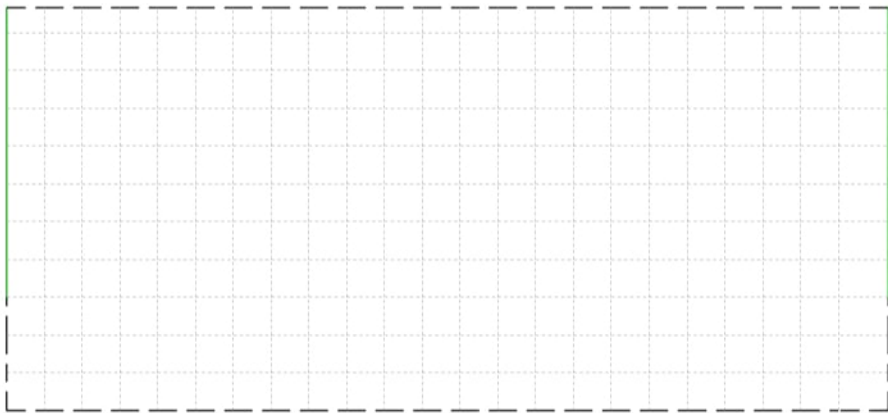
Erforderliche obere Bewehrung $a_{s,ro}$ (Differenzbew.)

ÖbÄ↔b\Ä←æ↔^æÄ~|b‡\~↗'ääÄÑæ}æää|^&Äää~ääää↗'âÊÄda
die vorhandene Bewehrung ausreichend ist.

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$ (Differenzbew.)

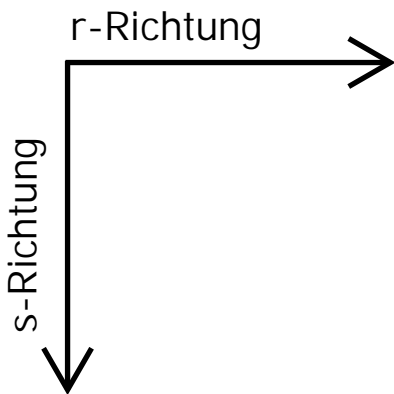
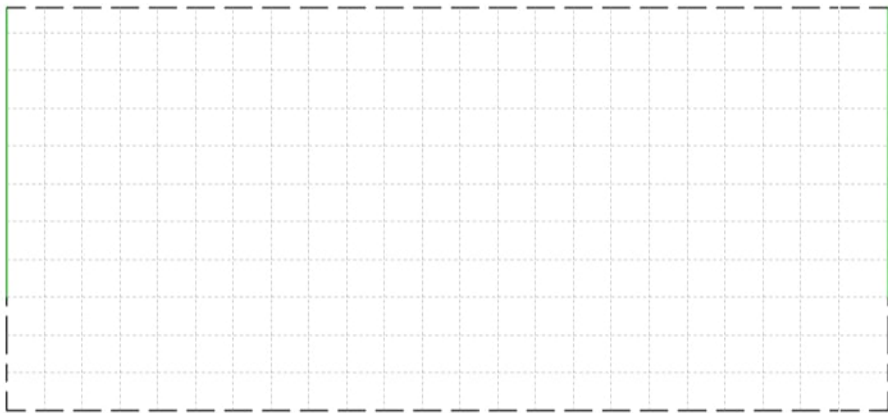
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ∇ ↓ Y'' |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|-----------------------------------|
| 5 | 4 | -3.10 | -106.7 | -26.52 | -133.3 | 10.72 |
| 6 | 4 | -2.37 | -111.1 | 26.37 | -137.5 | 11.75 |



Biegebemessung:

erf. Zulagen
- untere Lage r-Richtung -

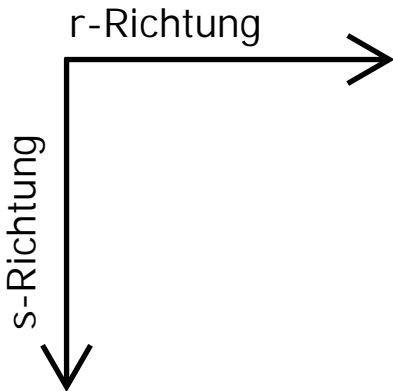
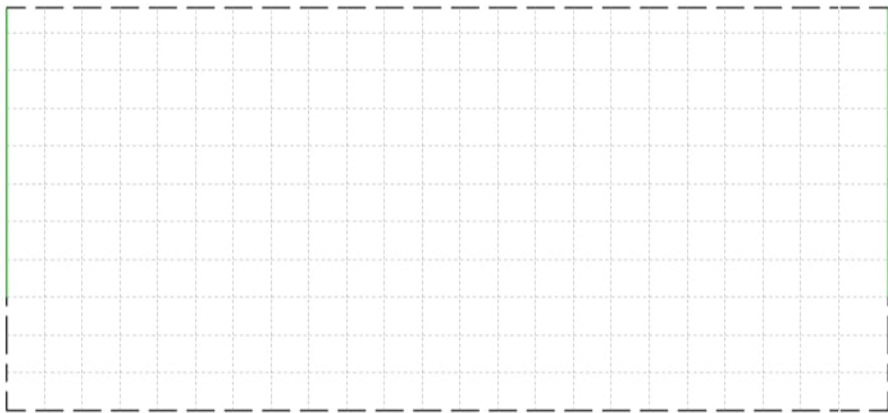
| | | |
|---|------------------------------|--|
| : } W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |
| Vorhandene Bew. as,vorh = 15.39 (Grund+Zulagen) | | |
| Bew.-Abstand d' = 37 mm | | aus allen Nachweisen (Differenzbew.) |
| Beton C 30/37 | | !EJa@ } * Á } c) Á Á Á Q á |
| Bauteildicke h = 14.00...20.00 cm | | Max = 0 (Kn. 3), Min = 0 (Kn. 3), Step = 2 |
|  | Modell | TR-1-P Treppenpodest |
| | Bauvorhaben | Schulcampus EWK Schwesternschule |
| | KREBS+KIEFER Ingenieure GmbH | |
| | | T æ • c æ k F K E |



Biegebemessung:

erf. Zulagen
- untere Lage s-Richtung -

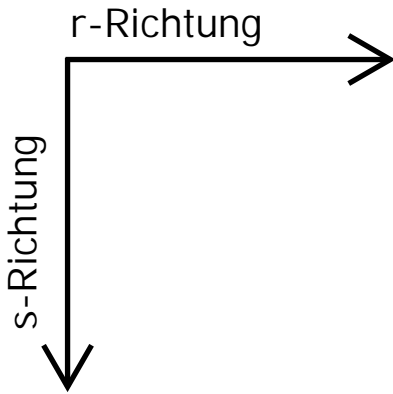
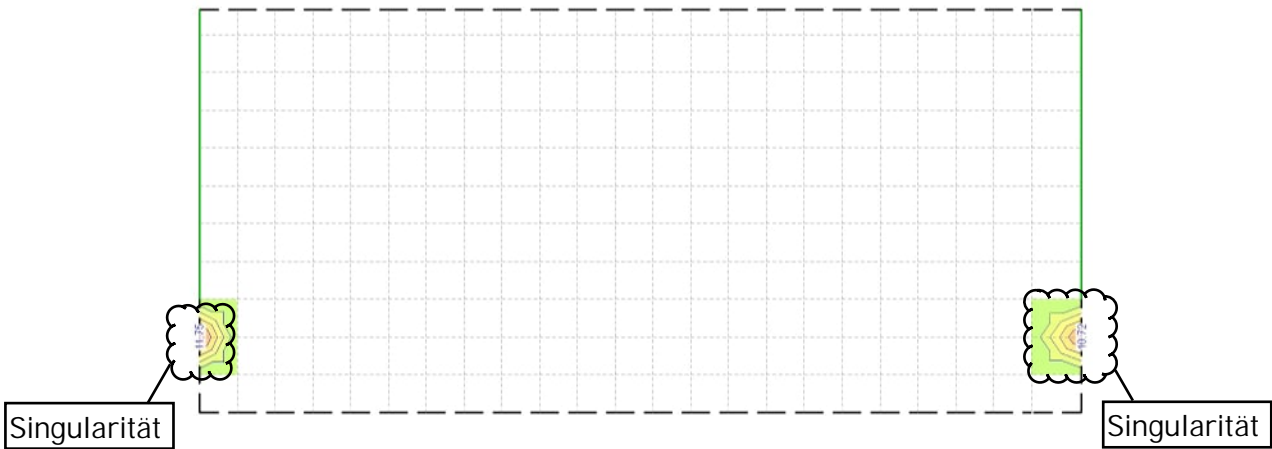
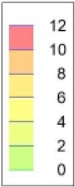
| | | |
|---|------------------------------|--|
| : } W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |
| Vorhandene Bew. as,vorh = 15.39 (Grund+Zulagen) | | |
| Bew.-Abstand d' = 51 mm | | aus allen Nachweisen (Differenzbew.) |
| Beton C 30/37 | | • EAC } * Á } c } Á Á } Q á |
| Bauteildicke h = 14.00...20.00 cm | | Max = 0 (Kn. 3), Min = 0 (Kn. 3), Step = 2 |
|  | Modell | TR-1-P Treppenpodest |
| | Bauvorhaben | Schulcampus EWK Schwesternschule |
| | KREBS+KIEFER Ingenieure GmbH | |
| | | T æ • c æ k F K E |



Biegebemessung:

erf. Zulagen
- obere Lage r-Richtung -

| | | |
|---|------------------------------|--|
| : } W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |
| Vorhandene Bew. as,vorh = 15.39 (Grund+Zulagen) | | |
| Bew.-Abstand d' = 37 mm | | aus allen Nachweisen (Differenzbew.) |
| Beton C 30/37 | | !EJ&@ } * A a^} /g A&Q d á |
| Bauteildicke h = 14.00...20.00 cm | | Max = 0 (Kn. 3), Min = 0 (Kn. 3), Step = 2 |
|  | Modell | TR-1-P Treppenpodest |
| | Bauvorhaben | Schulcampus EWK Schwesternschule |
| | KREBS+KIEFER Ingenieure GmbH | |
| | | T æ • c&h FKE |



Biegebemessung:

erf. Zulagen
- obere Lage s-Richtung -

| | | |
|---|-------------|--|
| : } W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |
| Vorhandene Bew. as,vorh = 15.39 (Grund+Zulagen) | | |
| Bew.-Abstand d' = 51 mm | | aus allen Nachweisen (Differenzbew.) |
| Beton C 30/37 | | • E u c } * A à ^) A A A d á |
| Bauteildicke h = 14.00...20.00 cm | | Max = 11.75 (Kn. 6), Min = 0 (Kn. 3), Step = 2 |
| | Modell | TR-1-P Treppenpodest |
| | Bauvorhaben | Schulcampus EWK Schwesternschule |
| KREBS+KIEFER Ingenieure GmbH | | T æ • c a k F K E |

Bemessungsparameter
Querkraft
Bemessungsparameter

Ö→†´ää^@|æã←ääà\âæ↑æbb| ^&Á^á´ääÆØSÁÓSÁFİİĞĖFĖF

àfiääÄäæ^ÁÖöæ^~ | b\á^ääÄäæääÜää&à†â↔&←æ↔\Á^á´ääÆØSÁÓSÁ
1992-1-1

Querkraft

| Position | Druckstrebenneigung | Mindestbewehrung |
|---|---------------------|------------------|
| TR-1-P | automatisch | nein |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

TR-1-P

Ñæ↑æbb| ^&ÁàfiääÁŞ→á\æÁÇU\áâ→âæ\~^DÁÚPĖFĖŞ

Kombi nati onen

Ráß&æâæ^ääÁP~↑â↔^á\↔~^æ^Á^á´ääÆØSÁÓSÁFİİ€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔æÁÑæ\æ↔↔&| ^&Áæ↔^~æ→^æääQáb\à†→æÁ↔^æääâ→âÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

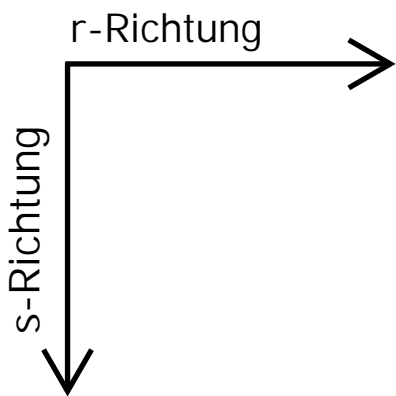
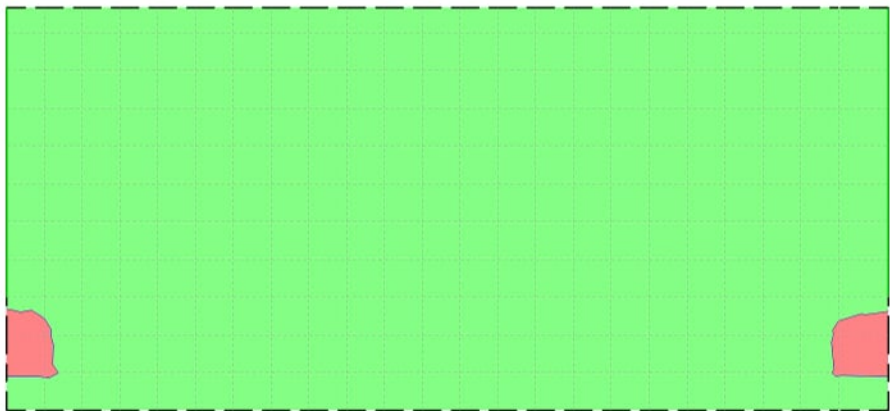
| Lkn | Ew | Gk | Ö← | Qk.N_T2 |
|-----|----|------|------|-------------|
| 1 | | 1.35 | 1.35 | 1.50 |

Hf U[Z} \] [_Y] h

Erforderliche Querkraftbewehrung aus
Üää&à†â↔&←æ↔\b^á´â}æ↔b

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | V _{Ed,r} V _{Ed,s} [kN/m] | V _{Rd,c} [kN/m] | Z [mm] | Y _{f1} Y ₂ | V _{Rd,max} [kN/m] | a _{sw,r} a _{sw,s} Y´↑YĐ↑YŸ | a _{sw} |
|--------|-----|--|-----------------------------|------------|--------------------------------|-------------------------------|--|-----------------|
| 5 | 1 | -237.2 6.89 | 99.38 111.6 | 115 101 | 28 18 | 608.0 386.3 | 25.2 0.00 | 25.24 |
| 6 | 1 | 273.43 7.45 | 99.38 113.1 | 115 101 | 30 18 | 631.9 386.3 | 31.3 0.00 | 31.28 |
| 7 | 1 | -109.6 343.82 | 99.38 93.61 | 115 101 | 18 33 | 439.9 588.7 | 7.31 51.0 | 58.26 |
| 8 | 1 | 106.59 353.51 | 99.38 93.61 | 115 101 | 18 33 | 439.9 590.5 | 7.11 52.8 | 59.90 |
| 9 | 1 | -108.0 -347.0 | 86.78 80.58 | 85 71 | 19 35 | 333.6 426.6 | 10.1 79.4 | 89.45 |
| 10 | 1 | 107.63 -360.0 | 86.78 80.58 | 85 71 | 19 35 | 332.3 427.5 | 9.98 82.9 | 92.87 |
| 11 | 1 | 23.55 -110.4 | 73.18 66.39 | 55 41 | 18 31 | 210.4 231.1 | 0.00 37.3 | 37.32 |



Verhältnis:

$- V_{Ed} / V_{Rd,max} -$

Querkraftbemessung

Übersicht über die Querkraftbemessung der Bauteile

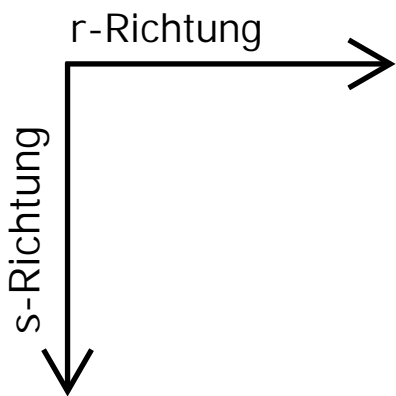
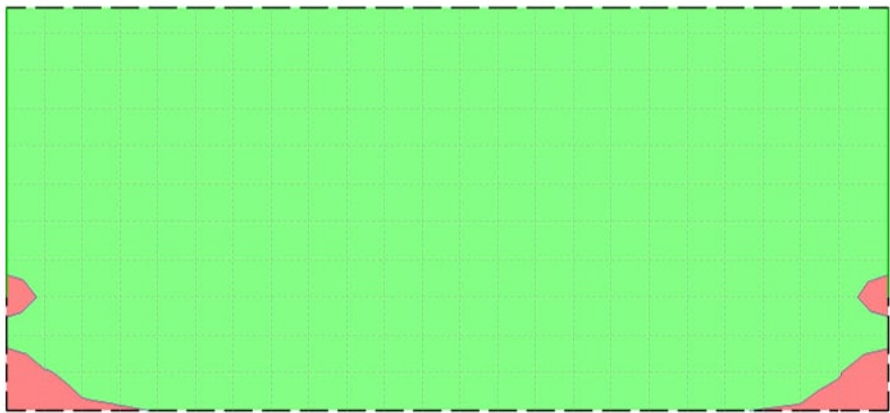
Max = 0.43, Min = 0



Modell TR-1-P Treppenpodest
Bauvorhaben Schulcampus EWK
Schwesternschule

KREBS+KIEFER Ingenieure GmbH

Tabelle 1



Verhältnis:

- $V_{Ed} / V_{Rd,max}$ -

Querkraftbemessung

Übersicht über die Querkraftverläufe und die Bemessungsergebnisse für die Querkraft.

Max = 0.84, Min = 0



Modell TR-1-P Treppenpodest
Bauvorhaben Schulcampus EWK
Schwesternschule

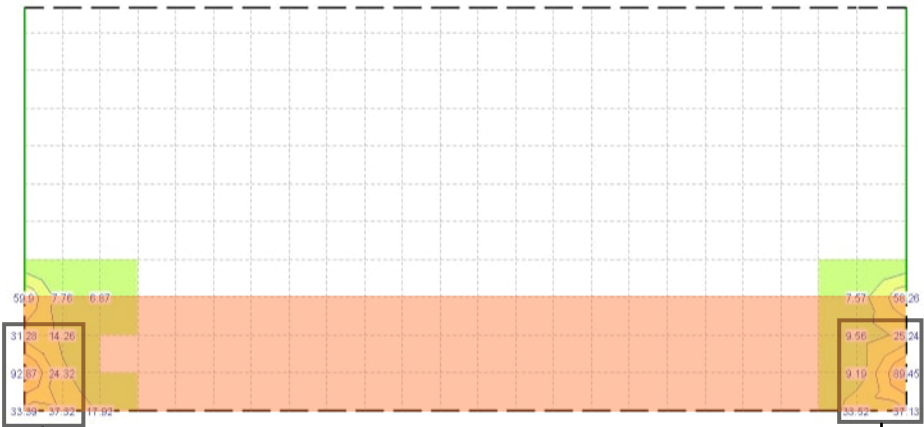
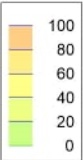
KREBS+KIEFER Ingenieure GmbH

Tabelle 1



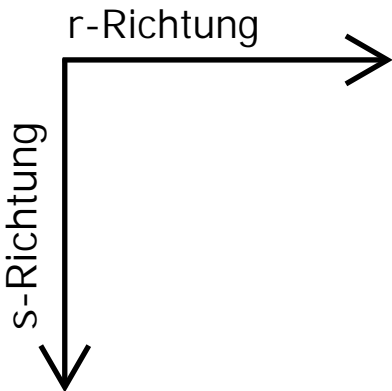
Bügelbewehrung Ø10/10/15 anordnen

as,vorh = 52,34 cm²/m



gemittelt: 38,91 cm²/m

gemittelt: 34,02 cm²/m



Querkraftbemessung:

- a_{s,erf} -

Querkraftbemessung

Übersicht über die Querkraftbemessung der Stütze, die die Lasten der Stütze überträgt.

Max = 92.87, Min = 0, Step = 20



Modell TR-1-P Treppenpodest
Bauvorhaben Schulcampus EWK
Schwesternschule

KREBS+KIEFER Ingenieure GmbH

Tabelle 1

4 Atriumstufen

Die Atriumstufen werden als Fertigteile hergestellt und spannen einachsrig zwischen zwei Auflagerwänden. Sie werden als Platte mit Randunterzug bemessen. Die Stufen werden konstruktiv mit Dornen verbunden, um die Ausbildung von sichtbaren Fugen zu vermeiden. Dafür sind Hüllrohre im Randunterzug vorzuhalten, in denen die Anschlussbewehrung angeordnet wird. Diese Hüllrohre sind nachträglich zu betonieren.

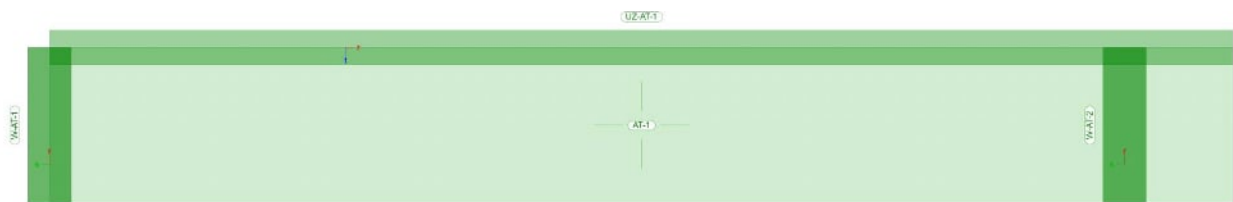
4.1 AT-1

| | |
|--|------|
| Atriumstufe AT-1 | |
| Ausgangswerte | T-42 |
| Positionsplan | T-44 |
| Statik-Protokoll | T-46 |
| Einwirkungen / Lastfälle / Lastgruppen / Lastkombinationen / Lastpläne | T-45 |
| Linienlagerkräfte | T-50 |
| Auswertung | T-51 |
| Verformungen (Zustand II) | T-53 |
| Biegebemessung | T-55 |
| Bemessungsparameter | T-55 |
| Biegebemessung (erf. a_s) | T-57 |
| Biegebemessung (Δa_s) | T-63 |
| Querkraftbemessung | T-67 |
| Bemessungsparameter | T-67 |
| Querkraftausnutzung – $V_{Ed,res} / V_{Rd,max}$ | T-68 |
| Querkraftbemessung – erf. a_{sw} | T-70 |
| Lastübergabe Unterzug | T-71 |

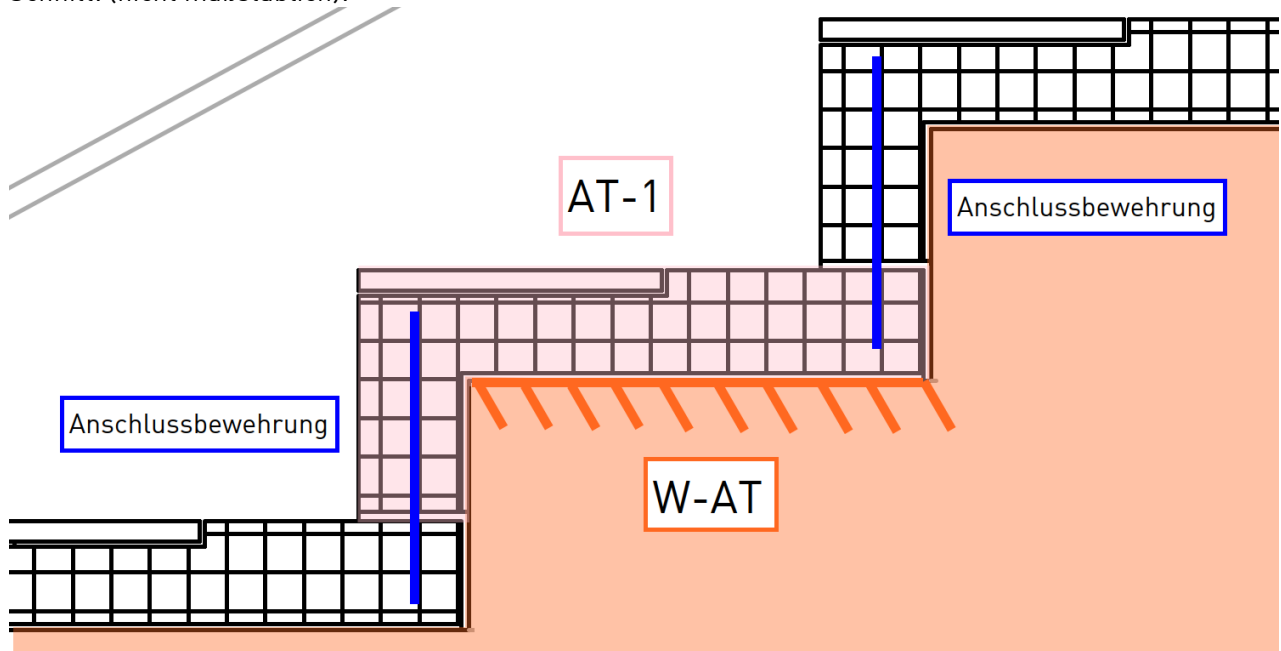
AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Statisches System:



Schnitt: (nicht maßstäblich):



AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung TragwerksplanungMaterial:

| | | |
|--------------------|-----------------------|--------------|
| Dicke: | 30 cm | Platte |
| b/h: | 20/40 cm | Unterzug |
| Betonstahl: | B500B | |
| Beton: | C30/37 | |
| Expositionsklasse: | XC1, W0 | Innenbauteil |
| Betondeckung: | $c_v = 30 \text{ mm}$ | |

Belastung:

Eigenlast:

Wird automatisch, programmintern, generiert:

$$g_k = 0,3 \cdot 25 = 7,5 \text{ kN/m}^2$$

Ausbaulasten

$$\Delta g_k = 2,5 \text{ kN/m}^2$$

Nutzlasten

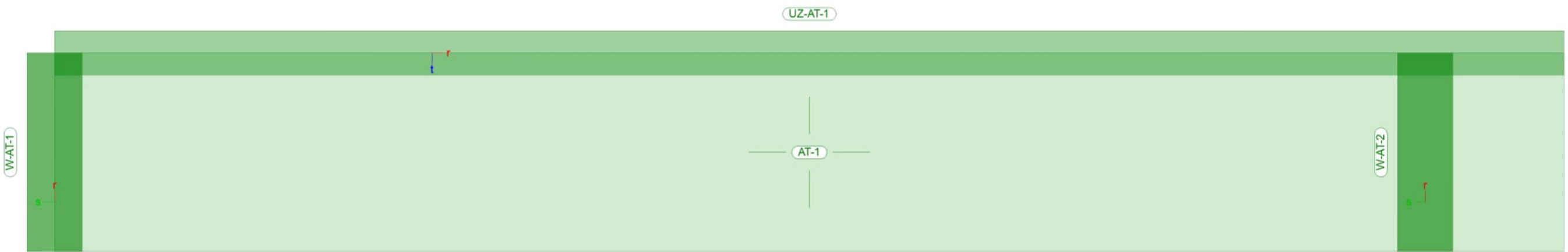
$$q_k = 5,0 \text{ kN/m}^2$$


Bewehrungswahl:

- oben: horizontal: $\emptyset 14/10 = 15,39 \text{ cm}^2/\text{m}$
vertikal: $\emptyset 10/10 = 7,85 \text{ cm}^2/\text{m}$
- unten: horizontal: $\emptyset 14/10 = 15,39 \text{ cm}^2/\text{m}$
vertikal: $10/10 = 7,85 \text{ cm}^2/\text{m}$
- Hüllrohr: $1\emptyset 10 \text{ alle } 2 \text{ m}$

Bemessung:

Siehe folgende Seiten.



| | | | | |
|--------------------|---|------------------------------|-------------------------------------|---------------|
| Bauteil-Positionen |  | Modell | AT-1 Treppenstufe Atrium | Tafel T-44 |
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |

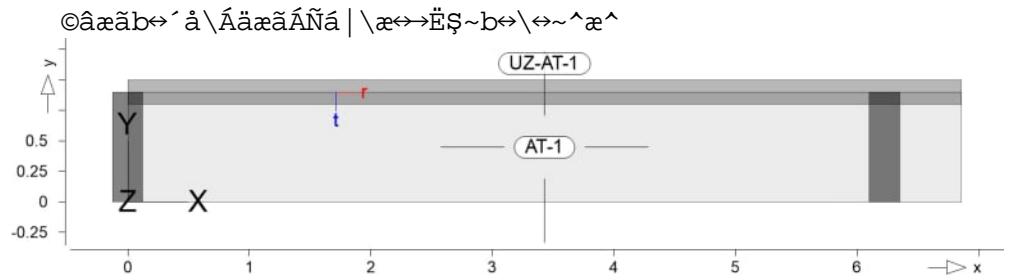
Posi ti onspl an

Positionsplan

Bauteile

Bauteil-Positionen

Posi ti onsgrafi k

Pl atten

Platten-Positionen

Stahl beton

| Position | Winkel yflŸ | Art | Material Quer | Dicke [cm] |
|----------|----------------|--------|------------------|---------------|
| AT-1 | Treppenstufe | Atrium | C 30/37 Q | 30.0 |
| | 0.0 | iso | B 500SB B 500SB | |

Winkel: Bewehrungsrichtung r

iso:

Q: Öæb\æ↔^b←=ã^ | ^&ÁT | áã~↔\

Exposi ti onskl asse

&æ↑‡ßÁƐøšáóšáfïïgëfëfêáúáâèáhèf

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|---------------------------------|
| AT-1 | umlaufend | XC1 | \~ã~'←æ^Ã~äæãÃb\ †^ä↔&Ã nass |

l bhYf n~ [Y

Unterzug-Positionen

Stahl beton

| Position | Q+^&a [m] | Betonstahl | Beton |
|----------|--------------|-----------------|-----------|
| UZ-AT-1 | 6.86 | B 500SB B 500SB | C 30/37 Q |

Abminderung

| Position | F _D | F _{S,s} | F _{S,t} | F _T | F _{B,s} | F _{B,t} |
|--------------------|---|------------------|------------------|----------------|------------------|------------------|
| UZ-AT-1 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| F _D : | Nâ↑↗^äää ^&bää\~\~ääfiääÄæÄæá^b\æø&ø&\ | | | | | |
| F _{S,s} : | Nâ↑↗^äää ^&bää\~\~ääfiääÄæAU'á áb\æø&ø&\Ä↖^ÄBEP↗'á ^& | | | | | |
| F _{S,t} : | Nâ↑↗^äää ^&bää\~\~ääfiääÄæAU'á áb\æø&ø&\Ä↖^ÄBEP↗'á ^& | | | | | |
| F _T : | Nâ↑↗^äää ^&bää\~\~ääfiääÄæAU'áb~^bb\æø&ø&\ | | | | | |
| F _{B,s} : | Nâ↑↗^äää ^&bää\~\~ääfiääÄæÄN↗æ&b\æø&ø&\Ä ↑ÄBEN'ábæ | | | | | |
| F _{B,t} : | Nâ↑↗^äää ^&bää\~\~ääfiääÄæÄN↗æ&b\æø&ø&\Ä ↑ÄBEN'ábæ | | | | | |

Querschnitt

| Position | Exz. [cm] | b _{p1} [cm] | h _f [cm] | b _w [cm] | h [cm] |
|--------------|--------------|-------------------------|------------------------|------------------------|-----------|
| UZ-AT-1 | UZ | 20.0 | 30.0 | 20.0 | 40.0 |
| UZ: Unterzug | | | | | |

Exposi ti onskl asse

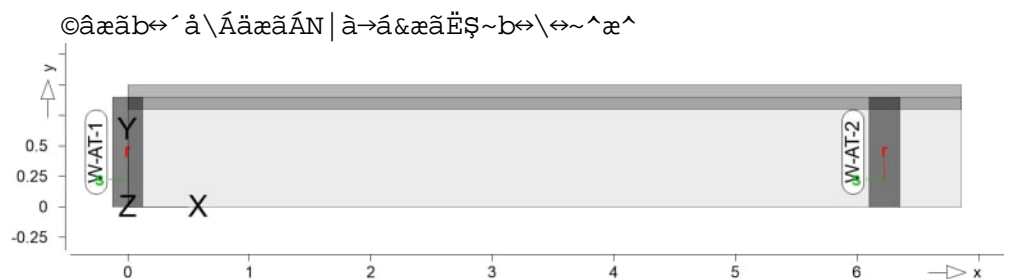
&æ↑‡ßÁƎØSÁÓSÁFÏÏGĚFĚFÊÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|------------------------------|
| UZ-AT-1 | umlaufend | XC1 | \~'←æ^Ä~äæÄB\ †^ä↔&Ä nass |

Auflager

Auflager-Positionen

Positionsgrafik



Wandlager

Wandlager-Positionen

Stahlbeton

| Position | Ö=áæ [m] | Q†^æ [m] | Material | Dicke [cm] |
|----------------|-------------|-------------|----------------------|---------------|
| W-AT-1, W-AT-2 | 3.00 | 0.90 | C 30/37 Q B 500SB | 25.0 |

Q: Öæb\æ↔^b↔=ã^|^&ÁT|áã~↔\

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|----------------|-----------|-----|-------------------------------|
| W-AT-1, W-AT-2 | umlaufend | XC1 | \ã~'↔æ^Á~ãæãÁb\†^ä↔&Á nass |

Federsteifigkeiten

| Position | $K_{R,r}$ [kNm/rad/m] | $K_{R,s}$ [kNm/rad/m] | $K_{T,t}$ [kN/m/m] |
|----------------|--------------------------|--------------------------|-----------------------|
| W-AT-1, W-AT-2 | frei | frei | +/- 2750000 |

Material

Materialkennwerte

Stahlbeton

DIN EN 1992-1-1

| Position | Material | Wichte Y↔SD†zŸ | E_{cm} G YSD††ŸŸ | f_{ck} f_{ctm} YSD††ŸŸ |
|-------------------------------|-----------|-------------------|--------------------------|----------------------------------|
| AT-1, UZ-AT-1, W-AT-1, W-AT-2 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |

Q: Öæb\æ↔^b↔=ã^|^&ÁT|áã~↔\

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte Y↔SD†zŸ | E_s G YSD††ŸŸ | f_{yk} $f_{tk,cal}$ YSD††ŸŸ |
|-------------------------------|----------|-------------------|-----------------------|-------------------------------------|
| AT-1, UZ-AT-1, W-AT-1, W-AT-2 | B 500SB | 78.50 | 200000 77000 | 500.00 525.00 |

Statik-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 708 | 700 | 2100 | 103080 | 805 KB |

Berechnung

Statische Berechnung

| Óä}EÄŠ*\↔~^æ^ÁfiäÄ↔æÄÑææ'á^ ^& | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à†→→æÁíÁH

Speicher

Speicherplatzbedarf

| | | |
|-------------------|---------|-----------|
| Arbeitsspeicher | â€³=\&\ | vorhanden |
| Standardverfahren | 1518 KB | ja |

| | | | |
|---------|---------|-----------|-----------------------|
| Festpl. | â€³=\&\ | vorhanden | Laufwerk:\Pfad |
| Ergebn. | 667 KB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÃäãÃb\á\&b'â€³ÂN|à&ââ

Berechnungszeit : 0 sec

Belastung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | -49.70 |
| | 0.00 | 0.00 | 49.70 |
| LF-4 | 0.00 | 0.00 | -3.08 |
| | 0.00 | 0.00 | 3.08 |
| LF-5 | 0.00 | 0.00 | -28.01 |
| | 0.00 | 0.00 | 28.01 |
| LF-6 | 0.00 | 0.00 | -2.83 |
| | 0.00 | 0.00 | 2.83 |
| Summe | | | |
| | 0.00 | 0.00 | -83.63 |
| | 0.00 | 0.00 | 83.63 |

Aufbau der Ergebnisse : 0 sec

Ende der statischen Analyse


Gesamtdauer : 1 sec

*** Berechnung erfolgreich abgeschlossen ***

2—626—627—628—629—630—631—632—633—634—635—636—637—638—639—640—641—642—643—644—645—646—647—648—649—650—651—652—653—654—655—656—657—658—659—660—661—662—663—664—665—666—667—668—669—670—671—672—673—674—675—676—677—678—679—680—681—682—683—684—685—686—6—687—688—689—690—691—692—3
557—558—559—560—561—562—563—564—565—566—567—568—569—570—571—572—573—574—575—576—577—578—579—580—581—582—583—584—585—586—587—588—589—590—591—592—593—594—595—596—597—598—599—600—601—602—603—604—605—606—607—608—609—610—611—612—613—614—615—616—617—618—619620—621—622—623—624—62700
488—489—490—491—492—493—494—495—496—497—498—499—500—501—502—503—504—505—506—507—508—509—510—511—512—513—514—515—516—517—518—519—520—521—522—523—524—525—526—527—528—529—530—531—532—533—534—535—536—537—538—539—540—541—542—543—544—545—546—547—548—549—550551—552—553—554—555—55699
419—420—421—422—423—424—425—426—427—428—429—430—431—432—433—434—435—436—437—438—439—440—441—442—443—444—445—446—447—448—449—450—451—452—453—454—455—456—457—458—459—460—461—462—463—464—465—466—467—468—469—470—471—472—473—474—475—476—477—478—479—480—481482—483—484—485—486—48698
350—351—352—353—354—355—356—357—358—359—360—361—362—363—364—365—366—367—368—369—370—371—372—373—374—375—376—377—378—379—380—381—382—383—384—385—386—387—388—389—390—391—392—393—394—395—396—397—398—399—400—401—402—403—404—405—406—407—408—409—410—411—412413—414—415—416—417—41697
281—282—283—284—285—286—287—288—289—290—291—292—293—294—295—296—297—298—299—300—301—302—303—304—305—306—307—308—309—310—311—312—313—314—315—316—317—318—319—320—321—322—323—324—325—326—327—328—329—330—331—332—333—334—335—336—337—338—339—340—341—342—343344—345—346—347—348—34696
212—213—214—215—216—217—218—219—220—221—222—223—224—225—226—227—228—229—230—231—232—233—234—235—236—237—238—239—240—241—242—243—244—245—246—247—248—249—250—251—252—253—254—255—256—257—258—259—260—261—262—263—264—265—266—267—268—269—270—271—272—273—274275—276—277—278—279—28695
143—144—145—146—147—148—149—150—151—152—153—154—155—156—157—158—159—160—161—162—163—164—165—166—167—168—169—170—171—172—173—174—175—176—177—178—179—180—181—182—183—184—185—186—187—188—189—190—191—192—193—194—195—196—197—198—199—200—201—202—203—204—205206—207—208—209—210—21694
74—75—76—77—78—79—80—81—82—83—84—85—86—87—88—89—90—91—92—93—94—95—96—97—98—99—100—101—102—103—104—105—106—107—108—109—110—111—112—113—114—115—116—117—118—119—120—121—122—123—124—125—126—127—128—129—130—131—132—133—134—135—136137—138—139—140—141—14693
1—7—8—9—10—11—12—13—14—15—16—17—18—19—20—21—22—23—24—25—26—27—28—29—30—31—32—33—34—35—36—37—38—39—40—41—42—43—44—45—46—47—48—49—50—51—52—53—54—55—56—57—58—59—60—61—62—63—64—65—66—67—5—68—69—70—71—72—73—4

FE-Netz:

0,1 m x 0,1 m

| | | | | | |
|---------------|---------------------|---|------------------------------|-------------------------------------|---------------|
| Knotennummern | Anzahl Knoten = 700 |  | Modell | AT-1 Treppenstufe Atrium | T 23 • 23K10E |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

Belastungen

Ei nwi rkungen

DIN EN 1990

Einwirkungen nach DIN EN 1990

| Pfiā~æ→ | Beschreibung |
|---------|--|
| | Typisierung |
| Gk | Eigenlasten |
| | $U \setminus \{^{\wedge} \ddot{a} \leftrightarrow \& \text{Ä} \acute{O} \leftrightarrow ^{\wedge}\} \leftrightarrow \ddot{a} \leftarrow ^{\wedge} \& \text{æ} ^{\wedge}$ |
| Ö← | Ausbaulasten |
| | $U \setminus \{^{\wedge} \ddot{a} \leftrightarrow \& \text{Ä} \acute{O} \leftrightarrow ^{\wedge}\} \leftrightarrow \ddot{a} \leftarrow ^{\wedge} \& \text{æ} ^{\wedge}$ |
| Qk.N_T2 | |
| | $S \setminus \rightarrow \acute{a} b \setminus \acute{A} P \acute{a} \setminus \text{æ} \sim \ddot{a} \leftrightarrow \text{æ} \acute{U} G \acute{I} \acute{A} \ddot{U} \text{æ} * ^{\wedge} \text{æ} ^{\wedge} \acute{a} \ddot{a} b \text{æ} \ddot{a}$ |
| | $U \sim ^{\wedge} b \setminus \leftrightarrow \& \text{æ} \acute{U} \text{æ} \acute{a} \ddot{a} \setminus ^{\wedge} \text{æ} \text{æ} \ddot{a} \rightarrow \acute{a} \text{æ} \acute{O} \leftrightarrow ^{\wedge}\} \leftrightarrow \ddot{a} \leftarrow ^{\wedge} \& \text{æ} ^{\wedge}$ |

@UghZ} `` Y

Qáb\à†→æÁ| ^äÁäæãæ^ÁX| ~ää^ | ^&Á~ | Áäæ^ÁÓ↔^ } ↔ã← | ^&æ^

Gk
Ö←
Qk.N_T2

$$\frac{\text{LF-1}}{\text{LF-4}} \\ \text{LF-5, LF-6}$$

@UghZ} `` Y' #'
Lastgruppen
@UghZ} `` Y

©âæãb↔´ ¨\ÁQáb\à‡→æÁ | ^äÁQáb\&ã | **æ^

| Lastfall | Typ | Beschreibung |
|----------|-----|-----------------|
| LF-1 | s | Eigengewicht |
| LF-4 | s | Ausbau |
| LF-5 | v | Nutzlast Treppe |
| LF-6 | v | Nutzlast Treppe |

s: b\†^ä↔&æãÁQáb\ää→
v: {æã†^ää↔'ääãÁQáb\ää→

Lastkombi nati onen

Qáb\←~↑â↔^á\↔~^æ^ÁÀfiãÁ↯→^æáãæÁÑæãæ´â^|^&

Kombi nati onen

Manuell vorgegebene Lastkombinationen

| | | | | | |
|------|-----------------|------|------|---------|---------|
| Ew | Einwirkungsname | | | | |
| Lg | Lastgruppenname | | | | |
| Lf | Lastfallname | | | | |
| | Ew | Gk | Ö← | Qk.N_T2 | Qk.N_T2 |
| | Lg | . | . | . | . |
| | Lf | LF-1 | LF-4 | LF-5 | LF-6 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 |

Lastplan

Lasten des FE-Modells

Bauteilasten

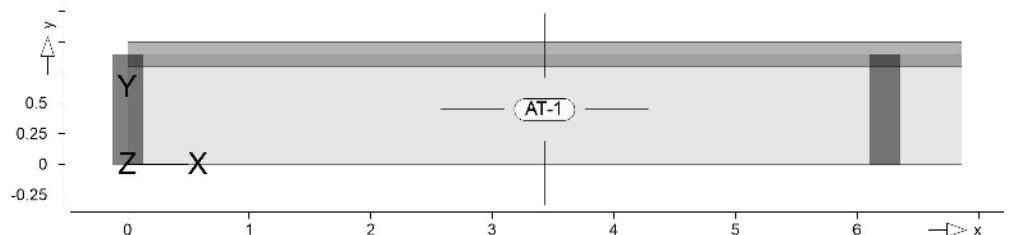
Bauteilbezogene Lasten

: ` } W X Y b d c g] h] c b Y b

$$\hat{O} \rightarrow \ddagger \, ' \, \grave{a} \, \mathfrak{a} \, ^{\wedge} \, \grave{a} = \tilde{a} \, \uparrow \leftrightarrow \& \, \mathfrak{a} \, \acute{A} \, \tilde{N} \, \acute{a} \, | \, \backslash \, \mathfrak{a} \, \leftrightarrow \rightarrow \ddot{E} \, \S \sim b \leftrightarrow \backslash \, \leftrightarrow \sim ^{\wedge} \, \mathfrak{a} \, ^{\wedge}$$

Posi ti onsgrafi k

©âæãb↔´ ¨ ¢\ÁäæÃÄà÷‡´ ¨ æ^à=ã↑↔&æ^ÁÑá | \æ↔↔ËŞ~b↔\↔~^æ^



Ei gengewi cht

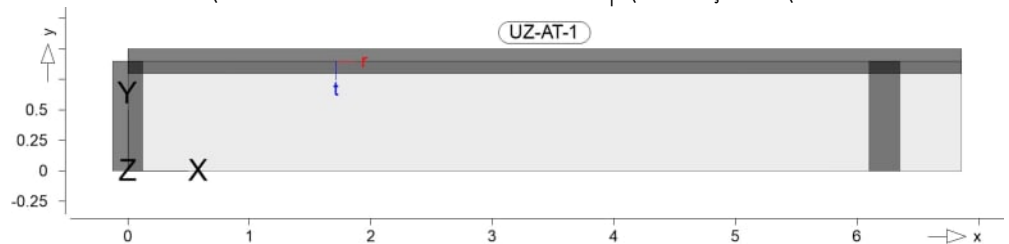
| Position | EW | Lastfall | Art | g |
|--|----|----------|-----|------------------------------|
| AT-1 | Gk | LF-1 | PGr | [kN/m ²] 7.50 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

Streckenposi ti onen

Q↔^æ^à=ã↑↔æÁÑá | \æ↔→Ë§~b↔\↔~^æ^

Posi ti onsgrafi k

©âæãb↔'â\ÁäæãÁ↔↔^æ^à=ã↑↔æ^ÁÑá | \æ↔→Ë§~b↔\↔~^æ^



Ei gengewi cht

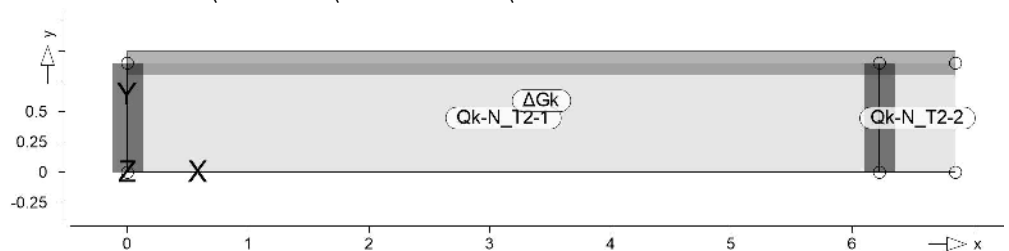
| Position | EW | Lastfall | Art | g |
|--|----|----------|-----|----------------|
| UZ-AT-1 | Gk | LF-1 | PGr | [kN/m] 0.50 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

Standardl asten

Standardlasten im FE-Modell

Posi ti onsgrafi k

©âæãb↔'â\ÁäæãÁU\á^ääãä→áb\æ^



;`Y] WXZ` } WX Yb` UghYb

| Position | EW | Lastfall | Art | P |
|--|-------------------|----------|-----|----------------------|
| Qk-N_T2-1 | Nutzlast Treppe 1 | | | [kN/m ²] |
| Qk-N_T2-2 | Nutzlast Treppe 1 | | | |
| Ö↔ | Ausbau | | | |
| Ö↔ | Ö↔ | LF-4 | PGr | 5.00 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

5i ZU Yf_f} ZhY

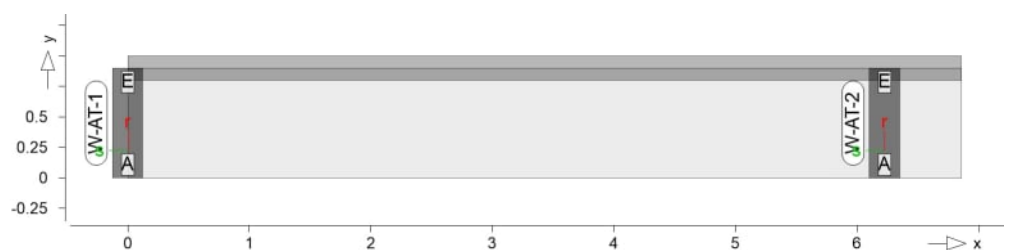
@] Yb` U[Yf_f} ZhY` char.

Q↔^æ^→á&æã↔ã↑à\æÁæ↔^}↔ã↔|^&b}æ↔bæ

ËÁ'ääãä↔\æã↔b↔↔b'ääÑ | à→á&æã↔ã↑à\æÁ↓æÁÓ↔^}↔ã↔|^&
ËÁ↑↔↔↔↑á[Á©âæã→á&æã | ^&ÁäæãÁQáb\à↑→æÁ↓æÁÓ↔^}↔ã↔|^&

Posi ti onsgrafi k

©âæãb↔'â\ÁäæãÁÜá^ä→á&æãÁÇU\áâ→âæ\~^D



Tabelle

Lokal, F_t-Achse

W-AT-1

Üáâæ→ãã↔b´âæÃN | b&áâæÃäæãÃN | à→á&æã←ã‡à\æ

| EW | F _{t,A,min} F _{t,A,max} [kN/m] | F _{t,M,min} F _{t,M,max} [kN/m] | F _{t,E,min} F _{t,E,max} [kN/m] | F _{t,min} F _{t,max} [kN] | e _{min} e _{max} [m] |
|--------------|--|--|--|--|---|
| (L = 0.90 m) | | | | | |
| Gk | 19.52 | 24.82 | 30.11 | 22.33 | 0.03 |
| Ö← | 1.53 | 1.54 | 1.56 | 1.39 | 0.00 |
| Qk.N_T2 | -0.08 | -0.16 | -0.24 | -0.14 | 0.07 |
| | 15.34 | 15.56 | 15.79 | 14.01 | 0.00 |
| | -0.08 | -0.16 | -0.24 | -0.14 | 0.07 |
| | 15.34 | 15.56 | 15.79 | 14.01 | 0.00 |
| | -0.08 | -0.16 | -0.24 | -0.14 | 0.07 |
| | 15.34 | 15.56 | 15.79 | 14.01 | 0.00 |

W-AT-2

| | | | | | |
|--------------|-------|-------|-------|-------|------|
| (L = 0.90 m) | | | | | |
| Gk | 24.52 | 30.40 | 36.29 | 27.36 | 0.03 |
| Ö← | 1.90 | 1.89 | 1.87 | 1.70 | 0.00 |
| Qk.N_T2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 19.02 | 18.87 | 18.72 | 16.98 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 19.02 | 18.87 | 18.72 | 16.98 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 19.02 | 18.87 | 18.72 | 16.98 | 0.00 |

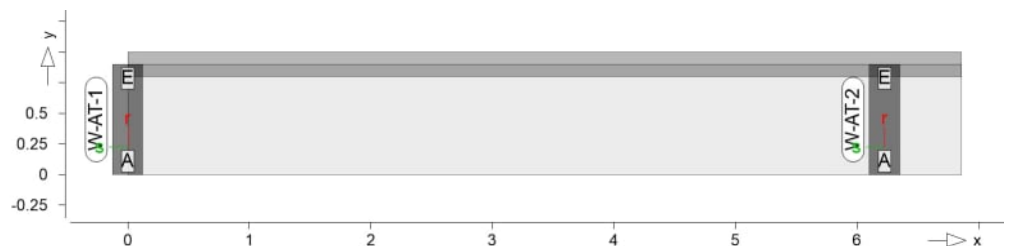
@] b] Yb` U[Yf_f } ZhY`
des.

Q↔^↔æ^→á&æã←ã‡à\æÃ→áb\←~↑â↔^á\↔~^b}æ↔bæ

ËÃá | bÁRØSDRNVE©âæã→á&æã | ^&ÁfiâæãÁQÔSÁ | ^ãÁQPS

Posi ti onsgrafi k

©âæãb↔´â\ÃäæãÃÛá^ã→á&æãÁÇU\áã→âæ\~^D



Tabelle

Lokal, F_t-Achse

W-AT-1

Üáâæ→ãã↔b´âæÃN | b&áâæÃäæãÃN | à→á&æã←ã‡à\æ

| | F _{t,A,min} F _{t,A,max} [kN/m] | F _{t,M,min} F _{t,M,max} [kN/m] | F _{t,E,min} F _{t,E,max} [kN/m] | F _{t,min} F _{t,max} [kN] | e _{min} e _{max} [m] |
|--------------|--|--|--|--|---|
| (L = 0.90 m) | | | | | |
| min M | 20.96 | 26.20 | 31.43 | 23.58 | 0.03 |
| max M | 36.38 | 41.92 | 47.46 | 37.73 | 0.02 |

W-AT-2

| | | | | | |
|--------------|-------|-------|-------|-------|------|
| (L = 0.90 m) | | | | | |
| min M | 26.42 | 32.29 | 38.16 | 29.06 | 0.03 |
| max M | 45.44 | 51.16 | 56.88 | 46.05 | 0.02 |

Nachweise (GZG)

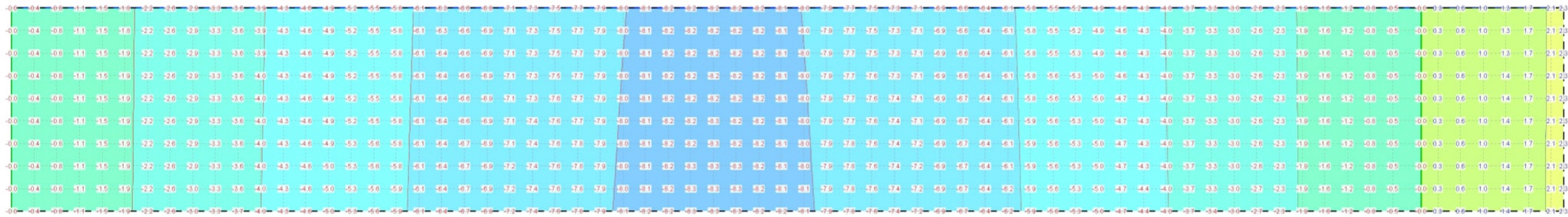
Verformungsparameter

Şáää↑æ\æÃÄfiäÃæ^ÃÛæãà~ã↑ | ^&b^á´á}æ↔bÁ^á´áÃÆØSÁÓSÁ
1992-1-1

| | |
|----------------|--|
| RH | Relative Luftfeuchte |
| Zement | Zementtyp |
| t _s | Betonalter bei Austrocknungsbeginn |
| t ₀ | Betonalter bei Belastungsbeginn |
| T | Temperatur bis Belastungsbeginn |
| t | Betonalter zum betrachteten Zeitpunkt |
| Trocknung | N b\ã~´←^ ^&bà→‡´âæÃÇâæ↔âbæ↔\↔&Đæ↔^bæ↔\↔&D |

| | RH [%] | Zement | t_s [d] | t_0 [d] | T yfl \ddot{Y} | t [d] | Trocknung |
|---------|---|--|--------------------------------|--------------|---------------------|---|------------|
| AT-1 | 50 | S | 0 | 28 | 20 | 25550 | beidseitig |
| UZ-AT-1 | 50 | S | 0 | 28 | 20 | 25550 | |
| | | Endkriechzahl | | | | | |
| | ϵ_s | Endschwinddehnung | | | | | |
| | | Lastdauereinflussbeiwert | | | | | |
| | $\ddot{E}P \sim \uparrow \hat{a} \leftrightarrow \hat{E}$ | $P \sim \uparrow \hat{a} \leftrightarrow \hat{a} \backslash \leftrightarrow \sim \hat{b} \backslash \} * \hat{A} \hat{a} \hat{f} \hat{i} \hat{a} \hat{A} \hat{E} \hat{O} \hat{a} \uparrow \leftrightarrow \backslash \rightarrow \mid \wedge \& \hat{A}$ | | | | | |
| | | (Nachweiskombination oder seltene Kombination) | | | | | |
| | min | $R \leftrightarrow \hat{a} \hat{a} \hat{b} \backslash \} \hat{a} \hat{a} \backslash \hat{A} \hat{a} \hat{f} \hat{i} \hat{a} \hat{A} \hat{U} \hat{a} \hat{a} \backslash \hat{a} \leftrightarrow \mid \wedge \& \hat{b} \hat{a} \hat{a} \leftrightarrow \} \hat{a} \hat{a} \backslash \hat{A}$ | | | | | |
| | | vgl. jeweils 7.4.3 | | | | | |
| | | | ϵ_s $Y_c \ddot{Y}$ | | | $\ddot{E}P \sim \uparrow \hat{a} \leftrightarrow \hat{E}$ | min [-] |
| | [-] | | | | | | |
| AT-1 | 2.279 | -0.338 | Langzeit | | | selten | - |
| UZ-AT-1 | 2.705 | -0.436 | Langzeit | | | selten | - |

keine Verformungsnachweisbereiche definiert

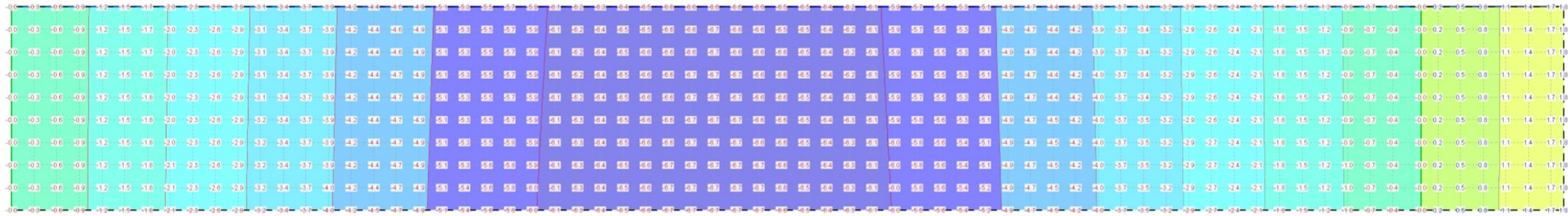


Verformungsbegrenzung:

max. Endverformung: 6230 mm / 250 = 24,9 mm

vorh. Endverformung: 8,3 mm

| Verformungsnachweis Zustand II | Endverformung f _{oo} im Zustand II in [mm] |  | Modell | AT-1 Treppenstufe Atrium | T 23 • 23.01.2025 |
|--|---|---|-------------|-------------------------------------|-------------------|
| æ • Å à^ æ^ ~ } * Å à^ ÅSp Minimum Max = 2.3 (Kn. 4), Min = -8.3 (Kn. 37), Step = 2 | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |



Verformungsbegrenzung:

max. Diff.verformung: 6230 mm / 500 = 12,5 mm

vorh. Diff.verformung: 6,7 mm

| | | | |
|---|---|---|------------------------------|
| <div>Verformungsnachweis Zustand II</div> <div>Differenzverformung f_{oo-f,0} im Zustand II in [mm]</div> <div>æ•Á à^ æ^ ~} * Á à^ SSp</div> <div>Minimum</div> <div>Max = 1.8 (Kn. 4), Min = -6.7 (Kn. 37), Step = 1</div> | <div> KREBS+KIEFER</div> | <div>Modell AT-1 Treppenstufe Atrium</div> <div>Bauvorhaben Schulcampus EWK</div> <div>Schwesternschule</div> | <div>T æ • æ æ K F E E</div> |
| | | | |

KREBS+KIEFER Ingenieure GmbH

Bemessungsparameter Biegung

Biegebemessung der Platten (Stahlbeton) nach DIN EN 1992-1-1

Mat. / Querschnitt

| Position | Winkel YflŸ | Art | Material Quer | Dicke [cm] |
|----------|--------------------------------|-----|------------------------------|---------------|
| AT-1 | Treppenstufe Atrium 0.0 iso | | C 30/37 Q B 500SB B 500SB | 30.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ↔^b↔=ä^|^&ÄT|ää↔↖\

Expositionsklasse

&æ↑‡ßÄØSÄÓSÁFİİĞEFĖFÊÁÚääÈÄHĖF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|------------------------------|
| AT-1 | umlaufend | XC1 | \ä~'↔æ^Ä~ääÄb\‡^ä↔&Ä nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro YflŸ | so YflŸ | ru YflŸ | su YflŸ |
|----------|------------|------------|------------|------------|
| AT-1 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

| Position | C _{min} [mm] | # _{def} [mm] | C _{nom} [mm] | C _v [mm] | d' _r [mm] | d' _s [mm] |
|----------|--------------------------|--------------------------|--------------------------|------------------------|-------------------------|-------------------------|
| AT-1 | o 10 | 10 | 20 | - | 42 | 42 |
| | u 10 | 10 | 20 | - | 42 | 42 |

Bemessungsparameter

äfiääÄäæ^ÁÖääæ^~ | b\á^ääÄääÜääá&à‡ä↔&↔↖\Ä^á^ääÄØSÄÓSÁ
1992-1-1

Bi egung

| Position | Mindestbewehrung |
|----------|------------------|
| AT-1 | ja |

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

AT-1

Ñæ↑æbb | ^&ÄäfiääÄŞ→á\æÄÇU\ää→äæ\~^DÁNÜĖF

Erf. Bewehrung

Erforderliche Bewehrung

Kombinationen

Ráß&æâæ^ääÄP~↑ä↔^á\↔~^æ^Ä^á^ääÄØSÄÓSÁFİİ€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔↔æÄÑæ\æ↔↔↔& | ^&Äæ↔^~æ→æääÄQáb\à‡→æÄ↔^æäää→äÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö↔ | Qk.N_T2 |
|-------|----|------|------|---------|
| 1 | | 1.00 | 1.00 | . |
| 2 | | 1.35 | 1.00 | . |
| 3-5 | | 1.35 | 1.35 | 1.50 |
| 6-7 | | 1.00 | 1.00 | 1.50 |
| 8-9 | | 1.35 | 1.00 | 1.50 |
| 10-12 | | 1.00 | 1.35 | 1.50 |

Alle Nachweise

Österreichische Normen

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ↓ ↑ |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|------------------------|
| 4 | 3 | 0.01 | 0.03 | -0.15 | 0.16 | 3.75 |
| 6 | 8 | 1.25 | -1.02 | -0.32 | 1.36 | 3.75 |
| 35 | 3 | 65.48 | 0.01 | 0.34 | 65.81 | 5.78 |
| 38 | 3 | 65.65 | 0.01 | -0.27 | 65.92 | 5.79 |
| 355 | 3 | 19.79 | -1.12 | 2.58 | 22.37 | 3.75 |
| 406 | 3 | 22.46 | -0.06 | -2.32 | 24.78 | 3.75 |
| 486 | 3 | 0.10 | -1.18 | -0.10 | 0.11 | 3.75 |
| 637 | 3 | 40.19 | 0.01 | 0.35 | 40.54 | 3.75 |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ↓ ↑ |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|------------------------|
| 2 | 3 | -0.36 | -1.98 | 5.43 | 3.44 | 3.75 |
| 5 | 7 | -3.93 | -0.74 | -2.27 | 0.57 | 3.75 |
| 7 | 3 | 3.30 | 0.36 | 1.65 | 2.02 | 3.75 |
| 70 | 3 | -1.96 | 0.02 | -1.07 | 0.60 | 3.75 |
| 73 | 3 | -0.31 | 0.00 | -0.24 | 0.18 | 3.75 |
| 312 | 5 | 64.61 | 0.93 | -0.07 | 1.00 | 3.75 |
| 624 | 6 | -0.09 | -0.08 | 0.25 | 0.17 | 3.75 |
| 686 | 5 | 4.04 | 0.30 | -1.27 | 1.57 | 3.75 |
| 687 | 5 | -0.04 | 0.22 | 0.65 | 0.86 | 3.75 |

as, r, oben

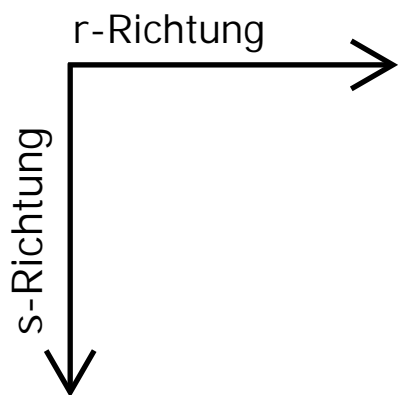
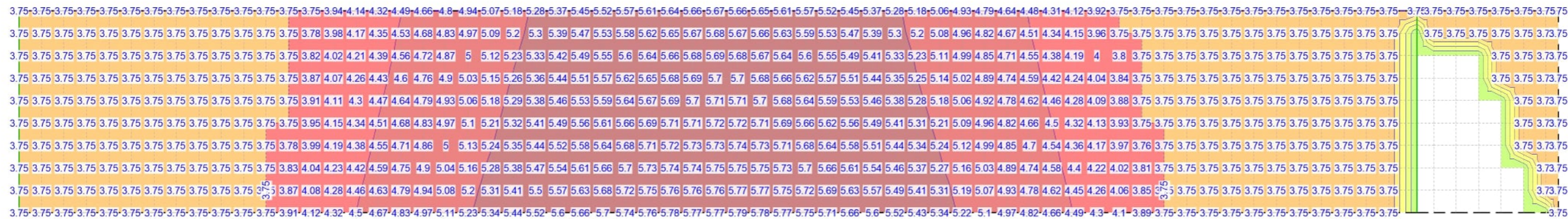
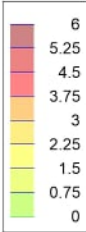
Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↑ |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|------------------------|
| 66 | 6 | 1.17 | -0.03 | -1.50 | -0.33 | 3.75 |
| 281 | 3 | 0.01 | -5.70 | 2.50 | -2.49 | 3.75 |
| 346 | 5 | -1.11 | -1.85 | -0.63 | -1.75 | 3.75 |

as, s, oben


Erforderliche obere Bewehrung $a_{s,so}$

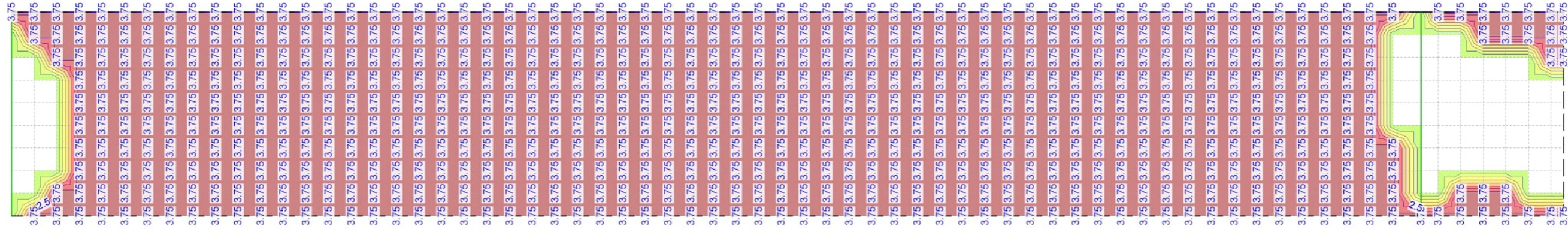
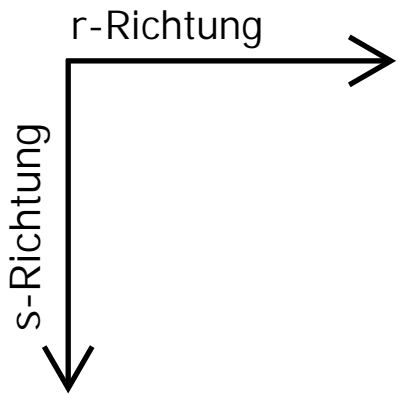
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↑ |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|------------------------|
| 25 | 3 | 56.06 | 0.01 | 2.34 | -0.09 | 3.75 |
| 48 | 3 | 57.41 | 0.01 | -2.28 | -0.08 | 3.75 |
| 285 | 3 | 16.33 | -1.73 | 2.69 | -2.17 | 3.75 |
| 342 | 5 | 1.60 | -2.44 | -1.86 | -4.31 | 3.75 |
| 633 | 5 | 28.59 | 0.01 | 0.81 | -0.01 | 3.75 |
| 680 | 5 | 24.42 | 0.01 | -0.67 | -0.01 | 3.75 |



Biegebemessung:

erf. Bewehrung
- untere Lage r-Richtung -

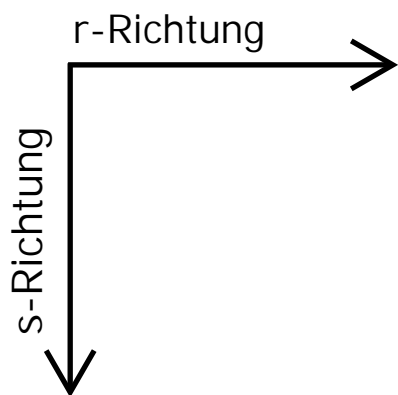
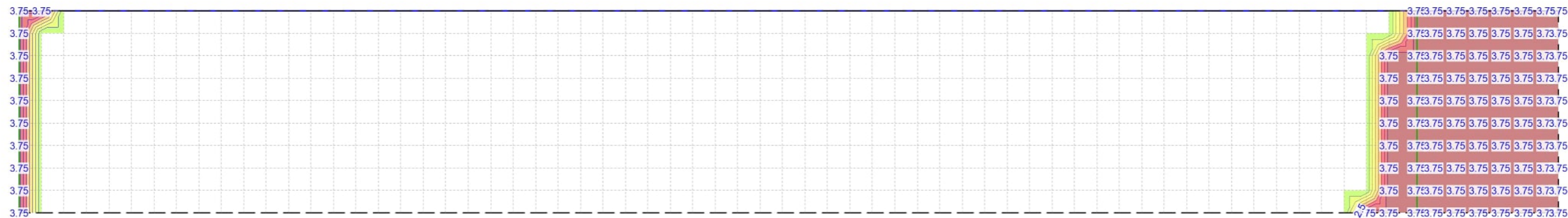
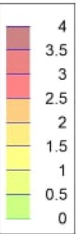
| | | | | | |
|--|--|---|-------------|-------------------------------------|--------------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | AT-1-o.-Bw. Treppenstufe Atrium | T ab • caKFE |
| Max = 5.79 (Kn. 38), Min = 0 (Kn. 5), Step = 0.75 Bew.-Abstand d' = 42 mm Beton C 30/37 Bauteildicke h = 30.00 cm | aus allen Nachweisen !E}a@}*Á}c}A}A}D}á | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |



Biegebemessung:


erf. Bewehrung
- untere Lage s-Richtung -

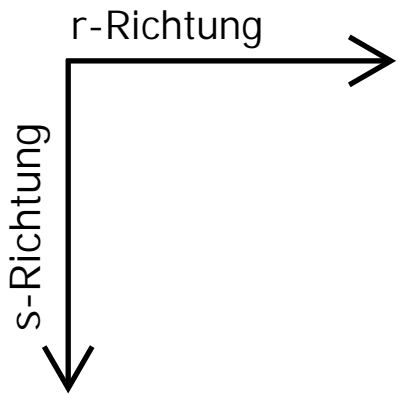
| | | | | | |
|---|--------------------------------|---|------------------------------|-------------------------------------|---------|
| <div><div><div>⌋</div><div>W</div><div>Yb</div><div>VYa</div><div>Yggi</div><div>b[</div></div></div> <div>Max = 3.75 (Kn. 7), Min = 0 (Kn. 1), Step = 0.5</div> <div>Bew.-Abstand d' = 42 mm</div> <div>Beton C 30/37</div> <div>Bauteildicke h = 30.00 cm</div> | Erforderliche Bewehrung as,erf | <div><div><div></div><div></div></div><div>KREBS+KIEFER</div></div> | Modell | AT-1-o.-Bw. Treppenstufe Atrium | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | aus allen Nachweisen | KREBS+KIEFER Ingenieure GmbH | | |



Biegebemessung:

erf. Bewehrung
- obere Lage r-Richtung -

| | | | | | |
|--|--|---|-------------|-------------------------------------|---------------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | AT-1-o.-Bw. Treppenstufe Atrium | T ab • aakfGE |
| Max = 3.75 (Kn. 1), Min = 0 (Kn. 7), Step = 0.5 Bew.-Abstand d' = 42 mm Beton C 30/37 Bauteildicke h = 30.00 cm | aus allen Nachweisen !EÜa@ } * Á à^} Á Á á | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |



Biegebemessung:

erf. Bewehrung
- obere Lage s-Richtung -

| | | | | | |
|--|--------------------------------|---|------------------------------|-------------------------------------|-----------|
| <div><div><div>⌋</div><div>W</div><div>Yb</div><div>VYa</div><div>Yggi</div><div>b[</div></div></div> <div>Max = 3.75 (Kn. 1), Min = 0 (Kn. 86), Step = 0.5</div> <div>Bew.-Abstand d' = 42 mm</div> <div>Beton C 30/37</div> <div>Bauteildicke h = 30.00 cm</div> | Erforderliche Bewehrung as,erf | <div><div><div></div><div></div></div><div>KREBS+KIEFER</div></div> | Modell | AT-1-o.-Bw. Treppenstufe Atrium | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | aus allen Nachweisen | KREBS+KIEFER Ingenieure GmbH | | |

Bemessung (GZT)

Bemessungsparameter Biegebemessung der Platten (Stahlbeton) nach DIN EN 1992-1-1

| <u>Mat. / Querschnitt</u> | Position | Winkel YflY | Art | Material Quer | Dicke [cm] |
|---------------------------|----------|--|---------|------------------------------|---------------|
| | AT-1 | Treppenstufe Atrium | 0.0 iso | C 30/37 Q B 500SB B 500SB | 30.0 |
| | | Winkel: Bewehrungsrichtung r iso: isotropes Material Q: Öab\æ^b^ä^ ^ÄT ää^↔\ | | | |

| <u>Expositionsklasse</u> | &æ†ßÁÆØSÁÓSÁFïïGËFËFÊÁÚââÈÁHÈF | | | |
|--------------------------|--------------------------------|-----------|-----|------------------------------|
| | Position | Seite | Kl | Kommentar |
| | AT-1 | umlaufend | XC1 | \ä~^←æ^Ä~ääÄb\†^ä↔&Ä nass |

Bewehrung Vorgaben zur Bewehrungsdefinition

| <u>Bewehrungsrichtung</u> | Position | ro YflY | so YflY | ru YflY | su YflY |
|---------------------------|----------|------------|------------|------------|------------|
| | AT-1 | 0.00 | 90.00 | 0.00 | 90.00 |

| <u>Betondeckung</u> | Position | C _{min} [mm] | # _{def} [mm] | C _{nom} [mm] | C _v [mm] | d' _r [mm] | d' _s [mm] |
|---------------------|----------|--------------------------|--------------------------|--------------------------|------------------------|-------------------------|-------------------------|
| | AT-1 | 14 | 10 | 24 | 30 | 37 | 49 |
| | | 14 | 10 | 24 | 30 | 37 | 49 |

| <u>Grundbewehrung</u> | Position | RÄ\ \æÊÁÚ\†âæ ~Y††YËbY†Y | d' _r [mm] | a _{sg,r} [cm ² /m] | d' _s [mm] | a _{sg,s} [cm ² /m] |
|-----------------------|----------|-----------------------------|-------------------------|---|-------------------------|---|
| | AT-1 | u r | Ö3613202 | 37 | 15.39 | |
| | | u s | Ö3213202 | | 49 | 7.85 |
| | | o r | Ö3613202 | 37 | 15.39 | |
| | | o s | Ö3213202 | | 49 | 7.85 |

Bemessungsparameter äfiäÄäæ^ÄÖäæ^~ | b\ä^äÄäæäÜää&à†↔&←æ↔\Ä^ä^äÄÆØSÁÓSÁ 1992-1-1

| <u>Bi egung</u> | Position | Mindestbewehrung |
|-----------------|---|------------------|
| | AT-1 | ja |
| | Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | |

AT-1 Ñæ†æbb | ^&ÄäfiäÄS→ä\ \æÄÇU\ ää→âæ\ ~^DÁNÜËF

Erf. Bewehrung Erforderliche Bewehrung

Kombi nati onen RÄß&æâæ^äæÄP~†â↔^ä\↔~^æ^Ä^ä^äÄÆØSÁÓSÁFïï€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔æÄÑæ\æ↔↔& | ^&Äæ↔^~æ→æäÄQáb\à†→æÄ↔^æäää→âÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

| <u>gh} bX] [#] cf~ VYf ["</u> | Grundkombinationen | | | |
|---------------------------------|--------------------|----|------|---------------|
| | Lkn | Ew | Gk | Ö← Qk.N_T2 |
| | 1 | | 1.00 | 1.00 |
| | 2 | | 1.35 | 1.00 |
| | 3-5 | | 1.35 | 1.50 |

| Lkn | Ew | Gk | Ö← | Qk.N_T2 |
|-------|----|------|------|-------------|
| 6-7 | | 1.00 | 1.00 | 1.50 |
| 8-9 | | 1.35 | 1.00 | 1.50 |
| 10-12 | | 1.00 | 1.35 | 1.50 |

Alle Nachweise

Öb \leftrightarrow b\Á \leftrightarrow ^æÁ~|b†\~ \leftrightarrow 'âæÁÑæ}æää|^&Áæää~ääæ \leftrightarrow 'âÊÁda

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$ (Differenzbew.)

Öb \leftrightarrow b\Á \leftrightarrow ^æÁ~|b†\~ \leftrightarrow 'âæÁÑæ}æää|^&Áæää~ääæ \leftrightarrow 'âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$ (Differenzbew.)

Öb \leftrightarrow b\Á \leftrightarrow ^æÁ~|b†\~ \leftrightarrow 'âæÁÑæ}æää|^&Áæää~ääæ \leftrightarrow 'âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, r, oben

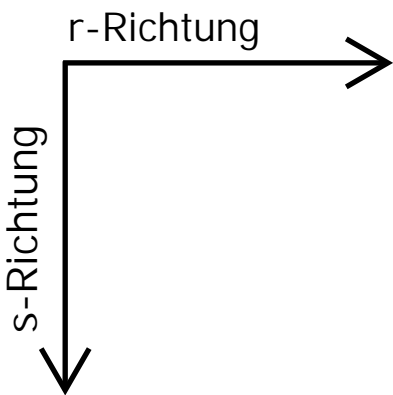
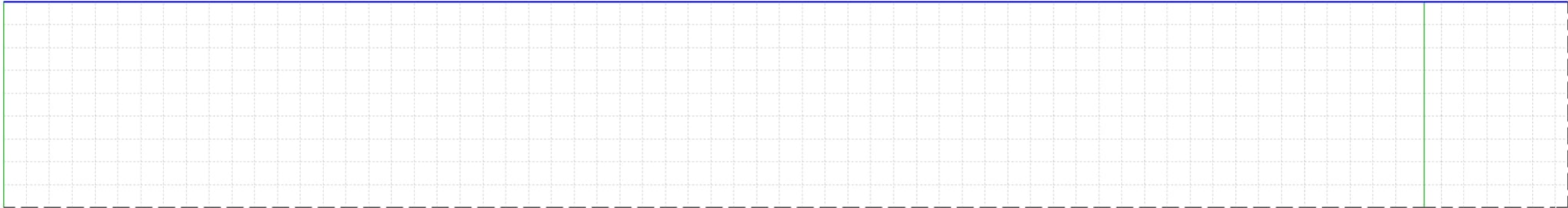
Erforderliche obere Bewehrung $a_{s,ro}$ (Differenzbew.)

Öb \leftrightarrow b\Á \leftrightarrow ^æÁ~|b†\~ \leftrightarrow 'âæÁÑæ}æää|^&Áæää~ääæ \leftrightarrow 'âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$ (Differenzbew.)

Öb \leftrightarrow b\Á \leftrightarrow ^æÁ~|b†\~ \leftrightarrow 'âæÁÑæ}æää|^&Áæää~ääæ \leftrightarrow 'âÊÁda
die vorhandene Bewehrung ausreichend ist.

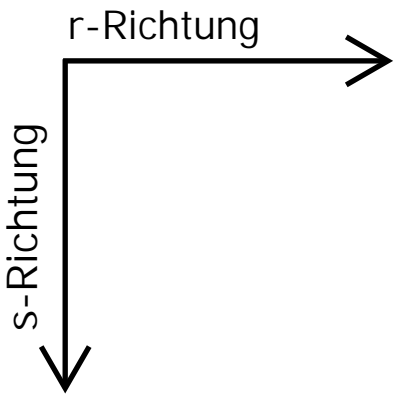


Biegebemessung:

erf. Zulagen
- untere Lage r-Richtung -


| | | | | |
|--|---|---|--|--|
| <div><div></div><div>: `} W YbVYa Yggi b[</div></div> <div>Vorhandene Bew. as,vorh = 15.39 (Grund+Zulagen) Bew.-Abstand d' = 37 mm Beton C 30/37 Bauteildicke h = 30.00 cm</div> | <div>Erforderliche Bewehrung as,erf</div> <div>aus allen Nachweisen (Differenzbew.) !EÜaC} *Ä} c} Ä/Ä/ D á Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 1</div> | <div><div></div><div>KREBS+KIEFER</div></div> | <div>Modell AT-1 Treppenstufe Atrium</div> <div>Bauvorhaben Schulcampus EWK Schwesternschule</div> | <div>T 63 • 02.11.2024</div> <div>KREBS+KIEFER</div> |
| | | | KREBS+KIEFER Ingenieure GmbH | |

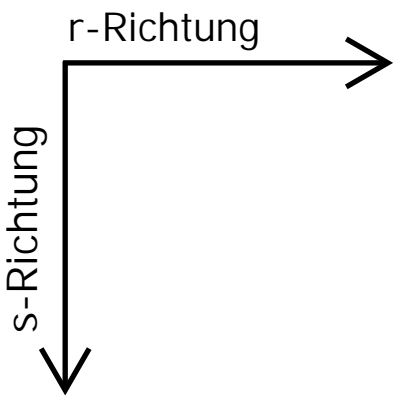
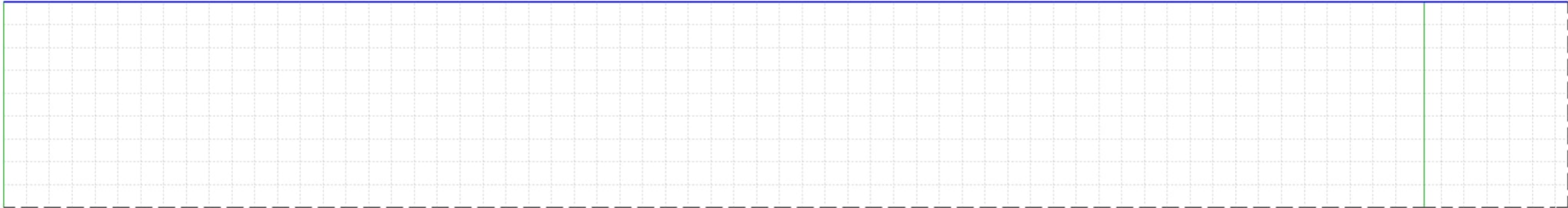
mb-Viewer Version 2025 - Copyright 2024 - mb AEC Software GmbH



Biegebemessung:

erf. Zulagen
- untere Lage s-Richtung -

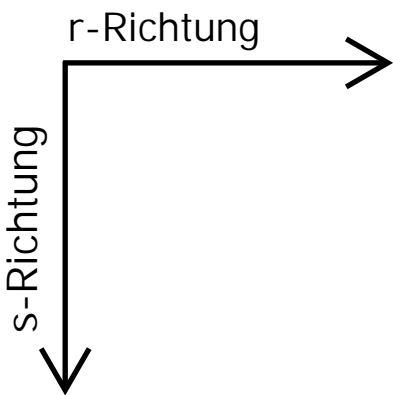
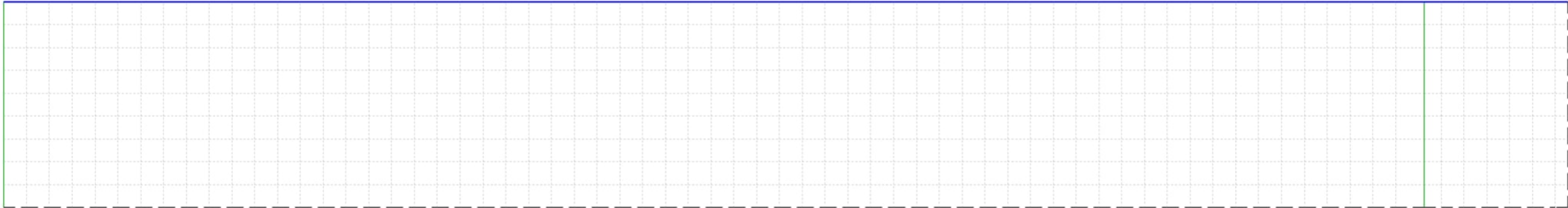
| | | | | | |
|---|---|---|-------------|-------------------------------------|----------------|
| : `} W YbVYa Yggi b[Vorhandene Bew. as,vorh = 7.85 (Grund+Zulagen) Bew.-Abstand d' = 49 mm Beton C 30/37 Bauteildicke h = 30.00 cm | Erforderliche Bewehrung as,erf aus allen Nachweisen (Differenzbew.) •EJ2C } * Á } c } A Á D á Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 1 |  | Modell | AT-1 Treppenstufe Atrium | T 22 • 2211100 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |



Biegebemessung:

erf. Zulagen
- obere Lage r-Richtung -

| | | | | | |
|--|---|---|-------------|-------------------------------------|--|
| <div><div></div><div>: `} W YbVYa Yggi b[</div></div> <div>Vorhandene Bew. as,vorh = 15.39 (Grund+Zulagen) Bew.-Abstand d' = 37 mm Beton C 30/37 Bauteildicke h = 30.00 cm</div> | Erforderliche Bewehrung as,erf | <div><div></div><div>KREBS+KIEFER</div></div> | Modell | AT-1 Treppenstufe Atrium | <div><div></div><div>T 65 • 0221 K 100</div></div> |
| | aus allen Nachweisen (Differenzbew.) !EÜaC } * A à^} A A A Q á Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 1 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | KREBS+KIEFER Ingenieure GmbH | | | | |



Biegebemessung:

erf. Zulagen
- obere Lage s-Richtung -

| | | | | |
|---|--|---|--|------------------------------------|
| <div><div></div><div>: `} W YbVYa Yggi b[</div></div> <div>Vorhandene Bew. as,vorh = 7.85 (Grund+Zulagen) Bew.-Abstand d' = 49 mm Beton C 30/37 Bauteildicke h = 30.00 cm</div> | <div>Erforderliche Bewehrung as,erf</div> <div>aus allen Nachweisen (Differenzbew.) • $\sigma_{s,erf} \cdot A_s \cdot \eta \cdot \gamma_s \cdot \gamma_c \cdot \gamma_{f,red}$ Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 1</div> | <div><div></div><div>KREBS+KIEFER</div></div> | <div>Modell AT-1 Treppenstufe Atrium</div> <div>Bauvorhaben Schulcampus EWK Schwesternschule</div> | <div>Tafelnummer</div> <div></div> |
| | | | <div>KREBS+KIEFER Ingenieure GmbH</div> | |

Bemessungsparameter
Querkraft

Bemessungsparameter

Ö→;´åæ^@|æã←ãää\âæ↑æbb|^&Á^á´åÁÆØSÁÓSÁFIÏGËFËF

àfiãÁäæ^ÁÖãæ^~|b\á^äÄäæãÁÜãá&à‡å↔&←æ↔\Á^á´åÁÆØSÁÓSÁ
1992-1-1

Querkraft

| Position | Druckstrebenneigung | Mindestbewehrung |
|---|---------------------|------------------|
| AT-1 | automatisch | nein |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

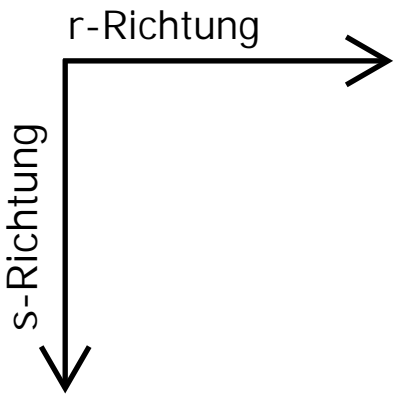
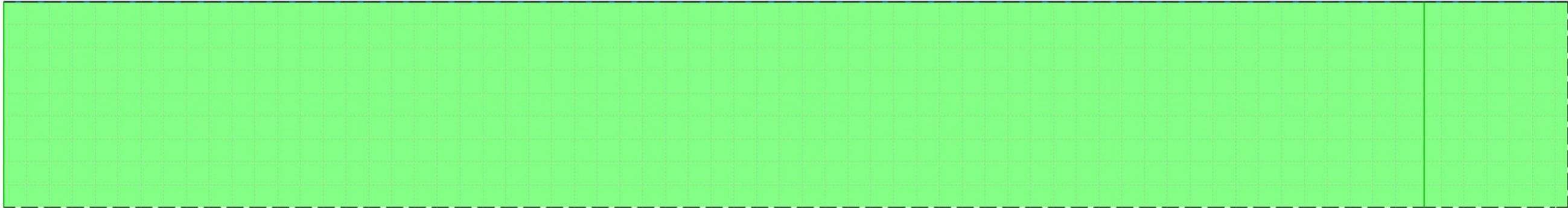
AT-1

Ñæ↑æbb|^&ÁàfiãÁ\$→á\\æÁÇU\áå→âæ\~^DÁNÚËF

Hf U[Z}\][_Y]h

Erforderliche Querkraftbewehrung aus
Üãää&à‡å↔&←æ↔\b^á´å}æ↔b

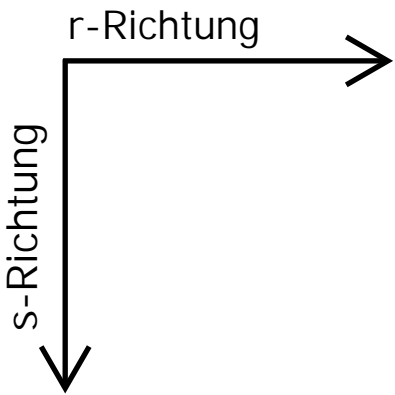
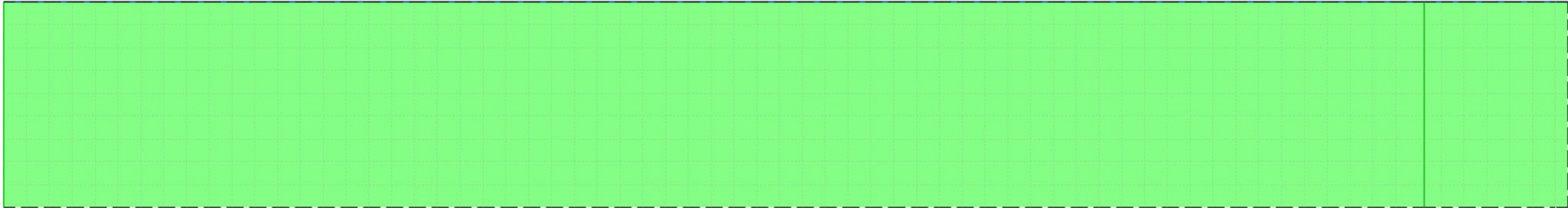
Es ist keine Querkraftbewehrung erforderlich.



Verhältnis:

- $V_{Ed} / V_{Rd,max}$ -

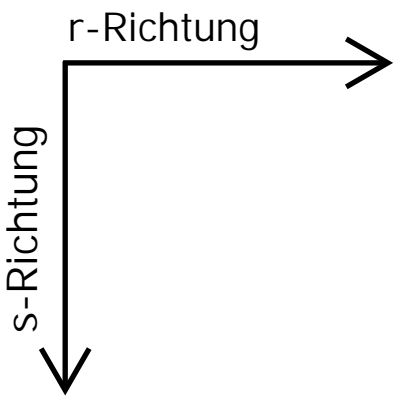
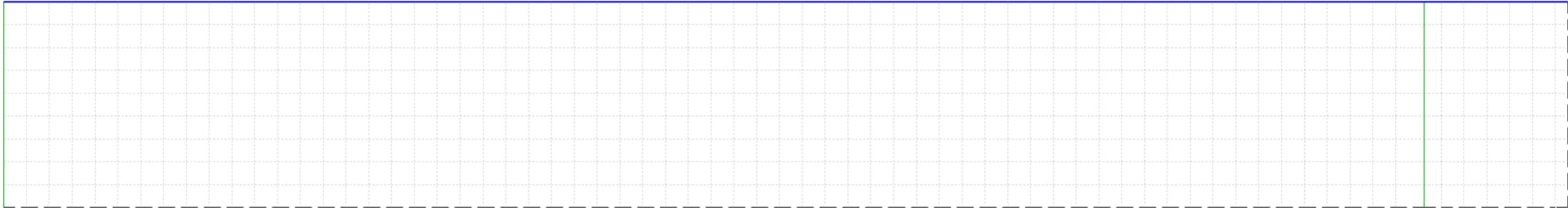
| | | | | |
|---------------------|---|------------------------------|---|-------|
| Querkraftbemessung |  | Modell Bauvorhaben | AT-1 Treppenstufe Atrium Schulcampus EWK Schwesternschule | Tafel |
| Max = 0.06, Min = 0 | | KREBS+KIEFER Ingenieure GmbH | | |



Verhältnis:

- $V_{Ed} / V_{Rd,max}$ -

| | | | |
|---------------------|------------------------------|-------------------------------------|------|
| Querkraftbemessung | Modell | AT-1 Treppenstufe Atrium | T-69 |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Max = 0.04, Min = 0 | KREBS+KIEFER Ingenieure GmbH | | |



Querkraftbemessung:

- a_{s,erf} -

| | | | |
|-------------------------------|------------------------------|-------------------------------------|---------|
| Querkraftbemessung | Modell | AT-1 Treppenstufe Atrium | Tabelle |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Max = 0, Min = 0, Step = 0.02 | KREBS+KIEFER Ingenieure GmbH | | |

y Vyf[UY

@Ugh~ VYf[UY I N

MicroFe

Lastabtrag /
Einzelwerte

Detail nachweise

Lastmodell I Bal ken

Randbedi ngungen

S340. de

UZ-AT-1

Mat./Querschnitt

Expositionsklasse

Ø|â|ê} * ^}

Auflagerbreiten

•â} ââ ^â c}

§ã~\~<~>→ÄããÄQáb\fiãã&áâæ

Qáb\fiãã&áâæÄfiãÄR↔´ã~Ôæ

↔æÄQáb\fiãã&áâæÄfiãÄR↔´ã~ÔæÄ} | äãÄ~â^æÄProtokoll-
N| b&áâæÄä | ä´â&æfiãä\È

Qáb\fiãã&áâæÄá→bÄQáb\áâ\äá&Ä~äãäÄÓ↔^~æ→}æä\æÄfiãÄ
MicroFe und BauStatik

↔æÄQáb\fiãã&áâæÄá→bÄQáb\áâ\äá&Ä~äãäÄÓ↔^~æ→}æä\æÄ
} | äãÄ~â^æÄ§ã~\~<~>→ËN| b&áâæÄä | ä´â&æfiãä\È

©âæã&áâæÄá→bÄ↔æ\á↔^á´â}æ↔bæÄfiãÄÄÑá | U\á\↔-

N→\æä^á\↔{^á´â}æ↔bÄfiãÄÄ| ä´â→á | à\ä†&æä

Óäbá\~b|b\æ†ÄfiãÄäábÄQáb\†~äæ→ÄÑá×æ^

- Die Berechnung erfolgt an einem modifizierten
Ersatzsystem
ÄÄN→→æÄÛ^~\æä~fi&æÄ | ^äÄU\†âæÄ}æäæ^Äá→bÄQ↔^↔æ^→á&æäÄ
modelliert
- Linienlager erhalten die Steifigkeit $k_{T,t} = 1.0e+10$
kN/m/m
- Punktlager erhalten die Steifigkeit $k_{T,t} = 1.0e+10$
kN/m
ÄÄÛ^~\æä~fi&æÄ | ^äÄU\†âæÄæäâá→\æ^Ää↔æÄU\æ↔ä↔&æ↔\Äk_{T,t} =
1.0e+06 kN/m/m

U\áâ→âæ\~^ËÄ | ä´â→á | à\ä†&æä

Unterzug

| Position | Material | b _{eff} /b _w /h [cm] |
|----------|----------|---|
| UZ-AT-1 | C 30/37 | 20/20/40 |

&æ††BÄØSÁÓSÁFïïGËFËFËÄÜáâÄÄHÈF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|-------------------------------|
| UZ-AT-1 | umlaufend | XC1 | \ä~´←æ^Ä~äæäÄb\†^ä↔&Ä nass |

| Feld | Q†^&æ [m] |
|-------|--------------|
| 1 | 6.22 |
| KragR | 0.63 |

| Auflager | Material | Breite [cm] |
|----------|----------|----------------|
| A | Beton | 25.0 |
| B | Beton | 25.0 |

| EW | Belastung | Aktiv ja |
|----|--------------|-------------|
| Gk | Eigengewicht | |

Blocklasten

| | Nr . | a [m] | s [m] | q [kN/m] |
|-----------|------|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.98 | 3.41 |
| | 2 | 0.98 | 0.98 | 6.59 |
| | 3 | 1.96 | 0.98 | 6.90 |
| | 4 | 2.94 | 0.98 | 6.84 |
| | 5 | 3.92 | 0.98 | 6.26 |
| | 6 | 4.90 | 0.98 | 3.56 |
| | 7 | 5.88 | 0.98 | -1.77 |
| Ö← | 1 | 0.00 | 0.98 | 0.23 |
| | 2 | 0.98 | 0.98 | 0.44 |
| | 3 | 1.96 | 0.98 | 0.46 |
| | 4 | 2.94 | 0.98 | 0.46 |
| | 5 | 3.92 | 0.98 | 0.42 |
| | 6 | 4.90 | 0.98 | 0.24 |
| | 7 | 5.88 | 0.98 | -0.12 |
| Qk . N_T2 | 1 | 0.00 | 0.98 | 2.27 |
| | 2 | 0.98 | 0.98 | 4.39 |
| | 3 | 1.96 | 0.98 | 4.60 |
| | 4 | 2.94 | 0.98 | 4.56 |
| | 5 | 3.92 | 0.98 | 4.17 |
| | 6 | 4.90 | 0.98 | 2.38 |
| | 7 | 5.88 | 0.98 | -1.18 |

a: Nâb\á^äääæbÄU\ää* | ^←\æbÄ~ | ↑Ä-→^←æ^ÄÜä+&æäää^ä
s: Q†^&æÄäääÄQáb\

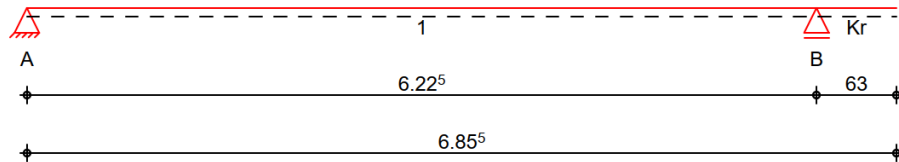
AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

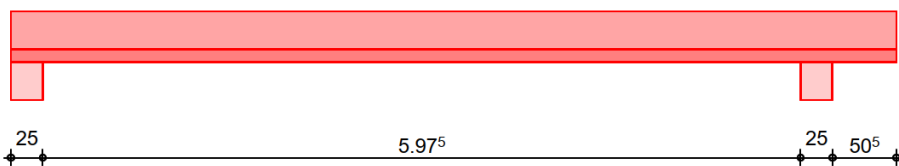
4.2 UZ-AT-1

Statisches System:

System



Ansicht



Vorbemerkung: Die Bemessung von UZ-AT-1 gilt auch für den Unterzug UZ-AT-2 in Position AT-2.

Material:

| | |
|--------------------|------------------------|
| b/h: | 20/40 cm |
| Betonstahl: | B500B |
| Beton: | C30/37 |
| Expositionsklasse: | XC1, W0 Innenbauteil |
| Betondeckung: | $c_v = 30 \text{ mm}$ |

Belastung:

Wird aus Lastübergabe von AT-1 übernommen. Eigengewicht wird programmintern berücksichtigt.

Bewehrungswahl:

| | |
|--------|-------|
| unten: | 2Ø20 |
| oben: | 2Ø12 |
| quer: | Ø8/20 |

Bemessung:

Siehe folgende Seiten.

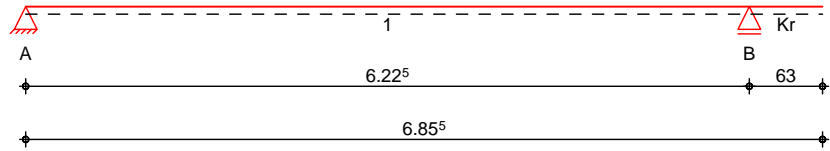
Pos. UZ-AT-1

System

M 1 : 65

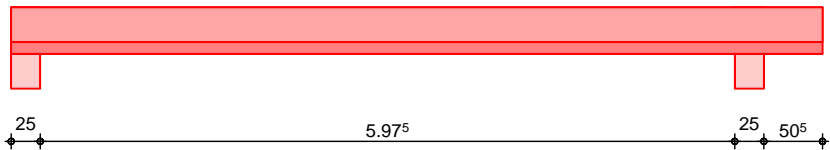
System

System



Ansicht

M 1 : 65



Abmessungen
Mat./Querschnitt

| Feld | l [m] | x [m] | Material | b _{eff} /b _w /h [cm] |
|------|----------|----------|----------|---|
| 1 | 6.23 | 0.00 | C 30/37 | 20.0/20.0/40.0 |
| 1 | | 6.23 | | |
| Kr | 0.63 | 0.00 | | |
| Kr | | 0.63 | | |

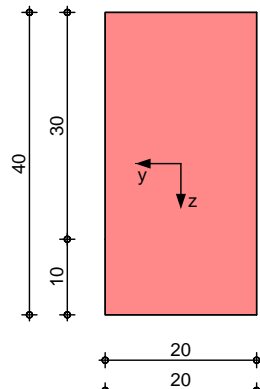
Expositionsklasse

XC1

Grafik

Querschnittsgrafik

M 1 : 10



Auflager

| Lager | x [m] | b [cm] | Art | K _{T,z} [kN/m] |
|-------|----------|-----------|-------|----------------------------|
| A | 0.00 | 25.0 | Beton | fest |
| B | 6.23 | 25.0 | Beton | fest |

Belastungen

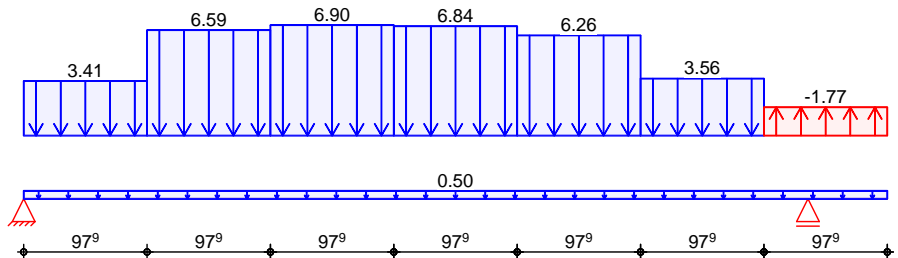
Belastungen auf das System

Grafik

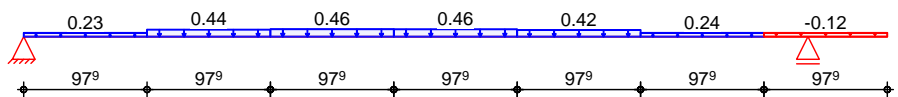
Belastungsgrafiken (einwirkungsbezogen)

Einwirkung

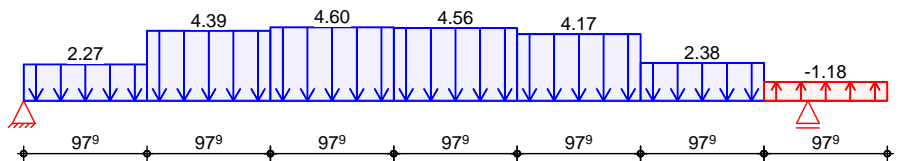
Gk



Ö←



Qk.N_T2



Streckenlasten in z-Richtung

Trapezlasten
Feld Komm.

Einw. Gk

| | | | a [m] | s [m] | Q _{li} [kN/m] | Q _{re} [kN/m] |
|-----|---|-------------|----------|----------|---------------------------|---------------------------|
| | 1 | Eigengew | 0.00 | 6.86 | | 0.50 |
| (a) | 1 | UZ-AT-1: Gk | 0.00 | 0.98 | 3.41 | 3.41 |
| (a) | 1 | UZ-AT-1: Gk | 0.98 | 0.98 | 6.59 | 6.59 |
| (a) | 1 | UZ-AT-1: Gk | 1.96 | 0.98 | 6.90 | 6.90 |
| (a) | 1 | UZ-AT-1: Gk | 2.94 | 0.98 | 6.84 | 6.84 |
| (a) | 1 | UZ-AT-1: Gk | 3.92 | 0.98 | 6.26 | 6.26 |
| (a) | 1 | UZ-AT-1: Gk | 4.90 | 0.98 | 3.56 | 3.56 |
| (a) | 1 | UZ-AT-1: Gk | 5.88 | 0.98 | -1.77 | -1.77 |

Einw. Im

| | | | | | | |
|-----|---|--------------|------|------|-------|-------|
| (a) | 1 | ÖXENÜEFIA Ö← | 0.00 | 0.98 | 0.23 | 0.23 |
| (a) | 1 | ÖXENÜEFIA Ö← | 0.98 | 0.98 | 0.44 | 0.44 |
| (a) | 1 | ÖXENÜEFIA Ö← | 1.96 | 0.98 | 0.46 | 0.46 |
| (a) | 1 | ÖXENÜEFIA Ö← | 2.94 | 0.98 | 0.46 | 0.46 |
| (a) | 1 | ÖXENÜEFIA Ö← | 3.92 | 0.98 | 0.42 | 0.42 |
| (a) | 1 | ÖXENÜEFIA Ö← | 4.90 | 0.98 | 0.24 | 0.24 |
| (a) | 1 | ÖXENÜEFIA Ö← | 5.88 | 0.98 | -0.12 | -0.12 |

Einw. Qk.N_T2

| | | | | | | |
|-----|---|------------------|------|------|-------|-------|
| (a) | 1 | UZ-AT-1: Qk.N_T2 | 0.00 | 0.98 | 2.27 | 2.27 |
| (a) | 1 | UZ-AT-1: Qk.N_T2 | 0.98 | 0.98 | 4.39 | 4.39 |
| (a) | 1 | UZ-AT-1: Qk.N_T2 | 1.96 | 0.98 | 4.60 | 4.60 |
| (a) | 1 | UZ-AT-1: Qk.N_T2 | 2.94 | 0.98 | 4.56 | 4.56 |
| (a) | 1 | UZ-AT-1: Qk.N_T2 | 3.92 | 0.98 | 4.17 | 4.17 |
| (a) | 1 | UZ-AT-1: Qk.N_T2 | 4.90 | 0.98 | 2.38 | 2.38 |
| (a) | 1 | UZ-AT-1: Qk.N_T2 | 5.88 | 0.98 | -1.18 | -1.18 |

(a)

aus Pos. 'AT-1-FE - UZ-AT-1'

Kombi nati onen

 $b \setminus \uparrow \hat{a} \leftrightarrow \&D \{ \sim \tilde{a} \hat{i} \hat{a} \tilde{a} \&E$
 $\&\alpha \uparrow \uparrow \beta \hat{A} \emptyset \text{S} \hat{A} \text{O} \text{S} \hat{A} \text{F} \hat{i} \hat{i} \text{G} \hat{E} \hat{F} \hat{E} \hat{F} \hat{A} \mid \wedge \hat{a} \hat{A} \emptyset \text{S} \hat{A} \text{O} \text{S} \hat{A} \text{F} \hat{i} \hat{i} \epsilon$

Ek (* *EW)

| | | | |
|---|----------|-----------|--------------------------|
| 1 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | |
| 2 | 1.35 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_T2 (1,Kr) |
| 3 | 1.35 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_T2 (Kr) |
| 4 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_T2 (1) |
| 5 | 1.00 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_T2 (Kr) |
| 6 | 1.35 *Gk | ÉFÈÈÈÈ Ö← | +1.50 *Qk.N_T2 (1) |
| 7 | 1.35 *Gk | ÉFÈÈÈÈ Ö← | |

Bemessung (GZT)

 $\hat{a} \hat{i} \hat{a} \hat{A} \hat{a} \hat{a} \wedge \hat{A} \hat{O} \hat{a} \hat{a} \wedge \sim \mid b \setminus \hat{a} \wedge \hat{a} \hat{A} \hat{a} \hat{a} \hat{A} \hat{U} \hat{a} \hat{a} \& \hat{a} \uparrow \hat{a} \leftrightarrow \& \leftarrow \& \leftrightarrow \hat{A} \wedge \hat{a} \wedge \hat{a} \hat{A} \emptyset \text{S} \hat{A} \text{O} \text{S} \hat{A}$
1992-1-1:2011-01

Bi egung

Abs. 6.1

 $\tilde{N} \hat{a} \uparrow \hat{a} \hat{b} \hat{b} \mid \wedge \& \hat{A} \hat{a} \hat{i} \hat{a} \hat{A} \hat{N} \leftrightarrow \& \& \hat{a} \hat{a} \hat{a} \wedge \hat{b} \hat{*} \hat{a} \mid \wedge \hat{a} \mid \wedge \&$

| x | Ek | $M_{y,d,o}$ | x/d_o | z_o | $A_{s,o}$ | $A_{s,o,erf}$ |
|-------------------|----|-------------|---------|-------|--------------------|--------------------|
| [m] | | $M_{y,d,u}$ | x/d_u | z_u | $A_{s,u}$ | $A_{s,u,erf}$ |
| | | [kNm] | | [cm] | [cm ²] | [cm ²] |
| (L = 6.22 m) | | | | | | |
| 0.00 | 1 | - | - | - | - | 1.22 _e |
| | 1 | - | 0.002 | 35.2 | - | 1.46 _q |
| 0.13 _a | 1 | 2.48 | - | - | - | 1.22 _e |
| | 2 | 5.50 | 0.035 | 34.8 | 0.35 | 1.46 _q |
| 3.06* | 1 | 34.65 | - | - | - | - |
| | 2 | 77.03 | 0.252 | 31.5 | 5.52 | 5.52 |
| 6.10 _a | 1 | 2.46 | - | - | - | - |
| | 2 | 5.54 | 0.035 | 34.8 | 0.35 | 1.38 _f |
| 6.22 | 1 | 0.28 | - | - | - | - |
| | 2 | 0.72 | 0.012 | 35.1 | 0.05 | 0.98 _M |
| (L = 0.63 m) | | | | | | |
| 0.00 | 1 | 0.28 | - | - | - | - |
| | 3 | 0.72 | 0.012 | 35.1 | 0.05 | 0.98 _M |
| 0.13 _a | 1 | 0.18 | - | - | - | - |
| | 3 | 0.46 | 0.010 | 35.1 | 0.03 | 0.98 _M |
| 0.63 | 1 | - | - | - | - | - |
| | 1 | - | 0.002 | 35.2 | - | 0.98 _M |

a: Auflagerrand

*: maximales Feldmoment

e: Endauflagereinspannung nach 9.2.1.2(1)

f: { $\hat{a} \hat{a} \rightarrow \uparrow \wedge \& \hat{a} \setminus \hat{a} \hat{A} \hat{O} \hat{a} \rightarrow \hat{a} \hat{a} \hat{a}$ } $\hat{E} \hat{A} \wedge \hat{a} \wedge \hat{a} \hat{N} \hat{a} \hat{b} \hat{E} \hat{A} \hat{i} \hat{E} \hat{G} \hat{E} \hat{F} \hat{E} \hat{H} \hat{C} \hat{F} \hat{D} \hat{E} \hat{A} \hat{i} \hat{E} \hat{G} \hat{E} \hat{F} \hat{E} \hat{G} \hat{C} \hat{F} \hat{D}$

q: aus VEd im Endauflager nach Abs. 9.2.1.4(2)

M: Mindestbewehrung nach Abs. 9.2.1.1

Querkraft

Abs. 6.2

 $\tilde{N} \hat{a} \uparrow \hat{a} \hat{b} \hat{b} \mid \wedge \& \hat{A} \hat{a} \hat{i} \hat{a} \hat{A} \hat{T} \mid \hat{a} \hat{a} \leftarrow \hat{a} \hat{a} \hat{a} \setminus \hat{a} \hat{a} \hat{a} \wedge \hat{b} \hat{*} \hat{a} \mid \wedge \hat{a} \mid \wedge \&$

| x | Ek | V_{Ed} | $y_{fl,Y}$ | $V_{Rd,max}$ | $V_{Rd,c}$ | $a_{sw,erf}$ |
|-------------------|----|--------------------|------------|--------------|------------|----------------------|
| [m] | | [kN] | | [kN] | [kN] | [cm ² /m] |
| (L = 6.22 m) | | | | | | |
| 0.00 | 2 | 40.29 _R | 18.4 | 217.26 | - | - |
| 0.13 _a | 2 | 40.29 _R | 18.4 | 217.26 | - | 1.86 _M |
| 0.48 _v | 2 | 40.29 | 18.4 | 217.26 | 36.94 | 1.86 _M |
| 3.06 | 3 | 0.07 _R | 18.4 | 217.26 | 36.94 | 1.86 _M |
| 5.75 _v | 6 | 38.45 | 18.4 | 217.26 | 36.94 | 1.86 _M |
| 6.10 _a | 6 | 38.45 _R | 18.4 | 217.26 | - | 1.86 _M |
| 6.22 | 6 | 38.37 _R | 18.4 | 217.26 | - | - |
| (L = 0.63 m) | | | | | | |
| 0.00 | 3 | 2.29 _R | 27.5 | 296.43 | - | - |
| 0.13 _a | 3 | 1.84 | 27.5 | 296.43 | 36.94 | 1.86 _M |
| 0.48 | 3 | 0.56 | 27.5 | 296.43 | 60.44 | 1.86 _M |
| 0.63 | 7 | - _R | 27.5 | 296.43 | 60.44 | 1.86 _M |

a: Auflagerrand

v: Abstand d vom Auflagerrand

R: Querkraft reduziert

M: Mindestbewehrung nach Abs. 9.2.2

Hinweis

An folgendem Auflager erfolgt die Querkraftbemessung abweichend zu DIN EN 1992-1-1, 6.2.1(8) nicht im Abstand d vom Auflagerrand:

| Lager | Seite | Grund |
|-------|--------|--------------------------------------|
| B | rechts | Querkraft wirkt am Auflager abhebend |

Anschluss der Gurte

| Feld | Ek | x _A [m] | x _E [m] | #R [kNm] | # \hat{O}_c [kN] | Anteil je Gurt | # \hat{O}_d [kN] |
|------|----|-----------------------|-----------------------|-------------|-----------------------|-------------------|-----------------------|
| 1 | 1 | 0.00 | 1.54 | 25.5 | 78.4 | 0.00 ^D | 0.0 |
| | 1 | 3.08 | 3.87 | 2.5 | 8.9 | 0.00 ^D | 0.0 |
| Kr | 1 | 6.23 | 6.54 | 0.2 | 0.6 | 0.00 ^D | 0.0 |
| | 1 | 6.85 | 6.85 | 0.0 | 0.0 | 0.00 ^D | 0.0 |

D: Druckgurt: Anteil einer Gurtbreite an b_{eff}

Querbewehrung

| Feld | Ek | x _A [m] | x _E [m] | v _{Ed} [N/mm ²] | v _{Rd,max} [N/mm ²] | asf,erf [cm ² /m] |
|------|----|-----------------------|-----------------------|---|---|---------------------------------|
| 1 | 1 | 0.00 | 1.54 | 0.000 | 0.000 | 0.00 |
| | | 3.08 | 3.87 | 0.000 | 0.000 | 0.00 |
| Kr | | 6.23 | 6.54 | 0.000 | 0.000 | 0.00 |
| | | 6.85 | 6.85 | 0.000 | 0.000 | 0.00 |

unter in die Platte einzulegen. Die Bewehrung aus T₁ in die Platte einzulegen. Die Bewehrung aus T₁ in die Platte einzulegen.

Bewehrungswahl

untere
Q₁ in die Platte einzulegen

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|----------------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 4 \hat{A} 42 | 6.28 | -0.13 | 6.35 | 0.15 ^h | 0.23 | 1 |
| Kr | 4 \hat{A} 42 | 6.28 | 0.00 | 0.63 | 0.32 | 0.32 ^h | 1 |

Q₁ in die Platte einzulegen
h: gesonderte Verankerungsform erforderlich

~ \hat{A} in die Platte einzulegen

| Feld | gew. | A _s [cm ²] | a [m] | l [m] | l _{bd,l} [m] | l _{bd,r} [m] | Lage |
|------|----------------|--------------------------------------|----------|----------|--------------------------|--------------------------|------|
| 1 | 4 \hat{A} 34 | 2.26 | -0.07 | 7.12 | 0.20 ^m | 0.65 ^{mh} | 1 |

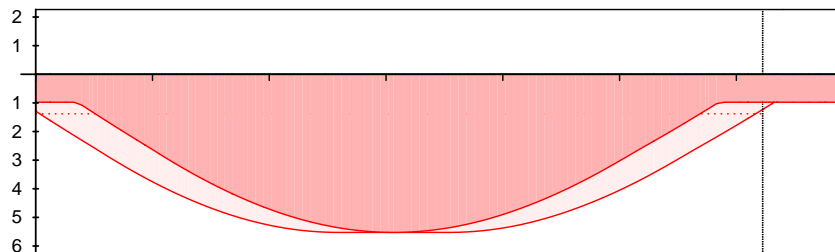
Q₁ in die Platte einzulegen
h: gesonderte Verankerungsform erforderlich

Längsbewehrung
M 1:65

As

[cm²/m]oben
Lage 1:

2Ø12

unten
Lage 1:

2Ø20

2Ø20

erf. Längsbewehrung / Zugkraftdeckungslinie
verl. Feldbewehrung gemäß DIN EN 1992-1-1, 9.2.1.4(1)
vorhandene Längsbewehrung Verankerungslängen

Querkraftbewehrung
M 1:65

| Feld | x _a [m] | x _e [m] | d _s [mm] | s [cm] | Schn. [-] | a _{sw} [cm ² /m] |
|------|-----------------------|-----------------------|------------------------|-----------|--------------|---|
| 1 | 0.13 | 6.10 | 20.0 | 20.0 | 2 | 5.03 |
| Kr | 0.13 | 0.63 | 20.0 | 20.0 | 2 | 5.03 |

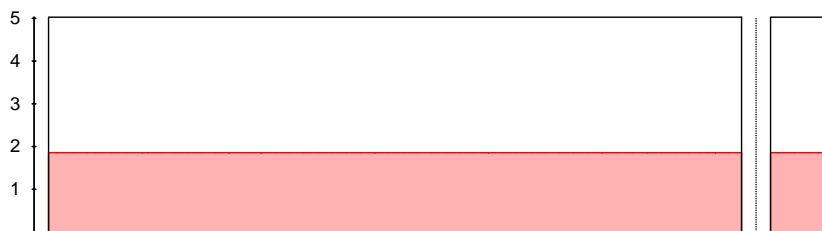
Gurtbewehrung

Querbewehrung je Plattenseite

| Feld | x _A [m] | x _E [m] | s [mm] | s [cm] | a _{sf} [cm ² /m] |
|------|-----------------------|-----------------------|-----------|-----------|---|
| 1 | 0.00 | 3.08 | 0 | 0.0 | - |
| | 3.08 | 6.23 | 0 | 0.0 | - |
| Kr | 6.23 | 6.86 | 0 | 0.0 | - |
| | 6.86 | 6.86 | 0 | 0.0 | - |

Querkraftbewehrung
M 1:65

Asw

[cm²/m]

erforderliche Querkraftbewehrung
Mindestgehalt gemäß DIN EN 1992-1-1/NA, NDP Zu 9.2.2(6)
vorhandene Querkraftbewehrung

Char. Auflagerkr.

N

Char. Auflagerkr.

charakteristische Auflagerkräfte (je Einwirkung)

| Aufl. | F _{z,k,min} [kN] | F _{z,k,max} [kN] |
|---------------------------|------------------------------|------------------------------|
| Einw. G _k | | |
| A | 18.96 | 18.96 |
| B | 15.61 | 15.61 |
| Einw. I _m | | |
| A | 1.16 | 1.16 |
| B | 0.91 | 0.91 |
| Einw. Q _{k,N,T2} | | |
| A | 0.00 | 11.61 |
| B | -0.78 | 9.93 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | Ort | [-] |
|--------------------|-----|-------|
| Expositionsklassen | OK | |
| Biegung | OK | |
| Querkraft | OK | |
| Bewehrungswahl | OK | |

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

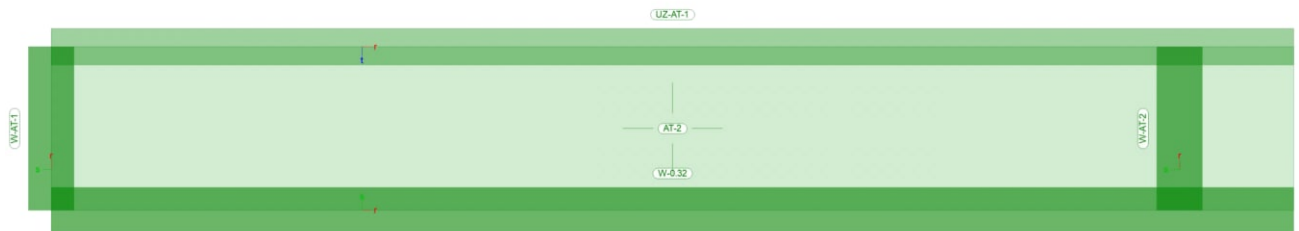
4.3 AT-2

| | |
|--|-------|
| Atriumstufe AT-2 | |
| Ausgangswerte | T-81 |
| Positionsplan | T-84 |
| Statik-Protokoll | T-86 |
| Einwirkungen / Lastfälle / Lastgruppen / Lastkombinationen / Lastpläne | T-89 |
| Linienlagerkräfte | T-91 |
| Verformungen (Zustand II) | T-92 |
| Biegebemessung | T-95 |
| Bemessungsparameter | T-95 |
| Biegebemessung (erf. a_s) | T-97 |
| Biegebemessung (Δa_s) | T-101 |
| Querkraftbemessung | T-107 |
| Bemessungsparameter | T-107 |
| Querkraftausnutzung – $V_{Ed,res} / V_{Rd,max}$ | T-108 |
| Querkraftbemessung – erf. a_{sw} | T-110 |
| Lastübergabe Unterzug | T-111 |

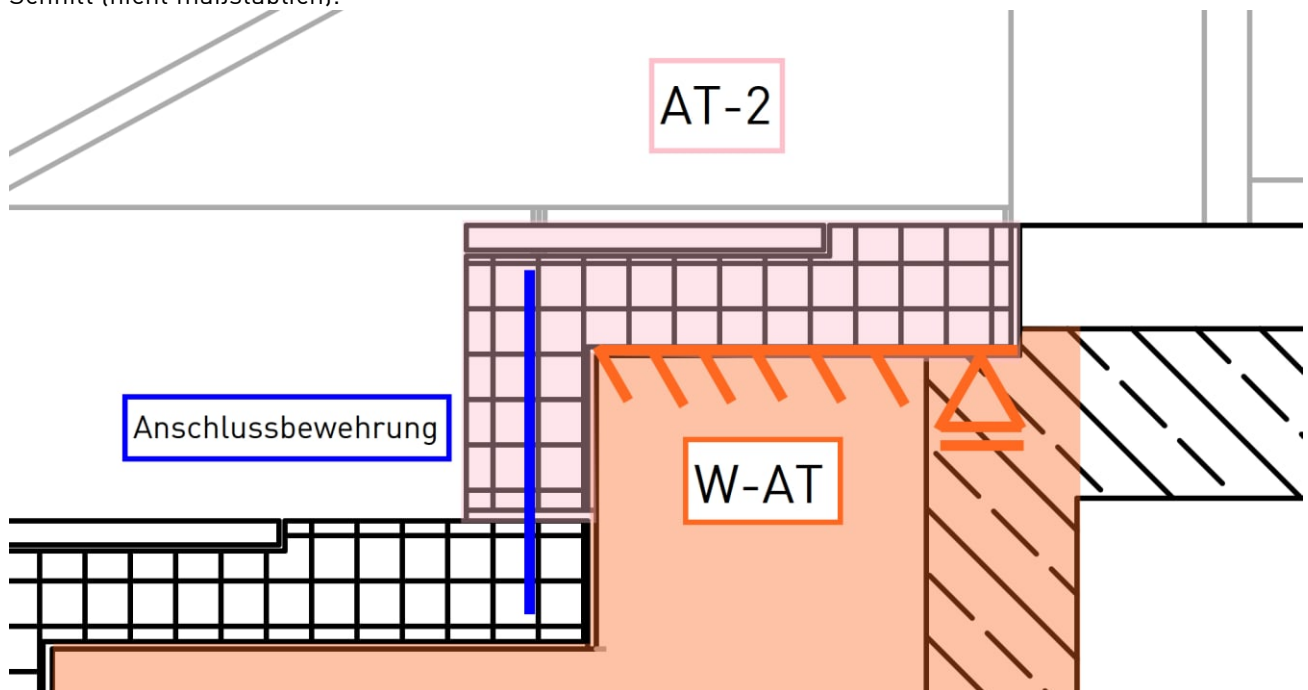
AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Statisches System:



Schnitt (nicht maßstäblich):



AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung TragwerksplanungMaterial:

| | | |
|--------------------|-----------------------|--------------|
| Dicke: | 20 cm | Platte |
| b/h: | 20/40 cm | Unterzug |
| Betonstahl: | B500B | |
| Beton: | C30/37 | |
| Expositionsklasse: | XC1, W0 | Innenbauteil |
| Betondeckung: | $c_v = 30 \text{ mm}$ | |

Belastung:

Eigenlast:

Wird automatisch, programmintern, generiert:

$$g_k = 0,2 \cdot 25 = 5 \text{ kN/m}^2$$

Ausbaulasten

$$\Delta g_k = 2,5 \text{ kN/m}^2$$

Nutzlasten

$$q_k = 5,0 \text{ kN/m}^2$$

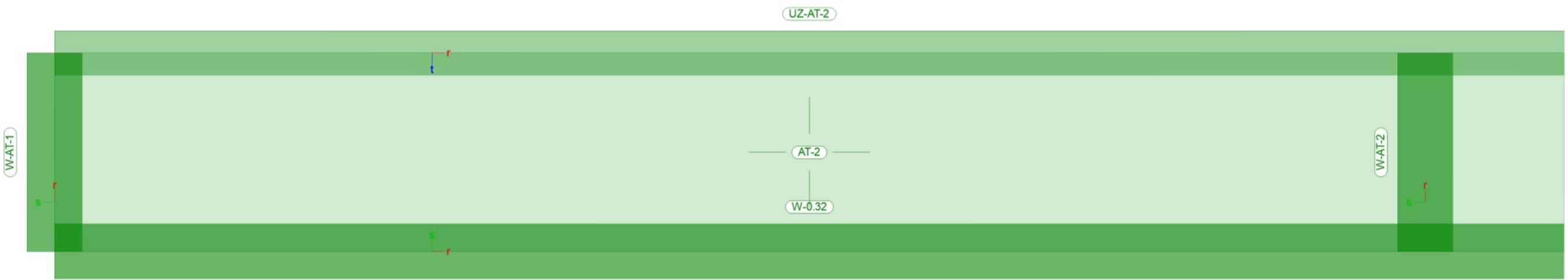
Bewehrungswahl:


- oben: horizontal: $\emptyset 14/10 = 15,39 \text{ cm}^2/\text{m}$
vertikal: $\emptyset 10/10 = 7,85 \text{ cm}^2/\text{m}$
- unten: horizontal: $\emptyset 14/10 = 15,39 \text{ cm}^2/\text{m}$
vertikal: $10/10 = 7,85 \text{ cm}^2/\text{m}$
- Hüllrohr: $1\emptyset 10$ alle 2 m

Hinweis: Der Unterzug UZ-AT-2 ist so wie UZ-AT-1 zu bewehren.

Bemessung:

Siehe folgende Seiten.



| | | | | |
|--------------------|--|------------------------------|-------------------------------------|---------------|
| Bauteil-Positionen |  KREBS+KIEFER | Modell | AT-2 Treppenstufe Atrium Auflager | Tafel T-83 |
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |

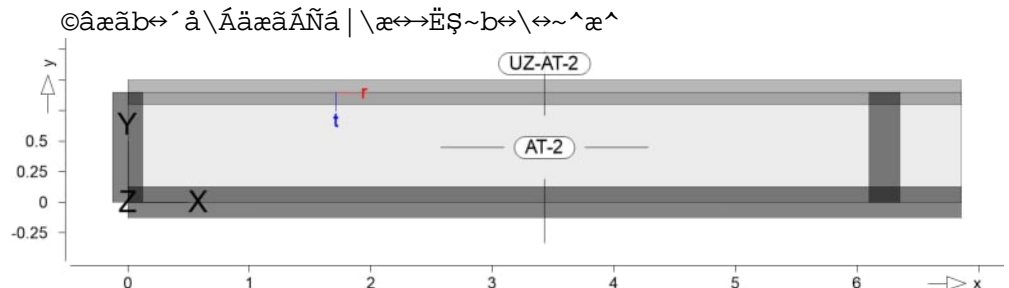
Posi ti onspl an

Positionsplan

Bauteile

Bauteil-Positionen

Posi ti onsgrafi k

Pl atten

Platten-Positionen

Stahl beton

| Position | Winkel yflŸ | Art | Material Quer | Dicke [cm] |
|----------|----------------|-----------------|------------------|---------------|
| AT-2 | Treppenstufe | Atrium Auflager | | |
| | 0.0 | iso | C 30/37 Q | 20.0 |
| | | B 500SB | B 500SB | |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: $\vec{a} \otimes \vec{b} = \vec{a} \otimes \vec{b} + \vec{b} \otimes \vec{a}$

Expositionsklasse

| | | | |
|--------------------------------|-----------|-----|---------------------------------|
| &a†‡ŒÆøŠǺÓšÁfİïĜĖFēFÊÂÚáâêÄHÈƑ | | | |
| Position | Seite | Kl | Kommentar |
| AT-2 | umlaufend | XC1 | \~ä~'←æ^Ã~ääãÄb\ †^ä↔&Ä nass |

l bhYf n~ [Y

Untersatz-Positionen

Stahl beton

| Position | Q†^&æ [m] | Betonstahl | | Beton |
|----------|--------------|----------------|----------------|------------------|
| | | Q†^&b | Ñfi&æ→ | |
| UZ-AT-2 | 6.86 | <i>B 500SB</i> | <i>B 500SB</i> | <i>C 30/37 Q</i> |

Q: Öæb\æ↔^b←=ä^|&ÄT|ää~↔\

Abminderung

[illegible]Querschnitt

| Position | Exz. [cm] | b _{p1} [cm] | h _f [cm] | b _w [cm] | h [cm] |
|----------|--------------|-------------------------|------------------------|------------------------|-----------|
| UZ-AT-2 | UZ | 20.0 | 20.0 | 20.0 | 40.0 |

UZ: Unterzug

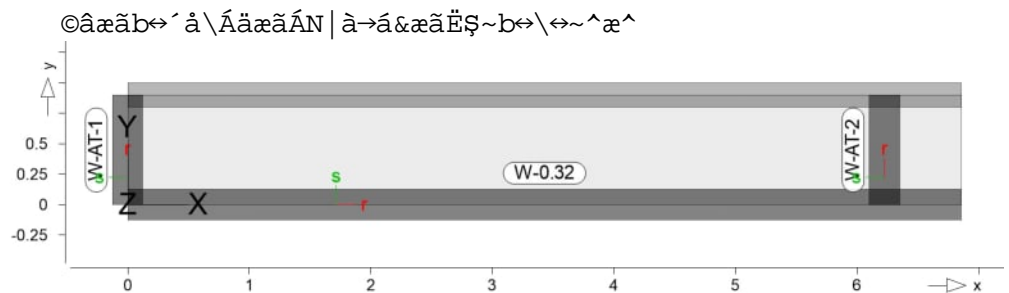
Expositionsskisse

| | | | |
|---------------------------------|-----------|-----|-------------------------------|
| &æ↑‡ßǺ€øšǻóšáfïĩĝēfēfēâúáâêāhèf | | | |
| Position | Seite | Kl | Kommentar |
| UZ-AT-2 | umlaufend | XCl | \ä~'←æ^Ä~ääăĂb\‡^ă↔&Ă nass |

Auflager

Auflager-Positionen

Posi ti onsgrafi k

Wandl ager

Wandlager-Positionen

Stahl beton

| Position | δ_{max} [m] | Q_{max} [m] | Material | Dicke [cm] |
|----------------|------------------------------|-------------------------|----------------------|---------------|
| W-0.32 | 3.62 | 6.86 | C 30/37 Q B 500SB | 25.0 |
| W-AT-1, W-AT-2 | 3.00 | 0.90 | C 30/37 Q B 500SB | 25.0 |

Q: Öæb\æ↔^b←=ã^|^&ÁT|áã~↔\

Expositi onskl asse

&æ↑‡ßÁƎØSÁÓSÁFïïGëFëFêÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|------------------------|-----------|-----|--------------------------------|
| W-0.32, W-AT-1, W-AT-2 | umlaufend | XC1 | \~ä~´←æ^Á~äæãÁb\‡^ä↔&Á nass |

Federstei fi gkei ten

| Position | $K_{R,r}$ [kNm/rad/m] | $K_{R,s}$ [kNm/rad/m] | $K_{T,t}$ [kN/m/m] |
|----------------|--------------------------|--------------------------|-----------------------|
| W-0.32 | frei | frei | +/- 2279006 |
| W-AT-1, W-AT-2 | frei | frei | +/- 2750000 |

Material

Materialkennwerte

Stahl beton

DIN EN 1992-1-1

| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|---------------------------------------|-----------|--------|----------------|-----------------------|
| AT-2, UZ-AT-2, W-0.32, W-AT-1, W-AT-2 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |

Q: Öæb\æ↔^b←=ã^|^&ÁT|áã~↔\

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte | E _s | f _{yk} |
|---------------------------------------|----------|---------|----------------|-------------------------------|
| | | Y←SD↑zY | G YSD↑↑Y | f _{tk,cal} YSD↑↑Y |
| AT-2, UZ-AT-2, W-0.32, W-AT-1, W-AT-2 | B 500SB | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |

Stati k-Protokol I

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 777 | 700 | 2100 | 103080 | 805 KB |

Berechnung

Statische Berechnung

| | |
|----------------------------------|--------|
| Óã}ÈÁŠ*\↔~^æ^ÁàfiãÄä↔æÃÑæã´á^ ^& | Einst. |
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à‡→→æÁíÁH

Spei cher

Speicherplatzbedarf

| | | | |
|-------------------|----------|-----------|-----------------------|
| Arbeitsspeicher | | âæ^=\↔&\ | vorhanden |
| Standardverfahren | | 1518 KB | ja |
| <hr/> | | | |
| Festpl. | âæ^=\↔&\ | vorhanden | Laufwerk:\Pfad |
| Ergebn. | 667 KB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÃæãÄb\á\↔b´âæ^ÃN|^à&ââæ

Berechnungszeit : 1 sec

Bel astung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | -37.70 |
| | 0.00 | 0.00 | 37.70 |
| LF-4 | 0.00 | 0.00 | -3.08 |
| | 0.00 | 0.00 | 3.08 |
| LF-5 | 0.00 | 0.00 | -28.01 |
| | 0.00 | 0.00 | 28.01 |
| LF-6 | 0.00 | 0.00 | -2.84 |
| | 0.00 | 0.00 | 2.84 |
| Summe | 0.00 | 0.00 | -71.63 |
| | 0.00 | 0.00 | 71.63 |

Aufbau der Ergebnisse : 0 sec

Ende der statischen Analyse


Gesamtdauer : 1 sec

*** Berechnung erfolgreich abgeschlossen ***

626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097-1098-1099-1100-1101-1102-1103-1104-1105-1106-1107-1108-1109-1110-1111-1112-1113-1114-1115-1116-1117-1118-1119-1120-1121-1122-1123-1124-1125-1126-1127-1128-1129-1130-1131-1132-1133-1134-1135-1136-1137-1138-1139-1140-1141-1142-1143-1144-1145-1146-1147-1148-1149-1150-1151-1152-1153-1154-1155-1156-1157-1158-1159-1160-1161-1162-1163-1164-1165-1166-1167-1168-1169-1170-1171-1172-1173-1174-1175-1176-1177-1178-1179-1180-1181-1182-1183-1184-1185-1186-1187-1188-1189-1190-1191-1192-1193-1194-1195-1196-1197-1198-1199-1200-1201-1202-1203-1204-1205-1206-1207-1208-1209-1210-1211-1212-1213-1214-1215-1216-1217-1218-1219-1220-1221-1222-1223-1224-1225-1226-1227-1228-1229-1230-1231-1232-1233-1234-1235-1236-1237-1238-1239-1240-1241-1242-1243-1244-1245-1246-1247-1248-1249-1250-1251-1252-1253-1254-1255-1256-1257-1258-1259-1260-1261-1262-1263-1264-1265-1266-1267-1268-1269-1270-1271-1272-1273-1274-1275-1276-1277-1278-1279-1280-1281-1282-1283-1284-1285-1286-1287-1288-1289-1290-1291-1292-1293-1294-1295-1296-1297-1298-1299-1300-1301-1302-1303-1304-1305-1306-1307-1308-1309-1310-1311-1312-1313-1314-1315-1316-1317-1318-1319-1320-1321-1322-1323-1324-1325-1326-1327-1328-1329-1330-1331-1332-1333-1334-1335-1336-1337-1338-1339-1340-1341-1342-1343-1344-1345-1346-1347-1348-1349-1350-1351-1352-1353-1354-1355-1356-1357-1358-1359-1360-1361-1362-1363-1364-1365-1366-1367-1368-1369-1370-1371-1372-1373-1374-1375-1376-1377-1378-1379-1380-1381-1382-1383-1384-1385-1386-1387-1388-1389-1390-1391-1392-1393-1394-1395-1396-1397-1398-1399-1400-1401-1402-1403-1404-1405-1406-1407-1408-1409-1410-1411-1412-1413-1414-1415-1416-1417-1418-1419-1420-1421-1422-1423-1424-1425-1426-1427-1428-1429-1430-1431-1432-1433-1434-1435-1436-1437-1438-1439-1440-1441-1442-1443-1444-1445-1446-1447-1448-1449-1450-1451-1452-1453-1454-1455-1456-1457-1458-1459-1460-1461-1462-1463-1464-1465-1466-1467-1468-1469-1470-1471-1472-1473-1474-1475-1476-1477-1478-1479-1480-1481-1482-1483-1484-1485-1486-1487-1488-1489-1490-1491-1492-1493-1494-1495-1496-1497-1498-1499-1500-1501-1502-1503-1504-1505-1506-1507-1508-1509-1510-1511-1512-1513-1514-1515-1516-1517-1518-151

FE-Netz:

0,1 m x 0,1 m

| | | | | | |
|----------------------|---------------------|---|-------------|-------------------------------------|----------------------------|
| Knotennummern | Anzahl Knoten = 700 |  | Modell | AT-2 Treppenstufe Atrium Auflager | Tafelbauwerk Tafelkranz |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |

Belastungen

Einwirkungen

DIN EN 1990

Einwirkungen nach DIN EN 1990

| Pflicht | Beschreibung |
|-------------|--------------|
| Typisierung | |
| Gk | Eigenlasten |
| Ö | Ausbaulasten |
| Qk.N_T2 | S |

@UghZ} ``Y

Qáb\à†→æÁ | ^äÄæäæ^ÄX | ~ää^ | ^&Ä~ | Ääæ^ÄÖ↔^ } ↔ä← | ^&æ^

Gk
Ö
Qk.N_T2

| |
|------------|
| LF-1 |
| LF-4 |
| LF-5, LF-6 |

@UghZ} ``Y # Lastgruppen @UghZ} ``Y

©âæãb↔´â\ÄQáb\à†→æÁ | ^äÄQáb\&ä | **æ^

| Lastfall | Typ | Beschreibung |
|----------|-----|-----------------|
| LF-1 | s | Eigengewicht |
| LF-4 | s | Ausbau |
| LF-5 | v | Nutzlast Treppe |
| LF-6 | v | Nutzlast Treppe |

Qáb\←~â↔^ä\↔~^æ^ÄäfiäÄ~^æääæÄÑæää´â^ | ^&

Lastkombinationen

Kombinationen

Manuell vorgegebene Lastkombinationen

| Ew | Einwirkungsname | | | | |
|------|-----------------|------|------|---------|---------|
| Lg | Lastgruppenname | | | | |
| Lf | Lastfallname | | | | |
| | Ew | Gk | Ö← | Qk.N_T2 | Qk.N_T2 |
| | Lg | . | . | . | . |
| | Lf | LF-1 | LF-4 | LF-5 | LF-6 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 |

Lastplan

Lasten des FE-Modells

Bauteil lasten

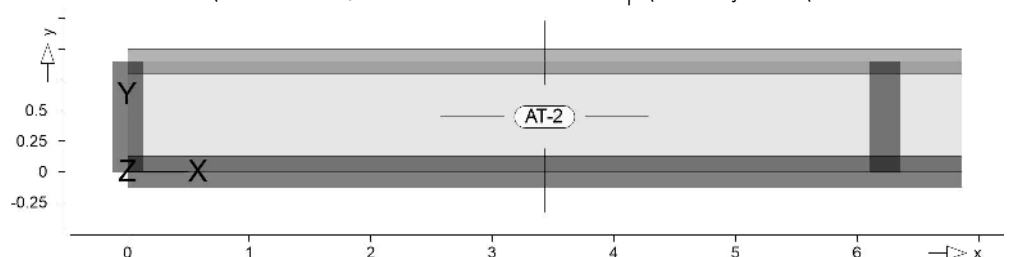
Bauteilbezogene Lasten

: ` } WXYbdcg] h] cbYb

Ö→†´äæ^ä=ä↑↔&æÄÑá | \æ↔→Ë\$~b↔\↔~^æ^

Positionsgrafik

©âæãb↔´â\ÄäæääÄ→†´äæ^ä=ä↑↔&æÄÑá | \æ↔→Ë\$~b↔\↔~^æ^



Ei gengewi cht

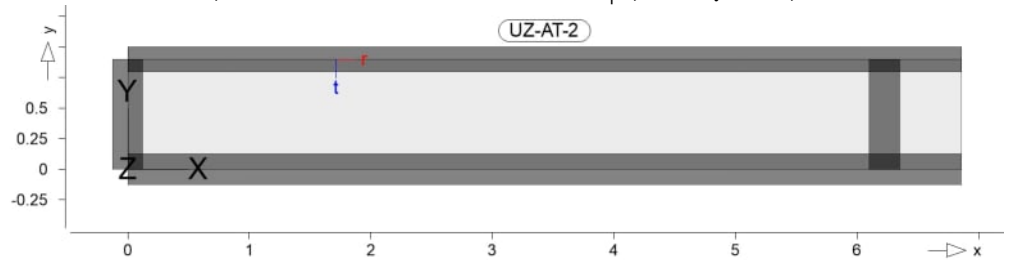
| Position | EW | Lastfall | Art | g |
|--|----|----------|-----|------------------------------|
| AT-2 | Gk | LF-1 | PGr | [kN/m ²] 5.00 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

Streckenposi ti onen

Q↔^↔æ^à=ã↑↔&æ^ÃÑá | \æ↔→Ë\$~b↔\↔~^æ^

Posi ti onsgrafi k

©âæãb↔'â\ÃäæãÁ↔↔^↔æ^à=ã↑↔&æ^ÃÑá | \æ↔→Ë\$~b↔\↔~^æ^



Ei gengewi cht

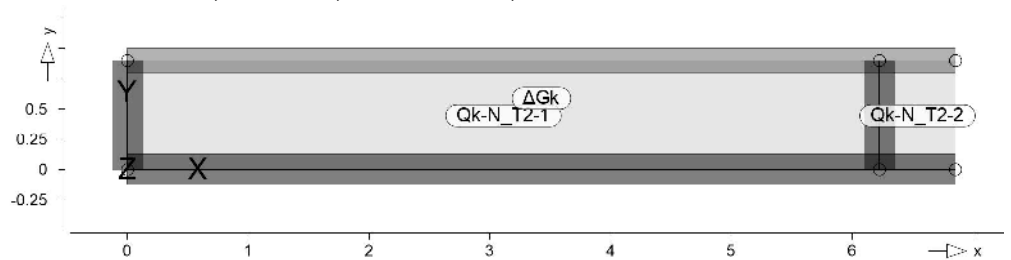
| Position | EW | Lastfall | Art | g |
|--|----|----------|-----|----------------|
| UZ-AT-2 | Gk | LF-1 | PGr | [kN/m] 1.00 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

Standardl asten

Standardlasten im FE-Modell

Posi ti onsgrafi k

©âæãb↔'â\ÃäæãÁU\á^ääãä→áb\æ^



Y] V\Z` } V\Yb` UghYb

| Position | EW | Lastfall | Art | P |
|--|-------------------|----------|-----|----------------------|
| Qk-N_T2-1 | Nutzlast Treppe 1 | | | [kN/m ²] |
| Qk-N_T2-2 | Nutzlast Treppe 1 | | | |
| Qk-N_T2-1 | Qk.N_T2 LF-5 | | PGr | 5.00 |
| Qk-N_T2-2 | Qk.N_T2 LF-6 | | PGr | 5.00 |
| Ö← | Ausbau | | | |
| Ö← | Ö← LF-4 | | PGr | 0.50 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

5 i ZU Yf f} ZY

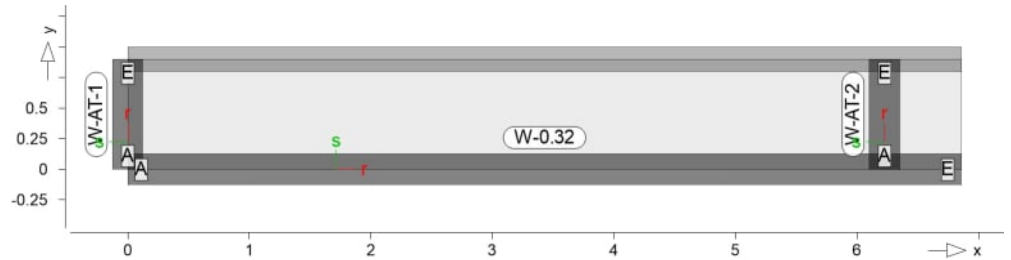
@] b] Yb` U[Yf_f} ZhY`
char.

Q↔^↔æ^→á&æã←ã‡à\æÃæ↔^}↔ã←|^&b}æ↔bæ

ËÁ´ááãá←\æã↔b\↔b´áæÃN|à→á&æã←ã‡à\æÃ↓æÃÓ↔^}↔ã←|^&
ËÁ↑↔^↗↑á[Á@âæã→á&æã|^&ÃäæãÁQáb\à‡→æÃ↓æÃÓ↔^}↔ã←|^&

Posi ti onsgrafi k

©âæãb↔´á\ÃäæãÃÛá^ä→á&æãÃÇU\áâ→âæ\~^D



Tabel l e

Úáâæ→áã↔b´áæÃN|b&áâæÃäæãÃÃN|à→á&æã←ã‡à\æ

l okal , F, t-Achse

| lokal , F, t-Achse | EW | $F_{t,A,min}$ | $F_{t,M,min}$ | $F_{t,E,min}$ | $F_{t,min}$ | e_{min} |
|--------------------|------------------------|-------------------------|-------------------------|-------------------------|---------------------|------------------|
| | | $F_{t,A,max}$ [kN/m] | $F_{t,M,max}$ [kN/m] | $F_{t,E,max}$ [kN/m] | $F_{t,max}$ [kN] | e_{max} [m] |
| W-0.32 | $(L = 6.86 \text{ m})$ | | | | | |
| | Gk | 4.19 | 1.80 | -0.60 | 12.31 | -1.52 |
| | $\ddot{O} \leftarrow$ | 0.36 | 0.19 | 0.02 | 1.29 | -1.03 |
| | Qk.N_T2 | -0.22 | 0.09 | 0.39 | 0.60 | 3.98 |
| | | 3.78 | 1.79 | -0.21 | 12.27 | -1.27 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 3.57 | 1.88 | 0.19 | 12.87 | -1.03 |
| | | 3.78 | 1.79 | -0.21 | 12.27 | -1.27 |
| | | -0.22 | 0.09 | 0.39 | 0.60 | 3.98 |
| W-AT-1 | $(L = 0.90 \text{ m})$ | | | | | |
| | Gk | -25.81 | 9.33 | 44.47 | 8.39 | 0.57 |
| | $\ddot{O} \leftarrow$ | -1.72 | 0.66 | 3.05 | 0.60 | 0.54 |
| | Qk.N_T2 | -17.40 | 6.65 | 30.69 | 5.98 | 0.54 |
| | | 0.16 | -0.03 | -0.23 | -0.03 | 0.91 |
| | | 0.16 | -0.03 | -0.23 | -0.03 | 0.91 |
| | | -17.40 | 6.65 | 30.69 | 5.98 | 0.54 |
| | | 0.16 | -0.03 | -0.23 | -0.03 | 0.91 |
| | | -17.40 | 6.65 | 30.69 | 5.98 | 0.54 |
| W-AT-2 | $(L = 0.90 \text{ m})$ | | | | | |
| | Gk | -8.45 | 18.88 | 46.22 | 16.99 | 0.22 |
| | $\ddot{O} \leftarrow$ | -0.47 | 1.34 | 3.15 | 1.20 | 0.20 |
| | Qk.N_T2 | -5.10 | 10.85 | 26.79 | 9.76 | 0.22 |
| | | 0.36 | 2.51 | 4.67 | 2.26 | 0.13 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -4.74 | 13.36 | 31.46 | 12.02 | 0.20 |
| | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -4.74 | 13.36 | 31.46 | 12.02 | 0.20 |

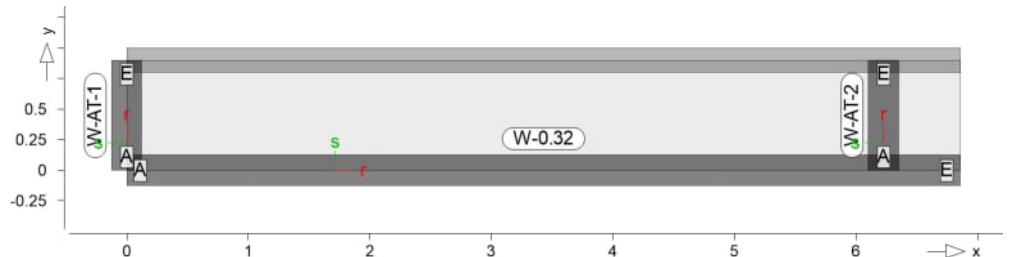
@] b] Yb` U[Yf_f} ZhY`
des.

Q↔^↔æ^→á&æã←ã‡à\æÁ→áb\←~↑â↔^á\↔~^b}æ↔bæ

ËÁá | bÁRØSÐRNVEÖ@âæã→á&æã | ^&ÁfiâæãÁQÔSÁ | ^ääÁQPS

Posi ti onsgrafi k

@âæãb↔´â\ÁäæãÁÛá^ä→á&æãÁÇU\áâ→âæ\~^D



Tabel l e

Úáâæ→áã↔b´âæÁN | b&áâæÁäæãÁN | à→á&æã←ã‡à\æ

l okal , F_t -Achse

| | $F_{t,A,min}$ $F_{t,A,max}$ [kN/m] | $F_{t,M,min}$ $F_{t,M,max}$ [kN/m] | $F_{t,E,min}$ $F_{t,E,max}$ [kN/m] | $F_{t,min}$ $F_{t,max}$ [kN] | e_{min} e_{max} [m] |
|--------|--|--|--|------------------------------------|-------------------------------|
| W-0.32 | $(L = 6.86 \text{ m})$ | | | | |
| min M | 4.55 | 1.98 | -0.58 | 13.60 | -1.48 |
| max M | 8.12 | 3.86 | -0.39 | 26.47 | -1.26 |
| W-AT-1 | $(L = 0.90 \text{ m})$ | | | | |
| min M | -27.38 | 9.96 | 47.29 | 8.96 | 0.56 |
| max M | -44.94 | 16.63 | 78.21 | 14.97 | 0.56 |
| W-AT-2 | $(L = 0.90 \text{ m})$ | | | | |
| min M | -8.93 | 20.22 | 49.37 | 18.20 | 0.22 |
| max M | -13.67 | 33.58 | 80.82 | 30.22 | 0.21 |

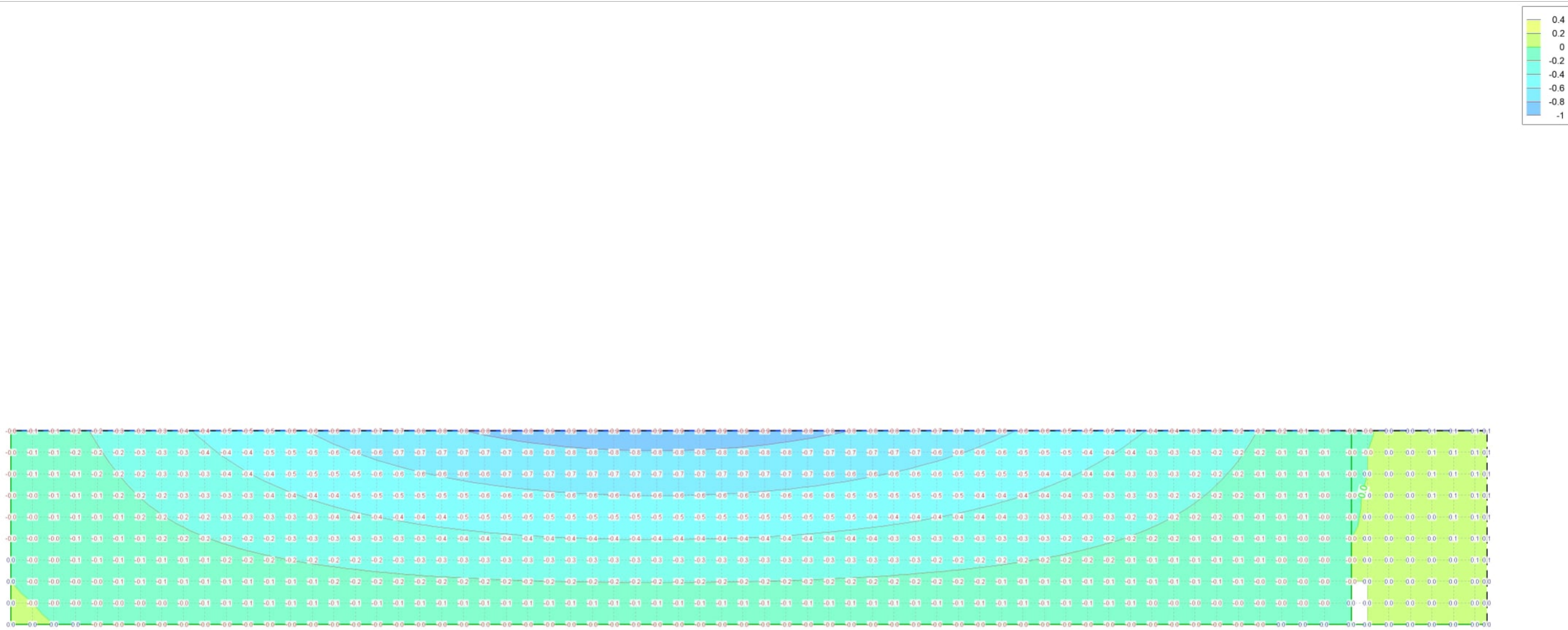
Nachweise (GZG)

Verformungsparameter

Şáãá↑æ\æãÁfiâÁäæ^ÁÛæãà~ã↑ ^&b^á´á}æ↔bÁ^á´ääÆØSÁÓSÁ
1992-1-1

| | | | | | | |
|--|--|--------|--------------------------|-------|--|-------|
| RH | Relative Luftfeuchte | | | | | |
| Zement | Zementtyp | | | | | |
| t_s | Betonalter bei Austrocknungsbeginn | | | | | |
| t_0 | Betonalter bei Belastungsbeginn | | | | | |
| T | Temperatur bis Belastungsbeginn | | | | | |
| t | Betonalter zum betrachteten Zeitpunkt | | | | | |
| Trocknung | $N b\tilde{a}\sim\leftarrow^{\wedge}b\tilde{a}\rightarrow\tilde{'}\tilde{a}\tilde{a}\tilde{c}\tilde{a}\tilde{a}\tilde{b}\tilde{a}\leftrightarrow\backslash\leftrightarrow\tilde{D}\tilde{a}\leftrightarrow^{\wedge}b\tilde{a}\leftrightarrow\leftrightarrow\tilde{D}$ | | | | | |
| | RH | Zement | t_s | t_0 | T | t |
| | [%] | | [d] | [d] | YflY | [d] |
| AT-2 | 50 | S | 0 | 28 | 20 | 25550 |
| UZ-AT-2 | 50 | S | 0 | 28 | 20 | 25550 |
| | Endkriechzahl | | | | | |
| c_s | Endschwinddehnung | | | | | |
| | Lastdauereinflussbeiwert | | | | | |
| $\tilde{E}P\sim\uparrow\hat{a}\leftrightarrow^{\wedge}\tilde{E}$ | $P\sim\uparrow\hat{a}\leftrightarrow^{\wedge}a\backslash\leftrightarrow^{\wedge}b\backslash]*\tilde{A}\tilde{a}\tilde{f}\tilde{i}\tilde{a}\tilde{A}\tilde{E}\tilde{O}\tilde{a}\uparrow\leftrightarrow\backslash\backslash\rightarrow ^{\wedge}\tilde{A}$ | | | | | |
| | (Nachweiskombination oder seltene Kombination) | | | | | |
| min | $R\leftrightarrow^{\wedge}\tilde{a}\tilde{a}b\backslash}\tilde{a}\tilde{a}\backslash\tilde{A}\tilde{a}\tilde{f}\tilde{i}\tilde{a}\tilde{A}\tilde{U}\tilde{a}\tilde{a}\backslash\leftrightarrow\leftrightarrow ^{\wedge}\tilde{b}\tilde{a}\tilde{a}\leftrightarrow}\tilde{a}\tilde{a}\backslash\tilde{A}$ | | | | | |
| | vgl. jeweils 7.4.3 | | | | | |
| | | | c_s | | $\tilde{E}P\sim\uparrow\hat{a}\leftrightarrow^{\wedge}\tilde{E}$ | min |
| | | | $Y_{\tilde{c}}\tilde{Y}$ | | | [-] |
| AT-2 | 2.420 | -0.377 | Langzeit | | selten | - |
| UZ-AT-2 | 2.579 | -0.417 | Langzeit | | selten | - |

keine Verformungsnachweisbereiche definiert

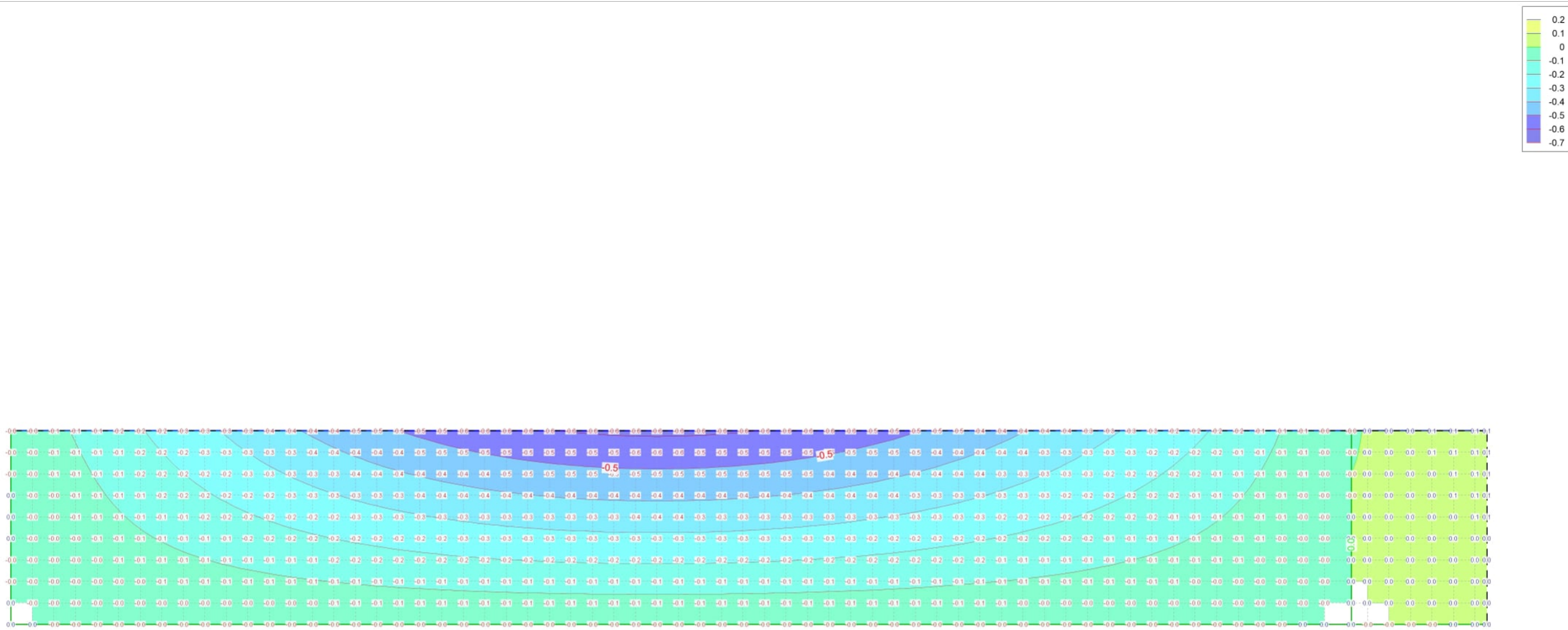


Verformungsbegrenzung:

max. Endverformung: 6230 mm / 250 = 24,9 mm

vorh. Endverformung: 0,9 mm

| | | | |
|---|--|---|---------------------|
| <div>Verformungsnachweis Zustand II</div> <div>Endverformung f_{oo} im Zustand II in [mm]</div> <div>æ•Á à^ æ^ ~}*Áà^ SSp</div> <div>Minimum</div> <div>Max = 0.1 (Kn. 3), Min = -0.9 (Kn. 655), Step = 0.2</div> | <div>KREBS+KIEFER</div> | <div>ModellAT-2 Treppenstufe Atrium Auflager</div> <div>BauvorhabenSchulcampus EWK Schwesternschule</div> | <div>T æ•æKFE</div> |
| | KREBS+KIEFER Ingenieure GmbH | | |



Verformungsbegrenzung:

max. Diff.verformung: 6230 mm / 500 = 12,5 mm

vorh. Diff.verformung: 0,5 mm

| | | | |
|--|---|--|-----------------------|
| <div>Verformungsnachweis Zustand II</div> <div>Differenzverformung f_{oo}-f₀ im Zustand II in [mm]</div> <div>æ • Á à^ æ^ ~ } * Áà^ SSp</div> <div>Minimum</div> <div>Max = 0.1 (Kn. 3), Min = -0.6 (Kn. 655), Step = 0.1</div> | <div> KREBS+KIEFER</div> | <div>Modell</div> <div>AT-2 Treppenstufe Atrium Auflager</div> | <div>T æ • æKFE</div> |
| | | <div>Bauvorhaben</div> <div>Schulcampus EWK Schwesternschule</div> | |
| | KREBS+KIEFER Ingenieure GmbH | | |

Bemessungsparameter

Biegung

Biegebemessung der Platten (Stahlbeton) nach DIN EN 1992-1-1

Mat. /Querschni tt

| Position | Winkel yflŸ | Art | Material Quer | Dicke [cm] |
|----------|----------------|-----------------|------------------|---------------|
| AT-2 | Treppenstufe | Atrium Auflager | | |
| | 0.0 | iso | C 30/37 Q | 20.0 |
| | | B 500SB | B 500SB | |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: $\vec{a} \cdot \vec{b} = |\vec{a}| |\vec{b}| \cos \alpha$

Exposi ti onskl asse

&æ↑‡ßÁÆØŠÁÓŠÁƒİİĞĖĖĖĖÊÁÚáâÈÁĤÈƒ

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|---------------------------------|
| AT-2 | umlaufend | XC1 | \~ä~'←æ^Ä~äæãÄb\ †^ä↔&Ä nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro yflY | so yflY | ru yflY | su yflY |
|----------|------------|------------|------------|------------|
| AT-2 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

| Position | | C_{min} [mm] | $\#_{def}'$ [mm] | C_{nom} [mm] | C_v [mm] | d_r' [mm] | d_s' [mm] |
|----------|---|-------------------|---------------------|-------------------|---------------|----------------|----------------|
| AT-2 | o | 10 | 10 | 20 | – | 42 | 42 |
| | u | 10 | 10 | 20 | – | 42 | 42 |

Bemessungsparameter

àfiãÄäæ^ÄÖöæ^~ | b\á^äÄäæäÄÜäã&à‡ä&←æ↔\Á^á´äÄØSÁÓSÁ
1992-1-1

Bi egung

| Position | Mindestbewehrung |
|---|------------------|
| AT-2 | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | |

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

AT-2

Ñæ↑æbb | ^&ÁàfiãÁŞ→á\ \æÁÇU\ áă→âæ\ ~^DÁNÚËG

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á´âÁÆØSÁÓSÁFïï€

| | |
|-----|------------------------|
| Ew | Einwirkungsname |
| Lkn | Lastkombinationsnummer |

¶↔æÃÑæ\æ↔↗&| ^&Ãæ↔^ ~æ↔^æãÃQáb\à†→↗æÃ↔^ ^æãää→âÃeiner
 Einwirkung wird mit diesem Ausgabeformat nicht
 dokumentiert.

gh} bX] [#j cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_T2 |
|-----|----|------|------|-------------|
| 1 | | 1.00 | 1.00 | . |
| 2-4 | | 1.35 | 1.35 | 1.50 |
| 5-6 | | 1.00 | 1.35 | 1.50 |
| 7 | | 1.00 | 1.00 | 1.50 |

Alle Nachweise

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ru}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 6 | 2 | -2.15 | -1.50 | 5.02 | 2.87 | 2.72 |
| 315 | 2 | 1.82 | 1.48 | 1.28 | 3.10 | 2.72 |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,su}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 316 | 2 | 1.80 | 1.48 | 1.60 | 3.07 | 2.72 |
| 626 | 2 | 0.40 | 0.67 | -1.43 | 2.11 | 2.72 |

as, r, oben

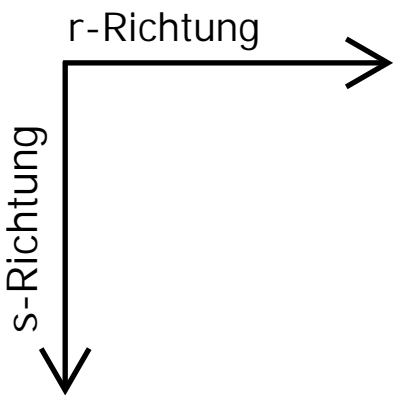
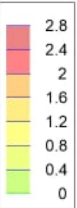
Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,ro}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 4 | 2 | 0.41 | -0.20 | 1.35 | -0.94 | 2.72 |
| 36 | 4 | 0.00 | 0.00 | 0.03 | -0.02 | 2.72 |
| 293 | 2 | 1.67 | 1.33 | -5.51 | -3.84 | 2.72 |
| 333 | 2 | 1.13 | 1.04 | 5.75 | -4.62 | 2.72 |

as, s, oben


Erforderliche obere Bewehrung $a_{s,so}$

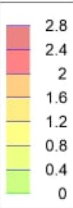
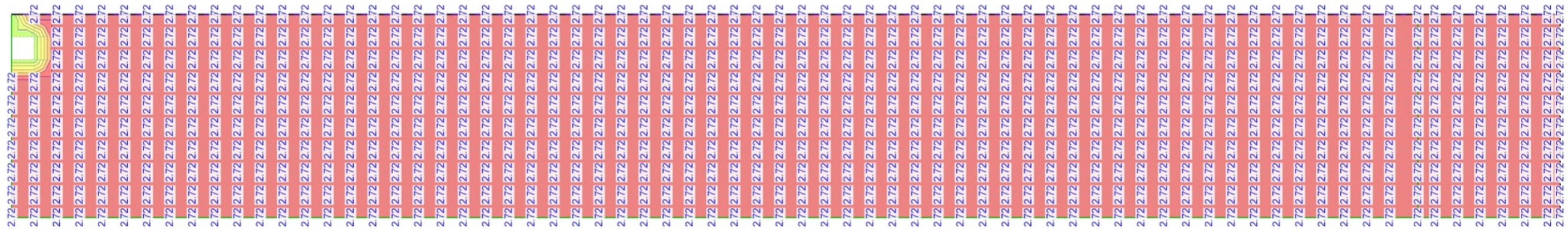
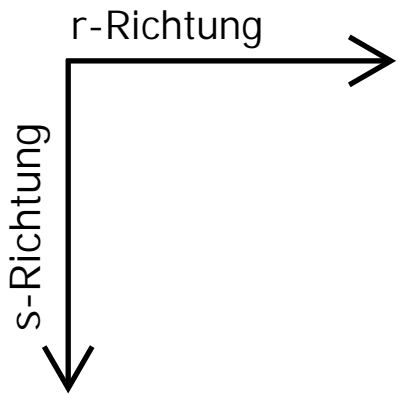
| Knoten | Lkn | $m_{r,Ed}$ [kNm/m] | $m_{s,Ed}$ [kNm/m] | $m_{rs,Ed}$ [kNm/m] | m_{Ed} [kNm/m] | $a_{s,so}$ Y' ↑ ↓ ↑ Y |
|--------|-----|-----------------------|-----------------------|------------------------|---------------------|--------------------------|
| 36 | 4 | 0.00 | 0.00 | 0.03 | -0.02 | 2.72 |
| 294 | 2 | 1.66 | 1.38 | -5.24 | -3.87 | 2.72 |
| 332 | 2 | 1.19 | 1.15 | 5.61 | -4.46 | 2.72 |
| 652 | 2 | 3.52 | 0.01 | -0.97 | -0.26 | 2.72 |
| 657 | 3 | 3.46 | 0.01 | 0.67 | -0.12 | 2.72 |



Biegebemessung:

erf. Bewehrung
- untere Lage r-Richtung -

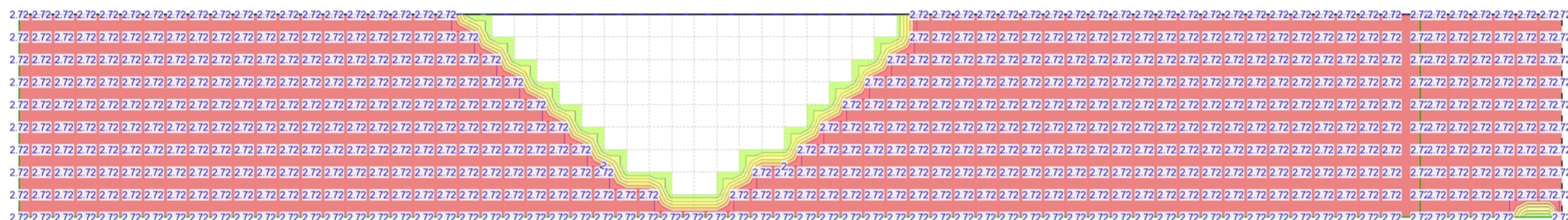
| | | | | | |
|--|---|---|-------------|--|-----------------|
| : } W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | AT-2-o.-Bw. Treppenstufe Atrium Auflager | T 23 • 23 K 100 |
| Max = 2.72 (Kn. 1), Min = 0 (Kn. 550), Step = 0.4 Bew.-Abstand d' = 42 mm Beton C 30/37 Bauteildicke h = 20.00 cm | aus allen Nachweisen U a c } * A } c } A A } d á | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |



Biegebemessung:

erf. Bewehrung
- untere Lage s-Richtung -

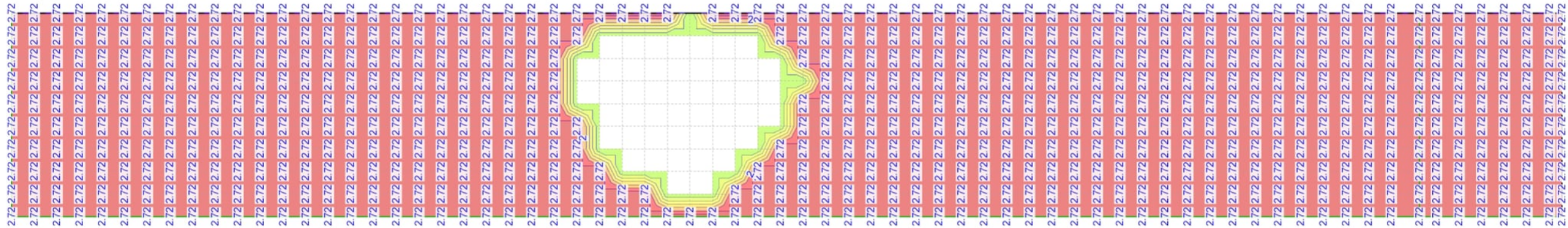
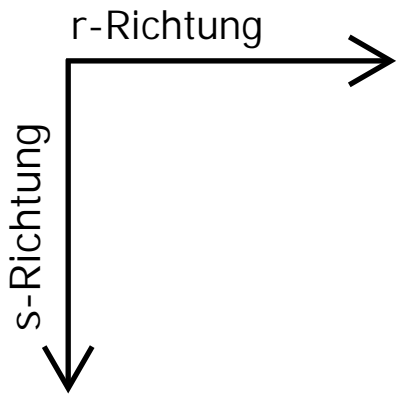
| | | | | | |
|---|--------------------------------|--|------------------------------|--|-----------------------|
| <div><div>W YbVYa Yggi b[</div><div>Max = 2.72 (Kn. 1), Min = 0 (Kn. 489), Step = 0.4</div><div>Bew.-Abstand d' = 42 mm</div><div>Beton C 30/37</div><div>Bauteildicke h = 20.00 cm</div></div> | Erforderliche Bewehrung as,erf | <div><div><div></div><div>KREBS+KIEFER</div></div></div> | Modell | AT-2-o.-Bw. Treppenstufe Atrium Auflager | T a i • c a n K I C E |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



erf. Bewehrung
- obere Lage r-Richtung -

Das Diagramm zeigt ein Koordinatensystem mit zwei Achsen. Die horizontale Achse ist nach rechts gerichtet und mit 'r-Richtung' beschriftet. Die vertikale Achse ist nach unten gerichtet und mit 's-Richtung' beschriftet.

MicroFe 2025.016
T-98



Biegebemessung:

erf. Bewehrung
- obere Lage s-Richtung -

| | | | | | |
|---|--------------------------------|--|------------------------------|--|-------------|
| <div><div>W YbVYa Yggi b[</div><div>Max = 2.72 (Kn. 1), Min = 0 (Kn. 103), Step = 0.4</div><div>Bew.-Abstand d' = 42 mm</div><div>Beton C 30/37</div><div>Bauteildicke h = 20.00 cm</div></div> | Erforderliche Bewehrung as,erf | <div><div><div></div><div>KREBS+KIEFER</div></div></div> | Modell | AT-2-o.-Bw. Treppenstufe Atrium Auflager | T as • 2014 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | aus allen Nachweisen | KREBS+KIEFER Ingenieure GmbH | | |

| Lkn | Ew | Gk | Ö | Qk.N_T2 |
|-----|----|------|------|-------------|
| 6 | | 1.00 | 1.35 | 1.50 |

Alle Nachweise

Öb \rightarrow b\Á \leftarrow æ \rightarrow ^æÁ~|b†\~ \rightarrow ^âæÁÑæ}æää|^&Áæää~ääæ \rightarrow ^âÊÁda

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$ (Differenzbew.)

Öb \rightarrow b\Á \leftarrow æ \rightarrow ^æÁ~|b†\~ \rightarrow ^âæÁÑæ}æää|^&Áæää~ääæ \rightarrow ^âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$ (Differenzbew.)

Öb \rightarrow b\Á \leftarrow æ \rightarrow ^æÁ~|b†\~ \rightarrow ^âæÁÑæ}æää|^&Áæää~ääæ \rightarrow ^âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, r, oben

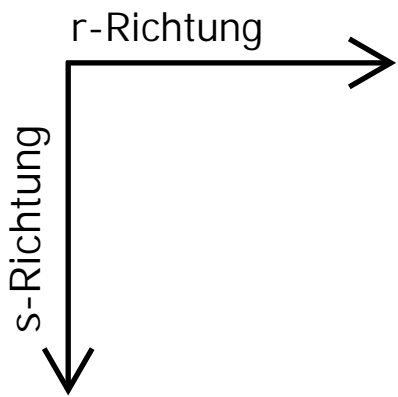
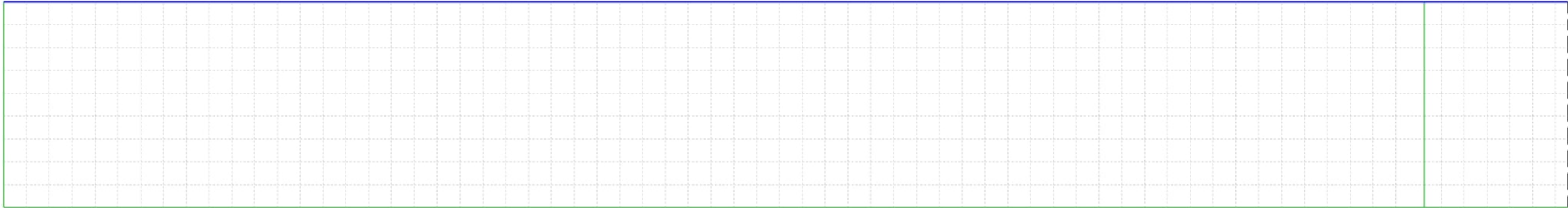
Erforderliche obere Bewehrung $a_{s,ro}$ (Differenzbew.)

Öb \rightarrow b\Á \leftarrow æ \rightarrow ^æÁ~|b†\~ \rightarrow ^âæÁÑæ}æää|^&Áæää~ääæ \rightarrow ^âÊÁda
die vorhandene Bewehrung ausreichend ist.

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$ (Differenzbew.)

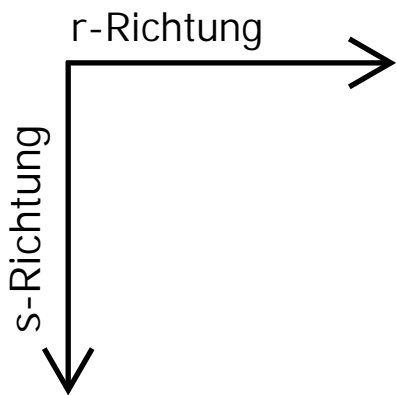
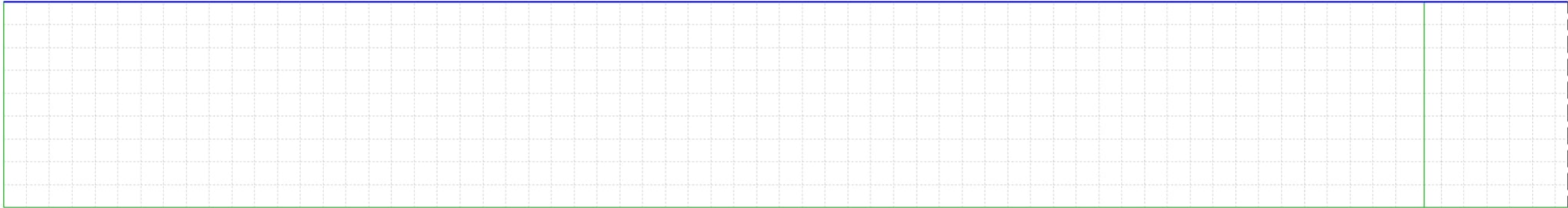
Öb \rightarrow b\Á \leftarrow æ \rightarrow ^æÁ~|b†\~ \rightarrow ^âæÁÑæ}æää|^&Áæää~ääæ \rightarrow ^âÊÁda
die vorhandene Bewehrung ausreichend ist.



Biegebemessung:


erf. Zulagen
- untere Lage r-Richtung -

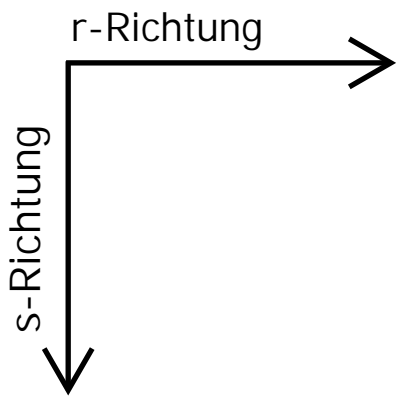
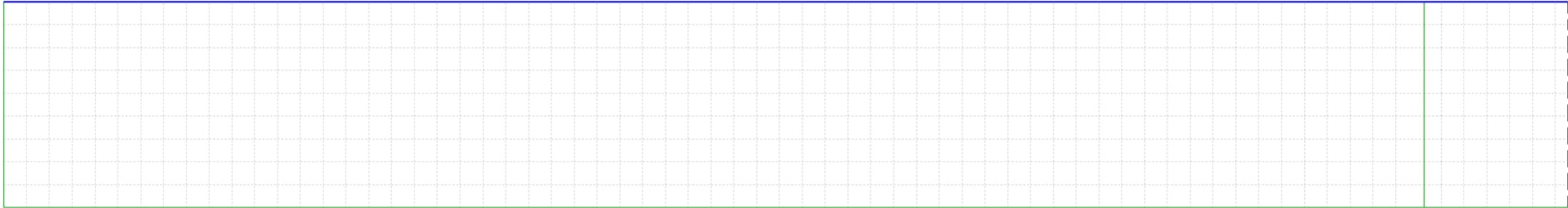
| | | | | | |
|--|---|---|-------------|-------------------------------------|-------|
| <div><div><div></div><div>W YbVYa Yggi b[</div></div></div> | Erforderliche Bewehrung as,erf | <div><div></div><div>KREBS+KIEFER</div></div> | Modell | AT-2 Treppenstufe Atrium Auflager | Tafel |
| Vorhandene Bew. as,vorh = 15.39 (Grund+Zulagen) Bew.-Abstand d' = 37 mm Beton C 30/37 Bauteildicke h = 20.00 cm | aus allen Nachweisen (Differenzbew.) Erf. as = 15.39 Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 0.1 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |



Biegebemessung:


erf. Zulagen
- untere Lage s-Richtung -

| | | | | | |
|---|--|---|------------------------------|-------------------------------------|---------------------------------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | AT-2 Treppenstufe Atrium Auflager | T 22 • 2025.016 KREBS+KIEFER |
| Vorhandene Bew. as,vorh = 7.85 (Grund+Zulagen) Bew.-Abstand d' = 49 mm Beton C 30/37 Bauteildicke h = 20.00 cm | aus allen Nachweisen (Differenzbew.) • $\sigma_{s,erf} \cdot A_s \cdot \eta \cdot \gamma_s \cdot \gamma_{ed}$ Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 0.1 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

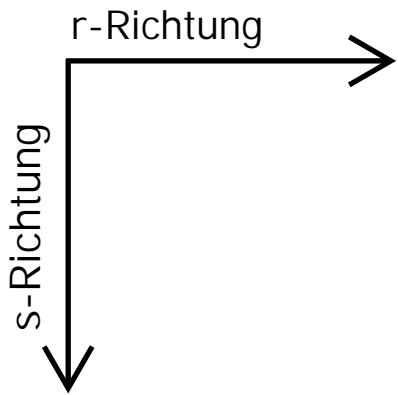
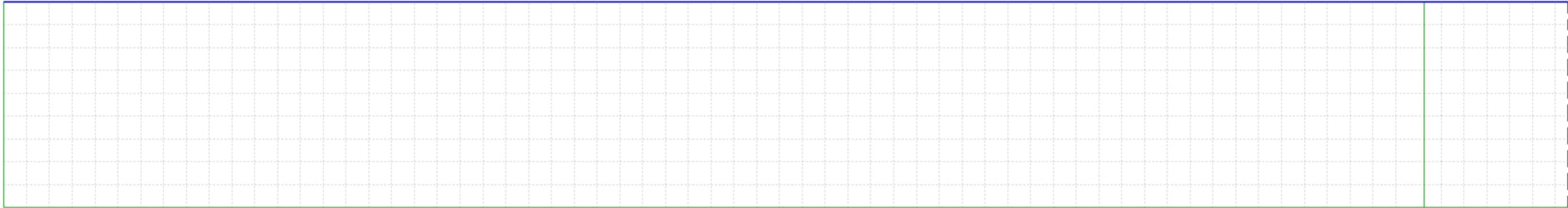


Biegebemessung:

erf. Zulagen
- obere Lage r-Richtung -


| | | | | | |
|---|--|---|-------------|-----------------------------------|----------------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | AT-2 Treppenstufe Atrium Auflager | T 22 • 2211100 |
| Vorhandene Bew. as,vorh = 15.39 (Grund+Zulagen) | | | Bauvorhaben | Schulcampus EWK | |
| Bew.-Abstand d' = 37 mm | aus allen Nachweisen (Differenzbew.) | | | Schwesternschule | |
| Beton C 30/37 | !EÜaC } * Ä à^} Ä Äx Q á | KREBS+KIEFER Ingenieure GmbH | | | |
| Bauteildicke h = 20.00 cm | Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 0.1 | | | | |

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Biegebemessung:

erf. Zulagen
- obere Lage s-Richtung -

| | | | | |
|---|---|---|---|---------------------------------|
| : `} W YbVYa Yggi b[Vorhandene Bew. as,vorh = 7.85 (Grund+Zulagen) Bew.-Abstand d' = 49 mm Beton C 30/37 Bauteildicke h = 20.00 cm | Erforderliche Bewehrung as,erf aus allen Nachweisen (Differenzbew.) • $\sigma_{s,erf} \cdot A_s \leq A_{s,max}$ Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 0.1 |  | Modell AT-2 Treppenstufe Atrium Auflager Bauvorhaben Schulcampus EWK Schwesternschule | T 22 • 2025.016 KREBS+KIEFER |
| | | | KREBS+KIEFER Ingenieure GmbH | |

Bemessungsparameter
Querkraft

Bemessungsparameter

Ö→;´åæ^@|æã←ãää\âæ↑æbb|^&Á^á´åÁØSÁÓSÁFIÏGËFËF

àfiãÁäæ^ÁÖãæ^~|b\á^äÄäæãÁÜãá&à‡å↔&←æ↔\Á^á´åÁØSÁÓSÁ
1992-1-1

Querkraft

| Position | Druckstrebenneigung | Mindestbewehrung |
|---|---------------------|------------------|
| AT-2 | automatisch | nein |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

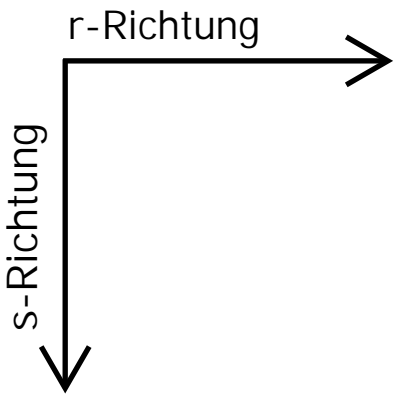
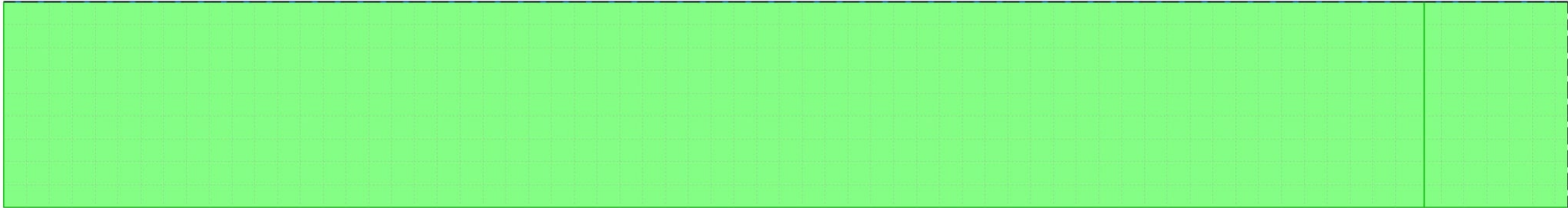
AT-2

Ñæ↑æbb|^&ÁàfiãÁ\$→á\\æÁÇU\áå→âæ\~^DÁNÜËG

Hf U[Z}\][_Y]h

Erforderliche Querkraftbewehrung aus
Üãää&à‡å↔&←æ↔\b^á´å}æ↔b

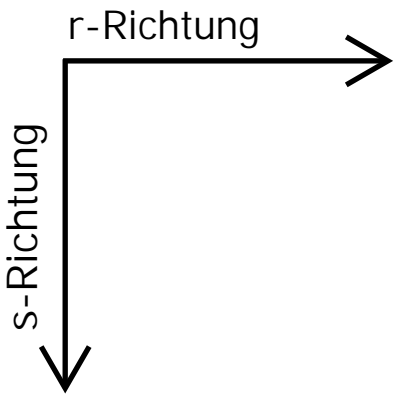
Es ist keine Querkraftbewehrung erforderlich.



Verhältnis:

- $V_{Ed} / V_{Rd,max}$ -

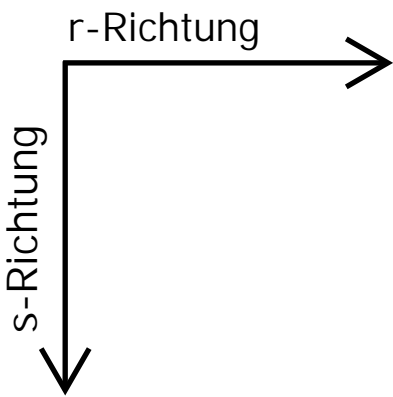
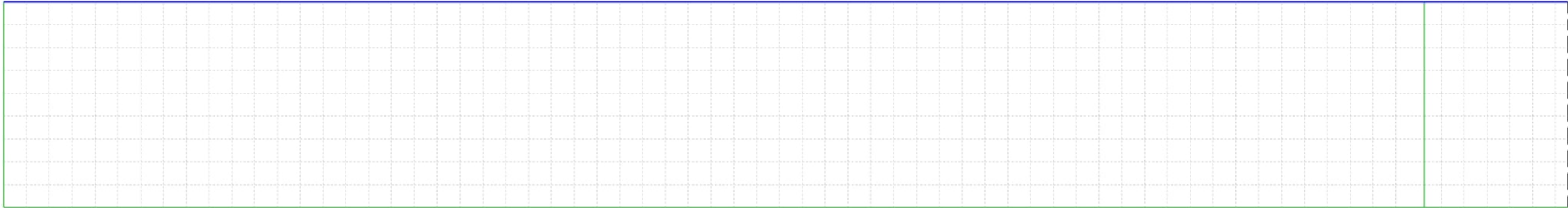
| | | | |
|---------------------|------------------------------|-------------------------------------|---|
| Querkraftbemessung | Modell | AT-2 Treppenstufe Atrium Auflager | T |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Max = 0.08, Min = 0 | KREBS+KIEFER Ingenieure GmbH | | |



Verhältnis:

- $V_{Ed} / V_{Rd,max}$ -

| | | | |
|---------------------|------------------------------|-------------------------------------|---|
| Querkraftbemessung | Modell | AT-2 Treppenstufe Atrium Auflager | T |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Max = 0.13, Min = 0 | KREBS+KIEFER Ingenieure GmbH | | |



Querkraftbemessung:

- a_{s,erf} -

| | | | |
|--------------------------------|---|---|------------|
| Querkraftbemessung |  | Modell AT-2 Treppenstufe Atrium Auflager Bauvorhaben Schulcampus EWK Schwesternschule | Tafelgröße |
| Max = 0, Min = 0, Step = 0.075 | | KREBS+KIEFER Ingenieure GmbH | |

y VYf[UY

@Ugh~ VYf[UY I N

MicroFe

Lastabtrag /
Einzelwerte

Detailnachweise

Lastmodell Balken

Randbedingungen

S340. de

UZ-AT-2

Mat./Querschnitt

Expositionsklasse

Ø|â|ê} * ^}

Auflagerbreiten

•â} ââ ^â c}

§ã~\~<~>→ÄããÄQáb\fiãã&áâæ

Qáb\fiãã&áâæÄfiãÄR↔´ã~Ôæ

↔æÄQáb\fiãã&áâæÄfiãÄR↔´ã~ÔæÄ} | äãÄ~â^æÄProtokoll-
N| b&áâæÄä | ä´â&æâfiãÄ\È

Qáb\fiãã&áâæÄá→bÄQáb\áâ\äá&Ä~äãÄÄÓ↔^~æ→}æã\æÄfiãÄ
MicroFe und BauStatik

↔æÄQáb\fiãã&áâæÄá→bÄQáb\áâ\äá&Ä~äãÄÄÓ↔^~æ→}æã\æÄ
} | äãÄ~â^æÄ§ã~\~<~>→ÈN| b&áâæÄä | ä´â&æâfiãÄ\È

©âæã&áâæÄá→bÄ↔æ\á↔^á´â}æ↔bæÄfiãÄÄÑá | U\á\↔-

N→\æã^á\↔{ ^á´â}æ↔bÄfiãÄÄ| ä´â→á | à\ä†&æã

Óãbá\~b|b\æ†ÄfiãÄäábÄQáb\†~äæ→ÄÑá×æ^

- Die Berechnung erfolgt an einem modifizierten
Ersatzsystem
ÄÄN→→æÄÜ^~\æã~fi&æÄ | ^äÄU\†âæÄ}æãäæ^Äá→bÄQ↔^↔æ^→á&æãÄ
modelliert
- Linienlager erhalten die Steifigkeit $k_{T,t} = 1.0e+10$
kN/m/m
- Punktlager erhalten die Steifigkeit $k_{T,t} = 1.0e+10$
kN/m
ÄÄÜ^~\æã~fi&æÄ | ^äÄU\†âæÄæãää→\æ^Ää↔æÄU\æ↔ä↔&←æ↔\Äk_{T,t} =
1.0e+06 kN/m/m

U\áâ→âæ\~^È| ä´â→á | à\ä†&æã

Unterzug

| Position | Material | b _{eff} /b _w /h [cm] |
|----------|----------|---|
| UZ-AT-2 | C 30/37 | 20/20/40 |

&æ††BÄØSÁÓSÁFïïGÈFÈFÈÄÜáâÈÄHÈF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|-------------------------------|
| UZ-AT-2 | umlaufend | XC1 | \ä~´←æ^Ä~äæãÄb\†^ä↔&Ä nass |

| Feld | Q†^&æ [m] |
|-------|--------------|
| 1 | 6.22 |
| KragR | 0.63 |

| Auflager | Material | Breite [cm] |
|----------|----------|----------------|
| A | Beton | 25.0 |
| B | Beton | 25.0 |

| EW | Belastung | Aktiv |
|----|--------------|-------|
| Gk | Eigengewicht | ja |

Blocklasten

| | Nr . | a [m] | s [m] | q [kN/m] |
|-----------|------|----------|----------|-------------|
| Gk | 1 | 0.00 | 0.98 | 1.52 |
| | 2 | 0.98 | 0.98 | 2.28 |
| | 3 | 1.96 | 0.98 | 2.25 |
| | 4 | 2.94 | 0.98 | 2.25 |
| | 5 | 3.92 | 0.98 | 2.27 |
| | 6 | 4.90 | 0.98 | 1.76 |
| | 7 | 5.88 | 0.98 | 0.47 |
| Ö- | 1 | 0.00 | 0.98 | 0.15 |
| | 2 | 0.98 | 0.98 | 0.23 |
| | 3 | 1.96 | 0.98 | 0.23 |
| | 4 | 2.94 | 0.98 | 0.23 |
| | 5 | 3.92 | 0.98 | 0.23 |
| | 6 | 4.90 | 0.98 | 0.18 |
| | 7 | 5.88 | 0.98 | 0.05 |
| Qk . N_T2 | 1 | 0.00 | 0.98 | 1.52 |
| | 2 | 0.98 | 0.98 | 2.28 |
| | 3 | 1.96 | 0.98 | 2.25 |
| | 4 | 2.94 | 0.98 | 2.25 |
| | 5 | 3.92 | 0.98 | 2.27 |
| | 6 | 4.90 | 0.98 | 1.76 |
| | 7 | 5.88 | 0.98 | 0.47 |

a: Nâb\á^äääæbÄU\ää* | ^←\æbÄ~ | ↑Ä-→^←æ^ÄÜä+&æäää^ä
s: Q†^&æÄääääQáb\

W

Wände –

Wandartige Träger

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1 Vorbemerkungen

In diesem Kapitel werden die erforderlichen Nachweise für die Wände bzw. wandartigen Träger in Stahlbetonbauweise erbracht.

Wandartige Träger sind auf die darunterliegenden tragfähigen Ebenen durchzusteißen, bis die Decke am WT-Kopf erhärtet ist. Die dazugehörigen Traggerüste/Bauzustände sind Sache des AN und im Zuge dessen Werk- und Montageplanung zu planen.

Hinweis zu tragenden Außenwänden:

Es werden für den Lastabtrag nicht alle Außenwände als tragend angesetzt. Im Folgenden ist dargestellt, welche Wände für das Tragwerk angesetzt werden.

Die Flächen in orange und rosa stellen außenseitige Wände dar, die als tragend angesetzt werden. Grüne Flächen sind außenseitige Wände, die nicht als tragende Bauteile angesetzt werden. Diese Wände sind **von den darunter liegenden Unterzügen abgefugt** herzustellen. Ihre Lasten werden an die darüber liegenden Unterzüge „angehängen“.



Tragwerksansicht Nordost vom 13.12.2024 [1]

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung



Tragwerksansicht Nordwest vom 13.12.2024 [1]



Tragwerksansicht Südost vom 13.12.2024 [1]

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung



Tragwerksansicht Südwest 13.12.2024 [1]

2 Hinweise zur Bewehrungsführung

Grundbewehrung:

- Ø12/15 = 7,54 cm²/m horizontal | d = 25 cm Innenwände

Zulagebewehrung:

- Siehe folgende Hinweise
- Siehe Abschnitt 5 – wandartige Träger

Wände mit einer Breite < 1 m:

Alle Wände, die eine Breite von weniger als 1 m aufweisen, sind konstruktiv wie eine Stütze zu bewehren. Das bedeutet:

- Vertikale Längsbewehrung Ø12 statt Ø8 (Abstand je nach Bemessung bleibt bestehen)
- Horizontale Querbewehrung Ø12/15 als geschlossene Bügel

Nichttragende Wände:

- Die nicht tragenden Wände sind analog zu den tragenden Wänden in ihren jeweiligen Geschossen zu bewehren
- Die vertikale Bewehrung ist ausreichend im darüberliegenden Unterzug zu verankern

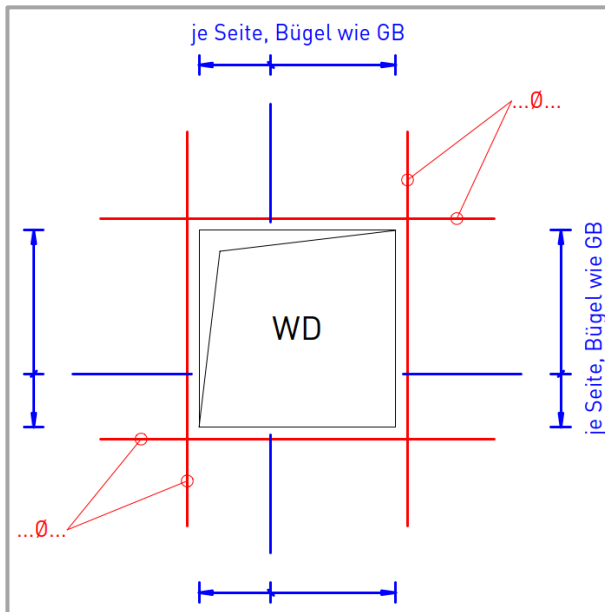
Öffnungen / Durchbrüche:

Sofern nicht anders angegeben:

- $b/h > 50/50$ cm: zusätzliche **Längsbewehrung 2Ø14** (siehe Skizze)
- $b/h \leq 50/50$ cm: zusätzliche **Längsbewehrung 2Ø12** (siehe Skizze)
- **Steckbügel** umlaufend wie Grundbewehrung

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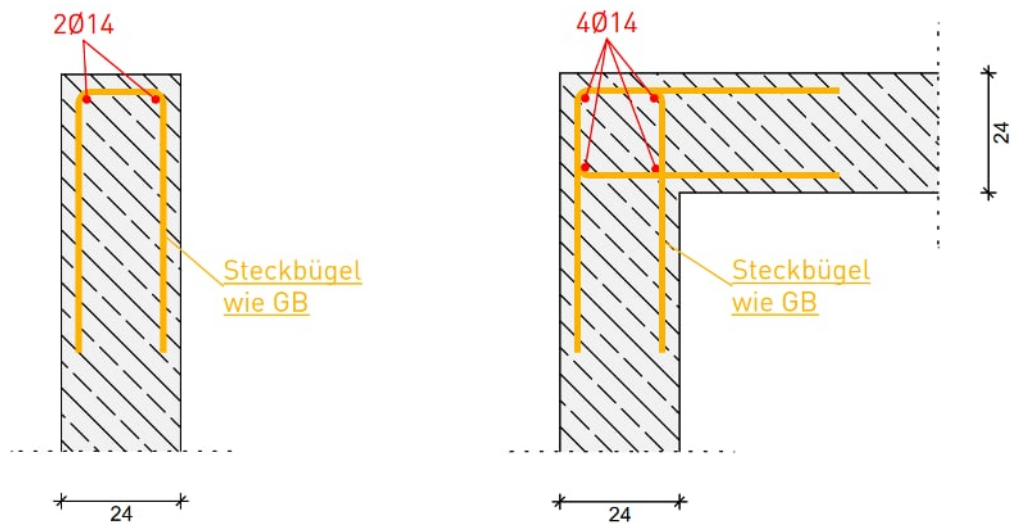
Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung



Längsbewehrung an Wandenden / Wandecken:

Sofern nicht anders angegeben:

- Wandenden: zusätzliche Vertikalbewehrung 2Ø14 (siehe Skizze)
- Wandecken: zusätzliche Vertikalbewehrung 4Ø14 (siehe Skizze)
- Steckbügel wie Grundbewehrung (siehe Skizze)



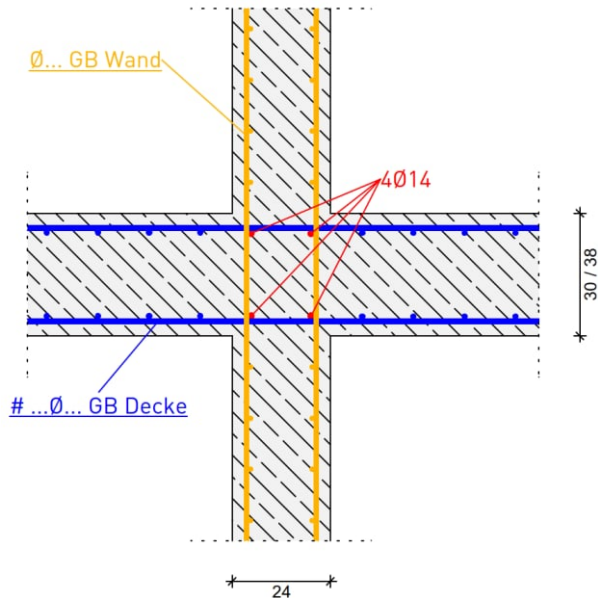
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Genehmigungsplanung Tragwerksplanung

Längsbewehrung über Wänden (Knotenpunkt Wand-Decke):

Sofern nicht anders angegeben:

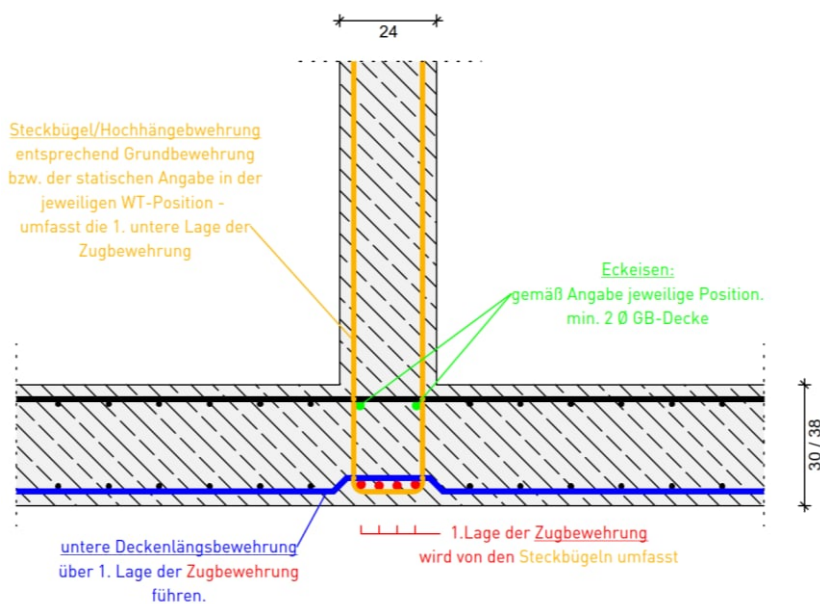
- Über den tragenden Wänden: **Längsbewehrung** im Deckenkontenpunkt **4Ø14** (siehe Skizze)



Regelausführung wandartige Träger:

Sofern nicht anders angegeben:

- Längsbewehrung:** **Deckenbewehrung** über **Zugband** führen (siehe Skizze)
- Steckbügel (Hochhängebewehrung):** wie Grundbewehrung Wand, umfasst die **Längsbewehrung** (siehe Skizze)



- Analoge Ausführung für Überzüge

3 Mindestbewehrung (Rissbreitennachweis)

Zur Aufnahme von Zwangseinwirkungen und Eigenspannungen ist gemäß DIN EN 1992-1-1, Abschnitt 7.3.2 + NA in Stahlbetonbauteilen eine Mindestbewehrung anzuordnen, welche die Rissbreiten begrenzt und die Risse entsprechend verteilt. Seitens des Auftraggebers sind keine höheren Anforderungen für die Tragwerksplanung bzgl. der Wände vorgegeben.

Für die Ermittlung der erforderlichen Mindestbewehrung zur Begrenzung der Rissbreite wird davon ausgegangen, dass die Erstrissbildung unter zentrischem Zwang infolge abfließender Hydratationswärme im frühen Betonalter (3-5 Tage nach Einbringen des Betons) eintritt. Die wirksame Zugfestigkeit des Betons wird gemäß DBV-Merkblatt – Begrenzung der Rissbildung im Stahlbeton- und Spannbetonbau – Fassung Mai 2016 abgemindert:

- $f_{ct,eff} = 65 \% \cdot f_{ctm}$ (für Platten mit $h \leq 30$ cm C25/30)

Diese Festlegungen sind bei der Bauausführung zu berücksichtigen und für die Ausschreibung zu beachten. Neben der Anordnung einer Mindestbewehrung kann die Rissbildung in Stahlbetonbauteilen durch ergänzende Maßnahmen günstig beeinflusst werden. Diese Maßnahmen dienen der Sicherung der Gebrauchstauglichkeit und der Dauerhaftigkeit des Gebäudes. Hier sind unter anderem folgende Punkte zu nennen:

- schwindarmer Zement mit niedriger Wärmeentwicklung
- niedriger Wasser-Zement-Wert
- sorgfältige Nachbehandlung aller betonierten Bauteile

Bei der gewählten Grundbewehrung wird die Bewehrung für Wände horizontal vorne und hinten angegeben. Nachfolgende Rissbreitennachweise sind für alle Wände im Gebäude gültig.

| Dicke h [cm] | Betongüte | w_k [mm] | erf. a_s gem. Rissbreitennachweis | gewählt a_s |
|--------------|-----------|------------|--|--|
| 25 Wände | C25/30 | 0,4 | a_s : 12,61 cm ² /m s. Pos. W-25_wk-04 | 15,08 cm ² /m Ø12/15 horizontal vorne u. hinten |

4 Wandpositionen

Die Stahlbetonwände des Gebäudes werden nachfolgend, in Abhängigkeit des Nachweises der Knicksicherheit nach DIN EN 1992-1-1, bemessen und bewehrt. Mit Hilfe des Moduls S440.de von mb BauStatik wird die zulässige Druckkraft als Bemessungslast für die Wandtypen ermittelt.

Es wird je Geschoss die maßgebende Wand bemessen. Die maßgebende Wand ergibt sich aus der maximalen Wandabschnittslast je Geschoss. Alle Wände in einem Geschoss sind analog zu der maßgebenden Wand zu bewehren.

Wandlasten:

Die Summen der Wandlasten sind in den Lastübergaben der Decken aufgeführt. Die Auflagerlasten auf den Wänden werden über MicroFE in mehreren, gleich großen Abschnitten ausgegeben. Es wird die maximale Last eines Wandabschnitts (Tabellenwert $F_{t,abs}$) angesetzt. Die zusammengefassten Lasten aller Wände sind geschossweise auf folgenden Seiten zu finden:

Wände im 3. Obergeschoss: D-55 ff

Wände im 2. Obergeschoss: D-206 ff

Wände im 1. Obergeschoss: D-437 ff

Wände im EG: D-754 ff

Alle Wandpositionen weisen eine Betongüte von C25/30 auf.

Die Wand W-0.8 ist in C45/55 auszuführen.

Alle wandartigen Träger sind in C30/37 auszuführen.

Der wandartige Träger WT-1.1 ist im 1. OG in C45/55 auszuführen.

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

4.2 W-3.2

Stat. System:

Beidseitig gelenkig gelagerte Wand

Länge: $l_w \leq 3 \text{ m}$

Knicklänge: $l_0 \leq 1,0 * 3 \text{ m}$

Material:

Dicke: 25cm

Betonstahl: B500B

Beton: C25/30

Expositionsklasse: XC1,W0

Betondeckung: $c_v = 30 \text{ mm}$

Belastung:

Die Lasten werden aus der Auflagerposition W-3.2 aus Decke über 3. Obergeschoss übernommen. (Seite D-56)
Das Eigengewicht der Wand wird programmintern ermittelt.

$$g_k = 89,8 \text{ kN/m}$$

$$\Delta g_k = 19,32 \text{ kN/m}$$

$$q_{k,N,DA} = 38,63 \text{ kN/m}$$

gewählte Bewehrung:

horizontal $\emptyset 12/15 \quad | = 7,54 \text{ cm}^2/\text{m}$ aus Rissbreitennachweis

vertikal $\emptyset 8/20 \quad | = 2,51 \text{ cm}^2/\text{m}$ aus Bemessung, je Seite

Bemessung:

Siehe folgende Seiten.

Pos. W-3.2

Stahlbetonwand

System

Beidseitig gelenkig gelagerte Wand

$l_w =$

3.00

m

$l_0 =$

3.00

m

System ist unverschieblich.

Expositionsklasse

XC1

Belastungen

Einwirkungskombinationen

Vertikallasten

Einwirkung

e_z

f_x

[cm]

[kN/m]

Gk

0.00

89.80

Ök

0.00

19.32

Qk.N_DA

0.00

38.63

EW Gk

in z-Richtung

M 1:70



EW Gk

in z-Richtung

M 1:70



EW Qk.N_DA
M 1:70

in z-Richtung



Kombi nati onen

Kombinationsbildung nach DIN EN 1990

b\ t^ ä↔ & D { ~ äfi âæã& È

| Ek | (* *EW) | | |
|----|----------------|------------------|----------------------|
| 1 | 1.35*Gk | ÉFÈĞIE Ö← | |
| 2 | 1.35*Gk | -3057, Im | +1.50*Qk.N_DA |
| 3 | 1.00*Gk | ÉFÈĞIE Ö← | |
| 4 | 1.00*Gk | ÉFÈĞIE Ö← | +1.50*Qk.N_DA |
| 5 | 1.35*Gk | ÉFÈ€€€ Ö← | |
| 6 | 1.35*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_DA |
| 7 | 1.00*Gk | ÉFÈ€€€ Ö← | |
| 8 | 1.00*Gk | ÉFÈ€€€ Ö← | +1.50*Qk.N_DA |
| 9 | 1.00*Gk | ÉFÈ€€€ Ö← | |

Brand

6Ya"! gWb] hh[f" £Yb

alle Kombinationen

b\ t^ ä↔ & D { ~ äfi âæã& È

| Nr. | x [m] | n _{Ed} [kN/m] | m _{Edy} [kNm/m] | V _{Edz} [kN/m] |
|-----|------------|---------------------------|-----------------------------|----------------------------|
| 1 | 0.0 | 172.62 | 3.45 | 0.00 |
| 2 | 0.0 | 230.56 | 4.61 | 0.00 |
| 3 | 0.0 | 134.63 | 2.69 | 0.00 |
| 4 | 0.0 | 192.57 | 3.85 | 0.00 |
| 5 | 0.0 | 165.86 | 3.32 | 0.00 |
| 6 | 0.0 | 223.80 | 4.48 | 0.00 |
| 7 | 0.0 | 127.87 | 2.56 | 0.00 |
| 8 | 0.0 | 185.81 | 3.72 | 0.00 |

Mat./Querschni tt

Material- und Querschnittswerte nach DIN EN 1992-1-1:2011-01

Material

| Material | f _{yk} [N/mm ²] | f _{ck} [N/mm ²] | E [N/mm ²] |
|----------|---|---|---------------------------|
| C 25/30 | | 25 | 31000 |
| B 500SB | 500 | | 200000 |

Querschnitt

| Art | b _y [cm] | h [cm] | A [cm ²] | I _y [cm ⁴] |
|-----|------------------------|-----------|-------------------------|--------------------------------------|
| RE | 100.0 | 25.0 | 2500 | 130208 |

RE: Rechteckquerschnitt

Expositionsklassen
Abs. 4.2, 4.4

Expositionsklassen

| Seite | Kl | Kommentar |
|-----------|-----|--------------------------------------|
| umlaufend | XC1 | \ ä~ ' < æ^ Á~ äæãÄb\ t^ ä↔ & Á^ ább |

Bewehrungsanordnung

Achsabstände, Betondeckungen

| Bezug | C_{min} [mm] | c'_{dev} [mm] | C_{nom} [mm] | C_v [mm] | d' [mm] |
|---|-------------------|--------------------|-------------------|---------------|--------------|
| $\bar{O} \leftrightarrow \backslash \text{æ} \tilde{a} \text{æ} \tilde{A} \tilde{U} \tilde{a} \wedge \tilde{a} \tilde{a} \rightarrow \ddagger \acute{a} \text{æ}$ | 12 ¹ | 10 | 22 | 30 | 46 |
| $\tilde{U} \sim \tilde{a} \tilde{a} \text{æ} \tilde{a} \text{æ} \tilde{A} \tilde{U} \tilde{a} \wedge \tilde{a} \tilde{a} \rightarrow \ddagger \acute{a} \text{æ}$ | 12 ¹ | 10 | 22 | 30 | 46 |
| ¹ : aus Verbundanforderung nach DIN EN 1992-1-1, 4.4.1.2 (2) und (3) | | | | | |
| Minimaler Bewehrungsgrad | | | \min | = | 0.00 % |
| Maximaler Bewehrungsgrad | | | \max | = | 4.00 % |

GhUV]`h]h

Nachweis der Knicksicherheit

Schlankheiten

Abs. 5.8.3.1(1)

| Achse | E_k | l_0 [m] | i [cm] | $[-]$ | l_{im} [m] |
|-------|-------|--------------|-------------|-------|-----------------|
| y | 2 | 3.00 | 7.2 | 41.6 | 62.7 |

$\mathbb{E} \leftrightarrow \text{æ} \tilde{A} \tilde{N} | b \} \leftrightarrow \tilde{a} \leftarrow \wedge \& \text{æ} \wedge \tilde{A} \wedge \acute{a} \acute{a} \tilde{A} \tilde{U} \tilde{a} \text{æ} \sim \tilde{a} \leftrightarrow \text{æ} \tilde{A} \tilde{O} \tilde{O} \tilde{E} \tilde{A} \tilde{S} \tilde{a} \tilde{a} \wedge \wedge \& \tilde{A} \tilde{a} \tilde{f} i \tilde{a} \tilde{a} \text{æ} \wedge \tilde{A} \text{nach}$
 $I \tilde{E} \tilde{I} \tilde{E} \tilde{G} \tilde{E} \tilde{F} \tilde{C} \tilde{F} \tilde{D} \tilde{A} \{ \text{æ} \tilde{a} \wedge \acute{a} \acute{a} \rightarrow \ddagger b b \leftrightarrow \& \backslash \tilde{A} \} \text{æ} \tilde{a} \tilde{a} \text{æ} \wedge \tilde{E}$

$\mathbb{E} \text{æ} \tilde{A} \tilde{P} \wedge \leftrightarrow \leftarrow \wedge \acute{a} \acute{a} \} \text{æ} \leftrightarrow b \tilde{A} \text{æ} \wedge \backslash \tilde{a} \ddagger \rightarrow \backslash \tilde{A} \tilde{a} \tilde{f} i \tilde{a} \tilde{a} \tilde{a} b \tilde{A} \tilde{N} | b \} \text{æ} \leftrightarrow \acute{a} \text{æ} \wedge \tilde{A} \leftrightarrow \tilde{A} z$
Richtung nach DIN EN 1992-1-1, 5.8.3.1(1).
 $y = 41.57 < l_{im} = 62.71$

Bi egung

Abs. 6.1

| E_k | x [m] | N_{Ed} [kN] | M_{Edy} [kNm] | A_{s1} [cm ²] |
|-------|------------|------------------|--------------------|--------------------------------|
| 2 | 0.00 | 230.56 | 4.61 * | 1.88 _m |

$\bar{O} \text{æ} b \acute{a} \uparrow \backslash \text{æ} \tilde{A} \tilde{U} \backslash \tilde{a} \tilde{a} \rightarrow \ddagger \acute{a} \text{æ}$ $A_s = 3.75$ $\uparrow \text{æ}$
M: $R \leftrightarrow \wedge \tilde{a} \text{æ} b \backslash \hat{a} \text{æ} \} \text{æ} \tilde{a} \tilde{a} | \wedge \& \tilde{A} \tilde{a} \tilde{f} i \tilde{a} \tilde{A} \tilde{U} \tilde{a} \wedge \tilde{a}$
*: $\uparrow \leftrightarrow \backslash \tilde{A} \tilde{N} \text{æ} \tilde{a} \tilde{f} i \leftarrow b \leftrightarrow \tilde{a} \backslash \leftrightarrow \& | \wedge \& \tilde{A} \tilde{a} \text{æ} \tilde{A} \tilde{R} \leftrightarrow \wedge \tilde{a} \text{æ} b \backslash \text{æ} \wedge \backslash \tilde{a} \leftrightarrow \tilde{a} \wedge \backslash \tilde{A} \wedge \acute{a} \acute{a} \tilde{A} \tilde{N} \tilde{a} b \tilde{E} \tilde{A} \tilde{W} \tilde{E} \tilde{F} \tilde{C} \tilde{H} \tilde{D}$

Nachwei se (Brand)

Brandschutznachweis nach DIN EN 1992-1-2, Abs. 5.4.2

- Anforderung Feuerwiderstandsklasse: R90
- Nachweis der Feuerwiderstandsdauer $t_{req} = 90$ min
- Vorder- und Hinterseite brandbeansprucht
- Schlankheit $l_w \tilde{D} \tilde{a} \tilde{A} \tilde{K} \tilde{A} \tilde{F} \tilde{G} \tilde{A} \tilde{I} \tilde{A} \tilde{H} \tilde{E}$

Ausnutzungsgrad

Abs. 5.3.2 (3)

| E_k | x [m] | $N_{Ed,fi}$ [kN/m] | N_{Rd} [kN/m] | f_i [m] |
|-------|------------|-----------------------|--------------------|--------------|
| 9 | 3.00 | 127.87 | 3737.32 | 0.03 |

R ↔ ^ ä æ b \ ↑ á ß æ

Tabelle 5.4

| h_{min} [mm] | h_{vorh} [mm] | d'_{min} [mm] | d'_{vorh} [mm] |
|-------------------|--------------------|--------------------|---------------------|
| 140 | 250 | 10 | 46 |

$\mathbb{E} \leftrightarrow \text{æ} \tilde{A} \tilde{R} \leftrightarrow \wedge \tilde{a} \text{æ} b \backslash \tilde{a} \leftrightarrow \leftarrow \text{æ} \tilde{A} | \wedge \tilde{A} \tilde{E} \tilde{a} \acute{a} b \tilde{a} b \backslash \ddagger \wedge \tilde{a} \tilde{A} b \leftrightarrow \wedge \tilde{A} \tilde{E}$ eingehalten.
 $\mathbb{E} \leftrightarrow \text{æ} \tilde{A} \tilde{U} \tilde{a} \wedge \tilde{A} \tilde{R} \leftrightarrow b \backslash \tilde{A} \tilde{a} \tilde{f} i \tilde{a} \tilde{A} \text{æ} \leftrightarrow \wedge \tilde{A} \tilde{F}$ Feuerwiderstandsdauer von 90min nachgewiesen.

Bewehrungswahl

 $Q \ddagger \wedge \& b b \backslash \ddagger \hat{a} \text{æ} \tilde{A} \downarrow \text{æ} \tilde{A} \tilde{U} \text{æ} \leftrightarrow \backslash \text{æ} \tilde{A} \tilde{A} \tilde{A} \tilde{A} \tilde{A} \tilde{A} " " " " " \tilde{a} : 14202 " * 4073 " e o \rightarrow 1 o +$

$\{ \sim \tilde{a} \tilde{a} \tilde{E} \tilde{A} \tilde{U} \backslash \tilde{a} \tilde{a} \rightarrow \ddagger \acute{a} \text{æ}$ $A_s = 5.03$ $\uparrow \text{æ} \tilde{D} \uparrow$
vorh. Bewehrungsgrad = 0.20 %

5i Z` U[Yf _f } ZhY

charakteristische Werte

 $N | \tilde{a} \rightarrow \tilde{a} \& \text{æ} \tilde{a} \leftarrow \tilde{a} \ddagger \tilde{a} \backslash \text{æ}$
 $\acute{a} \uparrow \tilde{A} \tilde{U} \tilde{a} \wedge \tilde{a} \tilde{a} | \tilde{B}$

| Einwirkung | $F_{x,k}$ [kN/m] | $M_{y,k}$ [kNm/m] | $F_{z,k}$ [kN/m] |
|----------------------|---------------------|----------------------|---------------------|
| Gk | 108.55 | 0.00 | 0.00 |
| $\bar{O} \leftarrow$ | 19.32 | 0.00 | 0.00 |

N | → á & æ ã ← ã ‡ à \ æ
á ↑ Ä Ü á ^ ä à | ß

| Einwirkung | $F_{x,k}$ [kN/m] | $M_{y,k}$ [kNm/m] | $F_{z,k}$ [kN/m] |
|------------|---------------------|----------------------|---------------------|
| Qk.N_DA | 38.63 | 0.00 | 0.00 |

N | → á & æ ã ← ã ‡ à \ æ
am Wandkopf

| Einwirkung | $F_{x,k}$ [kN/m] | $M_{y,k}$ [kNm/m] | $F_{z,k}$ [kN/m] |
|------------|---------------------|----------------------|---------------------|
| Gk | 0.00 | 0.00 | -0.00 |
| Ö← | 0.00 | 0.00 | -0.00 |
| Qk.N_DA | 0.00 | 0.00 | -0.00 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

| | [-] |
|--------------------|-----|
| Expositionsklassen | OK |
| U \ á â ↔ ↔ \ ‡ \ | OK |
| Biegung | OK |
| Bewehrungswahl | OK |

Nachweise (Brand)

Brandfall im Grenzzustand der Tragfähigkeit

Nachweis

| | [-] |
|-----------|-----|
| Brandfall | OK |

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

4.3 W-2.6

Stat. System:

Beidseitig gelenkig gelagerte Wand

Länge: $l_w \leq 3,6 \text{ m}$

Knicklänge: $l_0 \leq 1,0 * 3,6 \text{ m}$

Material:

Dicke: 25cm

Betonstahl: B500B

Beton: C25/30

Expositionsklasse: XC1,W0

Betondeckung: $c_v = 30 \text{ mm}$

Belastung:

Die Lasten werden aus der Auflagerposition W-2.6 aus Decke über 2. Obergeschoss übernommen.
(Seite D-209) Das Eigengewicht der Wand wird programmintern ermittelt.

$$g_k = 363,8 \text{ kN/m}$$

$$\Delta g_k = 109,75 \text{ kN/m}$$

$$q_{k,N,DA} = 220,65 \text{ kN/m}$$

gewählte Bewehrung:

horizontal $\emptyset 12/15 \quad | = 7,54 \text{ cm}^2/\text{m}$ aus Rissbreitennachweis

vertikal $\emptyset 8/20 \quad | = 2,51 \text{ cm}^2/\text{m}$ aus Bemessung, je Seite

Bemessung:

Siehe folgende Seiten.

Pos. W-2.6

Stahlbetonwand

System

Beidseitig gelenkig gelagerte Wand

$l_w = 3.60$ m

$l_0 = 3.60$ m

System ist unverschieblich.

Expositionsklasse

XC1

Belastungen

Einwirkung

Vertikallasten

Einwirkung

e_z

f_x

[cm]

[kN/m]

Gk

0.00

363.80

Ök

0.00

109.75

Qk.N_DA

0.00

220.65

EW Gk

in z-Richtung

M 1:85



EW Gk

in z-Richtung

M 1:85



Biegung

Abs. 6.1

| Ek | x [m] | NEd [kN] | MEdy [kNm] | As1 [cm ²] |
|----|----------|-------------|---------------|---------------------------|
| 2 | 1.80 | 1000.63 | 39.72 | 1.88 |

$A_s = 3.75$
 M: R

Bewehrungswahl

$A_s = 5.03$
 vorh. Bewehrungsgrad = 0.20

5i Z` U[Yf_f} ZhY

N|à→á&æã←ã‡à\æ
 á↑ÃÛá^ää|ß

charakteristische Werte

| Einwirkung | F _{x,k} [kN/m] | M _{y,k} [kNm/m] | F _{z,k} [kN/m] |
|------------|----------------------------|-----------------------------|----------------------------|
| Gk | 386.30 | 0.00 | 0.00 |
| Ö← | 109.75 | 0.00 | 0.00 |
| Qk.N_DA | 220.65 | 0.00 | 0.00 |

N|à→á&æã←ã‡à\æ
 am Wandkopf

| Einwirkung | F _{x,k} [kN/m] | M _{y,k} [kNm/m] | F _{z,k} [kN/m] |
|------------|----------------------------|-----------------------------|----------------------------|
| Gk | 0.00 | 0.00 | -0.00 |
| Ö← | 0.00 | 0.00 | -0.00 |
| Qk.N_DA | 0.00 | 0.00 | -0.00 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

| | [-] |
|--------------------|-----|
| Expositionsklassen | OK |
| U\áâ↔↔\‡\ | OK |
| Biegung | OK |
| Bewehrungswahl | OK |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

4.4 W-1.2

Stat. System:

Pendelstütze (Diese Wand wird als Stütze bemessen, da $h/b < 1/4$)Länge: $l_w \leq 3,6 \text{ m}$ Knicklänge: $l_0 \leq 1,0 * 3,6 \text{ m}$

Material:

h/b: 25cm/89cm

Betonstahl: B500B

Beton: C25/30

Expositionsklasse: XC1,W0

Betondeckung: $c_v = 30 \text{ mm}$

Belastung:

Die Lasten werden aus der Auflagerposition W-1.2 aus Decke über 1. Obergeschoss übernommen und mit der Stützenbreite verrechnet. (Seite D-439) Das Eigengewicht der Wand wird programmintern ermittelt.

$$g_k = 515,08 \text{ kN}$$

$$\Delta g_k = 216,17 \text{ kN}$$

$$q_{k,N,B1} = 163,34 \text{ kN}$$

$$q_{k,N,C5} = 0,07 \text{ kN}$$

$$q_{k,N,E1} = 3,28 \text{ kN}$$

$$q_{k,N,DA} = 87,15 \text{ kN}$$

gewählte Bewehrung:

| | |
|----------|--------|
| Bügel | Ø12/12 |
| vertikal | 8Ø12 |

Bemessung:

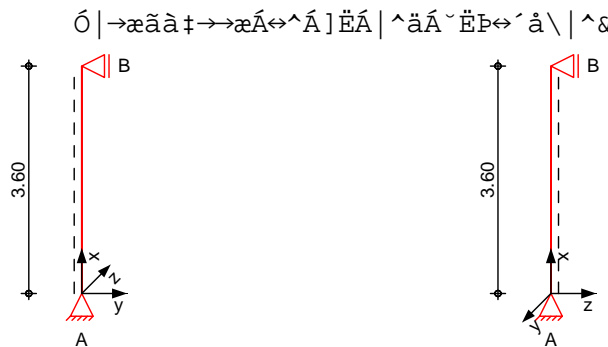
Siehe folgende Seiten.

Pos. W-1.2

DYbXYgh mY

System

M 1:120



Abmessungen

Mat./Querschnitt

| Geschoss | l [m] | Material | b_y/b_z [cm] |
|----------|----------|----------|-------------------|
| EG | 3.60 | C 30/37 | 25/89 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | $K_{T,z}$ [kN/m] | $K_{R,y}$ [kNm/rad] | $K_{T,y}$ [kN/m] | $K_{R,z}$ [kNm/rad] |
|-------|----------|---------------------|------------------------|---------------------|------------------------|
| B | 3.60 | fest | frei | fest | frei |
| A | 0.00 | fest | frei | fest | frei |

Belastungen

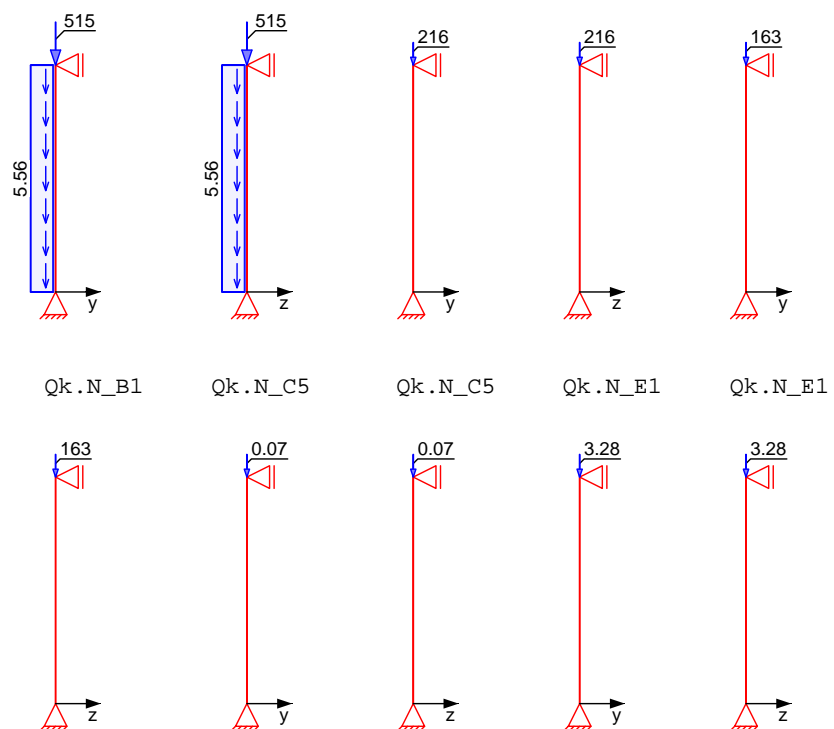
Belastungen auf das System

Grafik

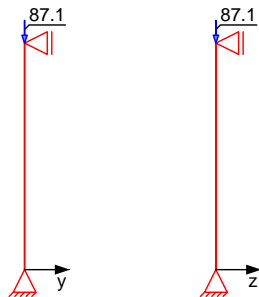
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk Gk $\ddot{O} \leftarrow$ $\ddot{O} \leftarrow$ Qk.N_B1



Qk.N_DA Qk.N_DA



Streckenlasten in x-Richtung

Einw. Gk

| Ges. | Komm. | a | s | Q _u | Q _o |
|------|----------|------|------|----------------|----------------|
| | | [m] | [m] | [kN/m] | [kN/m] |
| EG | Eigengew | 0.00 | 3.60 | | 5.56 |

Punktlasten in x-Richtung

Einw. Gk

Einw. Im

Einw. Qk.N_B1

Einw. Qk.N_C5

Einw. Qk.N_E1

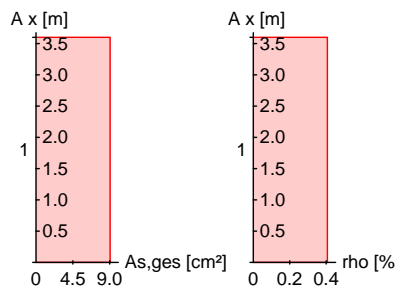
Einw. Qk.N_DA

Einzellasten

| Ges. | Komm. | a | F _x | e _y | e _z |
|--------|-------|------|----------------|----------------|----------------|
| | | [m] | [kN] | [cm] | [cm] |
| (a) EG | | 3.60 | 515.08 | 0.0 | 0.0 |
| (b) EG | | 3.60 | 216.17 | 0.0 | 0.0 |
| (c) EG | | 3.60 | 163.34 | 0.0 | 0.0 |
| (d) EG | | 3.60 | 0.07 | 0.0 | 0.0 |
| (e) EG | | 3.60 | 3.28 | 0.0 | 0.0 |
| (f) EG | | 3.60 | 87.15 | 0.0 | 0.0 |

- (a) aus FE 10G-LP4
W-1.2_max_Abschnitt, Ft Wert,
Einwirkung, Gk, max *(0.89)
 $578.742 \cdot (0.89) = 515.08$ kN
- (b) aus FE 10G-LP4
W-1.2_max_Abschnitt, Ft Wert,
Ö↔^}↔ä<|^&ÊÄ Ö<ÊÄ↑ä{ÄEÇ€ÊîîD
 $242.884 \cdot (0.89) = 216.17$ kN
- (c) aus FE 10G-LP4
W-1.2_max_Abschnitt, Ft Wert,
Einwirkung, Qk.N_B1, max *(0.89)
 $183.527 \cdot (0.89) = 163.34$ kN
- (d) aus FE 10G-LP4
W-1.2_max_Abschnitt, Ft Wert,
Einwirkung, Qk.N_C5, max *(0.89)
 $0.075 \cdot (0.89) = 0.07$ kN
- (e) aus FE 10G-LP4
W-1.2_max_Abschnitt, Ft Wert,
Einwirkung, Qk.N_E1, max *(0.89)
 $3.684 \cdot (0.89) = 3.28$ kN
- (f) aus FE 10G-LP4
W-1.2_max_Abschnitt, Ft Wert,
Einwirkung, Qk.N_DA, max *(0.89)
 $97.921 \cdot (0.89) = 87.15$ kN

Vorhandene Bewehrung
M 1:120



Brandfall I

&æ†‡ßÁá→&æ†æ↔^æ†ÁÜæääääääæ^Á^á'ääÆØSÁÓSÁFïïGëFëG

Berechnungsgrundlagen:

- spezifische Wärme vom Beton (3.3.2)
- Feuchte des Betons 3.0%
- Wärmefibertragungskoeffizient 25 W/mK
- thermische Leitfähigkeit des Betons: obere Grenze
- Emissionswert der Betonoberfläche 0.7
- Festigkeitsred. Bewehrung für Klasse N
- Bewehrung kaltverformt
- quarzhaltige Betonzuschläge

Feuerwiderstandsklas

Seite

Klasse

t_{req}
[min]

gen
Geschoss 1

vierseitig (+y/-y/+z/-z)

R30

30

Steifigkeiten im Brandfall

| Q | t_{req} [min] | Seiten [-] | EA [kN] | EI_y Y←S↑Y | EI_z Y←S↑Y |
|---|--------------------|---------------|------------|-----------------|-----------------|
| 1 | 30 | r/l/o/u | 4205955.17 | 236121.37 | 13350.85 |

Temperaturprofil Bewehrung

| Q | Y [cm] | Z [cm] | R [cm] | YfY | $E_s, /E_s$ [-] | $f_y, /f_y$ [-] |
|---|-----------|-----------|-----------|-----|--------------------|--------------------|
| 1 | -7.70 | -39.70 | -- | 223 | 0.84 | 1.00 |
| | 7.70 | -39.70 | -- | 223 | 0.84 | 1.00 |
| | -7.70 | 39.70 | -- | 223 | 0.84 | 1.00 |
| | 7.70 | 39.70 | -- | 223 | 0.84 | 1.00 |
| | -7.70 | -13.23 | -- | 141 | 0.95 | 1.00 |
| | 7.70 | -13.23 | -- | 141 | 0.95 | 1.00 |
| | -7.70 | 13.23 | -- | 141 | 0.95 | 1.00 |
| | 7.70 | 13.23 | -- | 141 | 0.95 | 1.00 |

6fi WgWb] hh[f" fYb

nach nichtlinearer Theorie

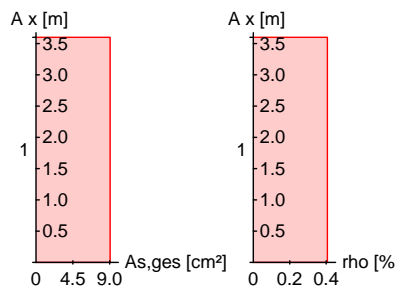
Komb. 13

| x [m] | N_u [kN] | M_{y_u} [kNm] | M_{z_u} [kNm] | |
|----------|---------------|--------------------|--------------------|------|
| 3.60 | 3746.3 | 0.0 | 0.0 | 0.21 |
| 1.75 | 3330.8 | 0.0 | -43.6 | 0.24 |
| 0.00 | 3744.2 | 0.0 | 0.0 | 0.21 |

Vorhandene
Bewehrung

| von x [m] | bis x [m] | Q | Typ | Bew.Art | $A_{s,ges}$ Y'↑Y | [%] |
|--------------|--------------|---|-----|---------|---------------------|------|
| 0.00 | 3.60 | 1 | R | Uv®dg | 9.05 | 0.41 |

Vorhandene Bewehrung
M 1:120



Nachweise (GZT)

Querkraftbemessung

| | x | VEd,y | VRd,c | VRd,max,y | Nx | z | erf asw |
|---------|------|-------|--------|-----------|--------|------|---------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [cm] | [mm] |
| Komb. 5 | 3.60 | 11.46 | 416.33 | 442.55 | 1294.4 | 18.4 | 8.26 M |
| Komb. 5 | 0.00 | 11.64 | 419.95 | 442.55 | 1321.4 | 18.4 | 8.26 M |

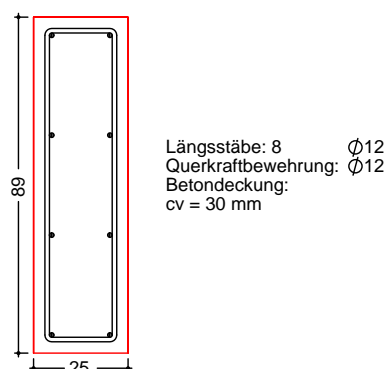
m: Mindestquerkraftbew. nach Abs. NDP Zu 9.2.2(5)

Bewehrungswahl

| | von x | bis x | Q Typ | Bew.-Lage | n | ds |
|--|-------|-------|------------|------------|---|------|
| | [m] | [m] | | | | [mm] |
| | 0.00 | 3.60 | 1 Rechteck | je Ecke | 1 | 34 |
| | | | | je h-Seite | 2 | 34 |

| Vorhandene Bewehrung | von x | bis x | Q Typ | cv,b | n | As,ges | Y'↑Y |
|----------------------|-------|-------|------------|------|---|--------|------|
| | [m] | [m] | | [mm] | | [mm] | [%] |
| | 0.00 | 3.60 | 1 Rechteck | 30 | 8 | 9.05 | 0.41 |

Querschnitt 1 (0.00 m - 3.60 m)
M 1:20



Vorhandene Querkraftbewehrung

| von x | bis x | Q Typ | ds | s | Schnitt | Asw |
|-------|-------|------------|------|------|---------|-------|
| [m] | [m] | | [mm] | [cm] | | [mm] |
| 2.71 | 3.60 | 1 Rechteck | 12 | 7 | 2 | 31.42 |
| 0.89 | 2.71 | 1 Rechteck | 12 | 12 | 2 | 18.85 |
| 0.00 | 0.89 | 1 Rechteck | 12 | 7 | 2 | 31.42 |

5i Z` U[Yf_f} ZhY

N | ä→á&æã&ã=ßæ^Áá↑Á
U\fi\~æ^←~*ä

| Einw | $F_{x,k}$ [kN] | $M_{y,k}$ [kNm] | $M_{z,k}$ [kNm] | $F_{y,k}$ [kN] | $F_{z,k}$ [kN] |
|---------|-------------------|--------------------|--------------------|-------------------|-------------------|
| Gk | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ö← | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_B1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_C5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_E1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_DA | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

N | ä→á&æã&ã=ßæ^Áá↑Á
U\fi\~æ^à|ß

| Einw | $F_{x,k}$ [kN] | $M_{y,k}$ [kNm] | $M_{z,k}$ [kNm] | $F_{y,k}$ [kN] | $F_{z,k}$ [kN] |
|---------|-------------------|--------------------|--------------------|-------------------|-------------------|
| Gk | 535.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ö← | 216.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_B1 | 163.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_C5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_E1 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_DA | 87.1 | 0.0 | 0.0 | 0.0 | 0.0 |

Anteile aus Th. II
Ordnung

| Einw | $M_{y,k}$ [kNm] | $M_{z,k}$ [kNm] | $F_{y,k}$ [kN] | $F_{z,k}$ [kN] |
|---------|--------------------|--------------------|-------------------|-------------------|
| Gk | 0.0 | 0.0 | 0.0 | 0.0 |
| Ö← | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_B1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_C5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_E1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_DA | 0.0 | 0.0 | 0.0 | 0.0 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

| | | [-] |
|---------------------|----|------|
| Expositionsklassen | OK | |
| U\áâ↔↔\†\ | OK | |
| Ñã 'áb'á^↔\&ã=ßæ^ | OK | 0.35 |
| Querkraftbemessung | OK | |
| Brand | OK | |
| Bewehrungswahl | OK | |

Nachweise (Brand)

Brandfall im Grenzzustand der Tragfähigkeit

Nachweis

| | | [-] |
|---------------------|----|------|
| Ñã 'áb'á^↔\&ã=ßæ^ | OK | 0.24 |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

4.5 W-1.30

Stat. System:

Beidseitig gelenkig gelagerte Wand

Länge: $l_w \leq 3,6 \text{ m}$ Knicklänge: $l_0 \leq 1,0 \cdot 3,6 \text{ m}$

Material:

Dicke: 25cm

Betonstahl: B500B

Beton: C25/30

Expositionsklasse: XC1,W0

Betondeckung: $c_v = 30 \text{ mm}$

Belastung:

Die Lasten werden aus der Auflagerposition W-1.30 aus Decke über 1. Obergeschoss übernommen. (Seite D-468) Das Eigengewicht der Wand wird programmintern ermittelt.

$$g_k = 533,69 \text{ kN}$$

$$\Delta g_k = 214,29 \text{ kN}$$

$$q_{k,N,B1} = 108,42 \text{ kN}$$

$$q_{k,N,C1} = 0,26 \text{ kN}$$

$$q_{k,N,C5} = 7,49 \text{ kN}$$

$$q_{k,N,E1} = 0,59 \text{ kN}$$

$$q_{k,N,DA} = 128,79 \text{ kN}$$

gewählte Bewehrung:

horizontal $\emptyset 12/15 \quad | = 7,54 \text{ cm}^2/\text{m}$ aus Rissbreitennachweisvertikal $\emptyset 8/20 \quad | = 2,51 \text{ cm}^2/\text{m}$ aus Bemessung, je Seite

Bemessung:

Siehe folgende Seiten.

Pos. W-1.30
Stahlbetonwand
System

Beidseitig gelenkig gelagerte Wand

 $\bar{U}^{\wedge} \bar{a} \bar{a} = \bar{a} \bar{a}$
 $l_w = 3.60 \text{ m}$
 $P^{\wedge} \leftrightarrow \leftrightarrow \ddagger^{\wedge} \& \bar{a}$
 $l_0 = 3.60 \text{ m}$

System ist unverschieblich.

Expositionsklasse

XC1

Belastungen
 $\mathbb{E} \bar{a} \bar{b} \bar{A} \bar{O} \leftrightarrow \& \bar{a}^{\wedge} \& \bar{a} \} \leftrightarrow \bar{a}^{\wedge} \bar{A} \bar{a} \bar{a} \bar{A} \bar{U} \bar{a}^{\wedge} \bar{a} \bar{A} \} \leftrightarrow \bar{a} \bar{a} \bar{A} \bar{a} \bar{a} \bar{a} \bar{f} \bar{i}^{\wedge} \leftarrow \bar{b} \leftrightarrow \bar{a}^{\wedge} \& \bar{a} \backslash \& \bar{a} \backslash \bar{E}$

Vertikallasten

Einwirkung

 e_z
 f_x

[cm]

[kN/m]

Gk

0.00

533.69

 $\ddot{O} \leftarrow$

0.00

214.29

Qk.N_B1

0.00

108.42

Qk.N_C1

0.00

0.26

Qk.N_C5

0.00

7.49

Qk.N_E1

0.00

0.59

Qk.N_DA

0.00

128.79

EW Gk

in z-Richtung

M 1:85



EW Gk

in z-Richtung

M 1:85



EW Qk.N_B1
M 1:85

in z-Richtung



EW Qk.N_C1
M 1:85

in z-Richtung



EW Qk.N_C5
M 1:85

in z-Richtung



EW Qk.N_E1
M 1:85

in z-Richtung



EW Qk.N_DA
M 1:85

in z-Richtung



Kombi nati onen

Kombinationsbildung nach DIN EN 1990
Darstellung der maßgebenden Kombinationen

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| 81 | 1.35*Gk | EFEGIE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |

6Ya"! gW\ b] hh[f" fYb

↑ áß&æâæ^äæÄP~↑â↔^á\↔~^æ^

| Nr. | x | n _{Ed} | m _{Edy} | V _{Edz} |
|-----|-----|-----------------|------------------|------------------|
| | [m] | [kN/m] | [kNm/m] | [kN/m] |
| 81 | 0.0 | 1356.20 | 0.00 | 0.00 |

Mat. /Querschni tt

Material- und Querschnittswerte nach DIN EN 1992-1-1:2011-01

| Material | f _{yk} | f _{ck} | E |
|----------|----------------------|----------------------|----------------------|
| | [N/mm ²] | [N/mm ²] | [N/mm ²] |
| C 25/30 | | 25 | 31000 |
| B 500SB | 500 | | 200000 |

| Art | b _y | h | A | I _y |
|-----|----------------|------|--------------------|--------------------|
| | [cm] | [cm] | [cm ²] | [cm ⁴] |
| RE | 100.0 | 25.0 | 2500 | 130208 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

[-]

Expositionsklassen

OK

U\áâ↔↔\‡\

OK

Biegung

OK

Bewehrungswahl

OK

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

4.6 W-0.17_2

Stat. System:

Beidseitig gelenkig gelagerte Wand

Länge: $l_w \leq 3,6 \text{ m}$ Knicklänge: $l_0 \leq 1,0 * 3,6 \text{ m}$

Material:

Dicke: 25cm

Betonstahl: B500B

Beton: C25/30

Expositionsklasse: XC1,W0

Betondeckung: $c_v = 30 \text{ mm}$

Belastung:

Die Lasten werden aus der Auflagerposition W-1.30 aus Decke über 1. Obergeschoss übernommen. (Seite D-468) Das Eigengewicht der Wand wird programmintern ermittelt.

$$g_k = 664,7 \text{ kN}$$

$$\Delta g_k = 212,98 \text{ kN}$$

$$q_{k,N,B1} = 69,97 \text{ kN}$$

$$q_{k,N,C1} = 127,03 \text{ kN}$$

$$q_{k,N,C5} = 108,07 \text{ kN}$$

$$q_{k,N,E1} = 14,27 \text{ kN}$$

$$q_{k,N,DA} = 100,94 \text{ kN}$$

$$q_{k,N,DA} = 0,35 \text{ kN}$$

gewählte Bewehrung:

horizontal $\emptyset 12/15 \mid = 7,54 \text{ cm}^2/\text{m}$ aus Rissbreitennachweisvertikal $\emptyset 8/15 \mid = 3,35 \text{ cm}^2/\text{m}$ aus Bemessung, je Seite

Bemessung:

Siehe folgende Seiten.

Pos. W-0.17_2

Stahlbetonwand

System

Beidseitig gelenkig gelagerte Wand

$l_w = 3.60$ m

$l_0 = 3.60$ m

System ist unverschieblich.

Expositionsklasse

XC1

Belastungen

Einwirkung

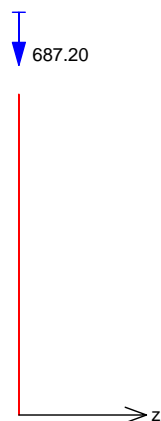
Vertikallasten

| Einwirkung | e_z [cm] | f_x [kN/m] |
|------------|---------------|-----------------|
| Gk | 0.00 | 664.70 |
| Ö | 0.00 | 212.98 |
| Qk.N_B1 | 0.00 | 69.97 |
| Qk.N_C1 | 0.00 | 127.03 |
| Qk.N_C5 | 0.00 | 108.07 |
| Qk.N_E1 | 0.00 | 14.27 |
| Qk.N_DA | 0.00 | 100.94 |
| Qk.N_T2 | 0.00 | 0.35 |

EW Gk

M 1:85

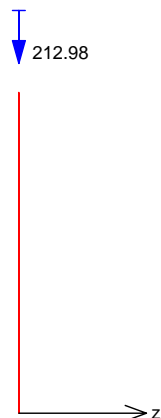
in z-Richtung



EW Gk

M 1:85

in z-Richtung



EW Qk.N_B1
M 1:85

in z-Richtung



EW Qk.N_C1
M 1:85

in z-Richtung



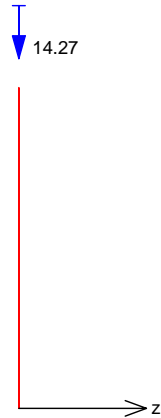
EW Qk.N_C5
M 1:85

in z-Richtung



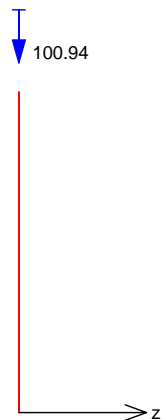
EW Qk.N_E1
M 1:85

in z-Richtung



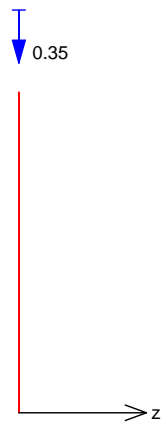
EW Qk.N_DA
M 1:85

in z-Richtung



EW Qk.N_T2
M 1:85

in z-Richtung



Kombi nati onen

Kombinationsbildung nach DIN EN 1990
Darstellung der maßgebenden Kombinationen

| Ek | (* *EW) | | |
|-----|--------------------------|----------------------------|--------------------------------|
| 192 | 1.35*Gk +1.05*Qk.N_C1 | EFEGIE Ö← +1.05*Qk.N_C5 | +1.05*Qk.N_B1 +1.50*Qk.N_E1 |

| | |
|---------------|---------------|
| Ek | (* *EW) |
| +1.50*Qk.N_DA | +1.20*Qk.N_T2 |

6Ya"! gWb] hh[f" £Yb

↑áß&æâæ^äæÃP~↑â↔^á\↔~^æ^

| Nr. | x | n _{Ed} | m _{Edy} | V _{Edz} |
|-----|-----|-----------------|------------------|------------------|
| | [m] | [kN/m] | [kNm/m] | [kN/m] |
| 192 | 0.0 | 1708.79 | 0.00 | 0.00 |

Mat./Querschnitt

Material- und Querschnittswerte nach DIN EN 1992-1-1:2011-01

Material

| Material | f _{yk} | f _{ck} | E |
|----------|----------------------|----------------------|----------------------|
| | [N/mm ²] | [N/mm ²] | [N/mm ²] |
| C 25/30 | | 25 | 31000 |
| B 500SB | 500 | | 200000 |

Querschnitt

| Art | b _y | h | A | I _y |
|-----|----------------|------|--------------------|--------------------|
| | [cm] | [cm] | [cm ²] | [cm ⁴] |
| RE | 100.0 | 25.0 | 2500 | 130208 |

RE: Rechteckquerschnitt

GhUV]`]h]h

Nachweis der Knicksicherheit

Ñæãæ´â^|^&b{æäääääæ^íÁÛæäääääæ^Á↑↔\ÁSæ^<←äfi↑↑|^&

Schlankheiten

Abs. 5.8.3.1(1)

| Achse | Ek | l ₀ | i | lim |
|-------|-----|----------------|------|------|
| | | [m] | [cm] | [-] |
| y | 192 | 3.60 | 7.2 | 49.9 |
| | | | | 25.0 |

Imperfektionen

Abs. 5.2(7)

| h | 1/ i _z | e _{iz} |
|-------|-------------------|-----------------|
| [-] | [1/rad] | [cm] |
| 1.000 | 200 | 0.90 |

Päfi↑↑|^&bâæ↔}æä\ c = 10 -

Theorie II. Ordnung

Abs. 5.8.8.3

| Ek | K _r | K _{1y} | 1/ r _y | e _{2z} |
|-----|----------------|-----------------|-------------------|-----------------|
| | [-] | [-] | [1/m] | [cm] |
| 192 | 0.88 | 1.00 | 2.05E-2 | 2.65 |

Ñæ↑ÈËb´â^↔\&ã=ßæ^

Komb. 192 (GK)

| x | M _{0Edy} | M _{2y} | M _{Edy} |
|------|-------------------|-----------------|------------------|
| [m] | [kNm] | [kNm] | [kNm] |
| 3.60 | 15.38 | 0.00 | 15.38 |
| 1.80 | 15.38 | 45.31 | 60.68 |
| 0.00 | 15.38 | 0.00 | 15.38 |

Bi egung

Abs. 6.1

Sá´â}æ↔bÁäæãÄÑ↔æ&æËÁ|^äÁS~ä↑á↔-äáà\äá&à†â↔<←æ↔\

| Ek | x | N _{Ed} | M _{Edy} | A _{s1} |
|-----|------|-----------------|------------------|--------------------|
| | [m] | [kN] | [kNm] | [cm ²] |
| 192 | 1.80 | 1708.79 | 60.68 | 2.95 m |

Öæbá↑\æÁU\áâ→â→†´âæ A_s = 5.90 ´↑¥

M: R↔^æb\âæ}æää|^&ÄäfiäÁÛä^ä

Bewehrungswahl

Q†^&bb\†âæÁ↓æÁUæ↔\æÁÁÁÁÁÁ""""ã:13702"*5057"eo→1o+

{~ääÈÁU\áâ→â→†´âæ A_s = 6.70 ´↑¥D↑
vorh. Bewehrungsgrad = 0.27 %

5i Z` U[Yf_f} ZhY

charakteristische Werte

N|â→ä&æã←ã†à\æ
á↑ÁÛä^äà|ß

| Einwirkung | F _{x,k} | M _{y,k} | F _{z,k} |
|------------|------------------|------------------|------------------|
| | [kN/m] | [kNm/m] | [kN/m] |
| Gk | 687.20 | 0.00 | 0.00 |

W-38

Schulcampus EWK \ W-0.17_2

N | → á & æ ã ← ã ‡ à \ æ
á ↑ Ä Ü á ^ ä à | ß

| Einwirkung | $F_{x,k}$ [kN/m] | $M_{y,k}$ [kNm/m] | $F_{z,k}$ [kN/m] |
|------------|---------------------|----------------------|---------------------|
| Ö← | 212.98 | 0.00 | 0.00 |
| Qk.N_B1 | 69.97 | 0.00 | 0.00 |
| Qk.N_C1 | 127.03 | 0.00 | 0.00 |
| Qk.N_C5 | 108.07 | 0.00 | 0.00 |
| Qk.N_E1 | 14.27 | 0.00 | 0.00 |
| Qk.N_DA | 100.94 | 0.00 | 0.00 |
| Qk.N_T2 | 0.35 | 0.00 | 0.00 |

N | → á & æ ã ← ã ‡ à \ æ
am Wandkopf

| Einwirkung | $F_{x,k}$ [kN/m] | $M_{y,k}$ [kNm/m] | $F_{z,k}$ [kN/m] |
|------------|---------------------|----------------------|---------------------|
| Gk | 0.00 | 0.00 | -0.00 |
| Ö← | 0.00 | 0.00 | -0.00 |
| Qk.N_B1 | 0.00 | 0.00 | -0.00 |
| Qk.N_C1 | 0.00 | 0.00 | -0.00 |
| Qk.N_C5 | 0.00 | 0.00 | -0.00 |
| Qk.N_E1 | 0.00 | 0.00 | -0.00 |
| Qk.N_DA | 0.00 | 0.00 | -0.00 |
| Qk.N_T2 | 0.00 | 0.00 | -0.00 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

| | [-] |
|--------------------|-------|
| Expositionsklassen | OK |
| U \ á â ↔ ↗ ↘ ‡ \ | OK |
| Biegung | OK |
| Bewehrungswahl | OK |

5 Wandartige Träger

Vorbemerkung:

Die wandartigen Träger werden teilweise mit Hilfe in MicroFE und teilweise mit dem Modul S360 in mB Baustatik bemessen.

Zur Ermittlung der Belastung der Träger werden sie jeweils in ihrer darüber liegenden, sowie in der darunter liegenden Decke als Wandlager eingegeben. Die Auflagerreaktionen des unteren Lagers werden in der Lastübergabe der Decken ausgeschaltet, sodass sie nicht fälschlicherweise an die darunterliegenden Decken weitergegeben werden. Aus diesem Grund werden im Anschluss nochmal die Lagerreaktionen der unteren Auflager der wandartigen Träger aus einer separaten MicroFE Ausgabe zusammengestellt.

Das Eigengewicht der wandartigen Träger wird in der Übergabe der Lasten von der Decke des oberen Auflagers zu der Decke des unteren Auflagers mit übergeben. Die Lasten des unteren Auflagers enthalten demnach bereits das Eigengewicht der Träger. Es wird deshalb in der MicroFE-Scheibenbemessung nicht erneut mit angesetzt.

Die MicroFE-Scheibenbemessung berücksichtigt nur ein lineares Tragverhalten in der Ermittlung der erforderlichen Bewehrung. Da in wandartigen Trägern sich jedoch nicht-lineares Tragverhalten in den D-Bereichen ausbildet, werden zusätzliche Maßnahmen ergriffen, um dies zu berücksichtigen:

Die Druckspannungen werden programmintern an jedem Knotenpunkt nachgewiesen. Dabei wird die Druckfestigkeit abgemindert, sobald in einem Knoten Zug- und Druckkräfte vorherrschen. Mögliche Druckknoten, die sich innerhalb der Platte ausbilden, werden damit als nachgewiesen angesehen, sofern die Grenzspannungen nicht überschritten sind.

Zusätzlich werden die Betondruckspannungen begrenzt:

$$\sigma_c \leq \sigma_{B,d} = v \cdot f_{cd} \quad (1)$$

mit

$$v = 1,0 \cdot \eta_1 \quad \text{für Druckknoten}$$

$$v = 0,75 \cdot \eta_1 \cdot v_2 \quad \text{für Druck-Zugknoten}$$

mit

$$v_2 = (1,1 - f_{ck}/500) \leq 1,0$$

$$\eta_1 = 1,0 \quad \text{für Normalbeton}$$

$$\eta_1 = 0,4 + 0,6 \cdot \rho/2200 \quad \text{für Leichtbeton}$$

Bei Nichterfüllung der Bedingung erfolgt keine Bemessung für die betreffenden Knoten, sondern eine Druckspannungsüberschreitung wird ausgewiesen.

Abbildung 1: Auszug aus Beschreibung mB-Modul M110

Zur Beurteilung der Verteilung Zugspannungen wird das Spannungstrajektorienbild ausgewertet und an Stellen mit hoher Zugkonzentration werden Bereiche zur Bemessung von Zugstreben gewählt. Die erforderliche Bewehrung einer Zugstrebe wird mittels Integration (linear) der erforderlichen Flächenbewehrung über die abgeschätzte Zugzone ermittelt. Die somit ermittelte Bewehrung ist als Zugband einzulegen.

Die Auflagerbereiche werden ebenfalls gesondert auf Auflagerpressung oder Herausziehen nachgewiesen.

10G

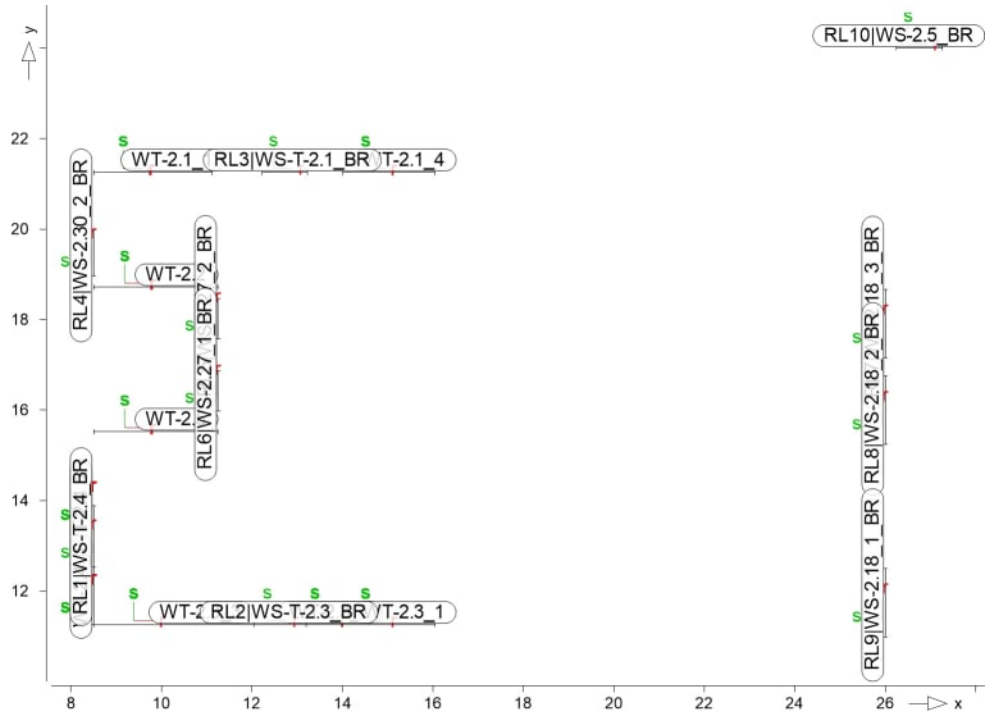
MicroFe

Positionsgrafik

Qáb\fiâæ&áâæÁfiâAR'ã~Ôæ

Qáb\fiâæ&áâæÁfiâAR'ã~Ôæ

Qáb\fiâæ&áâæÁfiâAR'ã~Ôæ



Die vertikalen Auflagerreaktionen werden
→áb\àá→}æbæÃ | ãÃQáb\fiâæ^áâ↑æÃæãæ↔\&æb\æ→\ÈÃ
Ó↔^b*á^↑~↑æ^\æÃâ→æâæ^Ã | ^âæãfi'←b↔'á\&\È

Kleine Lasten (< 0.01 kN bzw. kN/m) werden nicht
lastfallweise ausgegeben, sondern als Lastsumme
zusammengefasst.

Lasten bis zu einer Summe von 0.01 kN pro Position
}æãæ^Ã{æã^á'â→†bb&\ĩÃææÃN|b}æã\|^&Ãæãâ~&\Ã
getrennt nach positiver und negativer
Wirkungsrichtung.

Linienlasten

Blocklasten der einzelnen Abschnitte in
Gravitationsrichtung

WT-2.1_1

Gk

Ö←

Qk.N_E1

| Lastfall | Lasten (3 Abschnitte je 0.88m) | [kN/m] |
|-----------|--------------------------------|--------|
| LF-1 | -9.75 -7.79 11.31 | |
| #1 LF-1 | 37.21 33.92 39.37 | |
| #2 LF-1 | 6.23 20.01 26.97 | |
| LF-2 | -3.58 -2.79 4.89 | |
| #1 LF-2 | 5.32 2.89 4.41 | |
| #2 LF-2 | 0.30 0.97 1.25 | |
| LF-4 | -0.04 -0.03 0.00 | |
| LF-5 | -10.8 -13.5 -3.52 | |
| LF-6 | 0.02 0.02 0.01 | |
| LF-7 | -0.07 -0.36 -2.58 | |
| LF-8 | 0.00 0.00 -0.01 | |
| LF-11 | 0.55 0.72 -0.31 | |

W-41

Schulcampus EWK \

10G-LP4

POSITION

10G-LP4

| | Lastfall | Lasten (3 Abschnitte je 0.88m) | [kN/m] | | |
|---------|------------|--------------------------------|--------|-------|-------|
| Qk.N_DA | LF-12 | | -3.21 | -4.35 | -1.24 |
| | LF-13 | | 4.01 | 7.66 | 6.45 |
| | LF-14 | | -0.04 | -0.20 | -0.21 |
| | LF-15 | | 3.13 | 8.35 | 12.02 |
| | LF-19 | | -4.85 | -8.92 | -2.68 |
| | LF-22 | | 4.60 | 5.21 | 0.02 |
| | #1 LF-18 | | 0.76 | 3.03 | 3.96 |
| | #1 LF-21 | | -0.02 | -0.04 | -0.04 |
| | #1 LF-22 | | -0.01 | -0.06 | -0.05 |
| | #1 LF-23 | | 0.01 | 0.01 | 0.00 |
| | #2 LF-8 | | -0.29 | -0.81 | -0.52 |
| | #1 LF-5 | | 8.02 | -9.40 | -6.90 |
| | #1 LF-6 | | -5.71 | 2.25 | 2.42 |
| | #1 LF-7 | | 0.01 | 0.01 | 0.02 |
| | #1 LF-8 | | 0.00 | -0.01 | -0.01 |
| | #1 LF-10 | | 0.00 | 0.00 | -0.03 |
| | #1 LF-11 | | 6.20 | 8.96 | 9.64 |
| | #1 LF-14 | | 1.76 | 2.24 | 1.22 |
| | #1 LF-15 | | -0.03 | -0.01 | -0.03 |
| | #1 LF-16 | | 0.01 | 0.01 | 0.01 |
| | #2 LF-3 | | -0.11 | -0.26 | 0.06 |
| | #2 LF-4 | | 0.14 | 0.46 | 0.36 |
| | #2 LF-5 | | 0.59 | 1.78 | 2.11 |
| | #2 LF-6 | | -0.02 | -0.05 | -0.05 |
| | #2 LF-7 | | 0.01 | 0.02 | 0.02 |
| Qk.N_T2 | LF-21 | | 0.00 | 0.01 | 0.02 |

| | Lastfall | Lasten (3 Abschnitte je 0.68m) | [kN/m] | | |
|----------------|------------|--------------------------------|--------|-------|-------|
| WT-2.1_4 Gk | LF-1 | | -15.8 | -1.39 | 71.62 |
| | #1 LF-1 | | 18.81 | 87.73 | 261.9 |
| | #2 LF-1 | | 22.80 | 4.65 | -0.72 |
| Ö← | LF-2 | | -4.27 | -2.22 | -0.46 |
| | #1 LF-2 | | -2.48 | 11.26 | 44.28 |
| | #2 LF-2 | | 2.97 | 0.74 | -0.05 |
| Qk.N_E1 | LF-3 | | 0.01 | 0.01 | -0.07 |
| | LF-5 | | 0.07 | 0.07 | 0.08 |
| | LF-7 | | -14.1 | -11.4 | -40.2 |
| | LF-8 | | -0.02 | -0.04 | -0.30 |
| | LF-10 | | -0.01 | 0.03 | 0.25 |
| | LF-11 | | -3.43 | -2.37 | -3.60 |
| | LF-12 | | 0.04 | 0.04 | 0.05 |
| | LF-13 | | -0.02 | 0.01 | 0.01 |
| | LF-15 | | 8.75 | 8.54 | 36.64 |
| | LF-16 | | -0.01 | -0.09 | -0.24 |
| | LF-17 | | 0.00 | 0.00 | -0.01 |
| | LF-18 | | -0.01 | -0.01 | 0.10 |
| | LF-19 | | 0.04 | 0.06 | 0.07 |
| | LF-22 | | -1.62 | -0.98 | -1.28 |
| | #1 LF-17 | | 0.02 | 0.11 | -0.14 |
| | #1 LF-18 | | -0.01 | 0.01 | 0.01 |
| | #1 LF-22 | | 0.01 | 0.01 | 0.01 |
| | #2 LF-8 | | 0.32 | -0.15 | -0.05 |
| Qk.N_DA | #1 LF-3 | | 0.00 | 0.39 | 1.34 |
| | #1 LF-4 | | 0.00 | -0.01 | -0.03 |
| | #1 LF-5 | | 0.09 | 0.15 | 0.24 |
| | #1 LF-6 | | -10.6 | -19.2 | -41.2 |
| | #1 LF-7 | | 0.03 | 0.22 | 0.69 |
| | #1 LF-8 | | -0.02 | -0.13 | -0.41 |
| | #1 LF-10 | | -1.93 | 22.17 | 80.17 |
| | #1 LF-11 | | 5.49 | 10.95 | 27.63 |
| | #1 LF-12 | | -0.02 | -0.05 | -0.14 |
| | #1 LF-13 | | -0.05 | -0.19 | 0.35 |
| | #1 LF-14 | | 0.00 | 0.00 | 0.01 |
| | #2 LF-3 | | 0.70 | 0.02 | -0.05 |
| | #2 LF-4 | | 5.21 | 1.44 | -0.06 |
| | #2 LF-5 | | -0.03 | 0.01 | 0.01 |
| | #2 LF-6 | | -0.01 | 0.00 | 0.00 |

W-42

Schulcampus EWK \

10G-LP4

| | | Lastfall | Lasten (3 Abschnitte je 0.68m) | | [kN/m] | |
|----------|---------|------------|--------------------------------|-------|--------|------|
| Qk.N_T2 | | #2 LF-7 | 0.08 | 0.02 | 0.00 | |
| | | LF-21 | 0.05 | 0.11 | 0.89 | |
| | | | | | | |
| WT-2.2 | | Lastfall | Lasten (3 Abschnitte je 0.92m) | | [kN/m] | |
| Gk | | LF-1 | -46.3 | -48.5 | -2.98 | |
| | | #1 LF-1 | 5.84 | -16.5 | 10.12 | |
| | | #2 LF-1 | 11.37 | 26.60 | 23.81 | |
| Ö← | | LF-2 | -17.4 | -18.1 | -0.71 | |
| | | #1 LF-2 | -3.82 | -12.2 | -3.46 | |
| | | #2 LF-2 | 0.76 | 1.93 | 2.02 | |
| Qk.N_E1 | | LF-3 | -0.01 | 0.00 | 0.00 | |
| | | LF-4 | -0.41 | -0.36 | -0.07 | |
| | | LF-5 | -29.6 | -31.7 | -6.09 | |
| | | LF-6 | 0.07 | 0.01 | 0.01 | |
| | | LF-7 | 0.52 | 0.54 | 0.12 | |
| | | LF-11 | 0.90 | 0.81 | 0.06 | |
| | | LF-12 | -3.85 | -4.06 | -0.78 | |
| | | LF-13 | 4.12 | 7.84 | 6.34 | |
| | | LF-14 | 3.93 | 6.00 | 2.82 | |
| | | LF-15 | -0.19 | -0.88 | -0.83 | |
| | | LF-18 | 0.00 | 0.01 | 0.00 | |
| | | LF-19 | -11.3 | -14.6 | -2.98 | |
| | | LF-22 | 3.58 | 3.73 | 0.77 | |
| | | #1 LF-18 | 1.15 | 3.33 | 3.56 | |
| | | #1 LF-19 | 0.00 | 0.00 | 0.00 | |
| | | #1 LF-21 | 0.88 | 2.74 | 2.71 | |
| | | #1 LF-22 | -0.46 | -1.23 | -0.20 | |
| | | #1 LF-23 | 0.02 | 0.01 | 0.01 | |
| | Qk.N_DA | | #2 LF-8 | -0.32 | -0.66 | 0.02 |
| | | #1 LF-3 | 0.00 | 0.00 | 0.00 | |
| | | #1 LF-4 | 0.00 | 0.00 | 0.00 | |
| | | #1 LF-5 | -12.7 | -34.5 | -13.3 | |
| | | #1 LF-6 | 1.24 | 3.67 | 1.06 | |
| | | #1 LF-7 | 0.00 | 0.00 | 0.00 | |
| | | #1 LF-10 | 0.00 | 0.00 | 0.00 | |
| | | #1 LF-11 | -0.59 | -0.93 | -0.71 | |
| | | #1 LF-12 | 0.00 | 0.00 | 0.00 | |
| | | #1 LF-14 | 2.08 | 2.37 | 1.12 | |
| | | #1 LF-15 | 1.62 | 2.35 | 1.05 | |
| | | #1 LF-16 | 0.02 | 0.02 | 0.01 | |
| | | #2 LF-3 | -0.12 | -0.24 | 0.18 | |
| | | #2 LF-4 | 0.52 | 1.56 | 1.18 | |
| | | #2 LF-5 | 1.15 | 2.70 | 2.73 | |
| | | #2 LF-6 | 0.07 | 0.21 | 0.35 | |
| | | #2 LF-7 | -0.10 | -0.37 | -0.41 | |
| Qk.N_T2 | | | LF-20 | 0.01 | 0.01 | 0.00 |
| | | | LF-21 | 0.00 | 0.00 | 0.00 |
| | | | | | | |
| WT-2.3_1 | | Lastfall | Lasten (3 Abschnitte je 0.68m) | | [kN/m] | |
| Gk | | LF-1 | -4.55 | 3.34 | 57.30 | |
| | | #1 LF-1 | 27.65 | 93.34 | 256.6 | |
| | | #2 LF-1 | 22.37 | 4.86 | -0.72 | |
| Ö← | | LF-2 | -0.36 | -0.78 | -6.90 | |
| | | #1 LF-2 | 0.44 | 12.82 | 41.83 | |
| | | #2 LF-2 | 2.59 | 0.68 | -0.05 | |
| Qk.N_E1 | | LF-3 | -5.56 | -7.51 | -40.4 | |
| | | LF-4 | -0.39 | -0.23 | -0.61 | |
| | | LF-5 | -0.29 | -0.06 | -0.16 | |
| | | LF-6 | 0.10 | 0.02 | 0.00 | |
| | | LF-7 | 0.00 | 0.00 | -0.04 | |
| | | LF-10 | 0.01 | 0.18 | 0.65 | |
| | | LF-12 | 0.00 | 0.00 | 0.00 | |
| | | LF-14 | -0.52 | -0.10 | 0.01 | |
| | | LF-15 | -0.01 | -0.01 | 0.10 | |
| | | LF-16 | -0.01 | -0.10 | -0.21 | |
| | | LF-17 | -2.52 | -3.11 | -15.5 | |
| | | LF-18 | 7.23 | 8.12 | 37.48 | |
| W-43 | | | | | | |

POSITION

10G-LP4

| | Lastfall | Lasten (3 Abschnitte je 0.68m) | [kN/m] | | |
|---------|------------|--------------------------------|--------|-------|-------|
| Qk.N_DA | LF-19 | | -0.11 | -0.02 | -0.04 |
| | #1 LF-17 | | 0.04 | 0.28 | -0.16 |
| | #1 LF-19 | | -0.05 | -0.01 | 0.00 |
| | #1 LF-20 | | 0.03 | -0.02 | -0.02 |
| | #1 LF-22 | | 0.38 | -0.53 | -0.17 |
| | #1 LF-23 | | 0.02 | 0.05 | 0.01 |
| | #2 LF-8 | | 0.06 | 0.01 | 0.00 |
| | #1 LF-3 | | -4.08 | -15.5 | -46.8 |
| | #1 LF-4 | | 0.21 | 0.36 | 0.78 |
| | #1 LF-5 | | -0.63 | -0.75 | -1.23 |
| | #1 LF-6 | | 0.00 | 0.47 | 1.51 |
| | #1 LF-7 | | 0.00 | -0.01 | -0.02 |
| | #1 LF-8 | | 0.00 | 0.00 | 0.01 |
| | #1 LF-9 | | 0.00 | 0.00 | 0.00 |
| | #1 LF-10 | | -1.94 | 22.49 | 80.89 |
| | #1 LF-11 | | -0.01 | -0.05 | -0.18 |
| | #1 LF-12 | | 5.26 | 10.97 | 28.47 |
| | #1 LF-13 | | -0.07 | -0.28 | 0.62 |
| | #1 LF-16 | | 0.03 | 0.03 | 0.01 |
| | #2 LF-3 | | 0.02 | 0.00 | 0.00 |
| Qk.N_T2 | #2 LF-4 | | 5.16 | 1.62 | -0.05 |
| | #2 LF-6 | | 0.00 | -0.01 | 0.00 |
| | #2 LF-7 | | 0.01 | -0.25 | -0.06 |
| | LF-20 | | 0.47 | 0.32 | 0.79 |

| | Lastfall | Lasten (3 Abschnitte je 0.27m) | [kN/m] | | |
|----------------|------------|--------------------------------|--------|-------|-------|
| WT-2.3_2 Gk | LF-1 | | 2.26 | -0.63 | -3.10 |
| | #1 LF-1 | | 29.24 | 27.17 | 24.38 |
| | #2 LF-1 | | 12.60 | 16.10 | 20.00 |
| Ö← | LF-2 | | 2.14 | 0.90 | -0.17 |
| | #1 LF-2 | | 3.74 | 2.87 | 1.84 |
| | #2 LF-2 | | -1.34 | -0.33 | 0.93 |
| Qk.N_E1 | LF-3 | | -10.5 | -10.2 | -9.47 |
| | LF-4 | | -1.13 | -0.97 | -0.80 |
| | LF-5 | | -0.71 | -0.66 | -0.58 |
| | LF-6 | | 0.00 | 0.06 | 0.10 |
| | LF-12 | | -0.01 | -0.01 | -0.01 |
| | LF-14 | | 1.06 | 0.62 | 0.09 |
| | LF-17 | | -4.93 | -4.69 | -4.28 |
| | LF-18 | | 17.48 | 15.08 | 12.50 |
| | LF-19 | | -0.28 | -0.26 | -0.23 |
| | #1 LF-19 | | -0.15 | -0.11 | -0.08 |
| | #1 LF-20 | | 0.43 | 0.32 | 0.20 |
| | #1 LF-21 | | 0.01 | 0.01 | 0.01 |
| | #1 LF-22 | | 6.39 | 5.26 | 3.75 |
| | #1 LF-23 | | -0.62 | -0.46 | -0.29 |
| | #2 LF-8 | | 0.01 | 0.02 | 0.04 |
| Qk.N_DA | #1 LF-3 | | -5.71 | -5.15 | -4.24 |
| | #1 LF-4 | | 0.25 | 0.23 | 0.19 |
| | #1 LF-5 | | 1.23 | 0.77 | 0.31 |
| | #1 LF-6 | | -0.03 | -0.03 | -0.03 |
| | #1 LF-10 | | -0.96 | -1.15 | -1.42 |
| | #1 LF-11 | | 0.00 | 0.00 | 0.00 |
| | #1 LF-12 | | 9.10 | 7.94 | 6.41 |
| | #1 LF-15 | | 0.01 | 0.01 | 0.00 |
| | #1 LF-16 | | -0.29 | -0.21 | -0.12 |
| | #2 LF-3 | | 0.00 | 0.01 | 0.01 |
| | #2 LF-4 | | -6.15 | -3.38 | 0.08 |
| | #2 LF-6 | | 0.05 | 0.04 | 0.03 |
| | #2 LF-7 | | 3.41 | 2.66 | 1.74 |
| | LF-20 | | 0.96 | 0.88 | 0.78 |

| | Lastfall | Lasten (4 Abschnitte je 0.89m) | [kN/m] | | |
|----------------|-----------|--------------------------------|--------|-------|-------|
| WT-2.3_3 Gk | LF-1 | | 15.89 | -63.6 | -9.20 |
| | #1 LF-1 | | 80.03 | 2.15 | 14.56 |
| | #2 LF-1 | | 8.82 | 22.74 | 24.66 |
| Ö← | LF-2 | | 5.20 | -23.8 | -3.03 |
| | | | | | 6.22 |

W-44

Schulcampus EWK \

10G-LP4

POSITION

10G-LP4

| | Lastfall | Lasten (4 Abschnitte je 0.89m) | | | [kN/m] |
|----------|--|--------------------------------|-------|-------|--------|
| Qk.N_E1 | #1 LF-2 | 17.88 | -7.00 | -2.90 | 5.30 |
| | #2 LF-2 | 0.53 | 1.35 | 1.38 | 0.06 |
| | LF-3 | 0.16 | 0.02 | -0.22 | -2.50 |
| | LF-4 | -0.33 | -12.7 | -5.05 | -1.74 |
| | LF-5 | -8.62 | -34.4 | -9.89 | 0.38 |
| | LF-6 | 3.99 | 6.54 | 3.41 | -0.62 |
| | LF-7 | 0.02 | 0.02 | 0.00 | 0.00 |
| | LF-11 | 0.03 | 0.04 | 0.01 | 0.00 |
| | LF-12 | -0.24 | -0.33 | -0.08 | 0.03 |
| | LF-13 | 0.00 | 0.01 | 0.00 | 0.00 |
| | LF-14 | -0.18 | -0.91 | -0.86 | 0.58 |
| | LF-15 | 0.00 | 0.00 | 0.00 | 0.00 |
| | LF-17 | -0.01 | -0.04 | -0.24 | -1.43 |
| | LF-18 | 7.72 | 8.24 | 9.86 | 14.53 |
| | LF-19 | 5.00 | -13.3 | -4.20 | 0.20 |
| | LF-22 | 0.16 | 0.22 | 0.05 | -0.02 |
| | #1 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-19 | 0.02 | 0.25 | 0.34 | -0.02 |
| | #1 LF-20 | 0.22 | 0.64 | 1.07 | 1.28 |
| | #1 LF-21 | 0.01 | 0.01 | 0.01 | 0.01 |
| | #1 LF-22 | -0.46 | -1.08 | 0.33 | 4.59 |
| | #1 LF-23 | 0.87 | 2.65 | 2.53 | 0.22 |
| Qk.N_DA | #2 LF-8 | 0.00 | 0.00 | -0.01 | -0.01 |
| | #1 LF-3 | 0.27 | 0.15 | -0.27 | -1.73 |
| | #1 LF-4 | 0.13 | -0.06 | -0.07 | 0.06 |
| | #1 LF-5 | 27.08 | -24.2 | -15.3 | 1.04 |
| | #1 LF-6 | 0.07 | 0.22 | 0.10 | -0.03 |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | -0.08 |
| | #1 LF-11 | 0.00 | 0.01 | 0.00 | 0.00 |
| | #1 LF-12 | 5.45 | 6.91 | 7.08 | 8.55 |
| | #1 LF-15 | 0.01 | 0.02 | 0.01 | 0.01 |
| | #1 LF-16 | 2.44 | 2.46 | 1.01 | -0.41 |
| | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-4 | 0.15 | 0.38 | -0.73 | -4.73 |
| | #2 LF-5 | 0.01 | 0.01 | 0.00 | 0.01 |
| | #2 LF-6 | -0.01 | -0.06 | -0.06 | 0.00 |
| | #2 LF-7 | 0.93 | 2.37 | 3.54 | 4.85 |
| | LF-20 | 0.32 | 0.38 | 0.19 | 0.41 |
| WT-2.4_1 | Lastfall Lasten (3 Abschnitte je 0.43m) [kN/m] | | | | |
| | LF-1 | 241.4 | 199.8 | 170.3 | |
| Gk | #1 LF-1 | 151.4 | 150.1 | 148.2 | |
| | #2 LF-1 | 2.94 | 4.79 | 6.71 | |
| Ö← | LF-2 | 89.28 | 73.87 | 62.89 | |
| | #1 LF-2 | 40.65 | 40.12 | 39.37 | |
| Qk.N_E1 | #2 LF-2 | 0.27 | 0.46 | 0.66 | |
| | LF-3 | 0.73 | 0.55 | 0.38 | |
| | LF-4 | 30.83 | 21.54 | 14.15 | |
| | LF-5 | 80.30 | 69.18 | 61.07 | |
| | LF-6 | 2.02 | 4.69 | 7.34 | |
| | LF-7 | -0.02 | -0.02 | -0.02 | |
| | LF-11 | -0.04 | -0.04 | -0.04 | |
| | LF-12 | 0.42 | 0.42 | 0.44 | |
| | LF-13 | -0.01 | -0.01 | -0.01 | |
| | LF-14 | 0.13 | -0.25 | -0.66 | |
| | LF-17 | 0.19 | 0.18 | 0.16 | |
| | LF-18 | 4.97 | 1.50 | -0.90 | |
| | LF-19 | 48.62 | 41.82 | 37.19 | |
| | LF-22 | -0.25 | -0.25 | -0.26 | |
| | #1 LF-19 | -0.04 | 0.05 | 0.14 | |
| | #1 LF-20 | -0.01 | -0.09 | -0.15 | |
| | #1 LF-21 | -0.02 | -0.05 | -0.09 | |
| | #1 LF-22 | -0.20 | -0.33 | -0.49 | |
| | #1 LF-23 | 0.30 | 0.76 | 1.25 | |
| Qk.N_DA | #1 LF-3 | 0.29 | 0.30 | 0.27 | |
| | #1 LF-4 | 0.13 | -0.12 | -0.27 | |
| | #1 LF-5 | 74.41 | 73.91 | 72.70 | |

W-45

Schulcampus EWK \

10G-LP4

| | Lastfall | Lasten (3 Abschnitte je 0.43m) | [kN/m] | | |
|---------|------------|--------------------------------|--------|-------|--|
| Qk.N_T2 | #1 LF-6 | -0.18 | -0.24 | -0.31 | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-11 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-12 | 2.76 | 1.32 | 0.13 | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-15 | -0.04 | -0.08 | -0.13 | |
| | #1 LF-16 | 2.95 | 3.98 | 5.00 | |
| | #2 LF-4 | -0.06 | -0.07 | -0.07 | |
| | #2 LF-5 | 0.00 | 0.00 | -0.01 | |
| | #2 LF-6 | -0.02 | -0.06 | -0.10 | |
| | #2 LF-7 | 0.61 | 1.06 | 1.51 | |
| | LF-20 | -0.65 | -0.73 | -0.71 | |

WT-2.4_2
Gk

Ö←

Qk.N_E1

| | Lastfall | Lasten (3 Abschnitte je 0.11m) | [kN/m] | | |
|---------|------------|--------------------------------|--------|-------|--|
| Gk | LF-1 | 121.5 | 120.1 | 118.7 | |
| | #1 LF-1 | 126.5 | 125.2 | 123.9 | |
| | #2 LF-1 | 10.08 | 10.06 | 10.05 | |
| Ö← | LF-2 | 45.14 | 44.64 | 44.15 | |
| | #1 LF-2 | 32.25 | 31.85 | 31.46 | |
| | #2 LF-2 | 1.00 | 1.00 | 1.00 | |
| Qk.N_E1 | LF-3 | 0.02 | 0.01 | 0.01 | |
| | LF-4 | 1.07 | 0.84 | 0.60 | |
| | LF-5 | 47.09 | 46.66 | 46.24 | |
| | LF-6 | 11.38 | 11.33 | 11.28 | |
| | LF-7 | -0.04 | -0.04 | -0.04 | |
| | LF-11 | -0.08 | -0.08 | -0.08 | |
| | LF-12 | 0.71 | 0.72 | 0.73 | |
| | LF-14 | -1.83 | -1.85 | -1.87 | |
| | LF-15 | -0.01 | -0.01 | -0.01 | |
| | LF-17 | 0.05 | 0.04 | 0.04 | |
| | LF-18 | -2.36 | -2.30 | -2.25 | |
| | LF-19 | 29.37 | 29.09 | 28.82 | |
| | LF-22 | -0.45 | -0.46 | -0.46 | |
| | #1 LF-19 | 0.22 | 0.22 | 0.22 | |
| | #1 LF-20 | -0.13 | -0.13 | -0.13 | |
| | #1 LF-21 | -0.29 | -0.30 | -0.31 | |
| | #1 LF-22 | -0.91 | -0.91 | -0.91 | |
| | #1 LF-23 | 2.24 | 2.24 | 2.25 | |
| Qk.N_DA | #1 LF-3 | 0.02 | 0.02 | 0.01 | |
| | #1 LF-4 | -0.21 | -0.20 | -0.19 | |
| | #1 LF-5 | 58.69 | 57.94 | 57.18 | |
| | #1 LF-6 | -0.57 | -0.57 | -0.58 | |
| | #1 LF-11 | -0.02 | -0.02 | -0.02 | |
| | #1 LF-12 | -1.26 | -1.26 | -1.25 | |
| | #1 LF-15 | -0.35 | -0.36 | -0.37 | |
| | #1 LF-16 | 6.75 | 6.74 | 6.73 | |
| | #2 LF-4 | -0.03 | -0.03 | -0.03 | |
| | #2 LF-5 | -0.05 | -0.05 | -0.05 | |
| | #2 LF-6 | -0.24 | -0.24 | -0.25 | |
| | #2 LF-7 | 2.33 | 2.32 | 2.32 | |
| | LF-20 | -0.29 | -0.27 | -0.25 | |

WT-2.5
Gk

Ö←

Qk.N_E1

| | Lastfall | Lasten (3 Abschnitte je 0.92m) | [kN/m] | | |
|---------|-----------|--------------------------------|--------|-------|--|
| Gk | LF-1 | -40.2 | -50.0 | -6.25 | |
| | #1 LF-1 | 10.85 | -22.5 | 13.20 | |
| | #2 LF-1 | 13.31 | 32.83 | 30.28 | |
| Ö← | LF-2 | -15.1 | -19.0 | -2.31 | |
| | #1 LF-2 | -3.90 | -14.5 | -2.70 | |
| | #2 LF-2 | 0.93 | 2.64 | 2.79 | |
| Qk.N_E1 | LF-3 | -0.03 | -0.05 | -0.03 | |
| | LF-4 | -1.56 | -2.00 | -0.46 | |
| | LF-5 | -24.5 | -30.3 | -6.75 | |
| | LF-6 | 3.38 | 6.33 | 3.18 | |
| | LF-7 | 0.09 | 0.10 | 0.02 | |
| | LF-11 | 0.18 | 0.20 | 0.04 | |
| | LF-12 | -1.15 | -1.31 | -0.29 | |
| | LF-13 | 0.00 | -0.08 | -0.03 | |

W-46

| | Lastfall | Lasten (3 Abschnitte je 0.92m) | [kN/m] | | |
|---------|------------|--------------------------------|--------|-------|-------|
| | LF-14 | | 3.73 | 3.50 | 3.00 |
| | LF-15 | | 0.02 | 0.05 | 0.01 |
| | LF-17 | | -0.01 | -0.02 | -0.01 |
| | LF-18 | | 0.01 | -0.02 | 0.03 |
| | LF-19 | | -9.21 | -12.7 | -2.93 |
| | LF-22 | | 0.86 | 0.96 | 0.21 |
| | #1 LF-18 | | -0.01 | -0.02 | -0.01 |
| | #1 LF-19 | | 0.01 | 0.02 | -0.06 |
| | #1 LF-20 | | 0.00 | 0.00 | 0.01 |
| | #1 LF-21 | | 1.01 | 2.73 | 2.54 |
| | #1 LF-22 | | -1.49 | -3.32 | 2.54 |
| | #1 LF-23 | | 1.00 | 2.74 | 2.12 |
| | #2 LF-8 | | -0.01 | -0.01 | 0.04 |
| Qk.N_DA | #1 LF-3 | | -0.04 | -0.08 | -0.04 |
| | #1 LF-4 | | 0.01 | 0.02 | 0.01 |
| | #1 LF-5 | | -12.6 | -36.4 | -12.4 |
| | #1 LF-6 | | 0.80 | 1.46 | 0.48 |
| | #1 LF-11 | | 0.03 | 0.05 | 0.02 |
| | #1 LF-12 | | 0.01 | 0.01 | 0.05 |
| | #1 LF-15 | | 2.07 | 2.47 | 0.94 |
| | #1 LF-16 | | 2.04 | 2.69 | 0.98 |
| | #2 LF-3 | | -0.01 | -0.02 | 0.00 |
| | #2 LF-4 | | 1.18 | 2.53 | -2.08 |
| | #2 LF-5 | | 0.01 | -0.01 | -0.01 |
| | #2 LF-6 | | 0.24 | 0.95 | 2.63 |
| | #2 LF-7 | | 0.45 | 1.82 | 5.05 |
| | LF-20 | | 0.04 | 0.04 | 0.01 |
| | | | | | |
| | | | | | |

Qk.N_T2

j Yf bUW\ } gg] [hY`
Lasten

| Position | in Dokumentation | ↔^ÁQáb\fiâã&áâæ | |
|-------------|------------------|-----------------|---------|
| | | positiv | negativ |
| | [kN] | [kN] | [kN] |
| WT-2.1_1(1) | 0.00737 | 0.00063 | -0.0023 |
| WT-2.1_1(2) | 0.00211 | 0.00063 | -0.0023 |
| WT-2.1_1(3) | 0.00192 | 0.00091 | -0.0015 |
| WT-2.1_4(1) | -0.00958 | 0.00377 | -0.0006 |
| WT-2.1_4(2) | 0.01754 | 0.00203 | -0.0001 |
| WT-2.1_4(3) | 0.00816 | 0.00120 | -0.0011 |
| WT-2.2(1) | 0.00987 | 0.00164 | -0.0006 |
| WT-2.2(2) | 0.01093 | 0.00161 | -0.0010 |
| WT-2.2(3) | 0.02271 | 0.00052 | -0.0006 |
| WT-2.3_1(1) | -0.00556 | 0.00135 | -0.0048 |
| WT-2.3_1(2) | -0.00647 | 0.00040 | -0.0004 |
| WT-2.3_1(3) | 0.01708 | 0.00237 | -0.0017 |
| WT-2.3_2(1) | 0.00479 | 0.00059 | -0.0024 |
| WT-2.3_2(2) | 0.00309 | 0.00100 | -0.0020 |
| WT-2.3_2(3) | 0.00042 | 0.00184 | -0.0015 |
| WT-2.3_3(1) | 0.00546 | 0.00013 | -0.0013 |
| WT-2.3_3(2) | 0.01685 | 0.00008 | -0.0021 |
| WT-2.3_3(3) | 0.01119 | 0.00029 | -0.0008 |
| WT-2.3_3(4) | 0.00521 | 0.00175 | -0.0020 |
| WT-2.4_1(1) | -0.01180 | 0.00230 | -0.0002 |
| WT-2.4_1(2) | -0.01170 | 0.00195 | -0.0002 |
| WT-2.4_1(3) | -0.00562 | 0.00166 | -0.0003 |
| WT-2.4_2(1) | -0.00111 | 0.00089 | -0.0018 |
| WT-2.4_2(2) | 0.00000 | 0.00088 | -0.0019 |
| WT-2.4_2(3) | 0.00170 | 0.00088 | -0.0021 |
| WT-2.5(1) | -0.00644 | 0.00053 | -0.0010 |
| WT-2.5(2) | 0.00794 | 0.00193 | -0.0004 |
| WT-2.5(3) | 0.01559 | 0.00310 | 0.0000 |

Folgende Linienlastanteile werden wegen ihres
&æã↔^&æ^ÁÓ↔^â→|bbæbÁâæ↔^ÁâæãÁQáb\fiâæã&áâæÁ
{æã^á^â→‡bb↔&\i

Lastfall

Pt
[kN]

| | |
|------------|----------|
| LF-3 | 0.00068 |
| LF-4 | -0.00003 |
| LF-6 | 0.00010 |
| LF-7 | -0.00034 |
| LF-8 | -0.00208 |
| LF-9 | 0.00048 |
| LF-10 | 0.00055 |
| LF-11 | -0.00013 |
| LF-13 | -0.00127 |
| LF-14 | 0.00565 |
| LF-15 | 0.00357 |
| LF-16 | -0.00123 |
| LF-17 | 0.00336 |
| LF-18 | -0.00094 |
| LF-20 | -0.00114 |
| LF-21 | -0.00076 |
| LF-22 | -0.00432 |
| #1 LF-3 | 0.00031 |
| #1 LF-4 | -0.00029 |
| #1 LF-7 | -0.00007 |
| #1 LF-8 | 0.00041 |
| #1 LF-9 | -0.00006 |
| #1 LF-10 | 0.00476 |
| #1 LF-12 | -0.00103 |
| #1 LF-13 | -0.00085 |
| #1 LF-14 | -0.00145 |
| #1 LF-15 | -0.00068 |
| #1 LF-16 | 0.00003 |
| #1 LF-17 | 0.00284 |
| #1 LF-18 | -0.00038 |
| #1 LF-19 | -0.00093 |
| #1 LF-20 | -0.00066 |
| #1 LF-21 | -0.00175 |
| #1 LF-23 | 0.00004 |
| #2 LF-3 | -0.00136 |
| #2 LF-5 | 0.00016 |
| #2 LF-8 | -0.00146 |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und Linienlast-Resultierenden, getrennt nach positiven und negativen Anteilen

Lasten aus Lastgruppen werden nicht

Linienlasten

| Position | EW | Art | *~b↔↔{ [kN] | ^æ&á↔↔{ [kN] |
|--------------------|---------|-----|----------------|-----------------|
| RL1 WS-T-2.4_BR | Gk | PGr | 0.00 | |
| RL2 WS-T-2.3_BR | Gk | PGr | 0.00 | |
| RL3 WS-T-2.1_BR | Gk | PGr | 0.00 | |
| RL4 WS-2.30_2_BR | Gk | PGr | 0.00 | |
| RL5 WS-2.27_2_BR | Gk | PGr | 0.00 | |
| RL6 WS-2.27_1_BR | Gk | PGr | 0.00 | |
| RL7 WS-2.18_3_BR | Gk | PGr | 0.00 | |
| RL8 WS-2.18_2_BR | Gk | PGr | 0.00 | |
| RL9 WS-2.18_1_BR | Gk | PGr | 0.00 | |
| RL10 WS-2.5_BR | Gk | PGr | 0.00 | |
| WT-2.1_1 | Gk | PGr | 137.79 | |
| | Ö← | PGr | 11.97 | |
| | Qk.N_B1 | PGr | 0.04 | -27.03 |
| | Qk.N_C1 | PGr | 8.60 | 0.00 |
| | Qk.N_C5 | PGr | 20.57 | -14.38 |
| | Qk.N_E1 | PGr | 23.76 | -9.99 |
| | Qk.N_DA | PGr | 42.28 | -19.79 |
| | Qk.N_T2 | PGr | 0.02 | 0.00 |
| WT-2.1_4 | Gk | PGr | 307.21 | |

W-48

Schulcampus EWK \

10G-LP4

| | | POSITION | | 10G-LP4 |
|----------|---------|----------|-----------------|-----------------|
| Position | EW | Art | *~b↔\↔{ [kN] | ^æ&á\↔{ [kN] |
| | Ö← | PGr | 34.01 | |
| | Qk.N_B1 | PGr | 0.35 | -45.21 |
| | Qk.N_C1 | PGr | 0.00 | -2.64 |
| | Qk.N_C5 | PGr | 37.03 | -0.25 |
| | Qk.N_E1 | PGr | 0.44 | -6.69 |
| | Qk.N_DA | PGr | 107.56 | -50.67 |
| | Qk.N_T2 | PGr | 0.72 | 0.00 |
| WT-2.2 | Gk | PGr | | -33.60 |
| | Ö← | PGr | | -46.65 |
| | Qk.N_B1 | PGr | 1.16 | -62.55 |
| | Qk.N_C1 | PGr | 7.41 | 0.00 |
| | Qk.N_C5 | PGr | 0.01 | -28.21 |
| | Qk.N_E1 | PGr | 43.32 | -10.59 |
| | Qk.N_DA | PGr | 25.02 | -58.66 |
| | Qk.N_T2 | PGr | 0.01 | 0.00 |
| WT-2.3_1 | Gk | PGr | 314.44 | |
| | Ö← | PGr | 34.34 | |
| | Qk.N_B1 | PGr | 0.65 | -37.75 |
| | Qk.N_C5 | PGr | 36.16 | -14.79 |
| | Qk.N_E1 | PGr | 0.60 | -1.08 |
| | Qk.N_DA | PGr | 108.59 | -49.21 |
| | Qk.N_T2 | PGr | 1.08 | 0.00 |
| WT-2.3_2 | Gk | PGr | 34.35 | |
| | Ö← | PGr | 2.84 | |
| | Qk.N_B1 | PGr | 0.04 | -9.42 |
| | Qk.N_C5 | PGr | 12.09 | -3.94 |
| | Qk.N_E1 | PGr | 4.89 | -0.46 |
| | Qk.N_DA | PGr | 9.26 | -7.75 |
| | Qk.N_T2 | PGr | 0.70 | 0.00 |
| WT-2.3_3 | Gk | PGr | 145.49 | |
| | Ö← | PGr | 1.07 | |
| | Qk.N_B1 | PGr | 12.91 | -67.63 |
| | Qk.N_C1 | PGr | 0.38 | -0.02 |
| | Qk.N_C5 | PGr | 40.48 | -17.07 |
| | Qk.N_E1 | PGr | 14.01 | -3.72 |
| | Qk.N_DA | PGr | 66.96 | -42.40 |
| | Qk.N_T2 | PGr | 1.15 | 0.00 |
| WT-2.4_1 | Gk | PGr | 457.15 | |
| | Ö← | PGr | 147.71 | |
| | Qk.N_B1 | PGr | 124.43 | -0.02 |
| | Qk.N_C1 | PGr | 0.00 | -0.33 |
| | Qk.N_C5 | PGr | 57.22 | -0.38 |
| | Qk.N_E1 | PGr | 1.66 | -1.08 |
| | Qk.N_DA | PGr | 102.57 | -0.77 |
| | Qk.N_T2 | PGr | 0.00 | -0.89 |
| WT-2.4_2 | Gk | PGr | 86.83 | |
| | Ö← | PGr | 26.35 | |
| | Qk.N_B1 | PGr | 20.01 | -0.01 |
| | Qk.N_C1 | PGr | 0.00 | -0.16 |
| | Qk.N_C5 | PGr | 9.91 | -0.79 |
| | Qk.N_E1 | PGr | 1.08 | -1.11 |
| | Qk.N_DA | PGr | 22.79 | -0.93 |
| | Qk.N_T2 | PGr | 0.00 | -0.09 |
| WT-2.5 | Gk | PGr | | -16.97 |
| | Ö← | PGr | | -46.95 |
| | Qk.N_B1 | PGr | 12.01 | -60.17 |
| | Qk.N_C1 | PGr | 1.86 | 0.00 |
| | Qk.N_C5 | PGr | 0.11 | -22.82 |
| | Qk.N_E1 | PGr | 23.30 | -7.15 |
| | Qk.N_DA | PGr | 26.59 | -58.38 |
| | Qk.N_T2 | PGr | 0.08 | 0.00 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Abs Lastwert maximaler Lagerabschnitt
e Abstand der Resultierenden zur Mitte des Polygonabschnitts
Res Resultierende Gesamtauflagerkraft

je Einwirkung

charakteristische Trapez-Wandlagerkraft je Einwirkung

g b\†^ä&æÄÖ↔^}↔ä←|^&
Reihenfolge Ausgabe
min Anfang
max Anfang
min Mitte
max Mitte
min Ende
max Ende

WT-2.1_1

Q†^&æÄKÄGÈJGÁ↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 77.65 | 21.54 | 52.49 | 83.45 | 0.26 | 137.80 |
| Ö← | g | 10.55 | -1.04 | 4.56 | 10.16 | 0.54 | 11.97 |
| Qk.N_B1 | min | -13.84 | -13.69 | -9.29 | -4.89 | -0.21 | -24.39 |
| | max | 0.02 | 0.77 | -0.99 | -2.75 | 0.78 | -2.60 |
| | min | | -12.94 | -10.30 | -7.65 | -0.11 | -27.03 |
| | max | | 0.02 | 0.02 | 0.01 | -0.13 | 0.04 |
| | min | | -12.89 | -10.27 | -7.66 | -0.11 | -26.97 |
| | max | | -0.03 | -0.01 | 0.02 | -1.51 | -0.02 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 5.21 | 6.06 | 3.28 | 0.50 | -0.37 | 8.61 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 6.06 | 3.28 | 0.50 | -0.37 | 8.61 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 6.06 | 3.28 | 0.50 | -0.37 | 8.61 |
| Qk.N_C5 | min | -8.92 | -6.29 | -5.48 | -4.67 | -0.06 | -14.38 |
| | max | 12.02 | 1.17 | 7.84 | 14.50 | 0.37 | 20.57 |
| | min | | -6.29 | -5.48 | -4.67 | -0.06 | -14.39 |
| | max | | 1.17 | 7.84 | 14.50 | 0.37 | 20.57 |
| | min | | -6.29 | -5.48 | -4.67 | -0.06 | -14.38 |
| | max | | 1.17 | 7.84 | 14.50 | 0.37 | 20.57 |
| Qk.N_E1 | min | -5.46 | -4.47 | -3.71 | -2.94 | -0.09 | -9.73 |
| | max | 11.42 | 5.18 | 8.95 | 12.72 | 0.18 | 23.49 |
| | min | | -4.47 | -3.71 | -2.94 | -0.09 | -9.73 |
| | max | | 5.18 | 8.95 | 12.72 | 0.18 | 23.49 |
| | min | | -3.74 | -3.39 | -3.03 | -0.05 | -8.89 |
| | max | | 4.45 | 8.63 | 12.81 | 0.21 | 22.65 |
| Qk.N_DA | min | -7.48 | -6.72 | -0.52 | 5.69 | -5.24 | -1.36 |
| | max | 13.48 | 16.87 | 9.09 | 1.31 | -0.37 | 23.86 |
| | min | | 1.80 | -3.29 | -8.38 | 0.68 | -8.63 |
| | max | | 8.35 | 11.86 | 15.37 | 0.13 | 31.13 |
| | min | | 8.48 | -2.84 | -14.15 | 1.75 | -7.44 |
| | max | | 1.67 | 11.41 | 21.15 | 0.37 | 29.94 |
| Qk.N_T2 | min | 0.00 | -0.01 | 0.01 | 0.02 | 0.74 | 0.02 |
| | max | 0.02 | 0.00 | 0.00 | 0.00 | -0.73 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.01 | 0.01 | 0.02 | 0.68 | 0.02 |
| | min | | 0.00 | 0.00 | 0.00 | -0.73 | 0.00 |
| | max | | -0.01 | 0.01 | 0.02 | 0.74 | 0.02 |

WT-2.1_4

Q†^&æÄKÄGÈ€IÁ↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 332.81 | -76.03 | 149.86 | 375.75 | 0.52 | 307.21 |
| Ö← | g | 43.76 | -18.19 | 16.59 | 51.37 | 0.72 | 34.01 |
| Qk.N_B1 | min | -40.57 | -2.54 | -21.82 | -41.10 | 0.30 | -44.73 |
| | max | 0.33 | 0.20 | -0.07 | -0.33 | 1.36 | -0.13 |
| | min | | -2.30 | -22.05 | -41.80 | 0.31 | -45.20 |
| | max | | -0.04 | 0.16 | 0.37 | 0.43 | 0.33 |

W-51

Schulcampus EWK \

10G-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_C1 | min | | -2.30 | -22.05 | -41.80 | 0.31 | -45.20 |
| | max | | -0.04 | 0.16 | 0.37 | 0.43 | 0.33 |
| | min | -1.62 | -1.55 | -1.29 | -1.03 | -0.07 | -2.65 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -1.55 | -1.29 | -1.03 | -0.07 | -2.65 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -0.25 | -2.99 | 18.00 | 39.00 | 0.40 | 36.91 |
| | max | 36.81 | 0.09 | -0.06 | -0.21 | 0.83 | -0.12 |
| | min | | 0.06 | -0.11 | -0.29 | 0.51 | -0.23 |
| | max | | -2.96 | 18.06 | 39.08 | 0.40 | 37.02 |
| | min | | 0.06 | -0.11 | -0.29 | 0.51 | -0.23 |
| | max | | -2.96 | 18.06 | 39.08 | 0.40 | 37.02 |
| Qk.N_E1 | min | -3.74 | -3.06 | -3.14 | -3.21 | 0.01 | -6.43 |
| | max | 0.32 | 0.51 | 0.08 | -0.34 | -1.75 | 0.17 |
| | min | | -2.89 | -3.14 | -3.40 | 0.03 | -6.45 |
| | max | | 0.33 | 0.09 | -0.15 | -0.92 | 0.19 |
| | min | | -2.55 | -3.11 | -3.66 | 0.06 | -6.37 |
| | max | | 0.00 | 0.05 | 0.11 | 0.36 | 0.11 |
| Qk.N_DA | min | -41.79 | -30.12 | 25.41 | 80.94 | 0.75 | 52.09 |
| | max | 110.32 | 7.13 | 2.34 | -2.44 | -0.70 | 4.80 |
| | min | | -1.16 | -23.95 | -46.75 | 0.33 | -49.10 |
| | max | | -21.83 | 51.70 | 125.24 | 0.49 | 105.99 |
| | min | | 5.84 | -21.49 | -48.82 | 0.43 | -44.05 |
| | max | | -28.83 | 49.24 | 127.32 | 0.54 | 100.95 |
| Qk.N_T2 | min | 0.00 | -0.28 | 0.35 | 0.98 | 0.61 | 0.72 |
| | max | 0.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.28 | 0.35 | 0.98 | 0.61 | 0.72 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | -0.28 | 0.35 | 0.98 | 0.61 | 0.72 |

WT-2.2

Q†^&æÁKÁGÈÍÍÁ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -38.47 | -50.32 | -12.22 | 25.88 | -1.43 | -33.60 |
| Ö← | g | -28.31 | -28.05 | -16.96 | -5.88 | -0.30 | -46.65 |
| Qk.N_B1 | min | -32.09 | -37.78 | -22.75 | -7.72 | -0.30 | -62.55 |
| | max | 0.58 | 0.71 | 0.42 | 0.13 | -0.31 | 1.16 |
| | min | | -37.78 | -22.75 | -7.72 | -0.30 | -62.55 |
| | max | | 0.71 | 0.42 | 0.13 | -0.31 | 1.16 |
| | min | | -37.71 | -22.72 | -7.73 | -0.30 | -62.47 |
| | max | | 0.65 | 0.39 | 0.14 | -0.29 | 1.08 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 3.73 | 4.47 | 2.70 | 0.92 | -0.30 | 7.41 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 4.47 | 2.70 | 0.92 | -0.30 | 7.41 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 4.47 | 2.70 | 0.92 | -0.30 | 7.41 |
| Qk.N_C5 | min | -15.52 | -14.65 | -10.26 | -5.87 | -0.20 | -28.21 |
| | max | 0.01 | 0.01 | 0.00 | 0.00 | -0.28 | 0.01 |
| | min | | -14.65 | -10.26 | -5.87 | -0.20 | -28.21 |
| | max | | 0.01 | 0.00 | 0.00 | -0.28 | 0.01 |
| | min | | -14.65 | -10.26 | -5.87 | -0.20 | -28.21 |
| | max | | 0.01 | 0.00 | 0.00 | -0.28 | 0.01 |
| Qk.N_E1 | min | -5.94 | -6.27 | -3.84 | -1.41 | -0.29 | -10.56 |
| | max | 20.73 | 12.29 | 15.75 | 19.20 | 0.10 | 43.30 |
| | min | | -6.27 | -3.84 | -1.41 | -0.29 | -10.56 |
| | max | | 12.29 | 15.75 | 19.20 | 0.10 | 43.30 |
| | min | | -6.27 | -3.84 | -1.41 | -0.29 | -10.56 |
| | max | | 12.29 | 15.75 | 19.20 | 0.10 | 43.30 |
| Qk.N_DA | min | -36.01 | -19.62 | -21.06 | -22.49 | 0.03 | -57.91 |
| | max | 12.90 | 8.26 | 8.83 | 9.39 | 0.03 | 24.27 |
| | min | | -19.62 | -21.27 | -22.93 | 0.04 | -58.50 |

W-52

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 8.26 | 9.04 | 9.82 | 0.04 | 24.85 |
| | min | | -19.32 | -21.21 | -23.10 | 0.04 | -58.33 |
| | max | | 7.96 | 8.98 | 10.00 | 0.05 | 24.69 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 |
| | max | 0.01 | 0.01 | 0.01 | 0.00 | -0.39 | 0.02 |
| | min | | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 |
| | max | | 0.01 | 0.01 | 0.00 | -0.39 | 0.02 |
| | min | | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 |
| | max | | 0.01 | 0.01 | 0.00 | -0.39 | 0.02 |

WT-2.3_1

Q⁺ & A K A G E E I A ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 313.15 | -43.32 | 153.39 | 350.09 | 0.44 | 314.44 |
| Ö← | g | 34.87 | -6.65 | 16.75 | 40.15 | 0.48 | 34.34 |
| Qk.N_B1 | min | -41.20 | -0.72 | -0.30 | 0.12 | -0.48 | -0.62 |
| | max | 0.65 | 8.34 | -17.80 | -43.93 | 0.50 | -36.48 |
| | min | | 7.69 | -18.41 | -44.52 | 0.48 | -37.75 |
| | max | | -0.08 | 0.32 | 0.71 | 0.42 | 0.65 |
| | min | | 7.80 | -18.38 | -44.56 | 0.49 | -37.67 |
| | max | | -0.19 | 0.28 | 0.75 | 0.57 | 0.57 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.90 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | -0.90 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | -0.90 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -15.75 | -5.19 | 17.58 | 40.34 | 0.44 | 36.03 |
| | max | 37.57 | 2.68 | -7.15 | -16.97 | 0.47 | -14.66 |
| | min | | 2.56 | -7.21 | -16.97 | 0.46 | -14.77 |
| | max | | -5.07 | 17.63 | 40.34 | 0.44 | 36.15 |
| | min | | 2.56 | -7.21 | -16.97 | 0.46 | -14.77 |
| | max | | -5.07 | 17.63 | 40.34 | 0.44 | 36.15 |
| Qk.N_E1 | min | -0.66 | -0.66 | -0.22 | 0.21 | -0.66 | -0.46 |
| | max | 0.34 | 0.72 | -0.01 | -0.74 | 34.91 | -0.02 |
| | min | | -0.27 | -0.34 | -0.40 | 0.07 | -0.69 |
| | max | | 0.33 | 0.10 | -0.13 | -0.76 | 0.21 |
| | min | | 0.70 | -0.04 | -0.76 | 7.20 | -0.07 |
| | max | | -0.63 | -0.20 | 0.24 | -0.75 | -0.40 |
| Qk.N_DA | min | -48.34 | -30.09 | 48.49 | 127.07 | 0.55 | 99.40 |
| | max | 112.25 | 15.28 | -19.52 | -54.33 | 0.61 | -40.02 |
| | min | | 8.70 | -23.22 | -55.14 | 0.47 | -47.60 |
| | max | | -23.51 | 52.19 | 127.88 | 0.50 | 106.98 |
| | min | | 14.77 | -20.97 | -56.71 | 0.58 | -42.99 |
| | max | | -29.58 | 49.93 | 129.45 | 0.54 | 102.37 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 1.09 | 0.00 |
| | max | 0.79 | 0.30 | 0.53 | 0.75 | 0.15 | 1.08 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.30 | 0.53 | 0.76 | 0.15 | 1.08 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.30 | 0.53 | 0.76 | 0.15 | 1.08 |

WT-2.3_2

Q⁺ & A K A E E I A ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 44.10 | 44.78 | 42.67 | 40.56 | -0.01 | 34.35 |
| Ö← | g | 4.54 | 4.98 | 3.53 | 2.07 | -0.06 | 2.84 |
| Qk.N_B1 | min | -12.39 | -12.88 | -11.64 | -10.41 | -0.01 | -9.37 |
| | max | 0.10 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 |
| | min | | -12.86 | -11.70 | -10.54 | -0.01 | -9.42 |
| | max | | -0.02 | 0.06 | 0.13 | 0.19 | 0.04 |
| | min | | -12.86 | -11.70 | -10.54 | -0.01 | -9.42 |
| | max | | -0.02 | 0.06 | 0.13 | 0.19 | 0.04 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Qk.N_C5 | min | -5.21 | -5.42 | -4.89 | -4.36 | -0.01 | -3.94 |
| | max | 17.48 | 18.75 | 15.02 | 11.28 | -0.03 | 12.09 |
| | min | | -5.42 | -4.89 | -4.36 | -0.01 | -3.94 |
| | max | | 18.75 | 15.02 | 11.28 | -0.03 | 12.09 |
| | min | | -5.42 | -4.89 | -4.36 | -0.01 | -3.94 |
| | max | | 18.75 | 15.02 | 11.28 | -0.03 | 12.09 |
| Qk.N_E1 | min | -0.77 | -0.87 | -0.58 | -0.28 | -0.07 | -0.46 |
| | max | 7.90 | 8.93 | 6.07 | 3.21 | -0.06 | 4.89 |
| | min | | -0.87 | -0.58 | -0.28 | -0.07 | -0.46 |
| | max | | 8.93 | 6.07 | 3.21 | -0.06 | 4.89 |
| | min | | 0.45 | 0.02 | -0.42 | -3.68 | 0.01 |
| | max | | 7.61 | 5.48 | 3.35 | -0.05 | 4.41 |
| Qk.N_DA | min | -13.15 | -15.17 | -9.60 | -4.03 | -0.08 | -7.73 |
| | max | 14.06 | 15.50 | 11.47 | 7.44 | -0.05 | 9.23 |
| | min | | -15.17 | -9.60 | -4.03 | -0.08 | -7.73 |
| | max | | 15.50 | 11.47 | 7.44 | -0.05 | 9.23 |
| | min | | -7.34 | -6.45 | -5.56 | -0.02 | -5.19 |
| | max | | 7.67 | 8.32 | 8.98 | 0.01 | 6.70 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.96 | 1.00 | 0.87 | 0.74 | -0.02 | 0.70 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 1.00 | 0.87 | 0.74 | -0.02 | 0.70 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 1.00 | 0.87 | 0.74 | -0.02 | 0.70 |

WT-2.3_3

Q†^&æĀKĀĞÈIIĀ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 104.73 | 57.28 | 40.93 | 24.57 | -0.24 | 145.50 |
| Ö← | g | -29.44 | 5.38 | 0.30 | -4.77 | -9.96 | 1.07 |
| Qk.N_B1 | min | -47.09 | -25.77 | -18.09 | -10.42 | -0.25 | -64.32 |
| | max | 6.56 | 7.65 | 2.70 | -2.24 | -1.08 | 9.60 |
| | min | | -24.71 | -18.73 | -12.74 | -0.19 | -66.57 |
| | max | | 6.59 | 3.34 | 0.08 | -0.58 | 11.86 |
| | min | | -24.69 | -18.72 | -12.75 | -0.19 | -66.54 |
| | max | | 6.57 | 3.33 | 0.09 | -0.58 | 11.83 |
| Qk.N_C1 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.22 | 0.23 | 0.10 | -0.03 | -0.75 | 0.36 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.23 | 0.10 | -0.03 | -0.75 | 0.36 |
| | min | | 0.23 | 0.10 | -0.03 | -0.75 | 0.36 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -13.33 | -0.86 | -3.07 | -5.28 | 0.43 | -10.92 |
| | max | 14.53 | 6.12 | 9.66 | 13.19 | 0.22 | 34.33 |
| | min | | -0.38 | -3.50 | -6.63 | 0.53 | -12.45 |
| | max | | 5.63 | 10.09 | 14.54 | 0.26 | 35.86 |
| | min | | -0.37 | -3.50 | -6.63 | 0.53 | -12.45 |
| | max | | 5.63 | 10.09 | 14.54 | 0.26 | 35.85 |
| Qk.N_E1 | min | -1.24 | -3.57 | 0.34 | 4.25 | 6.79 | 1.21 |
| | max | 6.07 | 2.29 | 2.55 | 2.82 | 0.06 | 9.07 |
| | min | | -1.15 | -0.50 | 0.14 | -0.75 | -1.79 |
| | max | | -0.13 | 3.40 | 6.93 | 0.62 | 12.08 |
| | min | | 0.05 | 0.02 | -0.02 | -1.34 | 0.06 |
| | max | | -1.33 | 2.88 | 7.09 | 0.87 | 10.23 |
| Qk.N_DA | min | -23.69 | -0.04 | -0.03 | -0.02 | -0.20 | -0.12 |
| | max | 13.04 | 23.99 | 6.94 | -10.10 | -1.45 | 24.68 |
| | min | | 14.91 | -4.52 | -23.94 | 2.55 | -16.06 |
| | max | | 9.03 | 11.43 | 13.82 | 0.12 | 40.63 |
| | min | | 18.32 | -3.12 | -24.56 | 4.07 | -11.10 |
| | max | | | | | | |

W-54

Schulcampus EWK \

10G-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | max | | 5.63 | 10.03 | 14.44 | 0.26 | 35.67 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.41 | 0.28 | 0.32 | 0.37 | 0.08 | 1.15 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.28 | 0.32 | 0.37 | 0.08 | 1.15 |
| | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 0.28 | 0.32 | 0.37 | 0.08 | 1.15 |

WT-2.4_1

Q_t⁺ & AKA FEG I A ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 395.80 | 411.41 | 358.55 | 305.68 | -0.03 | 457.15 |
| Ö← | g | 130.20 | 136.26 | 115.85 | 95.45 | -0.04 | 147.71 |
| Qk.N_B1 | min | -0.02 | -0.02 | -0.02 | -0.02 | 0.01 | -0.03 |
| | max | 113.87 | 120.72 | 97.59 | 74.46 | -0.05 | 124.43 |
| | min | | -0.02 | -0.02 | -0.02 | 0.01 | -0.03 |
| | max | | 120.72 | 97.59 | 74.46 | -0.05 | 124.43 |
| | min | | -0.02 | -0.02 | -0.02 | 0.01 | -0.03 |
| | max | | 120.72 | 97.59 | 74.46 | -0.05 | 124.43 |
| Qk.N_C1 | min | -0.26 | -0.25 | -0.26 | -0.26 | 0.01 | -0.33 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.25 | -0.26 | -0.26 | 0.01 | -0.33 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.25 | -0.26 | -0.26 | 0.01 | -0.33 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 |
| | max | 53.78 | 57.53 | 44.58 | 31.62 | -0.06 | 56.84 |
| | min | | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 |
| | max | | 57.53 | 44.58 | 31.62 | -0.06 | 56.84 |
| | min | | 6.25 | 1.85 | -2.54 | -0.50 | 2.36 |
| | max | | 51.29 | 42.72 | 34.16 | -0.04 | 54.47 |
| Qk.N_E1 | min | -1.44 | -0.26 | -0.40 | -0.54 | 0.07 | -0.51 |
| | max | 1.82 | 0.83 | 0.85 | 0.88 | 0.01 | 1.09 |
| | min | | 0.18 | -0.79 | -1.76 | 0.26 | -1.01 |
| | max | | 0.39 | 1.24 | 2.10 | 0.15 | 1.58 |
| | min | | 0.18 | -0.79 | -1.76 | 0.26 | -1.01 |
| | max | | 0.38 | 1.24 | 2.10 | 0.15 | 1.58 |
| Qk.N_DA | min | -0.91 | -0.24 | -0.41 | -0.58 | 0.09 | -0.52 |
| | max | 81.02 | 81.68 | 80.25 | 78.82 | 0.00 | 102.32 |
| | min | | -0.02 | -0.56 | -1.11 | 0.21 | -0.72 |
| | max | | 81.46 | 80.40 | 79.34 | 0.00 | 102.51 |
| | min | | 3.35 | 0.84 | -1.67 | -0.63 | 1.07 |
| | max | | 78.09 | 79.00 | 79.91 | 0.00 | 100.72 |
| Qk.N_T2 | min | -0.73 | -0.65 | -0.70 | -0.75 | 0.01 | -0.89 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.65 | -0.70 | -0.75 | 0.01 | -0.89 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.65 | -0.70 | -0.75 | 0.01 | -0.89 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WT-2.4_2

Q_t⁺ & AKA € EGH A ↑

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 258.07 | 259.42 | 255.38 | 251.33 | 0.00 | 86.83 |
| Ö← | g | 78.39 | 78.84 | 77.50 | 76.16 | 0.00 | 26.35 |
| Qk.N_B1 | min | -0.04 | -0.04 | -0.04 | -0.04 | 0.00 | -0.01 |
| | max | 59.56 | 59.92 | 58.84 | 57.77 | 0.00 | 20.01 |
| | min | | -0.04 | -0.04 | -0.04 | 0.00 | -0.01 |
| | max | | 59.92 | 58.84 | 57.77 | 0.00 | 20.01 |
| | min | | -0.04 | -0.04 | -0.04 | 0.00 | -0.01 |
| | max | | 59.92 | 58.84 | 57.77 | 0.00 | 20.01 |
| Qk.N_C1 | min | -0.47 | -0.44 | -0.46 | -0.47 | 0.00 | -0.16 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| | min | | -0.44 | -0.46 | -0.47 | 0.00 | -0.16 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.44 | -0.46 | -0.47 | 0.00 | -0.16 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_C5 | min | -2.37 | -2.40 | -2.31 | -2.23 | 0.00 | -0.79 |
| | max | 29.42 | 29.56 | 29.14 | 28.72 | 0.00 | 9.91 |
| | min | | -2.40 | -2.31 | -2.23 | 0.00 | -0.79 |
| | max | | 29.56 | 29.14 | 28.72 | 0.00 | 9.91 |
| Qk.N_E1 | min | | -2.40 | -2.31 | -2.23 | 0.00 | -0.79 |
| | max | | 29.56 | 29.14 | 28.72 | 0.00 | 9.91 |
| | min | -3.30 | -3.23 | -3.27 | -3.32 | 0.00 | -1.11 |
| | max | 3.21 | 3.18 | 3.19 | 3.21 | 0.00 | 1.09 |
| Qk.N_DA | min | | -3.23 | -3.27 | -3.32 | 0.00 | -1.11 |
| | max | | 3.18 | 3.19 | 3.21 | 0.00 | 1.09 |
| | min | | -3.23 | -3.27 | -3.32 | 0.00 | -1.11 |
| | max | | 3.18 | 3.19 | 3.21 | 0.00 | 1.09 |
| Qk.N_T2 | min | -2.75 | -2.74 | -2.74 | -2.75 | 0.00 | -0.93 |
| | max | 67.80 | 68.19 | 67.02 | 65.85 | 0.00 | 22.79 |
| | min | | -2.74 | -2.74 | -2.75 | 0.00 | -0.93 |
| | max | | 68.19 | 67.02 | 65.85 | 0.00 | 22.79 |
| Qk.N_T2 | min | | -2.74 | -2.74 | -2.75 | 0.00 | -0.93 |
| | max | | 68.19 | 67.02 | 65.85 | 0.00 | 22.79 |
| | min | -0.29 | -0.30 | -0.27 | -0.24 | -0.01 | -0.09 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_T2 | min | | -0.30 | -0.27 | -0.24 | -0.01 | -0.09 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | -0.30 | -0.27 | -0.24 | -0.01 | -0.09 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WT-2.5
Qk.N_T2

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | -39.72 | -42.38 | -6.17 | 30.04 | -2.69 | -16.97 |
| Ök | g | -30.92 | -27.66 | -17.07 | -6.49 | -0.28 | -46.95 |
| Qk.N_B1 | min | -32.32 | -34.58 | -21.88 | -9.19 | -0.27 | -60.17 |
| | max | 6.43 | 4.53 | 4.37 | 4.21 | -0.02 | 12.01 |
| | min | | -34.58 | -21.88 | -9.19 | -0.27 | -60.17 |
| | max | | 4.53 | 4.37 | 4.21 | -0.02 | 12.01 |
| Qk.N_C1 | min | | -34.58 | -21.88 | -9.19 | -0.27 | -60.17 |
| | max | | 4.53 | 4.37 | 4.21 | -0.02 | 12.01 |
| | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 0.96 | 1.12 | 0.68 | 0.23 | -0.30 | 1.86 |
| Qk.N_C5 | min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | | 1.12 | 0.68 | 0.23 | -0.30 | 1.86 |
| | min | -12.71 | -12.43 | -8.29 | -4.14 | -0.23 | -22.79 |
| | max | 0.05 | 0.04 | 0.03 | 0.02 | -0.13 | 0.07 |
| Qk.N_E1 | min | | -12.42 | -8.29 | -4.17 | -0.23 | -22.80 |
| | max | | 0.02 | 0.03 | 0.04 | 0.15 | 0.09 |
| | min | | -12.42 | -8.29 | -4.17 | -0.23 | -22.80 |
| | max | | 0.02 | 0.03 | 0.04 | 0.15 | 0.09 |
| Qk.N_DA | min | -4.72 | -5.47 | -1.72 | 2.03 | -1.00 | -4.73 |
| | max | 9.17 | 5.84 | 7.60 | 9.35 | 0.11 | 20.89 |
| | min | | -5.41 | -1.74 | 1.93 | -0.97 | -4.78 |
| | max | | 5.77 | 7.61 | 9.45 | 0.11 | 20.93 |
| Qk.N_T2 | min | | -1.50 | -0.98 | -0.46 | -0.24 | -2.69 |
| | max | | 1.86 | 6.85 | 11.84 | 0.33 | 18.84 |
| | min | -36.49 | -21.17 | -16.79 | -12.41 | -0.12 | -46.17 |
| | max | 12.02 | 9.55 | 5.23 | 0.91 | -0.38 | 14.38 |
| Qk.N_T2 | min | | -19.61 | -20.53 | -21.45 | 0.02 | -56.46 |
| | max | | 7.99 | 8.97 | 9.96 | 0.05 | 24.67 |
| | min | | -16.53 | -19.98 | -23.44 | 0.08 | -54.95 |
| | max | | 4.90 | 8.42 | 11.94 | 0.19 | 23.16 |
| Qk.N_T2 | min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|-----|-----------------------|---------------------|---------------------|---------------------|------------|---------------------|
| max | 0.04 | 0.05 | 0.03 | 0.01 | -0.26 | 0.08 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 0.05 | 0.03 | 0.01 | -0.26 | 0.08 |
| min | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| max | | 0.05 | 0.03 | 0.01 | -0.26 | 0.08 |

EG

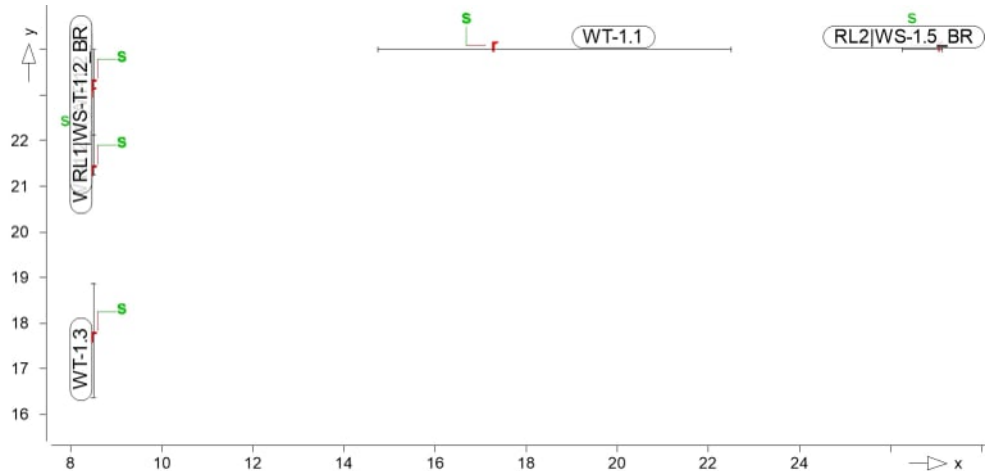
MicroFe

Positionsgrafik

Qáb\fiâæã&áâæÀfiâæR↔'ã~Ôæ

Qáb\fiâæã&áâæÀfiâæR↔'ã~Ôæ

Qáb\fiâæã&áâæÀfiâæR↔'ã~Ôæ



Die vertikalen Auflagerreaktionen werden
→áb\àá→}æ↔bæÃ | ãÃQáb\fiâæã^áâ↑æÃâæãæ↔\&æb\æ→\ÈÃ
Ó↔^b*á^↑~↑æ^ \æÃâ→æâæ^Ã | ^âæãfi'←b'â↔&\È

Kleine Lasten (< 0.01 kN bzw. kN/m) werden nicht
lastfallweise ausgegeben, sondern als Lastsumme
zusammengefasst.
Lasten bis zu einer Summe von 0.01 kN pro Position
}æãâæ^Ã{æã^á'â→†bb↔&\ĩÃâ↔æÃN|b}æã\|^&Ãæãâ~&\Ã
getrennt nach positiver und negativer
Wirkungsrichtung.

Linienlasten

Blocklasten der einzelnen Abschnitte in
Gravitationsrichtung

WT-1.1

Gk

Ö←

Qk.N_E1

| Lastfall | Lasten (8 Abschnitte je 0.97m) | | | | | | | [kN/m] |
|-----------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| LF-1 | 17.95 | 27.95 | 38.37 | 45.14 | 46.66 | 42.78 | 34.98 | |
| | 31.19 | | | | | | | |
| #1 LF-1 | 82.30 | 49.62 | 74.01 | 87.22 | 77.92 | 64.94 | 54.36 | |
| | 43.08 | | | | | | | |
| #2 LF-1 | 94.80 | 53.73 | 63.47 | 77.88 | 75.69 | 68.40 | 64.56 | |
| | 55.45 | | | | | | | |
| #3 LF-1 | -0.10 | 0.07 | 0.11 | 0.09 | 0.07 | 0.05 | 0.05 | |
| | 0.08 | | | | | | | |
| LF-2 | 6.82 | 10.40 | 14.05 | 16.42 | 16.96 | 15.59 | 12.73 | |
| | 11.02 | | | | | | | |
| #1 LF-2 | 23.63 | 10.45 | 18.99 | 23.71 | 20.29 | 15.41 | 10.94 | |
| | 7.14 | | | | | | | |
| #2 LF-2 | 23.79 | 10.29 | 12.82 | 16.75 | 15.57 | 12.66 | 10.15 | |
| | 7.35 | | | | | | | |
| #3 LF-2 | -0.07 | 0.01 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | |
| | 0.02 | | | | | | | |
| LF-3 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | | | | | | | |
| LF-5 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.03 | -0.07 | |
| | -0.11 | | | | | | | |
| LF-6 | -1.64 | 11.01 | 18.48 | 21.82 | 21.88 | 18.34 | 9.96 | |

POSITION

EG-LP4

| Lastfall | Lasten (8 Abschnitte je 0.97m) | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | -2.92 | | | | | | |
| LF-7 | -3.63 | -5.93 | -4.29 | -2.62 | -1.45 | -0.57 | 0.23 |
| | 0.96 | | | | | | |
| LF-8 | 0.01 | 0.03 | 0.03 | 0.02 | 0.01 | 0.00 | 0.00 |
| | -0.01 | | | | | | |
| LF-9 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| LF-10 | -0.02 | -0.05 | -0.03 | -0.02 | -0.01 | -0.01 | 0.00 |
| | 0.00 | | | | | | |
| LF-12 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| LF-13 | -0.07 | -0.02 | 0.05 | 0.14 | 0.30 | 0.62 | 1.15 |
| | 1.00 | | | | | | |
| LF-14 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.00 |
| | -0.11 | | | | | | |
| LF-16 | 0.15 | 0.08 | 0.05 | 0.06 | 0.05 | 0.08 | 0.63 |
| | 3.87 | | | | | | |
| LF-17 | 15.56 | 12.98 | 11.51 | 11.37 | 11.46 | 11.86 | 13.63 |
| | 17.13 | | | | | | |
| LF-18 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| #1 LF-3 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | -0.06 |
| | -0.11 | | | | | | |
| #1 LF-5 | -0.09 | 0.09 | 0.05 | 0.01 | 0.01 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| #1 LF-7 | 30.88 | 15.01 | 29.57 | 37.03 | 30.81 | 21.38 | 8.61 |
| | -4.02 | | | | | | |
| #1 LF-8 | 0.04 | 0.02 | 0.08 | 0.20 | 0.39 | 0.70 | 0.66 |
| | -0.31 | | | | | | |
| #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 |
| | 0.01 | | | | | | |
| #1 LF-10 | -0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.05 |
| | -0.01 | | | | | | |
| #1 LF-11 | 5.34 | -1.03 | -0.08 | 0.63 | 0.32 | -0.01 | -0.22 |
| | -0.31 | | | | | | |
| #1 LF-12 | -0.05 | 0.05 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| #1 LF-13 | -0.04 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| #1 LF-15 | 8.24 | 6.21 | 7.15 | 8.05 | 8.17 | 8.70 | 11.67 |
| | 13.96 | | | | | | |
| #1 LF-16 | 0.00 | -0.01 | 0.00 | 0.01 | 0.02 | 0.04 | 0.16 |
| | 0.36 | | | | | | |
| #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | -0.01 | | | | | | |
| #1 LF-18 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | 0.01 | 0.08 |
| | 0.15 | | | | | | |
| #1 LF-19 | -0.09 | 0.08 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| #1 LF-22 | 1.47 | -0.79 | -0.31 | 0.04 | 0.01 | -0.05 | -0.09 |
| | -0.10 | | | | | | |
| #2 LF-17 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | -0.14 |
| | -0.35 | | | | | | |
| #2 LF-18 | -0.06 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| #3 LF-8 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | | | | | | |
| Qk . N_DA | #2 LF-3 | 0.00 | 0.01 | 0.03 | 0.06 | 0.10 | 0.15 |
| | | 0.21 | | | | | 0.20 |
| | #2 LF-5 | -0.46 | -0.01 | 0.05 | 0.01 | 0.01 | 0.01 |
| | | 0.01 | | | | | |
| | #2 LF-6 | 41.96 | 16.85 | 20.65 | 26.51 | 22.70 | 14.90 |
| | | -1.71 | | | | | 5.62 |
| | #2 LF-7 | -0.11 | -0.10 | -0.25 | -0.52 | -0.86 | -0.99 |
| | | 2.07 | | | | | 0.05 |

POSITION

EG-LP4

| | Lastfall | Lasten (8 Abschnitte je 0.97m) | | | | | | [kN/m] |
|------------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #2 LF-8 | 0.06 | 0.06 | 0.14 | 0.28 | 0.44 | 0.56 | 0.29 |
| | | -0.38 | | | | | | |
| | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.04 | -0.07 |
| | | -0.05 | | | | | | |
| | #2 LF-10 | -1.37 | -1.16 | -0.40 | 0.51 | 1.43 | 2.51 | 3.75 |
| | | 3.75 | | | | | | |
| | #2 LF-11 | 7.67 | 5.04 | 5.39 | 6.55 | 7.22 | 8.11 | 10.08 |
| | | 10.16 | | | | | | |
| | #2 LF-12 | -0.01 | -0.02 | -0.03 | -0.04 | -0.06 | -0.08 | -0.09 |
| | | -0.09 | | | | | | |
| | #2 LF-13 | -0.03 | -0.04 | -0.03 | -0.01 | 0.00 | 0.08 | 0.47 |
| | | 0.92 | | | | | | |
| | #2 LF-14 | -0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | | | | | | |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | | | | | | |
| | #3 LF-3 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | | | | | | |
| | #3 LF-4 | -0.13 | 0.02 | 0.06 | 0.05 | 0.03 | 0.02 | 0.02 |
| | | 0.03 | | | | | | |
| | #3 LF-5 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | | | | | | |
| | #3 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | | | | | | |
| LF-21 | | 0.20 | 0.04 | -0.13 | -0.37 | -0.80 | -1.64 | -2.93 |
| | | -1.84 | | | | | | |
| #1 LF-21 | | -0.10 | -0.05 | -0.25 | -0.61 | -1.15 | -1.90 | -1.35 |
| | | 1.88 | | | | | | |

WT-1.2_1
Gk

Ö←

Qk.N_E1

| | Lastfall | Lasten (3 Abschnitte je 0.29m) | | | [kN/m] |
|---------|------------|--------------------------------|--|--|--------|
| Gk | LF-1 | | | | 38.43 |
| | #1 LF-1 | | | | 7.60 |
| | #2 LF-1 | | | | 24.62 |
| | #3 LF-1 | | | | 0.54 |
| Ö← | LF-2 | | | | 17.10 |
| | #1 LF-2 | | | | -5.14 |
| | #2 LF-2 | | | | 4.80 |
| | #3 LF-2 | | | | -0.01 |
| Qk.N_E1 | LF-3 | | | | 21.43 |
| | LF-4 | | | | 0.03 |
| | LF-6 | | | | 1.96 |
| | LF-7 | | | | -16.3 |
| | LF-8 | | | | 0.12 |
| | LF-9 | | | | 0.07 |
| | LF-10 | | | | 8.04 |
| | LF-12 | | | | -0.09 |
| | LF-13 | | | | 0.01 |
| | LF-16 | | | | -0.01 |
| | LF-17 | | | | 13.82 |
| | LF-18 | | | | 1.89 |
| | #1 LF-4 | | | | -0.03 |
| | #1 LF-5 | | | | 17.91 |
| | #1 LF-6 | | | | -0.01 |
| | #1 LF-7 | | | | -13.7 |
| | #1 LF-8 | | | | -0.01 |
| | #1 LF-11 | | | | -20.9 |
| | #1 LF-12 | | | | 9.56 |
| | #1 LF-13 | | | | -0.92 |
| | #1 LF-14 | | | | -0.01 |
| | #1 LF-15 | | | | 8.14 |
| | #1 LF-19 | | | | 23.50 |
| | #1 LF-22 | | | | -40.1 |
| | #2 LF-18 | | | | -0.03 |
| | #2 LF-21 | | | | -0.06 |
| | #2 LF-22 | | | | 0.05 |
| | #3 LF-8 | | | | -0.05 |
| Qk.N_DA | #2 LF-5 | | | | 11.31 |
| | | | | | 13.89 |

W-60

Schulcampus EWK \

EG-LP4

| | Lastfall | Lasten (3 Abschnitte je 0.29m) | [kN/m] | | |
|---------|------------|--------------------------------|--------|-------|--|
| Qk.N_T2 | #2 LF-6 | -4.64 | -6.13 | -7.99 | |
| | #2 LF-10 | 0.01 | 0.01 | 0.01 | |
| | #2 LF-11 | 2.43 | 2.27 | 1.98 | |
| | #2 LF-14 | 0.66 | 0.85 | 1.12 | |
| | #2 LF-15 | -0.09 | -0.11 | -0.14 | |
| | #3 LF-3 | -0.01 | -0.01 | 0.00 | |
| | #3 LF-4 | -0.06 | -0.06 | -0.06 | |
| | #3 LF-5 | 0.03 | 0.03 | 0.04 | |
| | #3 LF-6 | 0.01 | 0.00 | -0.01 | |
| | #3 LF-7 | 0.01 | 0.01 | 0.02 | |
| Qk.N_T2 | LF-21 | -0.04 | -0.03 | -0.02 | |
| | #1 LF-21 | 0.02 | 0.02 | 0.01 | |

| | Lastfall | Lasten (3 Abschnitte je 0.29m) | [kN/m] | | |
|----------------|------------|--------------------------------|--------|-------|--|
| WT-1.2_2 Gk | LF-1 | 43.52 | 24.27 | 12.50 | |
| | #1 LF-1 | 136.9 | 108.3 | 73.61 | |
| | #2 LF-1 | -0.44 | 2.25 | 5.27 | |
| | #3 LF-1 | 0.38 | 0.49 | 0.61 | |
| Ö← | LF-2 | 15.18 | 9.28 | 6.21 | |
| | #1 LF-2 | 42.76 | 31.71 | 18.45 | |
| | #2 LF-2 | -0.11 | 0.52 | 1.19 | |
| | #3 LF-2 | -0.01 | -0.01 | -0.02 | |
| Qk.N_E1 | LF-3 | 0.59 | 5.35 | 11.37 | |
| | LF-4 | -0.03 | -0.02 | -0.01 | |
| | LF-6 | -1.18 | 0.75 | 2.42 | |
| | LF-7 | 27.11 | 4.45 | -14.6 | |
| | LF-8 | -0.10 | 0.04 | 0.16 | |
| | LF-9 | -0.65 | -0.14 | 0.24 | |
| | LF-10 | -8.28 | -6.81 | -5.18 | |
| | LF-12 | 0.15 | 0.03 | -0.07 | |
| | LF-13 | -0.01 | 0.01 | 0.02 | |
| | LF-16 | 0.01 | 0.00 | -0.01 | |
| | LF-17 | 10.19 | 11.94 | 14.57 | |
| | LF-18 | 0.50 | 0.46 | 0.45 | |
| | #1 LF-4 | -0.02 | -0.02 | -0.02 | |
| | #1 LF-5 | -4.27 | -1.61 | 1.90 | |
| | #1 LF-7 | 23.74 | 17.30 | 8.98 | |
| | #1 LF-8 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-11 | 32.83 | 22.41 | 9.56 | |
| | #1 LF-12 | -1.51 | 0.18 | 2.32 | |
| | #1 LF-13 | -0.59 | -0.81 | -1.08 | |
| | #1 LF-14 | 0.06 | 0.07 | 0.08 | |
| Qk.N_DA | #1 LF-15 | 12.39 | 14.00 | 15.46 | |
| | #1 LF-19 | 2.85 | 6.06 | 10.22 | |
| | #1 LF-22 | 17.08 | 1.95 | -15.5 | |
| | #2 LF-18 | 0.02 | 0.02 | 0.02 | |
| | #2 LF-22 | 0.01 | 0.02 | 0.02 | |
| | #3 LF-8 | -0.06 | -0.07 | -0.07 | |
| | #2 LF-5 | -1.22 | -0.77 | -0.08 | |
| | #2 LF-6 | 0.46 | 1.00 | 1.30 | |
| | #2 LF-10 | -0.05 | -0.04 | -0.04 | |
| | #2 LF-11 | 0.60 | 0.88 | 1.22 | |
| Qk.N_T2 | #2 LF-14 | -0.03 | -0.01 | 0.01 | |
| | #2 LF-15 | 0.00 | 0.00 | -0.01 | |
| | #3 LF-3 | -0.02 | -0.02 | -0.02 | |
| | #3 LF-4 | -0.02 | -0.03 | -0.05 | |
| | #3 LF-5 | 0.02 | 0.02 | 0.02 | |
| | #3 LF-6 | 0.01 | 0.01 | 0.01 | |
| | LF-21 | 0.02 | -0.02 | -0.05 | |
| | #1 LF-21 | -0.02 | -0.01 | 0.01 | |

| | Lastfall | Lasten (3 Abschnitte je 0.83m) | [kN/m] | | |
|--------------|-----------|--------------------------------|--------|-------|--|
| WT-1.3 Gk | LF-1 | 60.59 | 62.41 | 63.45 | |
| | #1 LF-1 | 109.8 | 109.1 | 104.0 | |
| | #2 LF-1 | 41.63 | 51.79 | 71.81 | |
| | #3 LF-1 | 0.80 | 1.81 | 1.75 | |
| Ö← | LF-2 | 22.49 | 23.04 | 23.34 | |

POSITION

EG-LP4

| | Lastfall | Lasten (3 Abschnitte je 0.83m) | | [kN/m] |
|---------|------------|--------------------------------|-------|--------|
| Qk.N_E1 | #1 LF-2 | 34.17 | 33.86 | 31.83 |
| | #2 LF-2 | 9.74 | 12.42 | 17.34 |
| | #3 LF-2 | 0.04 | 0.07 | 0.03 |
| | LF-3 | 2.52 | 1.87 | 1.32 |
| | LF-4 | -0.37 | -0.66 | -0.95 |
| | LF-6 | -0.04 | -0.01 | 0.00 |
| | LF-7 | 0.24 | 0.08 | 0.03 |
| | LF-9 | -0.03 | -0.02 | -0.01 |
| | LF-10 | 34.70 | 37.19 | 38.69 |
| | LF-11 | 0.00 | 0.00 | 0.00 |
| | LF-12 | -0.04 | -0.03 | -0.02 |
| | LF-15 | 0.00 | 0.00 | 0.00 |
| | LF-17 | -0.36 | -0.20 | -0.10 |
| | LF-18 | 7.02 | 6.57 | 6.45 |
| | #1 LF-3 | 0.00 | 0.01 | 0.01 |
| | #1 LF-4 | 0.18 | 0.36 | 0.63 |
| | #1 LF-5 | 37.54 | 36.26 | 33.45 |
| Qk.N_DA | #1 LF-6 | -0.14 | -0.49 | -0.96 |
| | #1 LF-7 | -0.39 | -0.26 | -0.13 |
| | #1 LF-11 | -0.78 | -0.48 | -0.23 |
| | #1 LF-12 | 4.71 | 3.17 | 1.81 |
| | #1 LF-13 | 0.59 | -0.73 | -0.62 |
| | #1 LF-14 | 2.35 | 5.19 | 5.77 |
| | #1 LF-15 | -0.16 | 0.13 | 0.10 |
| | #1 LF-18 | 0.00 | 0.01 | 0.03 |
| | #1 LF-19 | 23.15 | 22.14 | 20.63 |
| | #1 LF-22 | -3.59 | -2.33 | -1.22 |
| | #2 LF-18 | 0.09 | -0.08 | -0.13 |
| | #2 LF-19 | 0.00 | -0.02 | -0.04 |
| | #2 LF-21 | 0.07 | 0.50 | 0.67 |
| | #2 LF-22 | -0.01 | -0.11 | -0.14 |
| | #2 LF-23 | -0.07 | -0.20 | -0.36 |
| | #3 LF-8 | -0.07 | -0.08 | -0.05 |
| Qk.N_T2 | #2 LF-3 | 0.00 | 0.01 | 0.01 |
| | #2 LF-4 | 0.00 | 0.00 | 0.00 |
| | #2 LF-5 | 20.55 | 23.79 | 32.86 |
| | #2 LF-6 | -2.61 | -1.13 | -0.91 |
| | #2 LF-11 | -0.50 | -0.12 | 0.02 |
| | #2 LF-12 | 0.00 | 0.01 | 0.02 |
| | #2 LF-14 | 0.98 | 0.25 | -0.08 |
| | #2 LF-15 | 0.83 | 1.85 | 2.50 |
| | #2 LF-16 | -0.10 | -0.23 | -0.22 |
| | #3 LF-3 | -0.03 | -0.04 | -0.03 |
| | #3 LF-4 | 0.06 | 0.21 | 0.26 |
| | #3 LF-5 | 0.12 | 0.13 | 0.10 |
| | #3 LF-6 | 0.02 | 0.16 | 0.22 |
| | #3 LF-7 | -0.09 | -0.32 | -0.48 |
| | #1 LF-20 | 0.00 | -0.01 | -0.01 |

j YfbUW\` } gg] [hY`
Lasten

| Position | in Dokumentation | ↔^ÁQáb\fiâã&áâæ | |
|-------------|------------------|-----------------|---------|
| | | positiv | negativ |
| | [kN] | [kN] | [kN] |
| WT-1.1(1) | 0.00059 | 0.00098 | -0.0027 |
| WT-1.1(2) | -0.01063 | 0.00241 | -0.0004 |
| WT-1.1(3) | 0.00297 | 0.00140 | -0.0001 |
| WT-1.1(4) | 0.03009 | 0.00078 | 0.0000 |
| WT-1.1(5) | 0.04289 | 0.00065 | 0.0000 |
| WT-1.1(6) | 0.00166 | 0.00066 | 0.0000 |
| WT-1.1(7) | -0.00137 | 0.00092 | -0.0001 |
| WT-1.1(8) | 0.01197 | 0.00140 | -0.0002 |
| WT-1.2_1(1) | -0.00229 | 0.00102 | -0.0019 |
| WT-1.2_1(2) | -0.01317 | 0.00080 | -0.0019 |
| WT-1.2_1(3) | -0.00359 | 0.00061 | -0.0019 |
| WT-1.2_2(1) | 0.00199 | 0.00154 | -0.0029 |
| WT-1.2_2(2) | -0.00096 | 0.00159 | -0.0014 |
| WT-1.2_2(3) | -0.00197 | 0.00319 | -0.0010 |

W-62

Schulcampus EWK \

EG-LP4

| Position | in Dokumentation | ↔ [^] Qáb\fiâæã&áâæ | |
|-----------|------------------|------------------------------|-----------------|
| | | positiv [kN] | negativ [kN] |
| WT-1.3(1) | -0.00683 | 0.00182 | -0.0030 |
| WT-1.3(2) | 0.00781 | 0.00083 | -0.0015 |
| WT-1.3(3) | -0.00511 | 0.00179 | -0.0022 |

Folgende Linienlastanteile werden wegen ihres
&æã↔[^]&æ[^]ÁÓ↔[^]â→|bbæbÁâæ↔[^]ÄäæãÁQáb\fiâæã&áâæÁ
{æã[^]á[^]â→‡bb↔[^]&\i

| Lastfall | Pt [kN] |
|------------|------------|
| LF-4 | 0.00240 |
| LF-5 | 0.00035 |
| LF-8 | 0.00158 |
| LF-11 | 0.00191 |
| LF-13 | 0.00035 |
| LF-14 | -0.00033 |
| LF-15 | -0.00036 |
| LF-16 | 0.00014 |
| LF-19 | 0.00010 |
| LF-20 | -0.00376 |
| LF-21 | -0.00096 |
| LF-22 | -0.00000 |
| LF-23 | 0.00154 |
| #1 LF-3 | 0.00006 |
| #1 LF-4 | -0.00021 |
| #1 LF-6 | -0.00175 |
| #1 LF-8 | -0.00006 |
| #1 LF-9 | -0.00004 |
| #1 LF-10 | -0.00010 |
| #1 LF-14 | 0.00198 |
| #1 LF-16 | 0.00037 |
| #1 LF-17 | 0.00014 |
| #1 LF-18 | 0.00008 |
| #1 LF-20 | 0.00008 |
| #1 LF-21 | 0.00018 |
| #2 LF-3 | 0.00022 |
| #2 LF-4 | 0.00036 |
| #2 LF-7 | -0.00050 |
| #2 LF-8 | 0.00066 |
| #2 LF-9 | -0.00004 |
| #2 LF-10 | -0.00024 |
| #2 LF-12 | 0.00009 |
| #2 LF-13 | -0.00104 |
| #2 LF-16 | 0.00021 |
| #2 LF-17 | 0.00055 |
| #2 LF-19 | -0.00035 |
| #2 LF-20 | -0.00253 |
| #2 LF-21 | 0.00104 |
| #2 LF-22 | 0.00134 |
| #2 LF-23 | -0.00118 |
| #3 LF-7 | -0.00126 |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und
Linienlast-Resultierenden, getrennt nach positiven
und negativen Anteilen

Lasten aus Lastgruppen werden nicht âæãfi'←b↔[^]â\↔&\È

| Linienlasten | Position | | EW | Art | *~b↔↔{ [kN] | ^æ&ā\↔{ [kN] |
|--------------|----------|-------------|----|-----|-----------------|------------------|
| | | | | | | |
| | RL1 | WS-T-1.2_BR | Gk | PGr | 0.00 | |
| | RL2 | WS-1.5_BR | Gk | PGr | 0.00 | |
| | WT-1.1 | | Gk | PGr | 1329.96 | |

Linienlasten

POSITION

EG-LP4

| Position | EW | Art | *~b↔↔{ [kN] | ^æ&á\↔{ [kN] |
|----------|---------|-----|----------------|-----------------|
| | Ö← | PGr | 333.19 | |
| | Qk.N_B1 | PGr | 173.39 | -4.70 |
| | Qk.N_C1 | PGr | 101.08 | -23.82 |
| | Qk.N_C5 | PGr | 177.89 | -0.15 |
| | Qk.N_E1 | PGr | 6.32 | -2.46 |
| | Qk.N_DA | PGr | 220.80 | -8.91 |
| | Qk.N_T2 | PGr | 2.05 | -12.71 |
| WT-1.2_1 | Gk | PGr | 73.10 | |
| | Ö← | PGr | 18.03 | |
| | Qk.N_B1 | PGr | 15.19 | -10.37 |
| | Qk.N_C1 | PGr | 10.02 | -39.76 |
| | Qk.N_C5 | PGr | 36.15 | 0.00 |
| | Qk.N_E1 | PGr | 24.09 | -16.07 |
| | Qk.N_DA | PGr | 15.10 | -5.60 |
| | Qk.N_T2 | PGr | 0.02 | -0.02 |
| WT-1.2_2 | Gk | PGr | 118.21 | |
| | Ö← | PGr | 36.29 | |
| | Qk.N_B1 | PGr | 15.07 | -1.72 |
| | Qk.N_C1 | PGr | 15.77 | -15.25 |
| | Qk.N_C5 | PGr | 28.74 | 0.00 |
| | Qk.N_E1 | PGr | 24.63 | -1.23 |
| | Qk.N_DA | PGr | 1.61 | -0.70 |
| | Qk.N_T2 | PGr | 0.01 | -0.03 |
| WT-1.3 | Gk | PGr | 565.76 | |
| | Ö← | PGr | 173.65 | |
| | Qk.N_B1 | PGr | 90.37 | -1.97 |
| | Qk.N_C1 | PGr | 92.44 | -6.14 |
| | Qk.N_C5 | PGr | 71.86 | -0.69 |
| | Qk.N_E1 | PGr | 25.54 | -5.16 |
| | Qk.N_DA | PGr | 70.79 | -5.75 |
| | Qk.N_T2 | PGr | 0.00 | -0.02 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Abs Lastwert maximaler Lagerabschnitt
e Abstand der Resultierenden zur Mitte des Polygonabschnitts
Res Resultierende Gesamtauflagerkraft

je Einwirkung

charakteristische Trapez-Wandlagerkraft je Einwirkung

g b\+^ä&æÄÖ^}↔ä|^&
Reihenfolge Ausgabe
min Anfang
max Anfang
min Mitte
max Mitte
min Ende
max Ende

WT-1.1

Q+^&æÄKÄÍÈÍÁ↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 210.33 | 189.18 | 171.61 | 154.04 | -0.13 | 1330.0 |
| Ö← | g | 56.90 | 52.66 | 42.99 | 33.33 | -0.29 | 333.19 |
| Qk.N_B1 | min | -0.22 | -0.33 | 0.40 | 1.13 | 2.36 | 3.10 |
| | max | 37.39 | 36.10 | 21.37 | 6.64 | -0.89 | 165.59 |
| | min | | 0.07 | -0.03 | -0.13 | 4.09 | -0.23 |
| | max | | 35.70 | 21.80 | 7.89 | -0.82 | 168.92 |
| | min | | 0.07 | -0.03 | -0.13 | 4.09 | -0.23 |
| | max | | 35.70 | 21.80 | 7.89 | -0.82 | 168.92 |
| Qk.N_C1 | min | -6.00 | -5.75 | -2.19 | 1.38 | -2.11 | -16.93 |
| | max | 21.91 | 13.21 | 12.15 | 11.09 | -0.11 | 94.19 |
| | min | | -5.75 | -2.19 | 1.38 | -2.11 | -16.94 |
| | max | | 13.21 | 12.15 | 11.09 | -0.11 | 94.20 |
| | min | | 0.41 | 0.04 | -0.33 | -12.54 | 0.30 |
| | max | | 7.05 | 9.93 | 12.81 | 0.37 | 76.97 |
| Qk.N_C5 | min | -0.01 | -0.94 | 0.73 | 2.39 | 2.96 | 5.62 |
| | max | 35.47 | 18.09 | 22.21 | 26.33 | 0.24 | 172.12 |
| | min | | 0.00 | 0.00 | -0.01 | 3.51 | -0.02 |
| | max | | 17.15 | 22.94 | 28.73 | 0.33 | 177.76 |
| | min | | 0.00 | 0.00 | -0.01 | 3.51 | -0.02 |
| | max | | 17.15 | 22.94 | 28.73 | 0.33 | 177.76 |
| Qk.N_E1 | min | -0.47 | -0.04 | -0.01 | 0.02 | -3.97 | -0.07 |
| | max | 5.29 | 2.49 | 0.51 | -1.47 | -5.04 | 3.93 |
| | min | | 0.10 | -0.09 | -0.28 | 2.63 | -0.71 |
| | max | | 2.35 | 0.59 | -1.17 | -3.86 | 4.57 |
| | min | | 2.47 | 0.50 | -1.48 | -5.15 | 3.84 |
| | max | | -0.02 | 0.00 | 0.03 | 14.24 | 0.02 |
| Qk.N_DA | min | -1.09 | -3.51 | 1.22 | 5.94 | 5.02 | 9.42 |
| | max | 48.18 | 42.22 | 26.13 | 10.03 | -0.80 | 202.47 |
| | min | | -0.95 | -0.21 | 0.53 | -4.51 | -1.64 |
| | max | | 39.66 | 27.55 | 15.44 | -0.57 | 213.53 |
| | min | | 0.02 | -0.07 | -0.16 | 1.70 | -0.55 |
| | max | | 38.69 | 27.41 | 16.13 | -0.53 | 212.44 |
| Qk.N_T2 | min | -4.28 | -0.55 | -0.44 | -0.33 | -0.32 | -3.43 |
| | max | 0.00 | 0.66 | -0.93 | -2.53 | 2.21 | -7.23 |
| | min | | 0.11 | -1.37 | -2.86 | 1.39 | -10.65 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | min | | 0.11 | -1.37 | -2.86 | 1.39 | -10.65 |
| | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

WT-1.2_1

Q+^&æÄKÄÍÈÍÁ↑

| Kraft Ft | | F _{t,Abs} [kN/m] | F _{t,A} [kN/m] | F _{t,M} [kN/m] | F _{t,E} [kN/m] | e [m] | F _{t,Res} [kN] |
|----------|-----|------------------------------|----------------------------|----------------------------|----------------------------|----------|----------------------------|
| Gk | g | 98.21 | 63.75 | 84.02 | 104.29 | 0.03 | 73.10 |
| Ö← | g | 25.13 | 14.43 | 20.72 | 27.01 | 0.04 | 18.03 |
| Qk.N_B1 | min | -13.79 | -14.94 | -11.92 | -8.89 | -0.04 | -10.37 |
| | max | 17.93 | 18.30 | 17.46 | 16.61 | -0.01 | 15.19 |
| | min | | -14.94 | -11.92 | -8.89 | -0.04 | -10.37 |
| | max | | 18.30 | 17.46 | 16.61 | -0.01 | 15.19 |

POSITION

EG-LP4

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Qk.N_C1 | min | | -14.94 | -11.92 | -8.89 | -0.04 | -10.37 |
| | max | | 18.30 | 17.46 | 16.61 | -0.01 | 15.19 |
| | min | -56.50 | -62.24 | -45.69 | -29.14 | -0.05 | -39.75 |
| | max | 12.99 | 9.41 | 11.51 | 13.60 | 0.03 | 10.01 |
| | min | | -62.24 | -45.69 | -29.14 | -0.05 | -39.75 |
| | max | | 9.41 | 11.51 | 13.60 | 0.03 | 10.01 |
| Qk.N_C5 | min | | -62.15 | -45.68 | -29.20 | -0.05 | -39.74 |
| | max | | 9.32 | 11.49 | 13.67 | 0.03 | 10.00 |
| | min | -0.01 | -0.01 | 0.00 | 0.00 | -0.14 | 0.00 |
| | max | 47.35 | 50.43 | 41.55 | 32.67 | -0.03 | 36.15 |
| | min | | -0.01 | 0.00 | 0.00 | -0.13 | 0.00 |
| | max | | 50.43 | 41.55 | 32.67 | -0.03 | 36.15 |
| Qk.N_E1 | min | | -0.01 | 0.00 | 0.00 | -0.13 | 0.00 |
| | max | | 50.43 | 41.55 | 32.67 | -0.03 | 36.15 |
| | min | -21.93 | -24.07 | -18.31 | -12.55 | -0.05 | -15.93 |
| | max | 31.08 | 32.97 | 27.53 | 22.10 | -0.03 | 23.95 |
| | min | | -24.05 | -18.37 | -12.69 | -0.04 | -15.98 |
| | max | | 32.95 | 27.59 | 22.23 | -0.03 | 24.00 |
| Qk.N_DA | min | | -22.75 | -18.01 | -13.28 | -0.04 | -15.67 |
| | max | | 31.64 | 27.23 | 22.82 | -0.02 | 23.69 |
| | min | -8.20 | -3.89 | -6.43 | -8.97 | 0.06 | -5.60 |
| | max | 20.57 | 12.77 | 17.35 | 21.94 | 0.04 | 15.10 |
| | min | | -3.88 | -6.43 | -8.99 | 0.06 | -5.60 |
| | max | | 12.76 | 17.36 | 21.95 | 0.04 | 15.10 |
| Qk.N_T2 | min | | -3.88 | -6.43 | -8.99 | 0.06 | -5.60 |
| | max | | 12.76 | 17.36 | 21.95 | 0.04 | 15.10 |
| | min | -0.04 | -0.05 | -0.03 | -0.01 | -0.08 | -0.03 |
| | max | 0.03 | 0.03 | 0.02 | 0.01 | -0.05 | 0.02 |
| | min | | -0.05 | -0.03 | -0.01 | -0.08 | -0.03 |
| | max | | 0.03 | 0.02 | 0.01 | -0.05 | 0.02 |

WT-1.2_2
 $Q_k^{\wedge} \& \acute{A} \acute{K} \acute{A} \acute{E} \acute{E} \acute{I} \acute{I} \acute{A} \uparrow$

| Kraft Ft | | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|----------|-----|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| Gk | g | 180.34 | 202.13 | 135.88 | 69.62 | -0.07 | 118.21 |
| Ö← | g | 57.82 | 65.71 | 41.72 | 17.72 | -0.08 | 36.29 |
| Qk.N_B1 | min | -4.29 | -5.99 | -1.34 | 3.31 | -0.50 | -1.16 |
| | max | 23.74 | 27.76 | 16.68 | 5.60 | -0.10 | 14.51 |
| | min | | -5.97 | -1.34 | 3.29 | -0.50 | -1.17 |
| | max | | 27.74 | 16.68 | 5.62 | -0.10 | 14.51 |
| | min | | 0.00 | -0.01 | -0.03 | 0.14 | -0.01 |
| | max | | 21.77 | 15.35 | 8.93 | -0.06 | 13.36 |
| Qk.N_C1 | min | -8.93 | -12.13 | -6.25 | -0.36 | -0.14 | -5.44 |
| | max | 43.06 | 62.78 | 6.85 | -49.09 | -1.18 | 5.96 |
| | min | | -9.93 | -6.94 | -3.96 | -0.06 | -6.04 |
| | max | | 60.58 | 7.54 | -45.50 | -1.02 | 6.56 |
| | min | | 53.70 | 0.09 | -53.53 | -90.61 | 0.08 |
| | max | | -3.06 | 0.51 | 4.08 | 1.01 | 0.45 |
| Qk.N_C5 | min | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | max | 40.71 | 21.96 | 33.03 | 44.11 | 0.05 | 28.74 |
| | min | | 0.01 | 0.00 | -0.02 | 1.39 | 0.00 |
| | max | | 21.95 | 33.03 | 44.12 | 0.05 | 28.74 |
| | min | | 0.01 | 0.00 | -0.02 | 1.47 | 0.00 |
| | max | | 21.95 | 33.03 | 44.12 | 0.05 | 28.74 |
| Qk.N_E1 | min | -1.18 | -5.40 | 5.18 | 15.77 | 0.30 | 4.51 |
| | max | 32.01 | 39.16 | 21.71 | 4.26 | -0.12 | 18.89 |
| | min | | -0.54 | -0.92 | -1.29 | 0.06 | -0.80 |
| | max | | 34.30 | 27.81 | 21.32 | -0.03 | 24.19 |
| | min | | -0.54 | -0.92 | -1.29 | 0.06 | -0.80 |
| | max | | 34.30 | 27.81 | 21.32 | -0.03 | 24.19 |
| Qk.N_DA | min | -1.33 | -1.66 | -0.80 | 0.06 | -0.16 | -0.70 |
| | max | 2.56 | 0.74 | 1.85 | 2.95 | 0.09 | 1.61 |
| | min | | -1.66 | -0.80 | 0.05 | -0.15 | -0.70 |

W-67

Kraft F_t

| | $F_{t,Abs}$ [kN/m] | $F_{t,A}$ [kN/m] | $F_{t,M}$ [kN/m] | $F_{t,E}$ [kN/m] | e [m] | $F_{t,Res}$ [kN] |
|------------|-----------------------|---------------------|---------------------|---------------------|----------|---------------------|
| max | | 0.74 | 1.85 | 2.96 | 0.09 | 1.61 |
| min | | -0.08 | -0.10 | -0.13 | 0.04 | -0.09 |
| max | | -0.84 | 1.15 | 3.14 | 0.25 | 1.00 |
| min | -0.04 | -0.02 | -0.01 | 0.01 | -0.44 | -0.01 |
| max | 0.00 | 0.04 | -0.01 | -0.07 | 0.62 | -0.01 |
| min | | 0.02 | -0.02 | -0.06 | 0.29 | -0.02 |
| max | | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 |
| min | | 0.04 | -0.01 | -0.07 | 0.60 | -0.01 |
| max | | -0.02 | -0.01 | 0.01 | -0.51 | 0.00 |

WT-1.3
 $Q_k^{\perp} \cdot \vec{e}_K \cdot \vec{e}_I \cdot \vec{e}_A$

Kraft F_t

| Kraft Ft | | F _{t,Abs} | F _{t,A} | F _{t,M} | F _{t,E} | e | F _{t,Res} |
|----------|-----|--------------------|------------------|------------------|------------------|-------|--------------------|
| | | [kN/m] | [kN/m] | [kN/m] | [kN/m] | [m] | [kN] |
| Gk | g | 241.06 | 205.67 | 226.31 | 246.95 | 0.04 | 565.76 |
| Ö← | g | 72.55 | 65.04 | 69.46 | 73.88 | 0.03 | 173.65 |
| Qk.N_B1 | min | -1.08 | -0.46 | -0.25 | -0.05 | -0.34 | -0.64 |
| | max | 37.72 | 38.94 | 35.61 | 32.28 | -0.04 | 89.03 |
| | min | | -0.39 | -0.79 | -1.19 | 0.21 | -1.97 |
| | max | | 38.87 | 36.15 | 33.42 | -0.03 | 90.37 |
| | min | | -0.39 | -0.79 | -1.19 | 0.21 | -1.97 |
| Qk.N_C1 | max | | 38.87 | 36.15 | 33.42 | -0.03 | 90.37 |
| | min | -3.71 | -4.28 | -2.46 | -0.63 | -0.31 | -6.14 |
| | max | 38.71 | 34.16 | 36.98 | 39.79 | 0.03 | 92.44 |
| | min | | -4.27 | -2.46 | -0.64 | -0.31 | -6.14 |
| | max | | 34.16 | 36.98 | 39.80 | 0.03 | 92.44 |
| Qk.N_C5 | min | | -3.95 | -2.32 | -0.69 | -0.29 | -5.80 |
| | max | | 33.83 | 36.84 | 39.85 | 0.03 | 92.10 |
| | min | -0.37 | -0.61 | -0.18 | 0.24 | -0.97 | -0.46 |
| | max | 30.02 | 30.99 | 28.65 | 26.32 | -0.03 | 71.63 |
| | min | | -0.43 | -0.22 | -0.02 | -0.39 | -0.55 |
| Qk.N_E1 | max | | 30.80 | 28.69 | 26.58 | -0.03 | 71.73 |
| | min | | -0.42 | -0.22 | -0.02 | -0.38 | -0.55 |
| | max | | 30.79 | 28.69 | 26.59 | -0.03 | 71.72 |
| | min | -2.53 | -1.23 | -0.81 | -0.38 | -0.22 | -2.02 |
| | max | 10.74 | 10.92 | 8.96 | 6.99 | -0.09 | 22.39 |
| Qk.N_DA | min | | -0.40 | -1.84 | -3.29 | 0.33 | -4.60 |
| | max | | 10.09 | 9.99 | 9.89 | 0.00 | 24.97 |
| | min | | -0.40 | -1.84 | -3.29 | 0.33 | -4.60 |
| | max | | 10.09 | 9.99 | 9.89 | 0.00 | 24.97 |
| | min | -3.33 | -3.60 | -2.12 | -0.64 | -0.29 | -5.30 |
| Qk.N_T2 | max | 35.89 | 18.58 | 28.13 | 37.69 | 0.14 | 70.33 |
| | min | | -3.58 | -2.27 | -0.96 | -0.24 | -5.67 |
| | max | | 18.55 | 28.28 | 38.02 | 0.14 | 70.71 |
| | min | | -1.82 | -1.68 | -1.55 | -0.03 | -4.20 |
| | max | | 16.79 | 27.70 | 38.61 | 0.16 | 69.24 |
| Qk.N_T2 | min | -0.01 | 0.00 | -0.01 | -0.01 | 0.31 | -0.02 |
| | max | 0.00 | 0.00 | 0.00 | 0.00 | -0.54 | 0.00 |
| | min | | 0.00 | -0.01 | -0.01 | 0.31 | -0.02 |
| | max | | 0.00 | 0.00 | 0.00 | -0.54 | 0.00 |
| | min | | 0.00 | -0.01 | -0.01 | 0.52 | -0.01 |
| Qk.N_T2 | max | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

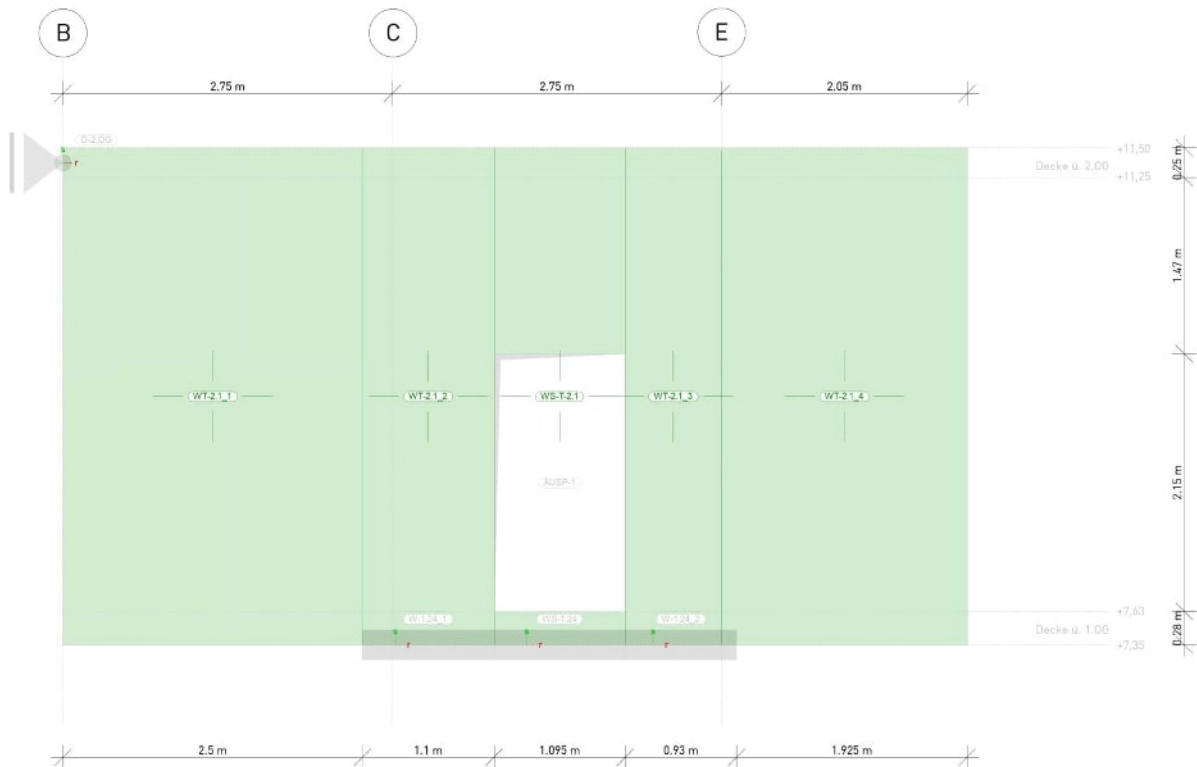
AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

5.1 2. Obergeschoss

5.1.1 WT-2.1

Stat. System:



Material:

Dicke: 25 cm | WT-2.1_1 bis WT-2.1_3, WS-T-2.1
35 cm | WT-2.1_4

Betonstahl: B 500SB

Beton: C30/37

Expositionsklasse: XC1, W0 | Innenbauteile

Betondeckung: $c_v = 30 \text{ mm}$

Grundbewehrung: $\emptyset 12/15$ horizontal | $= 7,54 \text{ cm}^2/\text{m}$
 $\emptyset 10/15$ vertikal | $= 5,24 \text{ cm}^2/\text{m}$

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Belastung:

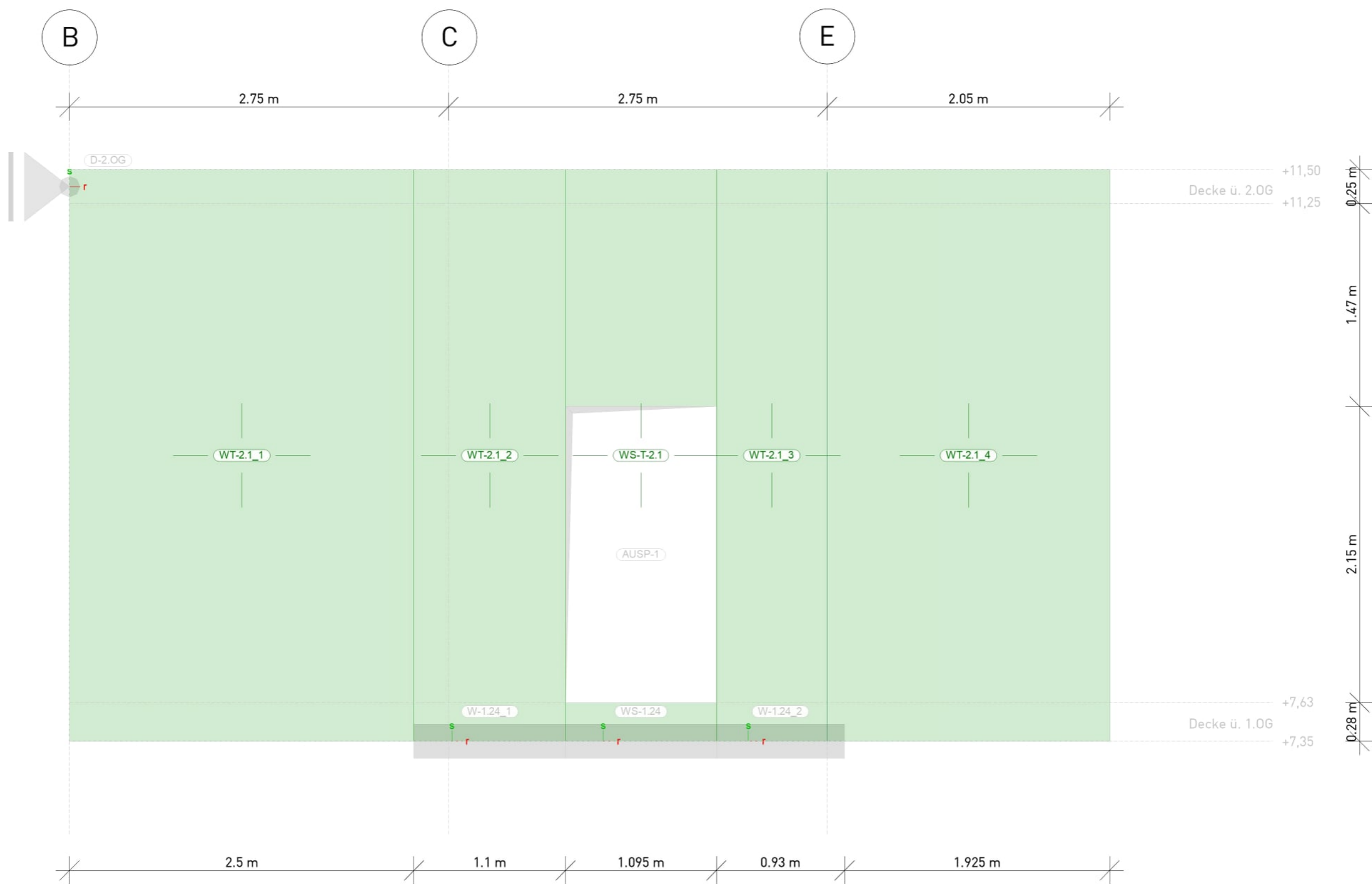
Die Belastung wird aus den Auflagerreaktionen der zugehörigen Wandlager aus den Deckenmodellen D-2.OG und D-1.OG übernommen. Es wird für jeden Lasttyp (Eigengewicht, Ausbau, Nutzlasten) ein eigener Lastfall erstellt. Für die Nutzlasten wird beim Erstellen der Lastfälle in positive und negative Belastungsrichtung unterschieden.

Die Anordnung der Lasten kann aus den Lastplänen entnommen werden.

Da für WT-2.1_2, WT-2.1_3 und WS-T-2.1 keine Last unentseitig angreift, wird hier das Eigengewicht programmintern berücksichtigt. Für die anderen Wandabschnitte gilt der Hinweis aus der Vorbemerkung.

Bemessung:

Siehe folgende Seiten.



| | | | | |
|--------------------|---|------------------------------|-------------------------------------|---------|
| Bauteil-Positionen |  | Modell | WT-2.1 | Tabelle |
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |

Posi ti onspl an

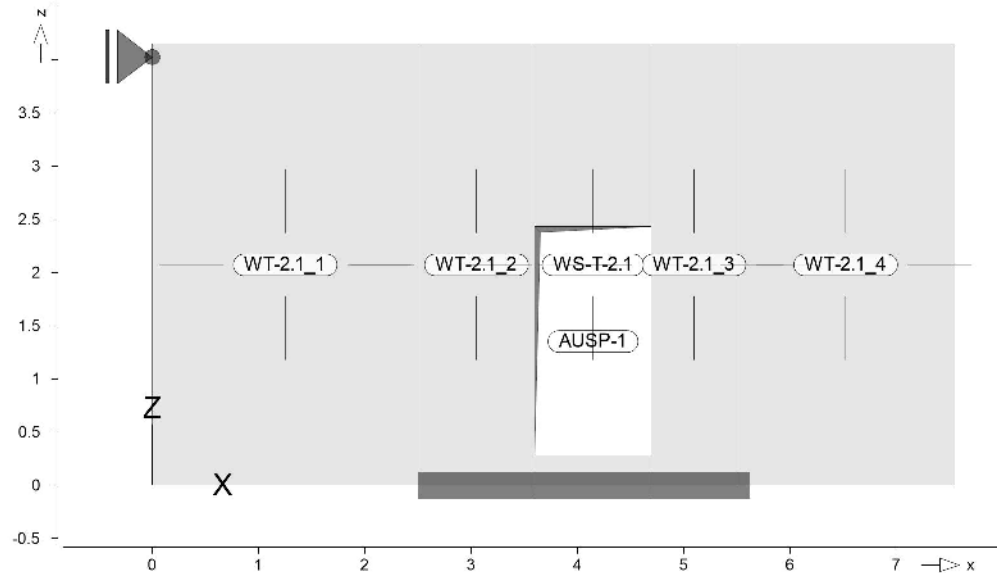
Positionsplan

Bauteile

Bauteil-Positionen

Posi ti onsgrafi k

©âæãb↔´ º\ÁÄæãÃÑá | \æ↔↔ËŞ~b↔\↔~^æ^



Schei ben

Scheiben-Positionen

Stahl beton

| Position | Winkel yflŸ | Art | Material | Dicke [cm] |
|--------------------|------------------|-----|-------------------|---------------|
| WS-T-2.1 | Wandsturz 0.0 | iso | B 500SB C 30/37 Q | 25.0 |
| WT-2.1_1..WT-2.1_3 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |
| WT-2.1_4 | 0.0 | iso | B 500SB C 30/37 Q | 35.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: $\sigma_{ab} \leftrightarrow b = \tilde{a} \mid \wedge \hat{A} T \mid \tilde{a} \sim \leftrightarrow \setminus$
Exz.: $\hat{O} \mid \tilde{a} \wedge \tilde{a} \leftrightarrow \leftrightarrow \mid \tilde{A} \tilde{x}$

Exposi ti onskl asse

&æ↑‡ßÁƐ∅ŠÁÓŠÁFİİĞĖFĖFÊÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|------------------------------|-----------|-----|-------------------------------|
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | umlaufend | XC1 | \~'←æ^Á~äæãÁb\ †^ä↔&Á nass |

Aussparungen

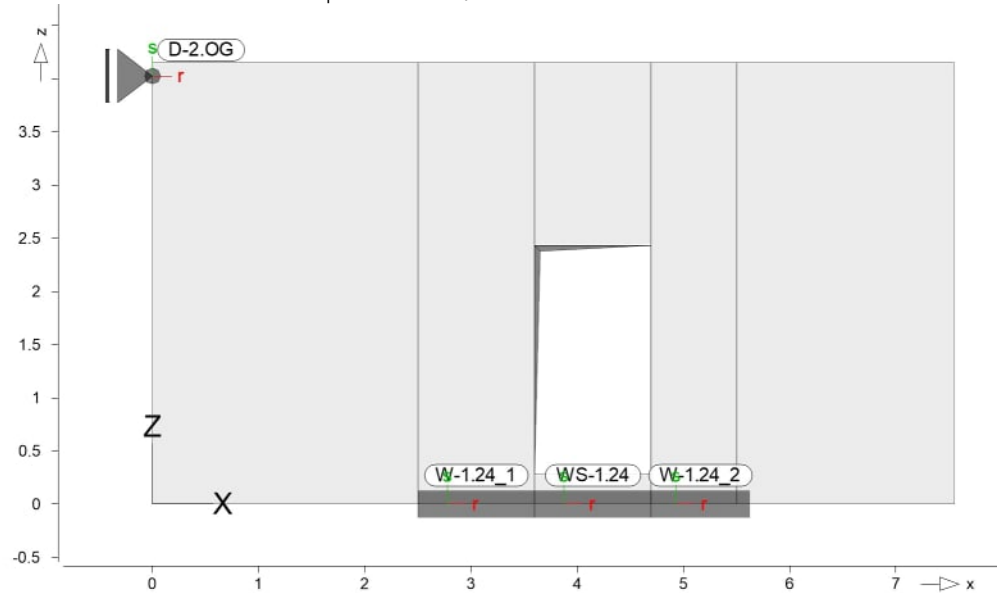
| Position | $\hat{O} \rightarrow \hat{r}^2$ [m ²] | x [m] | z [m] |
|----------|--|----------|----------|
| AUSP-1 | 2.35 | 3.60 | 0.28 |
| | | 4.70 | 0.28 |
| | | 4.70 | 2.43 |
| | | 3.60 | 2.43 |

Auflager

Auflager-Positionen

Positionsgrafik

© 2025 by KREBS+KIEFER



Punktlager

Punktlager-Positionen

| Position | | $K_{T,r}$ [kN/m] | $K_{T,s}$ [kN/m] | $K_{R,t}$ [kNm/rad] |
|----------|-----|---------------------|---------------------|------------------------|
| D-2.OG | +/- | fest | frei | frei |

Linienlager

Linienlager-Positionen

lokal

| Position | | $K_{T,r}$ [kN/m/m] | $K_{T,s}$ [kN/m/m] | $K_{R,t}$ [kNm/rad/m] |
|-----------------------------|----------|-----------------------|-----------------------|--------------------------|
| W-1.24_1, W-1.24_2, WS-1.24 | frei +/- | 3000000 | | frei |

Material

Materialkennwerte

Stahlbeton

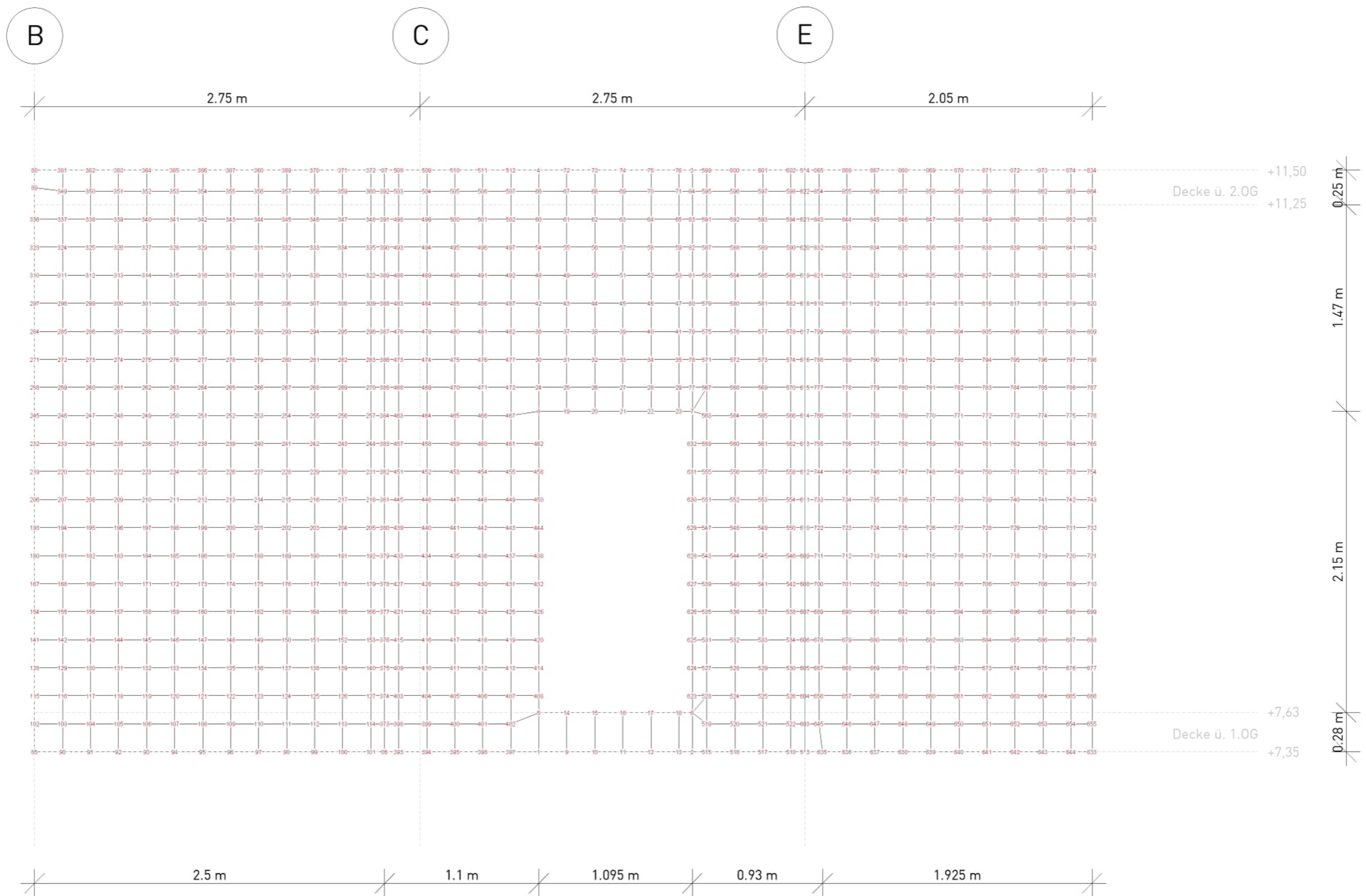
DIN EN 1992-1-1

| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|------------------------------|-----------|--------|----------------|-----------------------|
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |
| Q: Ö 30/37 Q | | | | |


Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte | E_s G | f_{yk} $f_{tk,cal}$ |
|------------------------------|----------|--------|-----------------|--------------------------|
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | B 500SA | 78.50 | 200000 77000 | 500.00 525.00 |
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | B 500SB | 78.50 | 200000 77000 | 500.00 525.00 |



Netzgröße: 0,2 m x 0,2 m

| | | | | | |
|---------------|---------------------|---|------------------------------|-------------------------------------|-----------|
| Knotennummern | Anzahl Knoten = 874 |  | Modell | WT-2.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

Linienlast-Pos

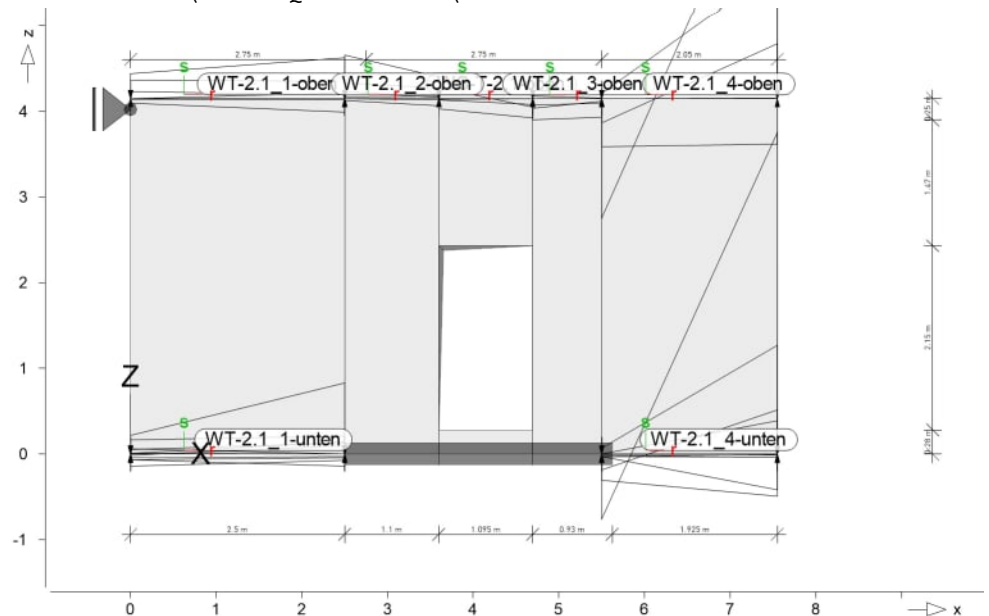
Lasten des FE-Modells

Standardlasten

Standardlasten im FE-Modell

Positionsgrafik

© 2025 by KREBS+KIEFER



Linienlasten

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|-----------------|--------------|----------|--------|-------------------------------|-------------------------------|
| WS-T-2.1-obere | Auflagerlast | WS-T-2.1 | D-2.OG | | |
| Gk | LF-1 | | pGr | 12.75 | -9.53 |
| Qk.N_DA | LF-4 | | pGr | 8.99 | 7.72 |
| Qk.N_DA | LF-5 | | pGr | -12.26 | -22.32 |
| Qk.N_E1 | LF-3 | | pGr | 4.03 | 4.64 |
| Qk.N_E1 | LF-16 | | pGr | -0.54 | -0.04 |
| Ök | LF-2 | | pGr | -1.56 | -7.06 |
| WT-2.1_1-obere | Auflagerlast | WT-2.1_1 | D-2.OG | | |
| Gk | LF-1 | | pGr | 28.73 | 47.40 |
| Qk.N_DA | LF-4 | | pGr | 21.30 | 20.11 |
| Qk.N_DA | LF-5 | | pGr | -5.23 | -15.52 |
| Qk.N_E1 | LF-3 | | pGr | 0.01 | 6.30 |
| Qk.N_E1 | LF-16 | | pGr | -0.65 | -1.64 |
| Ök | LF-2 | | pGr | 7.73 | 4.29 |
| WT-2.1_1-untere | Auflagerlast | WT-2.1_1 | D-1.OG | | |
| Gk | LF-1 | | pGr | 21.54 | 83.45 |
| Qk.N_B1 | LF-6 | | pGr | 0.77 | 0.02 |
| Qk.N_B1 | LF-7 | | pGr | -13.69 | -7.66 |
| Qk.N_C1 | LF-14 | | pGr | 6.06 | 0.50 |
| Qk.N_C5 | LF-8 | | pGr | 1.17 | 14.50 |
| Qk.N_C5 | LF-9 | | pGr | -6.29 | -4.67 |
| Qk.N_DA | LF-12 | | pGr | 16.87 | 21.15 |
| Qk.N_DA | LF-13 | | pGr | -6.72 | -14.15 |
| Qk.N_E1 | LF-10 | | pGr | 5.18 | 12.81 |
| Qk.N_E1 | LF-11 | | pGr | -4.47 | -3.03 |
| Ök | LF-2 | | pGr | -1.04 | 10.16 |
| WT-2.1_2-obere | Auflagerlast | WT-2.1_2 | D-2.OG | | |
| Gk | LF-1 | | pGr | 50.94 | 25.07 |
| Qk.N_DA | LF-4 | | pGr | 17.61 | 12.23 |
| Qk.N_DA | LF-5 | | pGr | -2.10 | -8.43 |
| Qk.N_E1 | LF-3 | | pGr | 1.73 | 2.79 |
| Qk.N_E1 | LF-16 | | pGr | -0.37 | -1.46 |
| Ök | LF-2 | | pGr | 8.36 | 1.67 |
| WT-2.1_3-obere | Auflagerlast | WT-2.1_3 | D-2.OG | | |
| Gk | LF-1 | | pGr | -11.67 | -3.10 |

POSITION

WT-2.1

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|----------------|------------------------------|----------|-----|-------------------------------|-------------------------------|
| | Qk.N_DA | LF-4 | pGr | 8.50 | 9.88 |
| | Qk.N_DA | LF-5 | pGr | -24.71 | -21.59 |
| | Qk.N_E1 | LF-3 | pGr | 3.05 | 0.38 |
| | Qk.N_E1 | LF-16 | pGr | -0.08 | -0.08 |
| | Ö← | LF-2 | pGr | -7.87 | -5.52 |
| WT-2.1_4-oben | Auflagerlast WT-2.1_4 D-2.OG | | | | |
| | Gk | LF-1 | pGr | -140.13 | 324.57 |
| | Qk.N_DA | LF-4 | pGr | 5.99 | 153.36 |
| | Qk.N_DA | LF-5 | pGr | -56.16 | -53.04 |
| | Qk.N_E1 | LF-3 | pGr | 0.04 | 0.39 |
| | Qk.N_E1 | LF-16 | pGr | -0.47 | 0.00 |
| | Ö← | LF-2 | pGr | -28.91 | 64.19 |
| WT-2.1_4-unten | Auflagerlast WT-2.1_4 D-1.OG | | | | |
| | Gk | LF-1 | pGr | -76.03 | 375.75 |
| | Qk.N_B1 | LF-6 | pGr | 0.20 | 0.37 |
| | Qk.N_B1 | LF-7 | pGr | -2.54 | -41.80 |
| | Qk.N_C1 | LF-15 | pGr | -1.55 | -1.03 |
| | Qk.N_C5 | LF-8 | pGr | 0.09 | 39.08 |
| | Qk.N_C5 | LF-9 | pGr | -2.99 | -0.29 |
| | Qk.N_DA | LF-12 | pGr | 7.13 | 127.32 |
| | Qk.N_DA | LF-13 | pGr | -30.12 | -48.82 |
| | Qk.N_E1 | LF-10 | pGr | 0.51 | 0.11 |
| | Qk.N_E1 | LF-11 | pGr | -3.06 | -3.66 |
| | Ö← | LF-2 | pGr | -18.19 | 51.37 |

pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Koordinaten

| Position | $Q_t^{\wedge} \& \grave{a}$ [m] | x [m] | z [m] |
|----------------|------------------------------------|----------|----------|
| WS-T-2.1-oben | 1.10 | 3.60 | 4.15 |
| | | 4.70 | 4.15 |
| WT-2.1_1-oben | 2.50 | 0.00 | 4.15 |
| | | 2.50 | 4.15 |
| WT-2.1_1-unten | 2.50 | 0.00 | 0.00 |
| | | 2.50 | 0.00 |
| WT-2.1_2-oben | 1.10 | 2.50 | 4.15 |
| | | 3.60 | 4.15 |
| WT-2.1_3-oben | 0.81 | 4.70 | 4.15 |
| | | 5.50 | 4.15 |
| WT-2.1_4-oben | 2.05 | 5.50 | 4.15 |
| | | 7.55 | 4.15 |
| WT-2.1_4-unten | 2.05 | 5.50 | 0.00 |
| | | 7.55 | 0.00 |

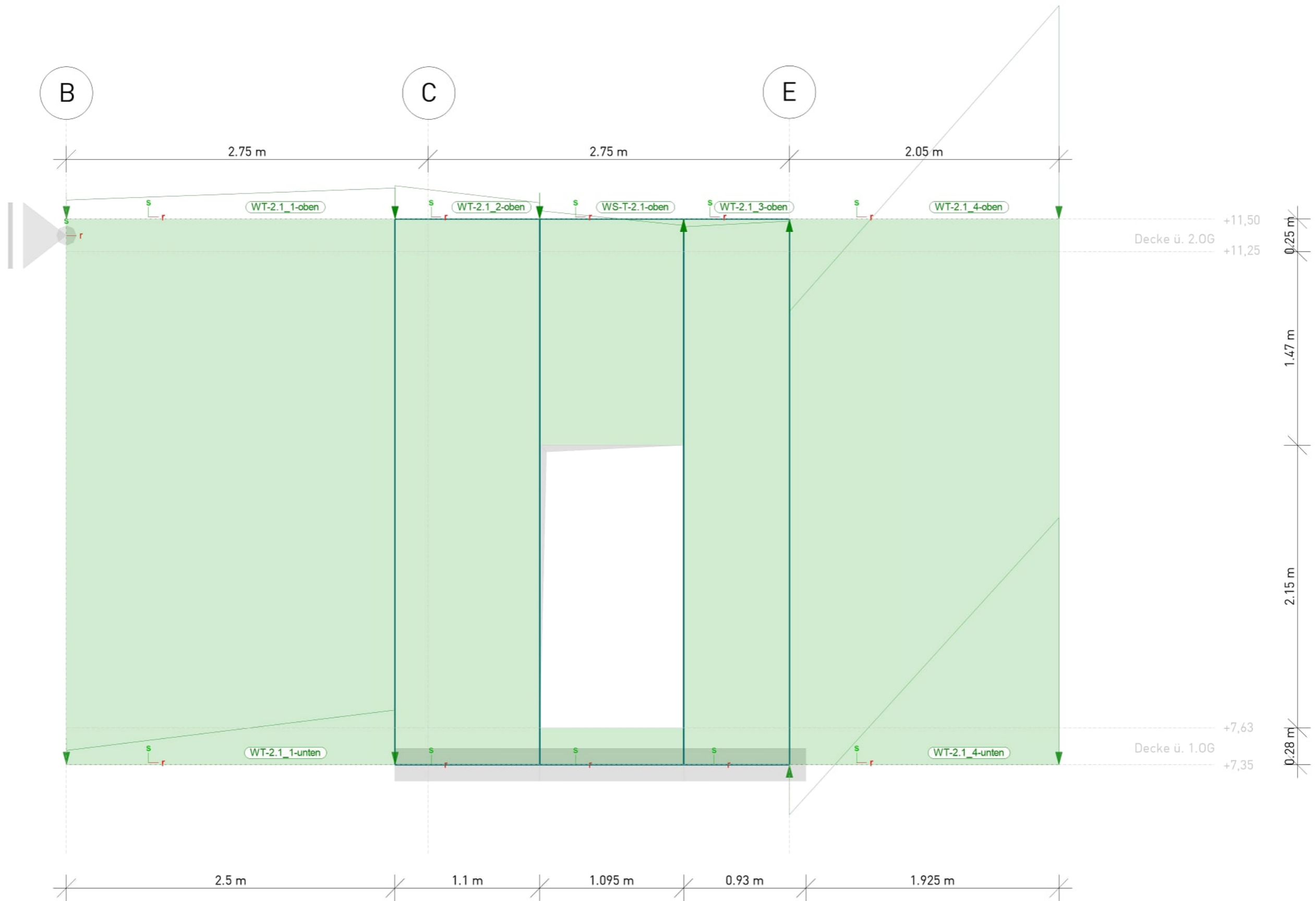
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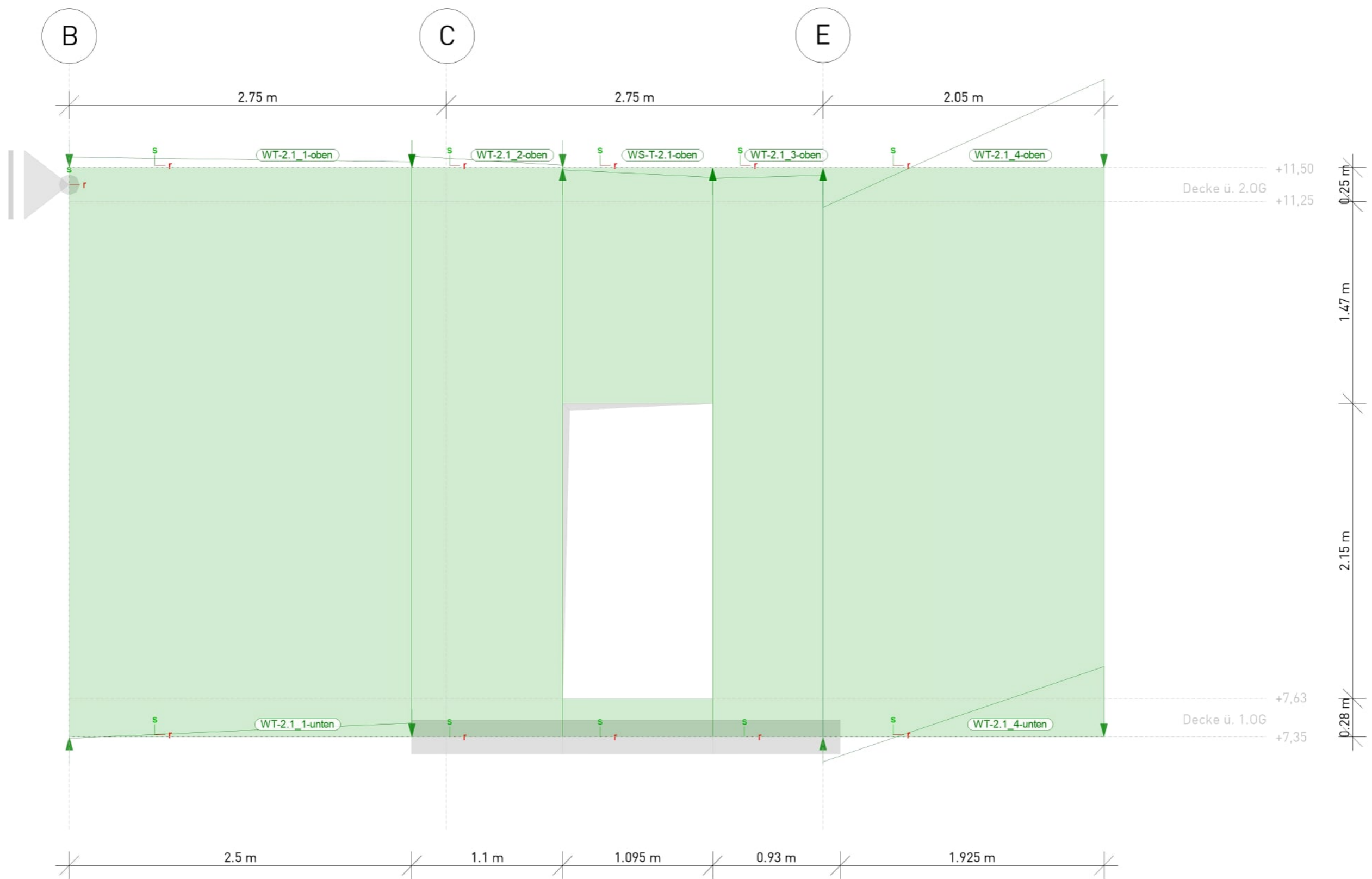
@UghZ}`Y

| Lastfall | Typ | Beschreibung |
|----------|-----|-----------------------------|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbaulast |
| LF-3 | v | Nutzlast Technik, oben |
| LF-4 | v | Nutzlast Technik oben, pos |
| LF-5 | v | Nutzlast Technik oben, neg |
| LF-6 | v | S \`→áb\ÄÑfiä~Ä ^æ^ÊÄ*~b |
| LF-7 | v | S \`→áb\ÄÑfiä~Ä ^æ^ÊÄ^æ& |
| LF-8 | v | Nutzlast Forum unten, pos |
| LF-9 | v | Nutzlast Forum unten, neg |
| LF-10 | v | Nutzlast Technik unten, pos |
| LF-11 | v | Nutzlast Technik unten, neg |
| LF-12 | v | Nutzlast Dach unten, pos |
| LF-13 | v | Nutzlast Dach unten, neg |
| LF-14 | v | Nutzlast Schulung pos |
| LF-15 | v | Nutzlast Schulung neg |
| LF-16 | v | Nutzlast Technik oben, neg |

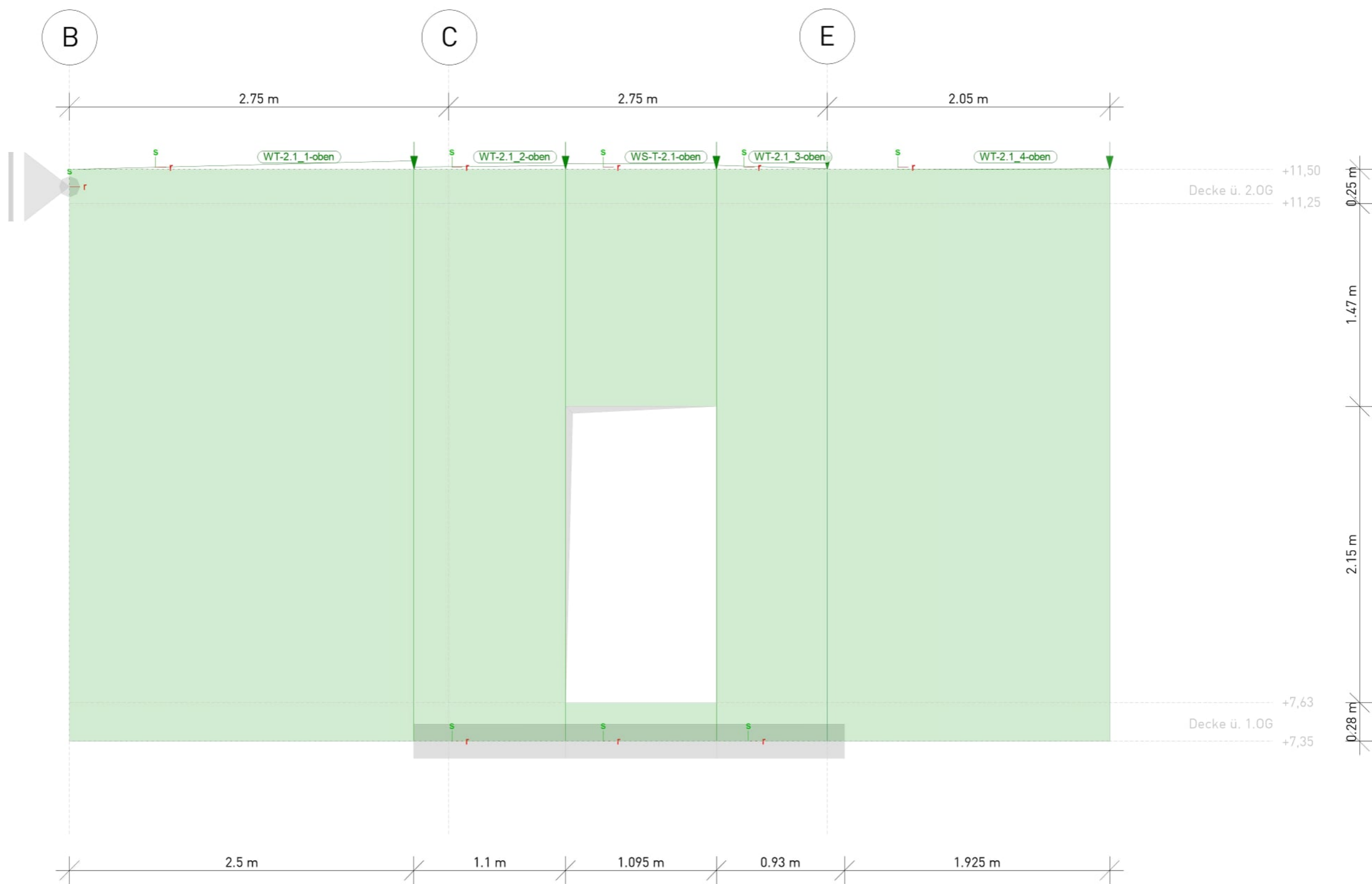
s: b\†^ä↔æääQáb\ää→
v: {æä†^äæ↔↔´ääÄQáb\ää→



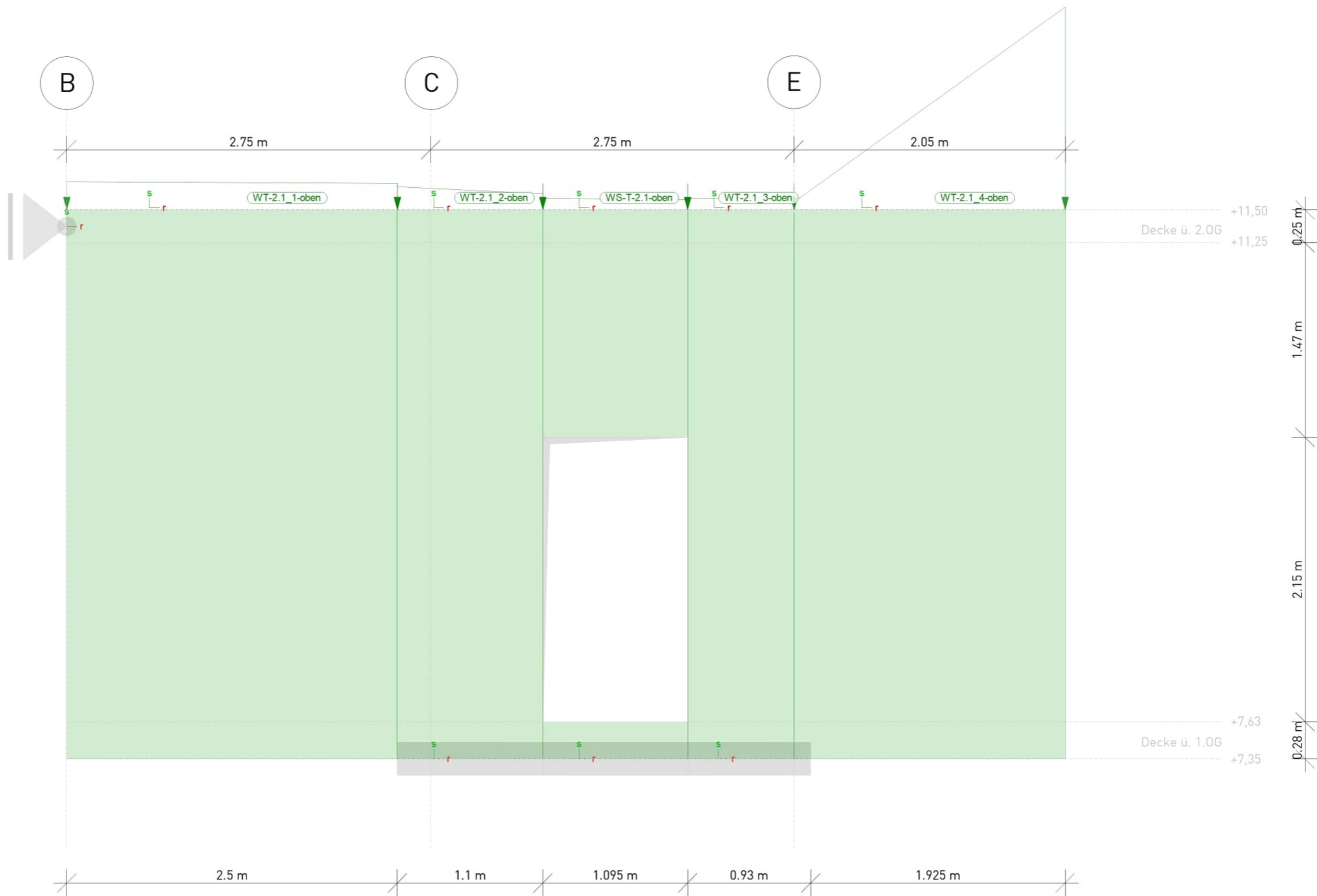
| | | | | |
|----------------------------------|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.1 | Tabelle 1 |
| aus Lastfall LF-1 (Eigengewicht) | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |



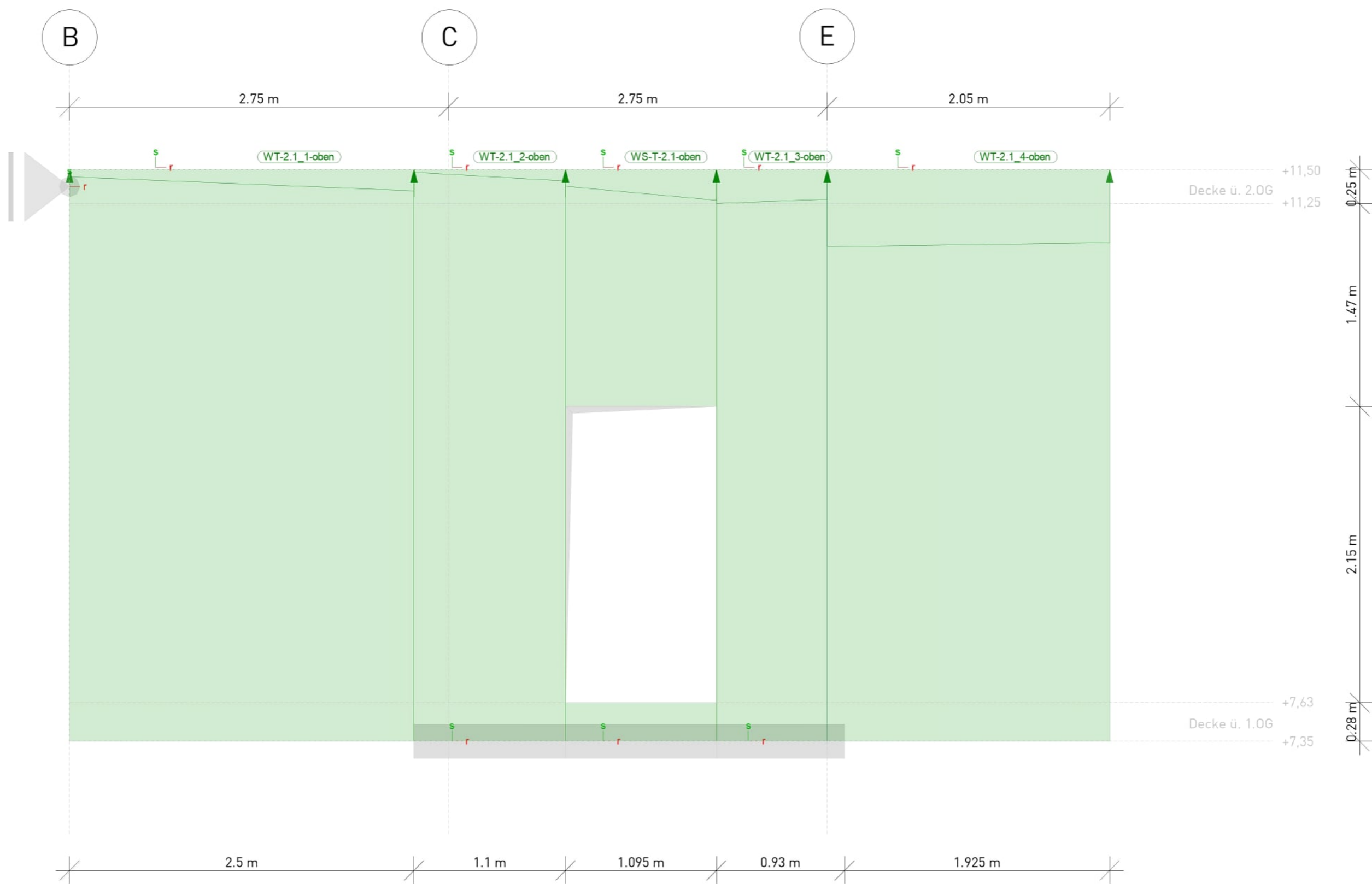
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|--------------------------------|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.1 | Tabelle 1 |
| aus Lastfall LF-2 (Ausbaulast) | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |




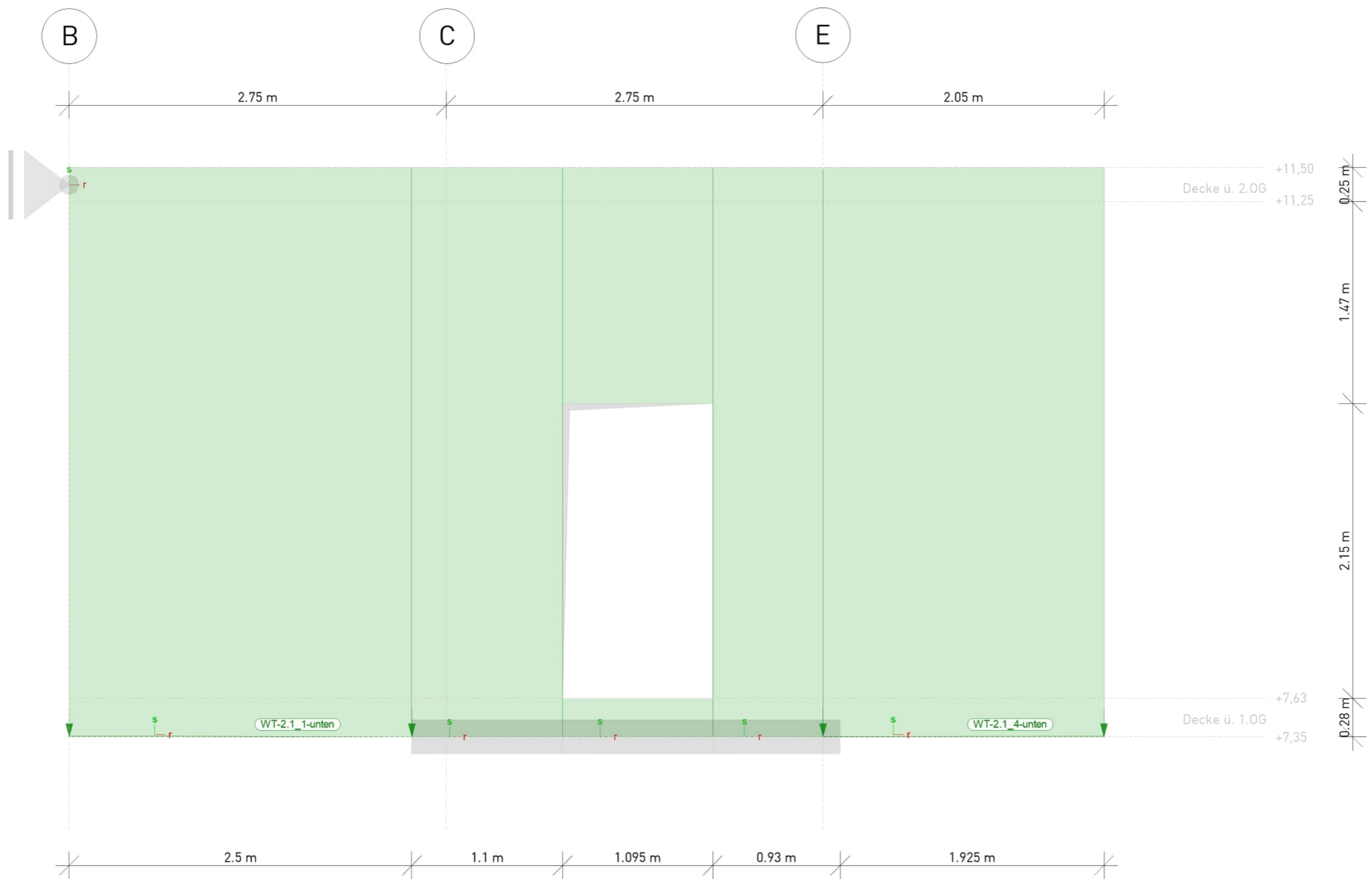
| | | | | |
|--|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.1 | Tabelle 1 |
| aus Lastfall LF-3 (Nutzlast Technik, oben) | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |



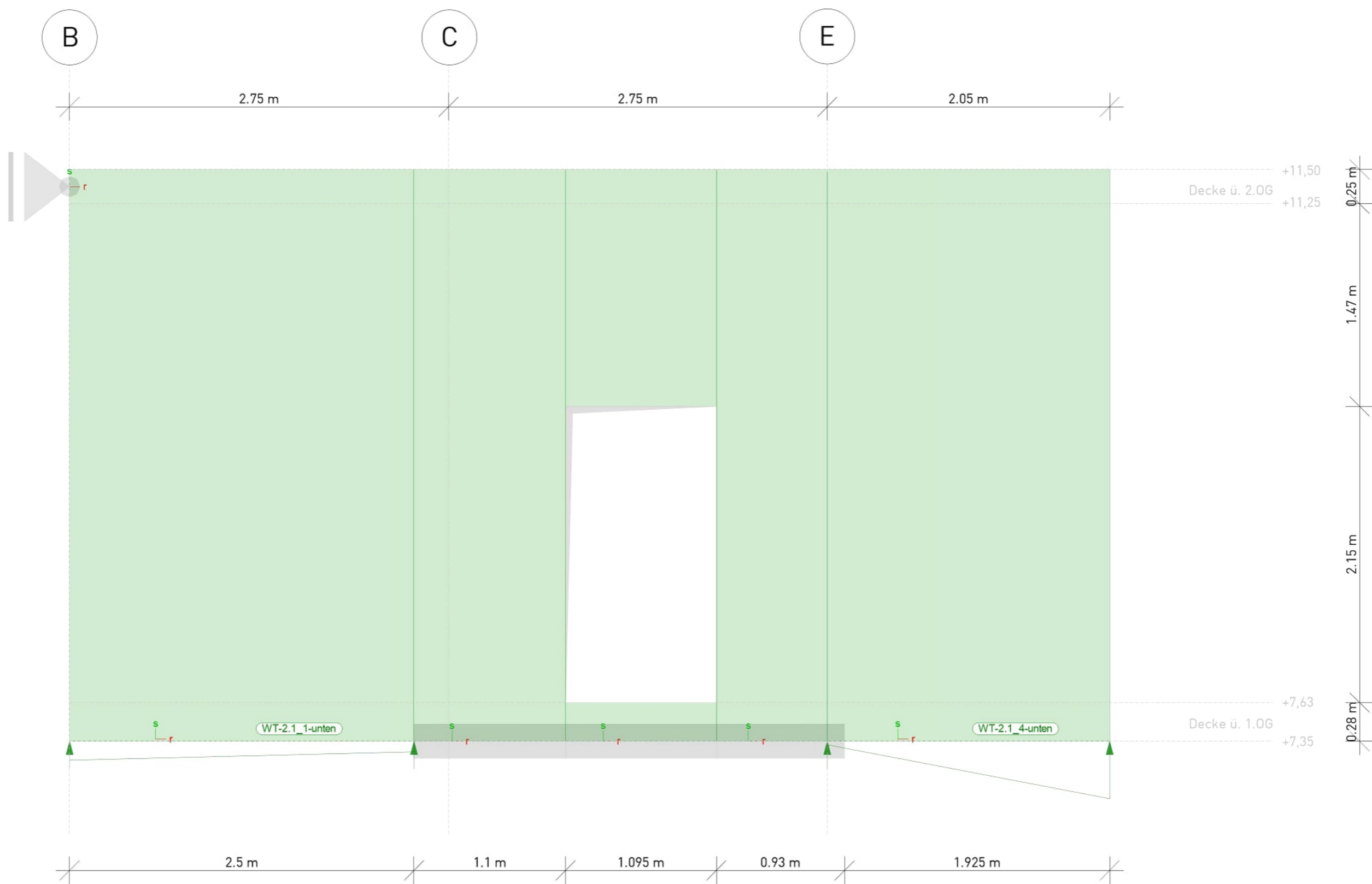
| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-4 (Nutzlast Technik oben, pos) | | | KREBS+KIEFER Ingenieure GmbH | | |




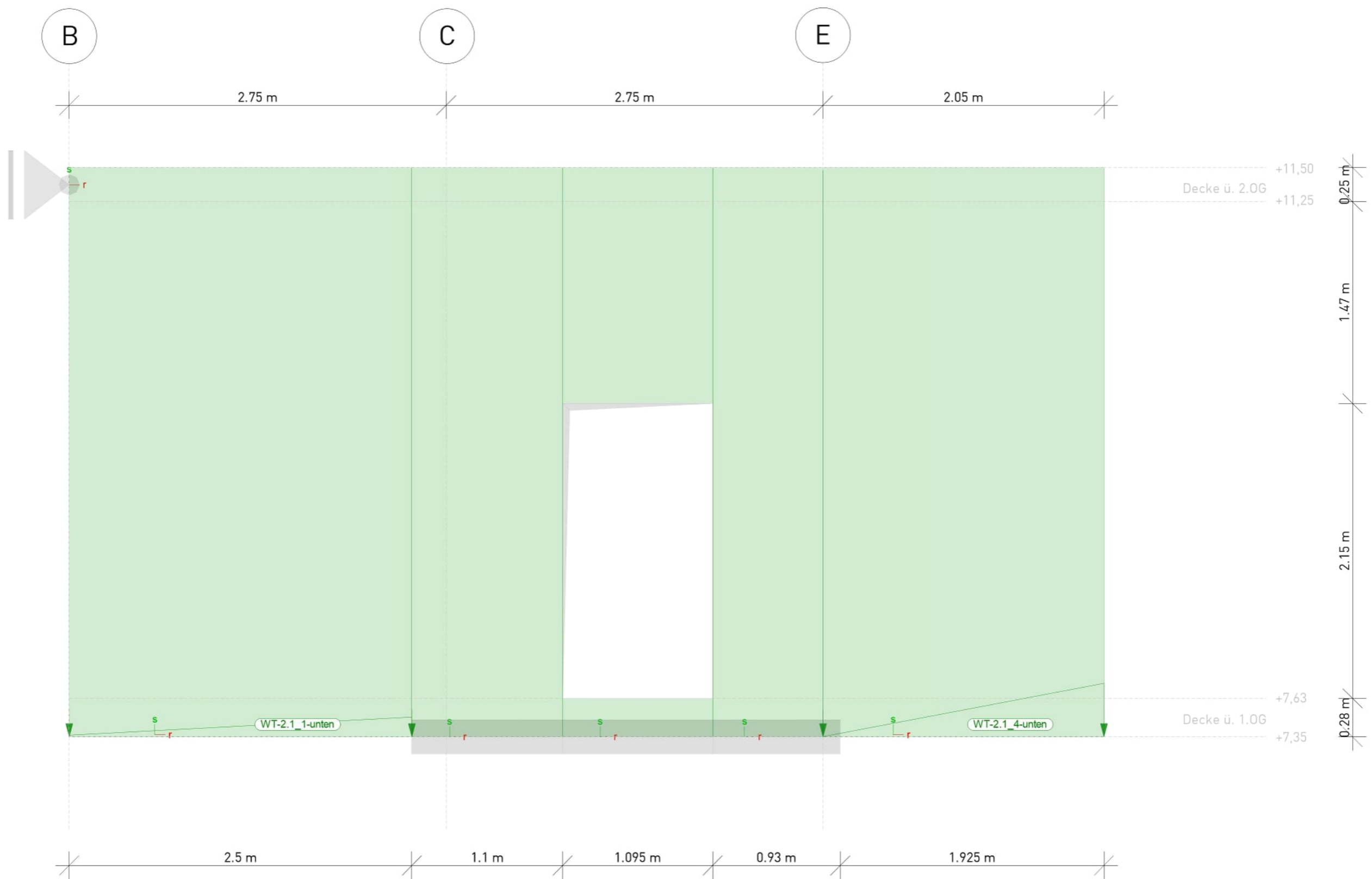
| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.1 | Tabelle 1 |
| aus Lastfall LF-5 (Nutzlast Technik oben, neg) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



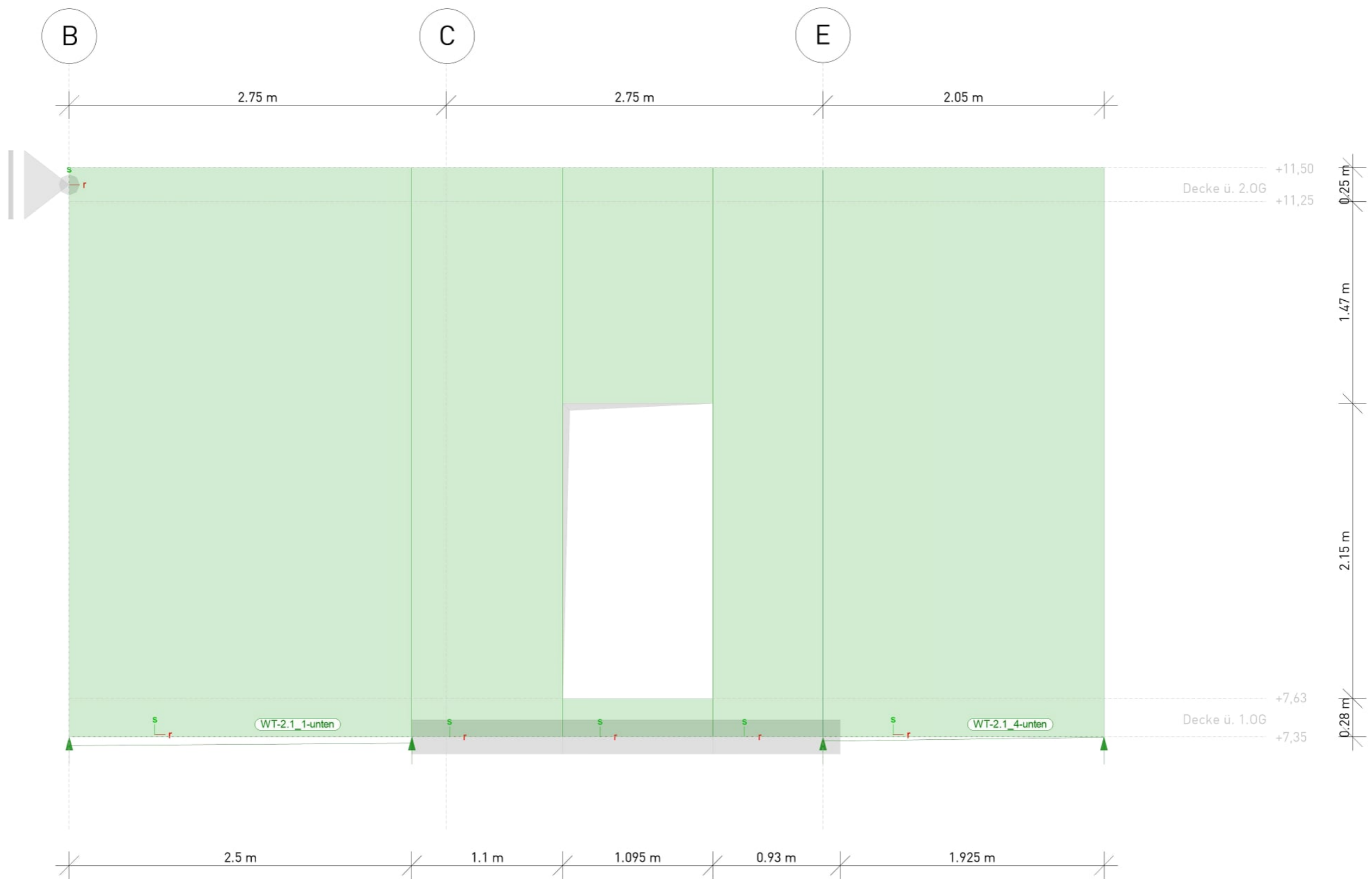
| | | | | |
|-----------------|----------------|---|---|---------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.1 | Tabelle |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |



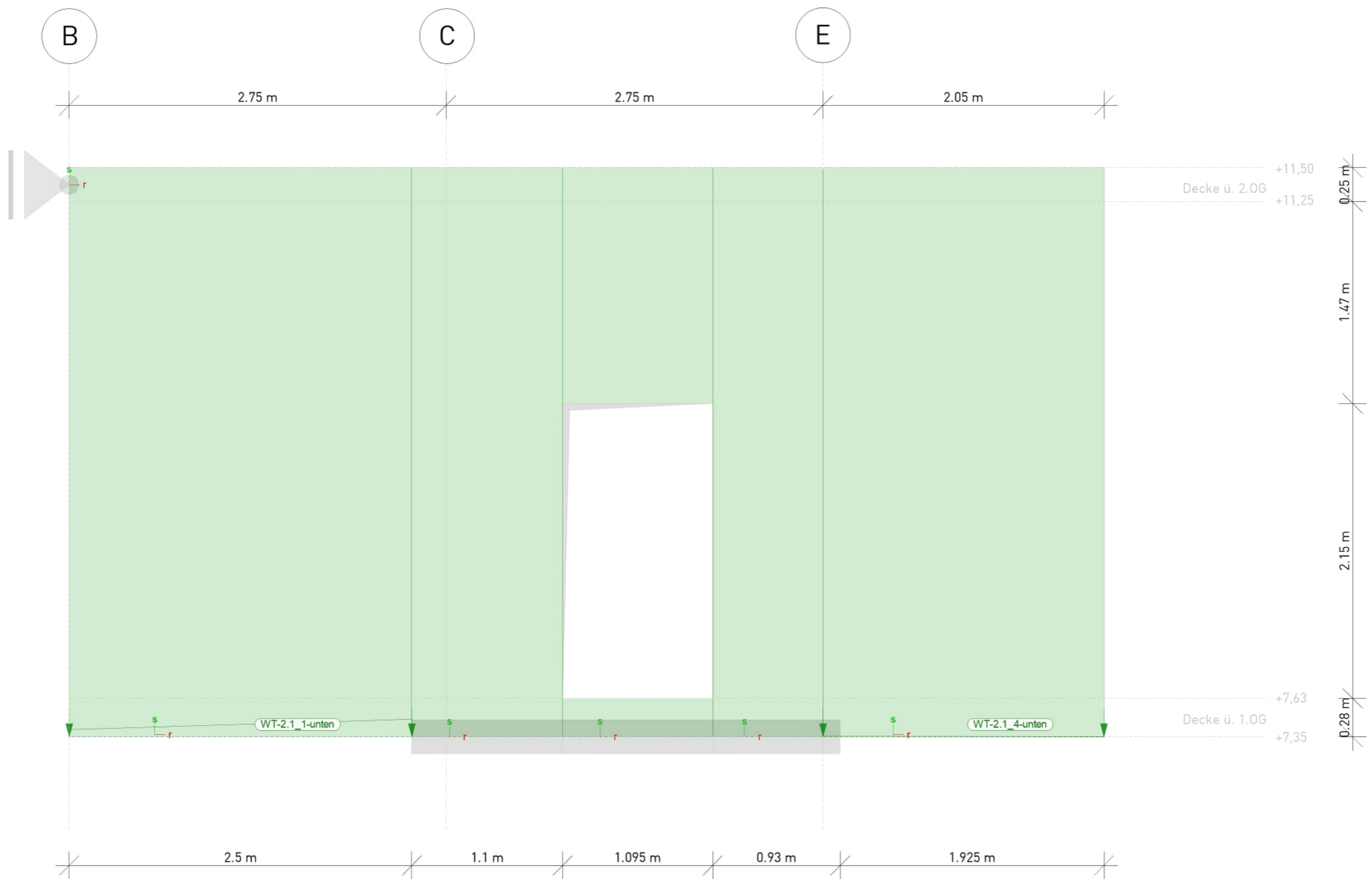
| | | | | |
|-------------------------------------|----------------|---|---|---------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.1 | Tabelle |
| Schulcampus EWK Schwesternschule | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | |



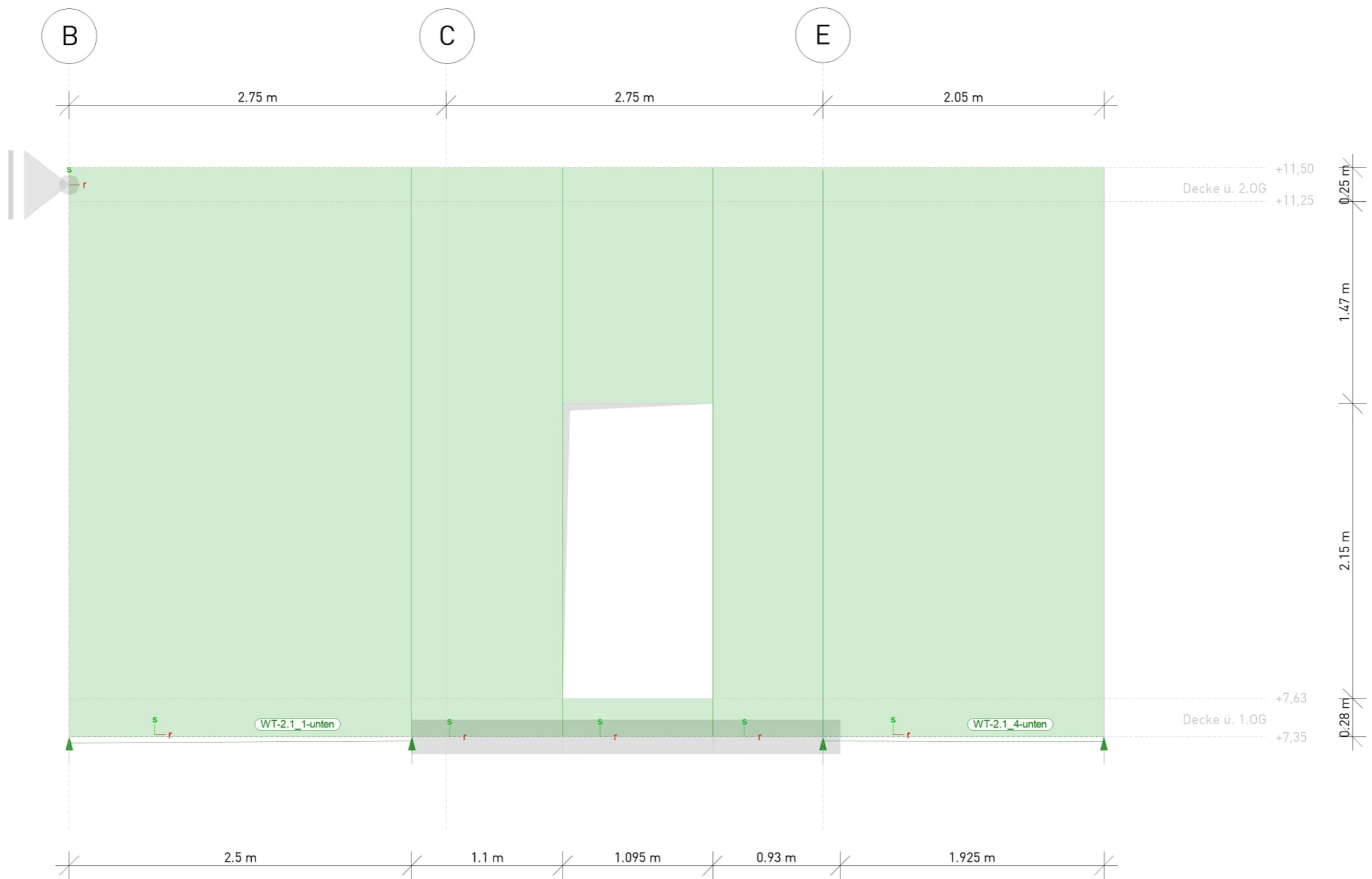
| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.1 | Tabelle 1 |
| aus Lastfall LF-8 (Nutzlast Forum unten, pos) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



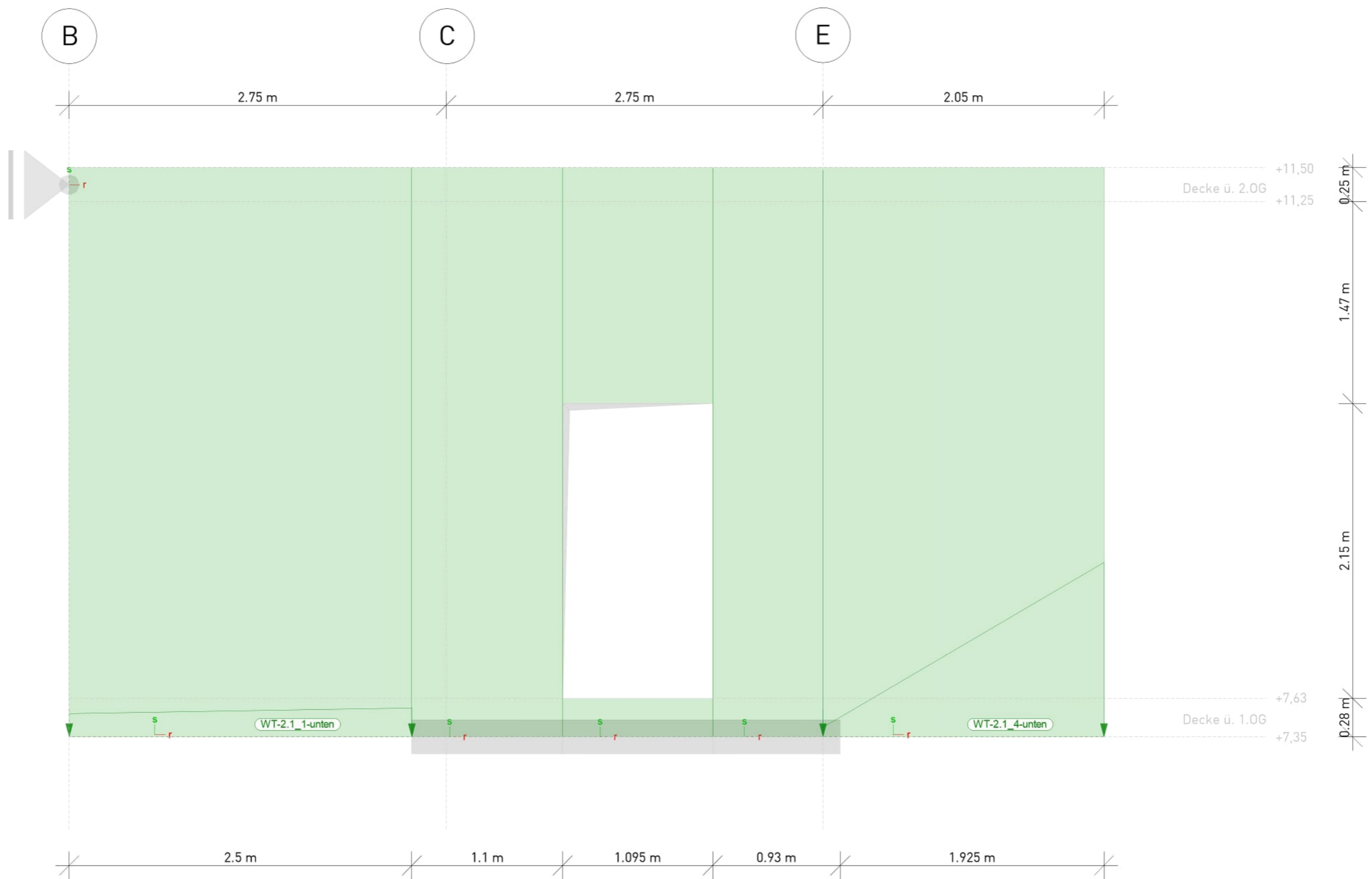
| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.1 | Tabelle 1 |
| aus Lastfall LF-9 (Nutzlast Forum unten, neg) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



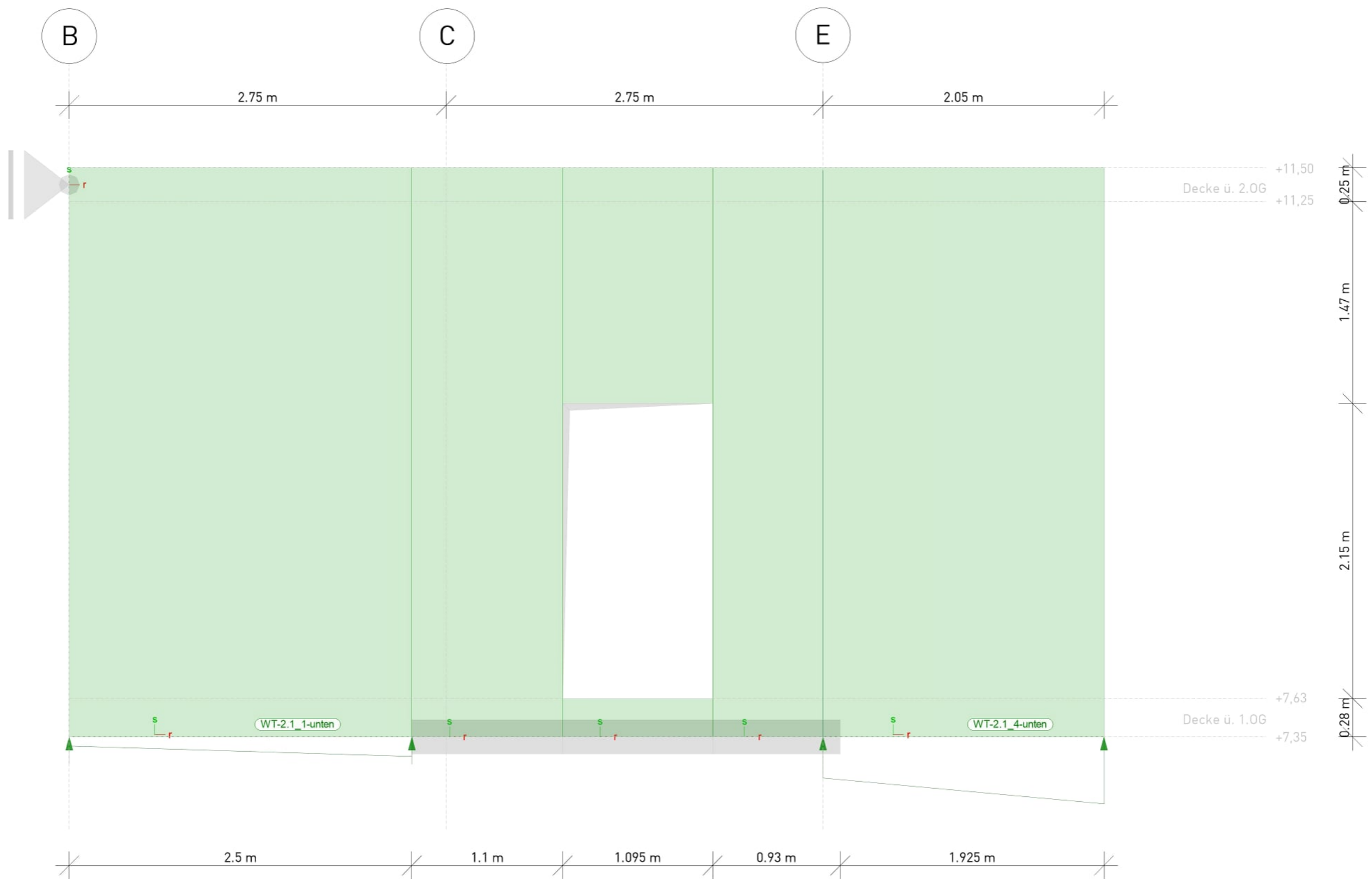
| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.1 | Tabelle 1 |
| aus Lastfall LF-10 (Nutzlast Technik unten, pos) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



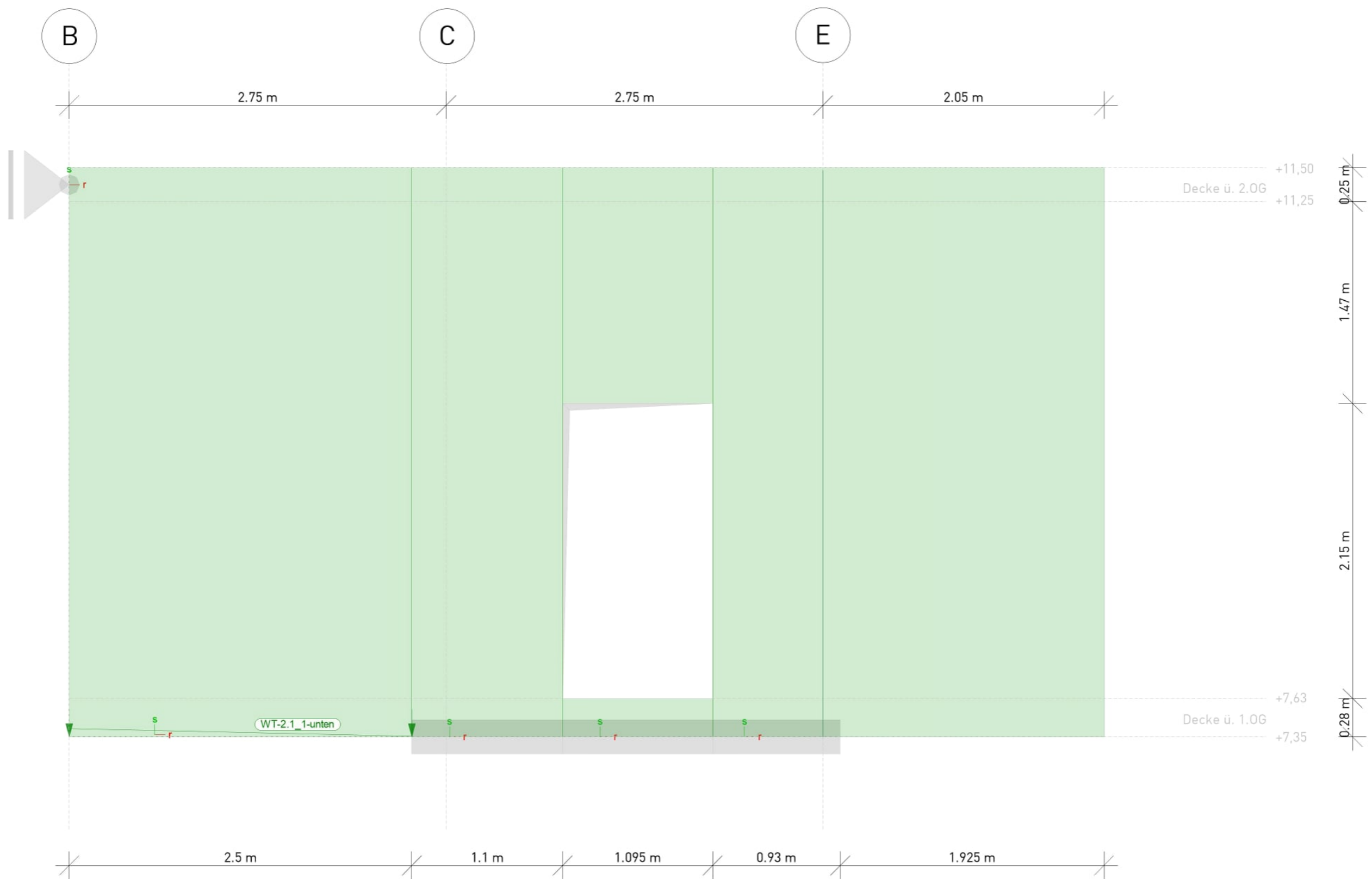
| | | | | |
|--|----------------|------------------------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen | Modell | WT-2.1 | Tabelle |
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-11 (Nutzlast Technik unten, neg) | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.1 | Tabelle 1 |
| aus Lastfall LF-12 (Nutzlast Dach unten, pos) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



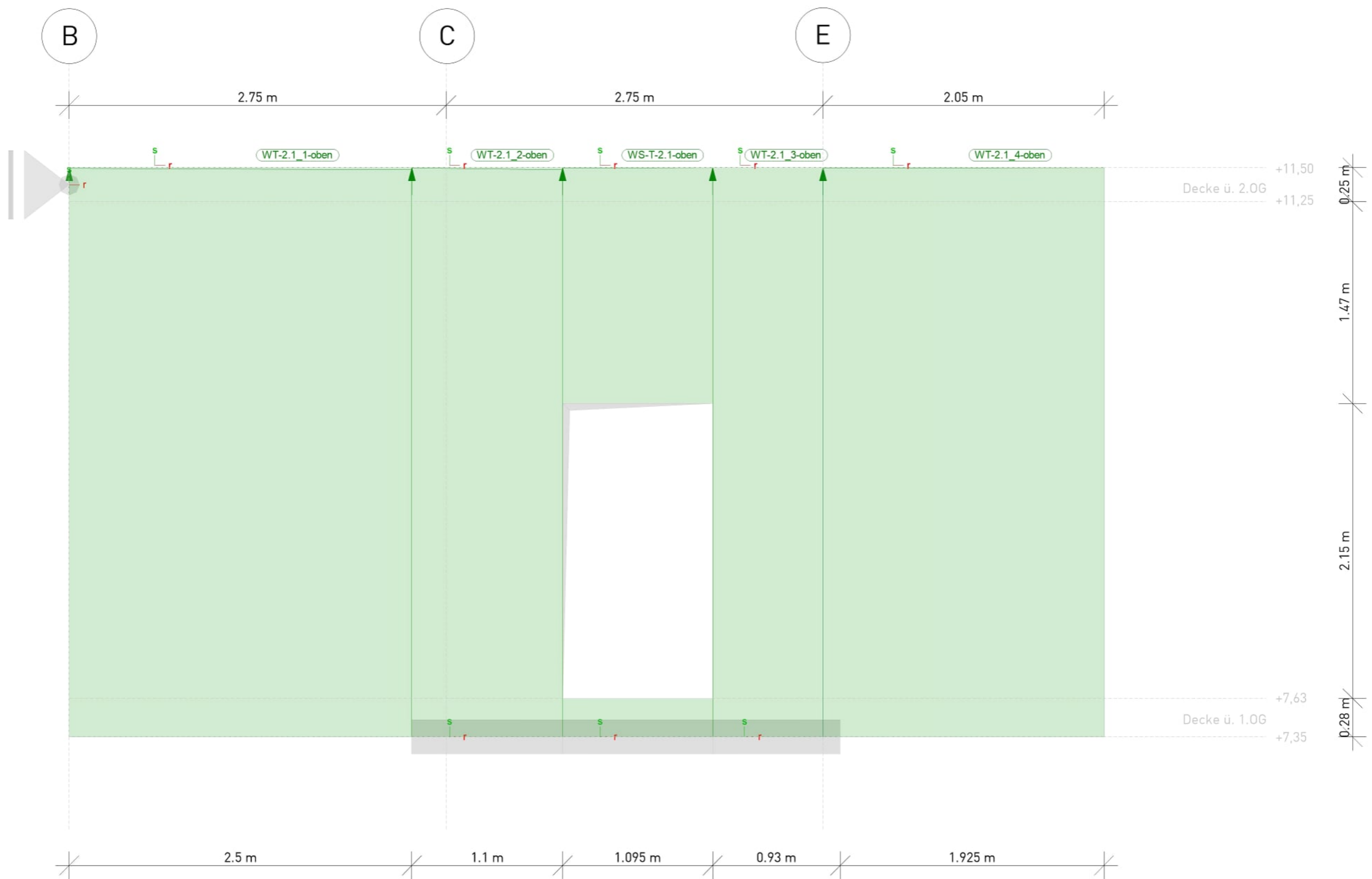
| | | | | |
|---|----------------|------------------------------|-------------------------------------|-------|
| Last-Positionen | Lastpositionen | Modell | WT-2.1 | Tafel |
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | W-89 |
| aus Lastfall LF-13 (Nutzlast Dach unten, neg) | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.1 | Tabelle 1 |
| aus Lastfall LF-14 (Nutzlast Schulung pos) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.1 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-15 (Nutzlast Schulung neg) | | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.1 | Tabelle 1 |
| aus Lastfall LF-16 (Nutzlast Technik oben, neg) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

Statik-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 815 | 874 | 2625 | 162087 | 1266 KB |

Berechnung

Statische Berechnung

| | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à†→æÁíÁFü

Speicher

Speicherplatzbedarf

| Arbeitsspeicher | âæ^=\&\ | vorhanden |
|-------------------|---------|-----------|
| Standardverfahren | 2921 KB | ja |

| Festpl. | âæ^=\&\ | vorhanden | Laufwerk:\Pfad |
|---------|---------|-----------|-----------------------|
| Ergebn. | 3177 KB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÄäãÄb\á\&b'âæ^ÄN|à&áâæ

Berechnungszeit : 1 sec

Belastung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | -823.38 |
| | 0.00 | 0.00 | 823.38 |
| LF-2 | 0.00 | 0.00 | -91.99 |
| | 0.00 | 0.00 | 91.99 |
| LF-3 | 0.00 | 0.00 | -16.93 |
| | -0.00 | 0.00 | 16.93 |
| LF-4 | 0.00 | 0.00 | -248.04 |
| | 0.00 | 0.00 | 248.04 |
| LF-5 | 0.00 | 0.00 | 181.23 |
| | -0.00 | 0.00 | -181.23 |
| LF-6 | 0.00 | 0.00 | -1.56 |
| | -0.00 | 0.00 | 1.56 |
| LF-7 | 0.00 | 0.00 | 72.13 |
| | -0.00 | 0.00 | -72.13 |
| LF-8 | 0.00 | 0.00 | -59.73 |
| | 0.00 | 0.00 | 59.73 |
| LF-9 | 0.00 | 0.00 | 17.06 |
| | 0.00 | 0.00 | -17.06 |
| LF-10 | 0.00 | 0.00 | -23.12 |
| | -0.00 | 0.00 | 23.12 |
| LF-11 | 0.00 | 0.00 | 16.27 |
| | 0.00 | 0.00 | -16.27 |
| LF-12 | 0.00 | 0.00 | -185.32 |
| | 0.00 | 0.00 | 185.32 |
| LF-13 | 0.00 | 0.00 | 107.01 |
| | -0.00 | 0.00 | -107.01 |
| LF-14 | 0.00 | 0.00 | -8.20 |
| | -0.00 | 0.00 | 8.19 |
| LF-15 | 0.00 | 0.00 | 2.64 |
| | -0.00 | 0.00 | -2.64 |
| LF-16 | 0.00 | 0.00 | 4.74 |
| | 0.00 | 0.00 | -4.74 |
| Summe | | | |
| | 0.00 | 0.00 | -1057.19 |
| | 0.00 | 0.00 | 1057.19 |

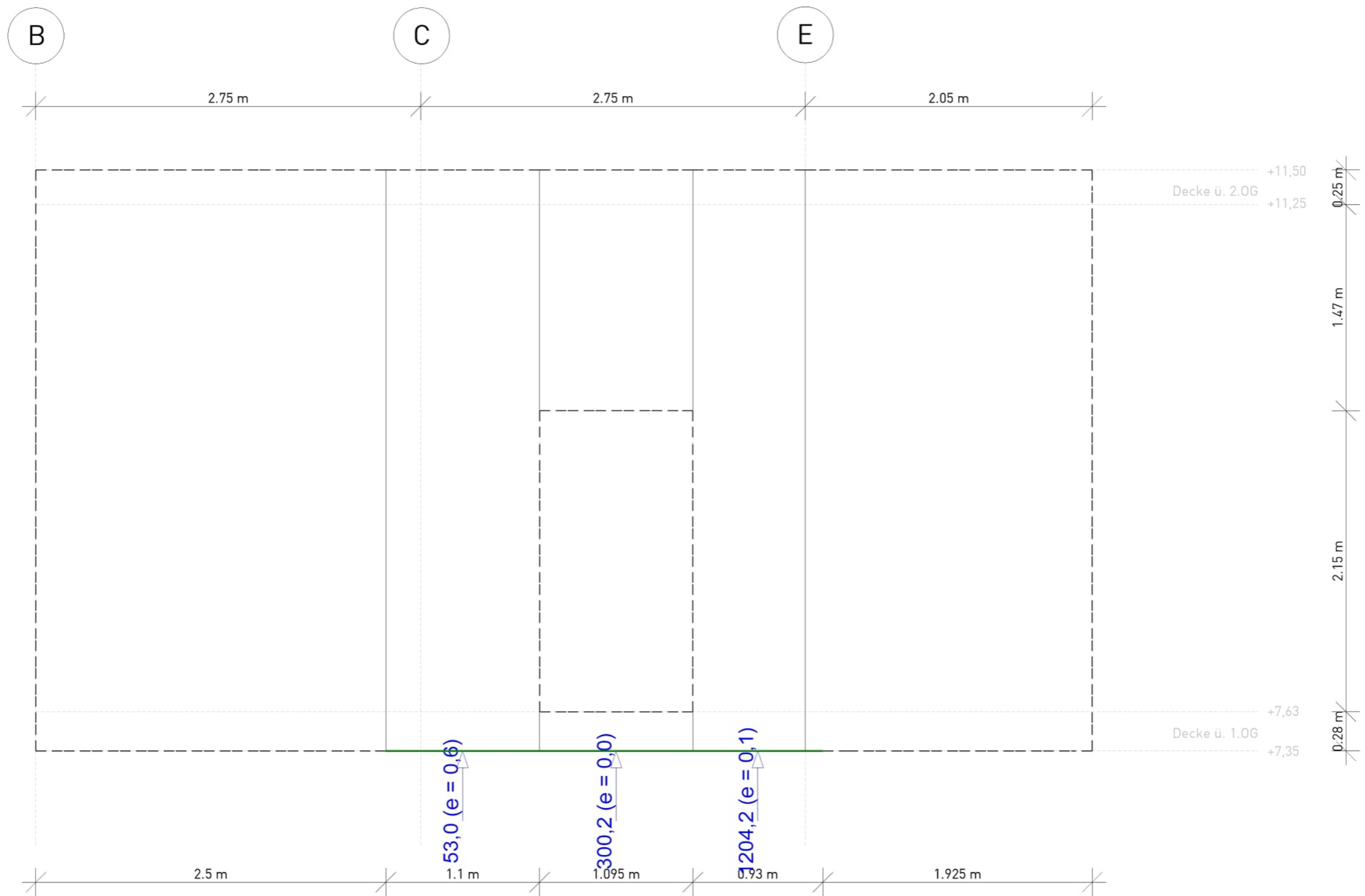
Aufbau der Ergebnisse : 0 sec

Ende der statischen Analyse

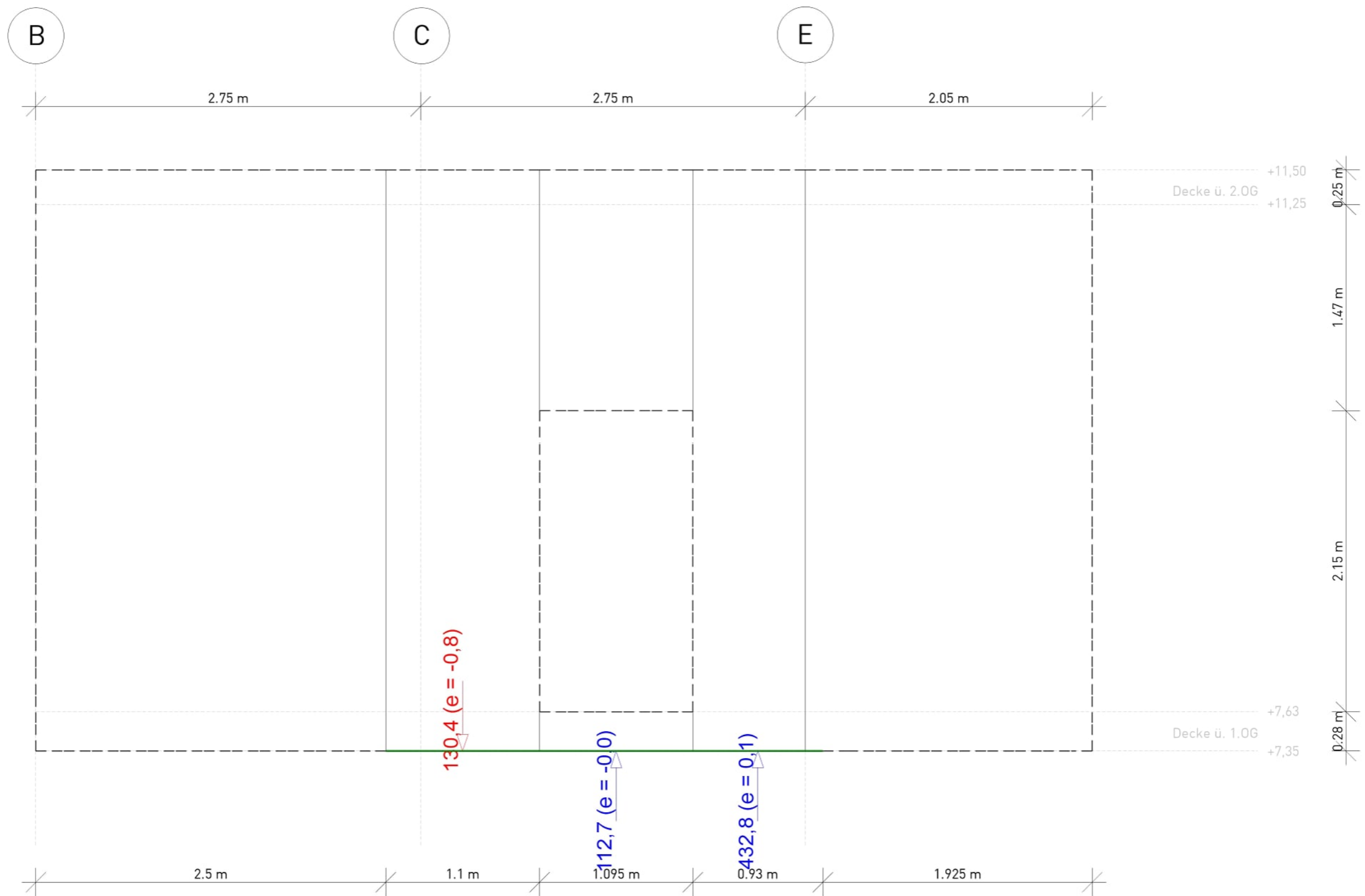
Gesamtdauer : 1 sec

*** Berechnung erfolgreich abgeschlossen ***

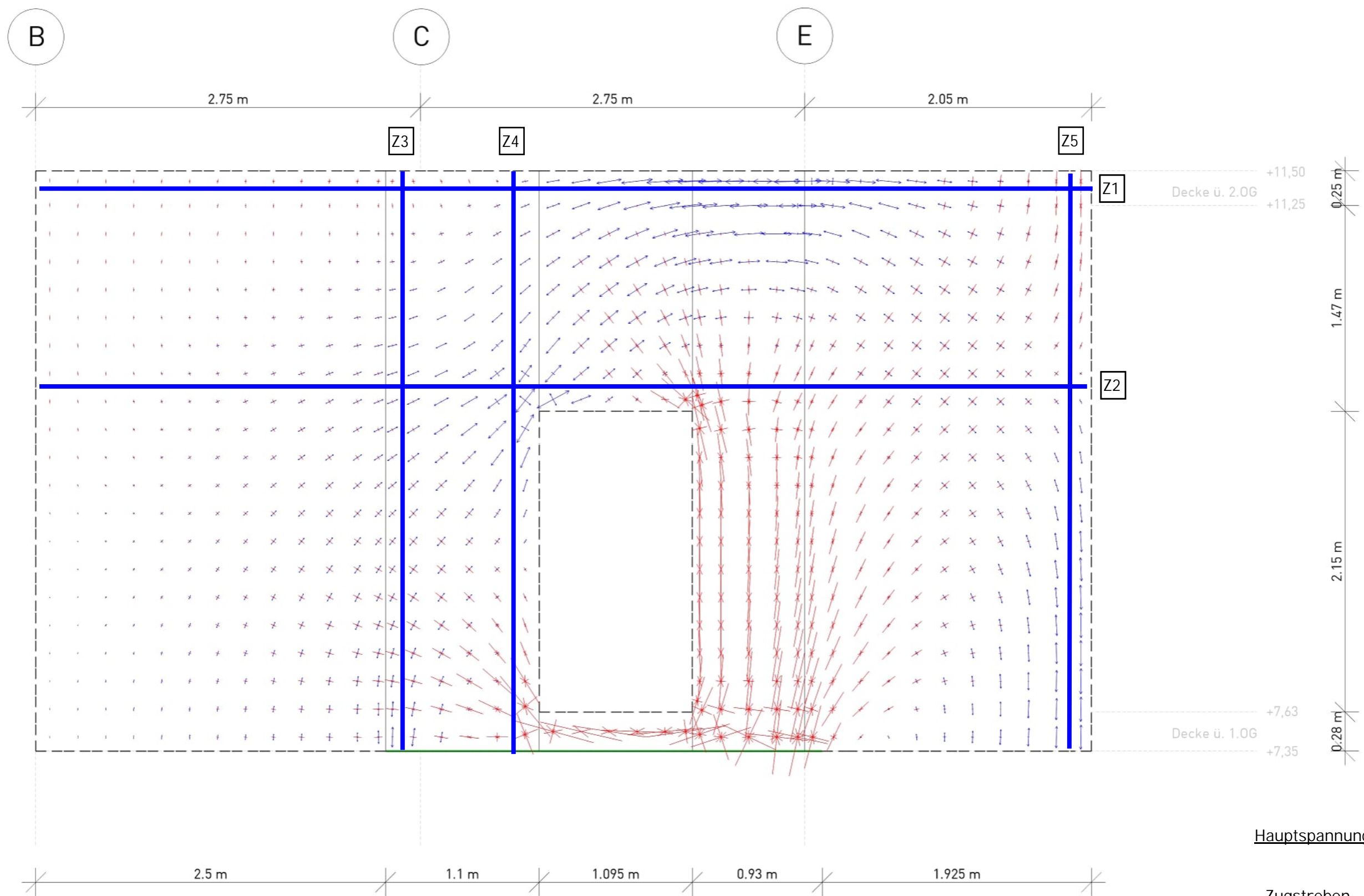
5 i ZU Yf_f} zN




| | | | | | |
|---|----------------------------------|---|-------------|-------------------------------------|---------|
| Linienlagerergebnisse | nur lokal ausgerichtete Auflager |  | Modell | WT-2.1 | Tabelle |
| æ•Ä àñ æ^ } * Ä-àñ ÄÖP Ä } äÄSP Maximum Max = 1204.2, Min = 53.0 Resultierende als Kraftvektor | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Lagerkraft in s-Richtung in [kN] | KREBS+KIEFER Ingenieure GmbH | | | | |



| | | | | | |
|--|----------------------------------|---|--------|--------|---------|
| Linienlagerergebnisse | nur lokal ausgerichtete Auflager |  | Modell | WT-2.1 | Tabelle |
| æ•Ää æ^ | | | | | |



| Hauptspannungen |
|---------------------------------|
| aus Lastkombination LK-1 |
| sigma1: Max = 2.67, Min = -3.50 |
| sigma2: Max = 0.78, Min = -4.73 |

| | | | |
|---|-------------|-------------------------------------|---------|
|  | Modell | WT-2.1 | Tabelle |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | |

Bemessung (GZT+GZG)

Nachweise Auswertung Biegebemessung der Scheiben (Stahlbeton) nach DIN EN 1992-1-1

| Mat. /Querschnitt | Position | Winkel Yfl \vec{Y} | Art | Material | Dicke [cm] |
|-------------------|--------------------|-------------------------|-----|-------------------|---------------|
| | WS-T-2.1 | Wandsturz 0.0 | iso | B 500SB C 30/37 Q | 25.0 |
| | WT-2.1_1..WT-2.1_3 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |
| | WT-2.1_4 | 0.0 | iso | B 500SB C 30/37 Q | 35.0 |

Winkel: Bewehrungsrichtung r
 iso: isotropes Material
 Q: $\sigma_{\alpha\beta} \leftrightarrow \sigma_{\beta\alpha} = \tilde{\sigma}^{\alpha\beta} | \wedge \tilde{\sigma}^{\alpha\beta} | \tilde{\sigma}^{\alpha\beta} \leftrightarrow \tilde{\sigma}^{\alpha\beta}$
 Exz.: $\sigma_{\alpha\beta} \leftrightarrow \sigma_{\beta\alpha} = \tilde{\sigma}^{\alpha\beta} | \wedge \tilde{\sigma}^{\alpha\beta} | \tilde{\sigma}^{\alpha\beta} \leftrightarrow \tilde{\sigma}^{\alpha\beta}$

Expositionsklasse

&æ↑‡ßÁƎØSÁÓSÁFÏÏGĚFĚFÊÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|------------------------------|-----------|-----|-------------------------------|
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | umlaufend | XC1 | \~'←æ^Á~äæãÁb\ †^ä↔&Á nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsri chtung

Orthogonale Bewehrung

| Position | ^{ro} YflY | ^{so} YflY | ^{ru} YflY | ^{su} YflY |
|------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

je Scheibenseite

| Position | C_{\min} [mm] | $\#_{\text{def}}$ [mm] | C_{nom} [mm] | C_v [mm] |
|----------|--------------------|---------------------------|--------------------------|---------------|
| WS-T-2.1 | 10 | 10 | 20 | - |
| WT-2.1_1 | 10 | 10 | 20 | - |
| WT-2.1_2 | 10 | 10 | 20 | - |
| WT-2.1_3 | 10 | 10 | 20 | - |
| WT-2.1_4 | 10 | 10 | 20 | - |

Bemessungsparameter

äfiäÄäæ^ÄÖäæ^~ | b\ä^äÄäæäÄÜää&à‡ä↔&←æ↔\Ä^ä´äÄØSÄÖSÄ
1992-1-1

Bi egung

| Position | Bemessungsverfahren | Mindestbewehrung |
|---|---------------------|------------------|
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | Üaia↔á^^ | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

WS-T-2.1

Ñæ↑æbb | ^&ÃàfiãÃU´ âæ↔âæÃÇU\ áâ→âæ\ ~^DÁÙUËÚËGÈF

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á'ăĂĖøSÁÓŚÁFİï€

| | |
|-----|------------------------|
| Ew | Einwirkungsname |
| Lkn | Lastkombinationsnummer |

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf~ VYf ["
Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|-------------|-------------|---------|---------|
| 1 | | 1.00 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 2 | | 1.00 | 1.00 | 1.05 | 1.50 | . | 1.50 |
| 3-8 | | 1.35 | 1.35 | . | . | 1.05 | 1.50 |
| 9 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 10-14 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 15-20 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 21 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 22-25 | | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 26 | | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 27 | | 1.35 | 1.00 | . | . | 1.05 | 1.50 |
| 28 | | 1.35 | 1.35 | 1.05 | . | 1.05 | . |

Lkn Ew Qk.N_DA

| | |
|-------|-------------|
| 1 | . |
| 2 | . |
| 3-8 | 1.50 |
| 9 | 1.50 |
| 10-14 | 1.50 |
| 15-20 | 1.50 |
| 21 | 1.50 |
| 22-25 | 1.50 |
| 26 | 1.50 |
| 27 | 1.50 |
| 28 | 1.50 |

Sel ten
Seltene Kombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 29-33 | | 1.00 | 1.00 | . | . | 0.70 | 1.00 |
| 34-42 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 1.00 |
| 43-48 | | 1.00 | 1.00 | 0.70 | . | 0.70 | 1.00 |
| 49 | | 1.00 | 1.00 | 0.70 | . | 0.70 | . |

Lkn Ew Qk.N_DA

| | |
|-------|-------------|
| 29-33 | 1.00 |
| 34-42 | 1.00 |
| 43-48 | 1.00 |
| 49 | 1.00 |

Ei Ug] ! gh} bX] [

T| áb↔Ëb\ ‡ ^ä↔&æÁP~↑â↔^á↔↔~^æ^

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-----|----|------|------|---------|---------|---------|---------|
| 50 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | 0.80 |

Lkn Ew Qk.N_DA

| | |
|----|---|
| 50 | . |
|----|---|

Al l e Nachwei se

Óãà~ääæã↔↔´ åæÁQ‡^&bâæ}æää | ^&Áá | bÁá→æ^ÁSá´å}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

a_{s,r}

Erforderliche Bewehrung a_{s,r}
(je Scheibenseite)

| Knoten | Lkn | S _{r,Ed} YSD↑↑¥Ÿ | S _{s,Ed} YSD↑↑¥Ÿ | S _{rs,Ed} YSD↑↑¥Ÿ | N _{Ed} [kN/m] | a _{s,r} Y´↑¥D↑Ÿ |
|--------|-----|------------------------------|------------------------------|-------------------------------|---------------------------|-----------------------------|
| 1 | 3 | 3.59 | -3.06 | -0.99 | 572.67 | 12.54 |
| 3 | 15 | 4.49 | 0.07 | -0.03 | 565.10 | 12.38 |
| 8 | 3 | 6.06 | 5.03 | 1.42 | 934.37 | 20.47 |
| 18 | 1 | -0.41 | -0.13 | -0.53 | 14.87 | 0.33 |

a_{s,s}

Erforderliche Bewehrung a_{s,s}
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑YŸ | $S_{s,Ed}$ YSD↑↑YŸ | $S_{rs,Ed}$ YSD↑↑YŸ | N_{Ed} [kN/m] | $a_{s,s}$ Y'↑YD↑YŸ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|-----------------------|
| 4 | 4 | 0.46 | 0.11 | 0.08 | 24.16 | 0.53 |
| 8 | 3 | 6.06 | 5.03 | 1.42 | 806.07 | 17.66 |
| 14 | 17 | -11.80 | -0.05 | 3.21 | 394.64 | 8.64 |
| 18 | 10 | -2.86 | -0.66 | -1.83 | 146.35 | 3.21 |
| 23 | 3 | -5.99 | -1.27 | 2.54 | 158.19 | 3.47 |

Hf U[Z} \] [_Y] h

Óã~ããã~>´ääÁQ†^&bâæ}æää|^&
á|bÁŮää&à†â&←æ↔\b^á´â}æ↔b
(je Scheibenseite)

Es werden nur lokale Extremwerte dokumentiert.

$a_{s,r}$

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑YŸ | $S_{s,Ed}$ YSD↑↑YŸ | $S_{rs,Ed}$ YSD↑↑YŸ | N_{Ed} [kN/m] | $a_{s,r}$ Y'↑YD↑YŸ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|-----------------------|
| 1 | 3 | 3.59 | -3.06 | -0.99 | 572.67 | 12.54 |
| 3 | 15 | 4.49 | 0.07 | -0.03 | 565.10 | 12.38 |
| 8 | 3 | 6.06 | 5.03 | 1.42 | 934.37 | 20.47 |
| 18 | 1 | -0.41 | -0.13 | -0.53 | 14.87 | 0.33 |

$a_{s,s}$

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑YŸ | $S_{s,Ed}$ YSD↑↑YŸ | $S_{rs,Ed}$ YSD↑↑YŸ | N_{Ed} [kN/m] | $a_{s,s}$ Y'↑YD↑YŸ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|-----------------------|
| 4 | 4 | 0.46 | 0.11 | 0.08 | 24.16 | 0.53 |
| 8 | 3 | 6.06 | 5.03 | 1.42 | 806.07 | 17.66 |
| 14 | 17 | -11.80 | -0.05 | 3.21 | 394.64 | 8.64 |
| 18 | 10 | -2.86 | -0.66 | -1.83 | 146.35 | 3.21 |
| 23 | 3 | -5.99 | -1.27 | 2.54 | 158.19 | 3.47 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ YSD↑↑YŸ | $N_{c,Ed}$ [kN/m] | σ_{cd} YSD↑↑YŸ | σ_{rd} [%] |
|--------|-----|------------------------|----------------------|--------------------------|------------------------|
| 7 | 3 | 3.03 | -757.56 | -6.06 | 47.53 |
| | | | | -12.75 | |
| 8 | 3 | 1.42 | -354.40 | -2.84 | 22.24 |
| | | | | -12.75 | |
| 10 | 5 | 1.62 | -405.60 | -3.24 | 25.45 |
| | | | | -12.75 | |
| 14 | 17 | 3.21 | -801.31 | -6.41 | 50.28 |
| | | | | -12.75 | |
| 18 | 10 | -1.83 | -458.23 | -3.67 | 28.75 |
| | | | | -12.75 | |
| 39 | 3 | 1.88 | -470.61 | -3.76 | 29.53 |
| | | | | -12.75 | |

´äi vorhandene Betonspannung
bäi ~|→†bb↔æÄÑæ\~^ää|´←b*á^^|^&

Spannung

Spannungsnachweis, Abs. 7.2
↑↔\ÁQ†^&bâæ}æää|^&ÁÁ_s

Es werden nur lokale Extremwerte dokumentiert.

$$\underline{as, r}$$

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $s_{r,Ed}$ $s_{s,Ed}$ $s_{rs,Ed}$ [N/mm ²] | | a_s [cm ² /m] | s [-] | c [-] |
|--------|-----|---|----|-------------------------------|------------|------------|
| 1 | 29 | 2.54 -2.19 -0.71 | ro | 12.54 | 0.65 | 0.00 |
| 3 | 43 | 3.21 0.06 -0.02 | ro | 12.38 | 0.65 | 0.00 |
| 8 | 29 | 4.32 3.59 1.01 | ro | 20.47 | 0.65 | 0.00 |
| 18 | 50 | -1.59 -0.33 -0.91 | ro | 0.33 | -- | 0.08 |

as, s

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | | a_s | s | c |
|--------|-----|---|----|----------------------|------|------|
| | | | | [cm ² /m] | [-] | [-] |
| 4 | 30 | 0.34 0.08 0.06 | so | 0.53 | 0.64 | 0.00 |
| 8 | 29 | 4.32 3.59 1.01 | so | 17.66 | 0.65 | 0.00 |
| 14 | 46 | -8.43 -0.03 2.29 | so | 8.64 | 0.65 | 0.00 |
| 18 | 34 | -2.02 -0.47 -1.30 | so | 3.21 | 0.65 | 0.00 |
| 23 | 29 | -4.28 -0.91 1.81 | so | 3.47 | 0.65 | 0.00 |

WT-2.1_1

Ñæ↑æbb | ^&ÁàfiãÁU´ àæ→âæÁCU\ áå→âæ\ ~^DÁÙÚËGÈFŽF

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÄP~↑â⇨^á\⇔~^æ^Ä^á'åÄŒØSÁÓSÁFİİ€

| | |
|-----|------------------------|
| Ew | Einwirkungsname |
| Lkn | Lastkombinationsnummer |

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#j cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-----|----|------|------|-------------|---------|---------|---------|
| 1 | | 1.00 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 2-3 | | 1.35 | 1.00 | 1.50 | . | 1.05 | 1.50 |

W-102

Schulcampus EWK \ WT-2.1

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|-------------|---------|---------|
| 4 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 5 | | 1.00 | 1.00 | 1.05 | 1.05 | . | . |
| 6-14 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 15-18 | | 1.35 | 1.35 | . | . | 1.05 | 1.50 |
| 19-29 | | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 30-33 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 34-47 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 48-60 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 61-68 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 69 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | . |
| 70 | | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 71-72 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 73 | | 1.00 | 1.00 | . | . | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1 | | . |
| 2-3 | | . |
| 4 | | . |
| 5 | | 1.50 |
| 6-14 | | 1.50 |
| 15-18 | | 1.50 |
| 19-29 | | 1.50 |
| 30-33 | | 1.50 |
| 34-47 | | 1.50 |
| 48-60 | | 1.50 |
| 61-68 | | 1.50 |
| 69 | | 1.50 |
| 70 | | 1.50 |
| 71-72 | | 1.50 |
| 73 | | 1.50 |

Selten

Seltene Kombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|-------------|---------|---------|---------|
| 74-76 | | 1.00 | 1.00 | 1.00 | . | 0.70 | 1.00 |
| 77-91 | | 1.00 | 1.00 | 0.70 | . | 0.70 | 1.00 |
| 92-114 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 1.00 |
| 115-121 | | 1.00 | 1.00 | . | . | 0.70 | 1.00 |
| 122-125 | | 1.00 | 1.00 | 0.70 | 0.70 | . | 1.00 |
| 126 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | . |

| Lkn | Ew | Qk.N_DA |
|---------|----|-------------|
| 74-76 | | . |
| 77-91 | | 1.00 |
| 92-114 | | 1.00 |
| 115-121 | | 1.00 |
| 122-125 | | 1.00 |
| 126 | | 1.00 |

Ei Ug] ! gh} bX] [

T| áb↔Ëb\ ‡ ^ä↔&æÁP~↑â↔^á\↔~^æ^

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|---------|---------|---------|---------|
| 127-128 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | 0.80 |
| 129-130 | | 1.00 | 1.00 | 0.30 | . | 0.60 | 0.80 |

| Lkn | Ew | Qk.N_DA |
|---------|----|---------|
| 127-128 | | . |
| 129-130 | | . |

Al l e Nachwei se

Óãà~ääæã↔↔´ åæÁQ‡^&bâæ}æää | ^&Áá | bÁá↔↔æ^ÁSá´ å}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑Y | $S_{s,Ed}$ YSD↑↑Y | $S_{rs,Ed}$ YSD↑↑Y | n_{Ed} [kN/m] | $a_{s,r}$ Y'↑YD↑Y |
|--------|-----|----------------------|----------------------|-----------------------|--------------------|----------------------|
| 86 | 1 | 0.05 | 0.93 | -0.07 | 14.78 | 0.32 |
| 94 | 35 | 0.03 | 0.24 | 0.00 | 4.65 | 0.10 |
| S 117 | 77 | -0.02 | 0.11 | 0.03 | 0.44 | 1.09 |
| S 271 | 92 | 0.00 | -0.25 | 0.01 | 0.42 | 1.06 |
| 384 | 15 | 0.84 | 0.05 | 0.43 | 158.22 | 3.47 |

S: U*á^^|^&b^á'á}æ↔bÁ↑áß&æâæ^ä

a_{s,s}

Erforderliche Bewehrung a_{s,s}
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑Y | $S_{s,Ed}$ YSD↑↑Y | $S_{rs,Ed}$ YSD↑↑Y | n_{Ed} [kN/m] | $a_{s,s}$ Y'↑YD↑Y |
|--------|-----|----------------------|----------------------|-----------------------|--------------------|----------------------|
| 153 | 15 | -0.82 | 0.92 | 0.57 | 185.70 | 4.07 |
| 373 | 66 | -1.14 | 1.93 | -0.30 | 279.03 | 6.11 |

Hf U[Z } \] [_ Y] h

Óã~ãääã↔'áæÁQ†^&bâæ}æää|^&
á|bÁÚää&à†á↔&←æ↔\b^á'á}æ↔b
(je Scheibenseite)

Es werden nur lokale Extremwerte dokumentiert.

a_{s,r}

Erforderliche Bewehrung a_{s,r}
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑Y | $S_{s,Ed}$ YSD↑↑Y | $S_{rs,Ed}$ YSD↑↑Y | n_{Ed} [kN/m] | $a_{s,r}$ Y'↑YD↑Y |
|--------|-----|----------------------|----------------------|-----------------------|--------------------|----------------------|
| 86 | 1 | 0.05 | 0.93 | -0.07 | 14.78 | 0.32 |
| 94 | 35 | 0.03 | 0.24 | 0.00 | 4.65 | 0.10 |
| 384 | 15 | 0.84 | 0.05 | 0.43 | 158.22 | 3.47 |

a_{s,s}

Erforderliche Bewehrung a_{s,s}
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑Y | $S_{s,Ed}$ YSD↑↑Y | $S_{rs,Ed}$ YSD↑↑Y | n_{Ed} [kN/m] | $a_{s,s}$ Y'↑YD↑Y |
|--------|-----|----------------------|----------------------|-----------------------|--------------------|----------------------|
| 153 | 15 | -0.82 | 0.92 | 0.57 | 185.70 | 4.07 |
| 373 | 66 | -1.14 | 1.93 | -0.30 | 279.03 | 6.11 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ YSD↑↑Y | n_{cEd} [kN/m] | c_d Rd YSD↑↑Y | [%] |
|--------|-----|-----------------------|---------------------|-----------------------|-------|
| 204 | 52 | 0.92 | -230.71 | -1.85 | 14.48 |
| | | | | -12.75 | |
| 328 | 63 | -0.05 | -13.48 | -0.11 | 0.85 |
| | | | | -12.75 | |
| 344 | 63 | -0.05 | -13.57 | -0.11 | 0.85 |
| | | | | -12.75 | |
| 373 | 63 | -0.30 | -75.54 | -0.60 | 4.74 |
| | | | | -12.75 | |
| 392 | 131 | -0.04 | -10.15 | -0.08 | 0.64 |
| | | | | -12.75 | |

äi vorhandene Betonspannung
äi ~|→†bb&æÄÑæ~^ää|^←b*á^^|^&

Spannung

Spannungsnachweis, Abs. 7.2

$\sigma_{s,r} = \frac{M_{s,r}}{W_{s,r}}$

Es werden nur lokale Extremwerte dokumentiert.

$a_{s,r}$

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $\sigma_{s,r,Ed}$ $\sigma_{s,Ed}$ $\sigma_{rs,Ed}$ [N/mm ²] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|--|----|-------------------------------|------------|------------|
| 86 | 74 | 0.00 0.88 -0.06 | ro | 0.32 | 0.51 | 0.00 |
| 94 | 100 | 0.01 0.23 0.01 | ro | 0.10 | 0.46 | 0.00 |
| 117 | 77 | -0.02 0.11 0.03 | ro | 1.09 | 0.01 | 0.00 |
| 271 | 92 | 0.00 -0.25 0.01 | ro | 1.06 | 0.01 | 0.00 |
| 384 | 115 | 0.60 0.03 0.30 | ro | 3.47 | 0.65 | 0.00 |
| $s: U \cdot \frac{M_{s,r,Ed}}{W_{s,r,Ed}} \cdot \frac{1}{f_{yk}}$ $c: N \cdot \frac{M_{s,r,Ed}}{W_{s,r,Ed}} \cdot \frac{1}{f_{ck}}$ | | | | | | |

$a_{s,s}$

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $\sigma_{s,s,Ed}$ $\sigma_{s,Ed}$ $\sigma_{rs,Ed}$ [N/mm ²] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|--|----|-------------------------------|------------|------------|
| 153 | 115 | -0.59 0.65 0.41 | so | 4.07 | 0.65 | 0.00 |
| 373 | 84 | -0.81 1.37 -0.21 | so | 6.11 | 0.65 | 0.00 |
| $s: U \cdot \frac{M_{s,s,Ed}}{W_{s,s,Ed}} \cdot \frac{1}{f_{yk}}$ $c: N \cdot \frac{M_{s,s,Ed}}{W_{s,s,Ed}} \cdot \frac{1}{f_{ck}}$ | | | | | | |

WT-2.1_2

$\sigma_{s,r} = \frac{M_{s,r}}{W_{s,r}}$

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nationen

$\sigma_{s,r} = \frac{M_{s,r}}{W_{s,r}}$

Ew Einwirkungsname
Lkn Lastkombinationsnummer

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-----|----|------|------|---------|---------|---------|---------|
| 1 | | 1.00 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 2 | | 1.00 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 3-8 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 9-13 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 14-16 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 17-23 | | 1.35 | 1.35 | . | . | 1.05 | 1.50 |
| 24-28 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 29-32 | | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 33 | | 1.00 | 1.35 | . | . | 1.05 | 1.50 |
| 34 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 35-36 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 37-40 | | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 41 | | 1.00 | 1.00 | . | . | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1 | | . |
| 2 | | . |
| 3-8 | | 1.50 |
| 9-13 | | 1.50 |
| 14-16 | | 1.50 |
| 17-23 | | 1.50 |
| 24-28 | | 1.50 |
| 29-32 | | 1.50 |
| 33 | | 1.50 |
| 34 | | 1.50 |
| 35-36 | | 1.50 |
| 37-40 | | 1.50 |
| 41 | | 1.50 |

Sel ten

Seltene Kombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 42-54 | | 1.00 | 1.00 | 0.70 | . | 0.70 | 1.00 |
| 55-62 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 1.00 |
| 63-68 | | 1.00 | 1.00 | . | . | 0.70 | 1.00 |
| 69-71 | | 1.00 | 1.00 | 0.70 | 0.70 | . | 1.00 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 42-54 | | 1.00 |
| 55-62 | | 1.00 |
| 63-68 | | 1.00 |
| 69-71 | | 1.00 |

Ei Ug] ! gh} bX] [

T| áb↔Ëb\ ‡^ä↔&æÁP~↑â↔^á\↔~^æ^

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 72-73 | | 1.00 | 1.00 | 0.30 | . | 0.60 | 0.80 |
| 74 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | 0.80 |
| 75 | | 1.00 | 1.00 | . | . | 0.60 | 0.80 |

| Lkn | Ew | Qk.N_DA |
|-------|----|---------|
| 72-73 | | . |
| 74 | | . |
| 75 | | . |

Al l e Nachwei se

Óã~ãäã↔↔´âæÁQ‡^&bâæ}æã| ^&Áá| bÁá→æ^ÁSá´â}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | N_{Ed} [kN/m] | $a_{s,r}$ Y´↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 8 | 18 | 2.47 | 3.91 | 1.11 | 446.70 | 9.78 |
| 54 | 15 | 0.92 | 0.13 | 0.55 | 183.04 | 4.01 |
| 393 | 3 | 1.53 | 3.08 | 0.20 | 217.33 | 4.76 |
| 397 | 3 | 1.17 | -0.97 | -0.69 | 232.22 | 5.09 |
| 413 | 18 | -0.82 | -2.15 | 1.73 | 114.27 | 2.50 |
| 418 | 19 | -0.75 | -0.68 | 1.48 | 90.80 | 1.99 |

as, s

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,s}$ Y'↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 8 | 18 | 2.47 | 3.91 | 1.11 | 626.50 | 13.72 |
| 393 | 3 | 1.53 | 3.08 | 0.20 | 410.76 | 9.00 |

Hf U[Z} \] [_ Y] h

Óã~ãääã↔'âæÃQ†^&bâæ}æää|^&
á|bÃŨää&à†â&←æ↔\b^á'â}æ↔b
(je Scheibenseite)

Es werden nur lokale Extremwerte dokumentiert.

as, r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,r}$ Y'↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 8 | 18 | 2.47 | 3.91 | 1.11 | 446.70 | 9.78 |
| 54 | 15 | 0.92 | 0.13 | 0.55 | 183.04 | 4.01 |
| 393 | 3 | 1.53 | 3.08 | 0.20 | 217.33 | 4.76 |
| 397 | 3 | 1.17 | -0.97 | -0.69 | 232.22 | 5.09 |
| 413 | 18 | -0.82 | -2.15 | 1.73 | 114.27 | 2.50 |
| 418 | 19 | -0.75 | -0.68 | 1.48 | 90.80 | 1.99 |

as, s

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,s}$ Y'↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 8 | 18 | 2.47 | 3.91 | 1.11 | 626.50 | 13.72 |
| 393 | 3 | 1.53 | 3.08 | 0.20 | 410.76 | 9.00 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{cEd} [kN/m] | σ_{cd} Rd YSD↑↑¥Ÿ | [%] |
|--------|-----|------------------------|---------------------|--------------------------------|-------|
| 8 | 18 | 1.11 | -276.32 | -2.21 | 17.34 |
| | | | | -12.75 | |
| 42 | 18 | 0.72 | -180.57 | -1.44 | 11.33 |
| | | | | -12.75 | |
| 397 | 76 | -0.71 | -178.02 | -1.42 | 11.17 |
| | | | | -12.75 | |
| 408 | 7 | 3.52 | -880.24 | -7.04 | 55.23 |
| | | | | -12.75 | |
| 412 | 19 | 1.94 | -484.93 | -3.88 | 30.43 |
| | | | | -12.75 | |
| 453 | 19 | 1.08 | -271.17 | -2.17 | 17.01 |
| | | | | -12.75 | |
| 461 | 18 | 1.22 | -305.64 | -2.45 | 19.18 |
| | | | | -12.75 | |

'äi vorhandene Betonspannung
päl ~|→†bb↔æÃÑæ\~^ää|^'←b*á^^|^&

Spannung

Spannungsnachweis, Abs. 7.2
↑↔\ÃQ†^&bâæ}æää|^&ÃÄs

Es werden nur lokale Extremwerte dokumentiert.

a_{s,r}

Erforderliche Bewehrung a_{s,r}
(je Scheibenseite)

| Knoten | Lkn | S _{r,Ed} S _{s,Ed} S _{rs,Ed} [N/mm ²] | a _s [cm ² /m] | s [-] | c [-] |
|--------|-----|--|--|----------|----------|
| 8 | 64 | 1.76 2.78 0.79 | ro 9.78 | 0.65 | 0.00 |
| 54 | 55 | 0.65 0.10 0.39 | ro 4.01 | 0.65 | 0.00 |
| 393 | 42 | 1.07 2.18 0.14 | ro 4.76 | 0.64 | 0.00 |
| 397 | 42 | 0.82 -0.70 -0.49 | ro 5.09 | 0.64 | 0.00 |
| 413 | 64 | -0.59 -1.55 1.24 | ro 2.50 | 0.65 | 0.00 |
| 418 | 65 | -0.54 -0.49 1.06 | ro 1.99 | 0.65 | 0.00 |

s: U\ää→b*á^^|^&b{ääâ→\^bÁÇ s / f_{yk})
c: Ñæ\~^b*á^^|^&b{ääâ→\^bÁÇ c / f_{ck})

a_{s,s}

Erforderliche Bewehrung a_{s,s}
(je Scheibenseite)

| Knoten | Lkn | S _{r,Ed} S _{s,Ed} S _{rs,Ed} [N/mm ²] | a _s [cm ² /m] | s [-] | c [-] |
|--------|-----|--|--|----------|----------|
| 8 | 64 | 1.76 2.78 0.79 | so 13.72 | 0.65 | 0.00 |
| 393 | 42 | 1.07 2.18 0.14 | so 9.00 | 0.65 | 0.00 |

s: U\ää→b*á^^|^&b{ääâ→\^bÁÇ s / f_{yk})
c: Ñæ\~^b*á^^|^&b{ääâ→\^bÁÇ c / f_{ck})

WT-2. 1_3

Ñæ↑æbb|^&ÄfiãÁU´âæ↔âæÁÇU\ää→âæ\~^DÁÜÜÈGÈFŽĞ

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á´âÁÆØSÁÓSÁFïï€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

Æ↔æÁÑæ\æ↔↔↔|^&Áæ↔^~æ→^æãÁQáb\à†→æÁ↔^æääá→âÁeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 1-5 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 6-15 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 16-18 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 19-25 | | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 26-32 | | 1.35 | 1.35 | . | . | 1.05 | 1.50 |

| Lkn | Ew | Gk | Ök | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 33-35 | | 1.35 | 1.35 | 1.05 | 1.05 | . | 1.50 |
| 36-37 | | 1.00 | 1.35 | 1.05 | 1.05 | . | 1.50 |
| 38 | | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 39-42 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 43-45 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 46 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 47 | | 1.35 | 1.35 | 1.05 | . | 1.05 | |

| Lkn | Ew | Qk.N_DA |
|-------|----|---------|
| 1-5 | | 1.50 |
| 6-15 | | 1.50 |
| 16-18 | | 1.50 |
| 19-25 | | 1.50 |
| 26-32 | | 1.50 |
| 33-35 | | 1.50 |
| 36-37 | | 1.50 |
| 38 | | 1.50 |
| 39-42 | | 1.50 |
| 43-45 | | 1.50 |
| 46 | | 1.50 |
| 47 | | 1.50 |

Sel ten

Seltene Kombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 48-54 | | 1.00 | 1.00 | . | . | 0.70 | 1.00 |
| 55-63 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 1.00 |
| 64-73 | | 1.00 | 1.00 | 0.70 | . | 0.70 | 1.00 |
| 74-78 | | 1.00 | 1.00 | 0.70 | 0.70 | . | 1.00 |
| 79-80 | | 1.00 | 1.00 | 0.70 | . | 0.70 | |

| Lkn | Ew | Qk.N_DA |
|-------|----|---------|
| 48-54 | | 1.00 |
| 55-63 | | 1.00 |
| 64-73 | | 1.00 |
| 74-78 | | 1.00 |
| 79-80 | | 1.00 |

Alle Nachweise

$$\tilde{O}\tilde{a}\tilde{a}\sim\tilde{a}\tilde{a}\tilde{x}\tilde{a}\rightarrow\tilde{a}\tilde{x}\tilde{A}\tilde{Q}\dagger\wedge\&\tilde{b}\tilde{a}\tilde{x}\}\tilde{x}\tilde{a}\tilde{a}\mid\wedge\&\tilde{A}\tilde{a}\mid\tilde{b}\tilde{A}\tilde{a}\rightarrow\tilde{x}\wedge\tilde{A}\tilde{S}\tilde{a}\tilde{a}\tilde{a}\}\tilde{x}\leftrightarrow\tilde{b}\tilde{x}\wedge$$

Es werden nur lokale Extremwerte dokumentiert.

 as, r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,r}$ Y'↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 514 | 28 | 5.05 | 0.38 | 0.08 | 641.01 | 14.04 |
| 531 | 27 | 0.04 | -5.40 | 0.15 | 24.38 | 0.53 |
| 534 | 28 | -0.04 | -4.94 | -0.97 | 116.42 | 2.55 |
| 599 | 6 | 4.78 | 0.03 | 0.06 | 605.72 | 13.27 |
| 623 | 39 | -0.59 | -5.54 | -1.05 | 57.64 | 1.26 |
| 632 | 27 | -0.42 | -7.57 | 0.86 | 54.73 | 1.20 |

as, s

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $s_{r,Ed}$ | $s_{s,Ed}$ | $s_{rs,Ed}$ | n_{Ed} | $a_{s,s}$ |
|--------|-----|--|--|--|----------|--|
| | | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow$ | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow$ | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow$ | [kN/m] | $Y \uparrow \uparrow \uparrow \uparrow \uparrow$ |
| 591 | 10 | 2.71 | -0.05 | 0.37 | 39.19 | 0.86 |
| 600 | 29 | 3.51 | 0.26 | 0.02 | 35.32 | 0.77 |
| 622 | 7 | 2.96 | 0.63 | 0.14 | 95.59 | 2.09 |

Hf U[Z} \] [_ Y] h

Óãà~ãääã~>´ääÁQ†^&bâæ}æää|^&
á|bÁÚää&à†â&←æ↔\b^á´â}æ↔b
(je Scheibenseite)

Es werden nur lokale Extremwerte dokumentiert.

as, r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,r}$ |
|--------|-----|------------|------------|-------------|----------|-----------|
| | | YSD↑↑YŸ | YSD↑↑YŸ | YSD↑↑YŸ | [kN/m] | Y´↑YD↑YŸ |
| 514 | 28 | 5.05 | 0.38 | 0.08 | 641.01 | 14.04 |
| 531 | 27 | 0.04 | -5.40 | 0.15 | 24.38 | 0.53 |
| 534 | 28 | -0.04 | -4.94 | -0.97 | 116.42 | 2.55 |
| 599 | 6 | 4.78 | 0.03 | 0.06 | 605.72 | 13.27 |
| 623 | 39 | -0.59 | -5.54 | -1.05 | 57.64 | 1.26 |
| 632 | 27 | -0.42 | -7.57 | 0.86 | 54.73 | 1.20 |

as, s

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,s}$ |
|--------|-----|------------|------------|-------------|----------|-----------|
| | | YSD↑↑YŸ | YSD↑↑YŸ | YSD↑↑YŸ | [kN/m] | Y´↑YD↑YŸ |
| 591 | 10 | 2.71 | -0.05 | 0.37 | 39.19 | 0.86 |
| 600 | 29 | 3.51 | 0.26 | 0.02 | 35.32 | 0.77 |
| 622 | 7 | 2.96 | 0.63 | 0.14 | 95.59 | 2.09 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ | n_{cEd} | σ_{cd} | |
|--------|-----|-------------|-----------|---------------|-------|
| | | YSD↑↑YŸ | [kN/m] | YSD↑↑YŸ | [%] |
| 6 | 39 | -1.51 | -376.90 | -3.02 | 23.65 |
| | | | | -12.75 | |
| 7 | 27 | 1.53 | -381.30 | -3.05 | 23.92 |
| | | | | -12.75 | |
| 78 | 27 | 0.75 | -187.08 | -1.50 | 11.74 |
| | | | | -12.75 | |
| 526 | 39 | -1.26 | -314.47 | -2.52 | 19.73 |
| | | | | -12.75 | |
| 531 | 27 | 0.15 | -38.66 | -0.31 | 2.43 |
| | | | | -12.75 | |
| 574 | 41 | -0.68 | -170.79 | -1.37 | 10.72 |
| | | | | -12.75 | |
| 579 | 27 | 0.67 | -167.66 | -1.34 | 10.52 |
| | | | | -12.75 | |
| 622 | 81 | 0.16 | -39.86 | -0.32 | 2.50 |
| | | | | -12.75 | |

´äi vorhandene Betonspannung
bäi ~|→†bb↔æÄNæ\~^ää|^´←b*á^|^&

Spannung

Spannungsnachweis, Abs. 7.2
↑↔\ÁQ†^&bâæ}æää|^&Áás

Es werden nur lokale Extremwerte dokumentiert.

as, r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

POSITION

WT-2.1

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|----|-------------------------------|------------|------------|
| 514 | 51 | 3.62 0.28 0.06 | ro | 14.04 | 0.65 | 0.00 |
| 531 | 48 | 0.03 -3.85 0.11 | ro | 0.53 | 0.66 | 0.00 |
| 534 | 51 | -0.03 -3.53 -0.69 | ro | 2.55 | 0.65 | 0.00 |
| 599 | 64 | 3.42 0.03 0.05 | ro | 13.27 | 0.65 | 0.00 |
| 623 | 55 | -0.42 -3.93 -0.74 | ro | 1.26 | 0.65 | 0.00 |
| 632 | 48 | -0.30 -5.40 0.61 | ro | 1.20 | 0.65 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge \leftrightarrow b \vec{A} \vec{C} \}_s / f_{yk}$ $c: \tilde{N} \vec{a} \setminus \sim \wedge b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge \leftrightarrow b \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | |

 a_s, s

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|----|-------------------------------|------------|------------|
| 591 | 71 | 1.96 -0.04 0.26 | so | 0.86 | 0.65 | 0.00 |
| 600 | 49 | 2.57 0.18 0.02 | so | 0.77 | 0.65 | 0.00 |
| 622 | 73 | 2.17 0.45 0.10 | so | 2.09 | 0.66 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge \leftrightarrow b \vec{A} \vec{C} \}_s / f_{yk}$ $c: \tilde{N} \vec{a} \setminus \sim \wedge b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge \leftrightarrow b \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | |

WT-2. 1_4

 $\tilde{N} \vec{a} \uparrow \vec{a} b b \mid \wedge \& \vec{A} \vec{a} \vec{i} \vec{a} \vec{A} \vec{U} \vec{a} \leftrightarrow \vec{a} \vec{a} \vec{A} \vec{C} \vec{U} \setminus \vec{a} \vec{a} \rightarrow \vec{a} \vec{a} \setminus \sim \wedge \vec{D} \vec{A} \vec{U} \vec{U} \vec{E} \vec{G} \vec{E} \vec{F} \vec{Z} \vec{H}$
Erf. Bewehrung

Erforderliche Bewehrung

Kombi nationen
 $R \vec{a} \vec{S} \& \vec{a} \vec{a} \vec{a}^{\wedge} \vec{a} \vec{a} \vec{A} \vec{P} \sim \uparrow \vec{a} \leftrightarrow \wedge \vec{a} \setminus \leftrightarrow \sim \wedge \vec{a}^{\wedge} \vec{A}^{\wedge} \vec{a}^{\wedge} \vec{a}^{\wedge} \vec{A} \vec{E} \vec{O} \vec{S} \vec{A} \vec{O} \vec{S} \vec{A} \vec{F} \vec{i} \vec{i} \vec{e}$

Ew Einwirkungsname
Lkn Lastkombinationsnummer

 $\vec{E} \leftrightarrow \vec{a} \vec{A} \tilde{N} \vec{a} \setminus \vec{a} \leftrightarrow \leftrightarrow \& \mid \wedge \& \vec{A} \vec{a} \leftrightarrow \wedge \sim \vec{a} \rightarrow \vec{a} \vec{a} \vec{A} \vec{Q} \vec{a} b \setminus \vec{a} \vec{t} \rightarrow \vec{a} \vec{A} \leftrightarrow \wedge \wedge \vec{a} \vec{a} \vec{a} \vec{a} \rightarrow \vec{a} \vec{A}$ einer
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh} bX] [#] cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|-------------|-------------|---------|---------|
| 1 | | 1.00 | 1.00 | 1.50 | . | . | 1.50 |
| 2-3 | | 1.00 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 4 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 5-11 | | 1.35 | 1.35 | . | . | 1.05 | 1.50 |
| 12-20 | | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 21-22 | | 1.35 | 1.35 | 1.05 | 1.05 | . | 1.50 |

W-111

Schulcampus EWK \

WT-2.1

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 23-36 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 37-43 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 44-57 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 58-59 | | 1.35 | 1.35 | 1.05 | . | 1.05 | . |
| 60-61 | | 1.00 | 1.35 | 1.05 | 1.05 | . | 1.50 |
| 62-63 | | 1.00 | 1.00 | . | . | 1.05 | 1.50 |
| 64 | | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 65-68 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 69-70 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 71-72 | | 1.35 | 1.00 | . | . | 1.05 | 1.50 |
| 73 | | 1.35 | 1.00 | 1.05 | . | 1.05 | |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1 | | . |
| 2-3 | | . |
| 4 | | . |
| 5-11 | | 1.50 |
| 12-20 | | 1.50 |
| 21-22 | | 1.50 |
| 23-36 | | 1.50 |
| 37-43 | | 1.50 |
| 44-57 | | 1.50 |
| 58-59 | | 1.50 |
| 60-61 | | 1.50 |
| 62-63 | | 1.50 |
| 64 | | 1.50 |
| 65-68 | | 1.50 |
| 69-70 | | 1.50 |
| 71-72 | | 1.50 |
| 73 | | 1.50 |

Sel ten

Seltene Kombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|---------|---------|---------|---------|
| 74-82 | | 1.00 | 1.00 | . | . | 0.70 | 1.00 |
| 83-91 | | 1.00 | 1.00 | 0.70 | 0.70 | . | 1.00 |
| 92-105 | | 1.00 | 1.00 | 0.70 | . | 0.70 | 1.00 |
| 106-122 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 1.00 |
| 123 | | 1.00 | 1.00 | 0.70 | . | 0.70 | |

| Lkn | Ew | Qk.N_DA |
|---------|----|---------|
| 74-82 | | 1.00 |
| 83-91 | | 1.00 |
| 92-105 | | 1.00 |
| 106-122 | | 1.00 |
| 123 | | 1.00 |

Ei Ug] ! gh} bX] [

T | áb↔Ëb\ ±^ä↔&æÁP~↑â↔^á\↔~^æ^

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|---------|---------|---------|---------|
| 124 | | 1.00 | 1.00 | . | . | 0.60 | 0.80 |
| 125-129 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | 0.80 |

| Lkn | Ew | Qk.N_DA |
|---------|----|---------|
| 124 | | . |
| 125-129 | | . |

Alle Nachweise

$$\tilde{O}\tilde{a}\tilde{\sim}\tilde{a}\tilde{\sim}\tilde{a}\tilde{\sim}\leftrightarrow\tilde{'}\tilde{a}\tilde{x}\tilde{A}\tilde{Q}\tilde{+}\tilde{^}\tilde{\&}\tilde{b}\tilde{a}\tilde{x}\}\tilde{x}\tilde{a}\tilde{a}\tilde{|}\tilde{^}\tilde{\&}\tilde{A}\tilde{a}\tilde{|}\tilde{b}\tilde{A}\tilde{a}\tilde{\rightarrow}\tilde{x}\tilde{^}\tilde{A}\tilde{S}\tilde{a}\tilde{'}\tilde{a}\}\tilde{x}\leftrightarrow\tilde{b}\tilde{x}\tilde{^}$$

Es werden nur lokale Extremwerte dokumentiert.

 as, r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑YŸ | $S_{s,Ed}$ YSD↑↑YŸ | $S_{rs,Ed}$ YSD↑↑YŸ | n_{Ed} [kN/m] | $a_{s,r}$ Y'↑YD↑YŸ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|-----------------------|
| 514 | 6 | 3.95 | 0.36 | 0.06 | 703.36 | 15.41 |

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,r}$ Y'↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 636 | 7 | 1.30 | -0.03 | -0.01 | 229.77 | 5.03 |
| 679 | 5 | -0.60 | -2.47 | -1.32 | 126.05 | 2.76 |

 $a_{s,s}$

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,s}$ Y'↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 688 | 25 | 0.03 | 2.68 | 0.01 | 471.96 | 10.34 |
| 834 | 33 | 0.88 | 0.19 | -0.63 | 143.71 | 3.15 |
| 865 | 10 | 3.07 | 0.80 | -0.06 | 150.79 | 3.30 |

Hf U[Z} \] [_Y] h

Óã~ããã↔´áæÁQ†^&bâæ}æää|^&
á|bÁŨãã&à†ã&←æ↔\b^á´â}æ↔b
(je Scheibenseite)

Es werden nur lokale Extremwerte dokumentiert.

 $a_{s,r}$

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,r}$ Y'↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 514 | 6 | 3.95 | 0.36 | 0.06 | 703.36 | 15.41 |
| 636 | 7 | 1.30 | -0.03 | -0.01 | 229.77 | 5.03 |
| 679 | 5 | -0.60 | -2.47 | -1.32 | 126.05 | 2.76 |

 $a_{s,s}$

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,s}$ Y'↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 688 | 25 | 0.03 | 2.68 | 0.01 | 471.96 | 10.34 |
| 834 | 33 | 0.88 | 0.19 | -0.63 | 143.71 | 3.15 |
| 865 | 10 | 3.07 | 0.80 | -0.06 | 150.79 | 3.30 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{cEd} [kN/m] | c_d R_d YSD↑↑¥Ÿ | c_d [%] |
|--------|-----|------------------------|---------------------|---------------------------|--------------|
| 634 | 8 | 0.04 | -14.98 | -0.09 | 0.67 |
| | | | | -12.75 | |
| 645 | 6 | -2.11 | -738.62 | -4.22 | 33.10 |
| | | | | -12.75 | |
| 652 | 6 | 0.10 | -33.64 | -0.19 | 1.51 |
| | | | | -12.75 | |
| 657 | 25 | -1.68 | -586.53 | -3.35 | 26.29 |
| | | | | -12.75 | |
| 664 | 5 | 0.11 | -38.10 | -0.22 | 1.71 |
| | | | | -12.75 | |
| 792 | 25 | -1.25 | -437.77 | -2.50 | 19.62 |
| | | | | -12.75 | |

´äi vorhandene Betonspannung
pãĩ ~|→†bb&æÃÑæ\~^ää|´←b*á^^|^&

Spannung

Spannungsnachweis, Abs. 7.2

 $\sigma_{\text{Ed}} = \frac{M_{\text{Ed}}}{I_{\text{y}}} \cdot y$

Es werden nur lokale Extremwerte dokumentiert.

$a_{s,r}$

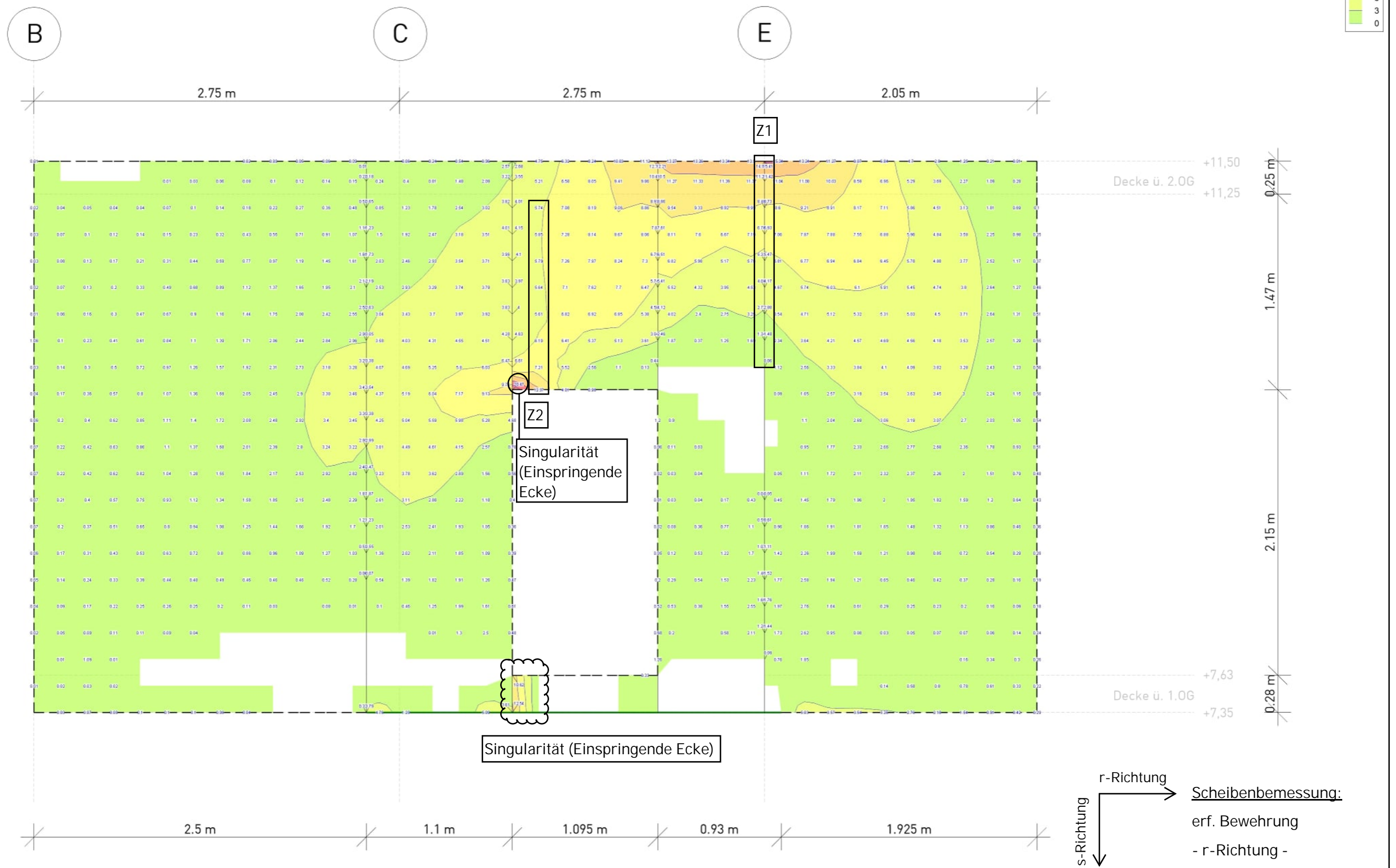
Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $\sigma_{r,Ed}$ $\sigma_{s,Ed}$ $\sigma_{rs,Ed}$ [N/mm ²] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|--|----|-------------------------------|------------|------------|
| 514 | 74 | 2.84 0.27 0.05 | ro | 15.41 | 0.66 | 0.00 |
| 636 | 77 | 0.91 -0.03 -0.01 | ro | 5.03 | 0.64 | 0.00 |
| 679 | 75 | -0.43 -1.77 -0.94 | ro | 2.76 | 0.65 | 0.00 |
| $s: U \cdot \frac{M_{\text{Ed}}}{I_{\text{y}}} \cdot y$ $c: N \cdot \frac{M_{\text{Ed}}}{I_{\text{y}}} \cdot y$ | | | | | | |

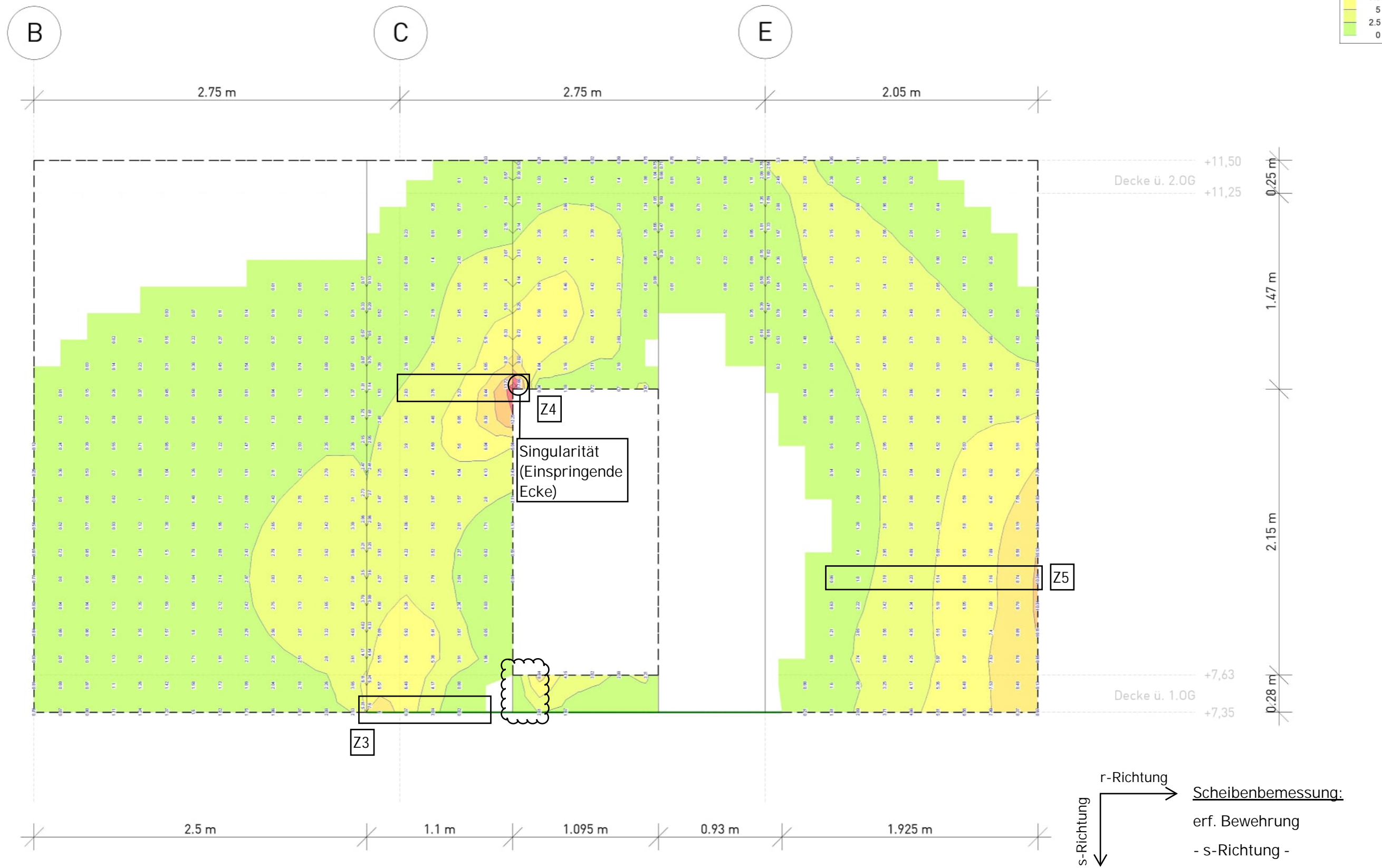
$a_{s,s}$


Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $\sigma_{r,Ed}$ $\sigma_{s,Ed}$ $\sigma_{rs,Ed}$ [N/mm ²] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|--|----|-------------------------------|------------|------------|
| 688 | 95 | 0.02 1.93 0.01 | so | 10.34 | 0.65 | 0.00 |
| 834 | 103 | 0.64 0.13 -0.46 | so | 3.15 | 0.65 | 0.00 |
| 865 | 79 | 2.25 0.58 -0.04 | so | 3.30 | 0.66 | 0.00 |
| $s: U \cdot \frac{M_{\text{Ed}}}{I_{\text{y}}} \cdot y$ $c: N \cdot \frac{M_{\text{Ed}}}{I_{\text{y}}} \cdot y$ | | | | | | |



| | | | | | |
|---|--|--------------------------------|--|---|-----------------|
| : `} W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  KREBS+KIEFER | Modell WT-2.1 | T ab • ca • KFE |
| Max = 20.47 (Kn. 8), Min = 0 (Kn. 9), Step = 3 Bew.-Abstand d' = 30 mm Beton C 30/37 Bauteildicke h = 25.00...35.00 cm | | aus allen Nachweisen | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|---|---|---|-------------|-------------------------------------|---------------|
| : `W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-2.1 | T ab • ca K E |
| Max = 17.66 (Kn. 8), Min = 0 (Kn. 1), Step = 2.5 Bew.-Abstand d' = 30 mm Beton C 30/37 Bauteildicke h = 25.00...35.00 cm | aus allen Nachweisen • E u c } * A g > A q ^ A U & @ a ^ • ^ a ^ D a E á | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |

Nachweise Auswertung

Biegebemessung der Scheiben (Stahlbeton) nach DIN EN 1992-1-1

Mat. /Querschnitt

| Position | Winkel yflŸ | Art | Material | Dicke [cm] |
|--------------------|------------------|-----|-------------------|---------------|
| WS-T-2.1 | Wandsturz 0.0 | iso | B 500SB C 30/37 Q | 25.0 |
| WT-2.1_1..WT-2.1_3 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |
| WT-2.1_4 | 0.0 | iso | B 500SB C 30/37 Q | 35.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: 0æb\æ↔^b<=ã^|^&AT|áã~↔\
Exz.: Ó[~æ^ã↔^↔\†\Ãæ

Expositi onsklasse

| Position | Seite | Kl | Kommentar |
|------------------------------|-----------|-----|-------------------------------|
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | umlaufend | XC1 | \ä~'←æ^Ã~ääãÄb\†^ä↔&Ã nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro yflŸ | so yflŸ | ru yflŸ | su yflŸ |
|------------------------------|------------|------------|------------|------------|
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

je Scheibenseite

| Position | C _{min} [mm] | # _{def} [mm] | C _{nom} [mm] | C _v [mm] |
|----------|--------------------------|--------------------------|--------------------------|------------------------|
| WS-T-2.1 | 12 | 10 | 22 | 30 |
| WT-2.1_1 | 12 | 10 | 22 | 30 |
| WT-2.1_2 | 12 | 10 | 22 | 30 |
| WT-2.1_3 | 12 | 10 | 22 | 30 |
| WT-2.1_4 | 12 | 10 | 22 | 30 |

Grundbewehrung

je Scheibenseite

| Position | Rá\\æÊÁU\†âæ ~Y††ŸĐbY'†Ÿ | d' _r [mm] | a _{sg,r} [cm ² /m] | d' _s [mm] | a _{sg,s} [cm ² /m] |
|----------|-----------------------------|-------------------------|---|-------------------------|---|
| WS-T-2.1 | o r Ó3413702 | 36 | 7.54 | | |
| | o s Ó3213702 | | | 47 | 5.24 |
| WT-2.1_1 | o r Ó3413702 | 36 | 7.54 | | |
| | o s Ó3213702 | | | 47 | 5.24 |
| WT-2.1_2 | o r Ó3413702 | 36 | 7.54 | | |
| | o s Ó3213702 | | | 47 | 5.24 |
| WT-2.1_3 | o r Ó3413702 | 36 | 7.54 | | |
| | o s Ó3213702 | | | 47 | 5.24 |
| WT-2.1_4 | o r Ó3413702 | 36 | 7.54 | | |
| | o s Ó3213702 | | | 47 | 5.24 |

Bemessungsparameter

àfiãÁäæ^ÁÖãæ^~ | b\á^äÄäãÁÜãá&à‡â&←æ↔\Á^á´äÁÆØSÁÓSÁ
1992-1-1

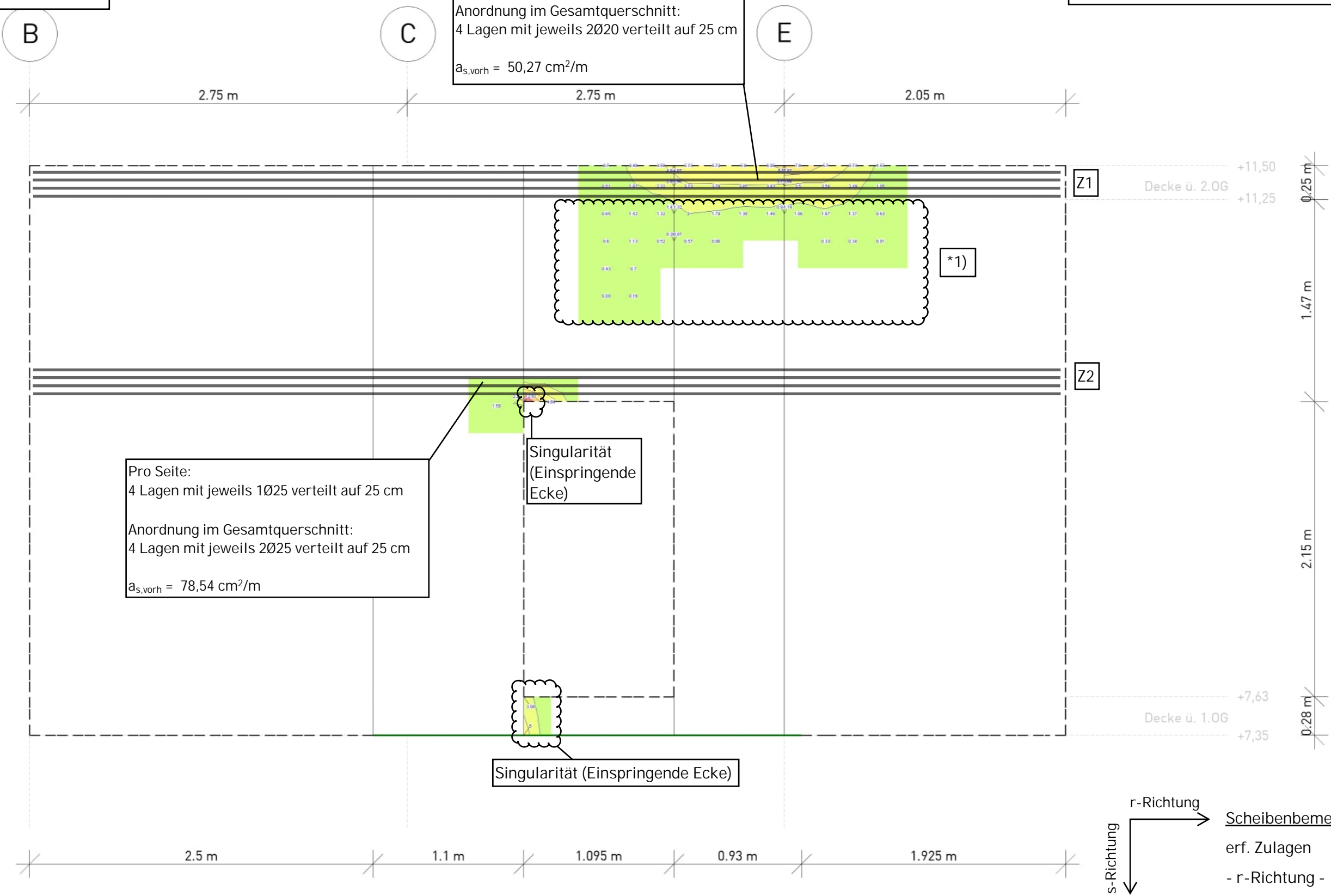
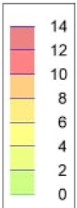
Bi egung

| Position | Bemessungsverfahren | Mindestbewehrung |
|---|---------------------|------------------|
| WS-T-2.1, WT-2.1_1..WT-2.1_4 | Üáfiã↔↑á^^ | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

Grundbewehrung: d12/15
Randeinfassung entsprechend der Grundbewehrung

Pro Seite:
4 Lagen mit jeweils 1Ø20 verteilt auf 25 cm
Anordnung im Gesamtquerschnitt:
4 Lagen mit jeweils 2Ø20 verteilt auf 25 cm
 $a_{s,vorh} = 50,27 \text{ cm}^2/\text{m}$

*1) Bereich wurde in Berechnung Bewehrungsmenge in Zugstreben berücksichtigt, keine zusätzliche Zulage erforderlich



Pro Seite:
4 Lagen mit jeweils 1Ø25 verteilt auf 25 cm
Anordnung im Gesamtquerschnitt:
4 Lagen mit jeweils 2Ø25 verteilt auf 25 cm
 $a_{s,vorh} = 78,54 \text{ cm}^2/\text{m}$

Singularität
(Einspringende
Ecke)

Singularität (Einspringende Ecke)

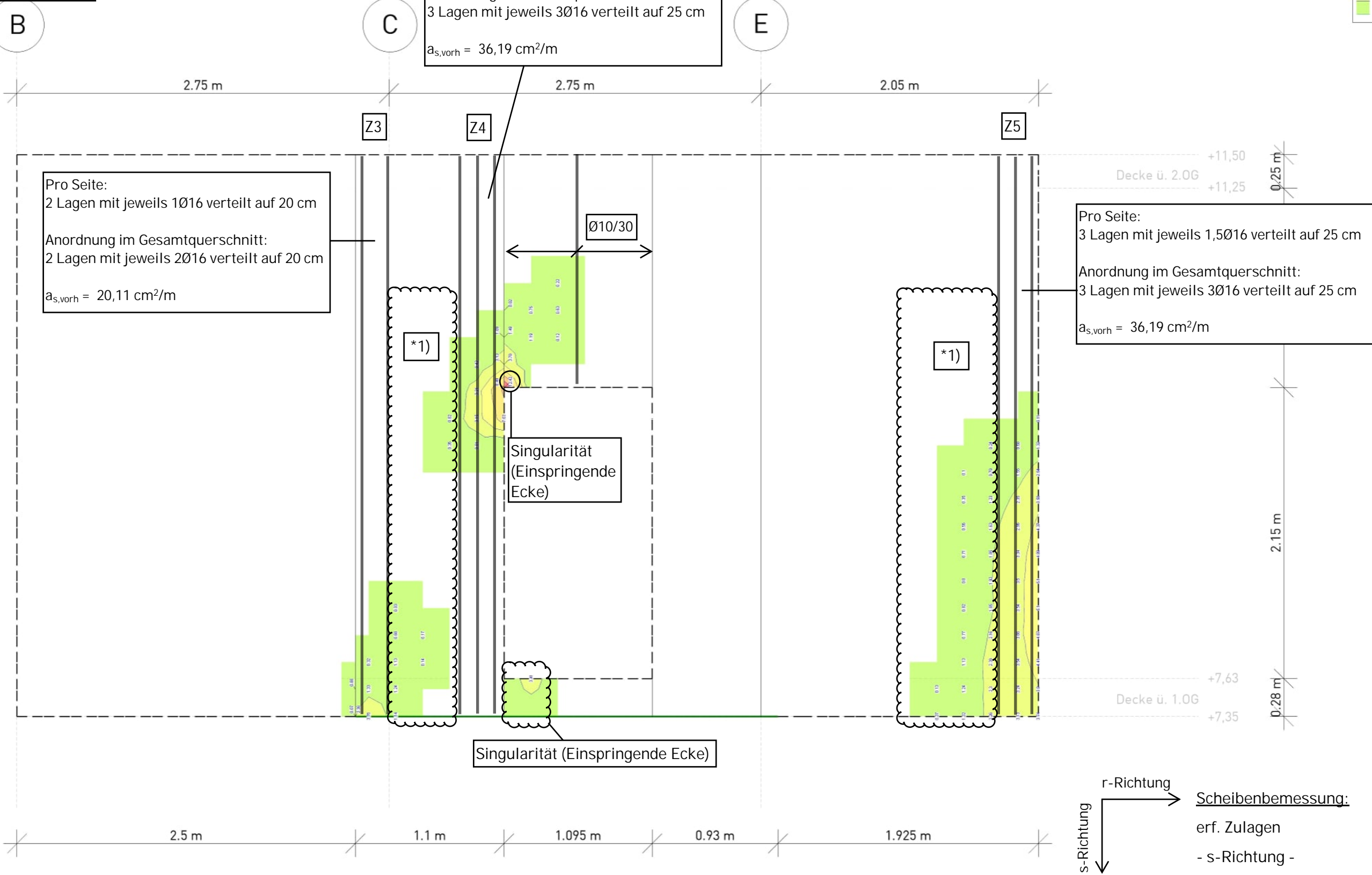
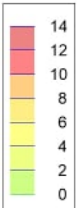
r-Richtung
s-Richtung
Scheibenbemessung:
erf. Zulagen
- r-Richtung -

| | | | | |
|---|--|--|---|--------------------------|
| <p>: `} W YbVYa Yggi b[</p> <p>Vorhandene Bew. $a_{s,vorh} = 7.54$ (Grund+Zulagen) Bew.-Abstand $d' = 36 \text{ mm}$ Beton C 30/37 Bauteildicke $h = 25.00 \dots 35.00 \text{ cm}$</p> | <p>Erforderliche Bewehrung $a_{s,erf}$</p> <p>aus allen Nachweisen (Differenzbew.)</p> <p>!E@a@ } * A> A3 ^A) & @ a ^) • ^ a D a A a Q á</p> <p>Max = 12.93 (Kn. 8), Min = 0 (Kn. 9), Step = 2</p> | | <p>Modell WT-2.1-m.Bw. Bauvorhaben Schulcampus EWK Schwesternschule</p> <p>KREBS+KIEFER Ingenieure GmbH</p> | <p>T a b • a a K F E</p> |
|---|--|--|---|--------------------------|

Grundbewehrung: d10/15
Randeinfassung entsprechend der Grundbewehrung

Pro Seite:
3 Lagen mit jeweils 1,5Ø16 verteilt auf 25 cm
Anordnung im Gesamtquerschnitt:
3 Lagen mit jeweils 3Ø16 verteilt auf 25 cm
 $a_{s,vorh} = 36,19 \text{ cm}^2/\text{m}$

*1) Bereich wurde in Berechnung Bewehrungsmenge in Zugstreben berücksichtigt, keine zusätzliche Zulage erforderlich



Pro Seite:
2 Lagen mit jeweils 1Ø16 verteilt auf 20 cm
Anordnung im Gesamtquerschnitt:
2 Lagen mit jeweils 2Ø16 verteilt auf 20 cm
 $a_{s,vorh} = 20,11 \text{ cm}^2/\text{m}$

Pro Seite:
3 Lagen mit jeweils 1,5Ø16 verteilt auf 25 cm
Anordnung im Gesamtquerschnitt:
3 Lagen mit jeweils 3Ø16 verteilt auf 25 cm
 $a_{s,vorh} = 36,19 \text{ cm}^2/\text{m}$

| | |
|---|--|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung $a_{s,erf}$ |
| Vorhandene Bew. $a_{s,vorh} = 5.24$ (Grund+Zulagen) | aus allen Nachweisen (Differenzbew.) |
| Bew.-Abstand $d' = 47 \text{ mm}$ | • $E_{a,c} \cdot \sigma_{a,c} \cdot A_{a,c} \cdot \eta_{a,c} \cdot \rho_{a,c} \cdot \eta_{a,c} \cdot \rho_{a,c} \cdot \eta_{a,c} \cdot \rho_{a,c}$ |
| Beton C 30/37 | Max = 12.42 (Kn. 8), Min = 0 (Kn. 1), Step = 2 |
| Bauteildicke $h = 25.00 \dots 35.00 \text{ cm}$ | |

| | | | |
|------------------------------|-------------|-------------------------------------|---------|
| | Modell | WT-2.1-m.Bw. | Tabelle |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | |

Scheibenbemessung:
erf. Zulagen
- s-Richtung -

Knotenbemessung Wandartiger Träger

| | | |
|--------------|--------|----------|
| CTC - Knoten | WT-2.1 | W-1.24-2 |
|--------------|--------|----------|

Eingangswerte Beton:

| | |
|---------------------------------------|----------------------|
| Auflagerkraft F_{Ed} = | 1204 kN |
| Auflagerlänge l = | 0,93 m |
| Auflagerbreite b = | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | 25 N/mm ² |

| | |
|-------|------|
| v = | 0,75 |
|-------|------|

Eingangswerte Bewehrung:

| | |
|-------------------------|-------|
| Höhe des Zugbands u = | 28 cm |
|-------------------------|-------|

Nachweis Auflagerpressung (σ_{c1}):

| | |
|--|-------------------------|
| $\sigma_{Rd} = \min(v \cdot f_{cd,T} ; v \cdot f_{cd,D} ; f_{cd,A})$ | 12,75 N/mm ² |
|--|-------------------------|

| | |
|--------------------------------------|------------------------|
| $\sigma_{c1} = F_{Ed} / (l \cdot b)$ | 5,18 N/mm ² |
|--------------------------------------|------------------------|

| | |
|-------------------------------|------|
| $\sigma_{c1} / \sigma_{Rd} =$ | 0,41 |
|-------------------------------|------|

Es ist keine Druckbewehrung erforderlich.

Der Nachweis der Auflagerpressung ist erfüllt.

Es lässt sich durch die komplexe Geometrie des Trägers kein eindeutiger Auflagerknoten für einen Detailnachweis der Druckstrebe bilden. Der Nachweis der Betondruckspannungen ist im FE-Programm an jedem Knoten erfüllt. Demnach werden diese auf diesem Weg als nachgewiesen angesehen.

| | | |
|----------------------------|--------|----------|
| Zugverankerung am Auflager | WT-2.1 | W-1.24-1 |
|----------------------------|--------|----------|

| | | |
|---|--|----------------------|
| Eingangswerte Beton: | | |
| Auflagerkraft F_{Ed} = | | 131 kN |
| Auflagerlänge l = | | 1,1 m |
| Auflagerbreite b = | | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | | 25 N/mm ² |
| Eingangswerte Bewehrung: | | |
| Höhe des Zugbands u = | | 28 cm |
| Durchmesser Verankerungsbewehrung \emptyset = | | 8 mm |
| Anzahl Stäbe n = | | 10 |

| | |
|--------------------------------|----------------------|
| vorh. Bewehrungsfläche A_s = | 5,03 cm ² |
| Bewehrungsgrad ρ = | 0,18 % |

Nachweis Zugverankerung:

| | |
|-------------------|--------------------------|
| $\sigma_{s,Rd}$ = | 43,50 kN/cm ² |
|-------------------|--------------------------|

| | |
|--------------------------------------|----------------------|
| $A_{s,erf} = F_{Ed} / \sigma_{s,Rd}$ | 3,01 cm ² |
|--------------------------------------|----------------------|

| | |
|--------------------------|------|
| $A_{s,erf} / A_{s,vorh}$ | 0,60 |
|--------------------------|------|

Der Nachweis der Zugverankerung ist erfüllt.

Die gewählte Bewehrung entspricht der Wandbewehrung (d8/20) des nachgewiesenen Auflagers.

| Berechnung Bewehrung Zugband | WT-2.1 | Z1 |
|------------------------------|--------|----|
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|--------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 15,41 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | | 0 cm ² /m |
| Länge Zugfeld l_s = | | 1,6 m |
| Höhe des Zugbands u = | | 25 cm |

Integration Bewehrung über Länge:

| | |
|---|-----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 12,33 cm ² |
|---|-----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 20 mm |
| Anzahl Lagen: | 4 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|-----------------------|
| Anzahl Stäbe n = | 4 |
| vorh. Bewehrungsfläche A_s = | 12,57 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 50,27 cm ² /m |
|-------------------------------|--------------------------|

| Berechnung Bewehrung Zugband | WT-2.1 | Z2 |
|------------------------------|--------|----|
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|--------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 12,37 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | | 5,74 cm ² /m |
| Länge Zugfeld l_s = | | 1,4 m |
| Höhe des Zugbands u = | | 25 cm |

Integration Bewehrung über Länge:

| | |
|---|-----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 12,68 cm ² |
|---|-----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 25 mm |
| Anzahl Lagen: | 4 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|-----------------------|
| Anzahl Stäbe n = | 4 |
| vorh. Bewehrungsfläche A_s = | 19,63 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 78,54 cm ² /m |
|-------------------------------|--------------------------|

| Berechnung Bewehrung Zugband | WT-2.1 | Z3 |
|------------------------------|--------|----|
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 7,6 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | | 0 cm ² /m |
| Länge Zugfeld l_s = | | 1 m |
| Höhe des Zugbands u = | | 20 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 3,80 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 16 mm |
| Anzahl Lagen: | 2 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 2 |
| vorh. Bewehrungsfläche A_s = | 4,02 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 20,11 cm ² /m |
|-------------------------------|--------------------------|

| Berechnung Bewehrung Zugband | WT-2.1 | Z4 |
|------------------------------|--------|----|
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|--------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 17,66 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | | 2,83 cm ² /m |
| Länge Zugfeld l_s = | | 0,8 m |
| Höhe des Zugbands u = | | 25 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 8,20 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 16 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1,5 |
| Stäbe pro Lage gesamt: | 3 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 4,5 |
| vorh. Bewehrungsfläche A_s = | 9,05 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 36,19 cm ² /m |
|-------------------------------|--------------------------|

| | | |
|------------------------------|--------|----|
| Berechnung Bewehrung Zugband | WT-2.1 | Z5 |
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|--------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 10,34 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | | 0 cm ² /m |
| Länge Zugfeld l_s = | | 1,6 m |
| Höhe des Zugbands u = | | 25 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 8,27 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 16 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1,5 |
| Stäbe pro Lage gesamt: | 3 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 4,5 |
| vorh. Bewehrungsfläche A_s = | 9,05 cm ² |

umgerechnet auf Flächenbewehrung:

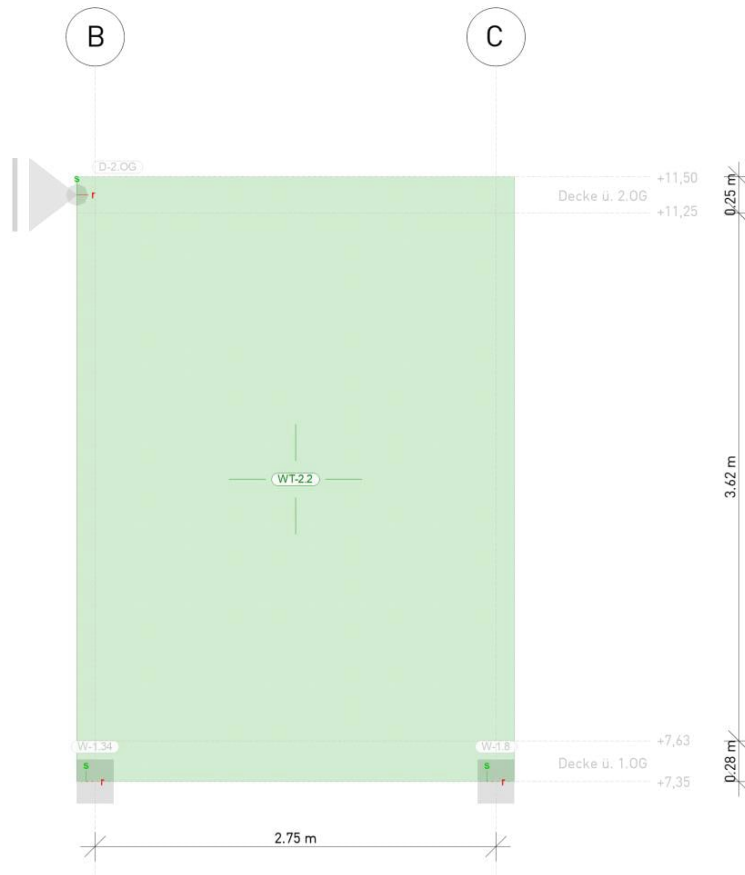
| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 36,19 cm ² /m |
|-------------------------------|--------------------------|

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

5.1.2 WT-2.2

Stat. System:



Material:

| | | |
|--------------------|--------------------------------------|--------------------------------|
| Dicke: | 25 cm | WT-2.2 |
| Betonstahl: | B 500SB | |
| Beton: | C30/37 | |
| Expositionsklasse: | XC1, W0 | Innenbauteile |
| Betondeckung: | $c_v = 30 \text{ mm}$ | |
| Grundbewehrung: | Ø12/15 horizontal Ø10/15 vertikal | = 7,54 cm²/m = 5,24 cm²/m |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

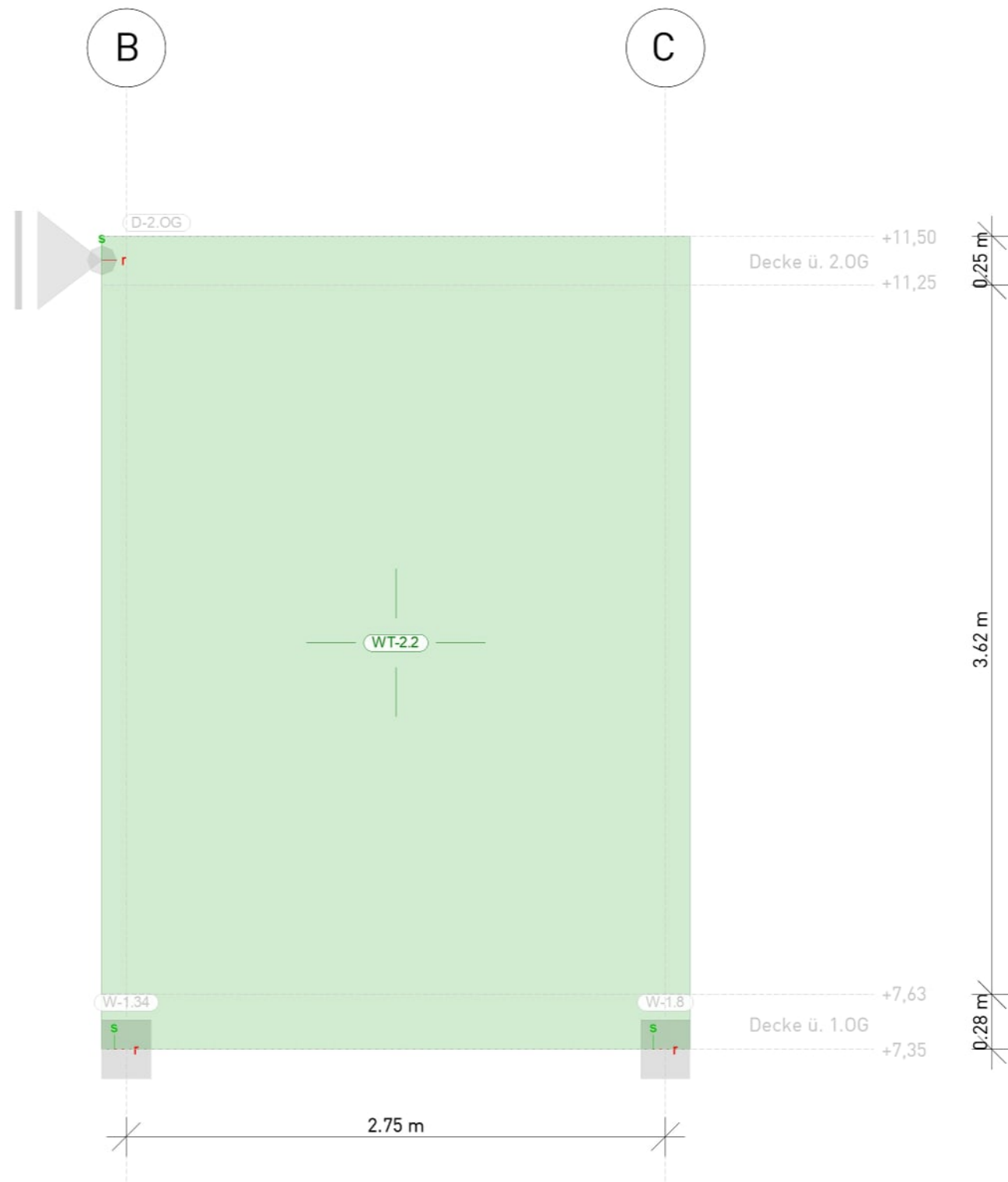
Belastung:

Die Belastung wird aus den Auflagerreaktionen der zugehörigen Wandlager aus den Deckenmodellen D-2.OG und D-1.OG übernommen. Es wird für jeden Lasttyp (Eigengewicht, Ausbau, Nutzlasten) ein eigener Lastfall erstellt. Für die Nutzlasten wird beim Erstellen der Lastfälle in positive und negative Belastungsrichtung unterschieden.

Die Anordnung der Lasten kann aus den Lastplänen entnommen werden.

Bemessung:

Siehe folgende Seiten.



| | | | | |
|--------------------|---|------------------------------|-------------------------------------|---------|
| Bauteil-Positionen |  | Modell | WT-2.2 | Tabelle |
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |

Posi ti onspl an

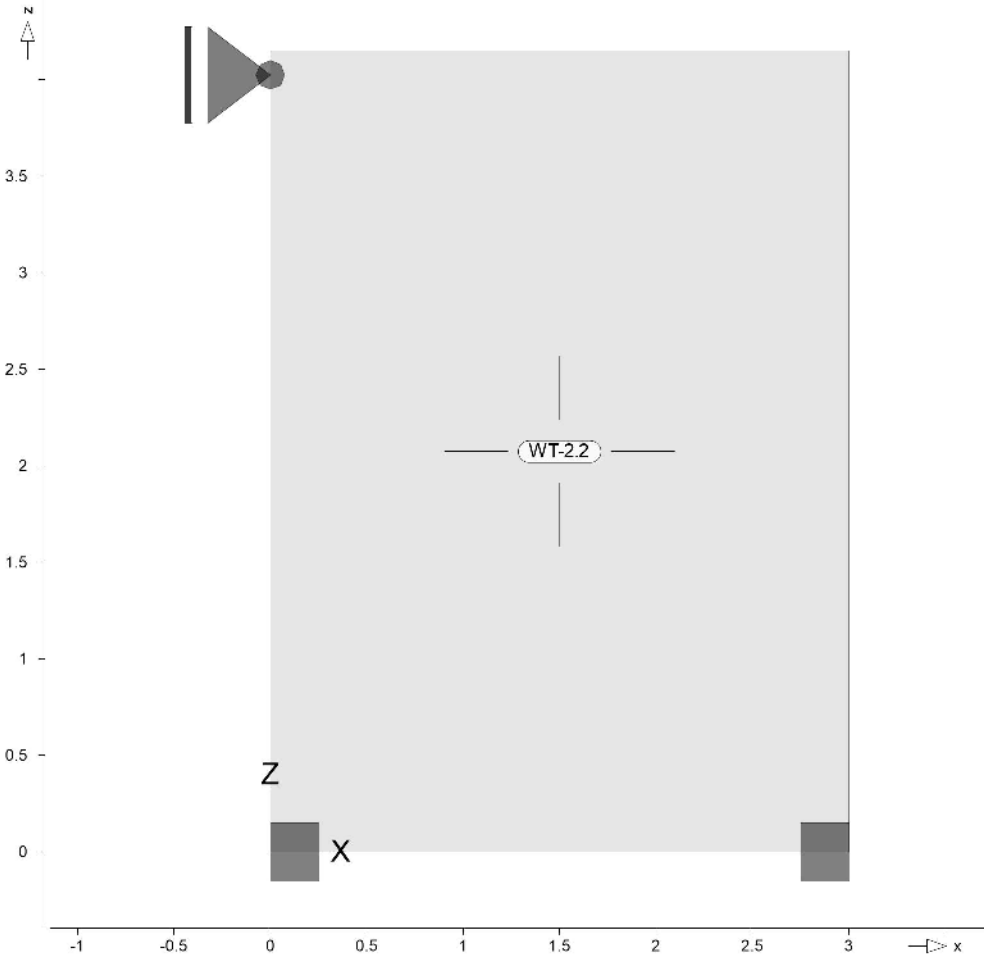
Positionsplan

Bautei le

Bauteil-Positionen

Posi ti onsgafi k

©âæãb↔´â\ÄäæãÄÑá|\æ↔→Ë\$~b↔\↔~^æ^



Schei ben

Scheiben-Positionen

Stahl beton

| Position | Winkel YflŸ | Art | Material | Dicke [cm] |
|----------|----------------|-----|-------------------|---------------|
| WT-2.2 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ↔^b↔=ã^|^&ÄT|ää~↔\
Exz.: Ó[´æ^\ää↔~↔\^Äæ

Exposi ti onskl asse

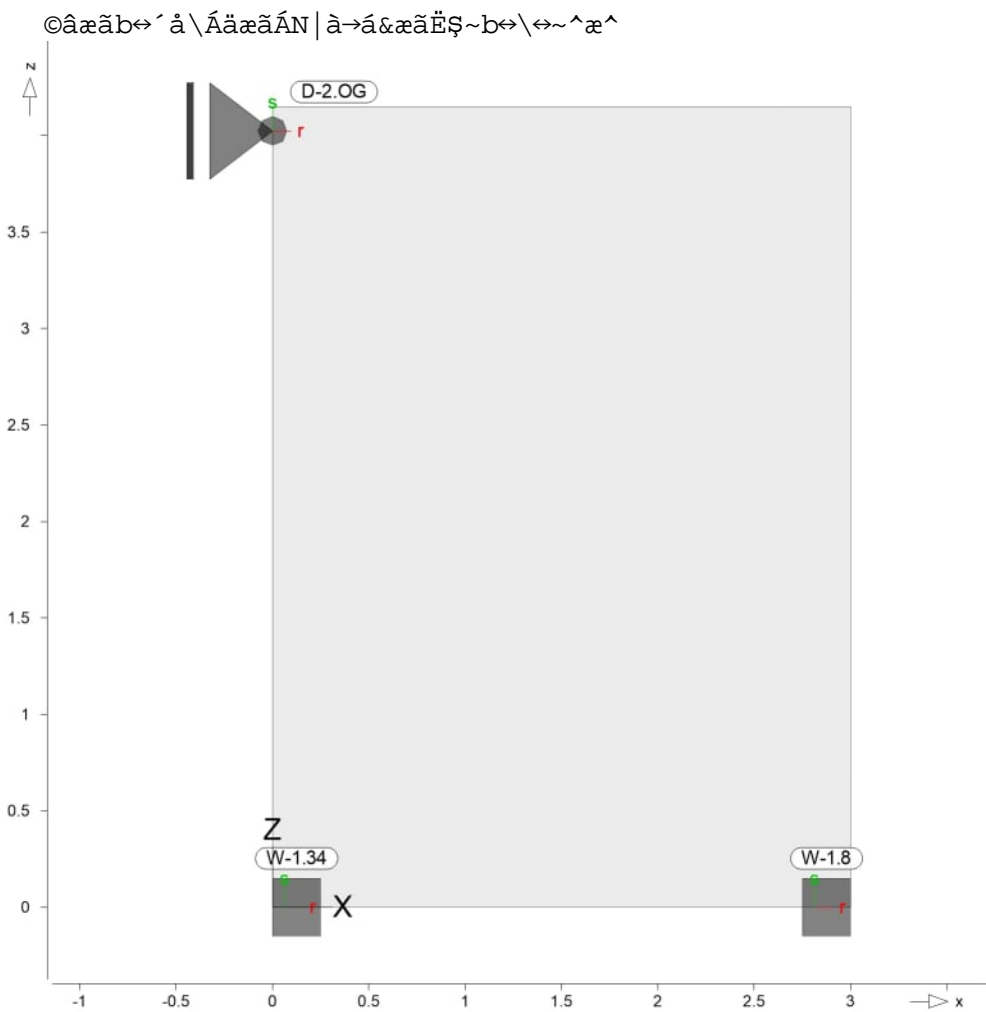
&æ†‡BÁÆØSÁÓSÁFİİĜĖFĖFĖÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|-------------------------------|
| WT-2.2 | umlaufend | XC1 | \ä~´←æ^Ä~ääãÄb\†^ä↔&Ä nass |

Auflager

Positionsgrafik

Auflager-Positionen



Punktlager

Punktlager-Positionen

| Position | | $K_{T,r}$ [kN/m] | $K_{T,s}$ [kN/m] | $K_{R,t}$ [kNm/rad] |
|----------|-----|---------------------|---------------------|------------------------|
| D-2.OG | +/- | fest | frei | frei |

Linienlager

Linienlager-Positionen

lokal

| Position | | $K_{T,r}$ [kN/m/m] | $K_{T,s}$ [kN/m/m] | $K_{R,t}$ [kNm/rad/m] |
|---------------|--|-----------------------|-----------------------|--------------------------|
| W-1.8, W-1.34 | | frei | +/- | fest |
| | | | | frei |

Material

Materialkennwerte

Stahlbeton
DIN EN 1992-1-1

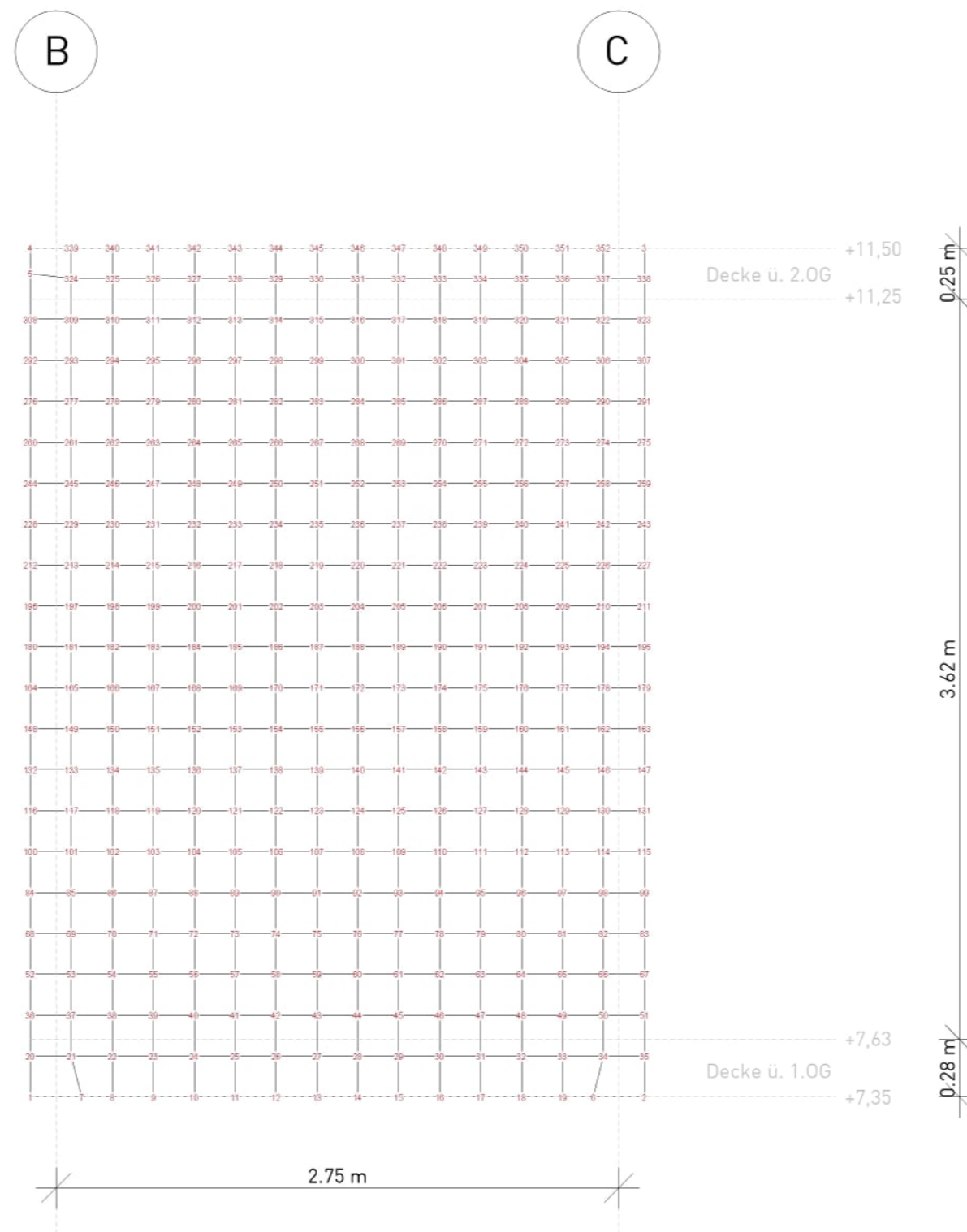
| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|----------|-----------|--------|----------------|-----------------------|
| WT-2.2 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |

Q: $\sigma_{b\perp} \leq \sigma_{b\perp}^{Rd}$ | $\sigma_{b\parallel} \leq \sigma_{b\parallel}^{Rd}$ | $\sigma_{b\parallel} \leq \sigma_{b\parallel}^{Rd}$

Betonstahl
DIN EN 1992-1-1

| Position | Material | Wichte | E_s | f_{yk} |
|----------|----------|--------------------------------|--------------------------------|--------------------------------|
| | | | G | $f_{tk,cal}$ |
| | | $Y \leftarrow S \rightarrow Z$ | $Y \rightarrow S \leftarrow Z$ | $Y \rightarrow S \leftarrow Z$ |
| WT-2.2 | B 500SA | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |
| WT-2.2 | B 500SB | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |

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Netzgröße: 0,2 m x 0,2 m

| | | | | | |
|---------------|---------------------|---|------------------------------|-------------------------------------|---------|
| Knotennummern | Anzahl Knoten = 352 |  | Modell | WT-2.2 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

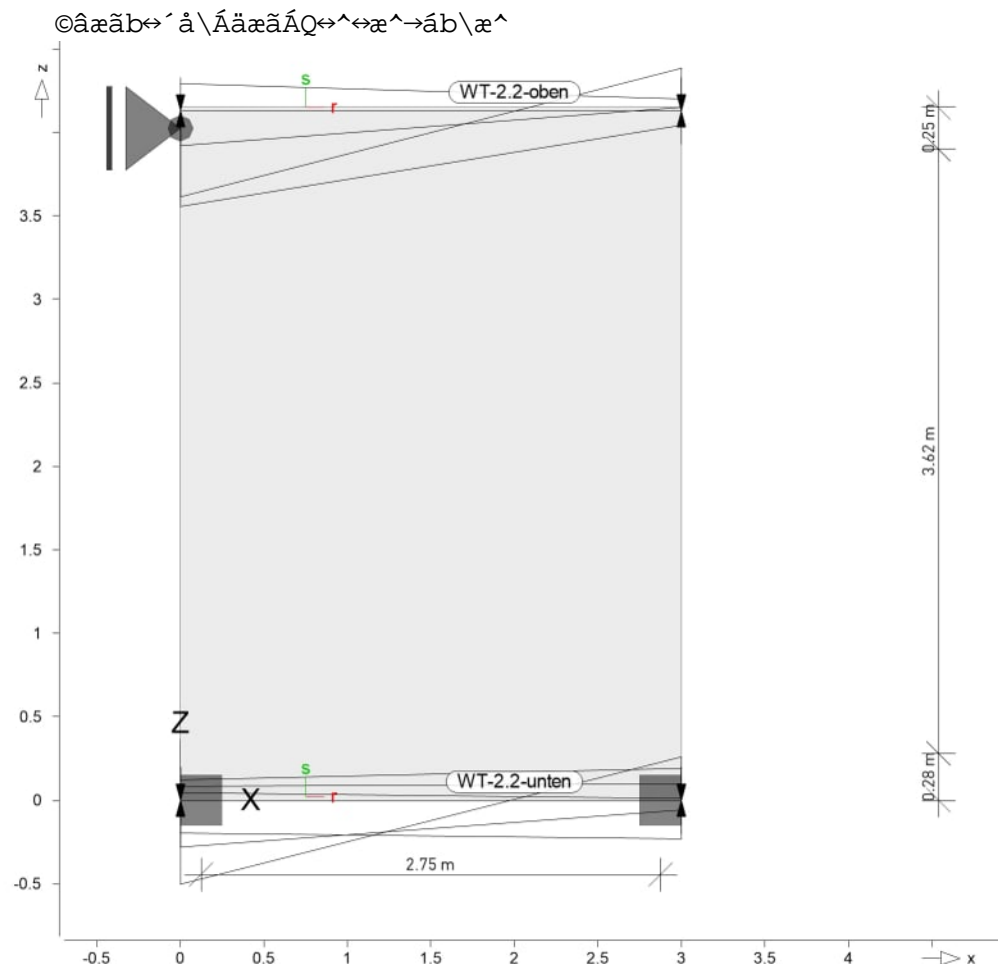
Linienlast-Pos

Standardlasten

Positionsgrafik

Lasten des FE-Modells

Standardlasten im FE-Modell



Linienlasten

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E |
|--|-------------------------------|----------|-----|-------------------------------|------------|
| WT-2.2-ob | Ncuv"YV/404"cwu"Fgemg"Ä0"40QI | | | | |
| | Gk | LF-1 | pGr | -51.45 | 25.68 |
| | Qk.N_DA | LF-4 | pGr | 16.34 | 7.20 |
| | Qk.N_DA | LF-5 | pGr | -57.12 | -8.53 |
| | Ö← | LF-2 | pGr | -20.67 | 2.06 |
| WT-2.2-un | Ncuv"YV/404"cwu"Fgemg"Ä0"30QI | | | | |
| | Gk | LF-1 | pGr | -50.32 | 25.88 |
| | Qk.N_C1 | LF-6 | pGr | 4.47 | 0.92 |
| | Qk.N_DA | LF-3 | pGr | 8.26 | 10.00 |
| | Qk.N_DA | LF-8 | pGr | -19.62 | -23.10 |
| | Qk.N_E1 | LF-7 | pGr | 12.29 | 19.20 |
| | Ö← | LF-2 | pGr | -28.05 | -5.88 |
| pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | | |

Koordinaten

| Position | $Q^+ \& \&$ [m] | x [m] | z [m] |
|-----------|--------------------|----------|----------|
| WT-2.2-ob | 3.00 | 0.00 | 4.13 |
| | | 3.00 | 4.13 |
| WT-2.2-un | 3.00 | 0.00 | 0.00 |
| | | 3.00 | 0.00 |

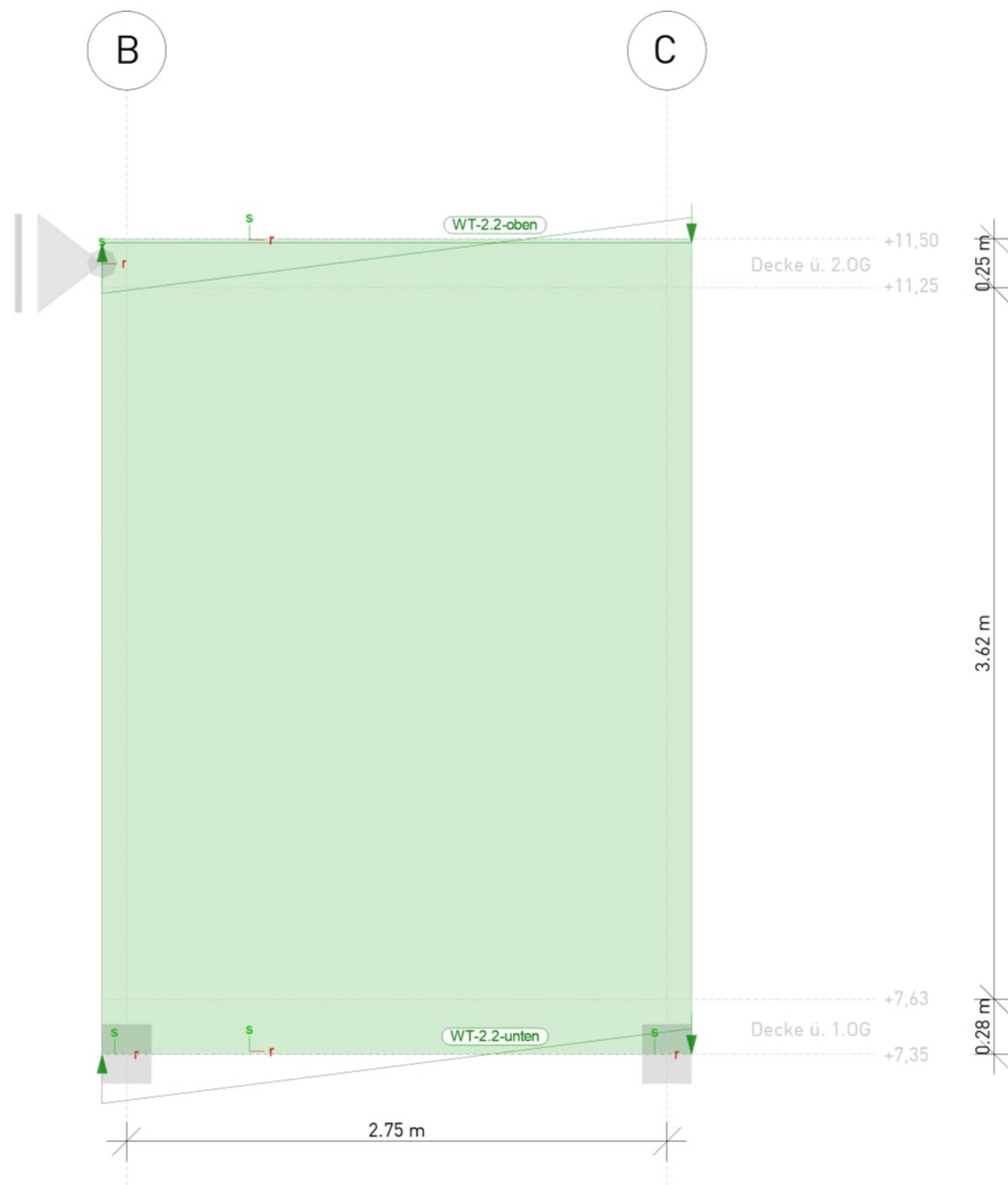
@UghZ`Y


©âæãb↔´â\ÁQáb\à‡→æÁ|^äÁQáb\&ã|**æ^

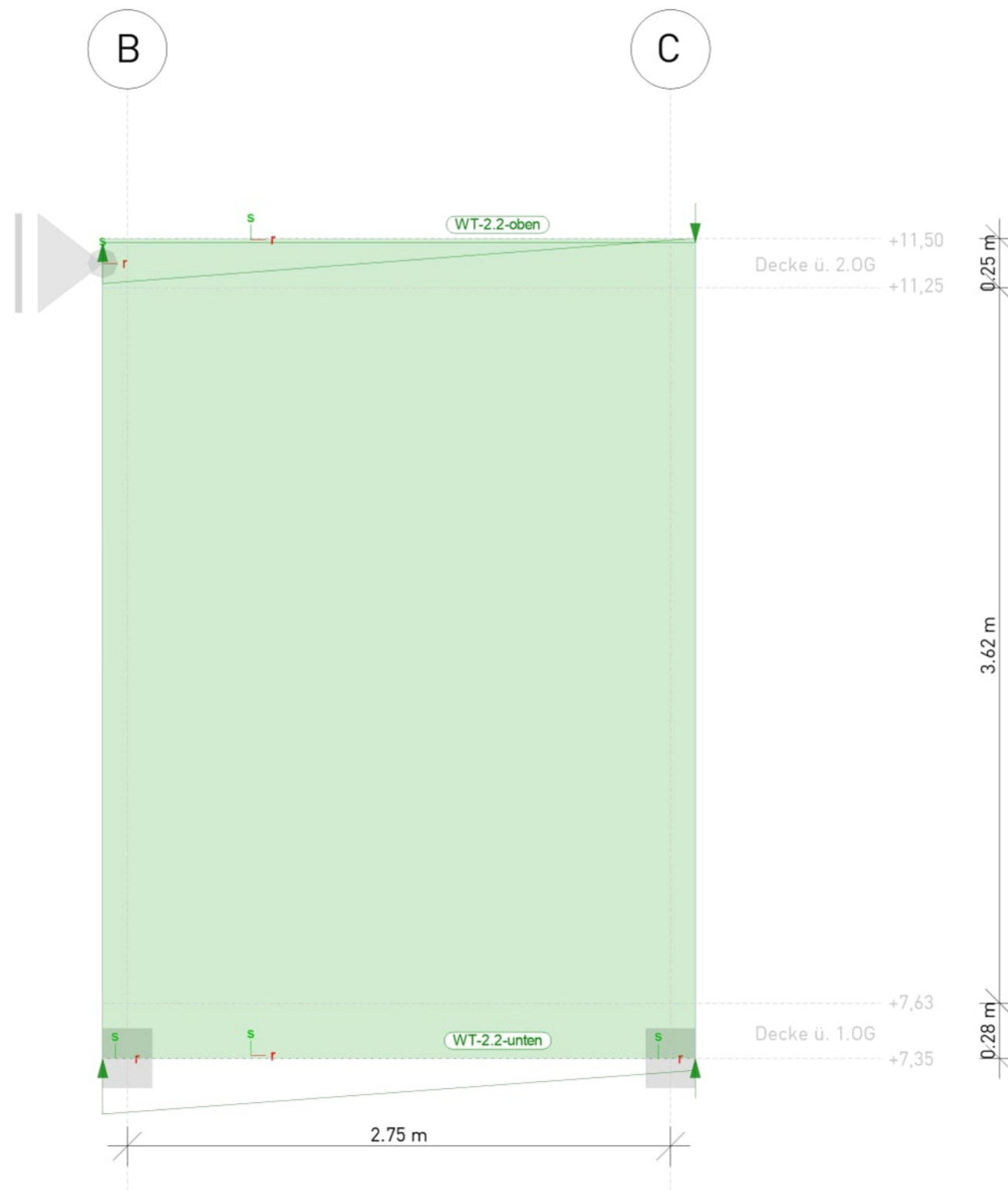
@UghZ}`Y

| Lastfall | Typ | Beschreibung |
|-------------------------|-----|--------------------------|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbau |
| LF-3 | v | Nutzlast Dach unten, pos |
| LF-4 | v | Nutzlast Dach oben, pos |
| LF-5 | v | Nutzlast Dach oben, neg |
| LF-6 | v | Nutzlast Schulung unten |
| LF-7 | v | Nutzlast Lager unten |
| LF-8 | v | Nutzlast Dach unten, neg |
| s: b\‡^ä↔&æäÁQáb\ää→ | | |
| v: {æä‡^äæ↔´äæäÁQáb\ää→ | | |

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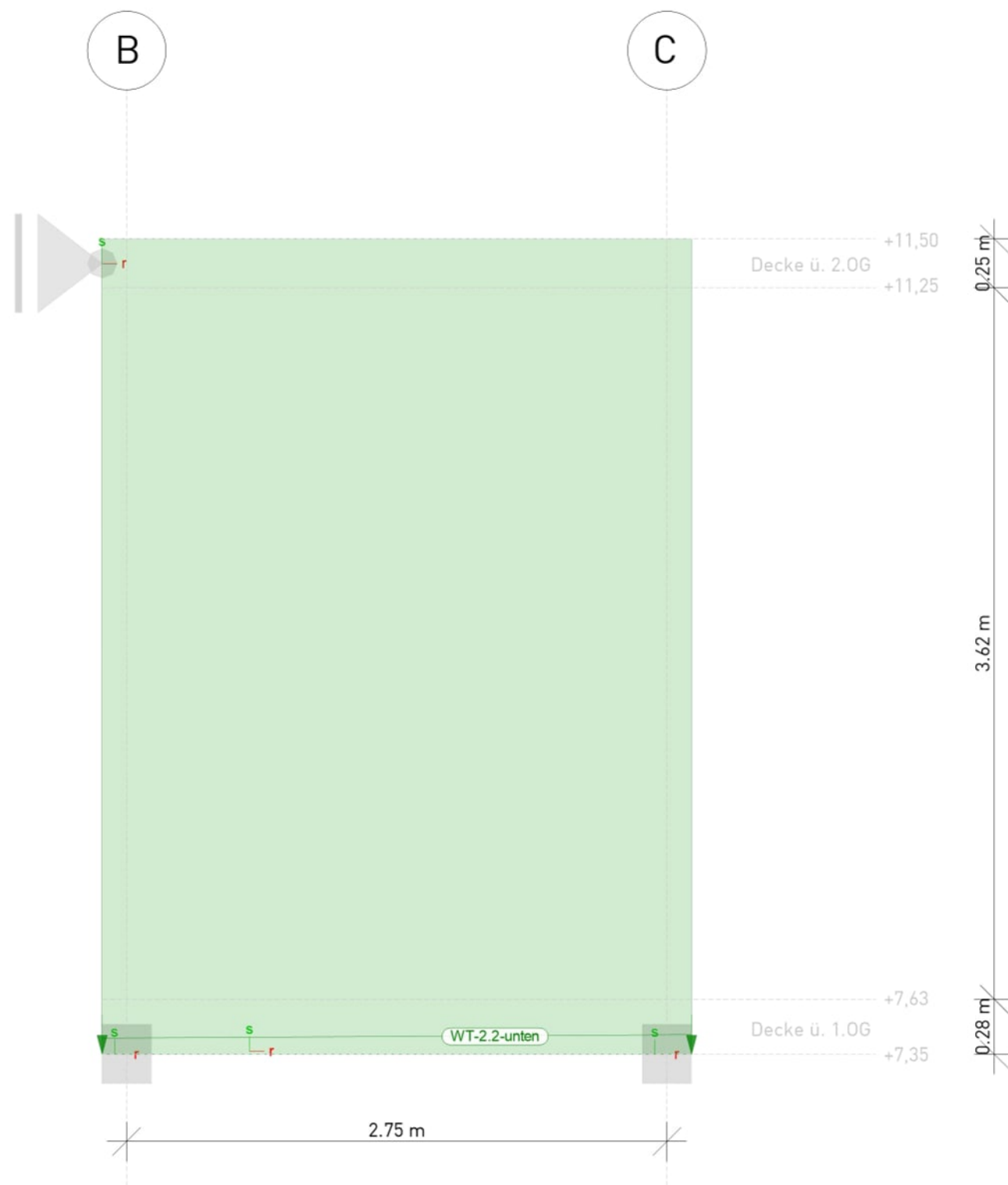


| Last-Positionen | Lastpositionen |  | Modell | WT-2.2 | Tabelle |
|----------------------------------|----------------|---|------------------------------|-------------------------------------|---------|
| aus Lastfall LF-1 (Eigengewicht) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



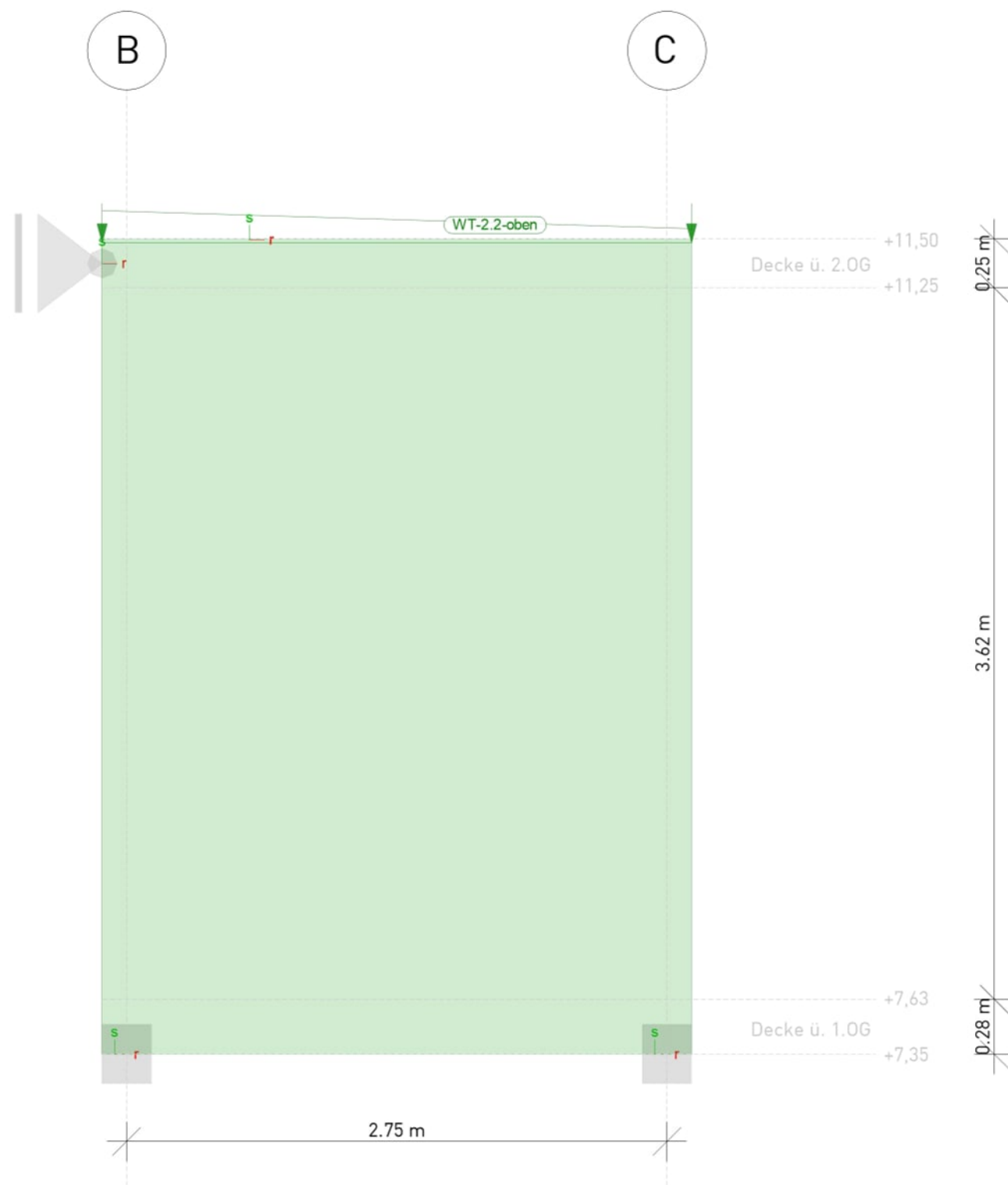
| Last-Positionen | Lastpositionen | Modell | WT-2.2 | Tafel |
|----------------------------|----------------|------------------------------|-------------------------------------|-------|
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | W-136 |
| aus Lastfall LF-2 (Ausbau) | | KREBS+KIEFER Ingenieure GmbH | | |


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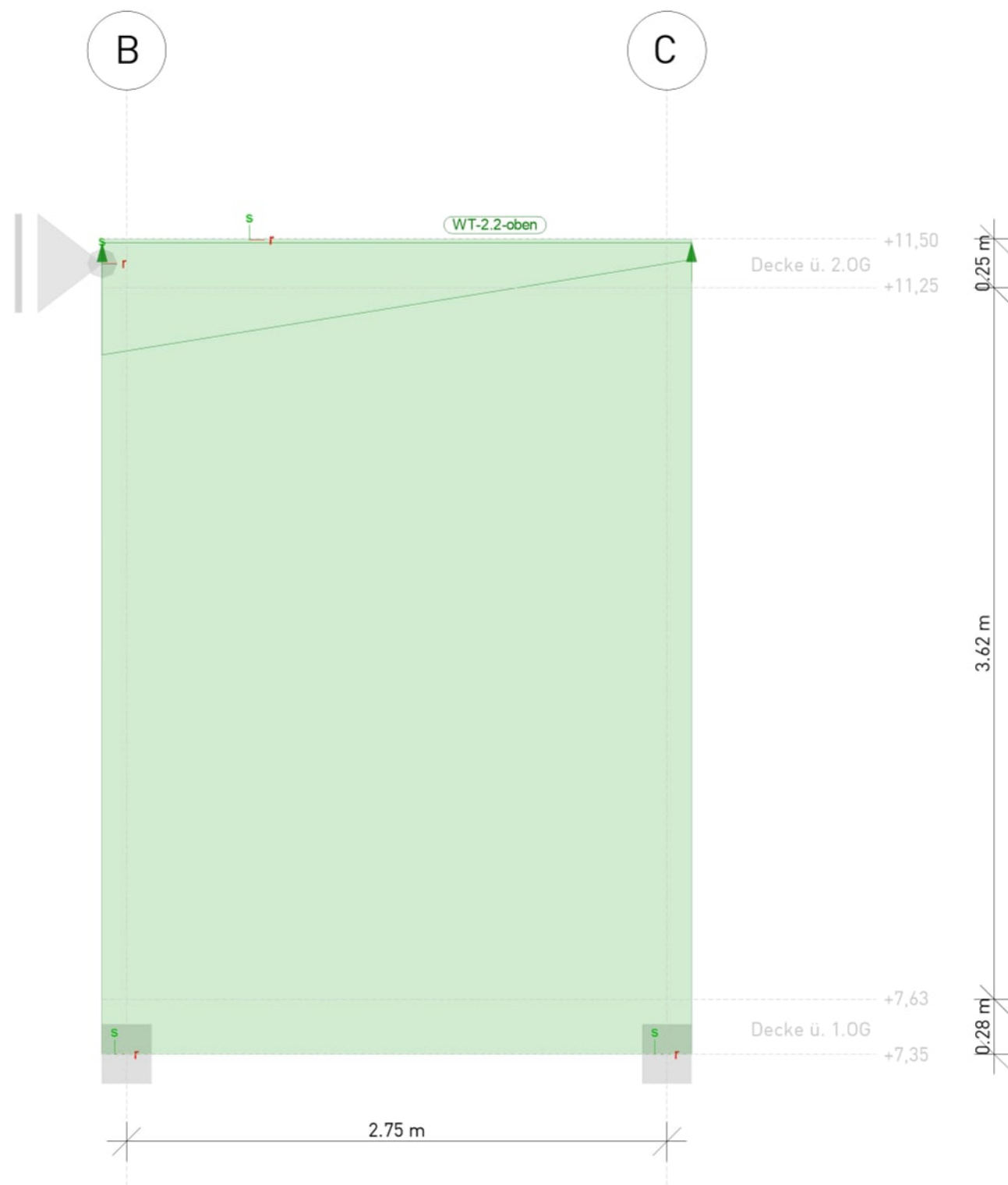
| | | | | | |
|--|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.2 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-3 (Nutzlast Dach unten, pos) | | KREBS+KIEFER Ingenieure GmbH | | | |


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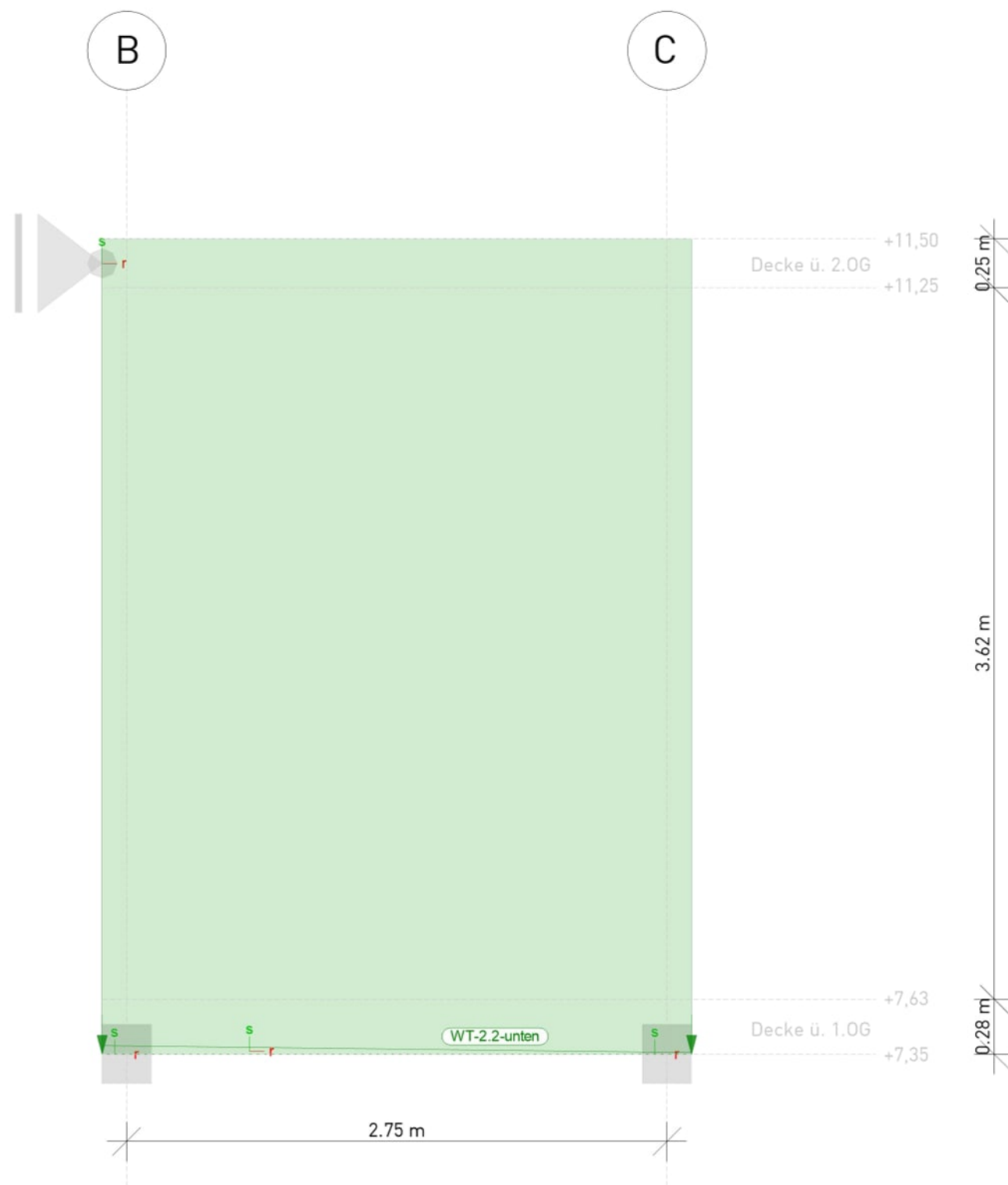
| | | | | | |
|---|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.2 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-4 (Nutzlast Dach oben, pos) | | KREBS+KIEFER Ingenieure GmbH | | | |


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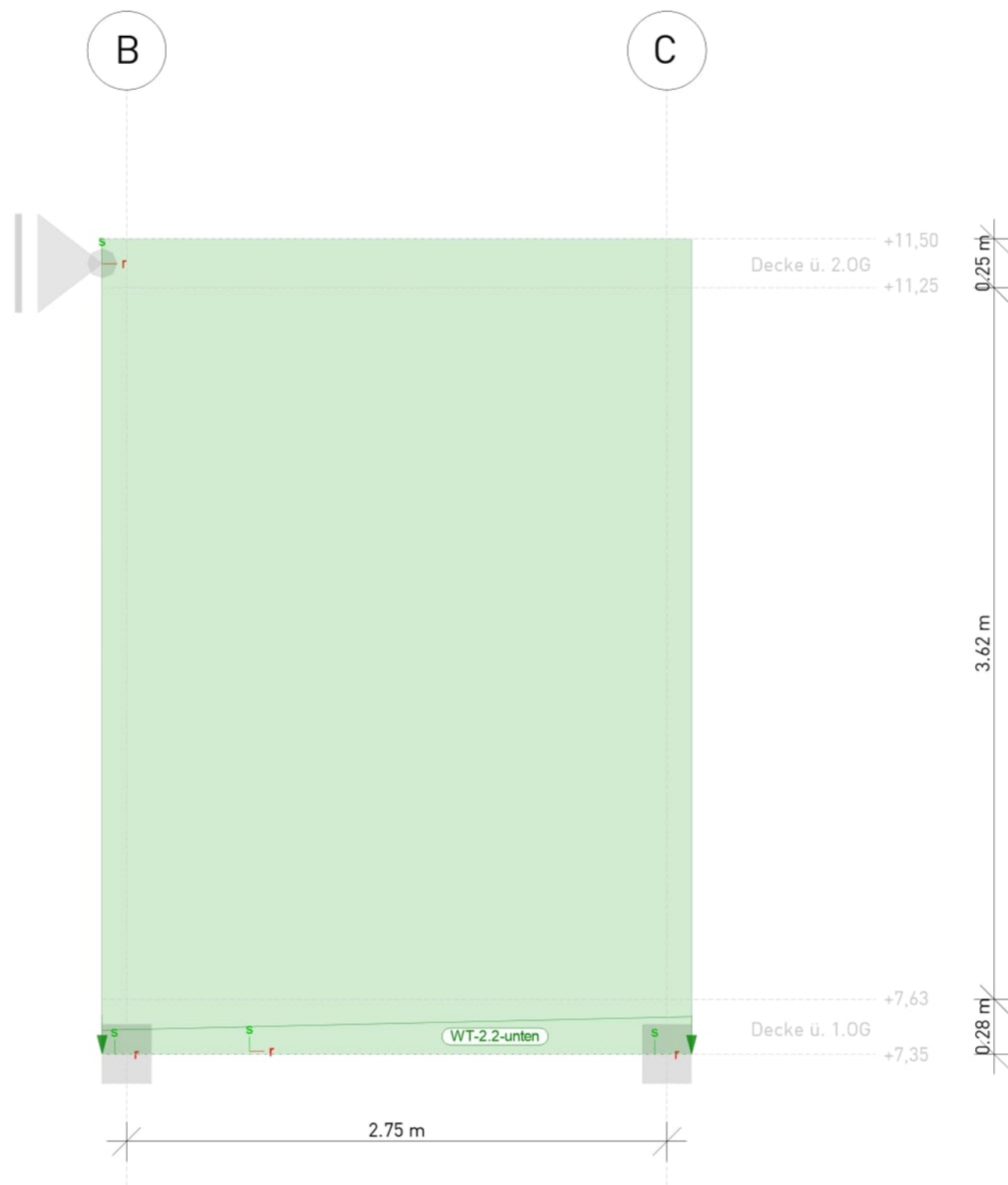
| | | | | | |
|---|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.2 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-5 (Nutzlast Dach oben, neg) | | KREBS+KIEFER Ingenieure GmbH | | | |


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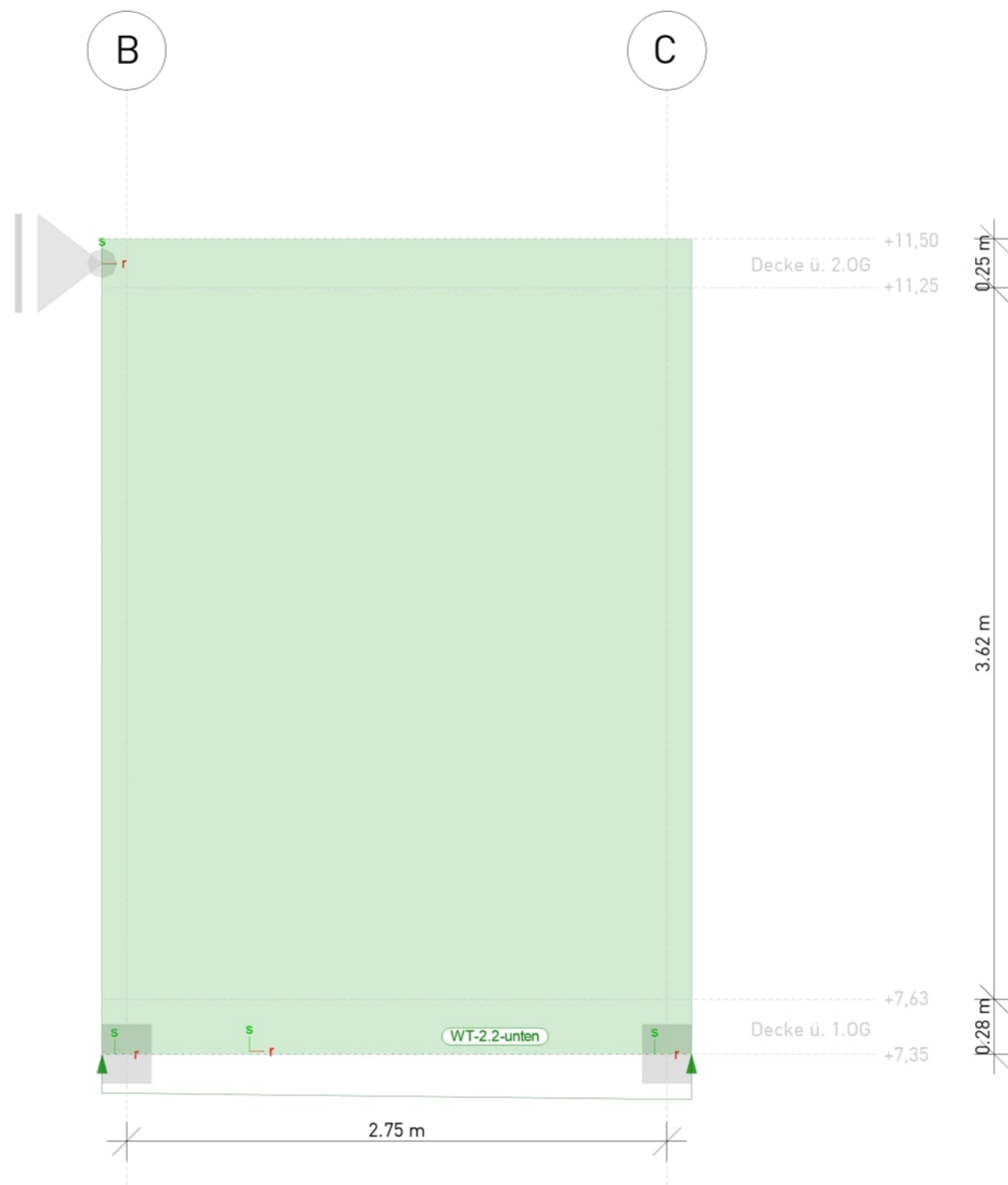
| | | | | | |
|---|----------------|---|-------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-6 (Nutzlast Schulung unten) | | KREBS+KIEFER Ingenieure GmbH | | | |

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| | | | | | |
|--|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.2 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-7 (Nutzlast Lager unten) | | KREBS+KIEFER Ingenieure GmbH | | | |

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| | | | | |
|--|----------------|---|---|---------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.2 | Tabelle |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-8 (Nutzlast Dach unten, neg) | | KREBS+KIEFER Ingenieure GmbH | | |

Statik-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 317 | 352 | 1059 | 56354 | 440 KB |

Berechnung

Statische Berechnung

| | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à†→æÁíÁî

Speicher

Speicherplatzbedarf

| Arbeitsspeicher | âæ^=\&\ | vorhanden |
|-------------------|---------|-----------|
| Standardverfahren | 980 KB | ja |

| Festpl. | âæ^=\&\ | vorhanden | Laufwerk:\Pfad |
|---------|---------|-----------|-----------------------|
| Ergebn. | 650 KB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÄäæãÁb\á\&b'âæ^ÁN|à&ââæ

Berechnungszeit : 0 sec

Belastung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | -0.00 | 0.00 | 75.32 |
| | 0.00 | 0.00 | -75.32 |
| LF-2 | 0.00 | 0.00 | 78.81 |
| | 0.00 | 0.00 | -78.81 |
| LF-3 | 0.00 | 0.00 | -27.39 |
| | -0.00 | 0.00 | 27.39 |
| LF-4 | 0.00 | 0.00 | -35.31 |
| | -0.00 | 0.00 | 35.31 |
| LF-5 | -0.00 | 0.00 | 98.48 |
| | 0.00 | 0.00 | -98.48 |
| LF-6 | 0.00 | 0.00 | -8.08 |
| | -0.00 | 0.00 | 8.08 |
| LF-7 | 0.00 | 0.00 | -47.23 |
| | -0.00 | 0.00 | 47.23 |
| LF-8 | 0.00 | 0.00 | 64.09 |
| | 0.00 | 0.00 | -64.09 |
| Summe | -0.00 | 0.00 | 198.68 |
| | 0.00 | 0.00 | -198.68 |

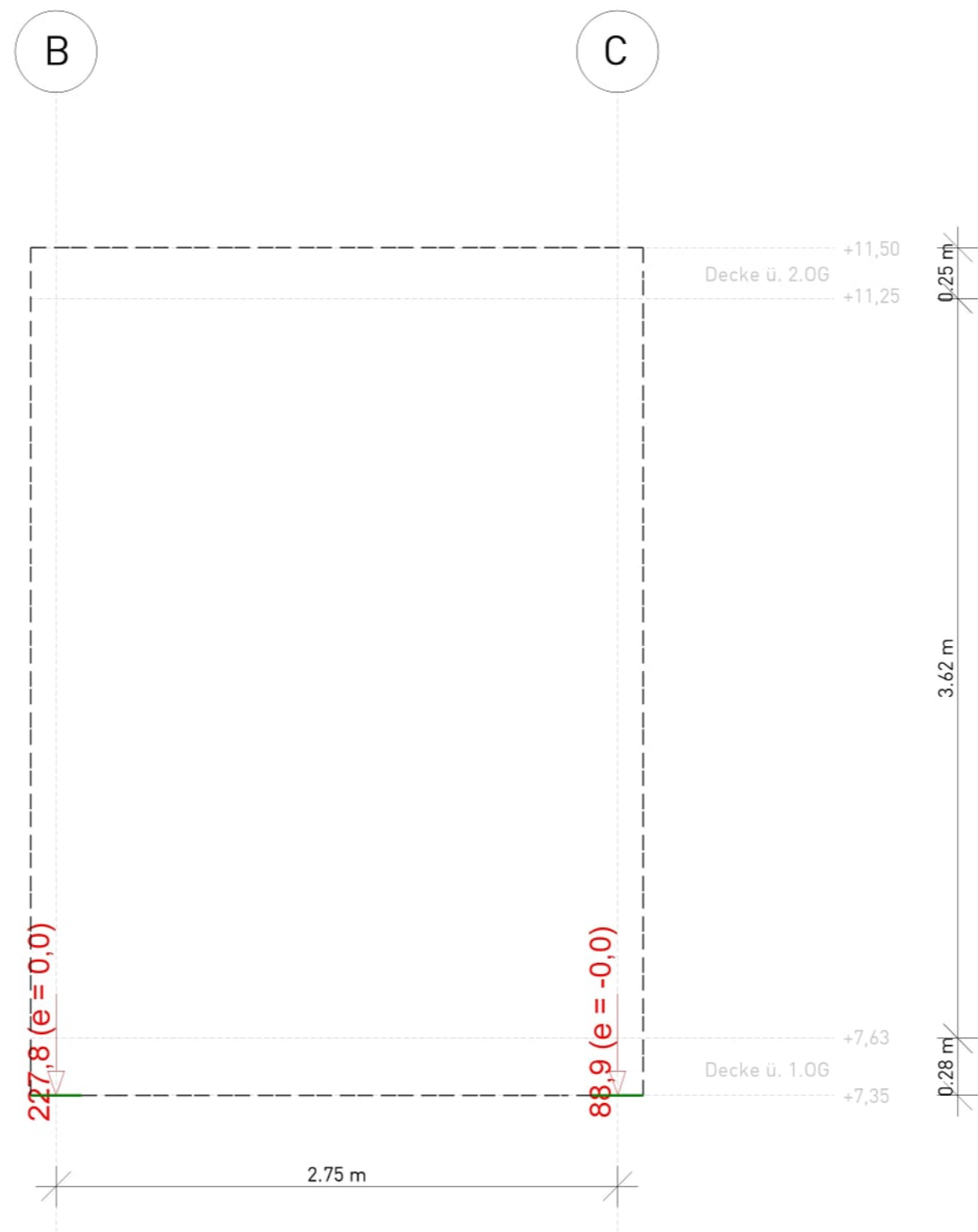
Aufbau der Ergebnisse : 0 sec

Ende der statischen Analyse

Gesamtdauer : 1 sec

*** Berechnung erfolgreich abgeschlossen ***

5 i ZU Yf_f} ZN



| | | | | | |
|---|----------------------------------|---|-------------|-------------------------------------|---------|
| Linienlagerergebnisse | nur lokal ausgerichtete Auflager |  | Modell | WT-2.2 | Tafel 1 |
| Minimum Max = -88.9, Min = -227.8 Resultierende als Kraftvektor | Lagerkraft in s-Richtung in [kN] | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |

Nachweise Auswertung

Biegebemessung der Scheiben (Stahlbeton) nach DIN EN 1992-1-1

Mat. /Querschnitt

| Position | Winkel YflY | Art | Material | Dicke [cm] |
|----------|----------------|-----|-------------------|---------------|
| WT-2.2 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öab\æ^b^=ã^|^&AT|ãã^↔\
Exz.: Ó[^æ^ã↔^↔\^Ãæ

Exposi ti onskl asse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|------------------------------|
| WT-2.2 | umlaufend | XC1 | \ã~^←æ^Ã~ãæãAb\^ã↔&Ã nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsri chtung

Orthogonale Bewehrung

| Position | ro YflY | so YflY | ru YflY | su YflY |
|----------|------------|------------|------------|------------|
| WT-2.2 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

je Scheibenseite

| Position | Cmin [mm] | #'def [mm] | Cnom [mm] | Cv [mm] |
|----------|--------------|---------------|--------------|------------|
| WT-2.2 | 10 | 10 | 20 | - |

Bemessungsparameter

àfiãÃäæ^ÃÖãæ^~ | b\á^ãÃäæãÁÜãá&à†ã↔&←æ↔\Ã^á^´ãÃÆØSÁÓSÁ
1992-1-1

Bi egung

| Position | Bemessungsverfahren | Mindestbewehrung |
|----------|---------------------|------------------|
| WT-2.2 | Üáfiã↔↔↑á^^ | ja |

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

WT-2. 2

Ñæ↑æbb | ^&ÃäfiãÁÜ´ãæ↔ãæÁÇU\áã→ãæ\~^DÁÜÜÈGÈG

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÁP~↑ã↔^á\↔~^æ^Á^á^´ãÃÆØSÁÓSÁFii€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔↔æÃÑæ\æ↔↔↔&|^&Ãæ↔^~æ→^æãÁQáb\à†→æÃ↔^æããã→ãÃeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_C1 | Qk.N_E1 | Qk.N_DA |
|-------|----|------|------|---------|---------|-------------|
| 1-4 | | 1.35 | 1.35 | . | . | 1.50 |
| 5 | | 1.00 | 1.35 | . | . | 1.50 |
| 6 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.50 |
| 7-9 | | 1.00 | 1.00 | . | . | 1.50 |
| 10-11 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.50 |
| 12-13 | | 1.35 | 1.00 | 1.05 | 1.50 | 1.50 |
| 14 | | 1.00 | 1.00 | 1.05 | . | 1.50 |
| 15 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.50 |

Alle Nachweise

Es werden nur lokale Extremwerte dokumentiert.

$a_{s,r}$

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑Y | $S_{s,Ed}$ YSD↑↑Y | $S_{rs,Ed}$ YSD↑↑Y | n_{Ed} [kN/m] | $a_{s,r}$ Y'↑YD↑Y |
|--------|-----|----------------------|----------------------|-----------------------|--------------------|----------------------|
| 6 | 1 | 0.86 | 1.90 | -0.16 | 127.11 | 2.78 |
| 7 | 1 | 1.28 | 3.80 | 0.36 | 205.19 | 4.49 |
| 54 | 1 | 0.02 | 1.01 | 0.47 | 61.04 | 1.34 |
| 71 | 1 | 0.13 | 0.49 | 0.38 | 63.19 | 1.38 |
| 95 | 1 | 0.08 | 0.04 | -0.25 | 41.37 | 0.91 |

$a_{s,s}$

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑Y | $S_{s,Ed}$ YSD↑↑Y | $S_{rs,Ed}$ YSD↑↑Y | n_{Ed} [kN/m] | $a_{s,s}$ Y'↑YD↑Y |
|--------|-----|----------------------|----------------------|-----------------------|--------------------|----------------------|
| 6 | 1 | 0.86 | 1.90 | -0.16 | 257.29 | 5.64 |
| 7 | 1 | 1.28 | 3.80 | 0.36 | 519.16 | 11.37 |
| 36 | 1 | -0.05 | 2.48 | 0.00 | 310.37 | 6.80 |
| 67 | 5 | 0.00 | 0.95 | -0.05 | 124.34 | 2.72 |
| 292 | 6 | 0.01 | 0.72 | 0.00 | 90.69 | 1.99 |

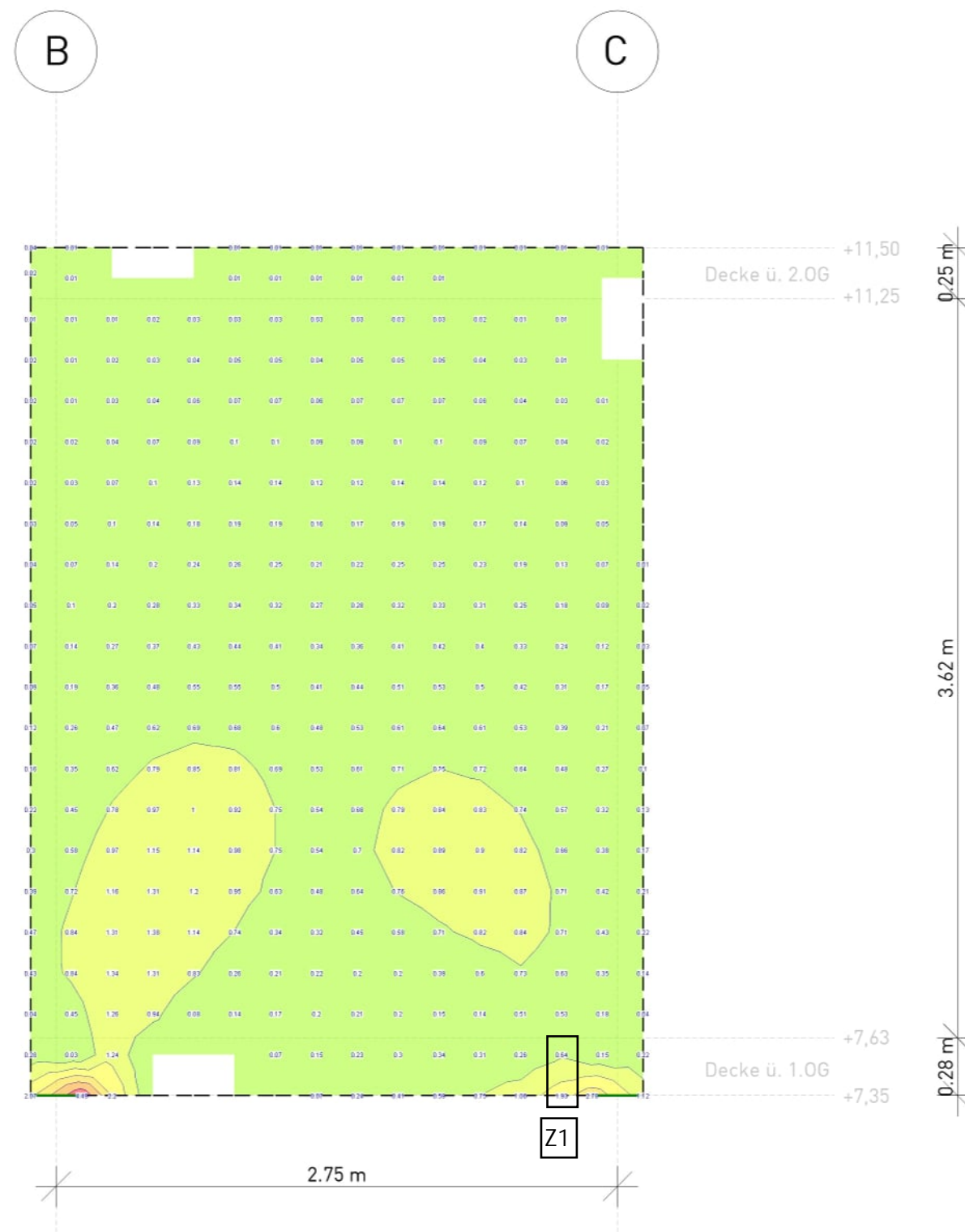
Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ YSD↑↑Y | $n_{c,Ed}$ [kN/m] | σ_{cd} YSD↑↑Y | σ_{rd} [%] |
|--------|-----|-----------------------|----------------------|-------------------------|----------------------|
| 1 | 1 | -0.39 | -97.78 | -0.78 | 6.14 |
| | | | | -12.75 | |
| 2 | 1 | 0.21 | -52.81 | -0.42 | 3.31 |
| | | | | -12.75 | |
| 3 | 1 | 0.01 | -1.69 | -0.01 | 0.11 |
| | | | | -12.75 | |
| 4 | 6 | 0.01 | -1.63 | -0.01 | 0.10 |
| | | | | -12.75 | |
| 8 | 1 | 1.09 | -272.23 | -2.18 | 17.08 |
| | | | | -12.75 | |
| 19 | 1 | -0.58 | -143.75 | -1.15 | 9.02 |
| | | | | -12.75 | |
| 64 | 1 | -0.29 | -73.37 | -0.59 | 4.60 |
| | | | | -12.75 | |


vorhandene Betonspannung
 $\sigma_{\text{vorhanden}}$

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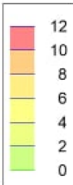
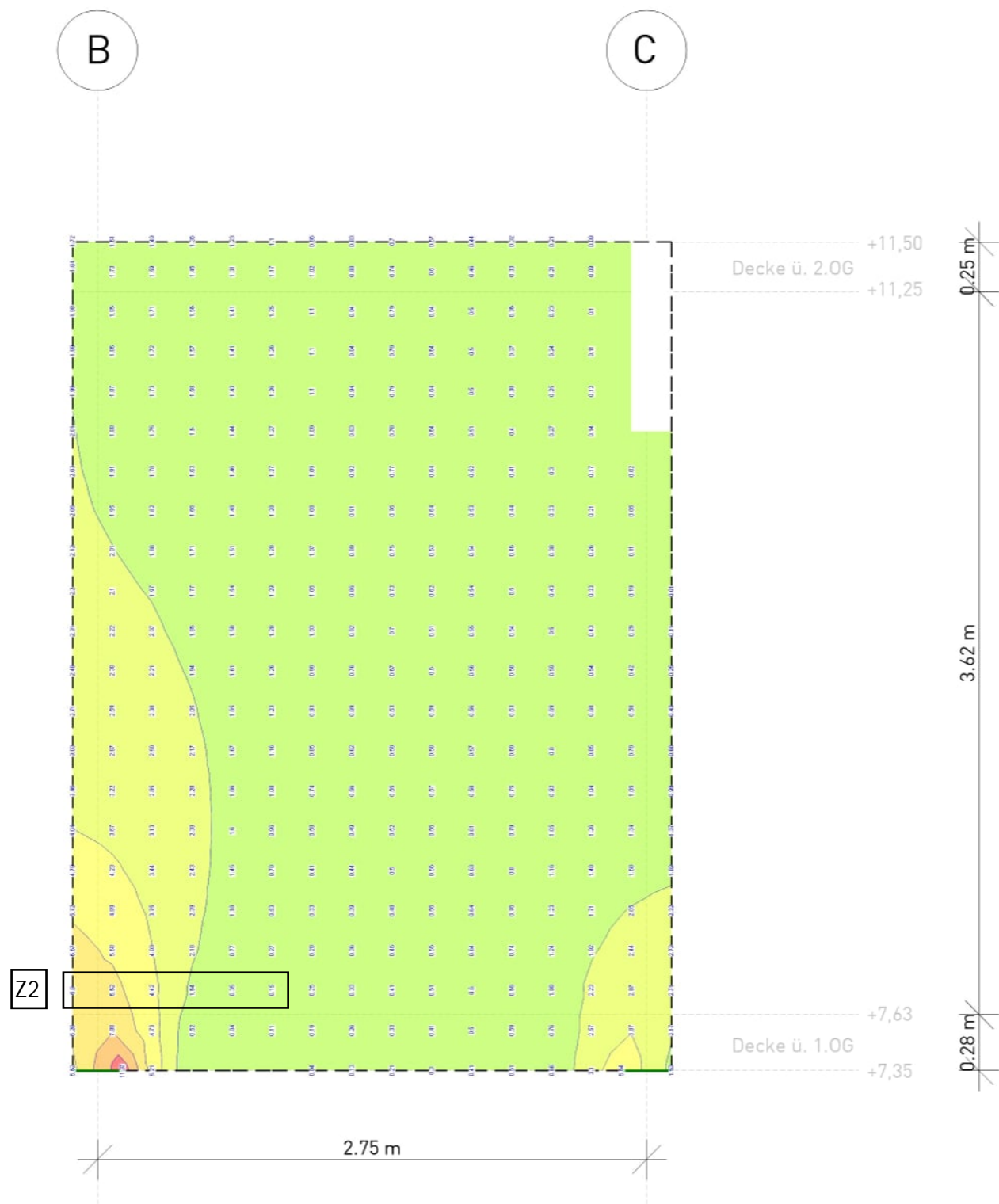


r-Richtung
s-Richtung

Scheibenbemessung:
erf. Bewehrung
- r-Richtung -

| | | | | | |
|--|-----------------------------------|---|-------------|------------------|---------------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-2.2 | T ab • aakfKE |
| Max = 4.49 (Kn. 7), Min = 0 (Kn. 9), Step = 0.75 | | | Bauvorhaben | Schulcampus EWK | |
| Bew.-Abstand d' = 30 mm | | | | Schwesternschule | |
| Beton C 30/37 | aus allen Nachweisen | KREBS+KIEFER Ingenieure GmbH | | | |
| Bauteildicke h = 25.00 cm | :E@a@}*A> Aq^AÜ&@ä^)*^a^Dq A& D á | | | | |

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s-Richtung
r-Richtung

Scheibenbemessung:
erf. Bewehrung
- s-Richtung -

| | | | | | | |
|---|--|--|---|-------------|-------------------------------------|------------------|
| : `} W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  | Modell | WT-2.2 | T ab • a a K F E |
| Max = 11.37 (Kn. 7), Min = 0 (Kn. 9), Step = 2 Bew.-Abstand d' = 30 mm Beton C 30/37 Bauteildicke h = 25.00 cm | | aus allen Nachweisen •EÜ&@}*Aq^AÜ8@a^)*^a^Dq AÜ D á | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | | |

Nachweise Auswertung

Biegebemessung der Scheiben (Stahlbeton) nach DIN EN 1992-1-1

Mat. /Querschnitt

| Position | Winkel YflY | Art | Material | Dicke [cm] |
|----------|----------------|-----|-------------------|---------------|
| WT-2.2 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öab\æ↔^b↔=ã^|^&ÄT|ää~↔\
Exz.: Ó[^æ^ \ää↔↔↔\†\Äæ

Expositi onsklasse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|-------------------------------|
| WT-2.2 | umlaufend | XC1 | \ä~'↔æ^Ä~äääÄb\†^ä↔&Ä nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro YflY | so YflY | ru YflY | su YflY |
|----------|------------|------------|------------|------------|
| WT-2.2 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

je Scheibenseite

| Position | Cmin [mm] | #'def [mm] | Cnom [mm] | Cv [mm] |
|----------|--------------|---------------|--------------|------------|
| WT-2.2 | 12 | 10 | 22 | 30 |

Grundbewehrung

je Scheibenseite

| Position | Rá\\æÊÄU\†âæ ~Y††YËbY'†Y | d'r [mm] | asg,r [cm²/m] | d's [mm] | asg,s [cm²/m] |
|----------|-----------------------------|-------------|------------------|-------------|------------------|
| WT-2.2 | o r Ö3413702 | 36 | 7.54 | | |
| | o s Ö3213702 | | | 47 | 5.24 |

Bemessungsparameter

äfiäÄäæ^ÄÖäæ^~ | b\ä^äÄäæäÄÜää&ä†ä↔&↔æ↔\Ä^á´äÄØSÄÓSÄ
1992-1-1

Bi egung

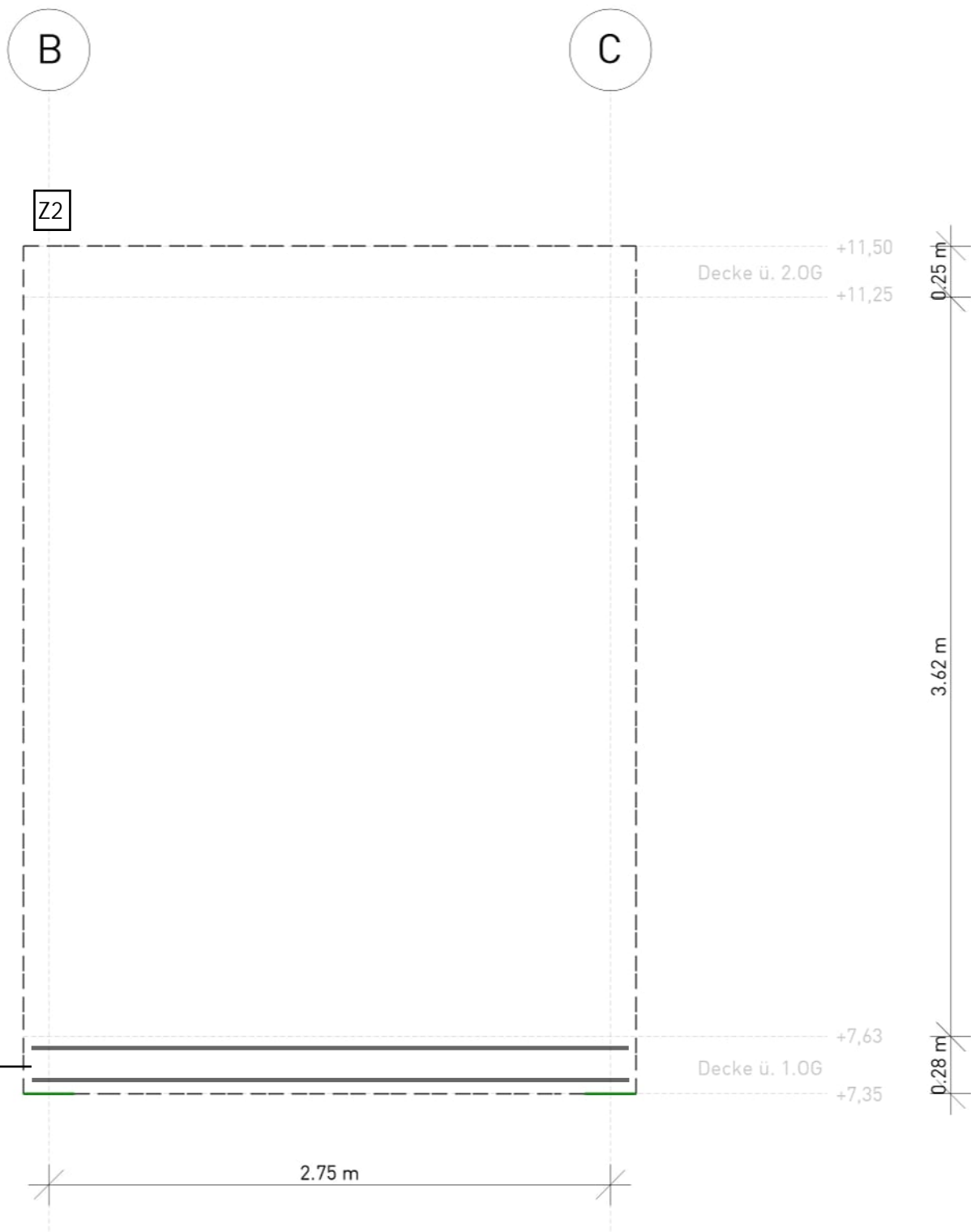
| Position | Bemessungsverfahren | Mindestbewehrung |
|---|---------------------|------------------|
| WT-2.2 | Üäfiä↔↔†ä^^ | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

Grundbewehrung: d12/15
Randeinfassung entsprechend der Grundbewehrung

Pro Seite:
2 Lagen mit jeweils 1Ø12 verteilt auf 25 cm

Anordnung im Gesamtquerschnitt:
2 Lagen mit jeweils 2Ø12 verteilt auf 25 cm

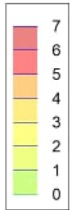
 $a_{s,vorh} = 11,31 \text{ cm}^2/\text{m}$



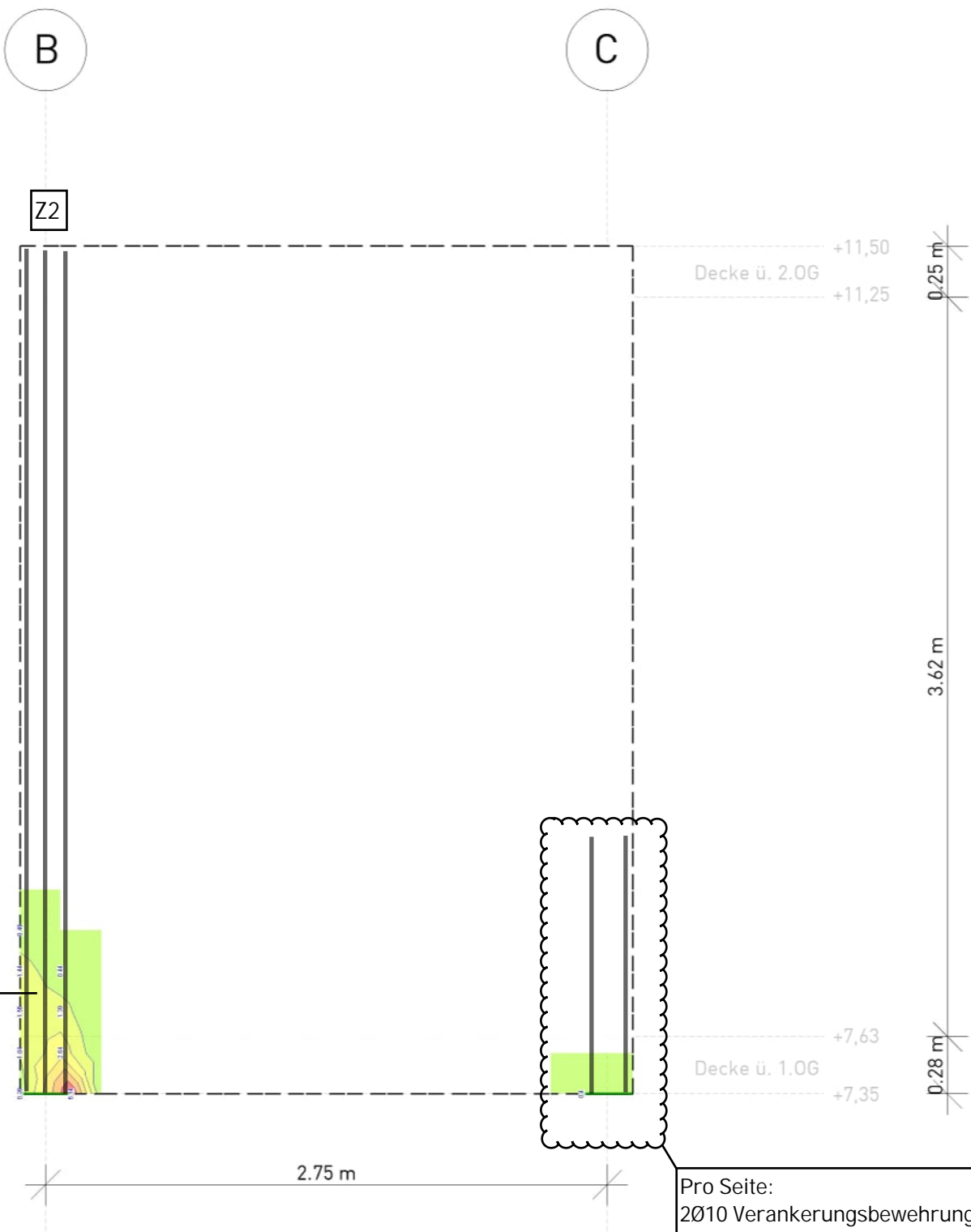
r-Richtung
s-Richtung
Scheibenbemessung:
erf. Zulagen
- r-Richtung -

| | | | | | |
|---|--|---|------------------------------|-------------------------------------|-------------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-2.2-m.Bw. | T ab • 2014 |
| Vorhandene Bew. as,vorh = 7.54 (Grund+Zulagen) Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00 cm | aus allen Nachweisen (Differenzbew.) !EÜa@ } * A>: A3 ^AÜ&@ ä ^ ^ á Dä Äx D á Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 1 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

Grundbewehrung: d10/15
Randeinfassung entsprechend der Grundbewehrung



Pro Seite:
3 Lagen mit jeweils 1,5Ø12 verteilt auf 25 cm
Anordnung im Gesamtquerschnitt:
3 Lagen mit jeweils 3Ø12 verteilt auf 25 cm
 $a_{s,vorh} = 20,36 \text{ cm}^2/\text{m}$
Diese Bewehrung agiert auch gleichzeitig als Verankerungsbewehrung des Auflagers und ist in die darunterliegende Wand durchzuführen.



Pro Seite:
2Ø10 Verankerungsbewehrung für Auflager
W-1.8 beachten (Aus Wand hochzuführen)

r-Richtung
s-Richtung
Scheibenbemessung:
erf. Zulagen
- s-Richtung -

| | | | | | |
|---|--|---|-------------|-------------------------------------|------------------------------|
| : `} W YbVYa Yggi b[Vorhandene Bew. as,vorh = 5.24 (Grund+Zulagen) Bew.-Abstand d' = 47 mm Beton C 30/37 Bauteildicke h = 25.00 cm | Erforderliche Bewehrung as,erf aus allen Nachweisen (Differenzbew.) • E u a c } * A > A j ^ A j & @ a ^ } • ^ a D e A z Q á Max = 6.14 (Kn. 7), Min = 0 (Kn. 8), Step = 1 |  | Modell | WT-2.2-m.Bw. | T ab • a a K F E |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | | | KREBS+KIEFER Ingenieure GmbH |

Knotenbemessung Wandartiger Träger

| | | |
|--------------|--------|-------|
| CTC - Knoten | WT-2.2 | W-1.8 |
|--------------|--------|-------|

Eingangswerte Beton:

| | |
|---------------------------------------|----------------------|
| Auflagerkraft F_{Ed} = | 37,4 kN |
| Auflagerlänge l = | 0,25 m |
| Auflagerbreite b = | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | 25 N/mm ² |

| | |
|-------|------|
| v = | 0,75 |
|-------|------|

Eingangswerte Bewehrung:

| | |
|--|-------|
| Höhe des Zugbands u = | 85 cm |
| Durchmesser Druckbewehrung \emptyset = | 20 mm |
| Anzahl Stäbe n = | 8 |

| | |
|--------------------------------|-----------------------|
| vorh. Bewehrungsfläche A_s = | 25,13 cm ² |
| Bewehrungsgrad ρ = | 4,02 % |

Nachweis Auflagerpressung (σ_{c1}):

| | |
|--|-------------------------|
| $\sigma_{Rd} = \min(v \cdot f_{cd,T} ; v \cdot f_{cd,D} ; f_{cd,A})$ | 12,75 N/mm ² |
|--|-------------------------|

| | |
|--------------------------------------|------------------------|
| $\sigma_{c1} = F_{Ed} / (l \cdot b)$ | 0,60 N/mm ² |
|--------------------------------------|------------------------|

| | |
|-------------------------------|------|
| $\sigma_{c1} / \sigma_{Rd} =$ | 0,05 |
|-------------------------------|------|

Es ist keine Druckbewehrung erforderlich.

Der Nachweis der Auflagerpressung ist erfüllt.

Es lässt sich durch die komplexe Geometrie des Trägers kein eindeutiger Auflagerknoten für einen Detailnachweis der Druckstrebe bilden. Der Nachweis der Betondruckspannungen ist im FE-Programm an jedem Knoten erfüllt. Demnach werden diese auf diesem Weg als nachgewiesen angesehen.

| | | |
|----------------------------|--------|--------|
| Zugverankerung am Auflager | WT-2.2 | W-1.34 |
|----------------------------|--------|--------|

| | | |
|---|--|----------|
| Eingangswerte Beton: | | |
| Auflagerkraft F_{Ed} = | | 227,8 kN |
| Auflagerlänge l = | | 0,25 m |
| Auflagerbreite b = | | 0,25 m |
| Eingangswerte Bewehrung: | | |
| Durchmesser Verankerungsbewehrung \emptyset = | | 12 mm |
| Anzahl Stäbe n = | | 9 |

| | |
|--------------------------------|-----------------------|
| vorh. Bewehrungsfläche A_s = | 10,18 cm ² |
| Bewehrungsgrad ρ = | 1,63 % |

Nachweis Zugverankerung:

| | |
|-------------------|--------------------------|
| $\sigma_{s,Rd}$ = | 43,50 kN/cm ² |
|-------------------|--------------------------|

| | |
|--------------------------------------|----------------------|
| $A_{s,erf} = F_{Ed} / \sigma_{s,Rd}$ | 5,24 cm ² |
|--------------------------------------|----------------------|

| | |
|--------------------------|------|
| $A_{s,erf} / A_{s,vorh}$ | 0,51 |
|--------------------------|------|

Der Nachweis der Zugverankerung ist erfüllt.

| | | |
|----------------------------|--------|-------|
| Zugverankerung am Auflager | WT-2.2 | W-1.8 |
|----------------------------|--------|-------|

| | | |
|---|--|---------|
| Eingangswerte Beton: | | |
| Auflagerkraft F_{Ed} = | | 88,9 kN |
| Auflagerlänge l = | | 0,25 m |
| Auflagerbreite b = | | 0,25 m |
| Eingangswerte Bewehrung: | | |
| Durchmesser Verankerungsbewehrung \emptyset = | | 10 mm |
| Anzahl Stäbe n = | | 4 |

| | |
|--------------------------------|----------------------|
| vorh. Bewehrungsfläche A_s = | 3,14 cm ² |
| Bewehrungsgrad ρ = | 0,50 % |

Nachweis Zugverankerung:

| | |
|-------------------|--------------------------|
| $\sigma_{s,Rd}$ = | 43,50 kN/cm ² |
|-------------------|--------------------------|

| | |
|--------------------------------------|----------------------|
| $A_{s,erf} = F_{Ed} / \sigma_{s,Rd}$ | 2,04 cm ² |
|--------------------------------------|----------------------|

| | |
|--------------------------|------|
| $A_{s,erf} / A_{s,vorh}$ | 0,65 |
|--------------------------|------|

Der Nachweis der Zugverankerung ist erfüllt.

| | | |
|------------------------------|--------|----|
| Berechnung Bewehrung Zugband | WT-2.2 | Z1 |
|------------------------------|--------|----|

Eingangswerte

| | |
|--------------------------------------|-------------------------|
| Größter Wert Zugfeld $a_{s,max}$ = | 1,93 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | 1,93 cm ² /m |
| Länge Zugfeld l_s = | 0,4 m |
| Höhe des Zugbands u = | 20 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 0,77 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 12 mm |
| Anzahl Lagen: | 2 |
| Stäbe pro Lage pro Seite: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 2 |
| vorh. Bewehrungsfläche A_s = | 2,26 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 11,31 cm ² /m |
|-------------------------------|--------------------------|

Nach Beurteilung Spannungstrajektorien bildet sich an der Unterseite kein eindeutiges Zugband aus. Dennoch wird hier eine zusätzliche Bewehrung gewählt um mögliche Lastumlagerungen mit abzudecken.

| | | |
|------------------------------|--------|----|
| Berechnung Bewehrung Zugband | WT-2.2 | Z2 |
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|-------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 6,8 cm ² /m |
| Kleinster Wert Zugfeld $a_{s,min}$ = | | 0,15 cm ² /m |
| Länge Zugfeld l_s = | | 1 m |
| Höhe des Zugbands u = | | 25 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 3,48 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 12 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1,5 |
| Stäbe pro Lage gesamt: | 3 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 4,5 |
| vorh. Bewehrungsfläche A_s = | 5,09 cm ² |

umgerechnet auf Flächenbewehrung:

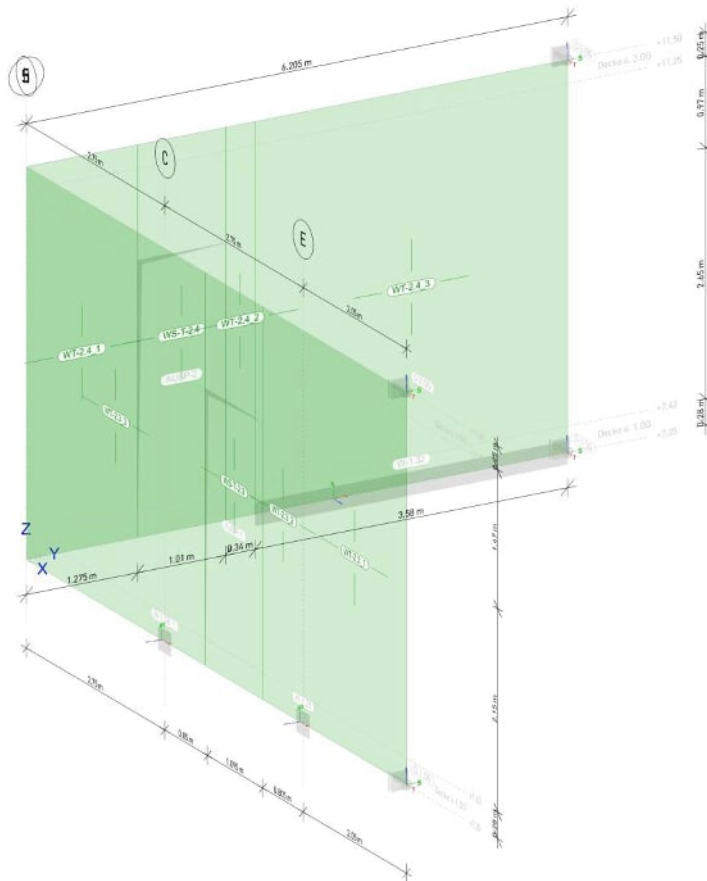
| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 20,36 cm ² /m |
|-------------------------------|--------------------------|

AZ: 20206208

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Genehmigungsplanung Tragwerksplanung

5.1.3 WT-2.3 + WT-2.4

Stat. System:



Vorbemerkung:

Die wandartigen Träger WS-2.3 und WS-2.4 werden in einem dreidimensionalen FE-Modell gemeinsam bemessen, da sie sich über die auskragende Ecke gegenseitig beeinflussen.

Material:

| | | |
|--------|-------|--|
| Dicke: | 25 cm | WT-2.3_2, WT-2.3_3, WT-2.4_1, WT-2.4_2, WT-2.4_3 |
| | | WS-T-2.3, WS-T-2.4 |
| | 35 cm | WS-2.3_1 |

Betonstahl: B 500SB

Beton: C30/37

Expositionsklasse: XC1, W0 | Innenbauteile

Betondeckung: $c_v = 30 \text{ mm}$

| | | |
|-----------------|-------------------|---------------------------|
| Grundbewehrung: | Ø12/15 horizontal | = 7,54 cm ² /m |
| | Ø10/15 vertikal | = 5,24 cm ² /m |

Belastung:

AZ: 20206208

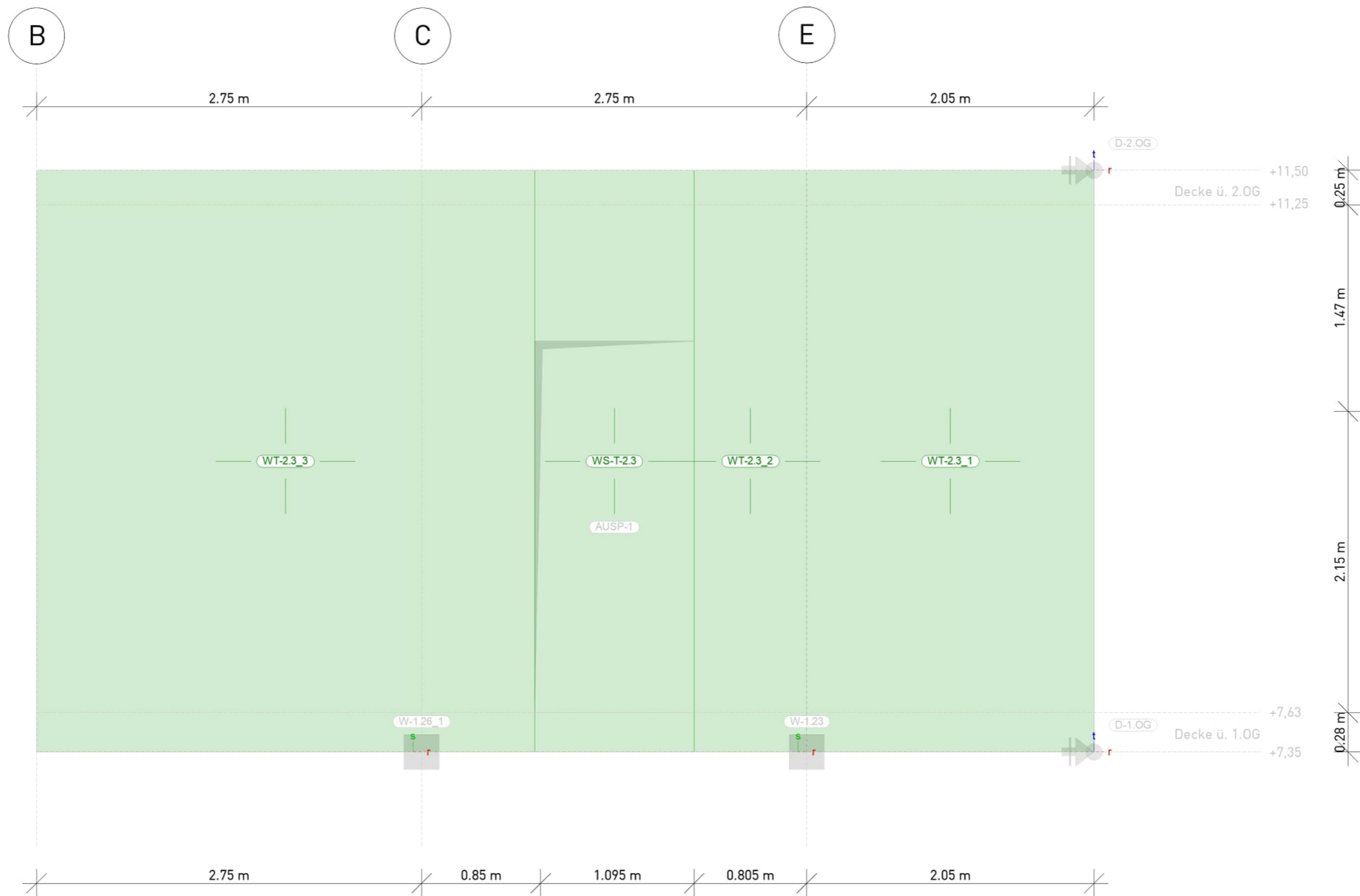
Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Die Belastung wird aus den Auflagerreaktionen der zugehörigen Wandlager aus den Deckenmodellen D-2.OG und D-1.OG übernommen. Es wird für jeden Lasttyp (Eigengewicht, Ausbau, Nutzlasten) ein eigener Lastfall erstellt. Für die Nutzlasten wird beim Erstellen der Lastfälle in positive und negative Belastungsrichtung unterschieden.

Die Anordnung der Lasten kann aus den Lastplänen entnommen werden.

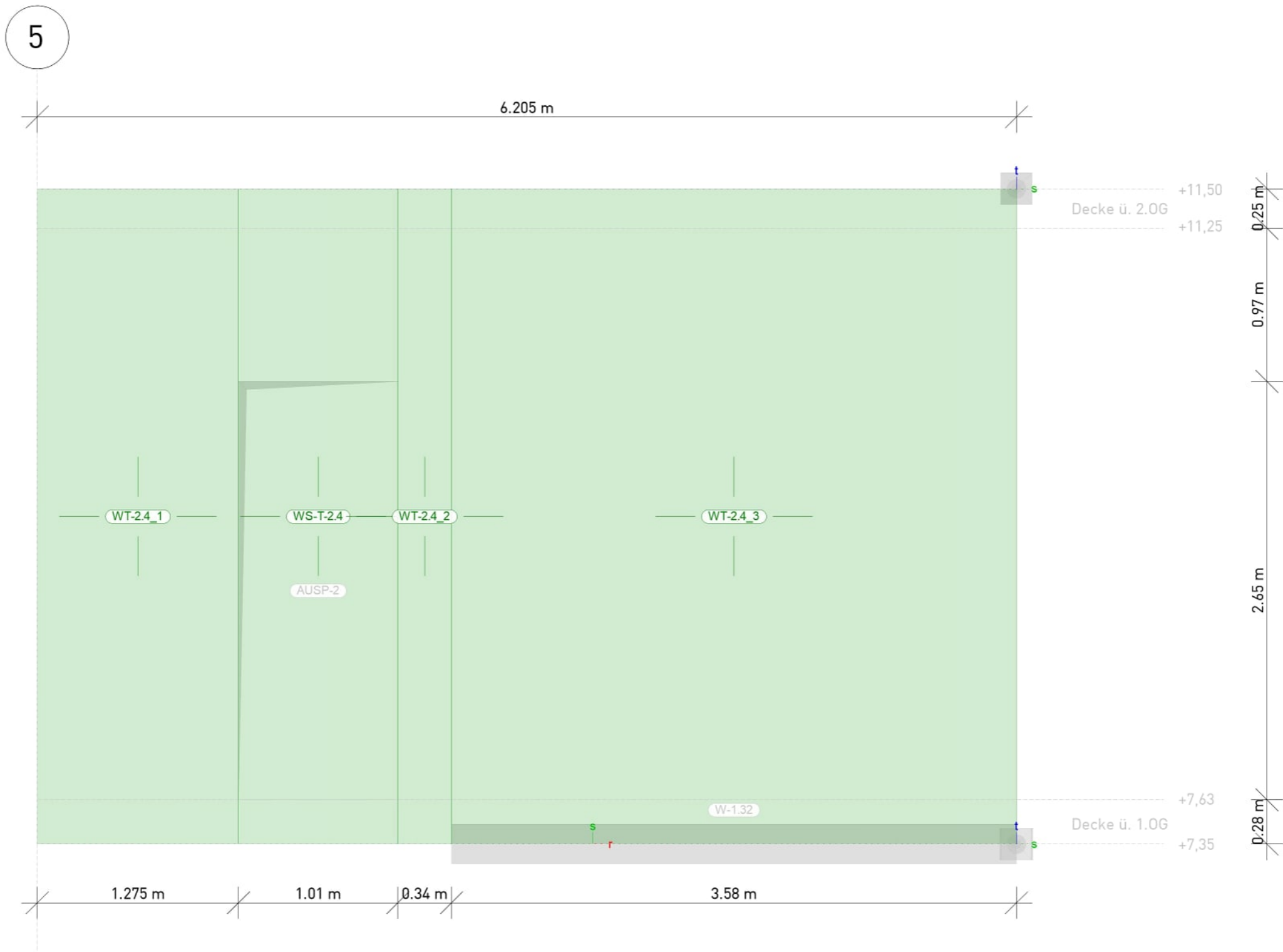
Bemessung:

Siehe folgende Seiten.



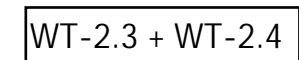
WT-2.3

| | | | | | |
|------------------------------|----------------------------------|---|-------------|-------------------------------------|---------|
| Bauteil-Positionen | >>nur Gruppe 'WT-2.3' sichtbar<< |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |



WT-2.4

| | | | | | |
|--------------------|----------------------------------|---|------------------------------|-------------------------------------|---------|
| Bauteil-Positionen | >>nur Gruppe 'WT-2.4' sichtbar<< |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



MicroFe 2025.015
W-164

Positionplan

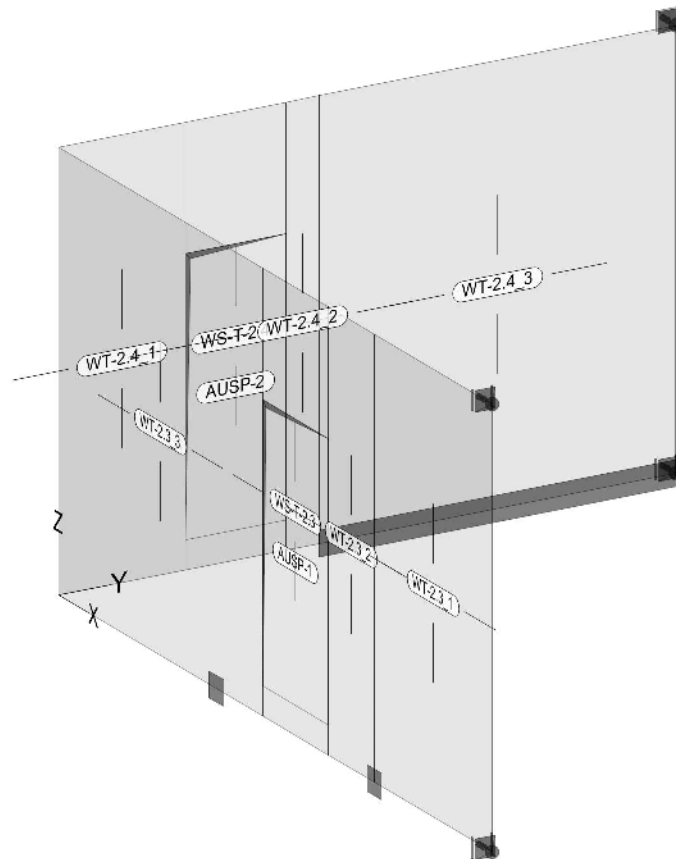
Positionenplan (3D)

Bauteile

Bauteil-Positionen

Positionsgrafik

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Stahlbeton

Positionenplan (3D)

Stahlbeton

| Position | Winkel YflY | Art | Exz. [cm] | Material Quer | Dicke [cm] |
|--|----------------|-----|--------------|------------------|---------------|
| WS-T-2.3, WS-T-2.4 | 0.0 | iso | 0.0 | C 30/37 Q | 25.0 |
| WT-2.3_1 | 0.0 | iso | 0.0 | C 30/37 Q | 35.0 |
| WT-2.3_2, WT-2.3_3, WT-2.4_1..WT-2.4_3 | 0.0 | iso | 0.0 | C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: 0.0
Exz.: 0.0

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|--|-----------|-----|-----------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | umlaufend | XC1 | nass |

Aussparungen

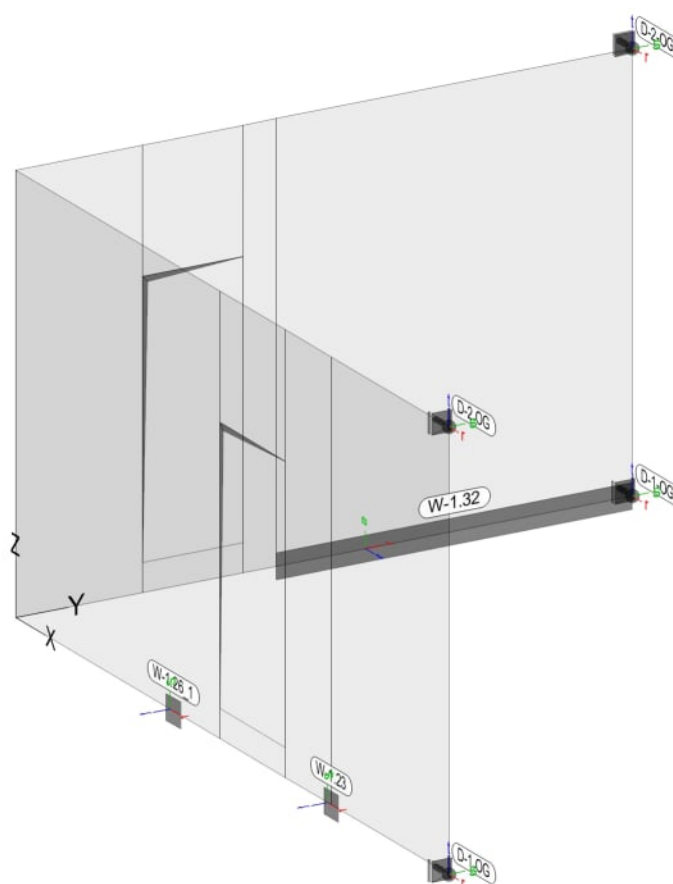
| Position | $\hat{O} \rightarrow \hat{x}$ [m ²] | x [m] | y [m] | z [m] |
|----------|--|----------|----------|----------|
| AUSP-1 | 3.02 | 3.56 | 0.00 | 0.28 |
| | | 4.70 | 0.00 | 0.28 |
| | | 4.70 | 0.00 | 2.93 |
| | | 3.56 | 0.00 | 2.93 |
| AUSP-2 | 2.68 | 0.00 | 1.28 | 0.28 |
| | | 0.00 | 2.29 | 0.28 |
| | | 0.00 | 2.29 | 2.93 |
| | | 0.00 | 1.28 | 2.93 |

Auflager

Auflager-Positionen

Posi ti onsgrafi k

©âæãb↔´å\ÁäæãÁN|à→á&æãËŞ~b↔\↔~^æ^

Punktlager

Punktlager-Positionen

global

| Position | | $K_{T,x}$ $K_{R,x}$ [kN/m] [kNm/rad] | | $K_{T,y}$ $K_{R,y}$ [kN/m] [kNm/rad] | $K_{T,z}$ $K_{R,z}$ [kN/m] [kNm/rad] |
|----------------|-----|---|-----|---|---|
| D-1-OG, D-1.OG | +/- | 30000000 frei | +/- | 30000000 frei | frei frei |
| D-2-OG | +/- | 30000000 frei | | frei frei | frei frei |
| D-2.OG | +/- | 30000000 frei | +/- | 30000000 frei | frei frei |

Linienlager

Linienlager-Positionen

lokal

| Position | $K_{T,r}$ $K_{R,r}$ [kN/m/m] [kNm/rad/m] | $K_{T,s}$ $K_{R,s}$ [kN/m/m] [kNm/rad/m] | $K_{T,t}$ $K_{R,t}$ [kN/m/m] [kNm/rad/m] |
|--------------------------|---|---|---|
| W-1.23, W-1.26_1, W-1.32 | frei | +/- 30000000 | frei |
| | frei | frei | frei |

Material

Materialkennwerte

Stahlbeton

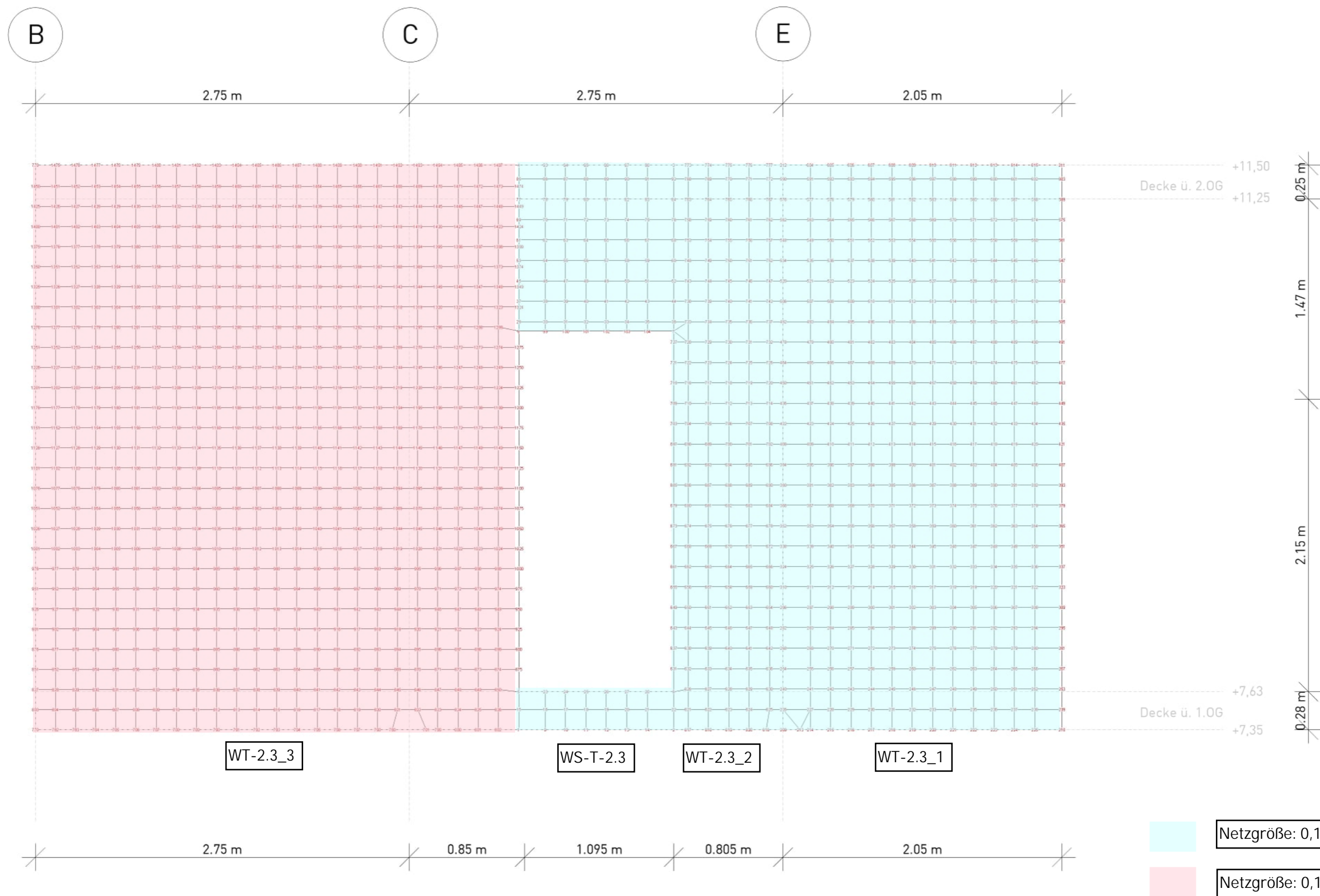
DIN EN 1992-1-1


| Position | Material | Wichte | E_{cm} G YSD↑↑zY | f_{ck} f_{ctm} YSD↑↑zY |
|---|-----------|--------|--------------------------|----------------------------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |
| Q: Öab\æ^b←=ã^ ^&ÁT áã~↔\ | | | | |

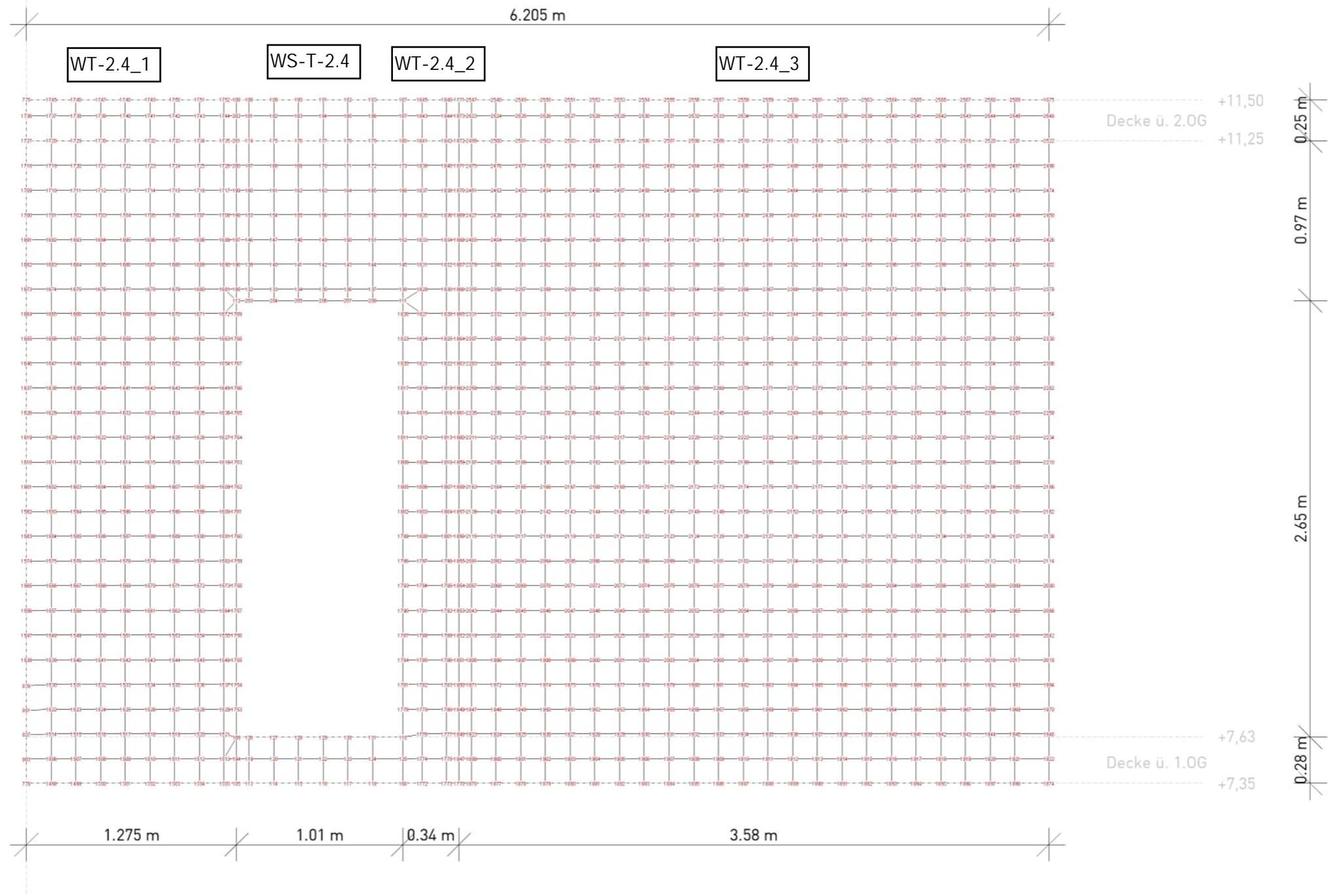
Betonstahl

DIN EN 1992-1-1


| Position | Material | Wichte | E_s G YSD↑↑zY | f_{yk} $f_{tk,cal}$ YSD↑↑zY |
|---|----------|--------|-----------------------|-------------------------------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | B 500SB | 78.50 | 200000 77000 | 500.00 525.00 |



| | | | | | |
|----------------------------------|----------------------|---|-------------|-------------------------------------|---------|
| Knotennummern | Anzahl Knoten = 2569 |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| >>nur Gruppe 'WT-2.3' sichtbar<< | | KREBS+KIEFER Ingenieure GmbH | | | |



Netzgröße: 0,15 m x 0,15 m

| | | | | | |
|----------------------------------|----------------------|---|-------------|-------------------------------------|---------|
| Knotennummern | Anzahl Knoten = 2569 |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| >>nur Gruppe 'WT-2.4' sichtbar<< | | KREBS+KIEFER Ingenieure GmbH | | | |

Linienlast-Pos

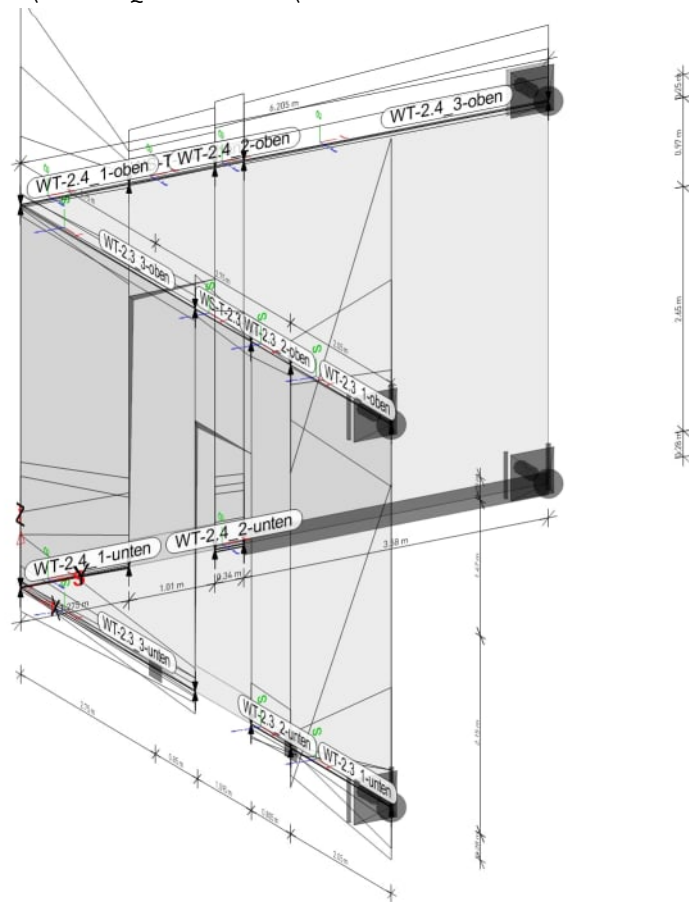
Standardlasten

Positionsgrafik

Lasten des FE-Modells

Standardlasten im FE-Modell

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Linienlasten

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|----------------|---|----------|-----|-------------------------------|-------------------------------|
| WS-T-2.3-oben | $N_{cuv} "YU/V/405" cwu "Fgemg" \tilde{A}0 "40QI$ | | | | |
| | Gk | LF-1 | pGr | 36.47 | 14.83 |
| | Qk.N_DA | LF-5 | pGr | 17.37 | 13.05 |
| | Qk.N_DA | LF-6 | pGr | -7.49 | -16.97 |
| | Qk.N_E1 | LF-3 | pGr | 9.46 | 9.46 |
| | Qk.N_E1 | LF-4 | pGr | -1.11 | -0.47 |
| | Ö← | LF-2 | pGr | 7.37 | 0.95 |
| WS-T-2.4-oben | $N_{cuv} "YU/V/406" cwu "Fgemg" \tilde{A}0 "40QI$ | | | | |
| | Gk | LF-1 | pGr | 57.99 | 64.25 |
| | Qk.N_DA | LF-5 | pGr | 35.13 | 37.76 |
| | Qk.N_DA | LF-6 | pGr | -2.17 | -0.92 |
| | Qk.N_E1 | LF-3 | pGr | 1.62 | 1.93 |
| | Qk.N_E1 | LF-4 | pGr | -0.88 | -1.16 |
| | Ö← | LF-2 | pGr | 16.86 | 18.77 |
| WT-2.3_1-oben | $N_{cuv} "YV/405a3" cwu "Fgemg" \tilde{A}0 "40QI$ | | | | |
| | Gk | LF-1 | pGr | -117.33 | 310.17 |
| | Qk.N_DA | LF-5 | pGr | 25.50 | 156.72 |
| | Qk.N_DA | LF-6 | pGr | -59.89 | -67.58 |
| | Qk.N_E1 | LF-3 | pGr | 0.22 | 1.40 |
| | Qk.N_E1 | LF-4 | pGr | -2.11 | -0.09 |
| | Ö← | LF-2 | pGr | -21.68 | 58.93 |
| WT-2.3_1-unten | $N_{cuv} "YV/405a3" cwu "Fgemg" \tilde{A}0 "30QI$ | | | | |
| | Gk | LF-1 | pGr | -43.32 | 350.09 |

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|----------------|--|----------|-----|-------------------------------|-------------------------------|
| | Qk.N_B1 | LF-7 | pGr | 8.34 | 0.75 |
| | Qk.N_B1 | LF-8 | pGr | -0.72 | -44.56 |
| | Qk.N_C5 | LF-11 | pGr | 2.68 | 40.34 |
| | Qk.N_C5 | LF-12 | pGr | -5.19 | -16.97 |
| | Qk.N_DA | LF-5 | pGr | 15.28 | 129.45 |
| | Qk.N_DA | LF-6 | pGr | -30.09 | -56.71 |
| | Qk.N_E1 | LF-13 | pGr | 0.72 | 0.24 |
| | Qk.N_E1 | LF-14 | pGr | -0.66 | -0.76 |
| | Ö← | LF-2 | pGr | -6.65 | 40.15 |
| WT-2.3_2-oben | <i>Ncuv"YV/405a4"cwu"Fgemg"Ä0"40QI</i> | | | | |
| | Gk | LF-1 | pGr | 12.63 | 16.04 |
| | Qk.N_DA | LF-5 | pGr | 11.77 | 10.97 |
| | Qk.N_DA | LF-6 | pGr | -16.56 | -11.58 |
| | Qk.N_E1 | LF-3 | pGr | 7.06 | 0.65 |
| | Qk.N_E1 | LF-4 | pGr | -0.27 | -0.06 |
| | Ö← | LF-2 | pGr | -0.21 | 0.02 |
| WT-2.3_2-unten | <i>Ncuv"YV/405a4"cwu"Fgemg"Ä0"30QI</i> | | | | |
| | Gk | LF-1 | pGr | 44.78 | 40.56 |
| | Qk.N_B1 | LF-7 | pGr | 0.00 | 0.13 |
| | Qk.N_B1 | LF-8 | pGr | -12.88 | -10.54 |
| | Qk.N_C5 | LF-11 | pGr | 18.75 | 11.28 |
| | Qk.N_C5 | LF-12 | pGr | -5.42 | -4.36 |
| | Qk.N_DA | LF-5 | pGr | 15.50 | 8.98 |
| | Qk.N_DA | LF-6 | pGr | -15.17 | -5.56 |
| | Qk.N_E1 | LF-13 | pGr | 8.93 | 3.35 |
| | Qk.N_E1 | LF-14 | pGr | -0.87 | -0.42 |
| | Ö← | LF-2 | pGr | 4.98 | 2.07 |
| WT-2.3_3-oben | <i>Ncuv"YV/405a5"cwu"Fgemg"Ä0"40QI</i> | | | | |
| | Gk | LF-1 | pGr | 10.80 | 24.60 |
| | Qk.N_DA | LF-5 | pGr | 12.49 | 13.36 |
| | Qk.N_DA | LF-6 | pGr | -11.85 | -13.54 |
| | Qk.N_E1 | LF-3 | pGr | 1.86 | 4.70 |
| | Qk.N_E1 | LF-4 | pGr | -1.91 | -0.08 |
| | Ö← | LF-2 | pGr | 0.06 | 0.81 |
| WT-2.3_3-unten | <i>Ncuv"YV/405a5"cwu"Fgemg"Ä0"30QI</i> | | | | |
| | Gk | LF-1 | pGr | 57.28 | 24.57 |
| | Qk.N_B1 | LF-7 | pGr | 7.65 | 0.09 |
| | Qk.N_B1 | LF-8 | pGr | -25.77 | -12.75 |
| | Qk.N_C1 | LF-9 | pGr | 0.23 | 0.00 |
| | Qk.N_C1 | LF-10 | pGr | 0.00 | -0.03 |
| | Qk.N_C5 | LF-11 | pGr | 6.12 | 14.54 |
| | Qk.N_C5 | LF-12 | pGr | -0.86 | -6.63 |
| | Qk.N_DA | LF-5 | pGr | 23.99 | 14.44 |
| | Qk.N_DA | LF-6 | pGr | -0.04 | -24.56 |
| | Qk.N_E1 | LF-13 | pGr | 2.29 | 7.09 |
| | Qk.N_E1 | LF-14 | pGr | -3.57 | -0.02 |
| | Ö← | LF-2 | pGr | 5.38 | -4.77 |
| WT-2.4_1-oben | <i>Ncuv"YV/406a3"cwu"Fgemg"Ä0"40QI</i> | | | | |
| | Gk | LF-1 | pGr | 227.31 | 34.76 |
| | Qk.N_DA | LF-5 | pGr | 150.20 | 22.79 |
| | Qk.N_DA | LF-6 | pGr | -2.85 | -4.46 |
| | Qk.N_E1 | LF-3 | pGr | 0.81 | 1.46 |
| | Qk.N_E1 | LF-4 | pGr | -1.49 | -0.84 |
| | Ö← | LF-2 | pGr | 74.33 | 9.49 |
| WT-2.4_1-unten | <i>Ncuv"YV/406a3"cwu"Fgemg"Ä0"30QI</i> | | | | |
| | Gk | LF-1 | pGr | 411.41 | 305.68 |
| | Qk.N_B1 | LF-7 | pGr | 120.72 | 74.46 |
| | Qk.N_B1 | LF-8 | pGr | -0.02 | -0.02 |
| | Qk.N_C1 | LF-10 | pGr | -0.25 | -0.26 |
| | Qk.N_C5 | LF-11 | pGr | 57.53 | 34.16 |
| | Qk.N_C5 | LF-12 | pGr | 0.00 | -2.54 |
| | Qk.N_DA | LF-5 | pGr | 81.68 | 79.91 |
| | Qk.N_DA | LF-6 | pGr | -0.24 | -1.67 |
| | Qk.N_E1 | LF-13 | pGr | 0.83 | 2.10 |
| | Qk.N_E1 | LF-14 | pGr | -0.26 | -1.76 |
| | Ö← | LF-2 | pGr | 136.26 | 95.45 |

POSITION **WT-2.3 + WT-2.4**

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|----------------|--|----------|-----|-------------------------------|-------------------------------|
| WT-2.4_2-oben | <i>Ncuv"YV/406a4"cwu"FGemg"Ä0"40QI</i> | | | | |
| | Gk | LF-1 | pGr | 70.10 | 73.16 |
| | Qk.N_DA | LF-5 | pGr | 41.80 | 43.94 |
| | Qk.N_DA | LF-6 | pGr | -1.04 | -1.10 |
| | Qk.N_E1 | LF-3 | pGr | 1.80 | 1.72 |
| | Qk.N_E1 | LF-4 | pGr | -1.15 | -1.14 |
| | Ö← | LF-2 | pGr | 20.73 | 21.77 |
| WT-2.4_2-unten | <i>Ncuv"YV/406a4"cwu"FGemg"Ä0"30QI</i> | | | | |
| | Gk | LF-1 | pGr | 259.42 | 251.33 |
| | Qk.N_B1 | LF-7 | pGr | 59.92 | 57.77 |
| | Qk.N_B1 | LF-8 | pGr | -0.04 | -0.04 |
| | Qk.N_C1 | LF-10 | pGr | -0.44 | -0.47 |
| | Qk.N_C5 | LF-11 | pGr | 29.56 | 28.72 |
| | Qk.N_C5 | LF-12 | pGr | -2.40 | -2.23 |
| | Qk.N_DA | LF-5 | pGr | 68.19 | 65.85 |
| | Qk.N_DA | LF-6 | pGr | -2.74 | -2.75 |
| | Qk.N_E1 | LF-13 | pGr | 3.18 | 3.21 |
| | Qk.N_E1 | LF-14 | pGr | -3.23 | -3.32 |
| | Ö← | LF-2 | pGr | 78.84 | 76.16 |
| WT-2.4_3-oben | <i>Ncuv"YV/406a5"cwu"FGemg"Ä0"40QI</i> | | | | |
| | Gk | LF-1 | pGr | 63.13 | 82.62 |
| | Qk.N_DA | LF-5 | pGr | 43.57 | 56.93 |
| | Qk.N_DA | LF-6 | pGr | -3.39 | -5.43 |
| | Qk.N_E1 | LF-3 | pGr | 1.01 | 1.27 |
| | Qk.N_E1 | LF-4 | pGr | -0.99 | -0.99 |
| | Ö← | LF-2 | pGr | 20.27 | 26.04 |

pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Koordinaten

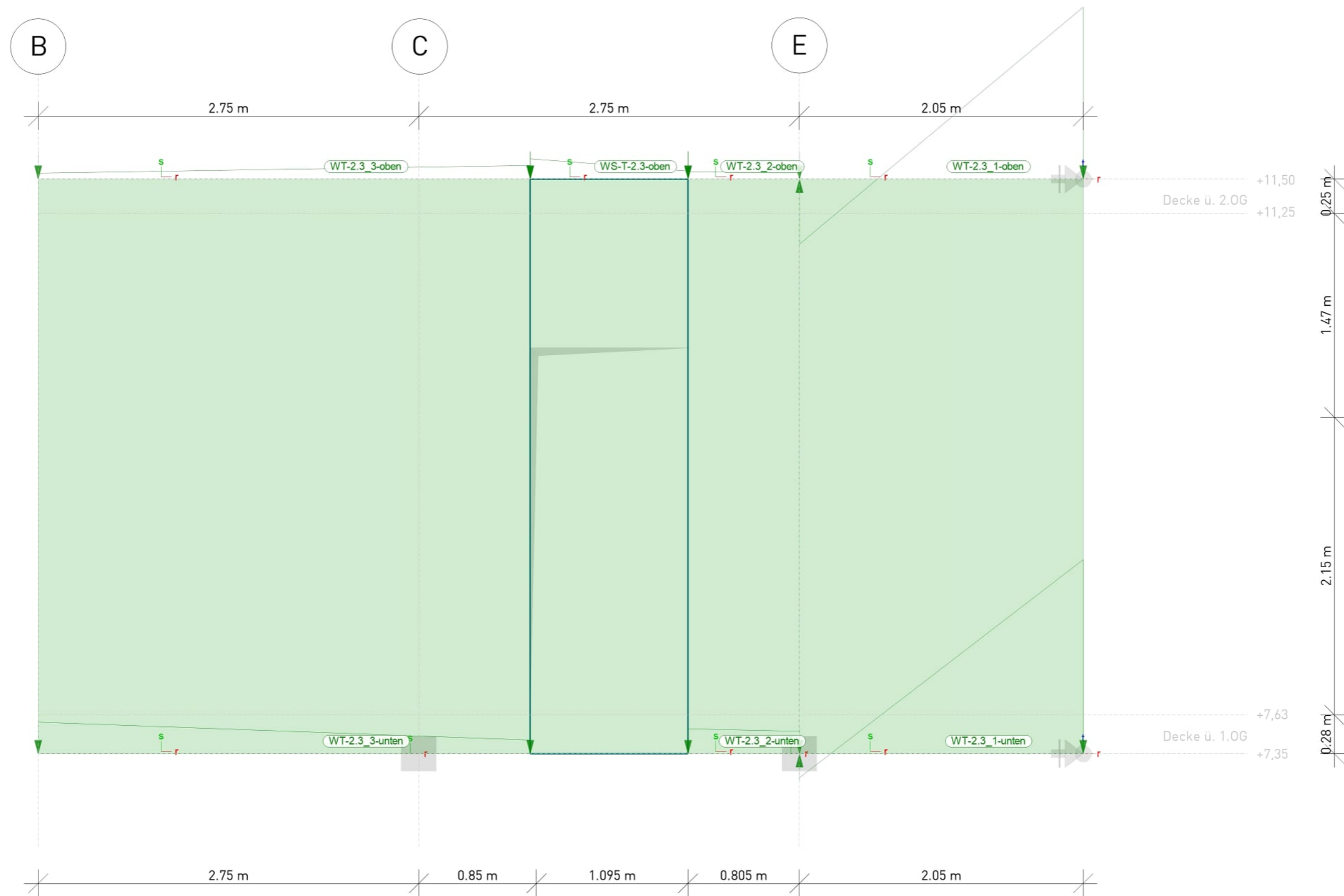
| Position | $Q_f^{\wedge \& \&}$ [m] | x [m] | y [m] | z [m] |
|----------------|-----------------------------|----------|----------|----------|
| WS-T-2.3-oben | 1.14 | 3.56 | 0.00 | 4.15 |
| | | 4.70 | 0.00 | 4.15 |
| WS-T-2.4-oben | 1.01 | 0.00 | 1.28 | 4.15 |
| | | 0.00 | 2.29 | 4.15 |
| WT-2.3_1-oben | 2.05 | 5.50 | 0.00 | 4.15 |
| | | 7.55 | 0.00 | 4.15 |
| WT-2.3_1-unten | 2.05 | 5.50 | 0.00 | 0.00 |
| | | 7.55 | 0.00 | 0.00 |
| WT-2.3_2-oben | 0.81 | 4.70 | 0.00 | 4.15 |
| | | 5.50 | 0.00 | 4.15 |
| WT-2.3_2-unten | 0.81 | 4.70 | 0.00 | 0.00 |
| | | 5.50 | 0.00 | 0.00 |
| WT-2.3_3-oben | 3.56 | 0.00 | 0.00 | 4.15 |
| | | 3.56 | 0.00 | 4.15 |
| WT-2.3_3-unten | 3.56 | 0.00 | 0.00 | 0.00 |
| | | 3.56 | 0.00 | 0.00 |
| WT-2.4_1-oben | 1.28 | 0.00 | 0.00 | 4.15 |
| | | 0.00 | 1.28 | 4.15 |
| WT-2.4_1-unten | 1.28 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 1.28 | 0.00 |
| WT-2.4_2-oben | 0.34 | 0.00 | 2.29 | 4.15 |
| | | 0.00 | 2.63 | 4.15 |
| WT-2.4_2-unten | 0.34 | 0.00 | 2.29 | 0.00 |
| | | 0.00 | 2.63 | 0.00 |
| WT-2.4_3-oben | 3.58 | 0.00 | 2.63 | 4.15 |
| | | 0.00 | 6.21 | 4.15 |

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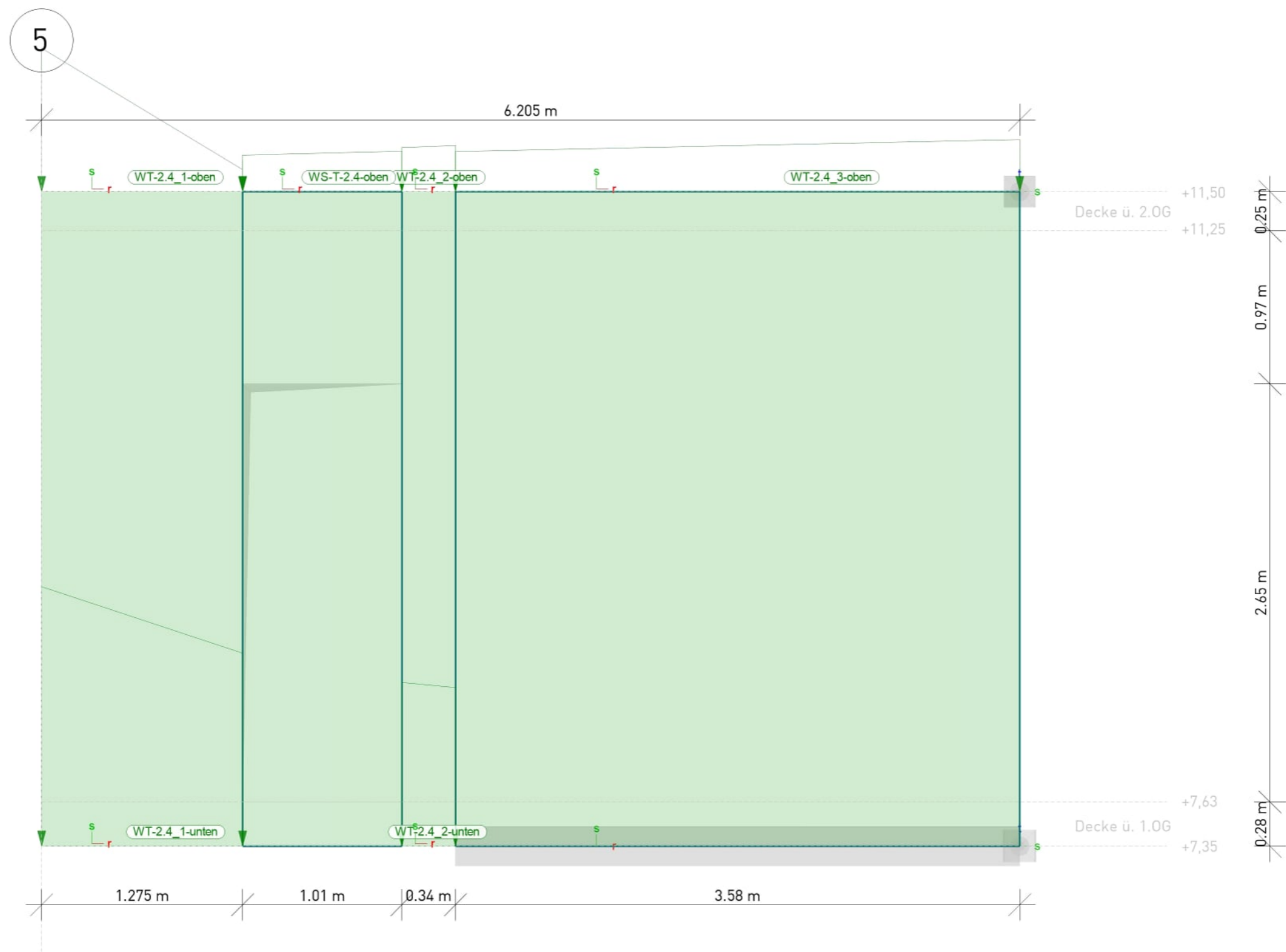
@UghZ} ``Y

| Lastfall | Typ | Beschreibung |
|----------------------------|-----|----------------------------|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbaulast |
| LF-3 | v | Nutzlast Technik oben pos |
| LF-4 | v | Nutzlast Technik oben neg |
| LF-5 | v | Nutzlast Dach pos |
| LF-6 | v | Nutzlast Dach neg |
| LF-7 | v | S \`→áb\ÁÑfiã~Á*~b |
| LF-8 | v | S \`→áb\ÁÑfiã~Á^æ& |
| LF-9 | v | Nutzlast Schulung pos |
| LF-10 | v | Nutzlast Schulung neg |
| LF-11 | v | Nutzlast Forum pos |
| LF-12 | v | Nutzlast Forum neg |
| LF-13 | v | Nutzlast Technik unten pos |
| LF-14 | v | Nutzlast Technik unten neg |
| s: b\†^ã↔&æãÁQáb\ää→→ | | |
| v: {æã†^ãæã↔↔'áæãÁQáb\ää→→ | | |



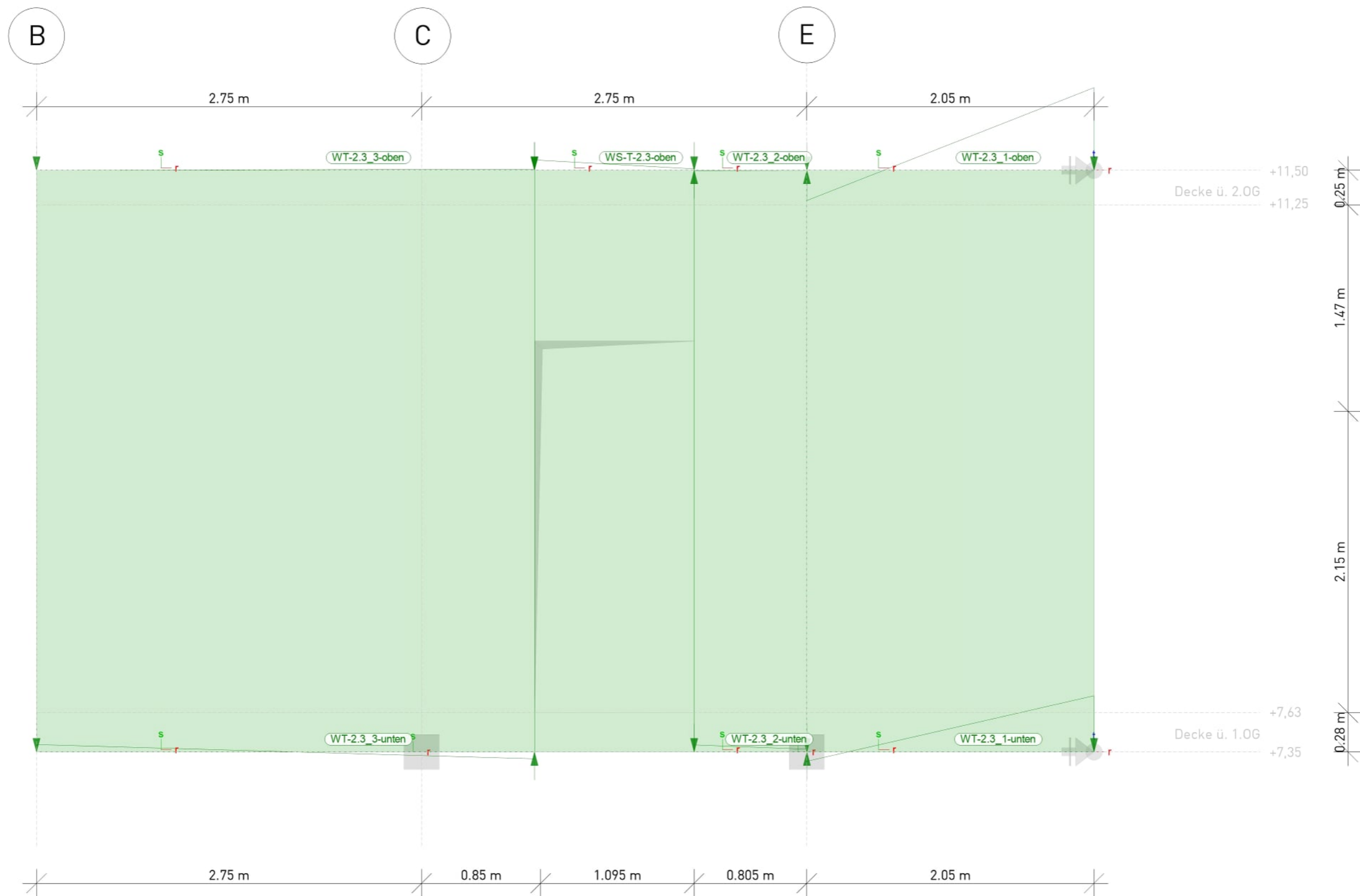
WT-2.3

| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
|--|----------------|---|------------------------------|-------------------------------------|---------|
| aus Lastfall LF-1 (Eigengewicht) >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



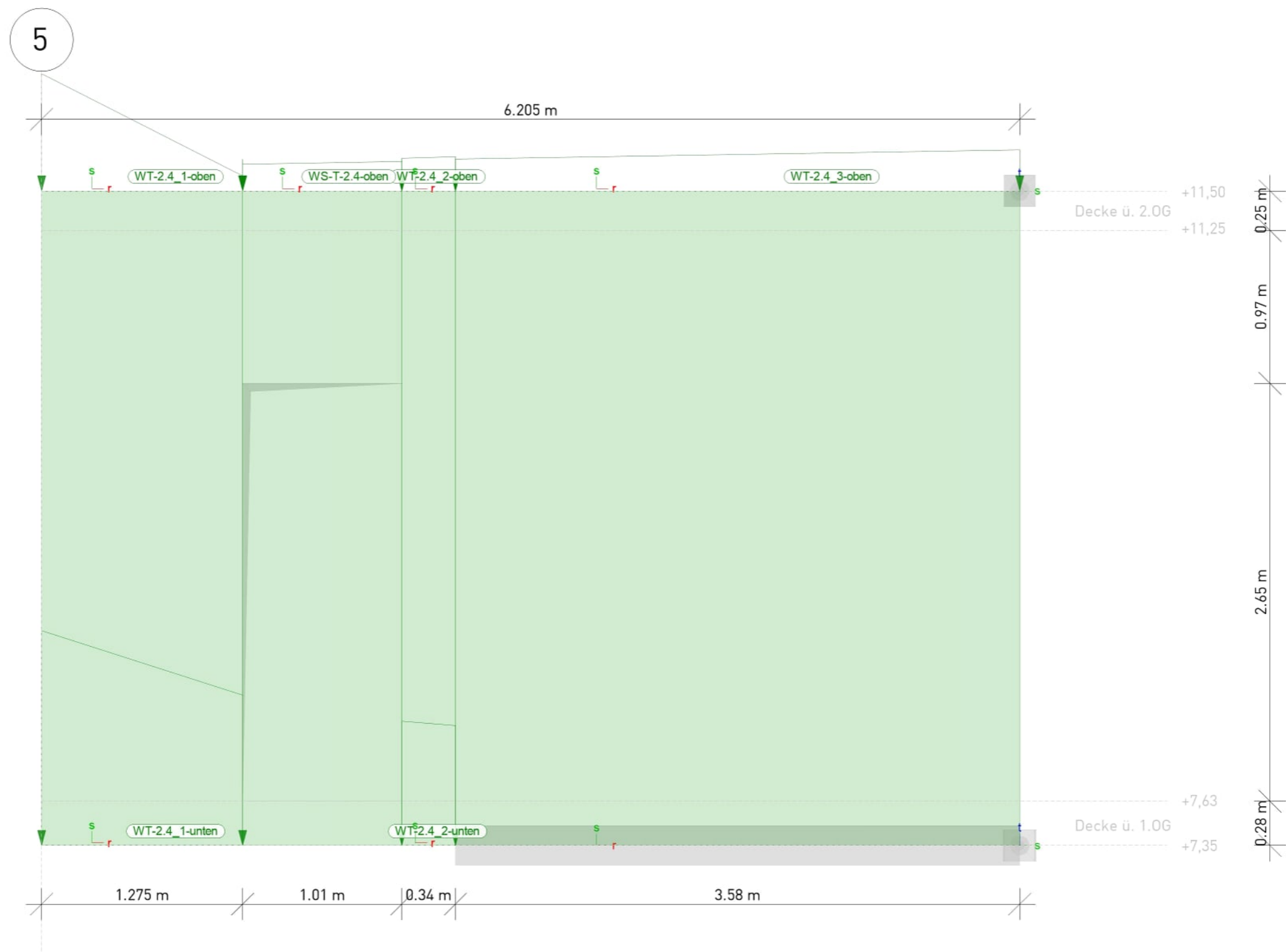
WT-2.4

| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tafel |
|----------------------------------|----------------|------------------------------|------------------|-------|
| aus Lastfall LF-1 (Eigengewicht) | | Bauvorhaben | Schulcampus EWK | W-175 |
| >>nur Gruppe 'WT-2.4' sichtbar<< | | | Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |



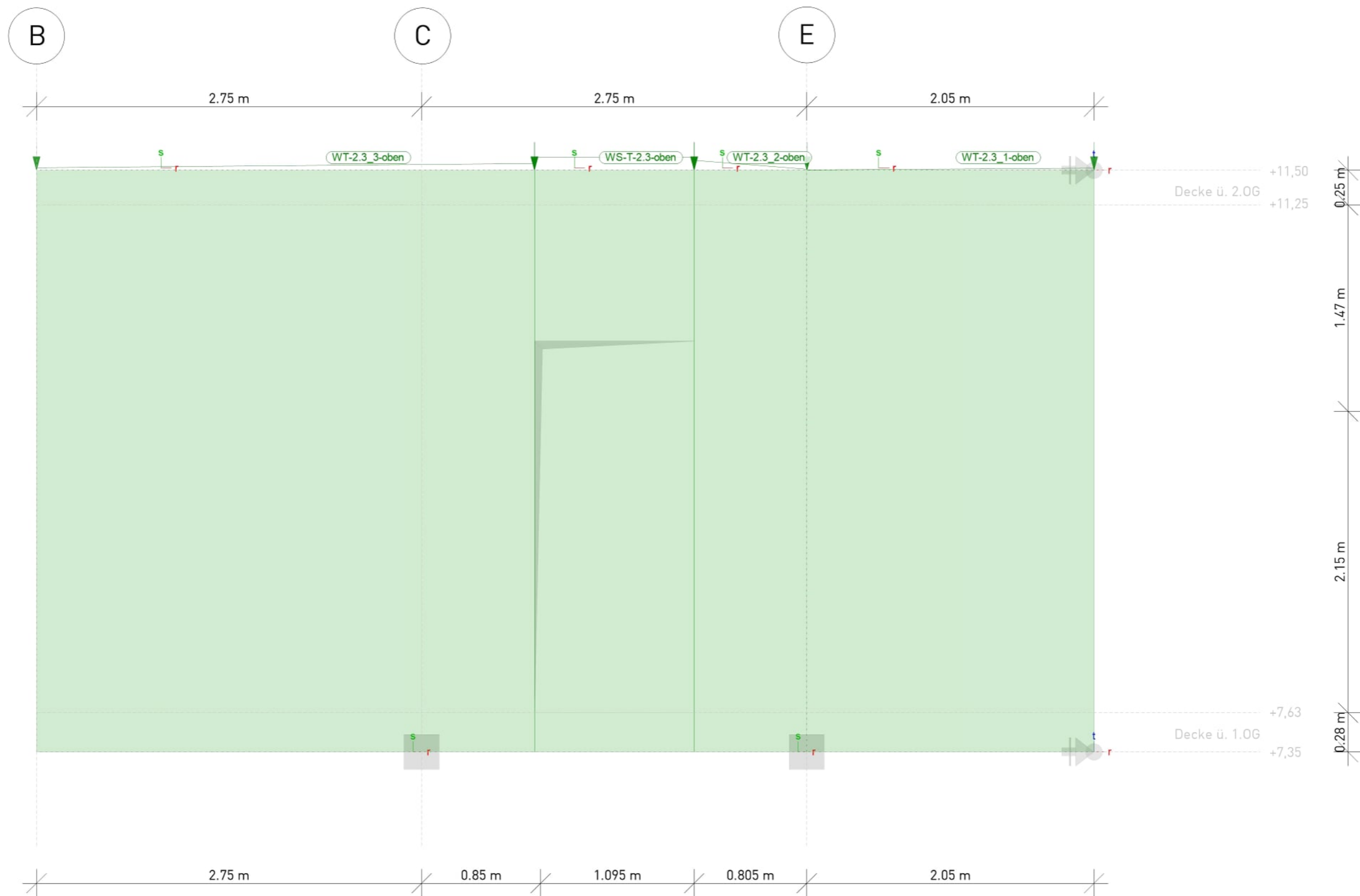
WT-2.3

| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
|--|------------------------------|---|-------------|-------------------------------------|---------|
| aus Lastfall LF-2 (Ausbaulast) >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | KREBS+KIEFER Ingenieure GmbH | | | | |



WT-2.4

| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tafel |
|----------------------------------|----------------|------------------------------|------------------|-------|
| aus Lastfall LF-2 (Ausbaulast) | | Bauvorhaben | Schulcampus EWK | W-177 |
| >>nur Gruppe 'WT-2.4' sichtbar<< | | | Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |



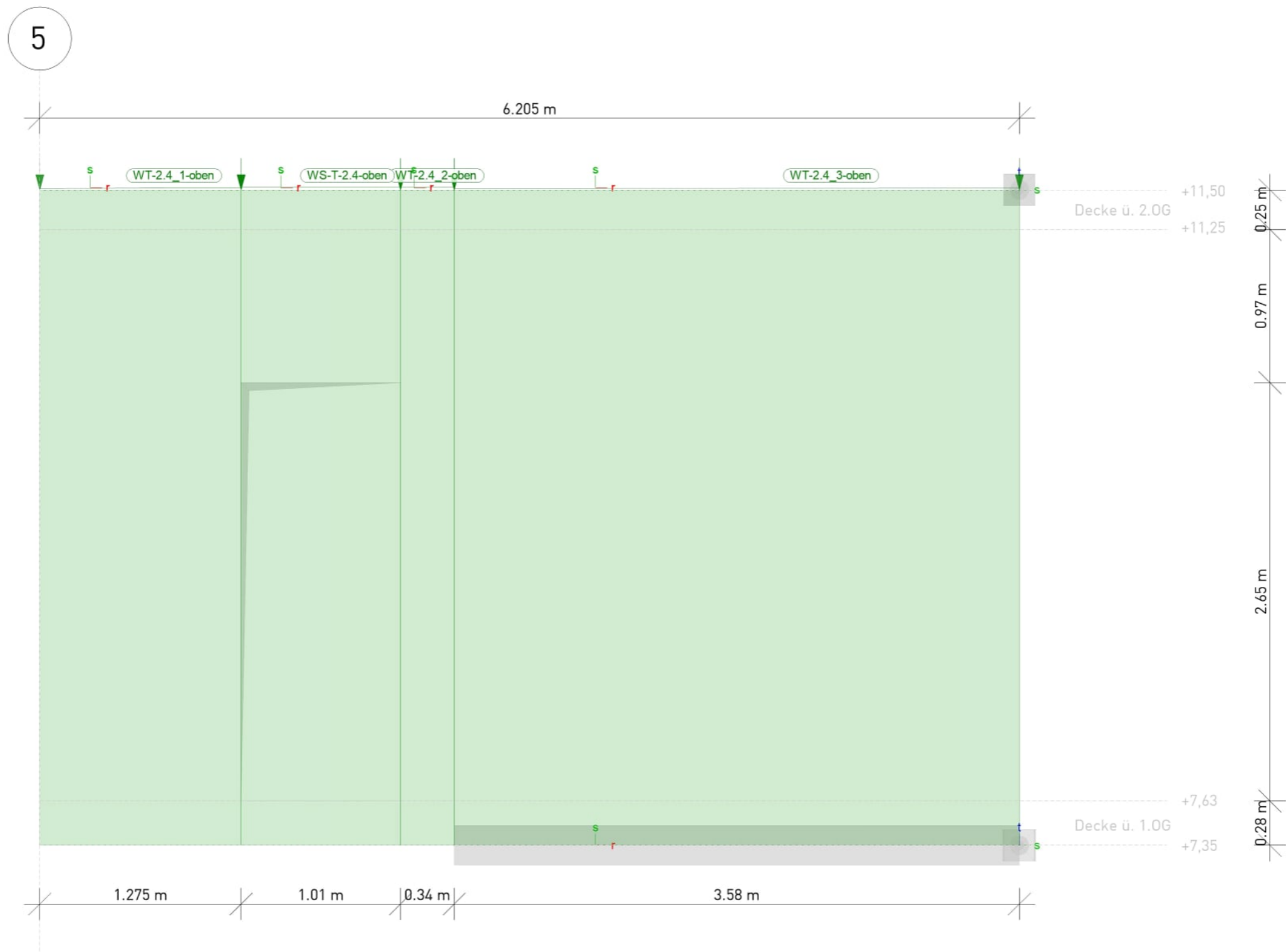
WT-2.3



Modell WT-2.3 + WT-2.4
Bauvorhaben Schulcampus EWK
Schwesternschule

Tabelle

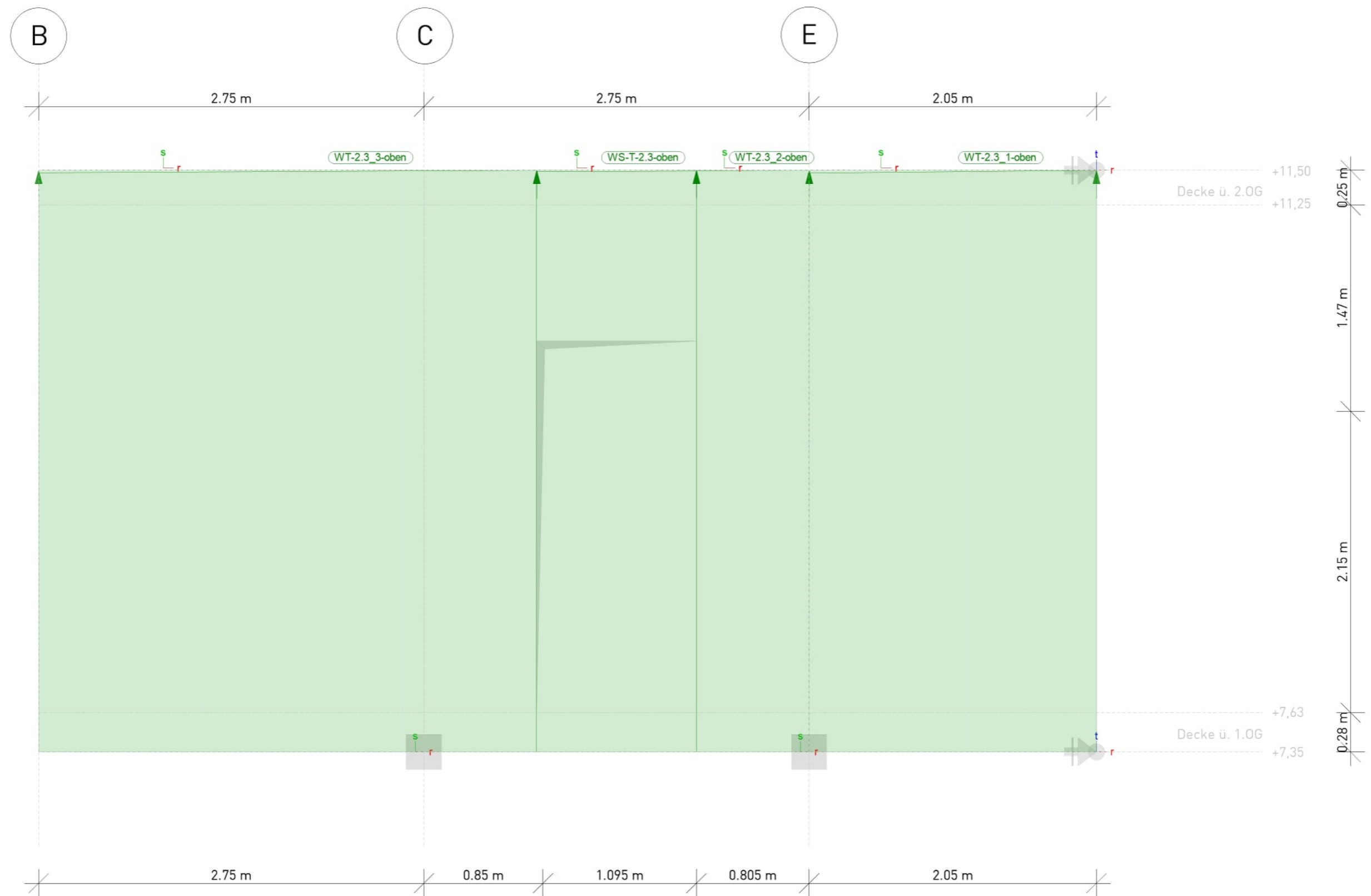
KREBS+KIEFER Ingenieure GmbH



WT-2.4

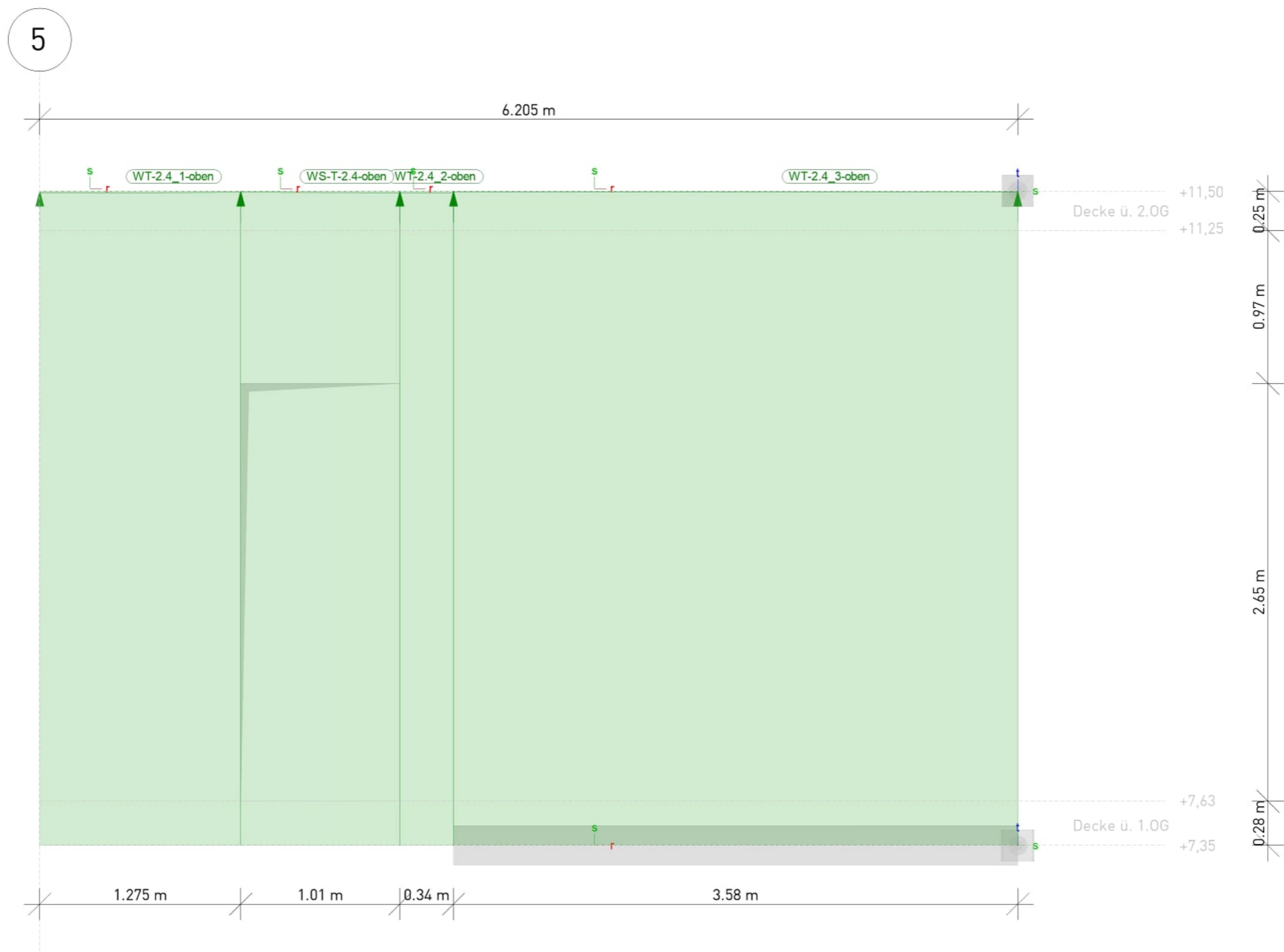
| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tafel |
|---|----------------|------------------------------|------------------|-------|
| aus Lastfall LF-3 (Nutzlast Technik oben pos) | | Bauvorhaben | Schulcampus EWK | W-179 |
| >>nur Gruppe 'WT-2.4' sichtbar<< | | | Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |





WT-2.3

| | | | | | |
|---|----------------|---|-------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle 1 |
| aus Lastfall LF-4 (Nutzlast Technik oben neg) >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |



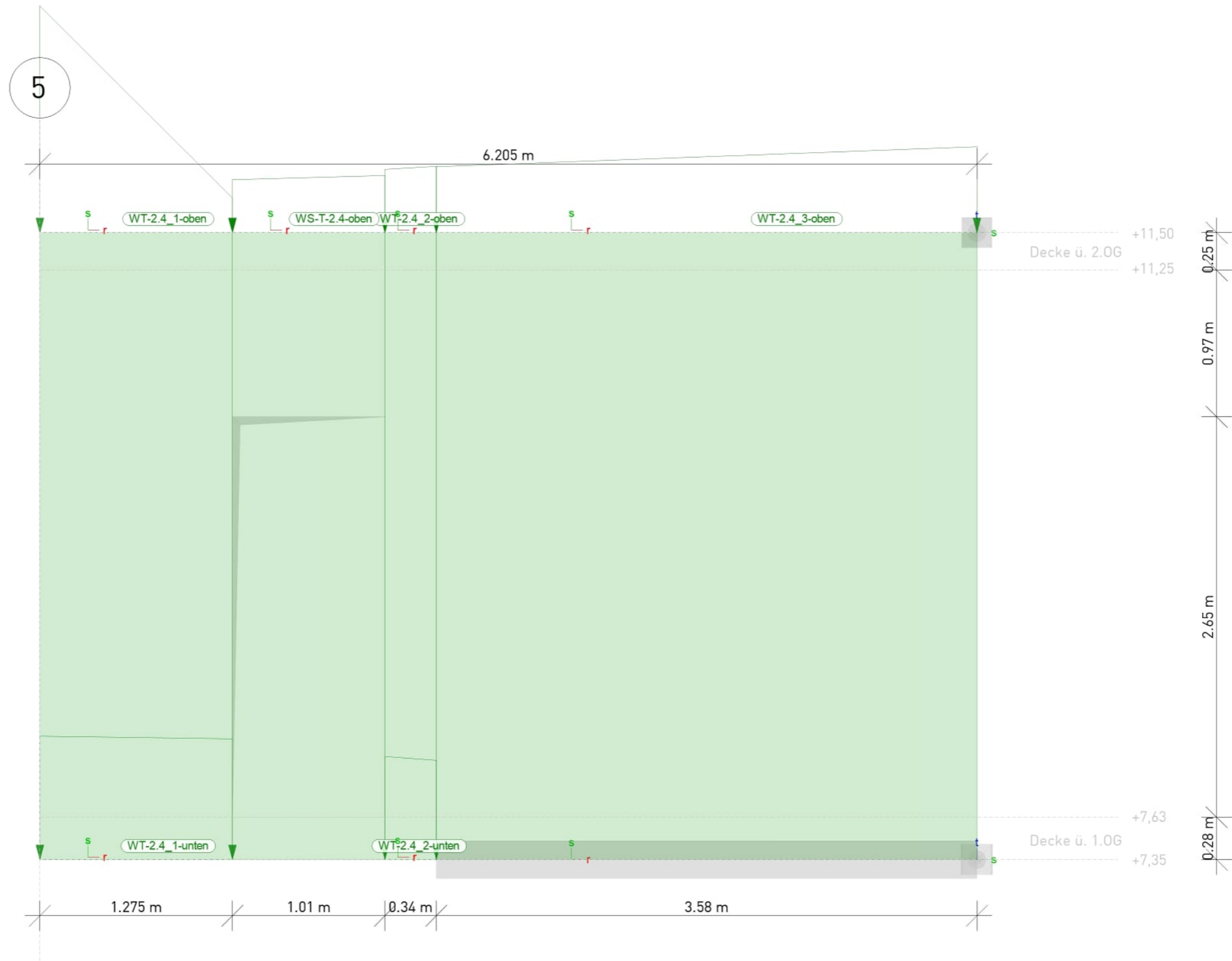
WT-2.4

| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tafel |
|---|----------------|------------------------------|-------------------------------------|-------|
| aus Lastfall LF-4 (Nutzlast Technik oben neg) >>nur Gruppe 'WT-2.4' sichtbar<< | | Bauvorhaben | Schulcampus EWK Schwesternschule | W-181 |
| | | KREBS+KIEFER Ingenieure GmbH | | |




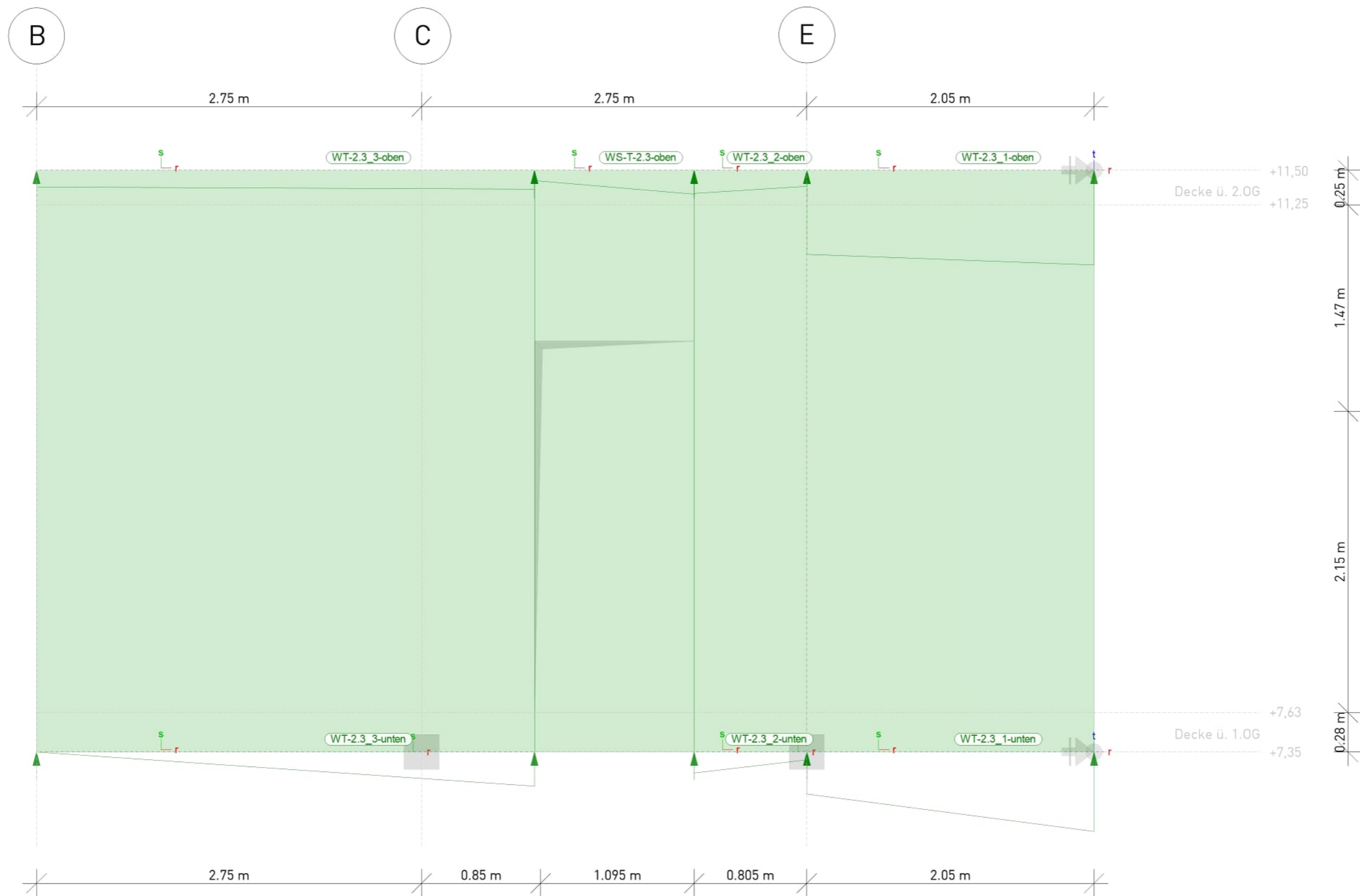
WT-2.3

| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
|---|----------------|---|------------------------------|-------------------------------------|---------|
| aus Lastfall LF-5 (Nutzlast Dach pos) >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



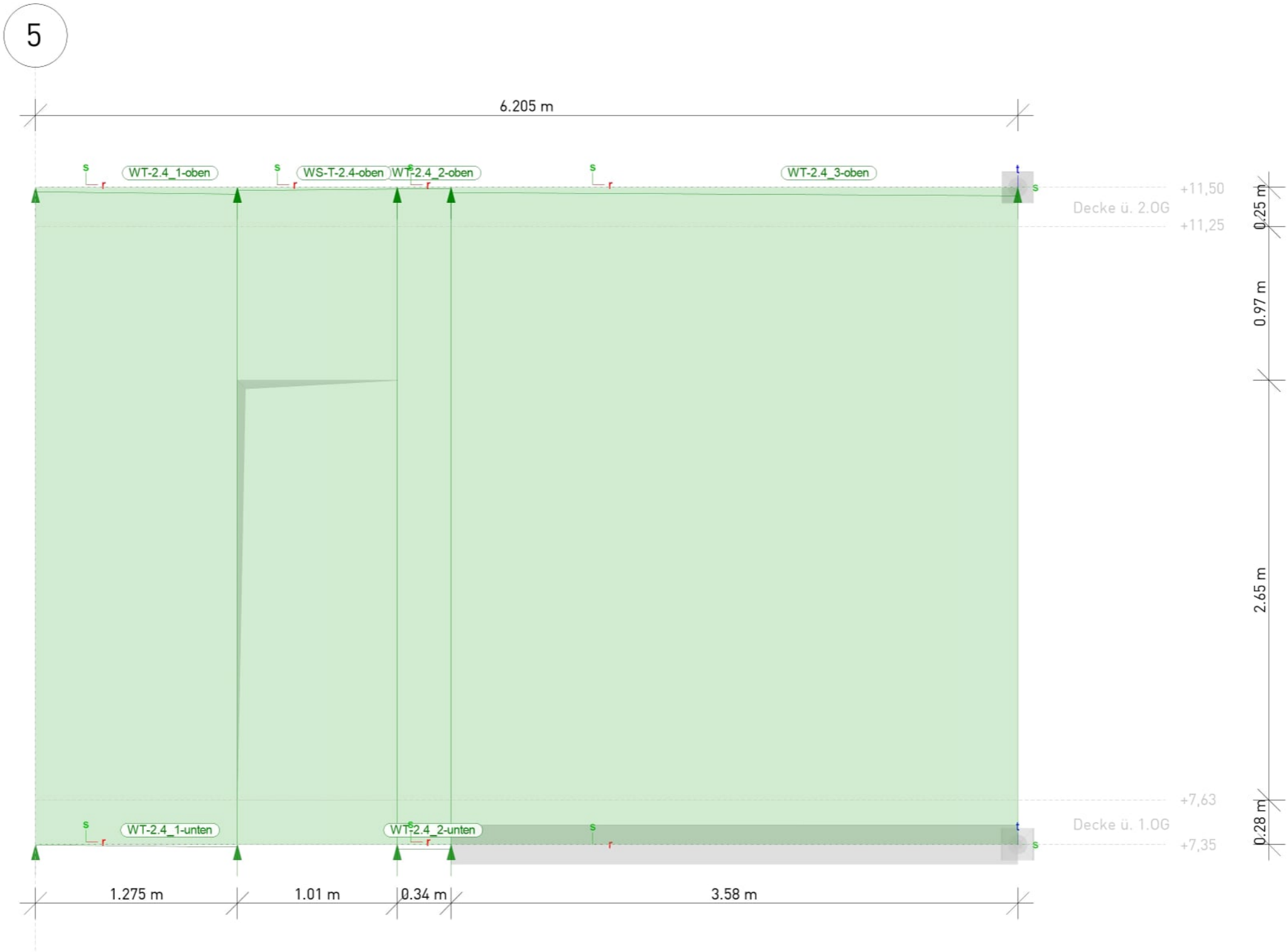
WT-2.4

| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle | |
|---|----------------|---|------------------------------|-------------------------------------|---------|--|
| aus Lastfall LF-5 (Nutzlast Dach pos) >>nur Gruppe 'WT-2.4' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | | |
| | | | KREBS+KIEFER Ingenieure GmbH | | | |



WT-2.3

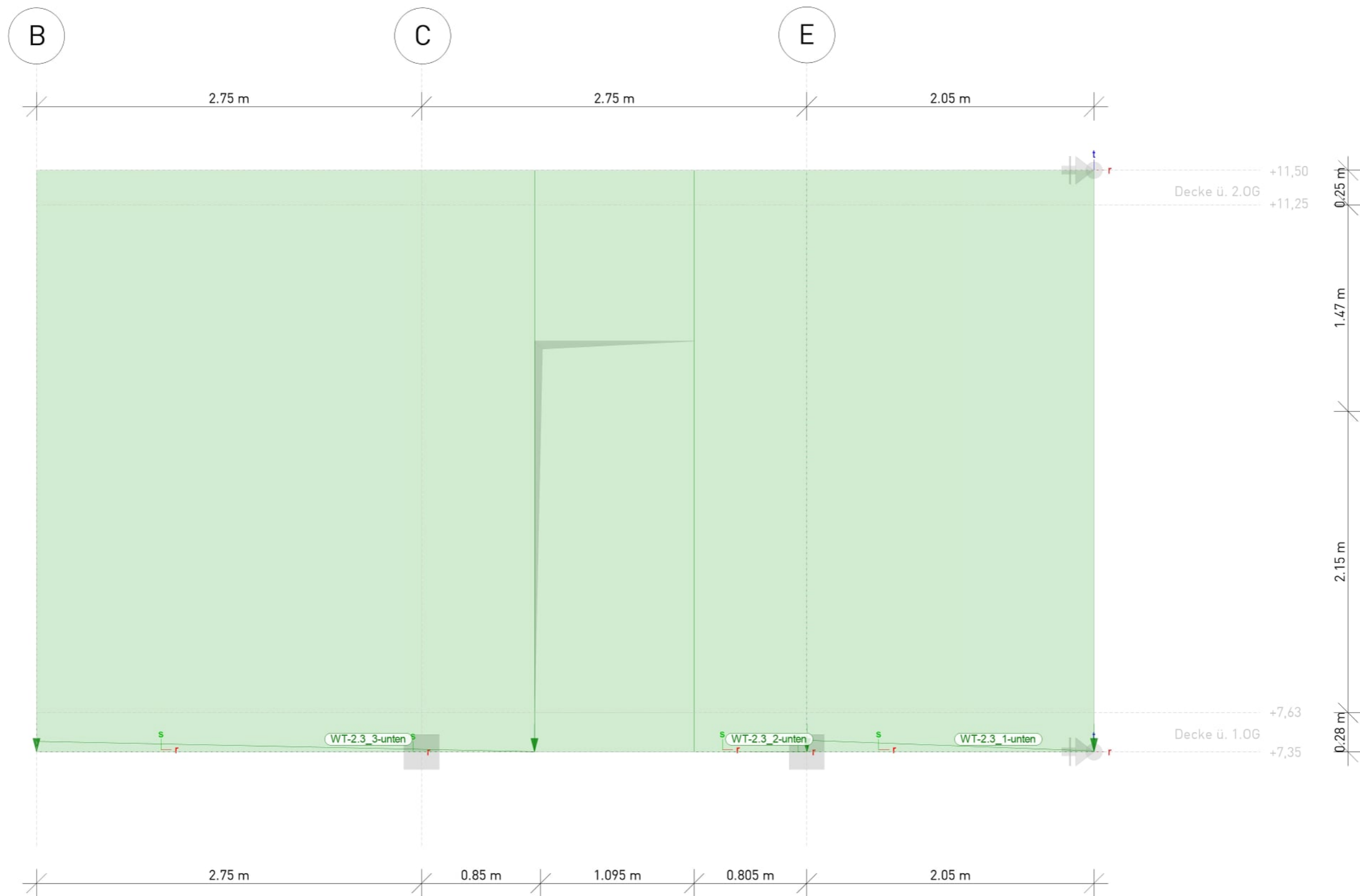
| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tafel |
|---------------------------------------|----------------|------------------------------|------------------|-------|
| aus Lastfall LF-6 (Nutzlast Dach neg) | | Bauvorhaben | Schulcampus EWK | W-184 |
| >>nur Gruppe 'WT-2.3' sichtbar<< | | | Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |



WT-2.4

| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tabelle |
|---------------------------------------|----------------|------------------------------|------------------|---------|
| aus Lastfall LF-6 (Nutzlast Dach neg) | | Bauvorhaben | Schulcampus EWK | W-185 |
| >>nur Gruppe 'WT-2.4' sichtbar<< | | | Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |

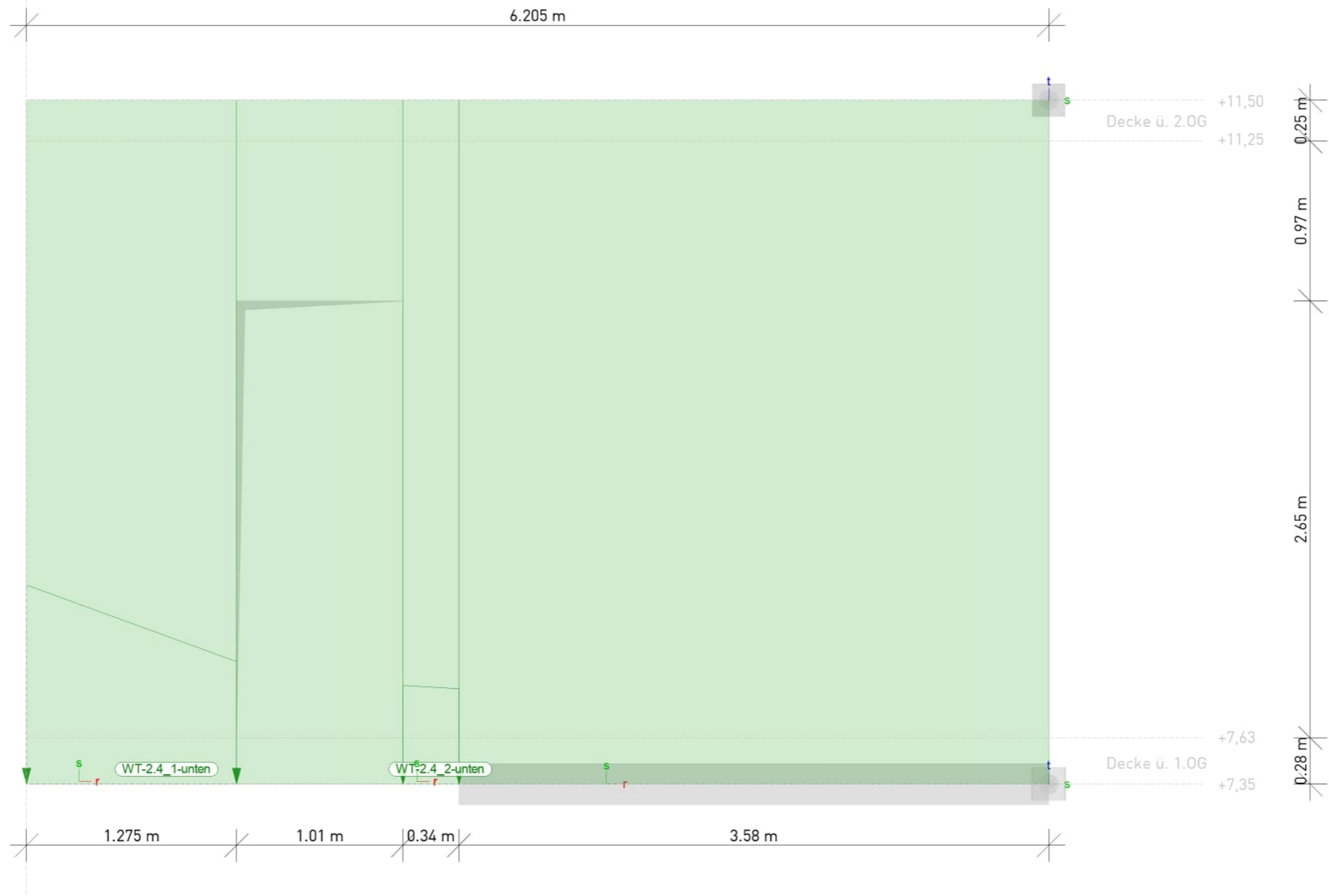





WT-2.3

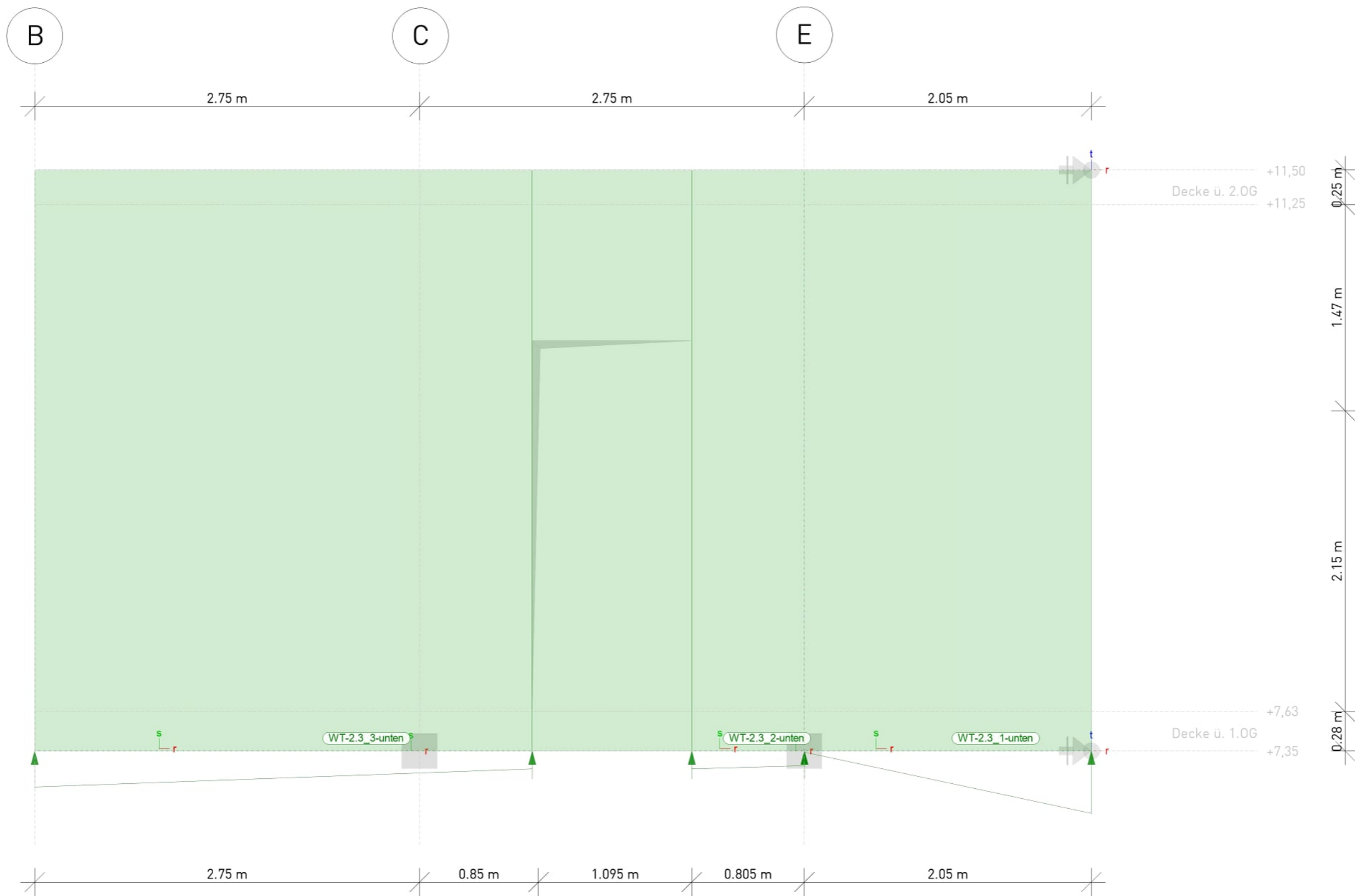
| | | | | | |
|--|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| æ•Åææ/50E Åp* c ææO> Å •D >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |

5



WT-2.4

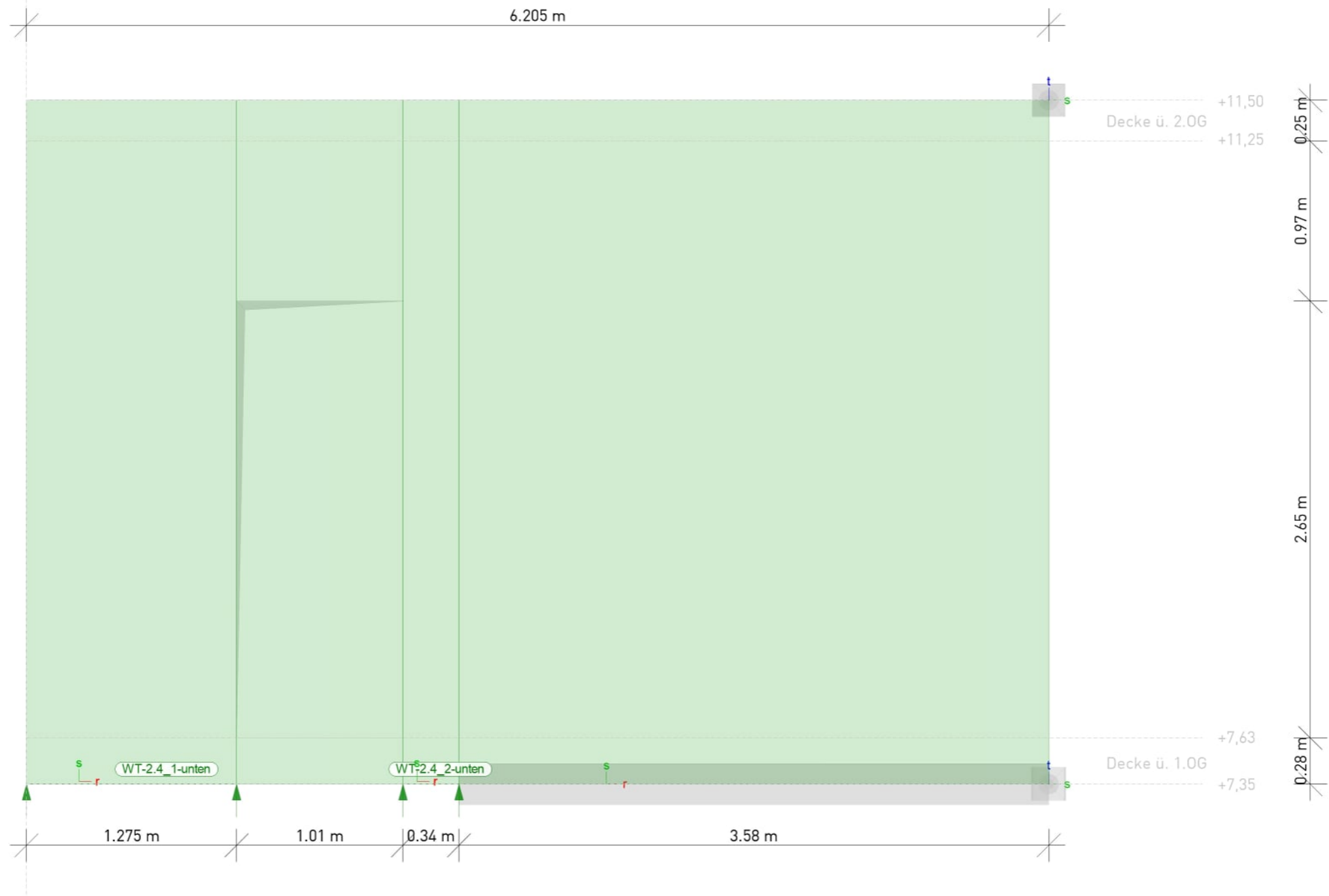
| Last-Positionen | Lastpositionen |  KREBS + KIEFER | Modell | WT-2.3 + WT-2.4 | Tabelle |
|--|----------------|--|------------------------------|-------------------------------------|---------|
| æ•Åææ/50E Åp c ææ> Å[•D >>nur Gruppe 'WT-2.4' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |




WT-2.3

| | | | | | |
|--|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| æ•Åææ/50E Åp c ææ> Å^*D >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |

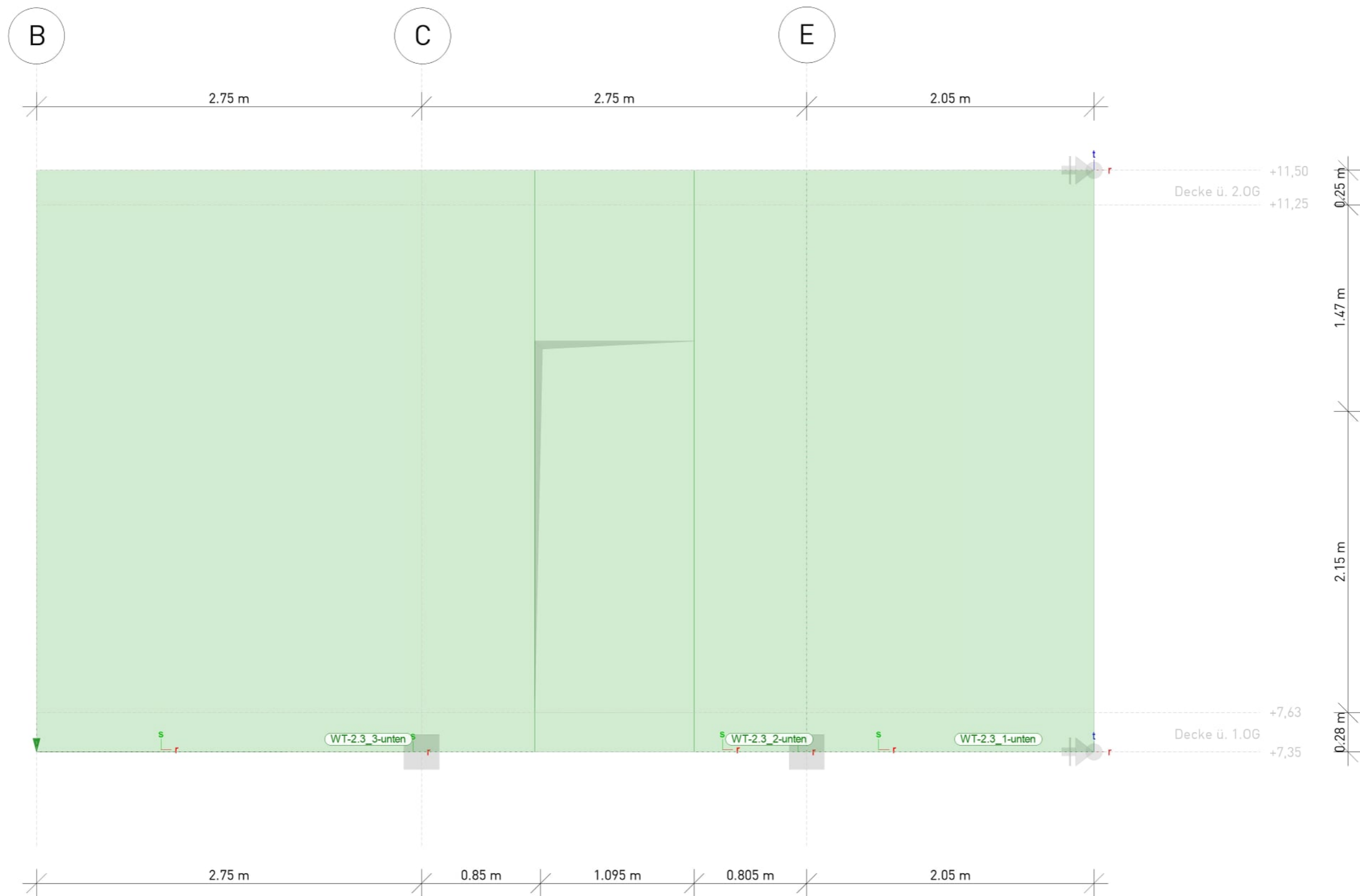
5



WT-2.4

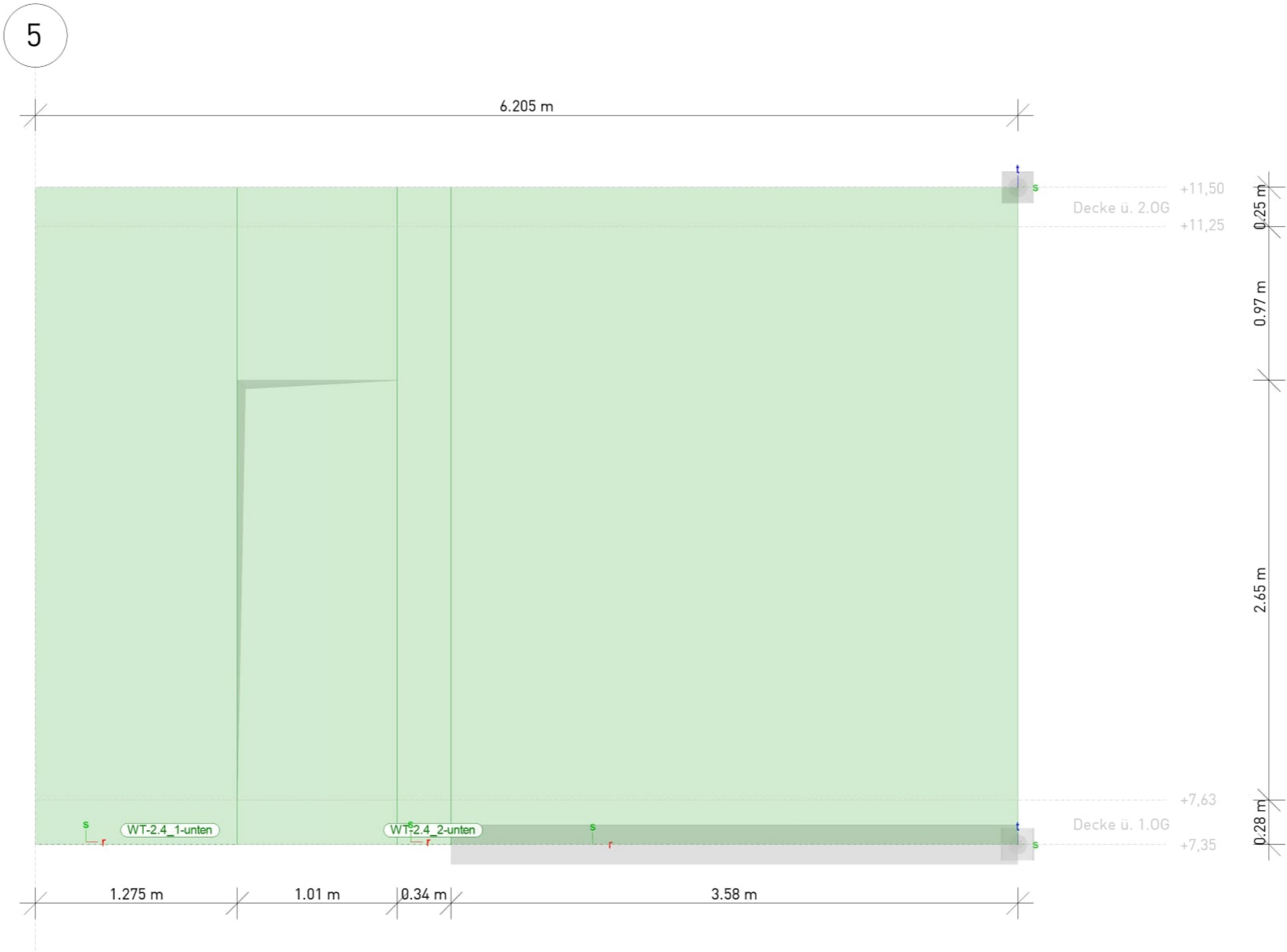
| | | | | | |
|-----------------|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| Sachlageplan | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Sachlageplan | | KREBS+KIEFER Ingenieure GmbH | | | |

Sachlageplan
>>nur Gruppe 'WT-2.4' sichtbar<<



WT-2.3

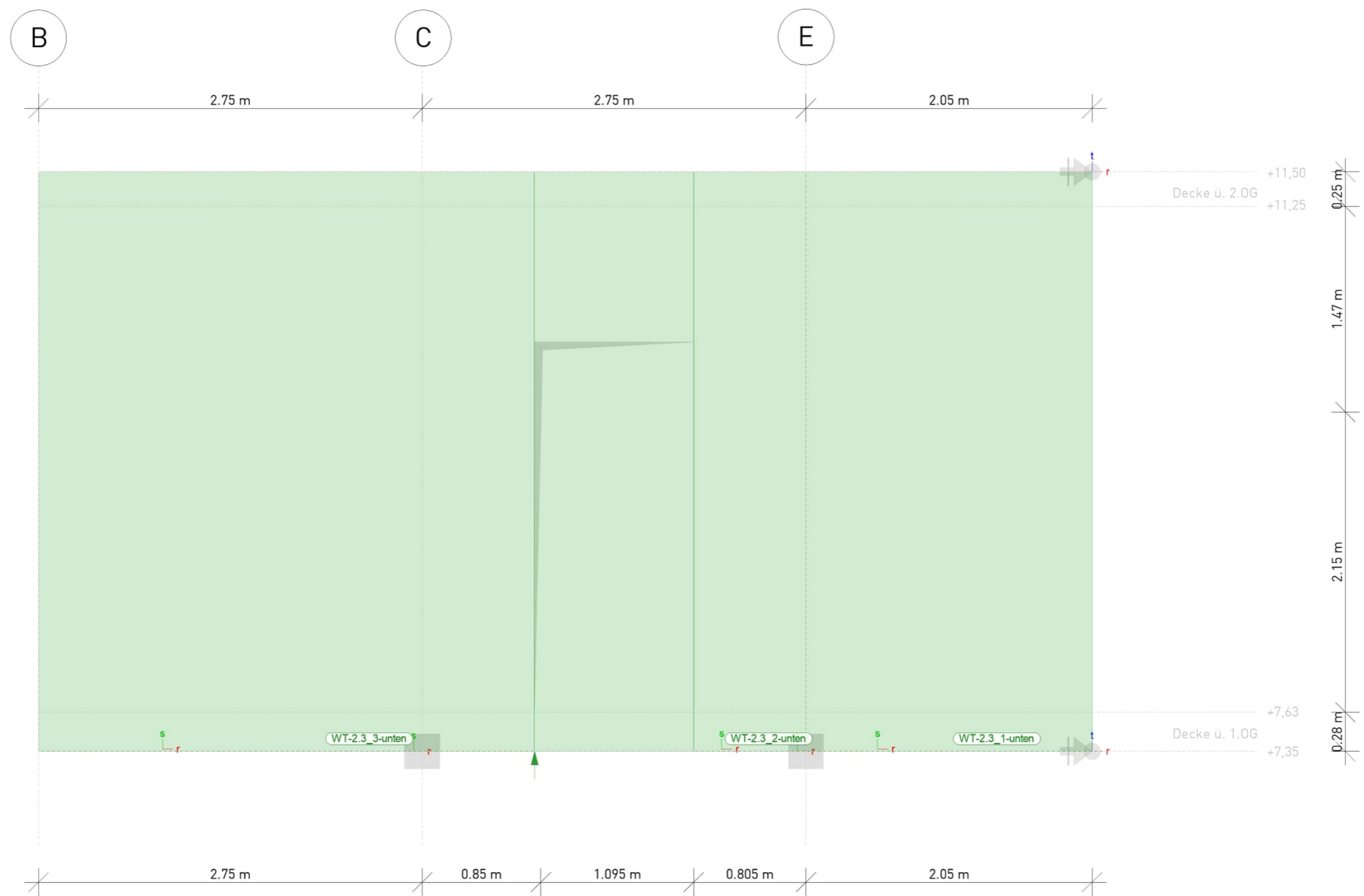
| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
|---|----------------|---|------------------------------|-------------------------------------|---------|
| aus Lastfall LF-9 (Nutzlast Schulung pos) >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |




WT-2.4

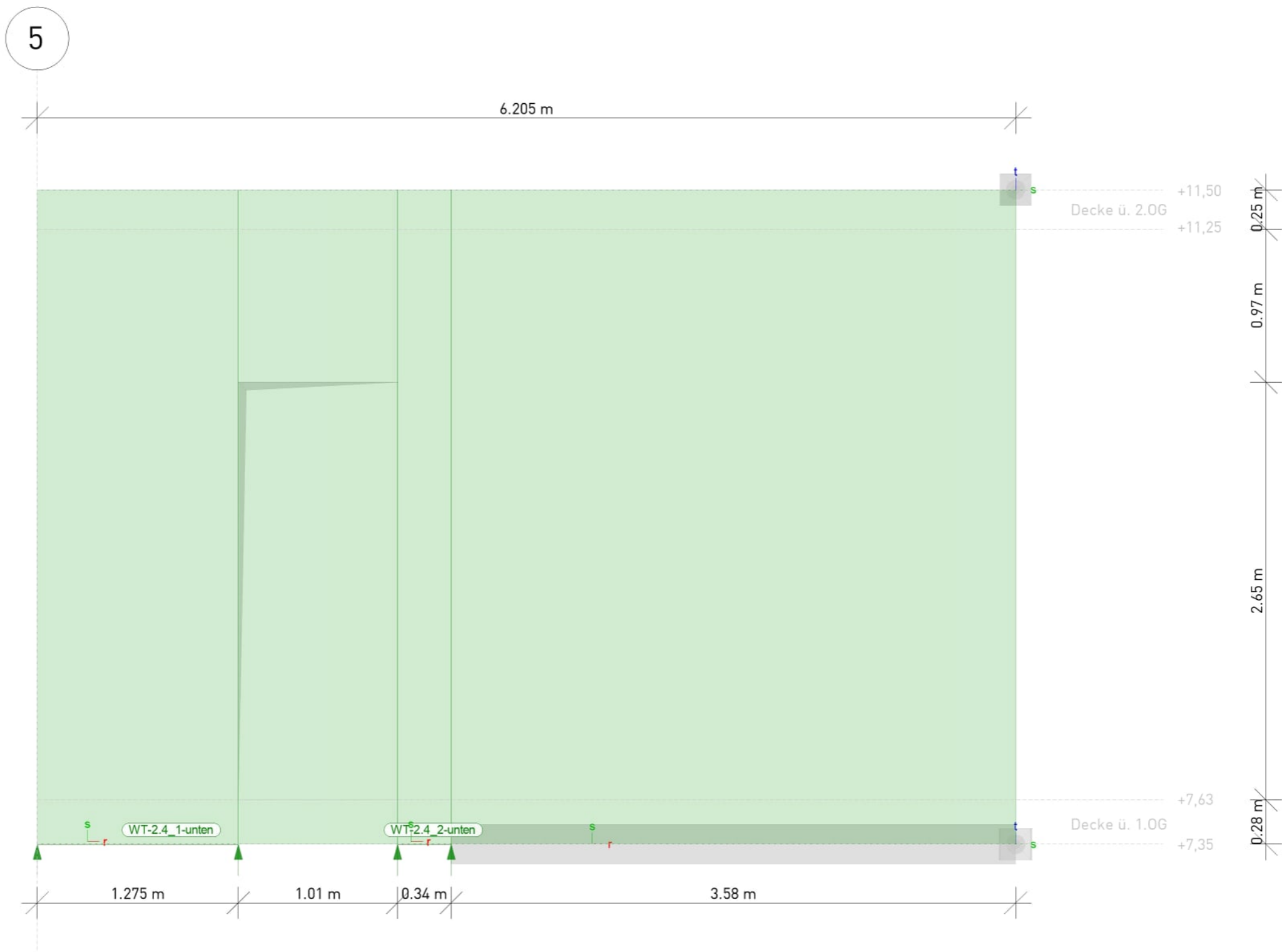
| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tabelle |
|---|----------------|------------------------------|-------------------------------------|---------|
| aus Lastfall LF-9 (Nutzlast Schulung pos) >>nur Gruppe 'WT-2.4' sichtbar<< | | Bauvorhaben | Schulcampus EWK Schwesternschule | W-191 |
| | | KREBS+KIEFER Ingenieure GmbH | | |






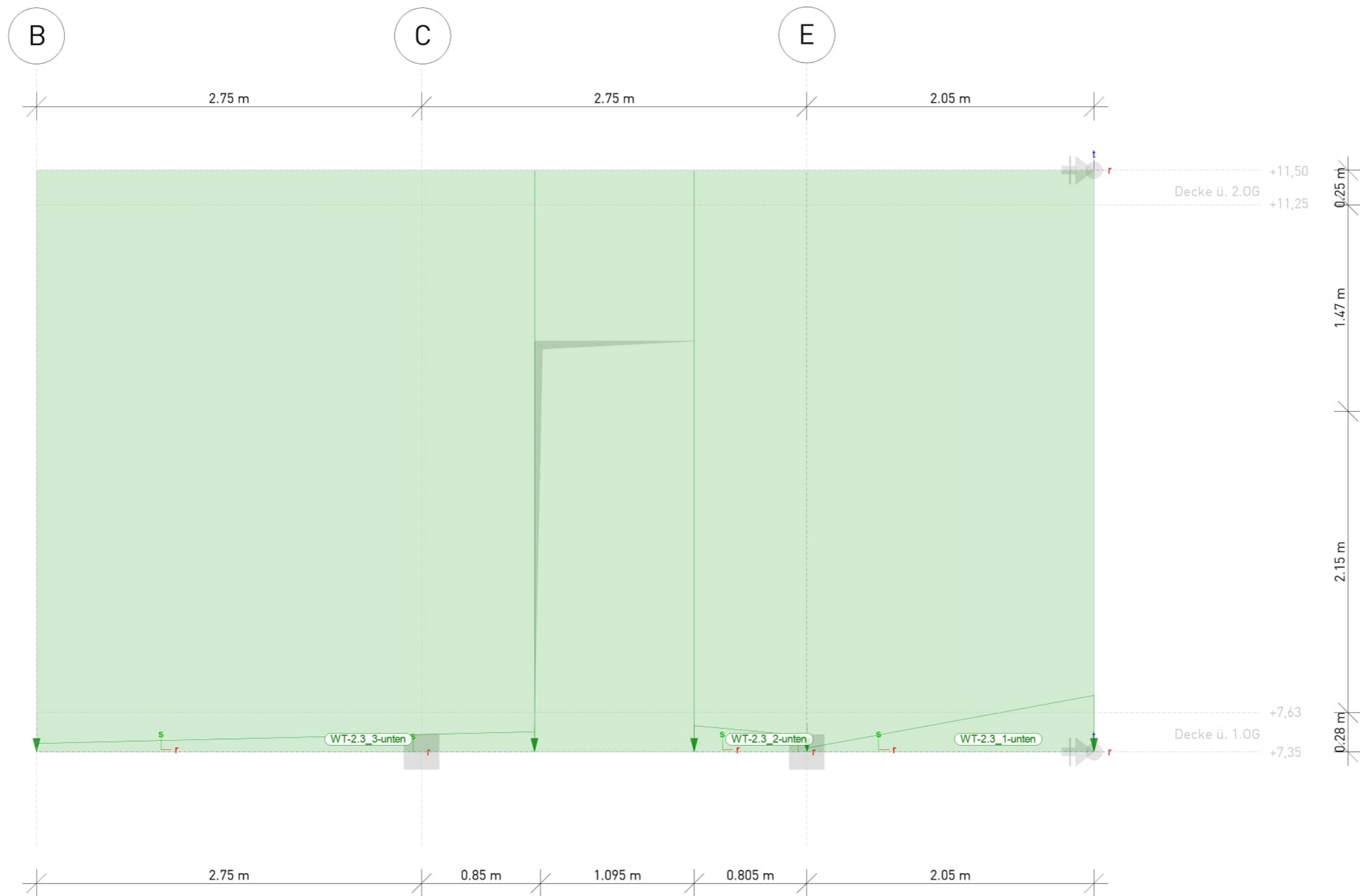
WT-2.3

| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-10 (Nutzlast Schulung neg) >>nur Gruppe 'WT-2.3' sichtbar<< | | | KREBS+KIEFER Ingenieure GmbH | | |




WT-2.4

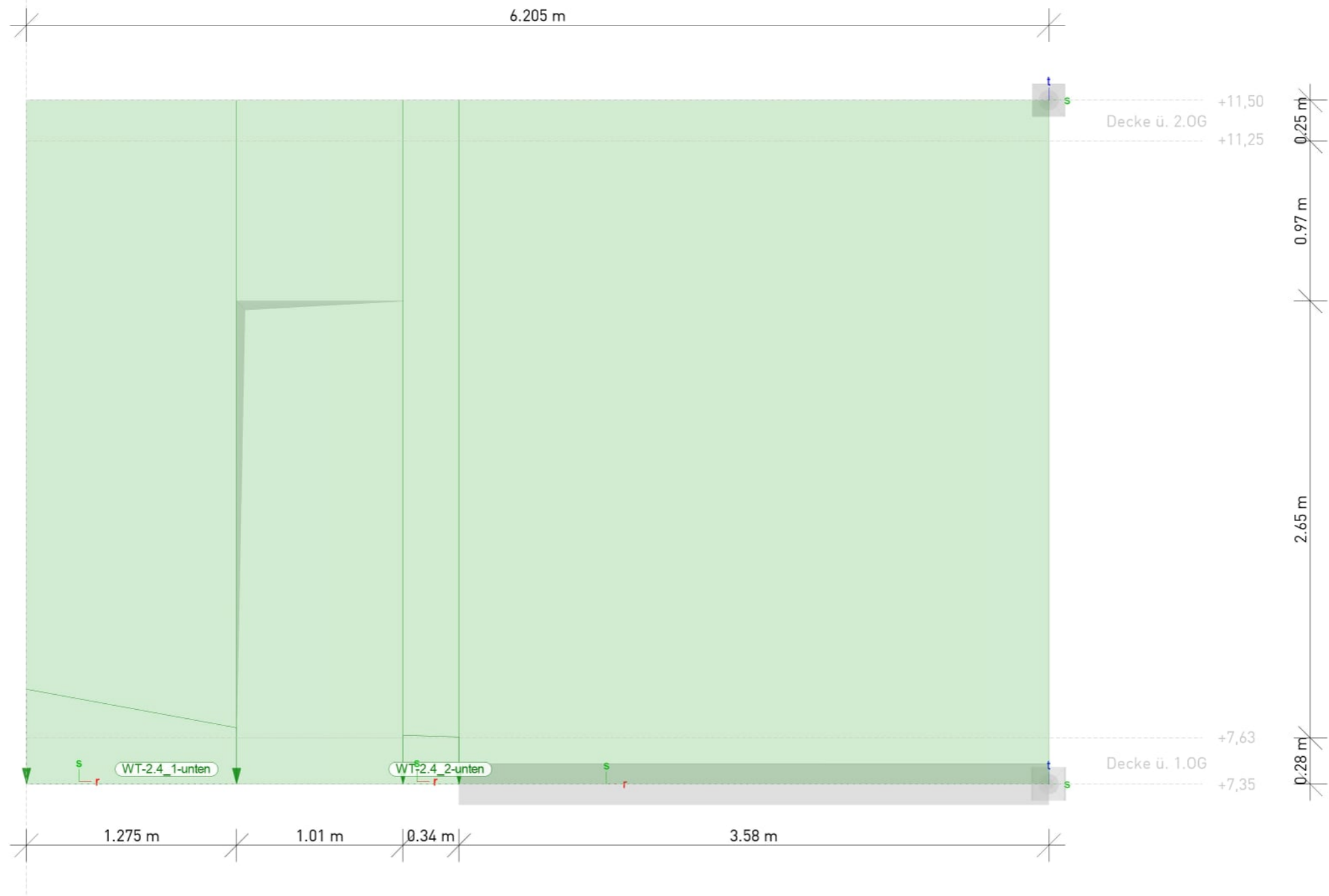
| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tafel |
|--|---|------------------------------|-------------------------------------|-------|
| aus Lastfall LF-10 (Nutzlast Schulung neg) >>nur Gruppe 'WT-2.4' sichtbar<< |  | Bauvorhaben | Schulcampus EWK Schwesternschule | W-193 |
| | | KREBS+KIEFER Ingenieure GmbH | | |



WT-2.3

| | | | | | |
|---|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| aus Lastfall LF-11 (Nutzlast Forum pos) >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |

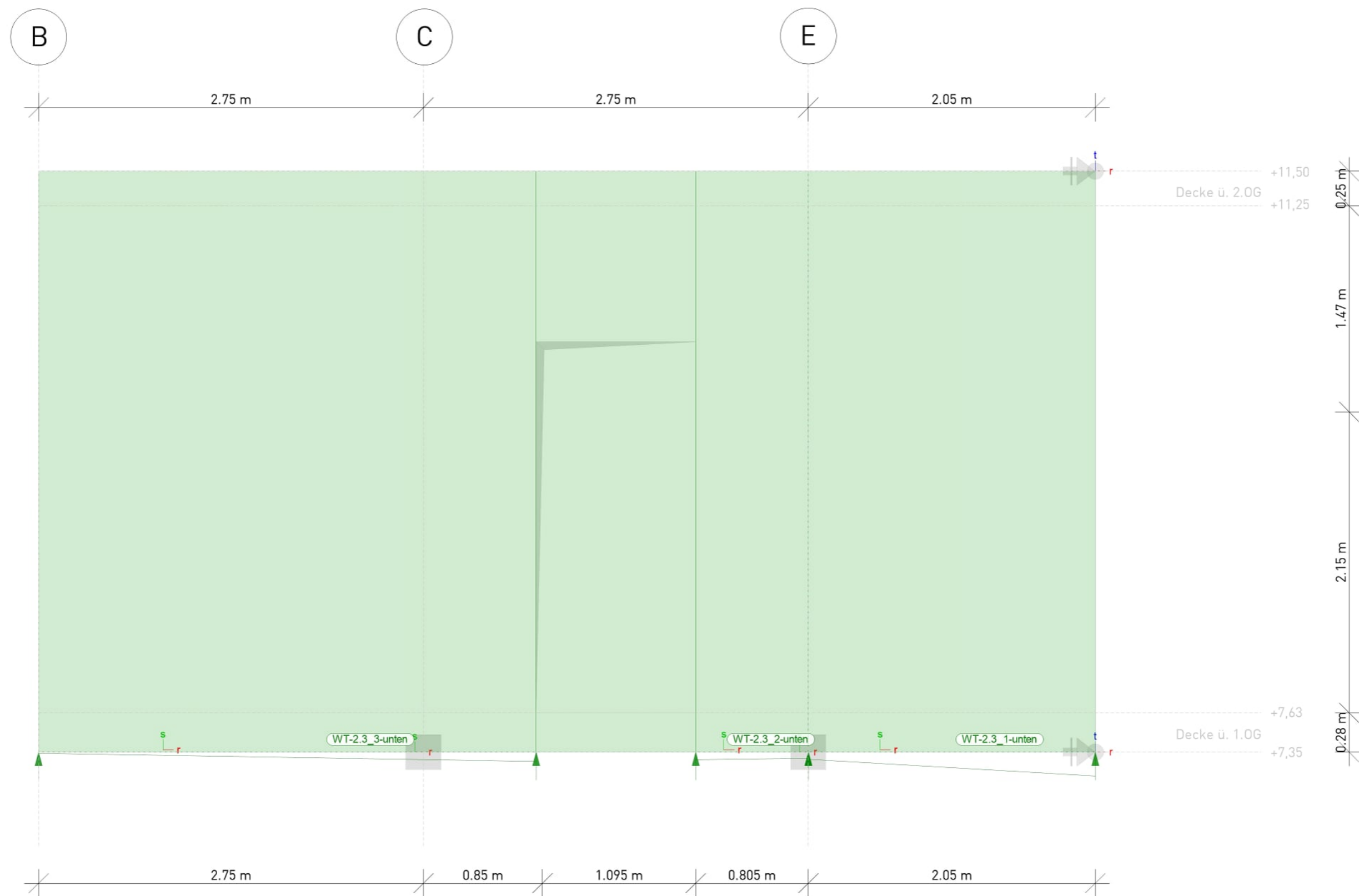
5



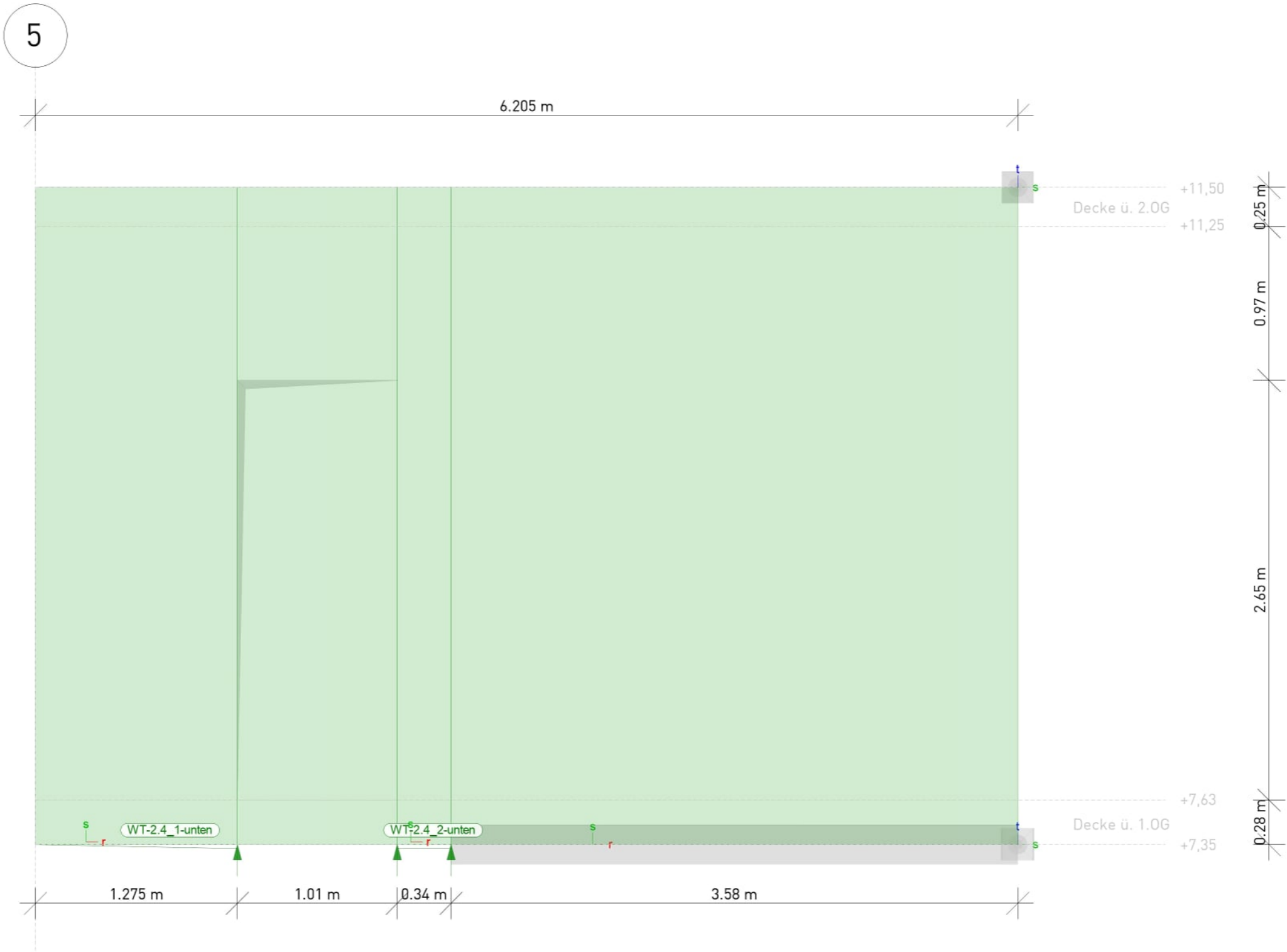
WT-2.4

| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tafel |
|---|----------------|------------------------------|-------------------------------------|-------|
| aus Lastfall LF-11 (Nutzlast Forum pos) >>nur Gruppe 'WT-2.4' sichtbar<< | | Bauvorhaben | Schulcampus EWK Schwesternschule | W-195 |
| | | KREBS+KIEFER Ingenieure GmbH | | |





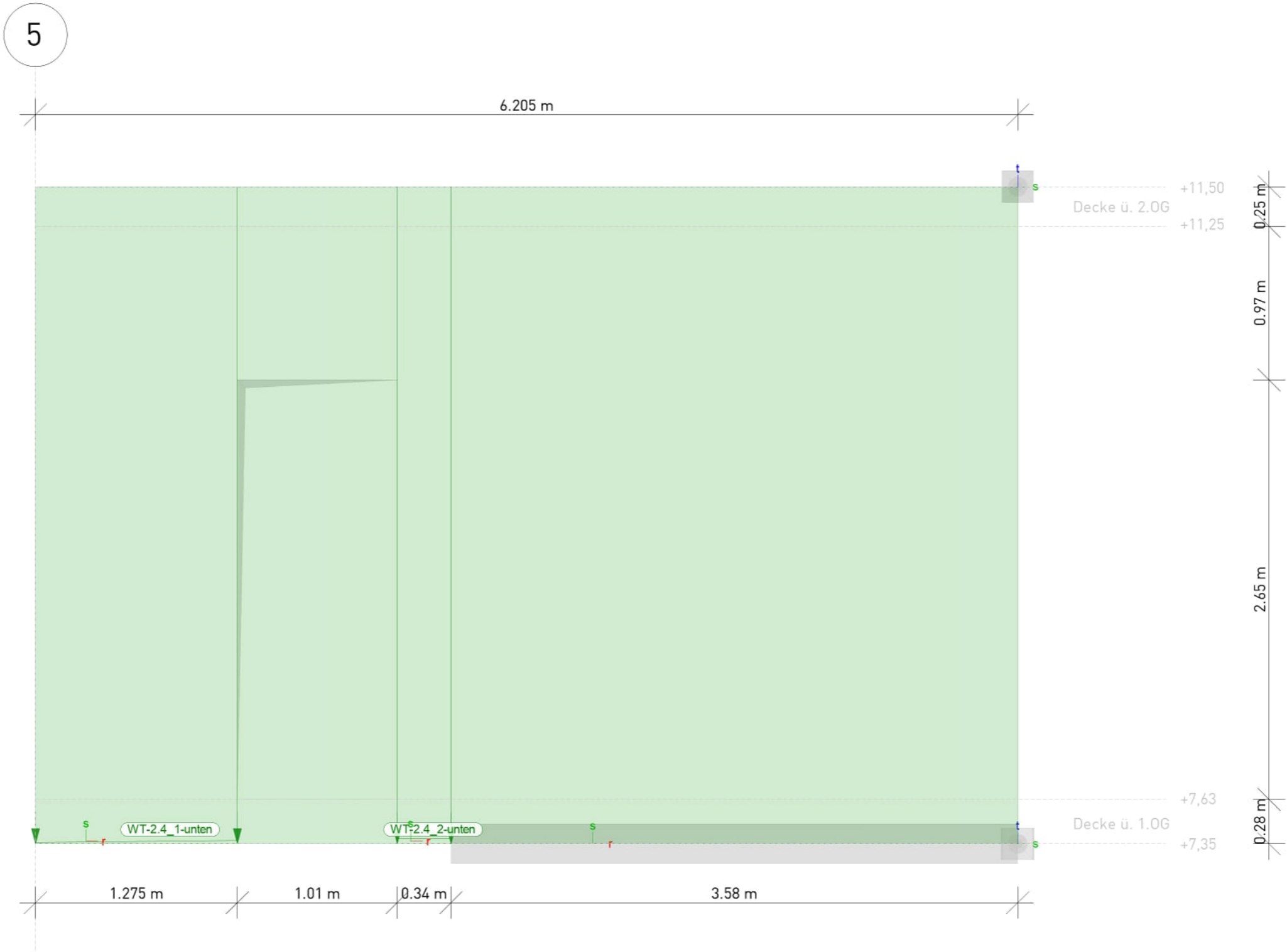
| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
|---|----------------|---|-------------|-------------------------------------|---------|
| aus Lastfall LF-12 (Nutzlast Forum neg) >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |




WT-2.4

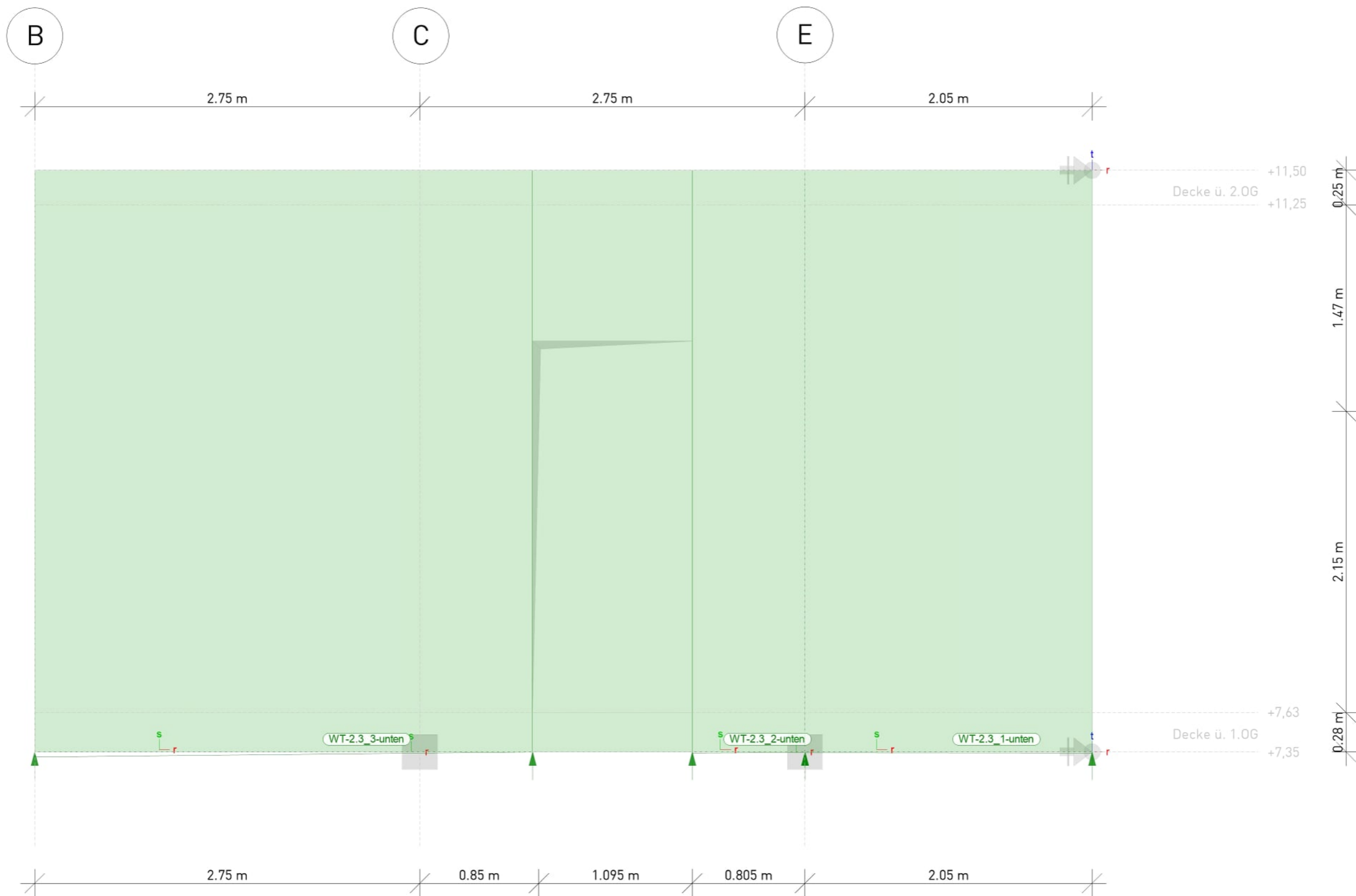
| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tafel |
|---|----------------|------------------------------|-------------------------------------|-------|
| aus Lastfall LF-12 (Nutzlast Forum neg) >>nur Gruppe 'WT-2.4' sichtbar<< | | Bauvorhaben | Schulcampus EWK Schwesternschule | W-197 |
| | | KREBS+KIEFER Ingenieure GmbH | | |



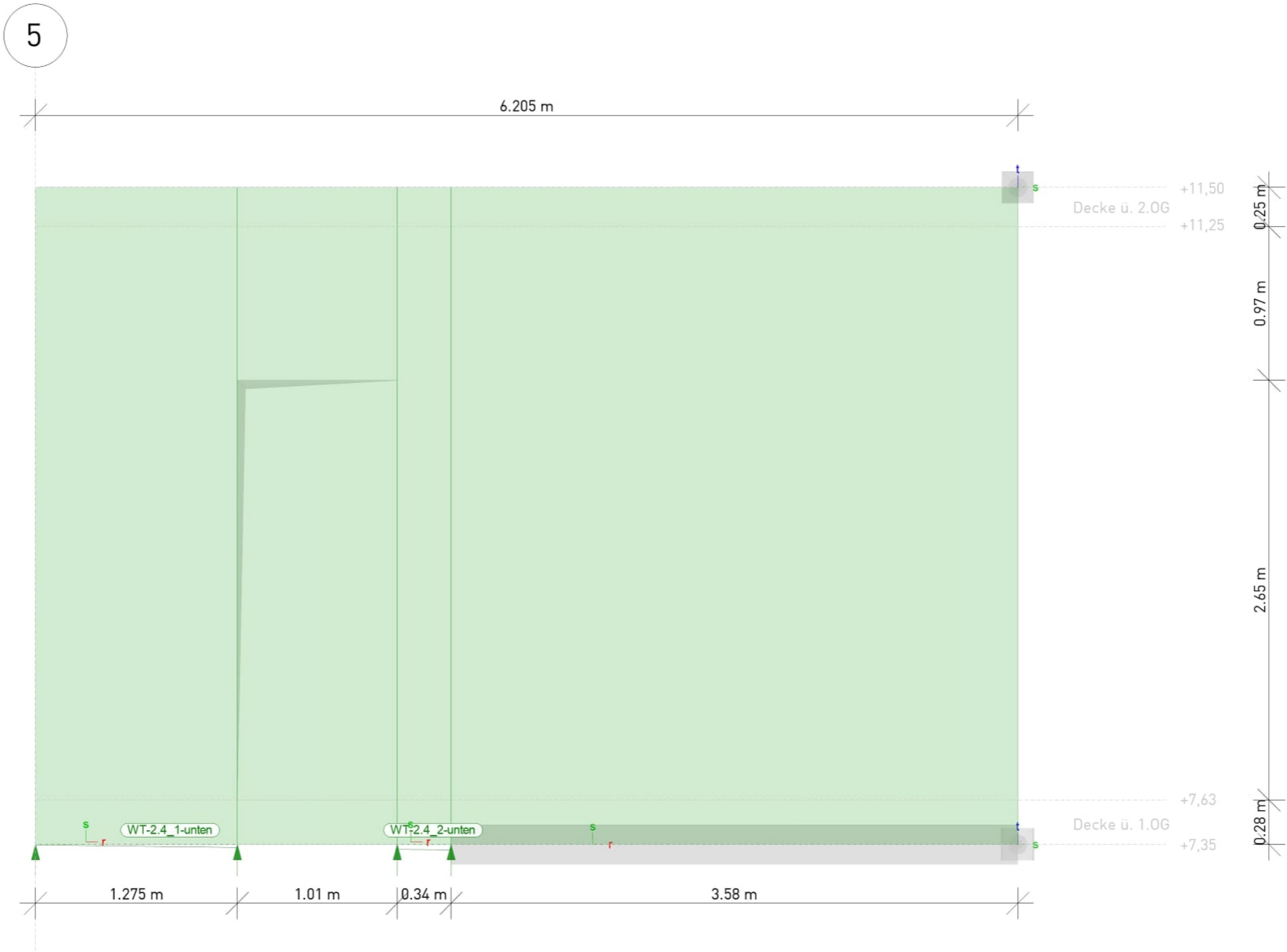


WT-2.4

| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
|---|----------------|---|------------------------------|-------------------------------------|---------|
| aus Lastfall LF-13 (Nutzlast Technik unten pos) >>nur Gruppe 'WT-2.4' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|---|----------------|---|-------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.3 + WT-2.4 | Tabelle 1 |
| aus Lastfall LF-14 (Nutzlast Technik unten neg) >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |



WT-2.4

| Last-Positionen | Lastpositionen | Modell | WT-2.3 + WT-2.4 | Tafel |
|---|----------------|------------------------------|-------------------------------------|-------|
| aus Lastfall LF-14 (Nutzlast Technik unten neg) >>nur Gruppe 'WT-2.4' sichtbar<< | | Bauvorhaben | Schulcampus EWK Schwesternschule | W-201 |
| | | KREBS+KIEFER Ingenieure GmbH | | |



Stati k-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 2402 | 2569 | 15414 | 2006844 | 15 MB |

Berechnung

Statische Berechnung

| | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à†→æÁíÁFH

Spei cher

Speicherplatzbedarf

| Arbeitsspeicher | âæ^=\&\ | vorhanden |
|-------------------|---------|-----------|
| Standardverfahren | 28 MB | ja |

| Festpl. | âæ^=\&\ | vorhanden | Laufwerk:\Pfad |
|---------|---------|-----------|-----------------------|
| Ergebn. | 8190 KB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÃäãÃb\á\< b'âæ^ÃN|à&áâæ

Berechnungszeit : 0 sec

Bel astung

Gesamtlast / Gesamtauflagerkraft

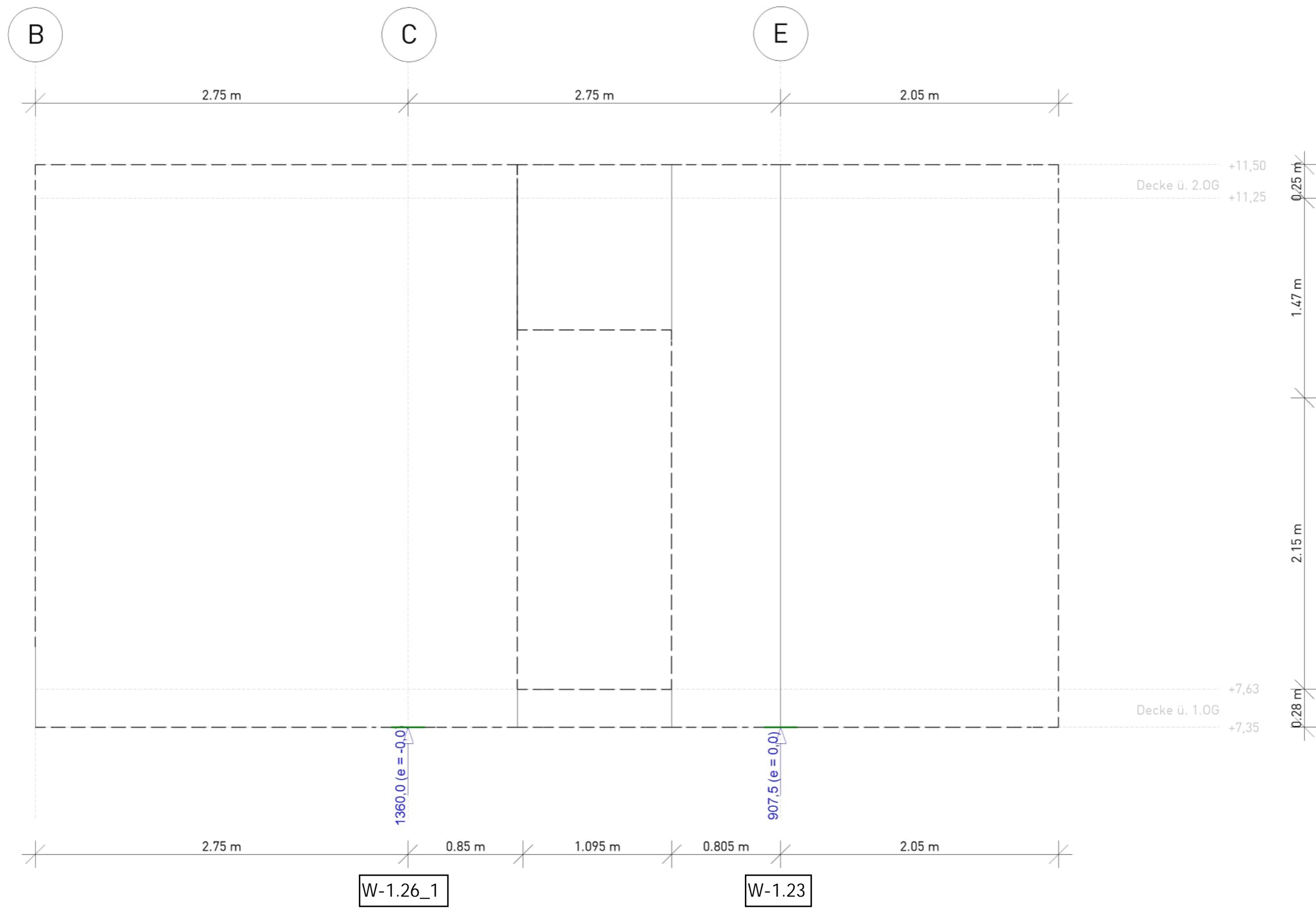
| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | -1966.68 |
| | 0.00 | 0.00 | 1966.68 |
| LF-2 | 0.00 | 0.00 | -418.26 |
| | 0.00 | 0.00 | 418.26 |
| LF-3 | 0.00 | 0.00 | -35.14 |
| | 0.00 | 0.00 | 35.14 |
| LF-4 | 0.00 | 0.00 | 13.26 |
| | -0.00 | -0.00 | -13.26 |
| LF-5 | 0.00 | 0.00 | -953.05 |
| | 0.00 | 0.00 | 953.05 |
| LF-6 | 0.00 | 0.00 | 366.61 |
| | 0.00 | -0.00 | -366.61 |
| LF-7 | 0.00 | 0.00 | -167.54 |
| | 0.00 | 0.00 | 167.54 |
| LF-8 | 0.00 | 0.00 | 124.33 |
| | -0.00 | -0.00 | -124.33 |
| LF-9 | 0.00 | 0.00 | -0.42 |
| | 0.00 | 0.00 | 0.42 |
| LF-10 | 0.00 | 0.00 | 0.53 |
| | -0.00 | -0.00 | -0.53 |
| LF-11 | 0.00 | 0.00 | -161.26 |
| | 0.00 | 0.00 | 161.26 |
| LF-12 | 0.00 | 0.00 | 42.37 |
| | 0.00 | -0.00 | -42.37 |
| LF-13 | 0.00 | 0.00 | -25.54 |
| | 0.00 | 0.00 | 25.54 |
| LF-14 | 0.00 | 0.00 | 10.75 |
| | -0.00 | -0.00 | -10.75 |
| Summe | | | |
| | 0.00 | 0.00 | -3170.02 |
| | 0.00 | 0.00 | 3170.02 |


Aufbau der Ergebnisse : 0 sec

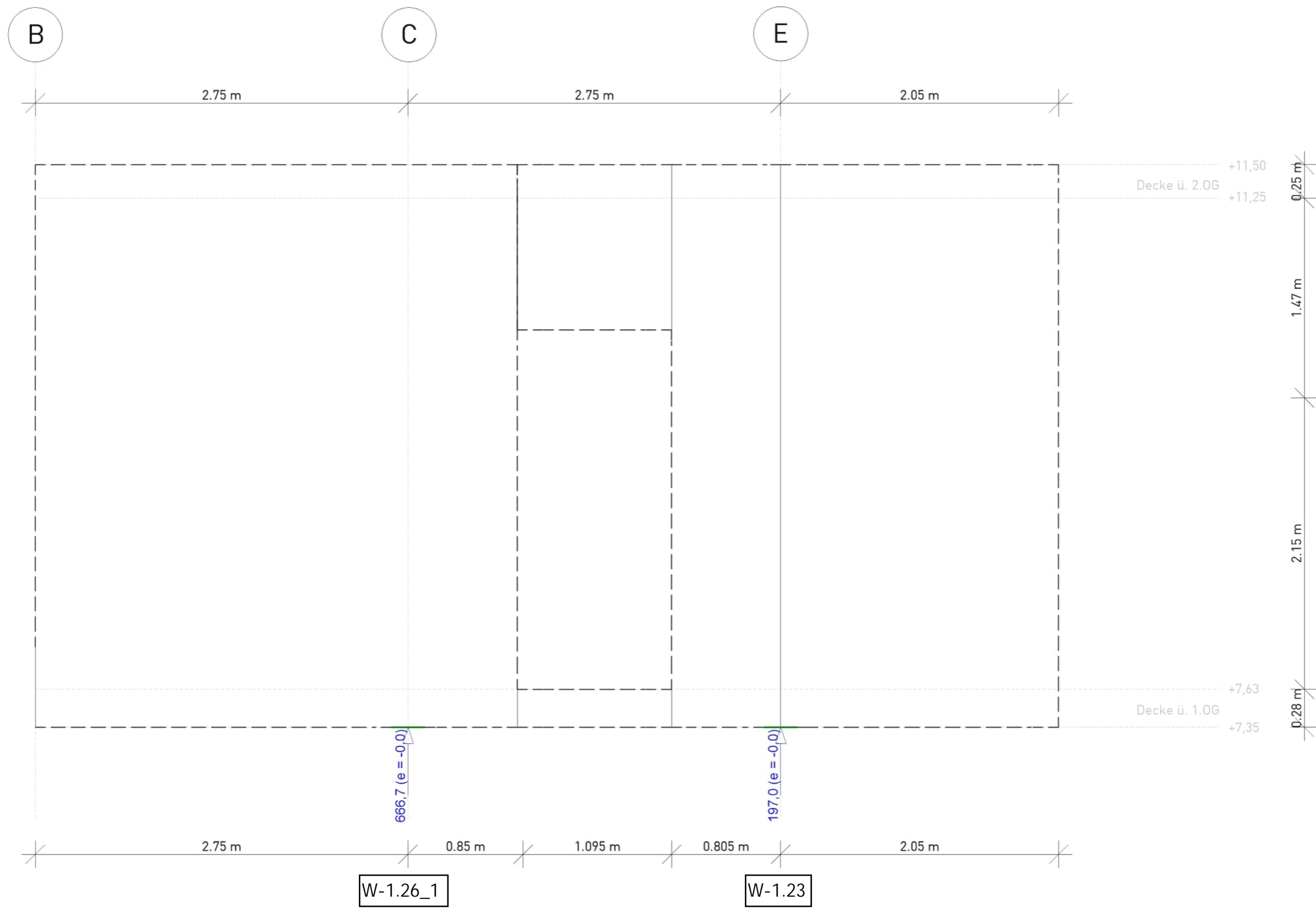
Ende der statischen Analyse
Gesamtdauer : 1 sec


*** Berechnung erfolgreich abgeschlossen ***

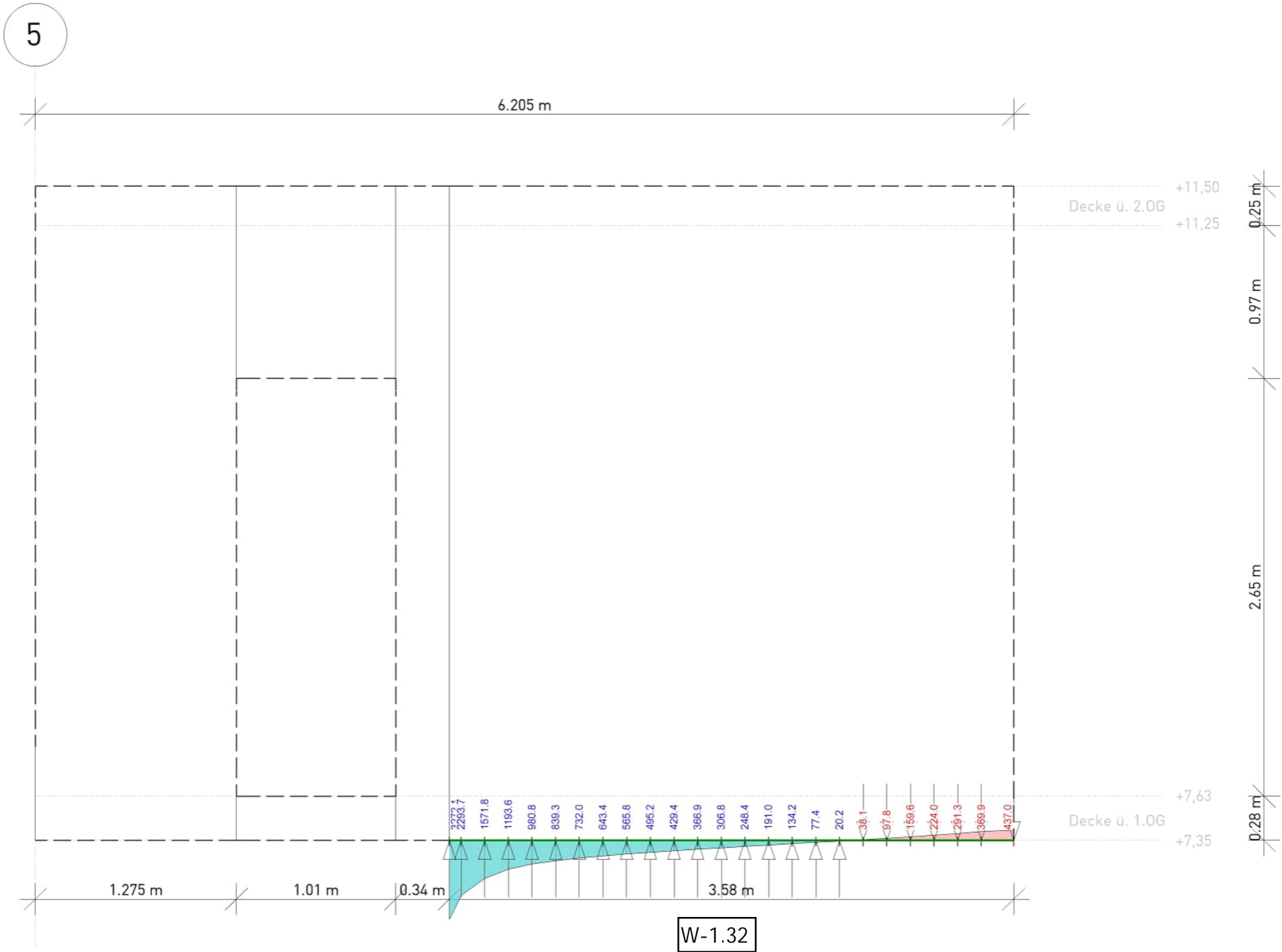
5 i ZU Yf_f} zN



| | | | | | |
|---|---|---|------------------------------|-------------------------------------|-----------|
| Linienlagerergebnisse | nur lokal ausgerichtete Auflager |  | Modell | WT-2.3 + WT-2.4 | Tabelle 1 |
| Maximum Max = 1360.0, Min = 907.5 >>nur Gruppe 'WT-2.3' sichtbar<< Resultierende als Kraftvektor | Lagerkraft in s-Richtung in [kN] æ•Á à^! æ^!^}* Á à^! ÁOP Á} á ÁSP | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

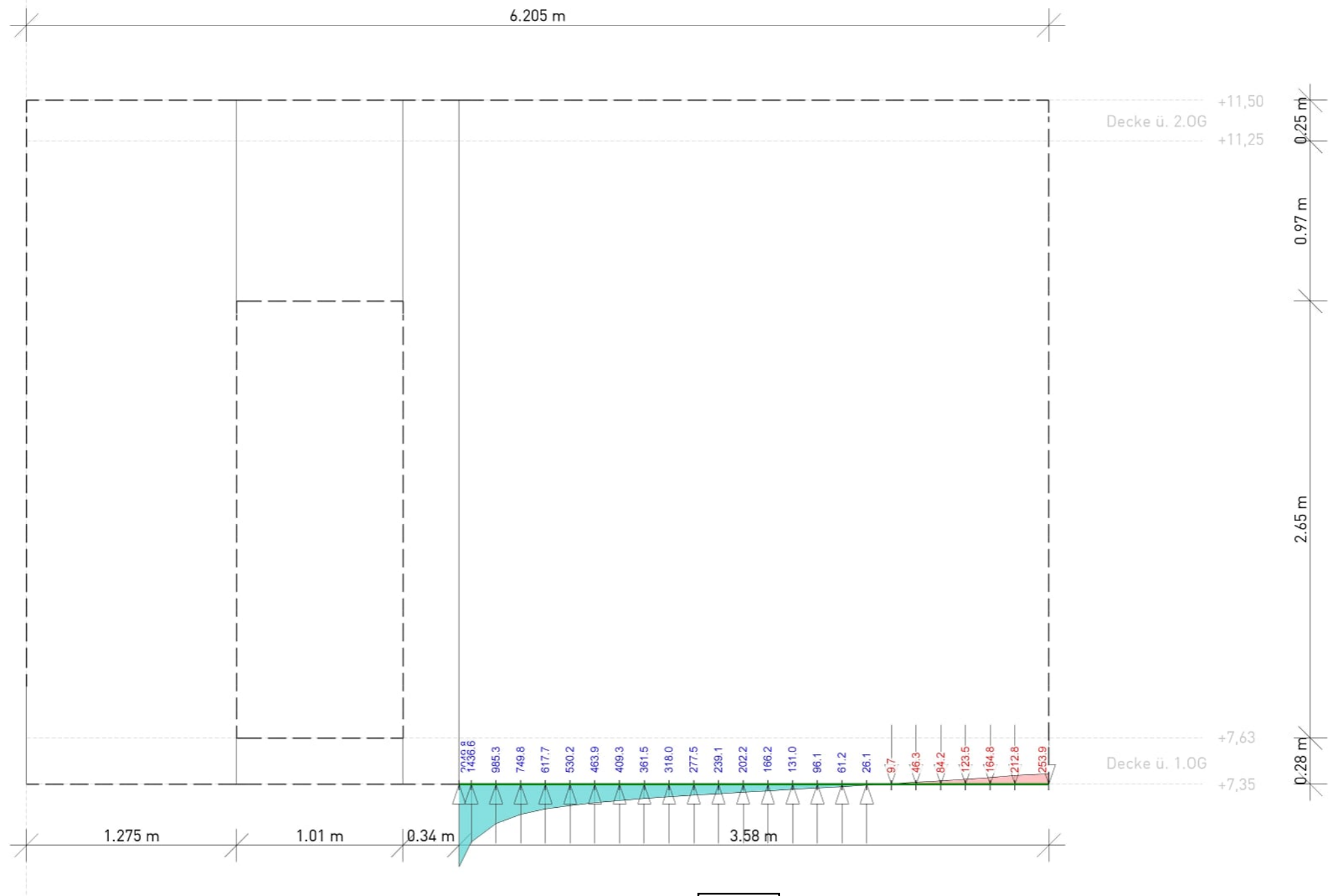


| | | | | | |
|--|--|---|-------------|-------------------------------------|---------|
| Linienlagerergebnisse | nur lokal ausgerichtete Auflager |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| Minimum Max = 666.7, Min = 197.0 >>nur Gruppe 'WT-2.3' sichtbar<< Resultierende als Kraftvektor | Lagerkraft in s-Richtung in [kN] æ•Á à! æ" " * Á à! Áö Á) áßö | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |




| | | | | | | |
|--|--|------------------------------------|---|------------------------------|-------------------------------------|---------|
| Linienlagerergebnisse | | nur lokal ausgerichtete Auflager |  | Modell | WT-2.3 + WT-2.4 | Tabelle |
| Maximum Max = 3272.1, Min = -437.0 >>nur Gruppe 'WT-2.4' sichtbar<< Auswertung je Element | | Lagerkraft in s-Richtung in [kN/m] | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | | KREBS+KIEFER Ingenieure GmbH | | |

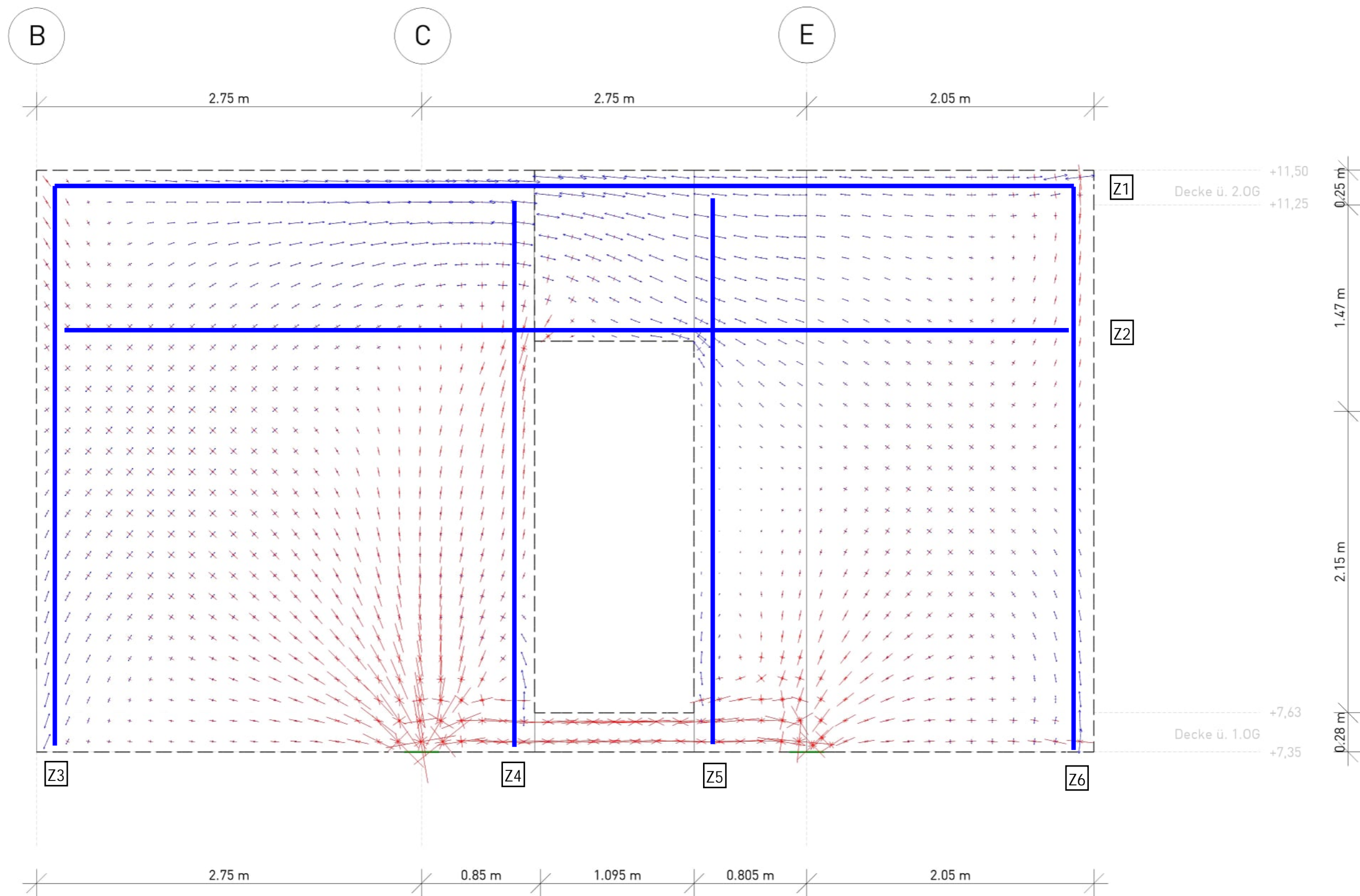
5




W-1.32

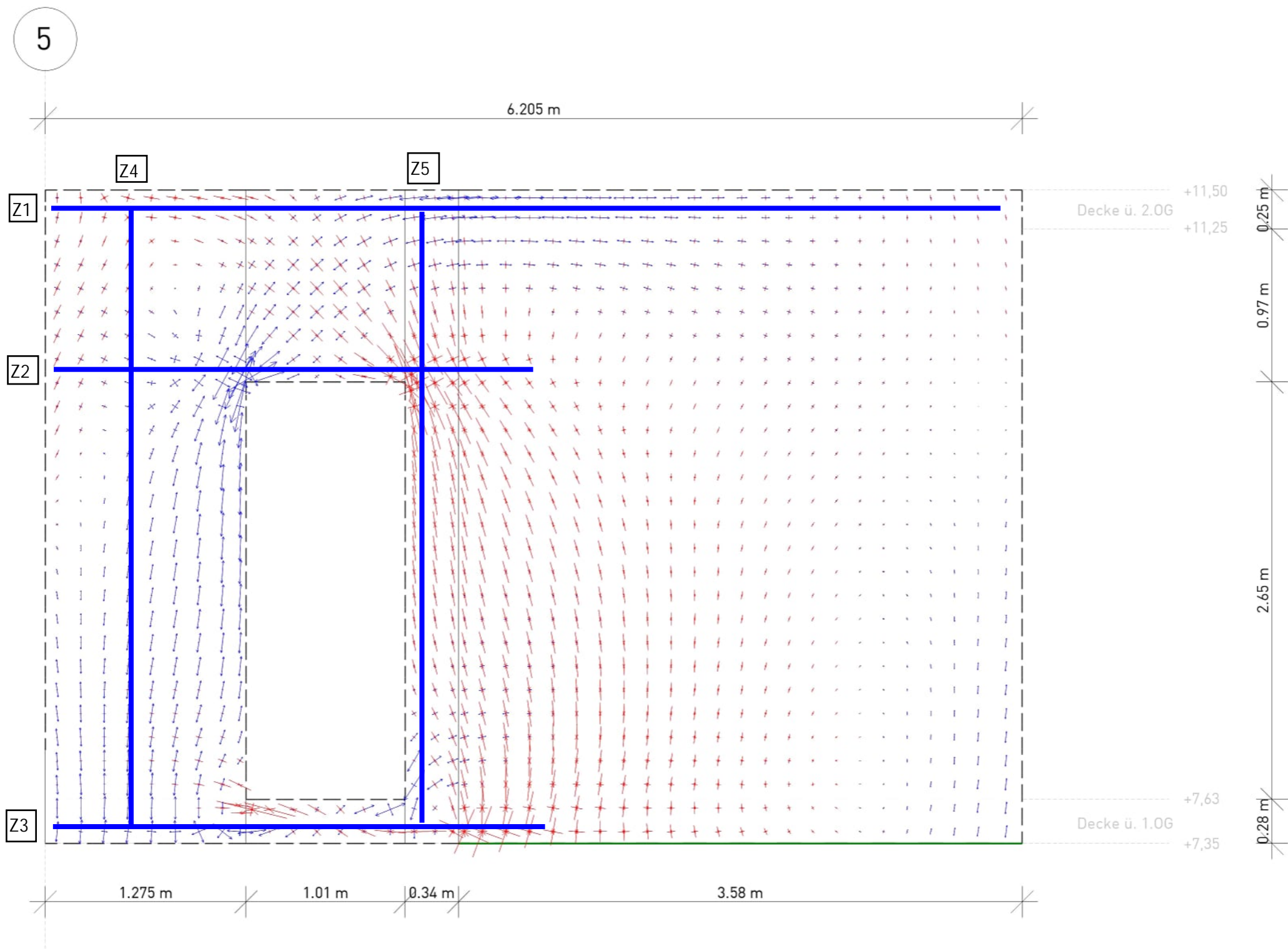
WT-2.4

| | | | | | | |
|--|--|--|---|-------------|-------------------------------------|------------------|
| Linienlagerergebnisse | | nur lokal ausgerichtete Auflager |  | Modell | WT-2.3 + WT-2.4 | Tabelle W-208 |
| | | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Minimum Max = 2049.8, Min = -253.9 >>nur Gruppe 'WT-2.4' sichtbar<< Auswertung je Element | | Lagerkraft in s-Richtung in [kN/m] 2049.8, 1436.6, 985.3, 749.8, 617.7, 530.2, 463.9, 409.3, 361.5, 318.0, 277.5, 239.1, 202.2, 166.2, 131.0, 96.1, 61.2, 26.1, 9.7, 46.3, 84.2, 123.5, 164.8, 212.8, 253.9 | KREBS+KIEFER Ingenieure GmbH | | | |



WT-2.3

| | | | | | |
|---|---------------------------------------|---|------------------------------|-------------------------------------|-----------|
| Hauptspannungen | Hauptrandspannungen sigma1 und sigma2 |  | Modell | WT-2.3 + WT-2.4 | Tabelle 1 |
| aus Lastkombination LK-1 sigma1: Max = 4.39, Min = -9.50 sigma2: Max = 0.71, Min = -11.28 >>nur Gruppe 'WT-2.3' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



WT-2.4

| | | | | | |
|---|--|---|------------------------------|-------------------------------------|-----------|
| Hauptspannungen | Haupttrandspannungen sigma1 und sigma2 |  | Modell | WT-2.3 + WT-2.4 | Tabelle 1 |
| aus Lastkombination LK-1 sigma1: Max = 9.00, Min = -6.35 sigma2: Max = 3.03, Min = -12.38 >>nur Gruppe 'WT-2.4' sichtbar<< | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

Bemessung (GZT+GZG)

Nachwei se Auswertung Ñ↔æ&æâæ↑æbb | ^&ÃâæăÃÔ→‡´âæ^ÃÇU\ăă→âæ~^DÃ^ă´ăÃ∅SÃÓSÃ
1992-1-1

Mat. /Querschni tt

| Position | Winkel YflŸ | Art | Exz. [cm] | Material Quer | Dicke [cm] |
|--|-----------------|-----|--------------|------------------|---------------|
| WS-T-2.3, WS-T-2.4 | VÄtuvwt/ 0.0 | iso | 0.0 | C 30/37 Q | 25.0 |
| | | | B 500SB | B 500SB | |
| WT-2.3_1 | 0.0 | iso | 0.0 | C 30/37 Q | 35.0 |
| | | | B 500SB | B 500SB | |
| WT-2.3_2, WT-2.3_3, WT-2.4_1..WT-2.4_3 | 0.0 | iso | 0.0 | C 30/37 Q | 25.0 |
| | | | B 500SB | B 500SB | |

Winkel: Bewehrungsrichtung r
 iso: isotropes Material
 Q: $\sigma_{\theta} = \sigma_r \cos^2 \theta + \sigma_{\phi} \sin^2 \theta$
 Exz.: $\sigma_{\theta} = \sigma_r \cos^2 \theta + \sigma_{\phi} \sin^2 \theta$

Exposi ti onskl asse

&æ↑±ßÁƐØŠÁÓŠÁFİİĞĖFĖFÊÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|---|-----------|-----|------------------------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | umlaufend | XC1 | \~'←æ^Ã→äæãÄb\†^ä↔&Ä nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsricht ung

Orthogonale Bewehrung

| Position | ^{ro} Yfl ^Y | ^{so} Yfl ^Y | ^{ru} Yfl ^Y | ^{su} Yfl ^Y |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

| Position | C_{\min} [mm] | $\#_{\text{def}}'$ [mm] | C_{nom} [mm] | C_V [mm] | d'_r [mm] | d'_s [mm] |
|---|--------------------|----------------------------|--------------------------|---------------|----------------|----------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | | | | | | |
| o | 10 | 10 | 20 | – | 36 | 47 |
| u | 10 | 10 | 20 | – | 36 | 47 |

Bemessungsparameter

äïäÄÄäë^ÄÖäë^~ | b\á^äÄäëäÄÜää&à‡â&←æ↔\Á^á^äÄÆØSÄÓSÄ
1992-1-1

Bi egung

| Position | Bemessungsverfahren | Mindestbewehrung |
|---|---------------------|------------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | Üfäiä↔↑á^^ | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

WS-T-2.3

Ñæ↑æbb| ^&ÁàfiãÁÔ→‡´âæÁCU\áâ→âæ\~^DÁÙUËÚËGÈĜ

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á'ăÁÆØSÁÓSÁFïï€

| | |
|-----|------------------------|
| Ew | Einwirkungsname |
| Lkn | Lastkombinationsnummer |

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|-------------|---------|---------|---------|
| 1 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 2 | | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 3-8 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 9-21 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 22-23 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 24-25 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | . |
| 26 | | 1.35 | 1.35 | 1.05 | . | 1.05 | . |
| 27 | | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 28 | | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 29 | | 1.35 | 1.00 | . | 1.05 | . | 1.50 |
| 30 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1 | | . |
| 2 | | . |
| 3-8 | | 1.50 |
| 9-21 | | 1.50 |
| 22-23 | | 1.50 |
| 24-25 | | 1.50 |
| 26 | | 1.50 |
| 27 | | 1.50 |
| 28 | | 1.50 |
| 29 | | 1.50 |
| 30 | | 1.50 |

Selten

Seltene Kombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 31-42 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 1.00 |
| 43-45 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | . |
| 46-47 | | 1.00 | 1.00 | 0.70 | . | 0.70 | 1.00 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 31-42 | | 1.00 |
| 43-45 | | 1.00 |
| 46-47 | | 1.00 |

Ei Ug] ! gh} bX] [

T| áb↔Eb\ ‡^ä↔&æÁP~†â↔^á\↔~^æ^

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 48-49 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | 0.80 |

| Lkn | Ew | Qk.N_DA |
|-------|----|---------|
| 48-49 | | . |

Al l e Nachwei se

Óãä~ääæã↔´âæÁQ†^&bâæ}æää| ^&Áá| bÁá→æ^ÁSá´â}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $s_{r,Ed}$ $m_{r,Ed}$ YSĐ†↑¥Ÿ [kNm/m] | $s_{s,Ed}$ $m_{s,Ed}$ YSĐ†↑¥Ÿ [kNm/m] | $s_{rs,Ed}$ $m_{rs,Ed}$ YSĐ†↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kNm/m] | $a_{s,ru}$ Y´↑¥Đ†Ÿ |
|--------|-----|---|---|---|----------------------------------|-----------------------|
| 4 | 11 | 6.43 -0.15 | -0.27 -0.01 | -0.03 -2.38 | 1614.7 -2.53 | 18.09 |
| 7 | 24 | 4.74 2.83 | 2.04 2.69 | -0.94 -3.02 | 1421.9 5.85 | 16.29 |
| 28 | 9 | -18.61 | 1.60 | -0.43 | -4759 | 6.98 |

POSITION **WT-2.3 + WT-2.4**

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,ru}$ $Y' \uparrow \text{¥} \text{Ø} \uparrow \text{¥}$ |
|--------|-----|--|--|--|---|---|
| | | -3.45 | 0.19 | -0.97 | -4.43 | |

 $a_{s,s, \text{ unten}}$

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,su}$ $Y' \uparrow \text{¥} \text{Ø} \uparrow \text{¥}$ |
|--------|-----|--|--|--|---|---|
| 3 | 22 | 1.97 0.80 | 0.09 0.00 | -0.05 -1.37 | 34.67 1.37 | 3.55 |
| 7 | 25 | 4.43 2.79 | 2.06 2.66 | -0.94 -2.99 | 750.63 5.66 | 9.02 |
| 13 | 9 | -6.72 -2.42 | 0.51 0.09 | -0.43 -1.23 | 233.46 1.32 | 4.92 |
| 15 | 9 | -10.59 3.55 | 1.19 -0.43 | -0.88 -1.92 | 517.36 1.49 | 6.88 |
| 22 | 9 | -10.33 -4.54 | 0.25 0.58 | 1.07 -2.15 | 331.15 2.74 | 5.59 |
| 23 | 9 | -12.49 2.34 | 0.64 -0.20 | 0.00 -1.00 | 159.87 0.80 | 4.41 |
| 28 | 9 | -18.61 -3.45 | 1.60 0.19 | -0.43 -0.97 | 505.97 1.16 | 6.80 |
| 51 | 11 | 1.99 1.01 | 0.45 0.24 | -0.82 -1.94 | 316.29 2.18 | 5.49 |
| 85 | 23 | 3.49 -0.11 | -0.04 0.05 | -0.12 -1.54 | 19.62 1.59 | 3.44 |
| 99 | 9 | -1.70 -0.76 | 1.03 0.34 | 0.04 -2.05 | 266.87 2.39 | 5.15 |

 $a_{s,r, \text{ oben}}$

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,ro}$ $Y' \uparrow \text{¥} \text{Ø} \uparrow \text{¥}$ |
|--------|-----|--|--|--|---|---|
| 4 | 11 | 6.43 -0.15 | -0.27 -0.01 | -0.03 -2.38 | 1614.7 -2.53 | 18.09 |
| 7 | 24 | 4.74 2.83 | 2.04 2.69 | -0.94 -3.02 | 1421.9 -0.20 | 15.96 |
| 28 | 9 | -18.61 -3.45 | 1.60 0.19 | -0.43 -0.97 | -4759 -2.48 | 6.01 |

 $a_{s,s, \text{ oben}}$

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,so}$ $Y' \uparrow \text{¥} \text{Ø} \uparrow \text{¥}$ |
|--------|-----|--|--|--|---|---|
| 3 | 22 | 1.97 0.80 | 0.09 0.00 | -0.05 -1.37 | 34.67 -1.37 | 3.55 |
| 7 | 25 | 4.43 2.79 | 2.06 2.66 | -0.94 -2.99 | 750.63 -0.33 | 8.49 |
| 13 | 9 | -6.72 -2.42 | 0.51 0.09 | -0.43 -1.23 | 233.46 -1.14 | 4.92 |
| 15 | 9 | -10.59 3.55 | 1.19 -0.43 | -0.88 -1.92 | 517.36 -2.36 | 6.88 |
| 22 | 9 | -10.33 -4.54 | 0.25 0.58 | 1.07 -2.15 | 331.15 -1.57 | 5.59 |
| 23 | 9 | -12.49 2.34 | 0.64 -0.20 | 0.00 -1.00 | 159.87 -1.21 | 4.41 |
| 28 | 9 | -18.61 -3.45 | 1.60 0.19 | -0.43 -0.97 | 505.97 -0.79 | 6.80 |
| 51 | 11 | 1.99 | 0.45 | -0.82 | 316.29 | 5.49 |

POSITION **WT-2.3 + WT-2.4**

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,so}$ |
|--------|-----|----------------------------|----------------------------|----------------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | [kN/m] | |
| 85 | 23 | 1.01 | 0.24 | -1.94 | -1.69 | 3.44 |
| | | 3.49 | -0.04 | -0.12 | 19.62 | |
| | | -0.11 | 0.05 | -1.54 | -1.49 | |
| 99 | 9 | -1.70 | 1.03 | 0.04 | 266.87 | 5.15 |
| | | -0.76 | 0.34 | -2.05 | -1.71 | |

Hf U[Z} \] [_ Y] h

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á|bÁŮää&à†â↔&←æ↔\b^á´â}æ↔b

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ru}$ |
|--------|-----|----------------------------|----------------------------|----------------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | [kN/m] | |
| 4 | 11 | 6.43 | -0.27 | -0.03 | 1614.7 | 18.09 |
| | | -0.15 | -0.01 | -2.38 | -2.53 | |
| 7 | 24 | 4.74 | 2.04 | -0.94 | 1421.9 | 16.29 |
| | | 2.83 | 2.69 | -3.02 | 5.85 | |
| 28 | 9 | -18.61 | 1.60 | -0.43 | -4759 | 6.98 |
| | | -3.45 | 0.19 | -0.97 | -4.43 | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,su}$ |
|--------|-----|----------------------------|----------------------------|----------------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | [kN/m] | |
| 3 | 22 | 1.97 | 0.09 | -0.05 | 34.67 | 3.55 |
| | | 0.80 | 0.00 | -1.37 | 1.37 | |
| 7 | 25 | 4.43 | 2.06 | -0.94 | 750.63 | 9.02 |
| | | 2.79 | 2.66 | -2.99 | 5.66 | |
| 13 | 9 | -6.72 | 0.51 | -0.43 | 233.46 | 4.92 |
| | | -2.42 | 0.09 | -1.23 | 1.32 | |
| 15 | 9 | -10.59 | 1.19 | -0.88 | 517.36 | 6.88 |
| | | 3.55 | -0.43 | -1.92 | 1.49 | |
| 22 | 9 | -10.33 | 0.25 | 1.07 | 331.15 | 5.59 |
| | | -4.54 | 0.58 | -2.15 | 2.74 | |
| 23 | 9 | -12.49 | 0.64 | 0.00 | 159.87 | 4.41 |
| | | 2.34 | -0.20 | -1.00 | 0.80 | |
| 28 | 9 | -18.61 | 1.60 | -0.43 | 505.97 | 6.80 |
| | | -3.45 | 0.19 | -0.97 | 1.16 | |
| 51 | 11 | 1.99 | 0.45 | -0.82 | 316.29 | 5.49 |
| | | 1.01 | 0.24 | -1.94 | 2.18 | |
| 85 | 23 | 3.49 | -0.04 | -0.12 | 19.62 | 3.44 |
| | | -0.11 | 0.05 | -1.54 | 1.59 | |
| 99 | 9 | -1.70 | 1.03 | 0.04 | 266.87 | 5.15 |
| | | -0.76 | 0.34 | -2.05 | 2.39 | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ro}$ |
|--------|-----|----------------------------|----------------------------|----------------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | [kN/m] | |
| 4 | 11 | 6.43 | -0.27 | -0.03 | 1614.7 | 18.09 |
| | | -0.15 | -0.01 | -2.38 | -2.53 | |
| 7 | 24 | 4.74 | 2.04 | -0.94 | 1421.9 | 15.96 |
| | | 2.83 | 2.69 | -3.02 | -0.20 | |
| 28 | 9 | -18.61 | 1.60 | -0.43 | -4759 | 6.01 |

W-214

Schulcampus EWKWT-2.3 + WT-2.4

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,ro}$ Y'↑¥Ð↑Ÿ |
|--------|-----|--|--|--|---|-----------------------|
| | | -3.45 | 0.19 | -0.97 | -2.48 | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,so}$ Y'↑¥Ð↑Ÿ |
|--------|-----|--|--|--|---|-----------------------|
| 3 | 22 | 1.97 0.80 | 0.09 0.00 | -0.05 -1.37 | 34.67 -1.37 | 3.55 |
| 7 | 25 | 4.43 2.79 | 2.06 2.66 | -0.94 -2.99 | 750.63 -0.33 | 8.49 |
| 13 | 9 | -6.72 -2.42 | 0.51 0.09 | -0.43 -1.23 | 233.46 -1.14 | 4.92 |
| 15 | 9 | -10.59 3.55 | 1.19 -0.43 | -0.88 -1.92 | 517.36 -2.36 | 6.88 |
| 22 | 9 | -10.33 -4.54 | 0.25 0.58 | 1.07 -2.15 | 331.15 -1.57 | 5.59 |
| 23 | 9 | -12.49 2.34 | 0.64 -0.20 | 0.00 -1.00 | 159.87 -1.21 | 4.41 |
| 28 | 9 | -18.61 -3.45 | 1.60 0.19 | -0.43 -0.97 | 505.97 -0.79 | 6.80 |
| 51 | 11 | 1.99 1.01 | 0.45 0.24 | -0.82 -1.94 | 316.29 -1.69 | 5.49 |
| 85 | 23 | 3.49 -0.11 | -0.04 0.05 | -0.12 -1.54 | 19.62 -1.49 | 3.44 |
| 99 | 9 | -1.70 -0.76 | 1.03 0.34 | 0.04 -2.05 | 266.87 -1.71 | 5.15 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ $m_{rs,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | n_{cEd} m_{cEd} [kN/m] [kNm/m] | σ_{cd} σ_{rd} YSÐ↑↑¥Ÿ [%] |
|--------|-----|--|---|--|
| 7 | 24 | -0.94 -3.02 | -471.72 6.05 | -2.47 -12.75 |
| 15 | 9 | -0.88 -1.92 | -440.85 3.85 | -2.13 -12.75 |
| 20 | 9 | -0.50 -1.05 | -249.49 2.10 | -1.20 -12.75 |
| 22 | 9 | 1.07 -2.15 | -534.95 4.31 | -2.55 -12.75 |
| 29 | 9 | -1.93 -2.52 | -965.73 5.04 | -4.35 -12.75 |
| 38 | 9 | -1.13 -1.93 | -566.95 3.86 | -2.64 -12.75 |
| 55 | 9 | -1.25 -2.03 | -627.34 4.07 | -2.90 -12.75 |

'äi vorhandene Betonspannung
 Päl ~|→tbb↔æÄÑæ~^ää|'←b*á^^|^&

Spannung

Spannungsnachweis, Abs. 7.2

 $\uparrow \leftrightarrow \backslash \acute{A} Q \ddagger \wedge \& b \hat{a} \ae \} \ae \hat{a} \hat{a} | \wedge \& \acute{A} \acute{A}_s$

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|--|----|-------------------------------|------------|------------|
| 4 | 34 | 4.60 -0.19 -0.02 | -0.11 0.00 -1.70 | ru | 18.09 | 0.65 | 0.00 |
| 7 | 43 | 3.39 1.46 -0.67 | 2.03 1.93 -2.17 | ru | 16.29 | 0.65 | 0.00 |
| 28 | 48 | -10.04 0.86 -0.23 | -1.88 0.10 -0.52 | ru | 6.98 | -- | 0.33 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow \vec{b} * \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \vec{c} \} s / f_{yk}$ $c: \vec{N} \vec{a} \setminus \sim \wedge \vec{b} * \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \vec{c} \} c / f_{ck}$ | | | | | | | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|--|----|-------------------------------|------------|------------|
| 3 | 33 | 1.74 0.05 -0.04 | 0.70 0.00 -1.20 | su | 3.55 | 0.11 | 0.01 |
| 7 | 44 | 3.18 1.47 -0.67 | 2.00 1.91 -2.15 | su | 9.02 | 0.65 | 0.00 |
| 13 | 31 | -4.81 0.36 -0.30 | -1.73 0.06 -0.88 | su | 4.92 | 0.36 | 0.00 |
| 15 | 31 | -7.59 0.85 -0.63 | 2.54 -0.31 -1.38 | su | 6.88 | 0.56 | 0.00 |
| 22 | 31 | -7.40 0.18 0.77 | -3.25 0.42 -1.54 | su | 5.59 | 0.47 | 0.00 |
| 23 | 31 | -8.94 0.45 0.00 | 1.67 -0.15 -0.72 | su | 4.41 | 0.28 | 0.00 |
| 28 | 31 | -13.33 1.15 -0.30 | -2.47 0.13 -0.70 | su | 6.80 | 0.55 | 0.00 |
| 51 | 34 | 1.43 0.32 -0.58 | 0.73 0.17 -1.39 | su | 5.49 | 0.45 | 0.00 |
| 85 | 33 | 3.14 -0.06 -0.11 | -0.10 0.04 -1.37 | su | 3.44 | 0.08 | 0.02 |
| 99 | 31 | -1.22 0.74 0.03 | -0.55 0.24 -1.47 | su | 5.15 | 0.41 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow \vec{b} * \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \vec{c} \} s / f_{yk}$ $c: \vec{N} \vec{a} \setminus \sim \wedge \vec{b} * \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \vec{c} \} c / f_{ck}$ | | | | | | | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--------|-----|---|--|----|-------------------------------|------------|------------|
| 4 | 34 | 4.60 -0.19 -0.02 | -0.11 0.00 -1.70 | ro | 18.09 | 0.65 | 0.00 |
| 7 | 43 | 3.39 1.46 | 2.03 1.93 | ro | 15.96 | 0.63 | 0.00 |

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|---|-----|--|--|----|---------------------------------|--------------|--------------|
| 28 | 48 | -0.67 -10.04 0.86 -0.23 | -2.17 -1.88 0.10 -0.52 | ro | 6.01 | -- | 0.33 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge^* b \vec{A} \vec{C} \}_s / f_{yk}$ $c: \vec{N} \vec{a} \setminus \sim^* b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge^* b \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|---|-----|--|--|----|---------------------------------|--------------|--------------|
| 3 | 33 | 1.74 0.05 -0.04 | 0.70 0.00 -1.20 | so | 3.55 | 0.11 | 0.01 |
| 7 | 44 | 3.18 1.47 -0.67 | 2.00 1.91 -2.15 | so | 8.49 | 0.62 | 0.00 |
| 13 | 31 | -4.81 0.36 -0.30 | -1.73 0.06 -0.88 | so | 4.92 | 0.36 | 0.00 |
| 15 | 31 | -7.59 0.85 -0.63 | 2.54 -0.31 -1.38 | so | 6.88 | 0.57 | 0.00 |
| 22 | 31 | -7.40 0.18 0.77 | -3.25 0.42 -1.54 | so | 5.59 | 0.45 | 0.00 |
| 23 | 31 | -8.94 0.45 0.00 | 1.67 -0.15 -0.72 | so | 4.41 | 0.28 | 0.00 |
| 28 | 31 | -13.33 1.15 -0.30 | -2.47 0.13 -0.70 | so | 6.80 | 0.54 | 0.00 |
| 51 | 34 | 1.43 0.32 -0.58 | 0.73 0.17 -1.39 | so | 5.49 | 0.44 | 0.00 |
| 85 | 33 | 3.14 -0.06 -0.11 | -0.10 0.04 -1.37 | so | 3.44 | 0.08 | 0.02 |
| 99 | 31 | -1.22 0.74 0.03 | -0.55 0.24 -1.47 | so | 5.15 | 0.40 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge^* b \vec{A} \vec{C} \}_s / f_{yk}$ $c: \vec{N} \vec{a} \setminus \sim^* b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge^* b \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | | |

WS-T-2.4
 $\vec{N} \vec{a} \uparrow \vec{a} b b \mid \wedge \& \vec{A} \vec{a} \vec{f} \vec{i} \vec{a} \vec{A} \vec{O} \rightarrow \vec{t} \vec{a} \vec{a} \vec{A} \vec{C} \vec{U} \setminus \vec{a} \vec{a} \rightarrow \vec{a} \vec{a} \setminus \sim^* \vec{D} \vec{A} \vec{U} \vec{E} \vec{U} \vec{E} \vec{G} \vec{E} \vec{H}$
Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen
 $R \vec{a} \vec{B} \& \vec{a} \vec{a} \vec{a}^{\wedge} \vec{a} \vec{a} \vec{A} \vec{P} \sim \uparrow \vec{a} \leftrightarrow \wedge^* \vec{a} \setminus \leftrightarrow \sim^* \vec{a}^{\wedge} \vec{A}^{\wedge} \vec{a}^{\wedge} \vec{a}^{\wedge} \vec{A} \vec{C} \vec{O} \vec{S} \vec{A} \vec{O} \vec{S} \vec{A} \vec{F} \vec{i} \vec{i} \vec{e}$

Ew Einwirkungsname
Lkn Lastkombinationsnummer

 $\vec{C} \leftrightarrow \vec{a} \vec{A} \vec{N} \vec{a} \setminus \vec{a} \leftrightarrow \leftrightarrow \& \mid \wedge \& \vec{A} \vec{a} \leftrightarrow \wedge^* \vec{a} \rightarrow \wedge^* \vec{a} \vec{A} \vec{Q} \vec{a} b \setminus \vec{a} \vec{t} \rightarrow \vec{a} \vec{A} \leftrightarrow \wedge^* \vec{a} \vec{a} \vec{a} \vec{a} \rightarrow \vec{a} \vec{A} \vec{e} \vec{i} \vec{n} \vec{e} \vec{r}$
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|-------------|---------|---------|---------|
| 1-2 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 3 | | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 4 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 5-10 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 11-15 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 16-20 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 21-22 | | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 23 | | 1.00 | 1.00 | 1.05 | . | . | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1-2 | | . |
| 3 | | . |
| 4 | | . |
| 5-10 | | 1.50 |
| 11-15 | | 1.50 |
| 16-20 | | 1.50 |
| 21-22 | | 1.50 |
| 23 | | 1.50 |

Alle Nachweise

Óã~ääã→→´ääQ†^&bâæ}æää| ^&Áá| bÁá→→æ^ÁSá´á}æ→bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,ru}$ $Y'↑¥Ð↑Ÿ$ |
|--------|-----|--|--|--|---|-------------------------|
| 105 | 5 | 12.83 -7.49 | 1.02 0.00 | -0.02 4.67 | 3211.1 -2.82 | 34.82 |
| 107 | 5 | 5.25 -0.63 | -0.95 0.01 | 0.21 3.48 | 1366.0 2.85 | 15.31 |
| 109 | 5 | -24.10 -18.84 | -8.99 -3.24 | 3.71 6.78 | -6953 -25.62 | 37.38 |
| 110 | 5 | 11.77 9.09 | 8.96 2.90 | 1.29 5.40 | 3265.1 14.49 | 37.54 |
| 111 | 5 | -13.84 -6.42 | -10.41 -4.57 | 4.23 4.94 | -4516 -11.37 | 4.85 |
| 112 | 5 | 15.95 6.76 | 13.83 1.42 | 3.89 3.07 | 4960.7 9.83 | 55.54 |
| 171 | 5 | 1.16 -0.14 | -0.98 -0.20 | 2.53 3.27 | 921.66 3.13 | 10.48 |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,su}$ $Y'↑¥Ð↑Ÿ$ |
|--------|-----|--|--|--|---|-------------------------|
| 105 | 11 | 12.62 -7.34 | 1.03 0.00 | -0.01 4.60 | 259.93 4.61 | 5.10 |
| 110 | 5 | 11.77 9.09 | 8.96 2.90 | 1.29 5.40 | 2564.3 8.30 | 29.25 |
| 112 | 5 | 15.95 6.76 | 13.83 1.42 | 3.89 3.07 | 4430.6 4.49 | 49.16 |
| 114 | 5 | 8.12 -6.20 | 0.84 0.05 | 1.47 4.01 | 577.98 4.06 | 7.30 |
| 123 | 5 | -0.53 0.45 | 0.04 -0.02 | 2.05 3.61 | 521.35 3.59 | 6.90 |
| 126 | 5 | -20.00 -9.73 | -1.50 -0.64 | 3.26 3.97 | 441.00 3.34 | 6.35 |
| 208 | 5 | -6.19 -1.81 | 1.51 1.20 | -0.18 3.50 | 422.57 4.70 | 6.22 |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YS \uparrow ↑↑ \ddot{Y} [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YS \uparrow ↑↑ \ddot{Y} [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YS \uparrow ↑↑ \ddot{Y} [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,ro}$ Y'↑↑ \ddot{Y} |
|--------|-----|--|--|--|--------------------------------|-------------------------------|
| 105 | 5 | 12.83 -7.49 | 1.02 0.00 | -0.02 4.67 | 3211.1 -12.16 | 36.67 |
| 107 | 5 | 5.25 -0.63 | -0.95 0.01 | 0.21 3.48 | 1366.0 -4.11 | 15.47 |
| 109 | 5 | -24.10 -18.84 | -8.99 -3.24 | 3.71 6.78 | -6953 -12.07 | 32.09 |
| 110 | 5 | 11.77 9.09 | 8.96 2.90 | 1.29 5.40 | 3265.1 3.69 | 36.60 |
| 111 | 5 | -13.84 -6.42 | -10.41 -4.57 | 4.23 4.94 | -4516 -1.48 | 3.12 |
| 112 | 5 | 15.95 6.76 | 13.83 1.42 | 3.89 3.07 | 4960.7 3.69 | 53.88 |
| 171 | 5 | 1.16 -0.14 | -0.98 -0.20 | 2.53 3.27 | 921.66 -3.40 | 10.51 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YS \uparrow ↑↑ \ddot{Y} [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YS \uparrow ↑↑ \ddot{Y} [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YS \uparrow ↑↑ \ddot{Y} [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,so}$ Y'↑↑ \ddot{Y} |
|--------|-----|--|--|--|--------------------------------|-------------------------------|
| 105 | 11 | 12.62 -7.34 | 1.03 0.00 | -0.01 4.60 | 259.93 -4.60 | 5.10 |
| 110 | 5 | 11.77 9.09 | 8.96 2.90 | 1.29 5.40 | 2564.3 -2.50 | 28.44 |
| 112 | 5 | 15.95 6.76 | 13.83 1.42 | 3.89 3.07 | 4430.6 -1.64 | 48.76 |
| 114 | 5 | 8.12 -6.20 | 0.84 0.05 | 1.47 4.01 | 577.98 -3.96 | 7.30 |
| 123 | 5 | -0.53 0.45 | 0.04 -0.02 | 2.05 3.61 | 521.35 -3.63 | 6.90 |
| 126 | 5 | -20.00 -9.73 | -1.50 -0.64 | 3.26 3.97 | 441.00 -4.61 | 6.35 |
| 208 | 5 | -6.19 -1.81 | 1.51 1.20 | -0.18 3.50 | 422.57 -2.30 | 6.22 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ $m_{rs,Ed}$ YS \uparrow ↑↑ \ddot{Y} [kNm/m] | n_{cEd} m_{cEd} [kN/m] [kNm/m] | c_d R_d YS \uparrow ↑↑ \ddot{Y} [%] | |
|--------|-----|--|---|--|-------|
| 109 | 5 | 3.71 6.78 | -1855.26 13.55 | -8.72 -12.75 | 68.41 |
| 110 | 5 | 1.29 5.40 | -646.54 10.80 | -3.62 -12.75 | 28.42 |
| 111 | 5 | 4.23 4.94 | -2113.99 9.89 | -9.41 -12.75 | 73.77 |
| 112 | 5 | 3.89 3.07 | -1944.53 6.14 | -8.37 -12.75 | 65.63 |
| 120 | 5 | 2.17 3.66 | -1084.55 7.33 | -5.04 -12.75 | 39.54 |
| 123 | 5 | 2.05 3.61 | -1023.25 7.22 | -4.79 -12.75 | 37.53 |
| 157 | 5 | 3.28 2.98 | -1638.55 5.97 | -7.13 -12.75 | 55.90 |

vorhandene Betonspannung
 $\sigma_{s,Ed} = \frac{S_{rs,Ed}}{A_s} = \frac{m_{rs,Ed}}{A_s} \cdot Y_{s,Ed}$

WT-2.3_1

Erf. Bewehrung

Kombinationen

~æ↑æbb | ^&ÃàfiãÃÔ→†´âæÃÇU\áâ→âæ\~^DÃÙÜËGÈĞŽF

Erforderliche Bewehrung

Ráß&æâæ^äæÃP~↑â↔^á\↔~^æ^Ã^á´âÃËØSÃÓSÃFïï€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔↔æÃÑæ\æ↔↔↔& | ^&Ãæ↔^~æ→^æãÃQáb\à†→æÃ↔^æããã→âÃeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh}bX][#jcf~VYf["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|-------------|-------------|-------------|---------|
| 1-2 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 3-4 | | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 5-6 | | 1.00 | 1.00 | . | 1.50 | . | 1.50 |
| 7 | | 1.35 | 1.00 | . | 1.05 | 1.50 | 1.50 |
| 8-9 | | 1.00 | 1.00 | . | 1.05 | 1.50 | 1.50 |
| 10-40 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 41-53 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 54-62 | | 1.35 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 63-66 | | 1.00 | 1.00 | . | 1.05 | . | 1.50 |
| 67-70 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 71-84 | | 1.35 | 1.35 | . | 1.05 | 1.05 | 1.50 |
| 85-86 | | 1.35 | 1.00 | . | 1.05 | . | 1.50 |
| 87-88 | | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 89-93 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 94-97 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 98 | | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 99-105 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 106 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | . |
| 107 | | 1.35 | 1.35 | 1.05 | . | 1.05 | . |
| 108-113 | | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |

Lkn Ew Qk.N_DA

| | |
|---------|-------------|
| 1-2 | . |
| 3-4 | . |
| 5-6 | . |
| 7 | . |
| 8-9 | . |
| 10-40 | 1.50 |
| 41-53 | 1.50 |
| 54-62 | 1.50 |
| 63-66 | 1.50 |
| 67-70 | 1.50 |
| 71-84 | 1.50 |
| 85-86 | 1.50 |
| 87-88 | 1.50 |
| 89-93 | 1.50 |
| 94-97 | 1.50 |
| 98 | 1.50 |
| 99-105 | 1.50 |
| 106 | 1.50 |
| 107 | 1.50 |
| 108-113 | 1.50 |

Selten

Seltene Kombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|---------|---------|-------------|---------|
| 114 | | 1.00 | 1.00 | . | 0.70 | 1.00 | 1.00 |
| 115-153 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 1.00 |
| 154-176 | | 1.00 | 1.00 | . | 0.70 | 0.70 | 1.00 |
| 177-181 | | 1.00 | 1.00 | 0.70 | . | 0.70 | 1.00 |
| 182-184 | | 1.00 | 1.00 | . | 0.70 | . | 1.00 |
| 185 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | . |

W-220

Schulcampus EWKWT-2.3 + WT-2.4

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-----|----|------|------|---------|---------|---------|---------|
| 186 | | 1.00 | 1.00 | 0.70 | 0.70 | . | 1.00 |

| Lkn | Ew | Qk.N_DA |
|---------|----|---------|
| 114 | | . |
| 115-153 | | 1.00 |
| 154-176 | | 1.00 |
| 177-181 | | 1.00 |
| 182-184 | | 1.00 |
| 185 | | 1.00 |
| 186 | | 1.00 |

Ei Ug] ! gh} bX] [

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|---------|---------|---------|---------|
| 187-190 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | 0.80 |

| Lkn | Ew | Qk.N_DA |
|---------|----|---------|
| 187-190 | | . |

Al l e Nachwei se

Óã~ããã→´âæÁQ†^&bâæ}æãã|^&Áá|bÁÁ→æ^ÁSá´â}æ→bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD††¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD††¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD††¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,ru}$ Y´†¥D†Ÿ |
|--------|-----|--|--|--|---|-----------------------|
| 211 | 11 | 9.83 -0.01 | -7.93 0.00 | 1.71 -1.25 | 4037.0 1.24 | 45.41 |
| 212 | 12 | 2.17 4.47 | 0.39 -0.61 | 0.15 -2.37 | 811.38 6.85 | 9.43 |
| 214 | 54 | -1.46 -1.48 | -1.13 0.00 | -3.26 -1.30 | 631.97 -2.78 | 7.13 |
| 221 | 64 | -0.32 -0.23 | 0.99 0.00 | 0.02 -1.09 | -117.5 0.86 | 3.48 |
| 239 | 11 | 0.25 0.00 | 7.67 -0.01 | -0.93 -1.24 | 411.60 1.24 | 6.67 |
| 312 | 76 | -0.07 -0.62 | -1.90 0.40 | -1.27 -1.84 | 421.12 1.22 | 6.73 |
| 385 | 23 | 0.16 -0.20 | -0.63 0.57 | -1.16 -1.97 | 462.58 1.78 | 6.98 |
| 426 | 23 | 0.29 -0.03 | -0.57 0.69 | -1.00 -2.12 | 453.85 2.09 | 6.93 |
| 508 | 23 | 0.84 0.69 | -0.27 0.59 | -0.57 -2.63 | 491.64 3.32 | 7.16 |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD††¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD††¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD††¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,su}$ Y´†¥D†Ÿ |
|--------|-----|--|--|--|---|-----------------------|
| 210 | 11 | -10.60 0.00 | 8.18 0.00 | 1.26 -1.24 | 3304.4 -1.23 | 37.11 |
| 212 | 14 | 1.78 3.28 | 0.53 -0.44 | 0.16 -1.74 | 241.54 1.30 | 5.87 |
| 214 | 15 | -1.91 -1.70 | -1.12 0.00 | -3.31 -1.50 | 766.69 1.51 | 9.20 |
| 441 | 35 | 0.18 0.03 | 0.02 0.52 | -0.56 -1.65 | 203.90 2.17 | 5.63 |
| 454 | 35 | 0.25 0.10 | 0.09 0.56 | -0.49 -1.73 | 204.24 2.29 | 5.64 |
| 464 | 21 | 0.42 0.09 | 0.37 0.89 | -0.18 -2.03 | 191.91 2.92 | 5.56 |

POSITION **WT-2.3 + WT-2.4**

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YS $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YS $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YS $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,su}$ Y' $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ |
|--------|-----|--|--|--|--------------------------------|---|
| 466 | 35 | 0.38 0.17 | 0.22 0.66 | -0.38 -1.91 | 208.63 2.57 | 5.66 |
| 571 | 104 | 0.73 0.25 | -0.10 0.15 | 0.26 -1.18 | 57.83 1.33 | 4.71 |
| 591 | 21 | 1.58 1.83 | 0.57 -0.06 | 0.00 -1.72 | 199.61 1.66 | 5.61 |
| 615 | 105 | 7.82 0.13 | 0.29 0.00 | 2.28 -1.06 | 901.38 1.06 | 10.05 |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YS $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YS $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YS $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,ro}$ Y' $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ |
|--------|-----|--|--|--|--------------------------------|---|
| 211 | 11 | 9.83 -0.01 | -7.93 0.00 | 1.71 -1.25 | 4037.0 1.24 | 45.41 |
| 212 | 12 | 2.17 4.47 | 0.39 -0.61 | 0.15 -2.37 | 811.38 2.10 | 9.10 |
| 214 | 54 | -1.46 -1.48 | -1.13 0.00 | -3.26 -1.30 | 631.97 -0.17 | 8.00 |
| 221 | 64 | -0.32 -0.23 | 0.99 0.00 | 0.02 -1.09 | -117.5 -1.31 | 3.48 |
| 239 | 11 | 0.25 0.00 | 7.67 -0.01 | -0.93 -1.24 | 411.60 -1.24 | 6.67 |
| 312 | 76 | -0.07 -0.62 | -1.90 0.40 | -1.27 -1.84 | 421.12 -2.46 | 6.73 |
| 385 | 23 | 0.16 -0.20 | -0.63 0.57 | -1.16 -1.97 | 462.58 -2.17 | 6.98 |
| 426 | 23 | 0.29 -0.03 | -0.57 0.69 | -1.00 -2.12 | 453.85 -2.14 | 6.93 |
| 508 | 23 | 0.84 0.69 | -0.27 0.59 | -0.57 -2.63 | 491.64 -1.95 | 7.16 |
| 576 | 12 | 1.61 2.61 | 0.20 -0.44 | 0.09 -3.07 | 595.24 -0.47 | 7.78 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YS $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YS $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YS $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,so}$ Y' $\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$ |
|--------|-----|--|--|--|--------------------------------|---|
| 210 | 11 | -10.60 0.00 | 8.18 0.00 | 1.26 -1.24 | 3304.4 -1.23 | 37.11 |
| 212 | 13 | 1.83 3.47 | 0.53 -0.47 | 0.16 -1.84 | 241.07 -2.31 | 5.87 |
| 214 | 15 | -1.91 -1.70 | -1.12 0.00 | -3.31 -1.50 | 766.69 -1.50 | 9.20 |
| 441 | 35 | 0.18 0.03 | 0.02 0.52 | -0.56 -1.65 | 203.90 -1.13 | 5.63 |
| 454 | 35 | 0.25 0.10 | 0.09 0.56 | -0.49 -1.73 | 204.24 -1.17 | 5.64 |
| 464 | 21 | 0.42 0.09 | 0.37 0.89 | -0.18 -2.03 | 191.91 -1.14 | 5.56 |
| 466 | 35 | 0.38 0.17 | 0.22 0.66 | -0.38 -1.91 | 208.63 -1.25 | 5.66 |
| 571 | 104 | 0.73 0.25 | -0.10 0.15 | 0.26 -1.18 | 57.83 -1.03 | 4.71 |
| 591 | 21 | 1.58 1.83 | 0.57 -0.06 | 0.00 -1.72 | 199.61 -1.78 | 5.61 |
| 615 | 105 | 7.82 0.13 | 0.29 0.00 | 2.28 -1.06 | 901.38 -1.06 | 10.05 |

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Óãà~ãääã~>´ääÁQ†^&bâæ}æãã|^&
á|bÁŮää&à†â&←æ↔\b^á´â}æ↔b

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ru}$ |
|--------|-----|--------------------|--------------------|--------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSÐ†↑¥Ÿ [kNm/m] | YSÐ†↑¥Ÿ [kNm/m] | YSÐ†↑¥Ÿ [kNm/m] | [kNm/m] | |
| 211 | 11 | 9.83 | -7.93 | 1.71 | 4037.0 | 45.41 |
| | | -0.01 | 0.00 | -1.25 | 1.24 | |
| 212 | 12 | 2.17 | 0.39 | 0.15 | 811.38 | 9.43 |
| | | 4.47 | -0.61 | -2.37 | 6.85 | |
| 214 | 54 | -1.46 | -1.13 | -3.26 | 631.97 | 7.13 |
| | | -1.48 | 0.00 | -1.30 | -2.78 | |
| 221 | 64 | -0.32 | 0.99 | 0.02 | -117.5 | 3.48 |
| | | -0.23 | 0.00 | -1.09 | 0.86 | |
| 239 | 11 | 0.25 | 7.67 | -0.93 | 411.60 | 6.67 |
| | | 0.00 | -0.01 | -1.24 | 1.24 | |
| 312 | 76 | -0.07 | -1.90 | -1.27 | 421.12 | 6.73 |
| | | -0.62 | 0.40 | -1.84 | 1.22 | |
| 385 | 23 | 0.16 | -0.63 | -1.16 | 462.58 | 6.98 |
| | | -0.20 | 0.57 | -1.97 | 1.78 | |
| 426 | 23 | 0.29 | -0.57 | -1.00 | 453.85 | 6.93 |
| | | -0.03 | 0.69 | -2.12 | 2.09 | |
| 508 | 23 | 0.84 | -0.27 | -0.57 | 491.64 | 7.16 |
| | | 0.69 | 0.59 | -2.63 | 3.32 | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,su}$ |
|--------|-----|--------------------|--------------------|--------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSÐ†↑¥Ÿ [kNm/m] | YSÐ†↑¥Ÿ [kNm/m] | YSÐ†↑¥Ÿ [kNm/m] | [kNm/m] | |
| 210 | 11 | -10.60 | 8.18 | 1.26 | 3304.4 | 37.11 |
| | | 0.00 | 0.00 | -1.24 | -1.23 | |
| 212 | 14 | 1.78 | 0.53 | 0.16 | 241.54 | 5.87 |
| | | 3.28 | -0.44 | -1.74 | 1.30 | |
| 214 | 15 | -1.91 | -1.12 | -3.31 | 766.69 | 9.20 |
| | | -1.70 | 0.00 | -1.50 | 1.51 | |
| 441 | 35 | 0.18 | 0.02 | -0.56 | 203.90 | 5.63 |
| | | 0.03 | 0.52 | -1.65 | 2.17 | |
| 454 | 35 | 0.25 | 0.09 | -0.49 | 204.24 | 5.64 |
| | | 0.10 | 0.56 | -1.73 | 2.29 | |
| 464 | 21 | 0.42 | 0.37 | -0.18 | 191.91 | 5.56 |
| | | 0.09 | 0.89 | -2.03 | 2.92 | |
| 466 | 35 | 0.38 | 0.22 | -0.38 | 208.63 | 5.66 |
| | | 0.17 | 0.66 | -1.91 | 2.57 | |
| 571 | 104 | 0.73 | -0.10 | 0.26 | 57.83 | 4.71 |
| | | 0.25 | 0.15 | -1.18 | 1.33 | |
| 591 | 21 | 1.58 | 0.57 | 0.00 | 199.61 | 5.61 |
| | | 1.83 | -0.06 | -1.72 | 1.66 | |
| 615 | 105 | 7.82 | 0.29 | 2.28 | 901.38 | 10.05 |
| | | 0.13 | 0.00 | -1.06 | 1.06 | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ro}$ |
|--------|-----|--------------------|--------------------|--------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSÐ†↑¥Ÿ [kNm/m] | YSÐ†↑¥Ÿ [kNm/m] | YSÐ†↑¥Ÿ [kNm/m] | [kNm/m] | |
| 211 | 11 | 9.83 | -7.93 | 1.71 | 4037.0 | 45.41 |
| | | -0.01 | 0.00 | -1.25 | 1.24 | |
| 212 | 12 | 2.17 | 0.39 | 0.15 | 811.38 | 9.10 |

W-223

Schulcampus EWKWT-2.3 + WT-2.4

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD↑↑ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD↑↑ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,ro}$ Y'↑↑ [kNm/m] |
|--------|-----|--|--|--|--------------------------------|-------------------------------|
| | | 4.47 | -0.61 | -2.37 | 2.10 | |
| 214 | 54 | -1.46 | -1.13 | -3.26 | 631.97 | 8.00 |
| | | -1.48 | 0.00 | -1.30 | -0.17 | |
| 221 | 64 | -0.32 | 0.99 | 0.02 | -117.5 | 3.48 |
| | | -0.23 | 0.00 | -1.09 | -1.31 | |
| 239 | 11 | 0.25 | 7.67 | -0.93 | 411.60 | 6.67 |
| | | 0.00 | -0.01 | -1.24 | -1.24 | |
| 312 | 76 | -0.07 | -1.90 | -1.27 | 421.12 | 6.73 |
| | | -0.62 | 0.40 | -1.84 | -2.46 | |
| 385 | 23 | 0.16 | -0.63 | -1.16 | 462.58 | 6.98 |
| | | -0.20 | 0.57 | -1.97 | -2.17 | |
| 426 | 23 | 0.29 | -0.57 | -1.00 | 453.85 | 6.93 |
| | | -0.03 | 0.69 | -2.12 | -2.14 | |
| 508 | 23 | 0.84 | -0.27 | -0.57 | 491.64 | 7.16 |
| | | 0.69 | 0.59 | -2.63 | -1.95 | |
| 576 | 12 | 1.61 | 0.20 | 0.09 | 595.24 | 7.78 |
| | | 2.61 | -0.44 | -3.07 | -0.47 | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD↑↑ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD↑↑ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,so}$ Y'↑↑ [kNm/m] |
|--------|-----|--|--|--|--------------------------------|-------------------------------|
| 210 | 11 | -10.60 | 8.18 | 1.26 | 3304.4 | 37.11 |
| | | 0.00 | 0.00 | -1.24 | -1.23 | |
| 212 | 13 | 1.83 | 0.53 | 0.16 | 241.07 | 5.87 |
| | | 3.47 | -0.47 | -1.84 | -2.31 | |
| 214 | 15 | -1.91 | -1.12 | -3.31 | 766.69 | 9.20 |
| | | -1.70 | 0.00 | -1.50 | -1.50 | |
| 441 | 35 | 0.18 | 0.02 | -0.56 | 203.90 | 5.63 |
| | | 0.03 | 0.52 | -1.65 | -1.13 | |
| 454 | 35 | 0.25 | 0.09 | -0.49 | 204.24 | 5.64 |
| | | 0.10 | 0.56 | -1.73 | -1.17 | |
| 464 | 21 | 0.42 | 0.37 | -0.18 | 191.91 | 5.56 |
| | | 0.09 | 0.89 | -2.03 | -1.14 | |
| 466 | 35 | 0.38 | 0.22 | -0.38 | 208.63 | 5.66 |
| | | 0.17 | 0.66 | -1.91 | -1.25 | |
| 571 | 104 | 0.73 | -0.10 | 0.26 | 57.83 | 4.71 |
| | | 0.25 | 0.15 | -1.18 | -1.03 | |
| 591 | 21 | 1.58 | 0.57 | 0.00 | 199.61 | 5.61 |
| | | 1.83 | -0.06 | -1.72 | -1.78 | |
| 615 | 105 | 7.82 | 0.29 | 2.28 | 901.38 | 10.05 |
| | | 0.13 | 0.00 | -1.06 | -1.06 | |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{cEd} m_{cEd} [kN/m] | σ_{cd} R_{d} YSD↑↑ [kN/m] | [%] |
|--------|-----|--|----------------------------------|---|-------|
| 214 | 76 | -3.33 | -2330.60 | -6.79 | 53.29 |
| | | -1.39 | 2.77 | -12.75 | |
| 225 | 11 | 2.57 | -1796.23 | -5.25 | 41.20 |
| | | -1.24 | 2.47 | -12.75 | |
| 241 | 32 | -2.46 | -1724.41 | -5.10 | 40.02 |
| | | -1.79 | 3.58 | -12.75 | |
| 256 | 10 | -2.27 | -1587.07 | -4.71 | 36.94 |
| | | -1.79 | 3.59 | -12.75 | |
| 589 | 11 | -0.63 | -438.84 | -1.38 | 10.83 |
| | | -1.30 | 2.61 | -12.75 | |

W-224

Schulcampus EWKWT-2.3 + WT-2.4

| Knoten | Lkn | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{cEd} m_{cEd} [kN/m] [kNm/m] | c_d R_d YSD↑↑ [%] |
|---|-----|--|---|--------------------------------|
| 590 | 12 | 0.18 -2.78 | -123.23 5.56 | -0.62 -12.75 |
| 615 | 11 | 2.43 -1.29 | -1701.14 2.57 | -4.99 -12.75 |
| vorhandene Betonspannung ~ → bb→&AÑ~^äã '←b*á^^ ^& | | | | |

Spannung

Spannungsnachweis, Abs. 7.2

↑↔\ÁQ†^&bâæ}æää|^&Áás

Es werden nur lokale Extremwerte dokumentiert.

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Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | a_s [cm ² /m] | s [-] | c [-] |
|---|-----|---|--|-------------------------------|------------|------------|
| 211 | 116 | 6.87 -5.61 1.19 | -0.01 0.00 -0.92 | ru 45.41 | 0.62 | 0.00 |
| 212 | 117 | 1.56 0.29 0.11 | 3.21 -0.43 -1.70 | ru 9.43 | 0.66 | 0.00 |
| 214 | 155 | -1.18 -0.82 -2.34 | -1.11 0.00 -0.98 | ru 7.13 | 0.54 | 0.00 |
| 221 | 116 | -1.41 0.43 0.06 | -0.18 0.00 -0.89 | ru 3.48 | -- | 0.05 |
| 239 | 116 | 0.18 5.43 -0.65 | 0.00 -0.01 -0.91 | ru 6.67 | 0.44 | 0.00 |
| 312 | 154 | -0.05 -1.35 -0.91 | -0.45 0.29 -1.33 | ru 6.73 | 0.45 | 0.00 |
| 385 | 128 | 0.12 -0.45 -0.83 | -0.14 0.41 -1.41 | ru 6.98 | 0.49 | 0.00 |
| 426 | 128 | 0.21 -0.40 -0.72 | -0.02 0.49 -1.52 | ru 6.93 | 0.48 | 0.00 |
| 508 | 128 | 0.60 -0.18 -0.40 | 0.49 0.42 -1.89 | ru 7.16 | 0.51 | 0.00 |
| $s: U\{á\rightarrow b*á^{\wedge\wedge} ^{\wedge\wedge}\{æ\hat{a}\rightarrow\}\rightarrow b\hat{A}\hat{C}_s / f_{yk}\}$ $c: \hat{N}\{æ\sim^{\wedge}b*á^{\wedge\wedge} ^{\wedge\wedge}\{æ\hat{a}\rightarrow\}\rightarrow b\hat{A}\hat{C}_c / f_{ck}\}$ | | | | | | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | a_s [cm ² /m] | s [-] | c [-] |
|--------|-----|---|--|-------------------------------|------------|------------|
| 210 | 116 | -7.41 5.79 0.88 | 0.00 0.00 -0.90 | su 37.11 | 0.63 | 0.00 |
| 212 | 118 | 1.33 0.37 0.12 | 2.53 -0.34 -1.35 | su 5.87 | 0.31 | 0.00 |
| 214 | 120 | -1.39 -0.80 -2.34 | -1.22 0.00 -1.08 | su 9.20 | 0.60 | 0.00 |

POSITION **WT-2.3 + WT-2.4**

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|--|----|-------------------------------|--------------|--------------|
| 441 | 143 | 0.13 0.00 -0.42 | 0.02 0.38 -1.20 | su | 5.63 | 0.28 | 0.00 |
| 454 | 143 | 0.18 0.05 -0.37 | 0.07 0.41 -1.26 | su | 5.64 | 0.28 | 0.00 |
| 464 | 142 | 0.31 0.25 -0.14 | 0.07 0.65 -1.48 | su | 5.56 | 0.27 | 0.00 |
| 466 | 143 | 0.28 0.13 -0.29 | 0.12 0.48 -1.39 | su | 5.66 | 0.29 | 0.00 |
| 571 | 182 | 0.33 -0.80 -0.08 | 0.25 0.15 -1.17 | su | 4.71 | -- | 0.03 |
| 591 | 174 | 1.05 0.40 -0.01 | 1.22 -0.04 -1.15 | su | 5.61 | 0.27 | 0.00 |
| 615 | 116 | 5.80 0.00 1.70 | 0.12 0.00 -0.94 | su | 10.05 | 0.60 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} ^{\wedge} \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus^{\wedge} \& b \vec{A} \vec{C} \}_s / f_{yk}$ $c: \vec{N} \vec{a} \setminus \sim^{\wedge} b^* \vec{a}^{\wedge \wedge} ^{\wedge} \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus^{\wedge} \& b \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|--|----|-------------------------------|--------------|--------------|
| 211 | 116 | 6.87 -5.61 1.19 | -0.01 0.00 -0.92 | ro | 45.41 | 0.62 | 0.00 |
| 212 | 117 | 1.56 0.29 0.11 | 3.21 -0.43 -1.70 | ro | 9.10 | 0.63 | 0.00 |
| 214 | 155 | -1.18 -0.82 -2.34 | -1.11 0.00 -0.98 | ro | 8.00 | 0.54 | 0.00 |
| 221 | 116 | -1.41 0.43 0.06 | -0.18 0.00 -0.89 | ro | 3.48 | -- | 0.05 |
| 239 | 116 | 0.18 5.43 -0.65 | 0.00 -0.01 -0.91 | ro | 6.67 | 0.44 | 0.00 |
| 312 | 154 | -0.05 -1.35 -0.91 | -0.45 0.29 -1.33 | ro | 6.73 | 0.46 | 0.00 |
| 385 | 128 | 0.12 -0.45 -0.83 | -0.14 0.41 -1.41 | ro | 6.98 | 0.49 | 0.00 |
| 426 | 128 | 0.21 -0.40 -0.72 | -0.02 0.49 -1.52 | ro | 6.93 | 0.48 | 0.00 |
| 508 | 128 | 0.60 -0.18 -0.40 | 0.49 0.42 -1.89 | ro | 7.16 | 0.50 | 0.00 |
| 576 | 117 | 1.16 0.15 0.06 | 1.87 -0.32 -2.20 | ro | 7.78 | 0.55 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} ^{\wedge} \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus^{\wedge} \& b \vec{A} \vec{C} \}_s / f_{yk}$ $c: \vec{N} \vec{a} \setminus \sim^{\wedge} b^* \vec{a}^{\wedge \wedge} ^{\wedge} \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus^{\wedge} \& b \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--------|-----|---|--|----|-------------------------------|------------|------------|
| 210 | 116 | -7.41 5.79 0.88 | 0.00 0.00 -0.90 | so | 37.11 | 0.63 | 0.00 |
| 212 | 118 | 1.33 0.37 0.12 | 2.53 -0.34 -1.35 | so | 5.87 | 0.31 | 0.00 |
| 214 | 120 | -1.39 -0.80 -2.34 | -1.22 0.00 -1.08 | so | 9.20 | 0.60 | 0.00 |
| 441 | 143 | 0.13 0.00 -0.42 | 0.02 0.38 -1.20 | so | 5.63 | 0.27 | 0.00 |
| 454 | 143 | 0.18 0.05 -0.37 | 0.07 0.41 -1.26 | so | 5.64 | 0.27 | 0.00 |
| 464 | 142 | 0.31 0.25 -0.14 | 0.07 0.65 -1.48 | so | 5.56 | 0.25 | 0.00 |
| 466 | 143 | 0.28 0.13 -0.29 | 0.12 0.48 -1.39 | so | 5.66 | 0.28 | 0.00 |
| 571 | 182 | 0.33 -0.80 -0.08 | 0.25 0.15 -1.17 | so | 4.71 | -- | 0.03 |
| 591 | 174 | 1.05 0.40 -0.01 | 1.22 -0.04 -1.15 | so | 5.61 | 0.27 | 0.00 |
| 615 | 116 | 5.80 0.00 1.70 | 0.12 0.00 -0.94 | so | 10.05 | 0.60 | 0.00 |

$s: U \setminus \vec{a} \rightarrow b^* \vec{a}^{\wedge\wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \leftrightarrow b \vec{A} \vec{C} \}_s / f_{yk}$
 $c: \vec{N} \vec{a} \setminus \sim \wedge b^* \vec{a}^{\wedge\wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \leftrightarrow b \vec{A} \vec{C} \}_c / f_{ck}$

WT-2.3_2

$\vec{N} \vec{a} \uparrow \vec{a} b b \mid \wedge \& \vec{A} \vec{a} \vec{f} \vec{i} \vec{a} \vec{A} \vec{O} \rightarrow \vec{t} \vec{a} \vec{a} \vec{A} \vec{C} U \setminus \vec{a} \vec{a} \rightarrow \vec{a} \vec{a} \setminus \sim \vec{D} \vec{A} \vec{U} \vec{U} \vec{E} \vec{G} \vec{E} \vec{G} \vec{Z} \vec{G}$

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nationen

$R \vec{a} \vec{B} \& \vec{a} \vec{a} \vec{a}^{\wedge} \vec{a} \vec{a} \vec{A} \vec{P} \sim \uparrow \vec{a} \leftrightarrow \wedge \vec{a} \setminus \leftrightarrow \sim \wedge \vec{a}^{\wedge} \vec{A}^{\wedge} \vec{a}^{\wedge} \vec{a}^{\wedge} \vec{A} \vec{O} \vec{S} \vec{A} \vec{O} \vec{S} \vec{A} \vec{F} \vec{i} \vec{i} \vec{e}$

Ew Einwirkungsname
Lkn Lastkombinationsnummer

$\vec{C} \leftrightarrow \vec{a} \vec{A} \vec{N} \vec{a} \setminus \vec{a} \leftrightarrow \leftrightarrow \& \mid \wedge \& \vec{A} \vec{a} \leftrightarrow \wedge \sim \vec{a} \rightarrow \wedge \vec{a} \vec{a} \vec{A} \vec{Q} \vec{a} b \setminus \vec{a} \vec{t} \rightarrow \vec{a} \vec{A} \leftrightarrow \wedge \wedge \vec{a} \vec{a} \vec{a} \vec{a} \rightarrow \vec{a} \vec{A} \vec{e} \text{iner}$
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX][#j cf~ VYf["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|-------------|-------------|-------------|---------|
| 1 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 2 | | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 3-4 | | 1.00 | 1.00 | . | 1.50 | . | 1.50 |
| 5 | | 1.00 | 1.00 | . | 1.05 | 1.50 | 1.50 |
| 6-30 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 31-35 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 36-39 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | . |
| 40-46 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 47-51 | | 1.35 | 1.35 | . | 1.05 | 1.05 | 1.50 |
| 52 | | 1.00 | 1.00 | . | 1.05 | . | 1.50 |
| 53-58 | | 1.35 | 1.00 | . | 1.05 | 1.05 | 1.50 |

W-227

Schulcampus EWK WT-2.3 + WT-2.4

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 59-61 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 62 | | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 63 | | 1.35 | 1.35 | . | 1.05 | 1.05 | . |
| 64 | | 1.35 | 1.35 | 1.05 | . | 1.05 | . |
| 65 | | 1.35 | 1.00 | . | 1.05 | . | 1.50 |
| 66-67 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 68 | | 1.00 | 1.35 | 1.05 | . | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1 | | . |
| 2 | | . |
| 3-4 | | . |
| 5 | | . |
| 6-30 | | 1.50 |
| 31-35 | | 1.50 |
| 36-39 | | 1.50 |
| 40-46 | | 1.50 |
| 47-51 | | 1.50 |
| 52 | | 1.50 |
| 53-58 | | 1.50 |
| 59-61 | | 1.50 |
| 62 | | 1.50 |
| 63 | | 1.50 |
| 64 | | 1.50 |
| 65 | | 1.50 |
| 66-67 | | 1.50 |
| 68 | | 1.50 |

Selten

Seltene Kombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|---------|---------|---------|---------|
| 69-98 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 1.00 |
| 99-102 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | . |
| 103-111 | | 1.00 | 1.00 | . | 0.70 | 0.70 | 1.00 |
| 112-113 | | 1.00 | 1.00 | 0.70 | . | 0.70 | 1.00 |
| 114 | | 1.00 | 1.00 | . | 0.70 | 0.70 | . |
| 115 | | 1.00 | 1.00 | 0.70 | . | 0.70 | . |

| Lkn | Ew | Qk.N_DA |
|---------|----|-------------|
| 69-98 | | 1.00 |
| 99-102 | | 1.00 |
| 103-111 | | 1.00 |
| 112-113 | | 1.00 |
| 114 | | 1.00 |
| 115 | | 1.00 |

Ei Ug] ! gh} bX] [

T | áb↔Ëb\ ‡ ^ä↔&æÁP~↑â↔^á\↔~^æ^

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|---------|---------|---------|---------|
| 116-117 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | 0.80 |

| Lkn | Ew | Qk.N_DA |
|---------|----|---------|
| 116-117 | | . |

Alle Nachweise

Óãâ~ãäã→↔´âæÁQ‡^&bâæ}æää | ^&Áá | bÁÁ→↔æ^ÁSá´â}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $s_{r,Ed}$ $m_{r,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $s_{s,Ed}$ $m_{s,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $s_{rs,Ed}$ $m_{rs,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kNm/m] | $a_{s,ru}$ Y´↑¥Ð↑Ÿ |
|--------|-----|--|--|--|---------------------------------|-----------------------|
| 7 | 36 | 2.23 | 2.16 | -1.19 | 854.75 | 9.99 |
| | | 2.16 | 3.09 | -2.96 | 5.12 | |
| 84 | 12 | 2.77 | -0.03 | -0.24 | 751.73 | 8.63 |

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ru}$ |
|--------|-----|----------------------------|----------------------------|----------------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | [kN/m] | |
| | | 1.18 | 0.10 | -2.02 | 3.20 | |
| 209 | 6 | -26.54 | -15.71 | -1.88 | -7105 | 36.27 |
| | | -3.49 | -0.32 | -0.76 | -4.24 | |
| 212 | 13 | 2.69 | 0.24 | 0.12 | 702.83 | 8.43 |
| | | 4.97 | 0.57 | -1.00 | 5.96 | |
| 324 | 47 | 0.45 | -2.10 | -0.33 | 194.09 | 4.39 |
| | | -0.56 | 0.10 | -0.76 | 0.20 | |
| 637 | 6 | 0.20 | 3.63 | 0.35 | 139.09 | 4.03 |
| | | -0.37 | -0.52 | -1.92 | 1.54 | |
| 651 | 6 | 0.14 | -0.81 | 0.68 | 204.76 | 4.45 |
| | | -0.52 | -0.10 | -1.35 | 0.83 | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,su}$ |
|--------|-----|----------------------------|----------------------------|----------------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | [kN/m] | |
| 6 | 6 | -8.34 | 2.09 | -2.08 | 1041.6 | 11.96 |
| | | -4.74 | 0.21 | -3.71 | 3.92 | |
| 7 | 8 | 2.14 | 2.38 | -1.17 | 886.38 | 10.55 |
| | | 2.13 | 3.05 | -2.92 | 5.97 | |
| 209 | 47 | -26.20 | -15.77 | -1.88 | -4412 | 2.18 |
| | | -3.21 | -0.30 | -0.70 | -0.99 | |
| 590 | 11 | 2.08 | 0.47 | 0.20 | 168.11 | 4.47 |
| | | 2.69 | 0.08 | -0.84 | 0.91 | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ro}$ |
|--------|-----|----------------------------|----------------------------|----------------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | [kN/m] | |
| 7 | 36 | 2.23 | 2.16 | -1.19 | 854.75 | 9.58 |
| | | 2.16 | 3.09 | -2.96 | -0.80 | |
| 84 | 9 | 2.78 | -0.03 | -0.24 | 753.74 | 8.59 |
| | | 1.18 | 0.10 | -2.03 | 3.21 | |
| 209 | 6 | -26.54 | -15.71 | -1.88 | -7105 | 35.30 |
| | | -3.49 | -0.32 | -0.76 | -2.73 | |
| 212 | 13 | 2.69 | 0.24 | 0.12 | 702.83 | 7.21 |
| | | 4.97 | 0.57 | -1.00 | 3.97 | |
| 324 | 47 | 0.45 | -2.10 | -0.33 | 194.09 | 4.39 |
| | | -0.56 | 0.10 | -0.76 | -1.31 | |
| 637 | 6 | 0.20 | 3.63 | 0.35 | 139.09 | 4.03 |
| | | -0.37 | -0.52 | -1.92 | -2.29 | |
| 651 | 6 | 0.14 | -0.81 | 0.68 | 204.76 | 4.45 |
| | | -0.52 | -0.10 | -1.35 | -1.87 | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,so}$ |
|--------|-----|----------------------------|----------------------------|----------------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | $YSD↑↑\ddot{Y}$ [kNm/m] | [kN/m] | |
| 6 | 6 | -8.34 | 2.09 | -2.08 | 1041.6 | 11.90 |
| | | -4.74 | 0.21 | -3.71 | -3.50 | |
| 209 | 47 | -26.20 | -15.77 | -1.88 | -4412 | 2.09 |
| | | -3.21 | -0.30 | -0.70 | 0.40 | |
| 590 | 11 | 2.08 | 0.47 | 0.20 | 168.11 | 4.47 |
| | | 2.69 | 0.08 | -0.84 | -0.76 | |
| 727 | 8 | 1.11 | 2.60 | -0.85 | 862.86 | 9.93 |
| | | -0.37 | 2.45 | -2.06 | 4.51 | |

Hf U[Z} \] [_ Y] h

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á|bÁŮää&à†â&←æ↔\b^á´â}æ↔b

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ru}$ |
|--------|-----|----------------------|----------------------|----------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSĐ↑↑¥Ÿ [kNm/m] | YSĐ↑↑¥Ÿ [kNm/m] | YSĐ↑↑¥Ÿ [kNm/m] | [kN/m] | |
| 7 | 36 | 2.23 | 2.16 | -1.19 | 854.75 | 9.99 |
| | | 2.16 | 3.09 | -2.96 | 5.12 | |
| 84 | 12 | 2.77 | -0.03 | -0.24 | 751.73 | 8.63 |
| | | 1.18 | 0.10 | -2.02 | 3.20 | |
| 209 | 6 | -26.54 | -15.71 | -1.88 | -7105 | 36.27 |
| | | -3.49 | -0.32 | -0.76 | -4.24 | |
| 212 | 13 | 2.69 | 0.24 | 0.12 | 702.83 | 8.43 |
| | | 4.97 | 0.57 | -1.00 | 5.96 | |
| 324 | 47 | 0.45 | -2.10 | -0.33 | 194.09 | 4.39 |
| | | -0.56 | 0.10 | -0.76 | 0.20 | |
| 637 | 6 | 0.20 | 3.63 | 0.35 | 139.09 | 4.03 |
| | | -0.37 | -0.52 | -1.92 | 1.54 | |
| 651 | 6 | 0.14 | -0.81 | 0.68 | 204.76 | 4.45 |
| | | -0.52 | -0.10 | -1.35 | 0.83 | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,su}$ |
|--------|-----|----------------------|----------------------|----------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSĐ↑↑¥Ÿ [kNm/m] | YSĐ↑↑¥Ÿ [kNm/m] | YSĐ↑↑¥Ÿ [kNm/m] | [kN/m] | |
| 6 | 6 | -8.34 | 2.09 | -2.08 | 1041.6 | 11.96 |
| | | -4.74 | 0.21 | -3.71 | 3.92 | |
| 7 | 8 | 2.14 | 2.38 | -1.17 | 886.38 | 10.55 |
| | | 2.13 | 3.05 | -2.92 | 5.97 | |
| 209 | 47 | -26.20 | -15.77 | -1.88 | -4412 | 2.18 |
| | | -3.21 | -0.30 | -0.70 | -0.99 | |
| 590 | 11 | 2.08 | 0.47 | 0.20 | 168.11 | 4.47 |
| | | 2.69 | 0.08 | -0.84 | 0.91 | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ro}$ |
|--------|-----|----------------------|----------------------|----------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSĐ↑↑¥Ÿ [kNm/m] | YSĐ↑↑¥Ÿ [kNm/m] | YSĐ↑↑¥Ÿ [kNm/m] | [kN/m] | |
| 7 | 36 | 2.23 | 2.16 | -1.19 | 854.75 | 9.58 |
| | | 2.16 | 3.09 | -2.96 | -0.80 | |
| 84 | 9 | 2.78 | -0.03 | -0.24 | 753.74 | 8.59 |
| | | 1.18 | 0.10 | -2.03 | 3.21 | |
| 209 | 6 | -26.54 | -15.71 | -1.88 | -7105 | 35.30 |
| | | -3.49 | -0.32 | -0.76 | -2.73 | |
| 212 | 13 | 2.69 | 0.24 | 0.12 | 702.83 | 7.21 |
| | | 4.97 | 0.57 | -1.00 | 3.97 | |
| 324 | 47 | 0.45 | -2.10 | -0.33 | 194.09 | 4.39 |
| | | -0.56 | 0.10 | -0.76 | -1.31 | |
| 637 | 6 | 0.20 | 3.63 | 0.35 | 139.09 | 4.03 |
| | | -0.37 | -0.52 | -1.92 | -2.29 | |
| 651 | 6 | 0.14 | -0.81 | 0.68 | 204.76 | 4.45 |
| | | -0.52 | -0.10 | -1.35 | -1.87 | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD↑↑ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD↑↑ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,so}$ Y'↑↑ [mm] |
|--------|-----|--|--|--|--------------------------------|----------------------------|
| 6 | 6 | -8.34 -4.74 | 2.09 0.21 | -2.08 -3.71 | 1041.6 -3.50 | 11.90 |
| 209 | 47 | -26.20 -3.21 | -15.77 -0.30 | -1.88 -0.70 | -4412 0.40 | 2.09 |
| 590 | 11 | 2.08 2.69 | 0.47 0.08 | 0.20 -0.84 | 168.11 -0.76 | 4.47 |
| 727 | 8 | 1.11 -0.37 | 2.60 2.45 | -0.85 -2.06 | 862.86 4.51 | 9.93 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{cEd} m_{cEd} [kN/m] | c_d R_d YSD↑↑ [kN/m] | [%] |
|--------|-----|--|----------------------------------|-----------------------------------|-------|
| 6 | 6 | -2.08 -3.71 | -1039.20 7.41 | -4.87 -12.75 | 38.18 |
| 7 | 36 | -1.19 -2.96 | -593.05 5.92 | -2.94 -12.75 | 23.06 |
| 209 | 118 | -1.88 -0.76 | -940.60 1.51 | -3.91 -12.75 | 30.65 |
| 268 | 36 | -0.58 -0.80 | -291.00 1.60 | -1.32 -12.75 | 10.33 |
| 590 | 13 | 0.19 -1.05 | -92.98 2.11 | -0.57 -12.75 | 4.50 |
| 625 | 47 | 3.03 -1.01 | -1513.75 2.02 | -6.25 -12.75 | 49.01 |
| 645 | 6 | 0.70 -1.49 | -347.55 2.98 | -1.68 -12.75 | 13.14 |
| 725 | 36 | -0.87 -1.12 | -434.62 2.24 | -1.95 -12.75 | 15.32 |
| 767 | 119 | 0.12 -1.10 | -61.27 2.20 | -0.46 -12.75 | 3.58 |

vorhandene Betonspannung
~|→|bb→&AÑÑ~^ää|'←b*á^^|^&

Spannung

Spannungsnachweis, Abs. 7.2

↑↔\ÄQ†^&bâæ}æää|^&Äá_s

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | a_s [cm ² /m] | s [-] | c [-] |
|--------|-----|---|--|-------------------------------|--------------|--------------|
| 7 | 99 | 1.60 1.55 -0.85 | 1.55 2.22 -2.12 | ru 9.99 | 0.65 | 0.00 |
| 84 | 76 | 1.99 -0.02 -0.17 | 0.85 0.07 -1.45 | ru 8.63 | 0.66 | 0.00 |
| 209 | 72 | -18.86 -11.14 -1.33 | -2.50 -0.23 -0.54 | ru 36.27 | -- | 0.53 |
| 212 | 79 | 1.93 0.18 0.08 | 3.56 0.41 -0.71 | ru 8.43 | 0.66 | 0.00 |
| 324 | 103 | 0.32 -1.49 | -0.40 0.07 | ru 4.39 | 0.32 | 0.00 |

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|--|----|-------------------------------|--------------|--------------|
| 637 | 72 | -0.23 0.14 2.60 0.25 | -0.54 -0.27 -0.37 -1.37 | ru | 4.03 | 0.28 | 0.00 |
| 651 | 72 | 0.10 -0.57 0.48 | -0.37 -0.07 -0.97 | ru | 4.45 | 0.34 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \}$ s / f_{yk} $c: \vec{N} \vec{a} \setminus \sim \wedge b^* \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \}$ c / f_{ck} | | | | | | | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|--|----|-------------------------------|--------------|--------------|
| 6 | 72 | -5.97 1.49 -1.49 | -3.39 0.15 -2.65 | su | 11.96 | 0.65 | 0.00 |
| 7 | 75 | 1.53 1.70 -0.83 | 1.53 2.19 -2.09 | su | 10.55 | 0.65 | 0.00 |
| 209 | 103 | -18.64 -11.18 -1.33 | -2.31 -0.21 -0.50 | su | 2.18 | -- | 0.41 |
| 590 | 85 | 1.52 0.33 0.15 | 1.96 0.06 -0.61 | su | 4.47 | 0.29 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \}$ s / f_{yk} $c: \vec{N} \vec{a} \setminus \sim \wedge b^* \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \}$ c / f_{ck} | | | | | | | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|--|----|-------------------------------|--------------|--------------|
| 7 | 99 | 1.60 1.55 -0.85 | 1.55 2.22 -2.12 | ro | 9.58 | 0.64 | 0.00 |
| 84 | 76 | 1.99 -0.02 -0.17 | 0.85 0.07 -1.45 | ro | 8.59 | 0.64 | 0.00 |
| 209 | 72 | -18.86 -11.14 -1.33 | -2.50 -0.23 -0.54 | ro | 35.30 | -- | 0.53 |
| 212 | 79 | 1.93 0.18 0.08 | 3.56 0.41 -0.71 | ro | 7.21 | 0.64 | 0.00 |
| 324 | 103 | 0.32 -1.49 -0.23 | -0.40 0.07 -0.54 | ro | 4.39 | 0.34 | 0.00 |
| 637 | 72 | 0.14 2.60 0.25 | -0.27 -0.37 -1.37 | ro | 4.03 | 0.29 | 0.00 |
| 651 | 72 | 0.10 -0.57 0.48 | -0.37 -0.07 -0.97 | ro | 4.45 | 0.36 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \}$ s / f_{yk} $c: \vec{N} \vec{a} \setminus \sim \wedge b^* \vec{a} \wedge \wedge \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \vec{b} \vec{a} \}$ c / f_{ck} | | | | | | | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--------|-----|---|--|----|-------------------------------|------------|------------|
| 6 | 72 | -5.97 1.49 -1.49 | -3.39 0.15 -2.65 | so | 11.90 | 0.65 | 0.00 |
| 209 | 103 | -18.64 -11.18 -1.33 | -2.31 -0.21 -0.50 | so | 2.09 | -- | 0.41 |
| 590 | 85 | 1.52 0.33 0.15 | 1.96 0.06 -0.61 | so | 4.47 | 0.28 | 0.00 |
| 727 | 75 | 0.80 1.85 -0.61 | -0.26 1.76 -1.48 | so | 9.93 | 0.61 | 0.00 |

$s: U \setminus \vec{a} \rightarrow b^* \vec{a}^{\wedge} \wedge |^{\wedge} \& b \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \leftrightarrow b \vec{A} \zeta_s / f_{yk} \}$
 $c: \vec{N} \vec{a} \setminus \sim \wedge b^* \vec{a}^{\wedge} \wedge |^{\wedge} \& b \{ \vec{a} \vec{a} \vec{a} \rightarrow \wedge \leftrightarrow b \vec{A} \zeta_c / f_{ck} \}$

WT-2.3_3

$\vec{N} \vec{a} \uparrow \vec{a} b b |^{\wedge} \& \vec{A} \vec{a} \vec{f} \vec{i} \vec{a} \vec{A} \vec{O} \rightarrow \vec{t}^{\wedge} \vec{a} \vec{a} \vec{A} \vec{C} U \setminus \vec{a} \vec{a} \rightarrow \vec{a} \vec{a} \setminus \sim \wedge \vec{D} \vec{A} U \vec{U} \vec{E} \vec{G} \vec{E} \vec{G} \vec{Z} \vec{G}$

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nationen

$R \vec{a} \vec{B} \& \vec{a} \vec{a} \vec{a}^{\wedge} \vec{a} \vec{a} \vec{A} \vec{P} \sim \uparrow \vec{a} \leftrightarrow \wedge \vec{a} \setminus \leftrightarrow \sim \wedge \vec{a}^{\wedge} \vec{A}^{\wedge} \vec{a}^{\wedge} \vec{a} \vec{A} \vec{E} \vec{O} \vec{S} \vec{A} \vec{O} \vec{S} \vec{A} \vec{F} \vec{i} \vec{i} \vec{e}$

Ew Einwirkungsname
Lkn Lastkombinationsnummer

$\vec{E} \leftrightarrow \vec{a} \vec{A} \vec{N} \vec{a} \setminus \vec{a} \leftrightarrow \leftrightarrow \& |^{\wedge} \& \vec{A} \vec{a} \leftrightarrow \wedge \sim \vec{a} \rightarrow \wedge \vec{a} \vec{a} \vec{Q} \vec{a} b \setminus \vec{a} \vec{t} \rightarrow \vec{a} \vec{A} \leftrightarrow \wedge \vec{a} \vec{a} \vec{a} \vec{a} \rightarrow \vec{a} \vec{A} \vec{e} \text{iner}$
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|-------------|-------------|-------------|---------|
| 1-5 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 6-7 | | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 8-10 | | 1.35 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 11 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 12-17 | | 1.00 | 1.00 | . | 1.50 | . | 1.50 |
| 18 | | 1.00 | 1.00 | . | 1.50 | 1.05 | 1.50 |
| 19-20 | | 1.00 | 1.00 | . | 1.05 | 1.50 | 1.50 |
| 21-32 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 33-51 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 52-72 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 73-78 | | 1.00 | 1.00 | . | 1.05 | . | 1.50 |
| 79 | | 1.35 | 1.35 | . | 1.05 | 1.05 | 1.50 |
| 80 | | 1.35 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 81-82 | | 1.35 | 1.35 | 1.05 | . | 1.05 | . |
| 83-85 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 86-89 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 90-94 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | . |
| 95-102 | | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 103-105 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1-5 | | . |
| 6-7 | | . |
| 8-10 | | . |
| 11 | | . |
| 12-17 | | . |
| 18 | | . |
| 19-20 | | . |
| 21-32 | | 1.50 |

| Lkn | Ew | Qk.N_DA |
|---------|----|---------|
| 33-51 | | 1.50 |
| 52-72 | | 1.50 |
| 73-78 | | 1.50 |
| 79 | | 1.50 |
| 80 | | 1.50 |
| 81-82 | | 1.50 |
| 83-85 | | 1.50 |
| 86-89 | | 1.50 |
| 90-94 | | 1.50 |
| 95-102 | | 1.50 |
| 103-105 | | 1.50 |

Selten

Seltene Kombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|---------|---------|---------|---------|
| 106-108 | | 1.00 | 1.00 | 1.00 | . | 0.70 | 1.00 |
| 109-110 | | 1.00 | 1.00 | 1.00 | 0.70 | 0.70 | 1.00 |
| 111-134 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 1.00 |
| 135-159 | | 1.00 | 1.00 | 0.70 | . | 0.70 | 1.00 |
| 160-161 | | 1.00 | 1.00 | 0.70 | . | 0.70 | . |
| 162-165 | | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | . |
| 166 | | 1.00 | 1.00 | . | 0.70 | 0.70 | 1.00 |

| Lkn | Ew | Qk.N_DA |
|---------|----|---------|
| 106-108 | | . |
| 109-110 | | . |
| 111-134 | | 1.00 |
| 135-159 | | 1.00 |
| 160-161 | | 1.00 |
| 162-165 | | 1.00 |
| 166 | | 1.00 |

Ei Ug] ! gh} bX] [

T| áb↔Eb\ ‡ ^ä↔&æÁP~↑â↔^á\↔~^æ^

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|---------|----|------|------|---------|---------|---------|---------|
| 167-169 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | 0.80 |
| 170-174 | | 1.00 | 1.00 | 0.30 | . | 0.60 | 0.80 |
| 175 | | 1.00 | 1.00 | 0.30 | . | 0.60 | . |
| 176-178 | | 1.00 | 1.00 | 0.30 | 0.60 | 0.60 | . |

| Lkn | Ew | Qk.N_DA |
|---------|----|---------|
| 167-169 | | . |
| 170-174 | | . |
| 175 | | . |
| 176-178 | | . |

Al l e Nachwei se

Öä~äää↔→´ äæÁQ‡^&bâæ}æää| ^&Áá| bÁá→æ^ÁSá´ ä}æ→bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $s_{r,Ed}$ $m_{r,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $s_{s,Ed}$ $m_{s,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | $s_{rs,Ed}$ $m_{rs,Ed}$ YSÐ↑↑¥Ÿ [kNm/m] | n_{Ed} m_{Ed} [kNm/m] | $a_{s,ru}$ $Y'↑¥Ð↑Ÿ$ |
|--------|-----|---|---|---|----------------------------------|-------------------------|
| 778 | 52 | 0.29 7.20 | 3.15 12.22 | 0.53 11.13 | 204.52 18.33 | 4.49 |
| 781 | 33 | -20.25 1.29 | -18.49 -0.04 | -5.45 -0.93 | -6425 0.36 | 27.14 |
| 788 | 12 | -0.50 0.98 | 0.22 0.00 | 0.00 0.35 | -125.5 0.63 | 2.33 |
| 877 | 53 | 0.02 1.59 | 1.69 1.81 | 0.66 1.02 | 170.54 2.61 | 4.23 |
| 900 | 33 | 0.37 0.26 | 4.88 1.03 | -0.61 -1.82 | 243.90 2.08 | 4.71 |
| 918 | 33 | -0.76 | -5.53 | 2.39 | 406.02 | 5.75 |

POSITION **WT-2.3 + WT-2.4**

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ru}$ |
|--------|-----|---|---|---|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD \uparrow \uparrow \uparrow Y$ [kNm/m] | $YSD \uparrow \uparrow \uparrow Y$ [kNm/m] | $YSD \uparrow \uparrow \uparrow Y$ [kNm/m] | [kN/m] | |
| 948 | 33 | 0.65 | 0.94 | -0.73 | 1.38 | 5.74 |
| | | 0.29 | -2.20 | -1.33 | 404.60 | |
| | | 0.34 | 1.00 | -1.39 | 1.73 | |
| 1223 | 66 | -0.27 | -2.94 | -0.59 | 79.07 | 3.65 |
| | | -0.25 | 0.71 | -1.66 | 1.41 | |
| | | -0.30 | -3.98 | -0.74 | 108.57 | |
| 1249 | 68 | -0.22 | 0.31 | -1.86 | 1.64 | 3.84 |
| | | 0.06 | -2.13 | 1.45 | 379.34 | |
| | | 1.17 | 7.06 | -1.13 | 2.31 | |
| 1325 | 33 | 6.96 | -0.31 | -0.09 | 1761.9 | 19.74 |
| | | -0.21 | 0.01 | -2.47 | -2.67 | |
| | | | | | | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,su}$ |
|--------|-----|---|---|---|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD \uparrow \uparrow \uparrow Y$ [kNm/m] | $YSD \uparrow \uparrow \uparrow Y$ [kNm/m] | $YSD \uparrow \uparrow \uparrow Y$ [kNm/m] | [kN/m] | |
| 778 | 52 | 0.29 | 3.15 | 0.53 | 919.45 | 13.35 |
| | | 7.20 | 12.22 | 11.13 | 23.34 | |
| | | -20.25 | -18.49 | -5.45 | -5985 | |
| 781 | 33 | 1.29 | -0.04 | -0.93 | -0.97 | 21.84 |
| | | -8.83 | 0.08 | 0.68 | 190.25 | |
| | | 1.55 | -0.01 | -1.26 | 1.26 | |
| 800 | 33 | -5.97 | -1.00 | 2.25 | 314.01 | 5.47 |
| | | 1.09 | 0.23 | -0.58 | 0.81 | |
| | | -4.38 | -0.97 | 2.33 | 340.10 | |
| 842 | 33 | 1.02 | 0.44 | -0.46 | 0.91 | 5.65 |
| | | -3.23 | -0.92 | 2.13 | 302.70 | |
| | | 0.96 | 0.66 | -0.35 | 1.01 | |
| 865 | 33 | 0.27 | 6.87 | -0.58 | 1861.8 | 20.91 |
| | | -1.06 | 1.10 | -2.57 | 3.67 | |
| | | -2.19 | -0.42 | 1.50 | 271.01 | |
| 888 | 33 | 0.97 | 0.92 | -0.12 | 1.03 | 5.18 |
| | | -0.01 | 2.39 | 0.51 | 722.60 | |
| | | -0.08 | 0.05 | 1.41 | 1.46 | |
| 901 | 33 | 2.50 | -0.19 | -0.22 | 7.68 | 3.36 |
| | | -0.15 | 0.11 | -1.37 | 1.48 | |
| | | 0.66 | -0.09 | 0.47 | 94.14 | |
| 1449 | 105 | -11.87 | -0.17 | 3.59 | 3.42 | 3.96 |
| | | | | | | |
| | | | | | | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | N_{Ed} | $a_{s,ro}$ |
|--------|-----|---|---|---|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD \uparrow \uparrow \uparrow Y$ [kNm/m] | $YSD \uparrow \uparrow \uparrow Y$ [kNm/m] | $YSD \uparrow \uparrow \uparrow Y$ [kNm/m] | [kN/m] | |
| 778 | 52 | 0.29 | 3.15 | 0.53 | 204.52 | 4.45 |
| | | 7.20 | 12.22 | 11.13 | -3.93 | |
| | | -20.25 | -18.49 | -5.45 | -6425 | |
| 781 | 33 | 1.29 | -0.04 | -0.93 | 2.22 | 27.50 |
| | | -0.39 | 0.10 | 0.04 | -106.5 | |
| | | 1.14 | 0.82 | 1.22 | -0.07 | |
| 806 | 3 | -0.12 | 0.29 | 0.26 | 34.80 | 3.36 |
| | | 0.97 | 1.82 | 1.00 | -0.02 | |
| | | 0.37 | 4.88 | -0.61 | 243.90 | |
| 900 | 33 | 0.26 | 1.03 | -1.82 | -1.56 | 4.71 |
| | | -0.01 | 2.28 | 0.55 | 136.59 | |
| | | -0.09 | 0.22 | 1.32 | -1.41 | |
| 901 | 53 | -0.76 | -5.53 | 2.39 | 406.02 | 5.75 |
| | | 0.65 | 0.94 | -0.73 | -0.08 | |
| | | 0.00 | 1.58 | 0.67 | 168.34 | |
| 918 | 33 | 0.74 | 0.59 | 1.11 | -0.37 | 4.22 |
| | | | | | | |
| | | | | | | |

W-235

Schulcampus EWKWT-2.3 + WT-2.4

| Knoten | Lkn | $s_{r,Ed}$ | $s_{s,Ed}$ | $s_{rs,Ed}$ | n_{Ed} | $a_{s,ro}$ |
|--------|-----|----------------------------------|----------------------------------|----------------------------------|----------|---------------------------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD \uparrow \uparrow \ddot{Y}$ | $YSD \uparrow \uparrow \ddot{Y}$ | $YSD \uparrow \uparrow \ddot{Y}$ | [kNm/m] | $Y' \uparrow \uparrow \ddot{Y}$ |
| | | [kNm/m] | [kNm/m] | [kNm/m] | [kNm/m] | |
| 948 | 33 | 0.29 | -2.20 | -1.33 | 404.60 | 5.74 |
| | | 0.34 | 1.00 | -1.39 | -1.05 | |
| 1223 | 66 | -0.27 | -2.94 | -0.59 | 79.07 | 3.65 |
| | | -0.25 | 0.71 | -1.66 | -1.91 | |
| 1249 | 33 | -0.30 | -3.98 | -0.74 | 108.57 | 3.84 |
| | | -0.22 | 0.31 | -1.86 | -2.08 | |
| 1350 | 33 | 0.06 | -2.02 | 1.49 | 389.29 | 5.64 |
| | | -1.07 | 3.93 | -0.91 | -0.17 | |
| 1450 | 39 | 0.17 | -1.33 | 0.95 | 281.56 | 5.46 |
| | | -15.16 | -11.59 | 4.13 | -19.29 | |
| 1497 | 33 | 6.96 | -0.31 | -0.09 | 1761.9 | 19.74 |
| | | -0.21 | 0.01 | -2.47 | -2.67 | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD↑↑ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD↑↑ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,so}$ $Y'↑↑$ |
|--------|-----|--|--|--|--------------------------------|----------------------|
| 778 | 35 | 0.29 | 3.19 | 0.51 | 926.06 | 10.00 |
| | | 7.41 | 11.75 | 10.73 | 1.02 | |
| 781 | 33 | -20.25 | -18.49 | -5.45 | -5985 | 21.83 |
| | | 1.29 | -0.04 | -0.93 | 0.89 | |
| 800 | 33 | -8.83 | 0.08 | 0.68 | 190.25 | 4.62 |
| | | 1.55 | -0.01 | -1.26 | -1.27 | |
| 805 | 33 | -0.41 | 0.72 | 0.20 | 229.08 | 4.89 |
| | | 2.87 | 2.40 | 2.81 | -0.40 | |
| 812 | 34 | -1.25 | 0.43 | 0.12 | 136.14 | 4.25 |
| | | 1.53 | 0.29 | 0.31 | -0.02 | |
| 819 | 33 | -5.97 | -1.00 | 2.25 | 314.01 | 5.47 |
| | | 1.09 | 0.23 | -0.58 | -0.36 | |
| 842 | 33 | -4.38 | -0.97 | 2.33 | 340.10 | 5.65 |
| | | 1.02 | 0.44 | -0.46 | -0.02 | |
| 865 | 33 | -3.23 | -0.92 | 2.13 | 302.70 | 3.27 |
| | | 0.96 | 0.66 | -0.35 | 0.31 | |
| 875 | 33 | 0.27 | 6.87 | -0.58 | 1861.8 | 20.60 |
| | | -1.06 | 1.10 | -2.57 | -1.46 | |
| 901 | 33 | -0.01 | 2.39 | 0.51 | 722.60 | 8.29 |
| | | -0.08 | 0.05 | 1.41 | -1.35 | |
| 911 | 33 | -1.50 | -0.17 | 1.22 | 261.83 | 2.72 |
| | | 1.03 | 1.19 | 0.11 | 1.08 | |
| 1075 | 21 | 0.01 | -0.78 | -0.05 | -208.8 | 1.87 |
| | | 0.00 | 0.60 | -0.61 | -0.01 | |
| 1158 | 34 | -0.23 | -0.28 | 1.69 | 351.09 | 3.28 |
| | | -0.27 | 4.45 | -0.42 | 4.04 | |
| 1208 | 34 | -0.11 | -0.27 | 1.65 | 345.05 | 3.29 |
| | | -0.67 | 4.75 | -1.24 | 3.51 | |
| 1259 | 34 | 0.16 | -0.21 | 1.52 | 326.46 | 3.34 |
| | | -0.91 | 3.90 | -2.23 | 1.67 | |
| 1270 | 21 | -0.02 | -0.37 | 0.11 | -118.4 | 2.49 |
| | | -0.15 | 0.41 | -0.92 | -0.51 | |
| 1283 | 33 | 0.24 | -0.23 | 1.46 | 308.94 | 3.53 |
| | | -1.05 | 4.05 | -2.70 | 1.35 | |
| 1287 | 34 | 0.56 | -0.21 | 1.31 | 276.25 | 5.21 |
| | | -0.68 | 2.43 | -2.48 | -0.04 | |
| 1309 | 34 | 0.64 | -0.14 | 1.31 | 291.42 | 5.32 |
| | | -0.85 | 2.71 | -2.90 | -0.19 | |
| 1333 | 37 | 0.76 | -0.13 | 1.20 | 267.46 | 5.15 |
| | | -0.92 | 2.48 | -3.28 | -0.80 | |
| 1449 | 105 | 2.50 | -0.19 | -0.22 | 7.68 | 3.36 |
| | | -0.15 | 0.11 | -1.37 | -1.26 | |
| 1475 | 38 | 0.66 | -0.09 | 0.47 | 94.14 | 3.96 |
| | | -11.87 | -0.17 | 3.59 | -3.76 | |

Hf U[Z} \] [_ Y] h

Óãà~ääæã→´âæÁQ†^&bâæ}æãã|^&
á|bÁÚää&à†â&←æ↔\b^á´â}æ↔b

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $s_{r,Ed}$ | $s_{s,Ed}$ | $s_{rs,Ed}$ | n_{Ed} | $a_{s,ru}$ |
|--------|-----|--------------------|--------------------|--------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSD↑↑¥¥ [kNm/m] | YSD↑↑¥¥ [kNm/m] | YSD↑↑¥¥ [kNm/m] | [kN/m] | |
| 778 | 52 | 0.29 | 3.15 | 0.53 | 204.52 | 4.49 |
| | | 7.20 | 12.22 | 11.13 | 18.33 | |
| 781 | 33 | -20.25 | -18.49 | -5.45 | -6425 | 27.14 |
| | | 1.29 | -0.04 | -0.93 | 0.36 | |
| 788 | 12 | -0.50 | 0.22 | 0.00 | -125.5 | 2.33 |
| | | 0.98 | 0.00 | 0.35 | 0.63 | |
| 877 | 53 | 0.02 | 1.69 | 0.66 | 170.54 | 4.23 |
| | | 1.59 | 1.81 | 1.02 | 2.61 | |
| 900 | 33 | 0.37 | 4.88 | -0.61 | 243.90 | 4.71 |
| | | 0.26 | 1.03 | -1.82 | 2.08 | |
| 918 | 33 | -0.76 | -5.53 | 2.39 | 406.02 | 5.75 |
| | | 0.65 | 0.94 | -0.73 | 1.38 | |
| 948 | 33 | 0.29 | -2.20 | -1.33 | 404.60 | 5.74 |
| | | 0.34 | 1.00 | -1.39 | 1.73 | |
| 1223 | 66 | -0.27 | -2.94 | -0.59 | 79.07 | 3.65 |
| | | -0.25 | 0.71 | -1.66 | 1.41 | |
| 1249 | 68 | -0.30 | -3.98 | -0.74 | 108.57 | 3.84 |
| | | -0.22 | 0.31 | -1.86 | 1.64 | |
| 1325 | 33 | 0.06 | -2.13 | 1.45 | 379.34 | 5.58 |
| | | 1.17 | 7.06 | -1.13 | 2.31 | |
| 1497 | 33 | 6.96 | -0.31 | -0.09 | 1761.9 | 19.74 |
| | | -0.21 | 0.01 | -2.47 | -2.67 | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $s_{r,Ed}$ | $s_{s,Ed}$ | $s_{rs,Ed}$ | n_{Ed} | $a_{s,su}$ |
|--------|-----|--------------------|--------------------|--------------------|----------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSD↑↑¥¥ [kNm/m] | YSD↑↑¥¥ [kNm/m] | YSD↑↑¥¥ [kNm/m] | [kN/m] | |
| 778 | 52 | 0.29 | 3.15 | 0.53 | 919.45 | 13.35 |
| | | 7.20 | 12.22 | 11.13 | 23.34 | |
| 781 | 33 | -20.25 | -18.49 | -5.45 | -5985 | 21.84 |
| | | 1.29 | -0.04 | -0.93 | -0.97 | |
| 800 | 33 | -8.83 | 0.08 | 0.68 | 190.25 | 4.62 |
| | | 1.55 | -0.01 | -1.26 | 1.26 | |
| 819 | 33 | -5.97 | -1.00 | 2.25 | 314.01 | 5.47 |
| | | 1.09 | 0.23 | -0.58 | 0.81 | |
| 842 | 33 | -4.38 | -0.97 | 2.33 | 340.10 | 5.65 |
| | | 1.02 | 0.44 | -0.46 | 0.91 | |
| 865 | 33 | -3.23 | -0.92 | 2.13 | 302.70 | 5.40 |
| | | 0.96 | 0.66 | -0.35 | 1.01 | |
| 875 | 33 | 0.27 | 6.87 | -0.58 | 1861.8 | 20.91 |
| | | -1.06 | 1.10 | -2.57 | 3.67 | |
| 888 | 33 | -2.19 | -0.42 | 1.50 | 271.01 | 5.18 |
| | | 0.97 | 0.92 | -0.12 | 1.03 | |
| 901 | 33 | -0.01 | 2.39 | 0.51 | 722.60 | 8.29 |
| | | -0.08 | 0.05 | 1.41 | 1.46 | |
| 1449 | 105 | 2.50 | -0.19 | -0.22 | 7.68 | 3.36 |
| | | -0.15 | 0.11 | -1.37 | 1.48 | |
| 1475 | 38 | 0.66 | -0.09 | 0.47 | 94.14 | 3.96 |
| | | -11.87 | -0.17 | 3.59 | 3.42 | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD↑↑YY [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD↑↑YY [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑YY [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,ro}$ Y'↑YD↑Y |
|--------|-----|--|--|--|--------------------------------|-----------------------|
| 778 | 52 | 0.29 7.20 | 3.15 12.22 | 0.53 11.13 | 204.52 -3.93 | 4.45 |
| 781 | 33 | -20.25 1.29 | -18.49 -0.04 | -5.45 -0.93 | -6425 2.22 | 27.50 |
| 806 | 3 | -0.39 1.14 | 0.10 0.82 | 0.04 1.22 | -106.5 -0.07 | 2.45 |
| 829 | 3 | -0.12 0.97 | 0.29 1.82 | 0.26 1.00 | 34.80 -0.02 | 3.36 |
| 900 | 33 | 0.37 0.26 | 4.88 1.03 | -0.61 -1.82 | 243.90 -1.56 | 4.71 |
| 901 | 53 | -0.01 -0.09 | 2.28 0.22 | 0.55 1.32 | 136.59 -1.41 | 4.02 |
| 918 | 33 | -0.76 0.65 | -5.53 0.94 | 2.39 -0.73 | 406.02 -0.08 | 5.75 |
| 927 | 53 | 0.00 0.74 | 1.58 0.59 | 0.67 1.11 | 168.34 -0.37 | 4.22 |
| 948 | 33 | 0.29 0.34 | -2.20 1.00 | -1.33 -1.39 | 404.60 -1.05 | 5.74 |
| 1223 | 66 | -0.27 -0.25 | -2.94 0.71 | -0.59 -1.66 | 79.07 -1.91 | 3.65 |
| 1249 | 33 | -0.30 -0.22 | -3.98 0.31 | -0.74 -1.86 | 108.57 -2.08 | 3.84 |
| 1350 | 33 | 0.06 -1.07 | -2.02 3.93 | 1.49 -0.91 | 389.29 -0.17 | 5.64 |
| 1450 | 39 | 0.17 -15.16 | -1.33 -11.59 | 0.95 4.13 | 281.56 -19.29 | 5.46 |
| 1497 | 33 | 6.96 -0.21 | -0.31 0.01 | -0.09 -2.47 | 1761.9 -2.67 | 19.74 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD↑↑YY [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD↑↑YY [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑YY [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,so}$ Y'↑YD↑Y |
|--------|-----|--|--|--|--------------------------------|-----------------------|
| 778 | 35 | 0.29 7.41 | 3.19 11.75 | 0.51 10.73 | 926.06 1.02 | 10.00 |
| 781 | 33 | -20.25 1.29 | -18.49 -0.04 | -5.45 -0.93 | -5985 0.89 | 21.83 |
| 800 | 33 | -8.83 1.55 | 0.08 -0.01 | 0.68 -1.26 | 190.25 -1.27 | 4.62 |
| 805 | 33 | -0.41 2.87 | 0.72 2.40 | 0.20 2.81 | 229.08 -0.40 | 4.89 |
| 812 | 34 | -1.25 1.53 | 0.43 0.29 | 0.12 0.31 | 136.14 -0.02 | 4.25 |
| 819 | 33 | -5.97 1.09 | -1.00 0.23 | 2.25 -0.58 | 314.01 -0.36 | 5.47 |
| 842 | 33 | -4.38 1.02 | -0.97 0.44 | 2.33 -0.46 | 340.10 -0.02 | 5.65 |
| 865 | 33 | -3.23 0.96 | -0.92 0.66 | 2.13 -0.35 | 302.70 0.31 | 3.27 |
| 875 | 33 | 0.27 -1.06 | 6.87 1.10 | -0.58 -2.57 | 1861.8 -1.46 | 20.60 |
| 901 | 33 | -0.01 -0.08 | 2.39 0.05 | 0.51 1.41 | 722.60 -1.35 | 8.29 |
| 911 | 33 | -1.50 1.03 | -0.17 1.19 | 1.22 0.11 | 261.83 1.08 | 2.72 |
| 1075 | 21 | 0.01 0.00 | -0.78 0.60 | -0.05 -0.61 | -208.8 -0.01 | 1.87 |
| 1158 | 34 | -0.23 -0.27 | -0.28 4.45 | 1.69 -0.42 | 351.09 4.04 | 3.28 |

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD↑↑ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD↑↑ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,so}$ Y'↑↑ [kNm/m] |
|--------|-----|--|--|--|--------------------------------|-------------------------------|
| 1208 | 34 | -0.11 -0.67 | -0.27 4.75 | 1.65 -1.24 | 345.05 3.51 | 3.29 |
| 1259 | 34 | 0.16 -0.91 | -0.21 3.90 | 1.52 -2.23 | 326.46 1.67 | 3.34 |
| 1270 | 21 | -0.02 -0.15 | -0.37 0.41 | 0.11 -0.92 | -118.4 -0.51 | 2.49 |
| 1283 | 33 | 0.24 -1.05 | -0.23 4.05 | 1.46 -2.70 | 308.94 1.35 | 3.53 |
| 1287 | 34 | 0.56 -0.68 | -0.21 2.43 | 1.31 -2.48 | 276.25 -0.04 | 5.21 |
| 1309 | 34 | 0.64 -0.85 | -0.14 2.71 | 1.31 -2.90 | 291.42 -0.19 | 5.32 |
| 1333 | 37 | 0.76 -0.92 | -0.13 2.48 | 1.20 -3.28 | 267.46 -0.80 | 5.15 |
| 1449 | 105 | 2.50 -0.15 | -0.19 0.11 | -0.22 -1.37 | 7.68 -1.26 | 3.36 |
| 1475 | 38 | 0.66 -11.87 | -0.09 -0.17 | 0.47 3.59 | 94.14 -3.76 | 3.96 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{cEd} m_{cEd} [kN/m] | σ_{cd} σ_{rd} YSD↑↑ [%] |
|--------|-----|--|----------------------------------|--|
| 778 | 52 | 0.53 11.13 | -264.31 22.26 | -3.19 -12.75 |
| 781 | 33 | -5.45 -0.93 | -2724.54 1.87 | -11.08 -12.75 |
| 821 | 33 | 5.59 -0.82 | -2795.60 1.63 | -11.34 -12.75 |
| 823 | 33 | -3.73 -1.10 | -1865.42 2.21 | -7.67 -12.75 |
| 825 | 91 | 1.07 -1.46 | -535.01 2.92 | -2.42 -12.75 |
| 850 | 33 | 1.51 -2.08 | -752.65 4.15 | -3.41 -12.75 |
| 877 | 53 | 0.66 1.02 | -328.87 2.04 | -1.51 -12.75 |
| 923 | 33 | -1.44 -1.44 | -718.70 2.89 | -3.15 -12.75 |
| 1233 | 33 | 1.61 -1.73 | -805.02 3.45 | -3.55 -12.75 |
| 1275 | 33 | -1.68 -2.34 | -839.16 4.68 | -3.81 -12.75 |
| 1303 | 33 | 1.43 -3.18 | -714.43 6.35 | -3.47 -12.75 |
| 1327 | 33 | 1.41 -3.53 | -702.59 7.05 | -3.49 -12.75 |

vorhandene Betonspannung
 $\sigma_{rd} = \frac{S_{rs,Ed}}{m_{rs,Ed}} \cdot \frac{1}{\sigma_{cd}}$

Spannung

Spannungsnachweis, Abs. 7.2

$\sigma_{rd} = \frac{S_{rs,Ed}}{m_{rs,Ed}} \cdot \frac{1}{\sigma_{cd}}$

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|---|-----|---|--|----|-------------------------------|--------------|--------------|
| 778 | 135 | 0.21 2.26 0.38 | 5.17 8.77 7.99 | ru | 4.49 | 0.64 | 0.09 |
| 781 | 167 | -10.71 -9.65 -2.85 | 0.71 -0.02 -0.50 | ru | 27.14 | -- | 0.38 |
| 788 | 170 | -0.61 0.18 0.00 | 1.03 0.00 0.42 | ru | 2.33 | -- | 0.02 |
| 877 | 136 | 0.02 1.22 0.47 | 1.14 1.29 0.73 | ru | 4.23 | 0.42 | 0.00 |
| 900 | 111 | 0.26 3.49 -0.43 | 0.19 0.74 -1.30 | ru | 4.71 | 0.41 | 0.00 |
| 918 | 111 | -0.55 -3.95 1.71 | 0.46 0.68 -0.52 | ru | 5.75 | 0.52 | 0.00 |
| 948 | 111 | 0.20 -1.57 -0.95 | 0.24 0.71 -0.99 | ru | 5.74 | 0.53 | 0.00 |
| 1223 | 144 | -0.20 -2.14 -0.42 | -0.19 0.51 -1.23 | ru | 3.65 | 0.19 | 0.00 |
| 1249 | 111 | -0.22 -2.84 -0.53 | -0.16 0.22 -1.33 | ru | 3.84 | 0.24 | 0.00 |
| 1325 | 111 | 0.05 -1.52 1.04 | 0.84 5.05 -0.81 | ru | 5.58 | 0.56 | 0.00 |
| 1497 | 111 | 4.98 -0.22 -0.06 | -0.15 0.00 -1.77 | ru | 19.74 | 0.65 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge^* \vec{b} \vec{A} \vec{C} \}_s / f_{yk}$ $c: N \vec{a} \setminus \sim^* b^* \vec{a}^{\wedge \wedge} \mid \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \wedge^* \vec{b} \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--------|-----|---|--|----|-------------------------------|--------------|--------------|
| 778 | 135 | 0.21 2.26 0.38 | 5.17 8.77 7.99 | su | 13.35 | 0.66 | 0.00 |
| 781 | 111 | -14.47 -13.19 -3.89 | 0.92 -0.03 -0.67 | su | 21.84 | -- | 0.49 |
| 800 | 111 | -6.33 0.05 0.48 | 1.11 0.00 -0.90 | su | 4.62 | 0.32 | 0.00 |
| 819 | 111 | -4.27 -0.72 1.61 | 0.78 0.16 -0.42 | su | 5.47 | 0.42 | 0.00 |
| 842 | 111 | -3.13 -0.70 1.67 | 0.73 0.32 -0.33 | su | 5.65 | 0.44 | 0.00 |
| 865 | 111 | -2.31 -0.66 1.52 | 0.69 0.47 -0.25 | su | 5.40 | 0.51 | 0.00 |
| 875 | 111 | 0.19 4.92 -0.41 | -0.76 0.79 -1.84 | su | 20.91 | 0.65 | 0.00 |
| 888 | 111 | -1.57 | 0.70 | su | 5.18 | 0.49 | 0.00 |

W-240

Schulcampus EWK WT-2.3 + WT-2.4

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|--|----|-------------------------------|--------------|--------------|
| | | -0.30 1.07 -0.01 1.71 0.36 | 0.66 -0.08 -0.06 0.04 1.01 | | | | |
| 901 | 111 | | | su | 8.29 | 0.64 | 0.00 |
| 1449 | 159 | 2.42 -0.21 -0.23 | -0.14 0.11 -1.30 | su | 3.36 | 0.05 | 0.02 |
| 1475 | 136 | 0.47 -0.07 0.33 | -8.32 -0.11 2.59 | su | 3.96 | 0.25 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus \wedge \leftrightarrow b \vec{A} \vec{C} \}_s / f_{yk}$ $c: \vec{N} \vec{a} \setminus \sim \wedge b^* \vec{a}^{\wedge \wedge} \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus \wedge \leftrightarrow b \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--|-----|---|--|----|-------------------------------|--------------|--------------|
| 778 | 135 | 0.21 2.26 0.38 | 5.17 8.77 7.99 | ro | 4.45 | 0.40 | 0.00 |
| 781 | 167 | -10.71 -9.65 -2.85 | 0.71 -0.02 -0.50 | ro | 27.50 | -- | 0.39 |
| 806 | 170 | -0.39 0.25 0.03 | 1.33 0.85 1.24 | ro | 2.45 | -- | 0.02 |
| 829 | 136 | -0.15 0.57 0.33 | 1.54 2.32 1.28 | ro | 3.36 | 0.13 | 0.00 |
| 900 | 111 | 0.26 3.49 -0.43 | 0.19 0.74 -1.30 | ro | 4.71 | 0.40 | 0.00 |
| 901 | 136 | -0.01 1.64 0.40 | -0.07 0.15 0.95 | ro | 4.02 | 0.27 | 0.00 |
| 918 | 111 | -0.55 -3.95 1.71 | 0.46 0.68 -0.52 | ro | 5.75 | 0.50 | 0.00 |
| 927 | 136 | 0.00 1.14 0.48 | 0.53 0.42 0.80 | ro | 4.22 | 0.29 | 0.00 |
| 948 | 111 | 0.20 -1.57 -0.95 | 0.24 0.71 -0.99 | ro | 5.74 | 0.52 | 0.00 |
| 1223 | 144 | -0.20 -2.14 -0.42 | -0.19 0.51 -1.23 | ro | 3.65 | 0.20 | 0.00 |
| 1249 | 111 | -0.22 -2.84 -0.53 | -0.16 0.22 -1.33 | ro | 3.84 | 0.25 | 0.00 |
| 1350 | 111 | 0.04 -1.44 1.07 | -0.77 2.81 -0.65 | ro | 5.64 | 0.57 | 0.00 |
| 1450 | 115 | 0.12 -0.95 0.68 | -10.86 -8.30 2.95 | ro | 5.46 | 0.65 | 0.00 |
| 1497 | 111 | 4.98 -0.22 -0.06 | -0.15 0.00 -1.77 | ro | 19.74 | 0.65 | 0.00 |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus \wedge \leftrightarrow b \vec{A} \vec{C} \}_s / f_{yk}$ $c: \vec{N} \vec{a} \setminus \sim \wedge b^* \vec{a}^{\wedge \wedge} \wedge \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus \wedge \leftrightarrow b \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $S_{s,Ed}$ $S_{rs,Ed}$ [N/mm ²] | $m_{r,Ed}$ $m_{s,Ed}$ $m_{rs,Ed}$ [kNm/m] | | a_s [cm ² /m] | s [-] | c [-] |
|--------|-----|---|--|----|-------------------------------|--------------|--------------|
| 778 | 114 | 0.21 2.30 0.37 | 5.31 8.46 7.72 | so | 10.00 | 0.58 | 0.00 |
| 781 | 111 | -14.47 -13.19 -3.89 | 0.92 -0.03 -0.67 | so | 21.83 | -- | 0.49 |
| 800 | 111 | -6.33 0.05 0.48 | 1.11 0.00 -0.90 | so | 4.62 | 0.32 | 0.00 |
| 805 | 120 | -0.30 0.51 0.15 | 2.05 1.73 2.02 | so | 4.89 | 0.34 | 0.00 |
| 812 | 112 | -0.90 0.30 0.08 | 1.10 0.21 0.22 | so | 4.25 | 0.23 | 0.00 |
| 819 | 111 | -4.27 -0.72 1.61 | 0.78 0.16 -0.42 | so | 5.47 | 0.41 | 0.00 |
| 842 | 111 | -3.13 -0.70 1.67 | 0.73 0.32 -0.33 | so | 5.65 | 0.43 | 0.00 |
| 865 | 111 | -2.31 -0.66 1.52 | 0.69 0.47 -0.25 | so | 3.27 | 0.51 | 0.00 |
| 875 | 111 | 0.19 4.92 -0.41 | -0.76 0.79 -1.84 | so | 20.60 | 0.65 | 0.00 |
| 901 | 111 | -0.01 1.71 0.36 | -0.06 0.04 1.01 | so | 8.29 | 0.64 | 0.00 |
| 911 | 111 | -1.07 -0.12 0.87 | 0.74 0.86 0.08 | so | 2.72 | 0.49 | 0.00 |
| 1075 | 111 | 0.02 -1.68 -0.09 | 0.00 0.89 -0.99 | so | 1.87 | -- | 0.06 |
| 1158 | 112 | -0.17 -0.20 1.21 | -0.19 3.19 -0.30 | so | 3.28 | 0.56 | 0.00 |
| 1208 | 112 | -0.08 -0.19 1.18 | -0.48 3.40 -0.89 | so | 3.29 | 0.56 | 0.00 |
| 1259 | 112 | 0.12 -0.15 1.09 | -0.65 2.80 -1.60 | so | 3.34 | 0.53 | 0.00 |
| 1270 | 111 | -0.08 -0.83 0.19 | -0.23 0.61 -1.46 | so | 2.49 | -- | 0.04 |
| 1283 | 112 | 0.17 -0.15 1.05 | -0.75 2.89 -1.92 | so | 3.53 | 0.50 | 0.00 |
| 1287 | 112 | 0.40 -0.15 0.94 | -0.49 1.74 -1.77 | so | 5.21 | 0.38 | 0.00 |
| 1309 | 112 | 0.46 -0.10 0.94 | -0.61 1.94 -2.08 | so | 5.32 | 0.40 | 0.00 |
| 1333 | 116 | 0.55 -0.09 0.86 | -0.66 1.78 -2.35 | so | 5.15 | 0.39 | 0.00 |
| 1449 | 159 | 2.42 -0.21 | -0.14 0.11 | so | 3.36 | 0.05 | 0.02 |

| Knoten | Lkn | $S_{r,Ed}$ | $m_{r,Ed}$ | a_s | s | c |
|--|-----|----------------------|-------------|----------------------|------|------|
| | | $S_{s,Ed}$ | $m_{s,Ed}$ | | | |
| | | $S_{rs,Ed}$ | $m_{rs,Ed}$ | | | |
| | | [N/mm ²] | [kNm/m] | [cm ² /m] | [-] | [-] |
| 1475 | 119 | -0.23 | -1.30 | so | 3.96 | 0.26 |
| | | 0.47 | -8.50 | | | 0.00 |
| | | -0.07 | -0.13 | | | |
| | | 0.34 | 2.57 | | | |
| $s: U \setminus \vec{a} \vec{a} \rightarrow b^* \vec{a}^{\wedge \wedge} ^{\wedge} \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus^{\wedge} \& b \vec{A} \vec{C} \}_s / f_{yk}$ $c: \vec{N} \vec{a} \setminus \sim^{\wedge} b^* \vec{a}^{\wedge \wedge} ^{\wedge} \& b \{ \vec{a} \vec{a} \vec{a} \vec{t} \rightarrow \setminus^{\wedge} \& b \vec{A} \vec{C} \}_c / f_{ck}$ | | | | | | |

WT-2.4_1

Erf. Bewehrung

Kombinationen

$\vec{N} \vec{a} \uparrow \vec{a} b b |^{\wedge} \& \vec{A} \vec{a} \vec{f} \vec{i} \vec{a} \vec{A} \vec{O} \rightarrow \vec{t}^{\wedge} \vec{a} \vec{a} \vec{A} \vec{C} U \setminus \vec{a} \vec{a} \rightarrow \vec{a} \vec{a} \setminus \sim^{\wedge} \vec{D} \vec{A} \vec{U} \vec{U} \vec{E} \vec{G} \vec{E} \vec{H} \vec{Z} \vec{F}$

Erforderliche Bewehrung

$R \vec{a} \vec{B} \& \vec{a} \vec{a} \vec{a}^{\wedge} \vec{a} \vec{a} \vec{A} \vec{P} \sim \uparrow \vec{a} \leftrightarrow^{\wedge} \vec{a} \setminus \leftrightarrow \sim^{\wedge} \vec{a}^{\wedge} \vec{A}^{\wedge} \vec{a}^{\wedge} \vec{a}^{\wedge} \vec{A} \vec{E} \vec{O} \vec{S} \vec{A} \vec{O} \vec{S} \vec{A} \vec{F} \vec{i} \vec{i} \in$

Ew Einwirkungsname
Lkn Lastkombinationsnummer

$\& \leftrightarrow \vec{a} \vec{A} \vec{N} \vec{a} \setminus \vec{a} \leftrightarrow \leftrightarrow \& |^{\wedge} \& \vec{A} \vec{a} \leftrightarrow^{\wedge} \vec{a} \rightarrow^{\wedge} \vec{a} \vec{a} \vec{A} \vec{Q} \vec{a} b \setminus \vec{a} \vec{t} \rightarrow \vec{a} \vec{A} \leftrightarrow^{\wedge} \vec{a} \vec{a} \vec{a} \vec{a} \rightarrow \vec{a} \vec{A}$ einer
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh} bX] [#] cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | $\vec{O} \leftarrow$ | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|----------------------|-------------|---------|-------------|---------|
| 1-2 | | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 3-7 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 8-10 | | 1.35 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 11 | | 1.00 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 12-14 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 15 | | 1.00 | 1.00 | . | 1.05 | 1.50 | 1.50 |
| 16-28 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 29-31 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 32-35 | | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 36-37 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 38-56 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 57 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 58 | | 1.35 | 1.35 | 1.05 | . | 1.05 | . |
| 59-61 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 62 | | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 63 | | 1.00 | 1.00 | . | 1.05 | . | 1.50 |
| 64 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | . |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1-2 | | . |
| 3-7 | | . |
| 8-10 | | . |
| 11 | | . |
| 12-14 | | . |
| 15 | | . |
| 16-28 | | 1.50 |
| 29-31 | | 1.50 |
| 32-35 | | 1.50 |
| 36-37 | | 1.50 |
| 38-56 | | 1.50 |
| 57 | | 1.50 |
| 58 | | 1.50 |
| 59-61 | | 1.50 |
| 62 | | 1.50 |
| 63 | | 1.50 |
| 64 | | 1.50 |

Alle Nachweise

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,ru}$ |
|--------|-----|---|---|---|----------|--|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ | [kN/m] | $Y' \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ |
| | | [kNm/m] | [kNm/m] | [kNm/m] | [kNm/m] | |
| 105 | 17 | 13.17 | 2.40 | 0.37 | 3382.9 | 37.95 |
| | | -6.89 | 0.24 | 4.46 | -2.43 | |
| 112 | 16 | 6.05 | 11.87 | 3.39 | 2360.1 | 26.64 |
| | | 2.83 | 0.37 | 3.61 | 6.43 | |
| 779 | 19 | -0.15 | -0.34 | -0.42 | 65.06 | 3.57 |
| | | 17.37 | -7.24 | 8.96 | 26.33 | |
| 1529 | 16 | -0.85 | 0.42 | 1.51 | 164.55 | 4.20 |
| | | -1.62 | 0.15 | 5.14 | 3.52 | |
| 1536 | 16 | -0.53 | 2.41 | 1.07 | 134.02 | 4.00 |
| | | -1.74 | 1.28 | 3.80 | 2.06 | |
| 1538 | 41 | -0.08 | 2.32 | -0.59 | 126.71 | 3.95 |
| | | -0.13 | 4.44 | 0.97 | 0.84 | |
| 1562 | 16 | -0.16 | 2.90 | 0.53 | 92.73 | 3.73 |
| | | -1.23 | 2.21 | 2.38 | 1.15 | |
| 1686 | 16 | 0.91 | 0.14 | -0.91 | 456.65 | 6.07 |
| | | 1.41 | -2.82 | 1.67 | 3.09 | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,su}$ |
|--------|-----|---|---|---|----------|--|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ | [kN/m] | $Y' \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ |
| | | [kNm/m] | [kNm/m] | [kNm/m] | [kNm/m] | |
| 112 | 16 | 6.05 | 11.87 | 3.39 | 3814.3 | 42.33 |
| | | 2.83 | 0.37 | 3.61 | 3.98 | |
| 779 | 36 | -0.06 | -0.07 | -0.23 | 41.02 | 3.59 |
| | | 11.23 | -3.98 | 5.23 | 1.25 | |
| 1498 | 42 | 0.92 | 4.26 | -0.39 | 1163.9 | 13.79 |
| | | -3.13 | -1.70 | 9.12 | 7.43 | |
| 1504 | 16 | 6.88 | 4.15 | -1.30 | 1362.2 | 15.61 |
| | | -4.62 | 0.05 | 4.89 | 4.94 | |
| 1527 | 16 | -1.13 | 3.57 | 0.68 | 1063.5 | 12.35 |
| | | -2.45 | 1.08 | 3.89 | 4.97 | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,ro}$ |
|--------|-----|---|---|---|----------|--|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ | $YSD \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ | [kN/m] | $Y' \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$ |
| | | [kNm/m] | [kNm/m] | [kNm/m] | [kNm/m] | |
| 105 | 16 | 13.30 | 2.42 | 0.37 | 3418.8 | 38.82 |
| | | -6.76 | 0.24 | 4.40 | -11.16 | |
| 112 | 17 | 5.97 | 11.72 | 3.35 | 2328.3 | 26.13 |
| | | 2.93 | 0.48 | 3.76 | -0.83 | |
| 201 | 29 | -0.76 | -0.03 | 0.26 | -253.9 | 1.50 |
| | | 0.74 | -0.21 | 1.87 | -1.12 | |
| 1529 | 16 | -0.85 | 0.42 | 1.51 | 164.55 | 4.20 |
| | | -1.62 | 0.15 | 5.14 | -6.76 | |
| 1536 | 16 | -0.53 | 2.41 | 1.07 | 134.02 | 4.00 |
| | | -1.74 | 1.28 | 3.80 | -5.55 | |
| 1538 | 41 | -0.08 | 2.32 | -0.59 | 126.71 | 3.95 |
| | | -0.13 | 4.44 | 0.97 | -1.09 | |
| 1562 | 16 | -0.16 | 2.90 | 0.53 | 92.73 | 3.73 |
| | | -1.23 | 2.21 | 2.38 | -3.61 | |
| 1683 | 16 | 0.26 | -1.55 | -1.35 | 402.72 | 5.73 |
| | | -0.64 | -4.32 | -0.06 | -0.59 | |

POSITION **WT-2.3 + WT-2.4**

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD↑↑ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD↑↑ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,ro}$ Y'↑ [mm] |
|--------|-----|--|--|--|--------------------------------|---------------------------|
| 1686 | 16 | 0.91 1.41 | 0.14 -2.82 | -0.91 1.67 | 456.65 -0.26 | 6.07 |
| 1691 | 16 | 0.12 -0.50 | -2.10 -4.79 | -1.47 -1.36 | 397.70 -1.86 | 5.69 |
| 1747 | 29 | -1.41 2.35 | -0.85 0.06 | -0.08 2.50 | -372.5 -0.15 | 0.74 |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSD↑↑ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSD↑↑ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | n_{Ed} m_{Ed} [kN/m] | $a_{s,so}$ Y'↑ [mm] |
|--------|-----|--|--|--|--------------------------------|---------------------------|
| 112 | 16 | 6.05 2.83 | 11.87 0.37 | 3.39 3.61 | 3814.3 -3.24 | 42.23 |
| 779 | 36 | -0.06 11.23 | -0.07 -3.98 | -0.23 5.23 | 41.02 -9.21 | 3.59 |
| 1498 | 42 | 0.92 -3.13 | 4.26 -1.70 | -0.39 9.12 | 1163.9 -10.82 | 14.27 |
| 1504 | 16 | 6.88 -4.62 | 4.15 0.05 | -1.30 4.89 | 1362.2 -4.84 | 15.60 |
| 1527 | 16 | -1.13 -2.45 | 3.57 1.08 | 0.68 3.89 | 1063.5 -2.82 | 12.04 |
| 1562 | 16 | -0.16 -1.23 | 2.90 2.21 | 0.53 2.38 | 857.08 4.59 | 9.87 |
| 1565 | 23 | -0.03 -0.07 | 1.76 3.40 | -0.45 0.54 | 551.89 3.94 | 6.44 |
| 1718 | 31 | -0.09 5.32 | -0.70 -3.19 | -0.75 -0.31 | 13.02 -3.50 | 3.40 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ [kNm/m] | $n_{c,Ed}$ $m_{c,Ed}$ [kN/m] | σ_{rd} YSD↑↑ [%] |
|--------|-----|--|------------------------------------|-------------------------------|
| 112 | 16 | 3.39 3.61 | -1695.92 7.22 | -7.48 -12.75 |
| 778 | 39 | -0.51 11.35 | -257.38 22.70 | -3.21 -12.75 |
| 779 | 65 | -0.42 8.97 | -207.84 17.93 | -2.55 -12.75 |
| 1513 | 16 | -1.42 5.44 | -712.35 10.88 | -3.89 -12.75 |
| 1529 | 16 | 1.51 5.14 | -753.70 10.28 | -4.00 -12.75 |
| 1538 | 41 | -0.59 0.97 | -293.26 1.94 | -1.36 -12.75 |
| 1700 | 16 | -1.49 -1.43 | -743.19 2.85 | -3.25 -12.75 |
| 1711 | 16 | -1.52 1.75 | -758.26 3.50 | -3.37 -12.75 |

'äi vorhandene Betonspannung
 päi ~|→tbb↔æÄÑæ\~^ää|'←b*á^^|^&

WT-2.4_2

Erf. Bewehrung

Kombinationen

Einwirkungsname

Erforderliche Bewehrung

Lastkombinationsnummer

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

Grundkombinationen

| Lkn | Ew | Gk | Ö | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|-------------|---------|-------------|---------|
| 1-2 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 3 | | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 4 | | 1.35 | 1.35 | 1.50 | . | 1.05 | 1.50 |
| 5 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 6 | | 1.00 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 7 | | 1.00 | 1.00 | . | 1.05 | 1.50 | 1.50 |
| 8-9 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 10-12 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 13-14 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 15-16 | | 1.00 | 1.00 | 1.05 | . | . | 1.50 |
| 17 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 18 | | 1.35 | 1.35 | . | 1.05 | 1.05 | 1.50 |
| 19 | | 1.35 | 1.35 | 1.05 | . | 1.05 | . |
| 20 | | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1-2 | | . |
| 3 | | . |
| 4 | | . |
| 5 | | . |
| 6 | | . |
| 7 | | . |
| 8-9 | | 1.50 |
| 10-12 | | 1.50 |
| 13-14 | | 1.50 |
| 15-16 | | 1.50 |
| 17 | | 1.50 |
| 18 | | 1.50 |
| 19 | | 1.50 |
| 20 | | 1.50 |

Alle Nachweise

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSØ↑↑¥Ÿ [kNm/m] | N_{Ed} m_{Ed} [kN/m] | $a_{s,ru}$ Y'↑¥Ø↑¥Ÿ |
|--------|-----|--|--|--|--------------------------------|------------------------|
| 110 | 10 | 4.91 | 7.70 | 1.56 | 1617.2 | 19.11 |
| | | 5.21 | 2.79 | 6.17 | 11.38 | |
| 1771 | 10 | 6.68 | -0.73 | -0.02 | 1675.4 | 18.77 |
| | | -0.83 | 0.00 | 3.46 | 2.63 | |
| 1822 | 10 | -0.52 | -5.79 | 1.36 | 211.20 | 4.50 |
| | | -0.30 | -1.30 | 3.09 | 2.78 | |
| 1824 | 10 | -0.95 | -8.10 | 1.84 | 221.00 | 4.56 |
| | | -0.33 | -1.84 | 3.33 | 3.01 | |
| 1867 | 13 | -0.87 | -1.63 | 0.05 | -230.9 | 1.65 |

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSØ↑↑ŸŸ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSØ↑↑ŸŸ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSØ↑↑ŸŸ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,ru}$ $Y' \uparrow \ddot{Y}$ |
|--------|-----|--|--|--|---|--------------------------------------|
| | | -0.44 | -0.56 | 1.92 | 1.48 | |

 $a_{s,s, \text{unten}}$

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSØ↑↑ŸŸ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSØ↑↑ŸŸ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSØ↑↑ŸŸ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,su}$ $Y' \uparrow \ddot{Y}$ |
|--------|-----|--|--|--|---|--------------------------------------|
| 107 | 1 | 3.62 -0.42 | -0.17 0.00 | 0.07 2.29 | -25.21 2.28 | 3.13 |
| 1771 | 14 | 4.03 -0.54 | -0.33 0.00 | -0.01 2.24 | -84.44 2.24 | 2.72 |
| 1772 | 10 | -7.49 3.44 | 2.18 0.05 | -0.41 4.23 | 646.77 4.28 | 7.77 |
| 1778 | 10 | 1.25 -1.68 | 7.25 1.66 | 2.41 4.42 | 2413.0 6.08 | 27.28 |
| 1826 | 10 | -4.97 0.51 | -18.53 -3.34 | 2.65 4.54 | -5293 -7.88 | 14.30 |
| 1841 | 1 | 2.40 -0.52 | -0.62 -0.02 | 0.41 2.28 | -52.65 2.25 | 2.94 |

 $a_{s,r, \text{oben}}$

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSØ↑↑ŸŸ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSØ↑↑ŸŸ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSØ↑↑ŸŸ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,ro}$ $Y' \uparrow \ddot{Y}$ |
|--------|-----|--|--|--|---|--------------------------------------|
| 110 | 10 | 4.91 5.21 | 7.70 2.79 | 1.56 6.17 | 1617.2 -0.96 | 17.83 |
| 1771 | 10 | 6.68 -0.83 | -0.73 0.00 | -0.02 3.46 | 1675.4 -4.29 | 18.88 |
| 1822 | 10 | -0.52 -0.30 | -5.79 -1.30 | 1.36 3.09 | 211.20 -3.39 | 4.50 |
| 1824 | 10 | -0.95 -0.33 | -8.10 -1.84 | 1.84 3.33 | 221.00 -3.66 | 4.56 |

 $a_{s,s, \text{oben}}$

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $m_{r,Ed}$ YSØ↑↑ŸŸ [kNm/m] | $S_{s,Ed}$ $m_{s,Ed}$ YSØ↑↑ŸŸ [kNm/m] | $S_{rs,Ed}$ $m_{rs,Ed}$ YSØ↑↑ŸŸ [kNm/m] | n_{Ed} m_{Ed} [kN/m] [kNm/m] | $a_{s,so}$ $Y' \uparrow \ddot{Y}$ |
|--------|-----|--|--|--|---|--------------------------------------|
| 107 | 1 | 3.62 -0.42 | -0.17 0.00 | 0.07 2.29 | -25.21 -2.29 | 3.13 |
| 1771 | 14 | 4.03 -0.54 | -0.33 0.00 | -0.01 2.24 | -84.44 -2.24 | 2.72 |
| 1772 | 10 | -7.49 3.44 | 2.18 0.05 | -0.41 4.23 | 646.77 -4.18 | 7.77 |
| 1778 | 10 | 1.25 -1.68 | 7.25 1.66 | 2.41 4.42 | 2413.0 -2.76 | 26.82 |
| 1826 | 10 | -4.97 0.51 | -18.53 -3.34 | 2.65 4.54 | -5293 1.19 | 13.23 |
| 1841 | 1 | 2.40 -0.52 | -0.62 -0.02 | 0.41 2.28 | -52.65 -2.30 | 2.94 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ $\frac{Y}{Y}$ [kNm/m] | n_{cEd} m_{cEd} [kN/m] [kNm/m] | c_d R_d YSD↑↑ $\frac{Y}{Y}$ [%] |
|--------|-----|--|---|--|
| 111 | 10 | 4.72 5.36 | -2362.21 10.72 | -10.48 -12.75 |
| 1779 | 10 | 2.66 3.87 | -1329.33 7.75 | -6.06 -12.75 |
| 1825 | 10 | 2.00 3.24 | -998.40 6.48 | -4.62 -12.75 |
| 1847 | 10 | 1.45 3.78 | -727.00 7.56 | -3.63 -12.75 |

'äi vorhandene Betonspannung
 päi ~|→†bb↔&äÄÑæ~^ää|'←b*á^'^&

WT-2.4_3

Ñæ↑æbb| ^&ÄäfiäÄÖ→†'äæÄÇU\áâ→âæ\~^DÄÜÜËGÈHŽĞ

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÄP~↑â↔^á\↔~^æ^Ä^á^'äÄØSÄÓSÄFïï€

Ew Einwirkungsname
 Lkn Lastkombinationsnummer

Ø↔æÄÑæ\æ↔↔↔&|^&Äæ↔^~æ→ææÄQáb\à†→æÄ↔^æääá→âÄeiner
 Einwirkung wird mit diesem Ausgabeformat nicht
 dokumentiert.

gh}bX][#]cf~VYf["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|-------------|-------------|-------------|---------|
| 1 | | 1.00 | 1.00 | 1.50 | 1.05 | . | 1.50 |
| 2-4 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 5-7 | | 1.35 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 8-9 | | 1.00 | 1.35 | 1.50 | 1.05 | 1.05 | 1.50 |
| 10 | | 1.35 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 11 | | 1.00 | 1.00 | 1.50 | . | . | 1.50 |
| 12 | | 1.00 | 1.00 | 1.50 | . | 1.05 | 1.50 |
| 13 | | 1.00 | 1.00 | . | 1.50 | . | 1.50 |
| 14 | | 1.00 | 1.00 | . | 1.50 | 1.05 | 1.50 |
| 15-17 | | 1.00 | 1.00 | . | 1.05 | 1.50 | 1.50 |
| 18-26 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 27-34 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 35-44 | | 1.35 | 1.35 | 1.05 | . | 1.05 | 1.50 |
| 45-46 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 47-51 | | 1.00 | 1.00 | . | 1.05 | 1.05 | 1.50 |
| 52 | | 1.35 | 1.35 | 1.05 | . | 1.05 | . |
| 53-56 | | 1.00 | 1.00 | . | 1.05 | . | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1 | | . |
| 2-4 | | . |
| 5-7 | | . |
| 8-9 | | . |
| 10 | | . |
| 11 | | . |
| 12 | | . |
| 13 | | . |
| 14 | | . |
| 15-17 | | . |
| 18-26 | | 1.50 |
| 27-34 | | 1.50 |
| 35-44 | | 1.50 |
| 45-46 | | 1.50 |
| 47-51 | | 1.50 |
| 52 | | 1.50 |

Lkn Ew Qk.N_DA
53-56 1.50

Alle Nachweise

Öää~ääää→´åæÁQ†^&bâæ}æää|^&ÁÁ|bÁá→æ^ÁSá´å}æ→bæ^

Es werden nur lokale Extremwerte dokumentiert.

as, r, unten

Erforderliche untere Bewehrung $a_{s,ru}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,ru}$ |
|--------|-----|--------------------|--------------------|--------------------|-------------------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSÐ††¥Ÿ [kNm/m] | YSÐ††¥Ÿ [kNm/m] | YSÐ††¥Ÿ [kNm/m] | [kN/m] [kNm/m] | |
| 1849 | 19 | 1.21 | -4.01 | 1.23 | 609.84 | 7.21 |
| | | 0.93 | 0.87 | 3.34 | 4.27 | |
| 1874 | 19 | 0.09 | 2.42 | 0.05 | 34.44 | 3.36 |
| | | 0.00 | 0.00 | 2.79 | 2.79 | |
| 1876 | 19 | -15.98 | -12.69 | -1.41 | -4347 | 1.47 |
| | | 1.68 | 0.07 | 3.53 | -1.85 | |
| 1971 | 19 | 1.24 | -4.41 | 1.38 | 654.73 | 7.63 |
| | | 0.66 | 0.60 | 3.10 | 3.76 | |
| 2547 | 19 | 6.72 | -0.70 | 0.04 | 1689.7 | 18.93 |
| | | -0.84 | 0.00 | 3.45 | 2.61 | |

as, s, unten

Erforderliche untere Bewehrung $a_{s,su}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,su}$ |
|--------|-----|--------------------|--------------------|--------------------|-------------------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSÐ††¥Ÿ [kNm/m] | YSÐ††¥Ÿ [kNm/m] | YSÐ††¥Ÿ [kNm/m] | [kN/m] [kNm/m] | |
| 1771 | 27 | 4.03 | -0.31 | 0.00 | -78.22 | 2.77 |
| | | -0.54 | 0.00 | 2.24 | 2.24 | |
| 1853 | 45 | 0.19 | -1.46 | 0.34 | -450.3 | 0.20 |
| | | 0.13 | 0.09 | 1.50 | 1.59 | |
| 1874 | 19 | 0.09 | 2.42 | 0.05 | 616.15 | 7.56 |
| | | 0.00 | 0.00 | 2.79 | 2.79 | |
| 1946 | 19 | 0.05 | 2.41 | -0.01 | 603.10 | 7.47 |
| | | 0.00 | -0.02 | 2.79 | 2.76 | |
| 2313 | 28 | -0.36 | -0.61 | -0.06 | -167.0 | 2.15 |
| | | -0.05 | -0.31 | 1.52 | 1.21 | |
| 2336 | 28 | -0.41 | -0.60 | -0.07 | -165.9 | 2.16 |
| | | -0.08 | -0.35 | 1.56 | 1.21 | |
| 2414 | 3 | 0.35 | -0.30 | -0.61 | 75.28 | 3.83 |
| | | -0.09 | -0.19 | 1.99 | 1.80 | |
| 2435 | 3 | 0.59 | -0.32 | -0.61 | 72.34 | 3.81 |
| | | -0.17 | -0.22 | 2.07 | 1.85 | |
| 2521 | 27 | 0.02 | -0.37 | -0.02 | -97.23 | 2.64 |
| | | -0.02 | -0.04 | 1.83 | 1.79 | |
| 2557 | 28 | 1.10 | -0.34 | -0.04 | -95.32 | 2.65 |
| | | -0.16 | 0.00 | 1.55 | 1.55 | |
| 2559 | 54 | 0.83 | -0.35 | -0.04 | -97.15 | 2.64 |
| | | -0.13 | 0.00 | 1.55 | 1.55 | |
| 2562 | 28 | 0.41 | -0.36 | -0.03 | -98.58 | 2.63 |
| | | -0.08 | 0.00 | 1.48 | 1.48 | |
| 2565 | 28 | 0.13 | -0.38 | -0.02 | -99.34 | 2.62 |
| | | -0.06 | 0.00 | 1.45 | 1.45 | |

as, r, oben

Erforderliche obere Bewehrung $a_{s,ro}$

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,ro}$ |
|--------|-----|--------------------|--------------------|--------------------|-------------------|------------|
| | | $m_{r,Ed}$ | $m_{s,Ed}$ | $m_{rs,Ed}$ | m_{Ed} | |
| | | YSÐ††¥Ÿ [kNm/m] | YSÐ††¥Ÿ [kNm/m] | YSÐ††¥Ÿ [kNm/m] | [kN/m] [kNm/m] | |
| 1849 | 19 | 1.21 | -4.01 | 1.23 | 609.84 | 7.06 |
| | | 0.93 | 0.87 | 3.34 | -2.41 | |
| 1874 | 19 | 0.09 | 2.42 | 0.05 | 34.44 | 3.36 |

| Knoten | Lkn | $S_{r,Ed}$ $M_{r,Ed}$ YSD↑↑ [kNm/m] | $S_{s,Ed}$ $M_{s,Ed}$ YSD↑↑ [kNm/m] | $S_{rs,Ed}$ $M_{rs,Ed}$ YSD↑↑ [kNm/m] | N_{Ed} M_{Ed} [kN/m] [kNm/m] | $a_{s,ro}$ Y'↑ [kNm/m] |
|--------|-----|--|--|--|---|------------------------------|
| | | 0.00 | 0.00 | 2.79 | -2.79 | |
| 1876 | 19 | -15.98 | -12.69 | -1.41 | -4347 | 1.93 |
| | | 1.68 | 0.07 | 3.53 | 5.20 | |
| 1971 | 19 | 1.24 | -4.41 | 1.38 | 654.73 | 7.47 |
| | | 0.66 | 0.60 | 3.10 | -2.44 | |
| 2547 | 19 | 6.72 | -0.70 | 0.04 | 1689.7 | 19.03 |
| | | -0.84 | 0.00 | 3.45 | -4.28 | |

as, s, oben

Erforderliche obere Bewehrung $a_{s,so}$

| Knoten | Lkn | $S_{r,Ed}$ $M_{r,Ed}$ YSD↑↑ [kNm/m] | $S_{s,Ed}$ $M_{s,Ed}$ YSD↑↑ [kNm/m] | $S_{rs,Ed}$ $M_{rs,Ed}$ YSD↑↑ [kNm/m] | N_{Ed} M_{Ed} [kN/m] [kNm/m] | $a_{s,so}$ Y'↑ [kNm/m] |
|--------|-----|--|--|--|---|------------------------------|
| 1771 | 27 | 4.03 | -0.31 | 0.00 | -78.22 | 2.77 |
| | | -0.54 | 0.00 | 2.24 | -2.24 | |
| 1853 | 45 | 0.19 | -1.46 | 0.34 | -450.3 | 0.20 |
| | | 0.13 | 0.09 | 1.50 | -1.41 | |
| 1874 | 19 | 0.09 | 2.42 | 0.05 | 616.15 | 7.56 |
| | | 0.00 | 0.00 | 2.79 | -2.79 | |
| 1946 | 19 | 0.05 | 2.41 | -0.01 | 603.10 | 7.47 |
| | | 0.00 | -0.02 | 2.79 | -2.81 | |
| 2313 | 28 | -0.36 | -0.61 | -0.06 | -167.0 | 2.15 |
| | | -0.05 | -0.31 | 1.52 | -1.83 | |
| 2336 | 28 | -0.41 | -0.60 | -0.07 | -165.9 | 2.16 |
| | | -0.08 | -0.35 | 1.56 | -1.91 | |
| 2414 | 3 | 0.35 | -0.30 | -0.61 | 75.28 | 3.83 |
| | | -0.09 | -0.19 | 1.99 | -2.18 | |
| 2435 | 3 | 0.59 | -0.32 | -0.61 | 72.34 | 3.81 |
| | | -0.17 | -0.22 | 2.07 | -2.29 | |
| 2521 | 27 | 0.02 | -0.37 | -0.02 | -97.23 | 2.64 |
| | | -0.02 | -0.04 | 1.83 | -1.86 | |
| 2557 | 28 | 1.10 | -0.34 | -0.04 | -95.32 | 2.65 |
| | | -0.16 | 0.00 | 1.55 | -1.55 | |
| 2559 | 54 | 0.83 | -0.35 | -0.04 | -97.15 | 2.64 |
| | | -0.13 | 0.00 | 1.55 | -1.55 | |
| 2562 | 28 | 0.41 | -0.36 | -0.03 | -98.58 | 2.63 |
| | | -0.08 | 0.00 | 1.48 | -1.48 | |
| 2565 | 28 | 0.13 | -0.38 | -0.02 | -99.34 | 2.62 |
| | | -0.06 | 0.00 | 1.45 | -1.45 | |

Betondruckspannungen Nachweis der Betondruckspannungen

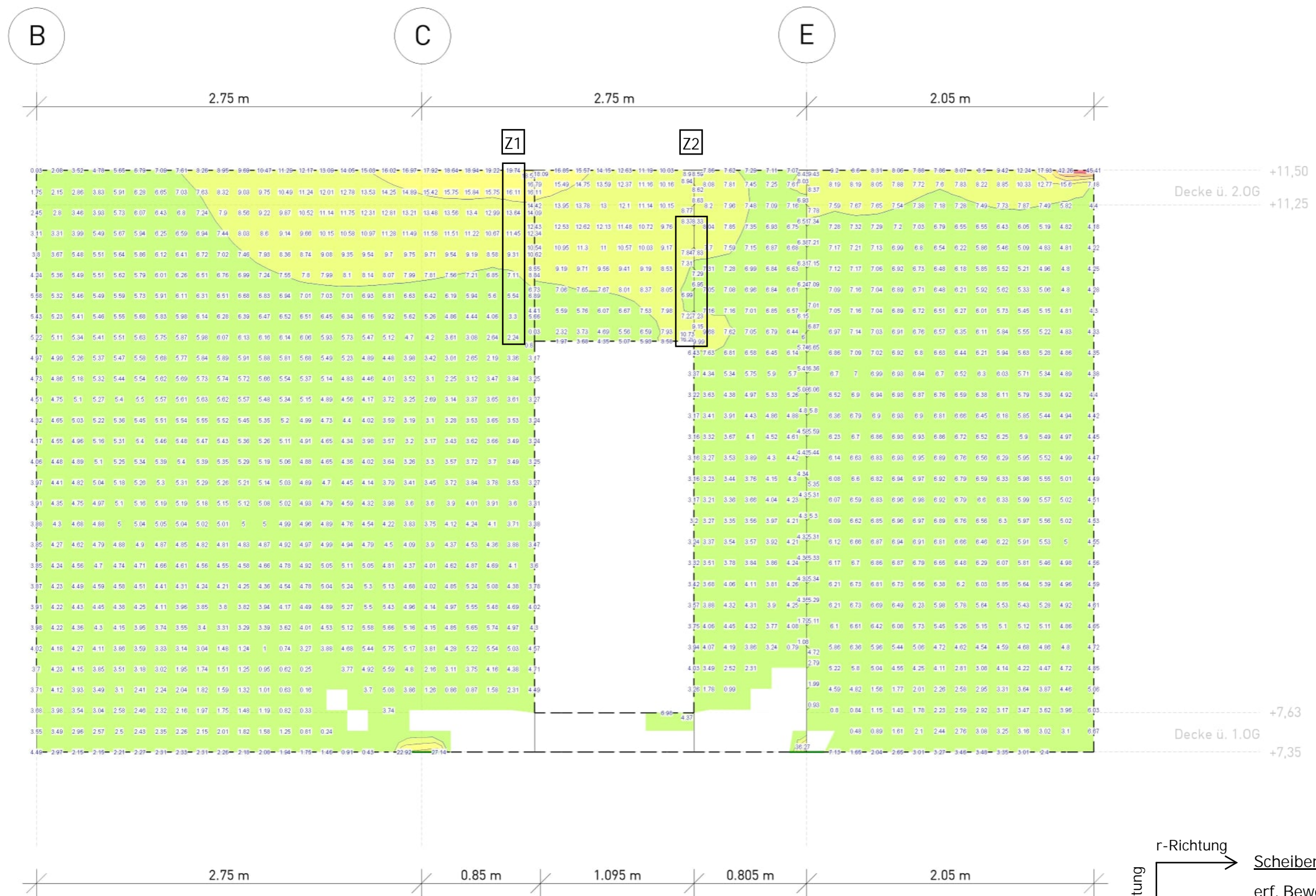
Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ $M_{rs,Ed}$ YSD↑↑ [kNm/m] | N_{cEd} M_{cEd} [kN/m] [kNm/m] | c_d R_d YSD↑↑ [kNm/m] | [%] |
|--------|-----|--|---|------------------------------------|-------|
| 1847 | 19 | 1.11 | -557.07 | -2.95 | 23.12 |
| | | 3.74 | 7.49 | -12.75 | |
| 1870 | 18 | 0.12 | -59.16 | -0.93 | 7.33 |
| | | 3.63 | 7.27 | -12.75 | |
| 1874 | 18 | 0.05 | -23.31 | -0.64 | 5.03 |
| | | 2.85 | 5.71 | -12.75 | |
| 1876 | 19 | -1.41 | -706.73 | -3.50 | 27.48 |
| | | 3.53 | 7.06 | -12.75 | |
| 1900 | 19 | -1.35 | -675.65 | -3.34 | 26.20 |
| | | 3.32 | 6.65 | -12.75 | |
| 1926 | 19 | -1.12 | -561.24 | -2.82 | 22.13 |
| | | 3.01 | 6.01 | -12.75 | |
| 1971 | 19 | 1.38 | -687.88 | -3.35 | 26.25 |
| | | 3.10 | 6.21 | -12.75 | |

W-250


Schulcampus EWK WT-2.3 + WT-2.4

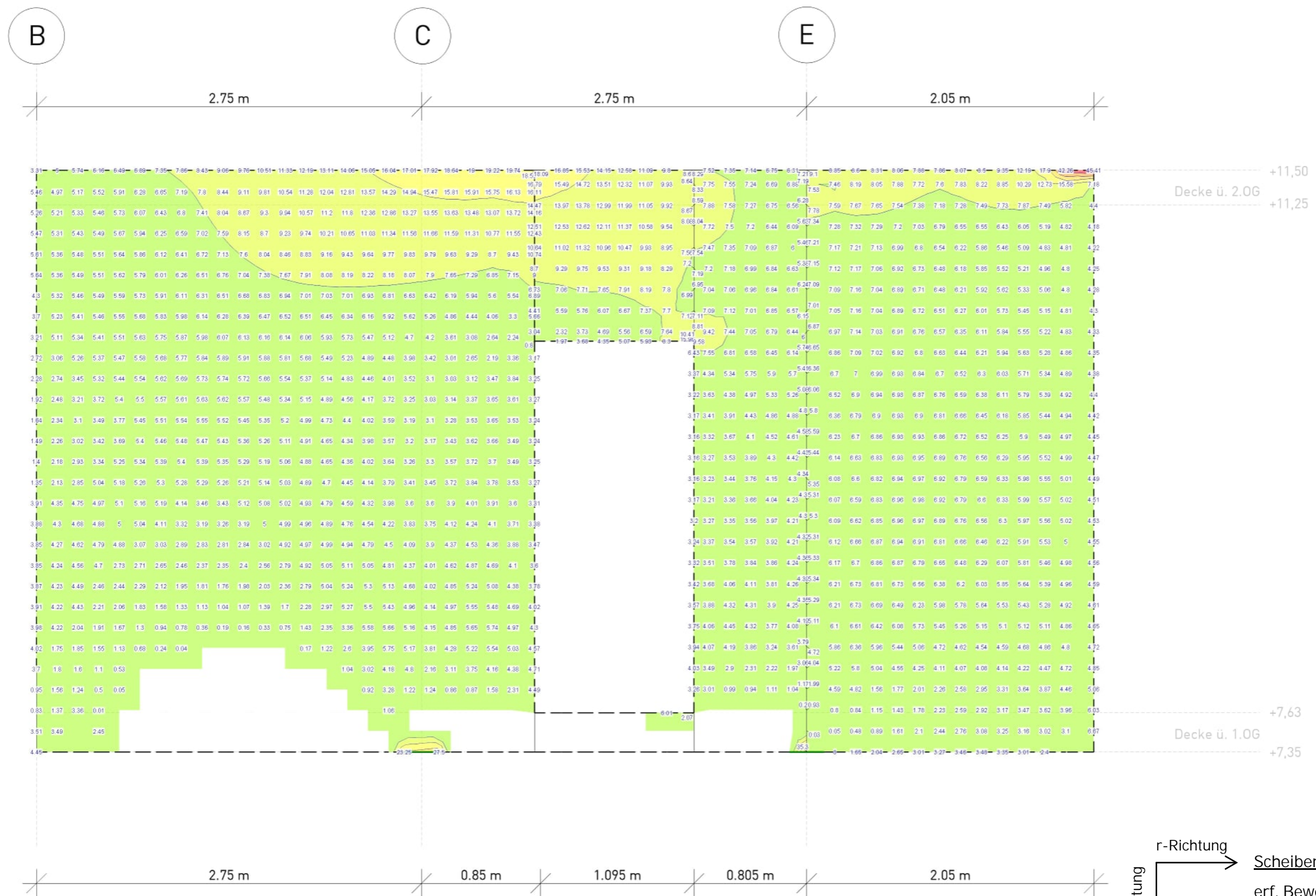
| Knoten | Lkn | $S_{rs,Ed}$ $m_{rs,Ed}$ YSD↑↑ $\frac{Y}{Y}$ [kNm/m] | n_{cEd} m_{cEd} [kN/m] [kNm/m] | c_d R_d YSD↑↑ $\frac{Y}{Y}$ [%] | |
|---|-----|---|---|---|-------|
| 2284 | 19 | 1.41 3.03 | -707.45 6.05 | -3.41 -12.75 | 26.75 |
| 2307 | 19 | 1.50 3.17 | -748.89 6.34 | -3.60 -12.75 | 28.27 |
| 2413 | 19 | -0.95 3.02 | -474.58 6.03 | -2.48 -12.75 | 19.43 |
| 2434 | 19 | -0.94 3.16 | -471.96 6.32 | -2.49 -12.75 | 19.56 |
| 2546 | 18 | 0.01 2.85 | -4.01 5.69 | -0.56 -12.75 | 4.41 |
| vorhandene Betonspannung ~ →†bb↔æÁÑæ\~^ää '←b*á^^ ^& | | | | | |



r-Richtung
s-Richtung


Scheibenbemessung WT-2.3:
erf. Bewehrung
- r-Richtung unten -

| | | | | | | |
|---|--|---|---|-------------|-------------------------------------|-------------------|
| : `W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4 | T ab • ca • K • E |
| Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00...35.00 cm >>nur Gruppe 'WT-2.3' sichtbar<< | | aus allen Nachweisen !E!A!C!} * Á! }! Á! Á! Á! Max = 45.41 (Kn. 211), Min = 0 (Kn. 1), Step = 7.5 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | | |

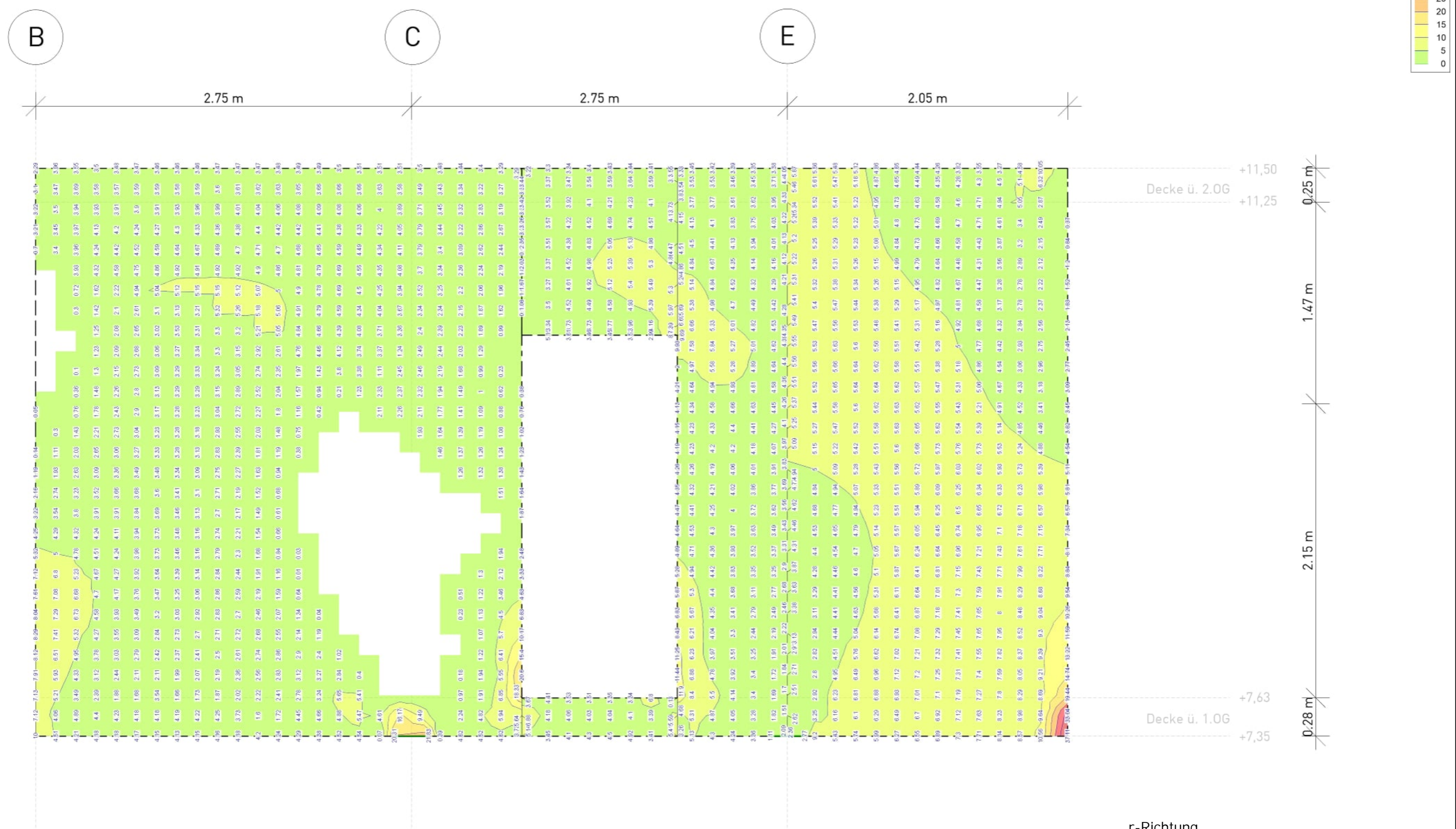



r-Richtung
s-Richtung

Scheibenbemessung WT-2.3:
erf. Bewehrung
- r-Richtung oben -

| | | | | | | |
|---|--|--|---|-------------|-------------------------------------|-----------|
| : `)W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4 | Tabelle 1 |
| Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00...35.00 cm >>nur Gruppe 'WT-2.3' sichtbar<< | | aus allen Nachweisen Erforderliche Bewehrung as,erf Max = 45.41 (Kn. 211), Min = 0 (Kn. 1), Step = 7.5 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | | |

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| | | | | | | |
|---|--|---|---|-------------|-------------------------------------|-------------------|
| : `} W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4 | T ab • ca • K • E |
| Bew.-Abstand d' = 47 mm Beton C 30/37 Bauteildicke h = 25.00...35.00 cm >>nur Gruppe 'WT-2.3' sichtbar<< | | aus allen Nachweisen • EÜ&C } *Ä ä^} Ä &C } Ä Max = 37.11 (Kn. 210), Min = 0 (Kn. 29), Step = 5 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | | |


r-Richtung
s-Richtung
Scheibenbemessung WT-2.3:
erf. Bewehrung
- s-Richtung oben-

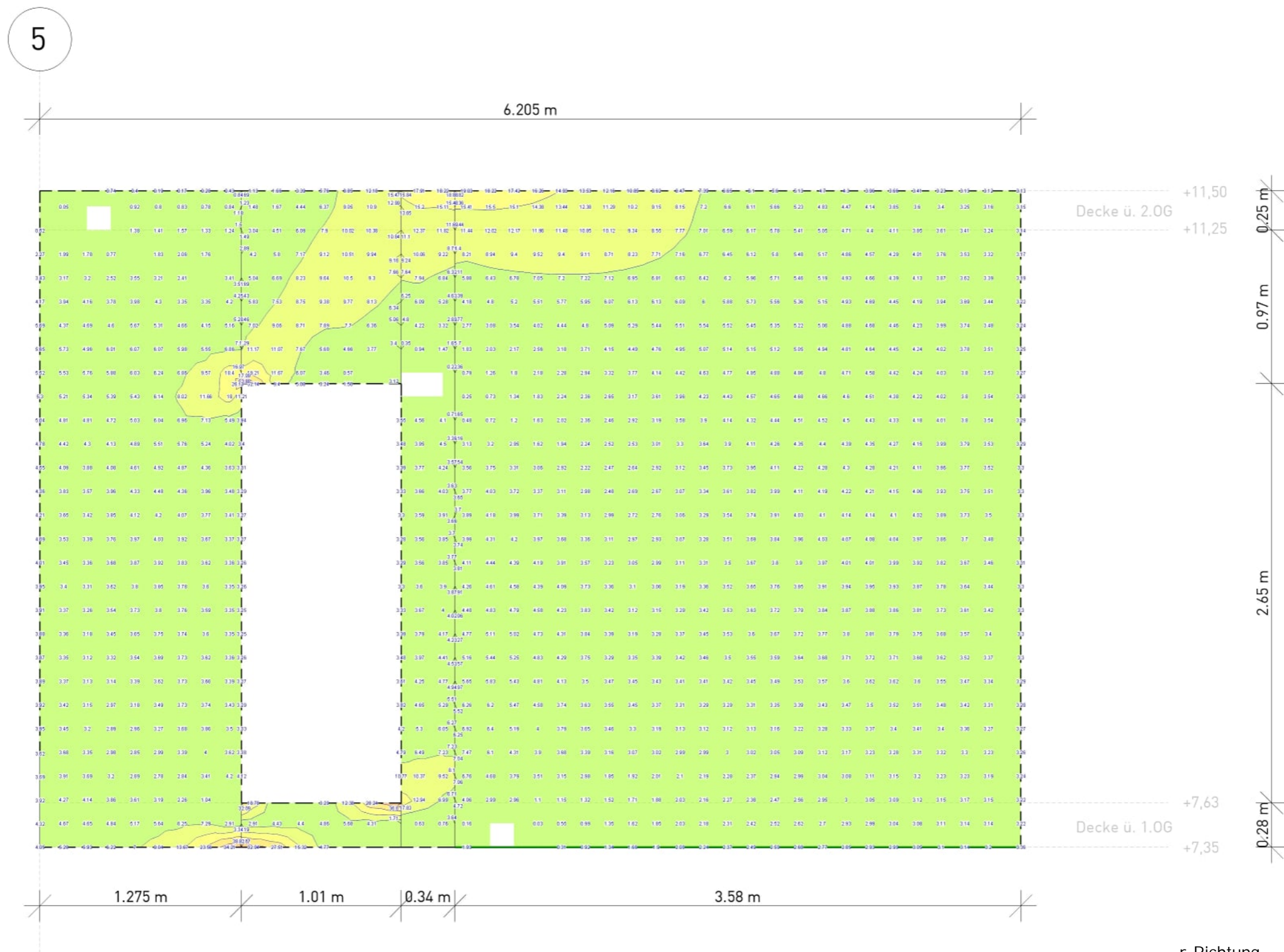
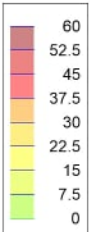
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r-Richtung
s-Richtung


Scheibenbemessung WT-2.4:
erf. Bewehrung
- s-Richtung unten -

| | | | | | | |
|---|--|---|---|-------------|-------------------------------------|----------------|
| : `W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4 | T ab • caakfKE |
| Bew.-Abstand d' = 47 mm Beton C 30/37 Bauteildicke h = 25.00 cm >>nur Gruppe 'WT-2.4' sichtbar<< | | aus allen Nachweisen •E}a} } *Ä} c} Ä} A} Q} á Max = 49.16 (Kn. 112), Min = 0 (Kn. 109), Step = 7.5 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | | |



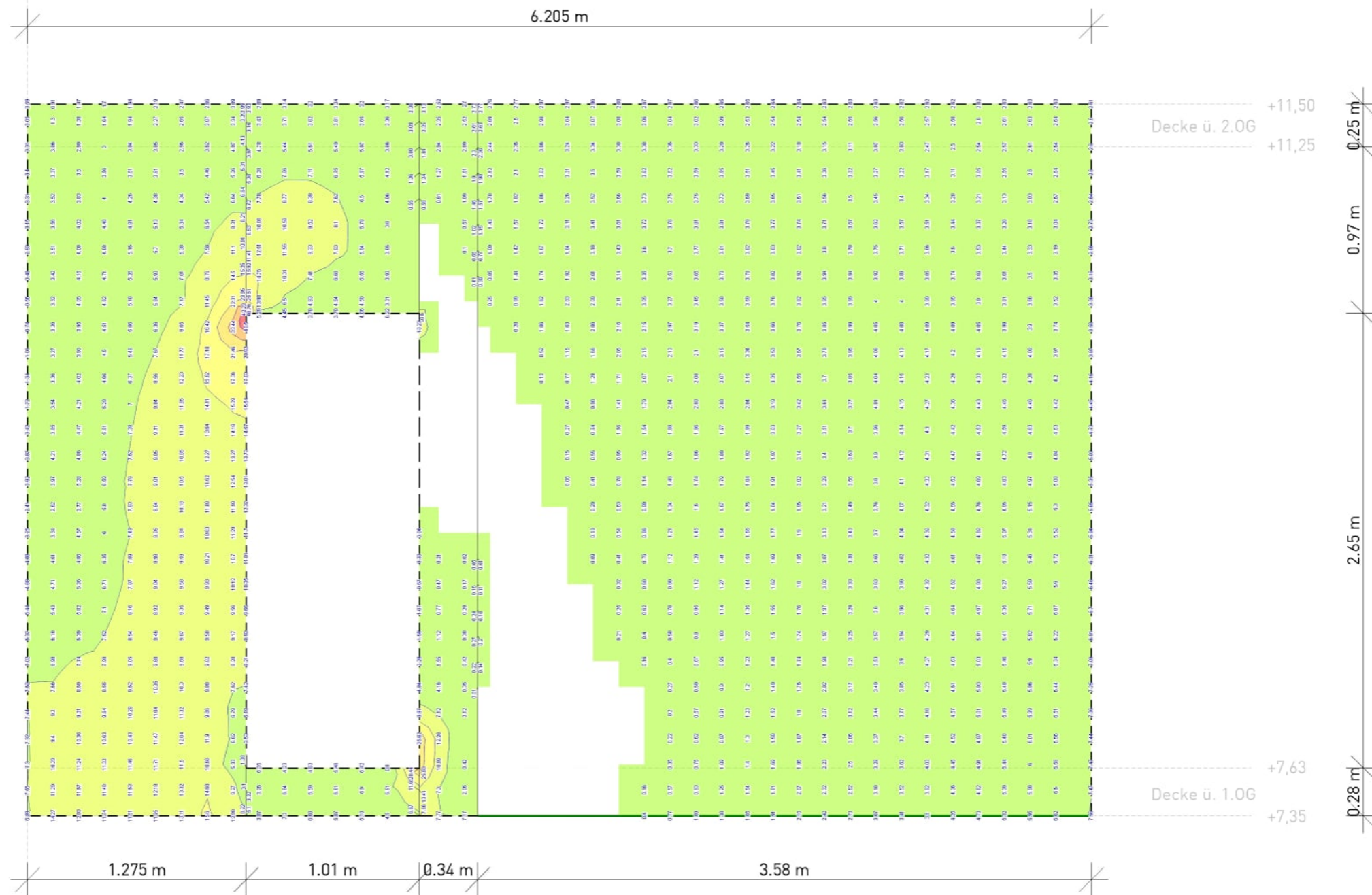
r-Richtung
s-Richtung

Scheibenbemessung WT-2.4:
erf. Bewehrung
- r-Richtung oben -

| | | | | | | |
|---|--|--|---|-------------|-------------------------------------|-----------|
| : `} W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4 | Tabelle 1 |
| Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00 cm >>nur Gruppe 'WT-2.4' sichtbar<< | | aus allen Nachweisen !Uac} *A^} A A Q á Max = 53.88 (Kn. 112), Min = 0 (Kn. 117), Step = 7.5 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | | |


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5



r-Richtung
s-Richtung

Scheibenbemessung WT-2.4:
erf. Bewehrung
- s-Richtung oben -

| | | | | | | |
|---|--|--|---|-------------|-------------------------------------|---------------------|
| : `W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4 | T a b • a a K F K E |
| Bew.-Abstand d' = 47 mm Beton C 30/37 Bauteildicke h = 25.00 cm >>nur Gruppe 'WT-2.4' sichtbar<< | | aus allen Nachweisen •E u a e } * A à ^) A e A e e e á Max = 48.76 (Kn. 112), Min = 0 (Kn. 109), Step = 7.5 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | | |

Nachweise Auswertung

1992-1-1

Mat. / Querschnitt

| Position | Winkel YflY | Art | Exz. [cm] | Material Quer | Dicke [cm] |
|--|-----------------|-----|--------------|------------------------------|---------------|
| WS-T-2.3, WS-T-2.4 | VÄtuvwt/ 0.0 | iso | 0.0 | C 30/37 Q B 500SB B 500SB | 25.0 |
| WT-2.3_1 | 0.0 | iso | 0.0 | C 30/37 Q B 500SB B 500SB | 35.0 |
| WT-2.3_2, WT-2.3_3, WT-2.4_1..WT-2.4_3 | 0.0 | iso | 0.0 | C 30/37 Q B 500SB B 500SB | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öäb\æ^b←=ä^| ^&ÄT| áã~↔\
Exz.: Ó[^æ^ \ä↔^↔\ ‡ \Äæ

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|---|-----------|-----|---------------------------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | umlaufend | XC1 | \ä~'←æ^Ä~äæäÄb\ ‡ ^ä↔&Ä nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro YflY | so YflY | ru YflY | su YflY |
|---|------------|------------|------------|------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

| Position | C _{min} [mm] | # _{def} [mm] | C _{nom} [mm] | C _v [mm] | d' _r [mm] | d' _s [mm] |
|---|--------------------------|--------------------------|--------------------------|------------------------|-------------------------|-------------------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | | | | | | |
| o | 12 | 10 | 22 | 30 | 36 | 47 |
| u | 12 | 10 | 22 | 30 | 36 | 47 |

Grundbewehrung

| Position | Rä\ \æÊÄU\ ‡ äæ ~Y↑↑YËbY'↑Y | d' _r [mm] | a _{sg,r} [cm ² /m] | d' _s [mm] | a _{sg,s} [cm ² /m] |
|----------|--------------------------------|-------------------------|---|-------------------------|---|
| WS-T-2.3 | u r Ö3413702 | 36 | 7.54 | | |
| | u s Ö3213702 | | | 47 | 5.24 |
| | o r Ö3413702 | 36 | 7.54 | | |
| | o s Ö3213702 | | | 47 | 5.24 |
| WS-T-2.4 | u r Ö3413702 | 36 | 7.54 | | |
| | u s Ö3213702 | | | 47 | 5.24 |
| | o r Ö3413702 | 36 | 7.54 | | |
| | o s Ö3213702 | | | 47 | 5.24 |
| WT-2.3_1 | u r Ö3413702 | 36 | 7.54 | | |
| | u s Ö3213702 | | | 47 | 5.24 |
| | o r Ö3413702 | 36 | 7.54 | | |
| | o s Ö3213702 | | | 47 | 5.24 |
| WT-2.3_2 | u r Ö3413702 | 36 | 7.54 | | |
| | u s Ö3213702 | | | 47 | 5.24 |
| | o r Ö3413702 | 36 | 7.54 | | |
| | o s Ö3213702 | | | 47 | 5.24 |
| WT-2.3_3 | u r Ö3413702 | 36 | 7.54 | | |
| | u s Ö3213702 | | | 47 | 5.24 |

POSITION **WT-2.3 + WT-2.4-m.Bw.**

| Position | | | Rá\\æÊÁU\†âæ ~Y↑↑ŸĐbY'↑Ÿ | d' r [mm] | a _{sg,r} [cm ² /m] | d' s [mm] | a _{sg,s} [cm ² /m] |
|----------|---|---|-----------------------------|--------------|---|--------------|---|
| WT-2.4_1 | o | r | Ó3413702 | 36 | 7.54 | | |
| | o | s | Ó3213702 | | | 47 | 5.24 |
| | u | r | Ó3413702 | 36 | 7.54 | | |
| | u | s | Ó3213702 | | | 47 | 5.24 |
| WT-2.4_2 | o | r | Ó3413702 | 36 | 7.54 | | |
| | o | s | Ó3213702 | | | 47 | 5.24 |
| | u | r | Ó3413702 | 36 | 7.54 | | |
| | u | s | Ó3213702 | | | 47 | 5.24 |
| WT-2.4_3 | o | r | Ó3413702 | 36 | 7.54 | | |
| | o | s | Ó3213702 | | | 47 | 5.24 |
| | u | r | Ó3413702 | 36 | 7.54 | | |
| | u | s | Ó3213702 | | | 47 | 5.24 |

Bemessungsparameter

àfiãÁäæ^ÁÖãæ^~ | b\á^äÄäæãÁÜãá&à†â&←æ↔\Á^á´äÁÆØSÁÓSÁ
1992-1-1

Bi egung

| Position | Bemessungsverfahren | Mindestbewehrung |
|---|---------------------|------------------|
| WS-T-2.3, WS-T-2.4, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3 | Úáfiã↔↑á^^ | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

Grundbewehrung: Ø12/15

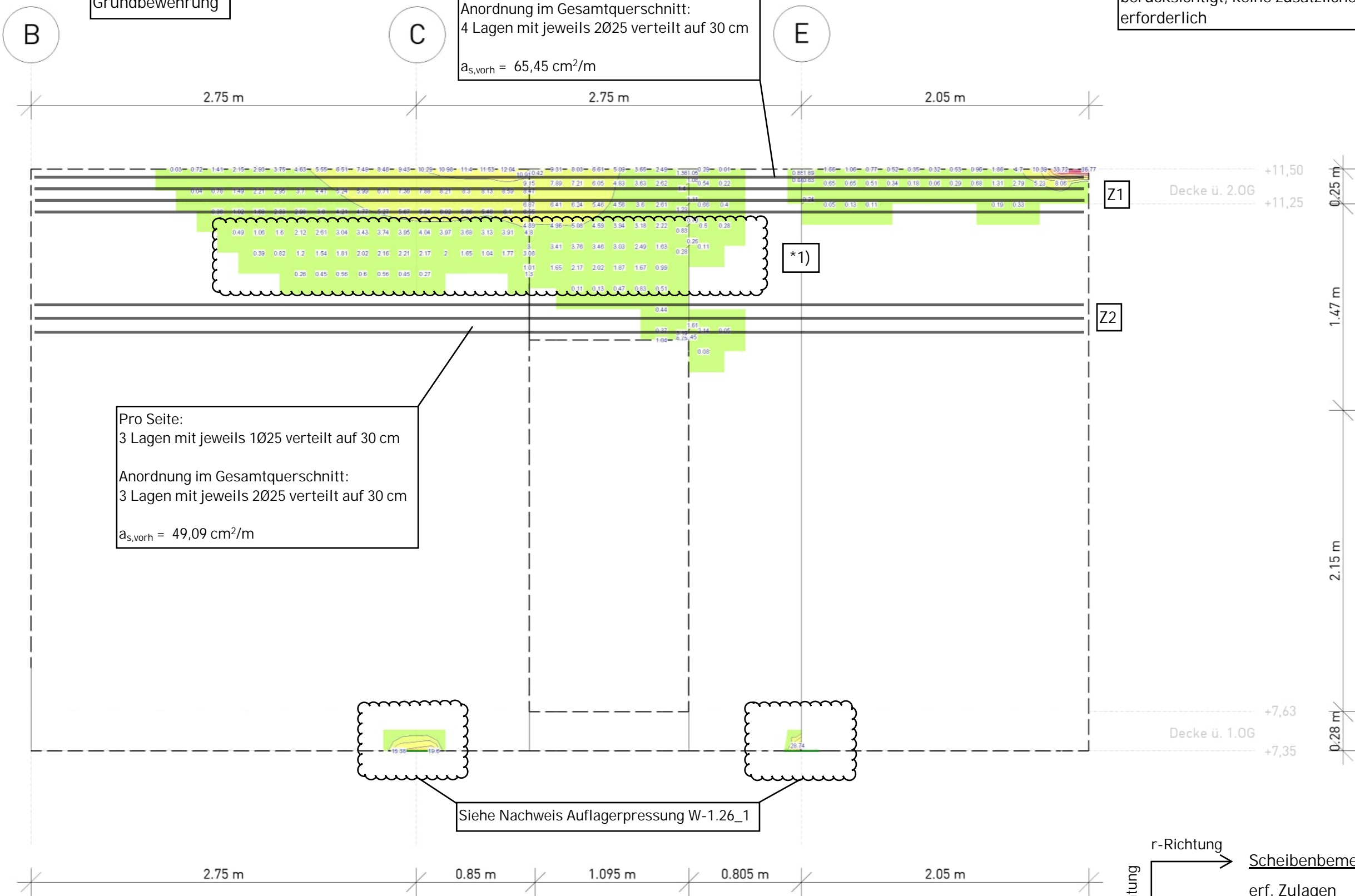
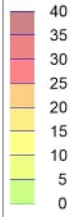
Randefassung
entsprechend der
Grundbewehrung

Pro Seite:
4 Lagen mit jeweils 1Ø25 verteilt auf 30 cm

Anordnung im Gesamtquerschnitt:
4 Lagen mit jeweils 2Ø25 verteilt auf 30 cm

$a_{s,vorh} = 65,45 \text{ cm}^2/\text{m}$

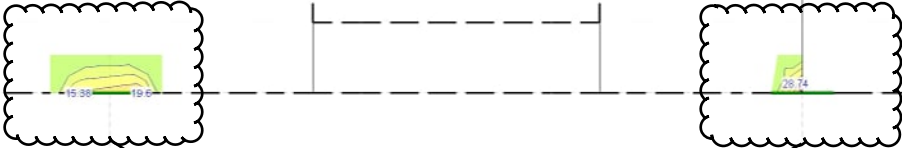
*1) Bereich wurde in Berechnung
Bewehrungsmenge in Zugstreben
berücksichtigt, keine zusätzliche Zulage
erforderlich



Pro Seite:
3 Lagen mit jeweils 1Ø25 verteilt auf 30 cm

Anordnung im Gesamtquerschnitt:
3 Lagen mit jeweils 2Ø25 verteilt auf 30 cm


$a_{s,vorh} = 49,09 \text{ cm}^2/\text{m}$



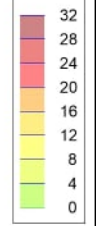
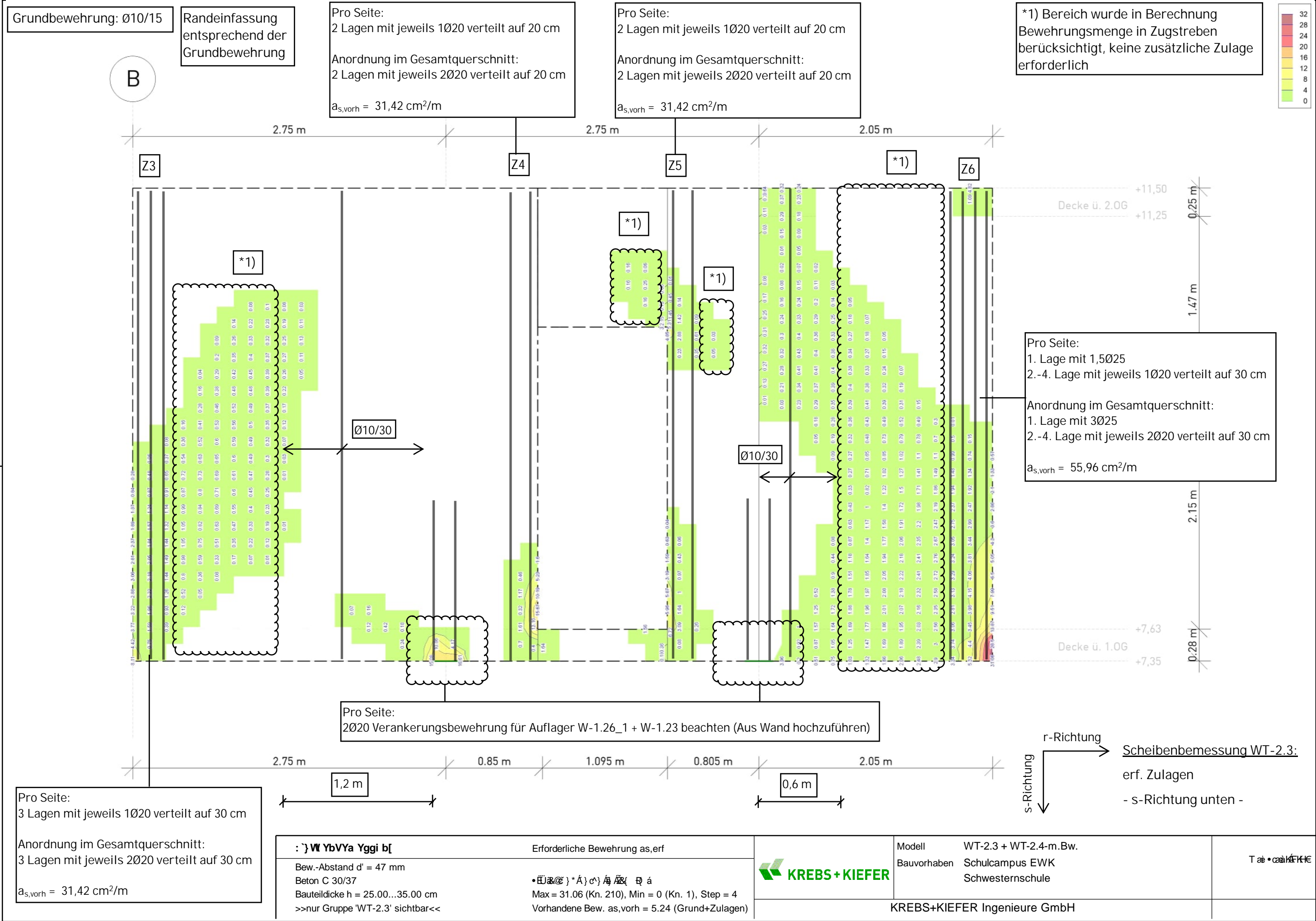
Siehe Nachweis Auflagerpressung W-1.26_1

r-Richtung
s-Richtung

Scheibenbemessung WT-2.3:
erf. Zulagen
- r-Richtung unten -

| | | | | | |
|---|--|---|-------------|-------------------------------------|---------|
| : } W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4-m.Bw. | Tabelle |
| Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00...35.00 cm >>nur Gruppe 'WT-2.3' sichtbar<< | Max = 36.77 (Kn. 211), Min = 0 (Kn. 1), Step = 5 Vorhandene Bew. as,vorh = 7.54 (Grund+Zulagen) | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |


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*1) Bereich wurde in Berechnung Bewehrungsmenge in Zugstreben berücksichtigt, keine zusätzliche Zulage erforderlich

Pro Seite:
1. Lage mit 1,5Ø25
2.-4. Lage mit jeweils 1Ø20 verteilt auf 30 cm
Anordnung im Gesamtquerschnitt:
1. Lage mit 3Ø25
2.-4. Lage mit jeweils 2Ø20 verteilt auf 30 cm
a_{s,vorh} = 55,96 cm²/m

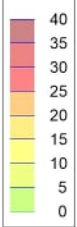
r-Richtung
s-Richtung
Scheibenbemessung WT-2.3:
erf. Zulagen
- s-Richtung unten -

| | | | |
|---|-------------|-------------------------------------|---------|
|  | Modell | WT-2.3 + WT-2.4-m.Bw. | Tabelle |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | |

Grundbewehrung: Ø12/15

Randeinfassung
entsprechend der
Grundbewehrung

Zulagen analog zu
r-Richtung unten
einlegen



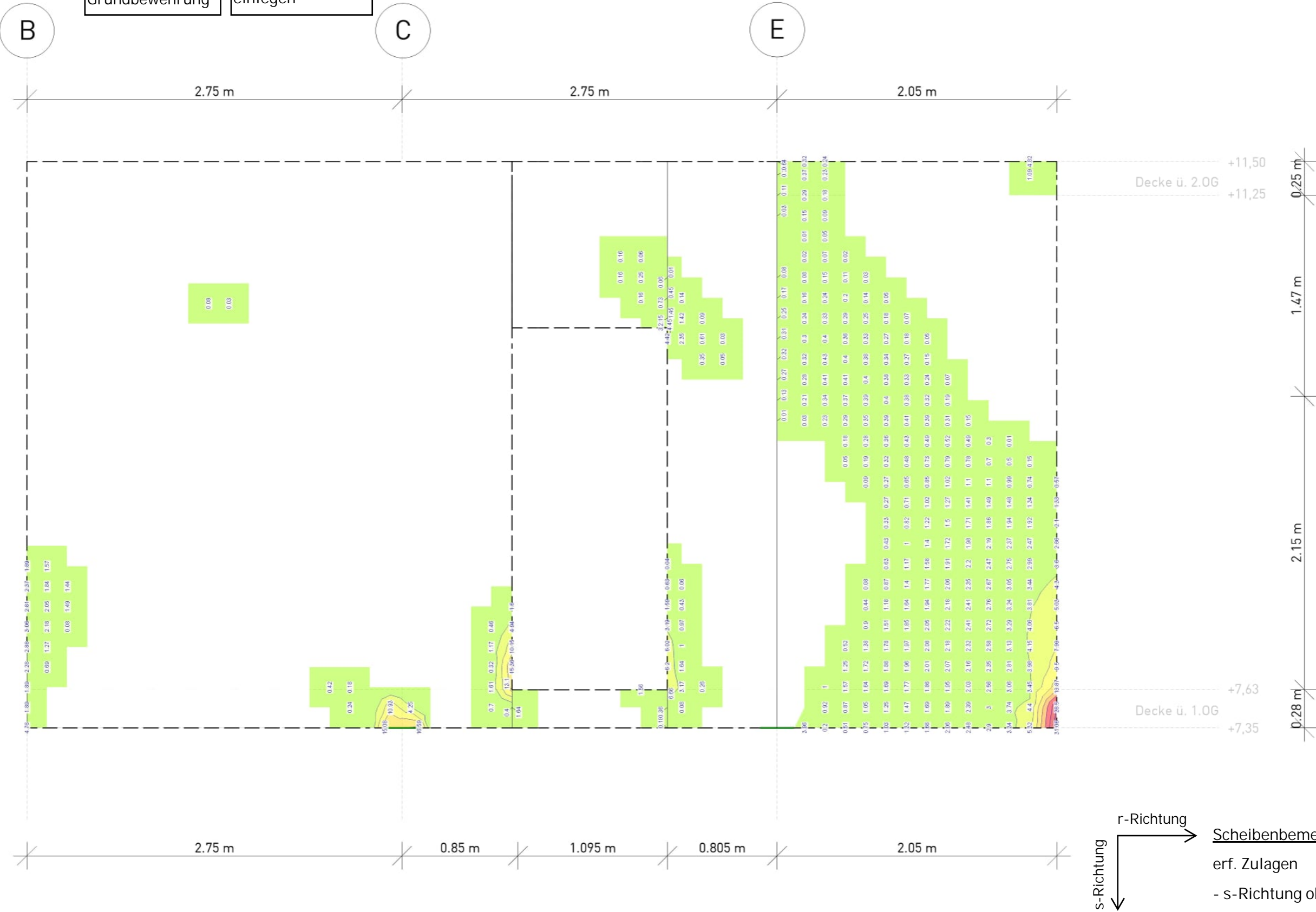
r-Richtung →
s-Richtung ↓
Scheibenbemessung WT-2.3:
erf. Zulagen
- r-Richtung oben -

| | | | | | |
|---|--|---|-------------|-------------------------------------|-----------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4-m.Bw. | Tabelle 1 |
| Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00...35.00 cm >>nur Gruppe 'WT-2.3' sichtbar<< | :EJ&C`)*A^)/A/A/ Q á Max = 36.77 (Kn. 211), Min = 0 (Kn. 1), Step = 5 Vorhandene Bew. as,vorh = 7.54 (Grund+Zulagen) | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |


Grundbewehrung: Ø10/15

Randefassung
entsprechend der
Grundbewehrung

Zulagen analog zu
s-Richtung unten
einlegen



| | |
|-----------------------------------|--|
| : } W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |
| Bew.-Abstand d' = 47 mm | |
| Beton C 30/37 | •EUA@}*Aà^)/A/A/ Q á |
| Bauteildicke h = 25.00...35.00 cm | Max = 31.06 (Kn. 210), Min = 0 (Kn. 1), Step = 4 |
| >>nur Gruppe 'WT-2.3' sichtbar<< | Vorhandene Bew. as,vorh = 5.24 (Grund+Zulagen) |

| | | | |
|---|-------------|-------------------------------------|---------|
|  | Modell | WT-2.3 + WT-2.4-m.Bw. | Tabelle |
| | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | |

Scheibenbemessung WT-2.3:
erf. Zulagen
- s-Richtung oben -

Grundbewehrung: Ø12/15

Randefassung
entsprechend der
Grundbewehrung

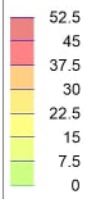
5

Pro Seite:
3 Lagen mit jeweils 1Ø25 verteilt auf 30 cm

Anordnung im Gesamtquerschnitt:
3 Lagen mit jeweils 2Ø25 verteilt auf 30 cm

$a_{s,vorh} = 49,09 \text{ cm}^2/\text{m}$

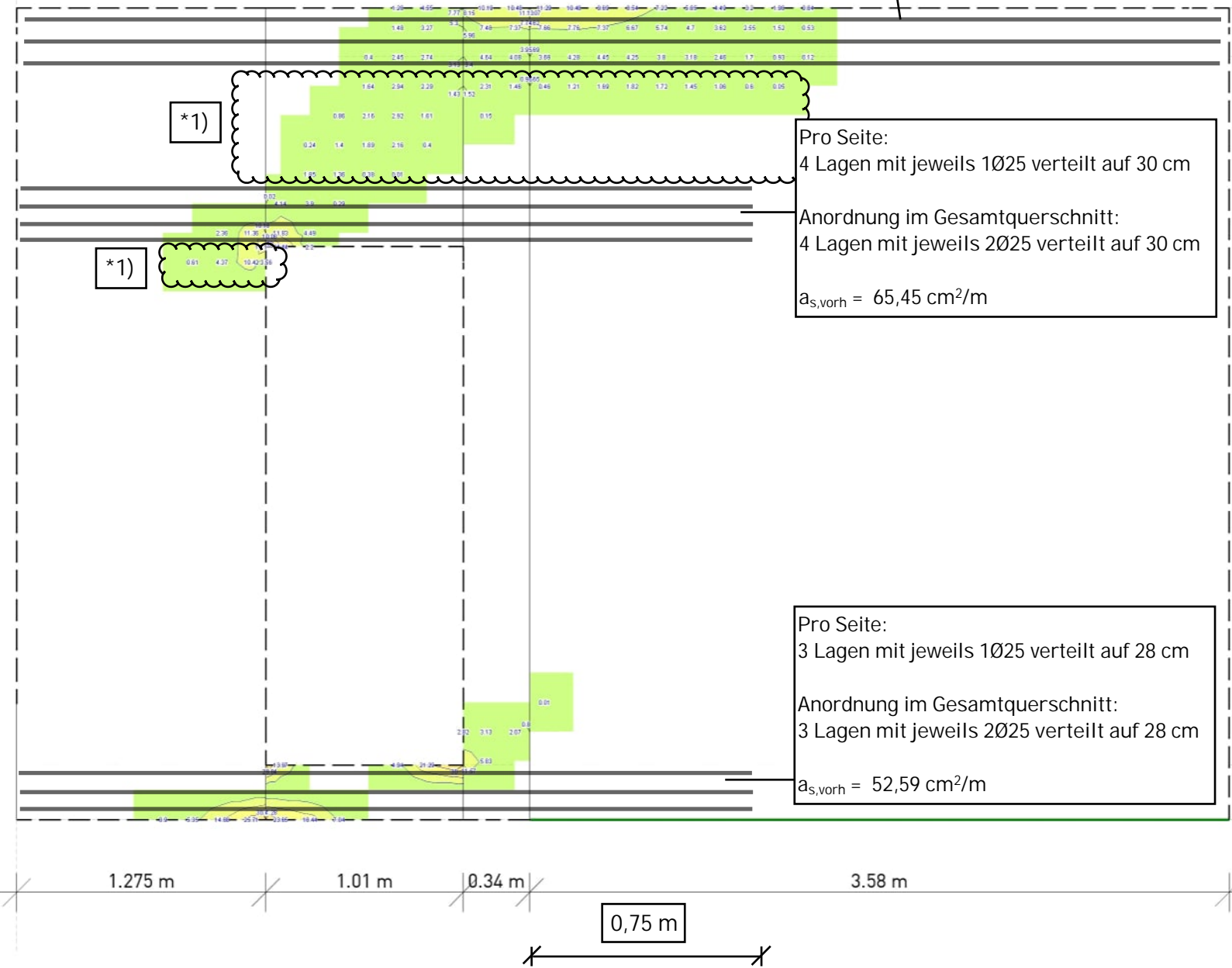
*1) Bereich wurde in Berechnung
Bewehrungsmenge in Zugstreben
berücksichtigt, keine zusätzliche Zulage
erforderlich



Z1

Z2

Z3



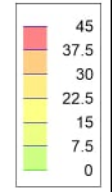
r-Richtung
s-Richtung

Scheibenbemessung WT-2.4:
erf. Zulagen
- r-Richtung unten -

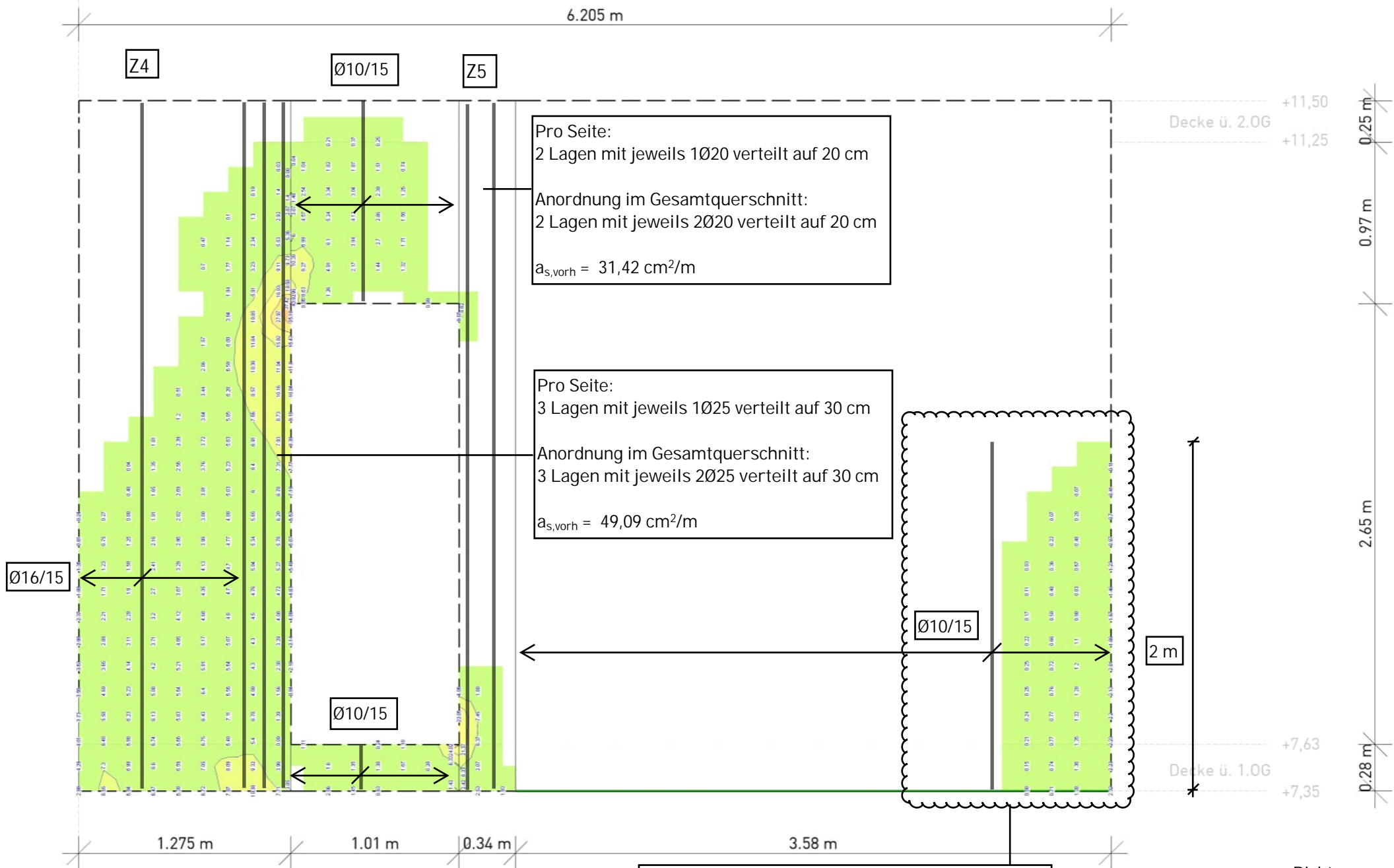
| | | | | | |
|---|---|--|-------------|-------------------------------------|---------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  KREBS+KIEFER | Modell | WT-2.3 + WT-2.4-m.Bw. | Tabelle |
| Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00 cm >>nur Gruppe 'WT-2.4' sichtbar<< | Max = 48 (Kn. 112), Min = 0 (Kn. 119), Step = 7.5 Vorhandene Bew. as,vorh = 7.54 (Grund+Zulagen) | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |

Grundbewehrung: Ø10/15

Randeinfassung
entsprechend der
Grundbewehrung



5



Pro Seite:
2 Lagen mit jeweils 1Ø20 verteilt auf 20 cm

Anordnung im Gesamtquerschnitt:
2 Lagen mit jeweils 2Ø20 verteilt auf 20 cm

$a_{s,vorh} = 31,42 \text{ cm}^2/\text{m}$

Pro Seite:
3 Lagen mit jeweils 1Ø25 verteilt auf 30 cm


Anordnung im Gesamtquerschnitt:
3 Lagen mit jeweils 2Ø25 verteilt auf 30 cm

$a_{s,vorh} = 49,09 \text{ cm}^2/\text{m}$

Verankerungsbewehrung aus W-1.32 hochführen
(siehe Nachweis Zugverankerung)

r-Richtung →
s-Richtung ↓

Scheibenbemessung WT-2.4:
erf. Zulagen
- s-Richtung unten -

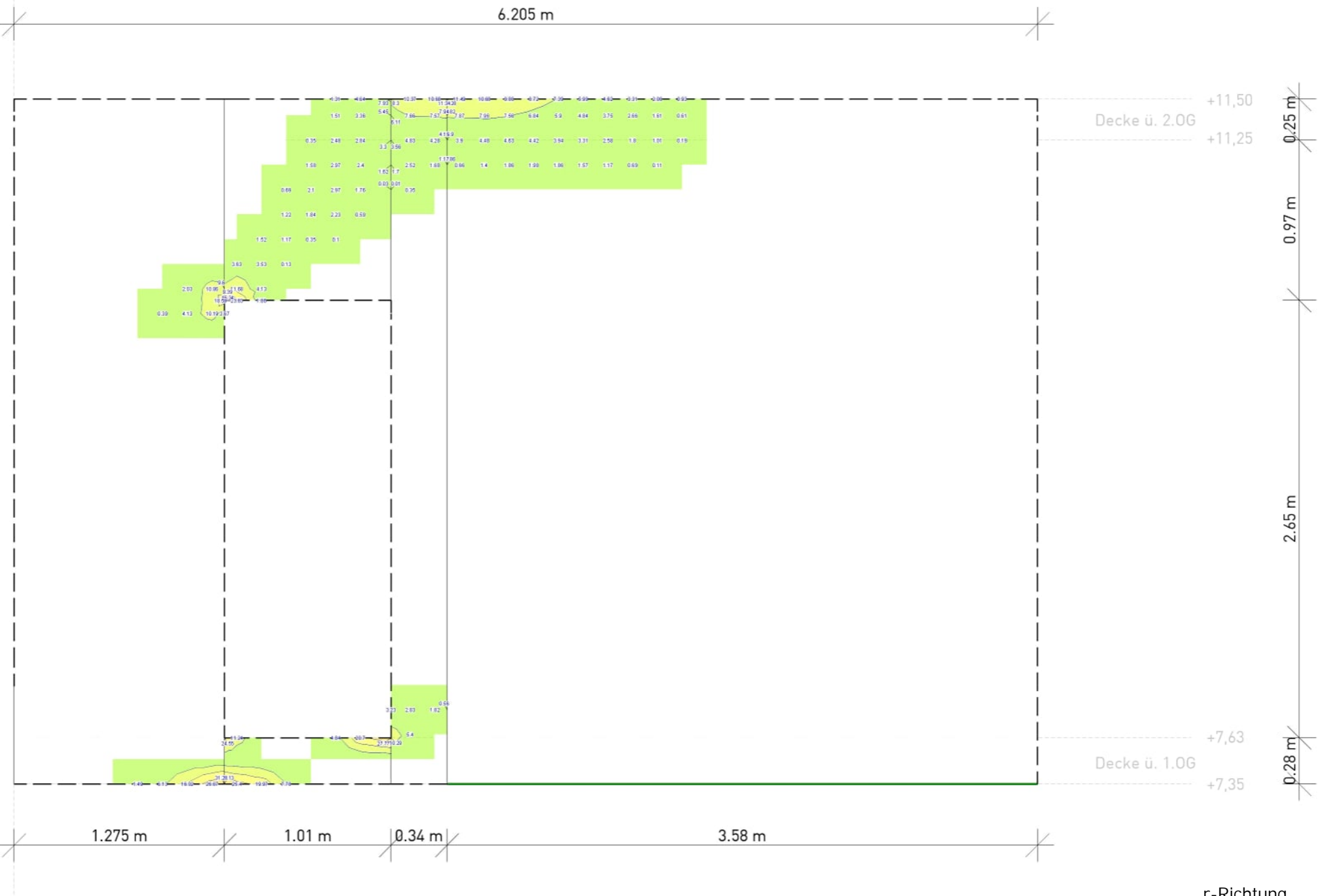
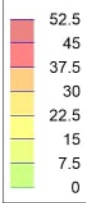
| | | | | | |
|---|--|---|-------------|-------------------------------------|---------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4-m.Bw. | Tabelle |
| Bew.-Abstand d' = 47 mm Beton C 30/37 Bauteildicke h = 25.00 cm >>nur Gruppe 'WT-2.4' sichtbar<< | •EUA@}*Ä}c}/A/AZ Q á Max = 43.92 (Kn. 112), Min = 0 (Kn. 105), Step = 7.5 Vorhandene Bew. as,vorh = 5.24 (Grund+Zulagen) | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |

Grundbewehrung: Ø12/15


Randeinfassung
entsprechend der
Grundbewehrung

Zulagen analog zu
r-Richtung unten
einlegen

5



r-Richtung
s-Richtung
Scheibenbemessung WT-2.4:
erf. Zulagen
- r-Richtung oben -

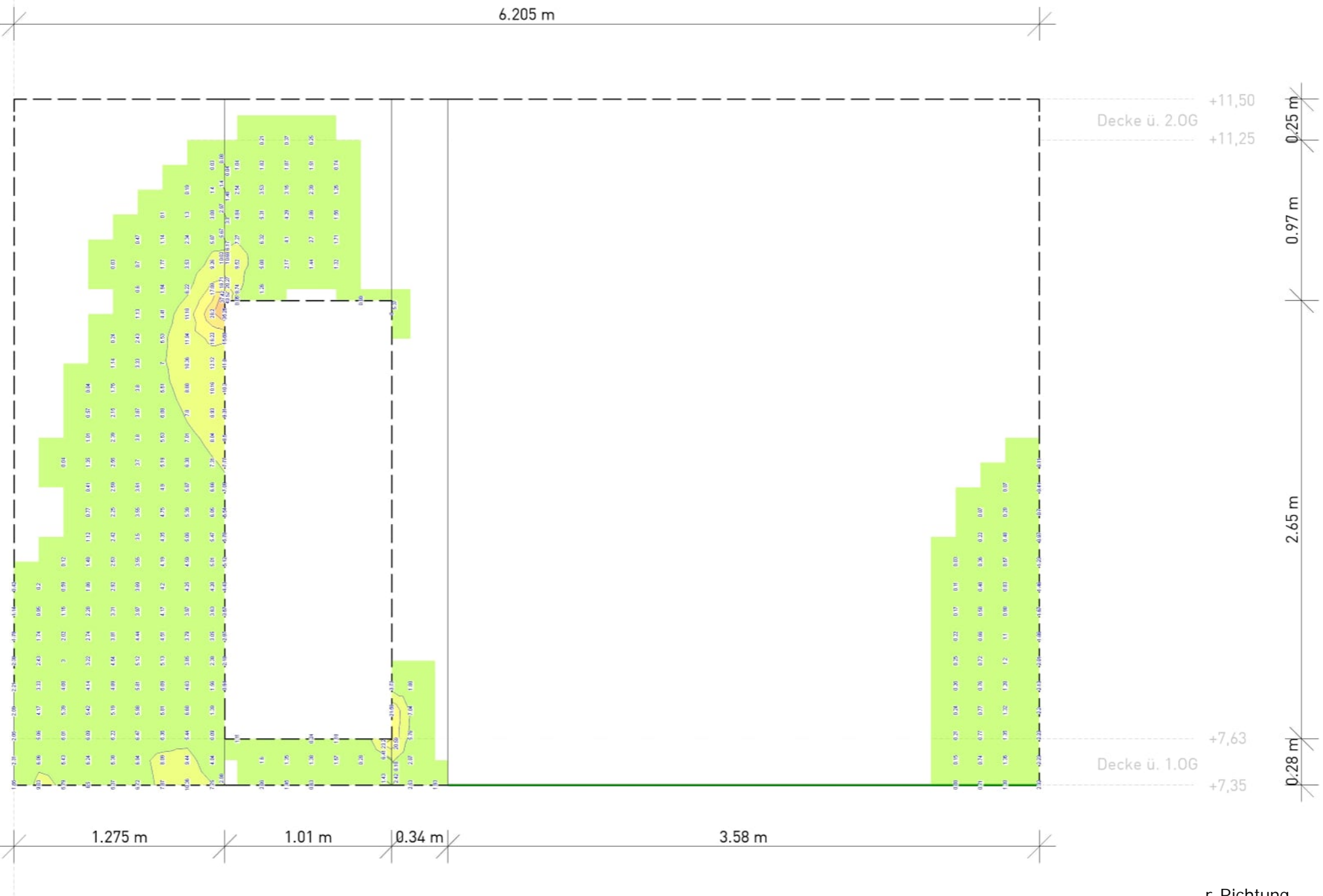
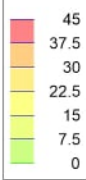
| | | | | | |
|---|---|---|-------------|-------------------------------------|------------------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4-m.Bw. | T ab • caa K K E |
| Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00 cm >>nur Gruppe 'WT-2.4' sichtbar<< | : E u a e } * A a ^ } A A e Q á Max = 46.34 (Kn. 112), Min = 0 (Kn. 119), Step = 7.5 Vorhandene Bew. as,vorh = 7.54 (Grund+Zulagen) | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |

Grundbewehrung: Ø10/15


Randefassung
entsprechend der
Grundbewehrung

Zulagen analog zu
s-Richtung unten
einlegen

5



r-Richtung →
s-Richtung ↓
Scheibenbemessung WT-2.4:
erf. Zulagen
- s-Richtung oben -

| | | | | | |
|---|--|---|-------------|-------------------------------------|-----------|
| : } W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-2.3 + WT-2.4-m.Bw. | Tabelle 1 |
| Bew.-Abstand d' = 47 mm Beton C 30/37 Bauteildicke h = 25.00 cm >>nur Gruppe 'WT-2.4' sichtbar<< | • Erforderliche Bewehrung as,erf Max = 43.52 (Kn. 112), Min = 0 (Kn. 105), Step = 7.5 Vorhandene Bew. as,vorh = 5.24 (Grund+Zulagen) | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |

Knotenbemessung Wandartiger Träger

| | | |
|--------------|--------|----------------------|
| CCC - Knoten | WT-2.3 | W-1.26_1 |
| | | gilt auch für W-1.23 |

Eingangswerte Beton:

| | |
|---------------------------------------|----------------------|
| Auflagerkraft F_{Ed} = | 1360 kN |
| Auflagerlänge l = | 0,25 m |
| Auflagerbreite b = | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | 25 N/mm ² |

| | |
|-------|---|
| v = | 1 |
|-------|---|

Eingangswerte Bewehrung:

| | |
|--|-------|
| Durchmesser Druckbewehrung \emptyset = | 20 mm |
| Anzahl Stäbe n = | 4 |

| | |
|--------------------------------|-----------------------|
| vorh. Bewehrungsfläche A_s = | 12,57 cm ² |
| Bewehrungsgrad ρ = | 2,01 % |

Nachweis Auflagerpressung (σ_{c1}):

| | |
|--|-------------------------|
| $\sigma_{Rd} = \min(v \cdot f_{cd,T} ; v \cdot f_{cd,D} ; f_{cd,A})$ | 14,17 N/mm ² |
|--|-------------------------|

| | |
|--------------------------------------|-------------------------|
| $\sigma_{c1} = F_{Ed} / (l \cdot b)$ | 21,76 N/mm ² |
|--------------------------------------|-------------------------|

| | |
|-------------------------------|------|
| $\sigma_{c1} / \sigma_{Rd} =$ | 1,54 |
|-------------------------------|------|

Es ist Druckbewehrung erforderlich!

| | |
|------------------------------|-----------|
| $\Delta F = F_{Ed} - F_{Cd}$ | 474,58 kN |
|------------------------------|-----------|

| | |
|--------------------------------------|-----------------------|
| $A_{s,erf} = \Delta F / \sigma_{sd}$ | 10,91 cm ² |
|--------------------------------------|-----------------------|

| | |
|--------------------------|------|
| $A_{s,erf} / A_{s,vorh}$ | 0,87 |
|--------------------------|------|

Der Nachweis der Auflagerpressung ist erfüllt.

Aus dem Spannungstrajektorienbild lässt sich schließen, dass sich über dem Auflager ein reines Druckspannungsfeld ausbildet. Deshalb wird die Betonfestigkeit an dieser Stelle nicht abgemindert.

Der Nachweis der Betondruckspannungen ist im FE-Programm an jedem Knoten erfüllt. Demnach werden diese auf diesem Weg als nachgewiesen angesehen.

| | | |
|-------------|--------|--------|
| Linienlager | WT-2.4 | W-1.32 |
|-------------|--------|--------|

Eingangswerte Beton:

| | |
|---------------------------------------|----------------------|
| Auflagerkraft Druck f_{Ed} = | 3272,1 kN/m |
| Auflagerkraft Zug f_{Ed} = | 437 kN |
| Auflagerlänge l = | 1 m |
| Auflagerbreite b = | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | 25 N/mm ² |
| v = | 0,75 |

Eingangswerte Bewehrung:

| | |
|--|-------------------------|
| Durchmesser Druckbewehrung \emptyset = | 8 mm |
| Anzahl Stäbe n = | 10 ($\emptyset 8/20$) |

| | |
|--------------------------------------|-------------------------|
| vorh. Bewehrungsfläche Druck a_s = | 5,03 cm ² /m |
| Bewehrungsgrad ρ = | 0,20 % |

Nachweis Auflagerpressung:

| | |
|---|-----------|
| $f_{Rd} = \min(v \cdot f_{cd,T} ; v \cdot f_{cd,D} ; f_{cd,A}) \cdot b$ | 3,19 MN/m |
|---|-----------|

| | |
|------------|-----------|
| f_{Ed} = | 3,27 MN/m |
|------------|-----------|

| | |
|-------------------|------|
| f_{Ed}/f_{Rd} = | 1,03 |
|-------------------|------|

Es ist Druckbewehrung erforderlich!

| | |
|------------------------------|----------|
| $\Delta f = f_{Ed} - f_{Rd}$ | 84,60 kN |
|------------------------------|----------|

| | |
|--------------------------------------|-------------------------|
| $a_{s,erf} = \Delta f / \sigma_{sd}$ | 1,94 cm ² /m |
|--------------------------------------|-------------------------|

| | |
|--------------------------|------|
| $A_{s,erf} / A_{s,vorh}$ | 0,39 |
|--------------------------|------|

Der Nachweis der Auflagerpressung ist erfüllt.

Der Nachweis der Auflagerpressung wäre mit der vorhandenen Grundbewehrung in der Wand ($\emptyset 8/20$) erfüllt. Da am anderen Ende des Auflagers auch Zugkräfte auftreten, wird zusätzlich untersucht, welche Bewehrung zum Verankern dieser Kräfte erforderlich ist.

| | | |
|-------------|--------|--------|
| Linienlager | WT-2.4 | W-1.32 |
|-------------|--------|--------|

Nachweis Zugverankerung:

| | |
|---|-----------------------------|
| Durchmesser Verankerungsbewehrung \emptyset = | 10 mm |
| Anzahl Stäbe n = | 13,33 ($\emptyset 10/15$) |

| | |
|--|--------------------------|
| vorh. Bewehrungsfläche Verankerung a_s = | 10,47 cm ² /m |
| Bewehrungsgrad ρ = | 0,42 % |

| | |
|---|-------------|
| $f_{Rd} = \sigma_{Rd} \cdot a_{s,vorh}$ | 455,42 kN/m |
|---|-------------|

| | |
|------------------------------------|--------------------------|
| $a_{s,erf} = f_{Ed} / \sigma_{Rd}$ | 10,05 cm ² /m |
|------------------------------------|--------------------------|

| | |
|------------------------|--------------------------|
| $a_{s,vorh} = A_s / l$ | 10,47 cm ² /m |
|------------------------|--------------------------|

| | |
|----------------------------|------|
| $a_{s,erf} / a_{s,vorh} =$ | 0,96 |
|----------------------------|------|

Der Nachweis der Zugverankerung ist erfüllt.

Die gesamte Wand W-1.32 ist mit einer Bewehrung von $\emptyset 10/15$ auszuführen.

| | | |
|------------------------------|--------|----|
| Berechnung Bewehrung Zugband | WT-2.3 | Z1 |
|------------------------------|--------|----|

Eingangswerte

| | |
|--------------------------------------|--------------------------|
| Größter Wert Zugfeld $a_{s,max}$ = | 19,74 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | 2,24 cm ² /m |
| Länge Zugfeld l_s = | 1,2 m |
| Höhe des Zugbands u = | 30 cm |

Integration Bewehrung über Länge:

| | |
|---|-----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 13,19 cm ² |
|---|-----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 25 mm |
| Anzahl Lagen: | 4 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|-----------------------|
| Anzahl Stäbe n = | 4 |
| vorh. Bewehrungsfläche A_s = | 19,63 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 65,45 cm ² /m |
|-------------------------------|--------------------------|

| | | |
|------------------------------|--------|----|
| Berechnung Bewehrung Zugband | WT-2.3 | Z2 |
|------------------------------|--------|----|

Eingangswerte

| | |
|--------------------------------------|--------------------------|
| Größter Wert Zugfeld $a_{s,max}$ = | 16,29 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | 8,37 cm ² /m |
| Länge Zugfeld l_s = | 0,9 m |
| Höhe des Zugbands u = | 30 cm |

Integration Bewehrung über Länge:

| | |
|---|-----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 11,10 cm ² |
|---|-----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 25 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|-----------------------|
| Anzahl Stäbe n = | 3 |
| vorh. Bewehrungsfläche A_s = | 14,73 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 49,09 cm ² /m |
|-------------------------------|--------------------------|

Berechnung Bewehrung Zugband

WT-2.3

Z3

Da der zweite Bewehrungswert des Zugbands wesentlich kleiner ist, als der erste, wird der Bereich mit dem Spitzenwert gesondert vom restlichen Zugbereich betrachtet.

Eingangswerte

| | |
|--------------------------------------|--------------------------|
| Spitzenwert Zugfeld $a_{s,s} =$ | 13,35 cm ² /m |
| FE-Netz $I_{FE} =$ | 0,15 m |
| Zweiter Wert Zugfeld $a_{s,max} =$ | 4,51 cm ² /m |
| Kleinster Wert Zugfeld $a_{s,min} =$ | 4,15 cm ² /m |
| Länge Zugfeld $I_s =$ | 1,05 m |
| Höhe des Zugbands $u =$ | 30 cm |

Integration Bewehrung über Länge Spitzenwert: (1. Lage)

$$A_{s,erf} = a_{s,s} \cdot I_{FE} \quad 2,00 \text{ cm}^2$$

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung $\emptyset =$ | 20 mm |
| Anzahl Lagen: | 1 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|------------------------------------|----------------------|
| Anzahl Stäbe $n =$ | 1 |
| vorh. Bewehrungsfläche $A_{s,s} =$ | 3,14 cm ² |

Integration Bewehrung über Länge restliches Zugband: (restliche Lagen)

$$A_{s,erf} = (a_{s,max} - a_{s,min}) \cdot I_s \cdot 0,5 + a_{s,min} \cdot I_s \quad 4,55 \text{ cm}^2$$

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung $\emptyset =$ | 20 mm |
| Anzahl Lagen: | 1 |
| Stäbe pro Lage: | 2 |
| Stäbe pro Lage gesamt: | 4 |

| | |
|------------------------------------|----------------------|
| Anzahl Stäbe $n =$ | 2 |
| vorh. Bewehrungsfläche $A_{s,z} =$ | 6,28 cm ² |

umgerechnet auf Flächenbewehrung:

$$a_{s,vorh} = (A_{s,s} + A_{s,z}) / u \quad 31,42 \text{ cm}^2/\text{m}$$

Berechnung Bewehrung Zugband

WT-2.3

Z4

Da der zweite Bewehrungswert des Zugbands wesentlich kleiner ist, als der erste, wird der Bereich mit dem Spitzenwert gesondert vom restlichen Zugbereich betrachtet.

Eingangswerte

| | |
|--------------------------------------|--------------------------|
| Spitzenwert Zugfeld $a_{s,s} =$ | 20,91 cm ² /m |
| FE-Netz $I_{FE} =$ | 0,15 m |
| Größter Wert Zugfeld $a_{s,max} =$ | 5,55 cm ² /m |
| Kleinster Wert Zugfeld $a_{s,min} =$ | 0,18 cm ² /m |
| Länge Zugfeld $I_s =$ | 0,35 m |
| Höhe des Zugbands $u =$ | 20 cm |

Integration Bewehrung über Länge Spitzenwert: (1. Lage)

$$A_{s,erf} = a_{s,s} \cdot I_{FE} \quad 3,14 \text{ cm}^2$$

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung $\emptyset =$ | 20 mm |
| Anzahl Lagen: | 1 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|------------------------------------|----------------------|
| Anzahl Stäbe $n =$ | 1 |
| vorh. Bewehrungsfläche $A_{s,s} =$ | 3,14 cm ² |

Integration Bewehrung über Länge restliches Zugband: (restliche Lagen)

$$A_{s,erf} = (a_{s,max} - a_{s,min}) \cdot I_s \cdot 0,5 + a_{s,min} \cdot I_s \quad 1,00 \text{ cm}^2$$

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung $\emptyset =$ | 20 mm |
| Anzahl Lagen: | 1 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|------------------------------------|----------------------|
| Anzahl Stäbe $n =$ | 1 |
| vorh. Bewehrungsfläche $A_{s,z} =$ | 3,14 cm ² |

umgerechnet auf Flächenbewehrung:

$$a_{s,vorh} = (A_{s,s} + A_{s,z}) / u \quad 31,42 \text{ cm}^2/\text{m}$$

| Berechnung Bewehrung Zugband | WT-2.3 | Z5 |
|------------------------------|--------|----|
|------------------------------|--------|----|

Eingangswerte

Extremwert Zugfeld =

Größter Wert Zugfeld $a_{s,max}$ =

11,96 cm²/m

Kleinster Wert Zugfeld $a_{s,min}$ =

1,7 cm²/m

Länge Zugfeld l_s =

0,9 m

Höhe des Zugbands u =

20 cm

Integration Bewehrung über Länge:

$$A_{s,erf} = (a_{s,max} - a_{s,min}) \cdot l_s \cdot 0,5 + a_{s,min} \cdot l_s$$

6,15 cm²

Durchmesser Bewehrung \emptyset =

20 mm

Anzahl Lagen:

2

Stäbe pro Lage:

1

Stäbe pro Lage gesamt:

2

Anzahl Stäbe n =

2

vorh. Bewehrungsfläche A_s =

6,28 cm²

umgerechnet auf Flächenbewehrung:

$$a_{s,vorh} = A_{s,vorh} / u$$

31,42 cm²/m

Berechnung Bewehrung Zugband

WT-2.3

Z6

Da der zweite Bewehrungswert des Zugbands wesentlich kleiner ist, als der erste, wird der Bereich mit dem Spitzenwert gesondert vom restlichen Zugbereich betrachtet.

Eingangswerte

| | |
|--------------------------------------|--------------------------|
| Spitzenwert Zugfeld $a_{s,s} =$ | 37,11 cm ² /m |
| FE-Netz $I_{FE} =$ | 0,15 m |
| Größter Wert Zugfeld $a_{s,max} =$ | 10,56 cm ² /m |
| Kleinster Wert Zugfeld $a_{s,min} =$ | 6,27 cm ² /m |
| Länge Zugfeld $I_s =$ | 1,05 m |
| Höhe des Zugbands $u =$ | 30 cm |

Integration Bewehrung über Länge Spitzenwert: (1. Lage)

$$A_{s,erf} = a_{s,s} \cdot I_{FE} \quad 5,57 \text{ cm}^2$$

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung $\emptyset =$ | 25 mm |
| Anzahl Lagen: | 1 |
| Stäbe pro Lage: | 1,5 |
| Stäbe pro Lage gesamt: | 3 |

$$\begin{aligned} \text{Anzahl Stäbe } n &= 1,5 \\ \text{vorh. Bewehrungsfläche } A_{s,s} &= 7,36 \text{ cm}^2 \end{aligned}$$

Integration Bewehrung über Länge restliches Zugband: (restliche Lagen)

$$A_{s,erf} = (a_{s,max} - a_{s,min}) \cdot I_s \cdot 0,5 + a_{s,min} \cdot I_s \quad 8,84 \text{ cm}^2$$

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung $\emptyset =$ | 20 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

$$\begin{aligned} \text{Anzahl Stäbe } n &= 3 \\ \text{vorh. Bewehrungsfläche } A_{s,z} &= 9,42 \text{ cm}^2 \end{aligned}$$

umgerechnet auf Flächenbewehrung:

$$a_{s,vorh} = (A_{s,s} + A_{s,z}) / u \quad 55,96 \text{ cm}^2/\text{m}$$

| Berechnung Bewehrung Zugband | WT-2.4 | Z1 |
|------------------------------|--------|----|
|------------------------------|--------|----|

Eingangswerte

| | |
|--------------------------------------|--------------------------|
| Größter Wert Zugfeld $a_{s,max}$ = | 18,93 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | 0,79 cm ² /m |
| Länge Zugfeld l_s = | 1,2 m |
| Höhe des Zugbands u = | 30 cm |

Integration Bewehrung über Länge:

| | |
|---|-----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 11,83 cm ² |
|---|-----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 25 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|-----------------------|
| Anzahl Stäbe n = | 3 |
| vorh. Bewehrungsfläche A_s = | 14,73 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 49,09 cm ² /m |
|-------------------------------|--------------------------|

| Berechnung Bewehrung Zugband | WT-2.4 | Z2 |
|------------------------------|--------|----|
|------------------------------|--------|----|

Eingangswerte

| | |
|--------------------------------------|--------------------------|
| Größter Wert Zugfeld $a_{s,max}$ = | 32,14 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | 4,2 cm ² /m |
| Länge Zugfeld l_s = | 0,9 m |
| Höhe des Zugbands u = | 30 cm |

Integration Bewehrung über Länge:

| | |
|---|-----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 16,35 cm ² |
|---|-----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 25 mm |
| Anzahl Lagen: | 4 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|-----------------------|
| Anzahl Stäbe n = | 4 |
| vorh. Bewehrungsfläche A_s = | 19,63 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 65,45 cm ² /m |
|-------------------------------|--------------------------|

| Berechnung Bewehrung Zugband | WT-2.4 | Z3 |
|---|--------|--------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 37,95 cm ² /m |
| Kleinster Wert Zugfeld $a_{s,min}$ = | | 37,95 cm ² /m |
| Länge Zugfeld l_s = | | 0,28 m |
| Höhe des Zugbands u = | | 28 cm |
| Integration Bewehrung über Länge: | | |
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | | 10,63 cm ² |
| Durchmesser Bewehrung \emptyset = | | 25 mm |
| Anzahl Lagen: | | 3 |
| Stäbe pro Lage: | | 1 |
| Stäbe pro Lage gesamt: | | 2 |
| Anzahl Stäbe n = | | 3 |
| vorh. Bewehrungsfläche A_s = | | 14,73 cm ² |
| umgerechnet auf Flächenbewehrung: | | |
| $a_{s,vorh} = A_{s,vorh} / u$ | | 52,59 cm ² /m |

| Berechnung Bewehrung Zugband | WT-2.4 | Z4 |
|---|--------|--------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 15,61 cm ² /m |
| Kleinster Wert Zugfeld $a_{s,min}$ = | | 15,61 cm ² /m |
| Länge Zugfeld l_s = | | 1,3 m |
| Höhe des Zugbands u = | | 130 cm |
| Integration Bewehrung über Länge: | | |
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | | 20,29 cm ² |
| Durchmesser Bewehrung \emptyset = | | 10 mm |
| Anzahl Lagen: | | 8,67 |
| Stäbe pro Lage: | | 1 |
| Stäbe pro Lage gesamt: | | 2 |
| Durchmesser Bewehrung \emptyset = | | 16 mm |
| Anzahl Lagen: | | 8,67 |
| Stäbe pro Lage: | | 1 |
| Stäbe pro Lage gesamt: | | 2 |
| Anzahl Stäbe n = | | 17,34 |
| vorh. Bewehrungsfläche A_s = | | 24,24 cm ² |
| umgerechnet auf Flächenbewehrung: | | |
| $a_{s,vorh} = A_{s,vorh} / u$ | | 18,65 cm ² /m |

Anmerkung: Die gewählte Bewehrung im Bereich von WT-2.4_1 entspricht einer flächigen Bewehrung von $\emptyset 16/15 + \emptyset 10/15$.

| | | |
|------------------------------|--------|----|
| Berechnung Bewehrung Zugband | WT-2.4 | Z5 |
|------------------------------|--------|----|

Eingangswerte

| | |
|--------------------------------------|--------------------------|
| Größter Wert Zugfeld $a_{s,max}$ = | 29,25 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | 0 cm ² /m |
| Länge Zugfeld l_s = | 0,3 m |
| Höhe des Zugbands u = | 20 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 4,39 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 20 mm |
| Anzahl Lagen: | 2 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 2 |
| vorh. Bewehrungsfläche A_s = | 6,28 cm ² |

umgerechnet auf Flächenbewehrung:

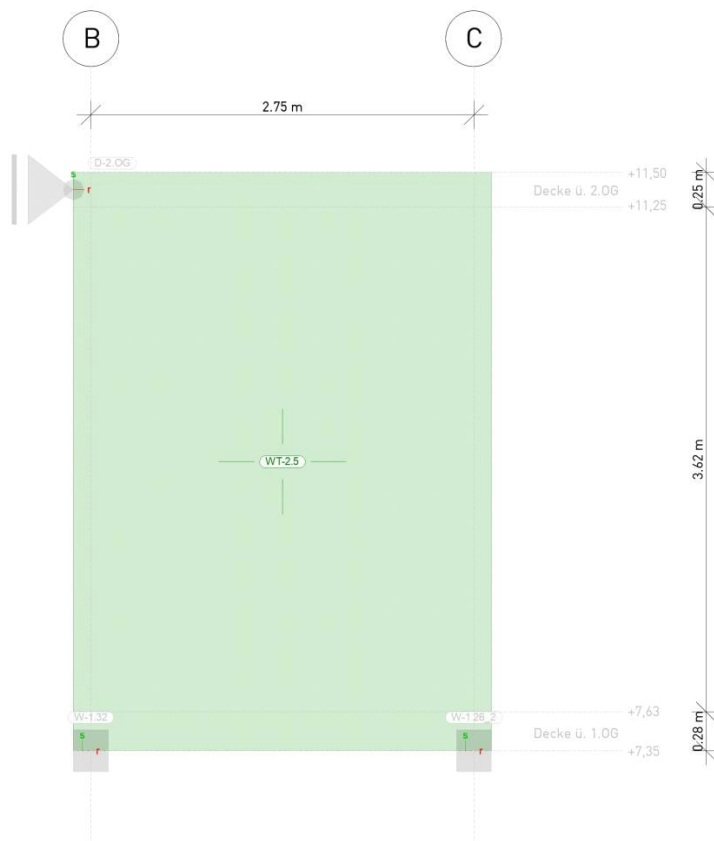
| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 31,42 cm ² /m |
|-------------------------------|--------------------------|

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

5.1.4 WT-2.5

Stat. System:



Material:

| | | |
|--------------------|--|--|
| Dicke: | 25 cm | WT-2.5 |
| Betonstahl: | B 500SB | |
| Beton: | C30/37 | |
| Expositionsklasse: | XC1, W0 | Innenbauteile |
| Betondeckung: | $c_v = 30 \text{ mm}$ | |
| Grundbewehrung: | $\varnothing 12/15$ horizontal $\varnothing 10/15$ vertikal | = 7,54 cm ² /m = 5,24 cm ² /m |

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Genehmigungsplanung Tragwerksplanung

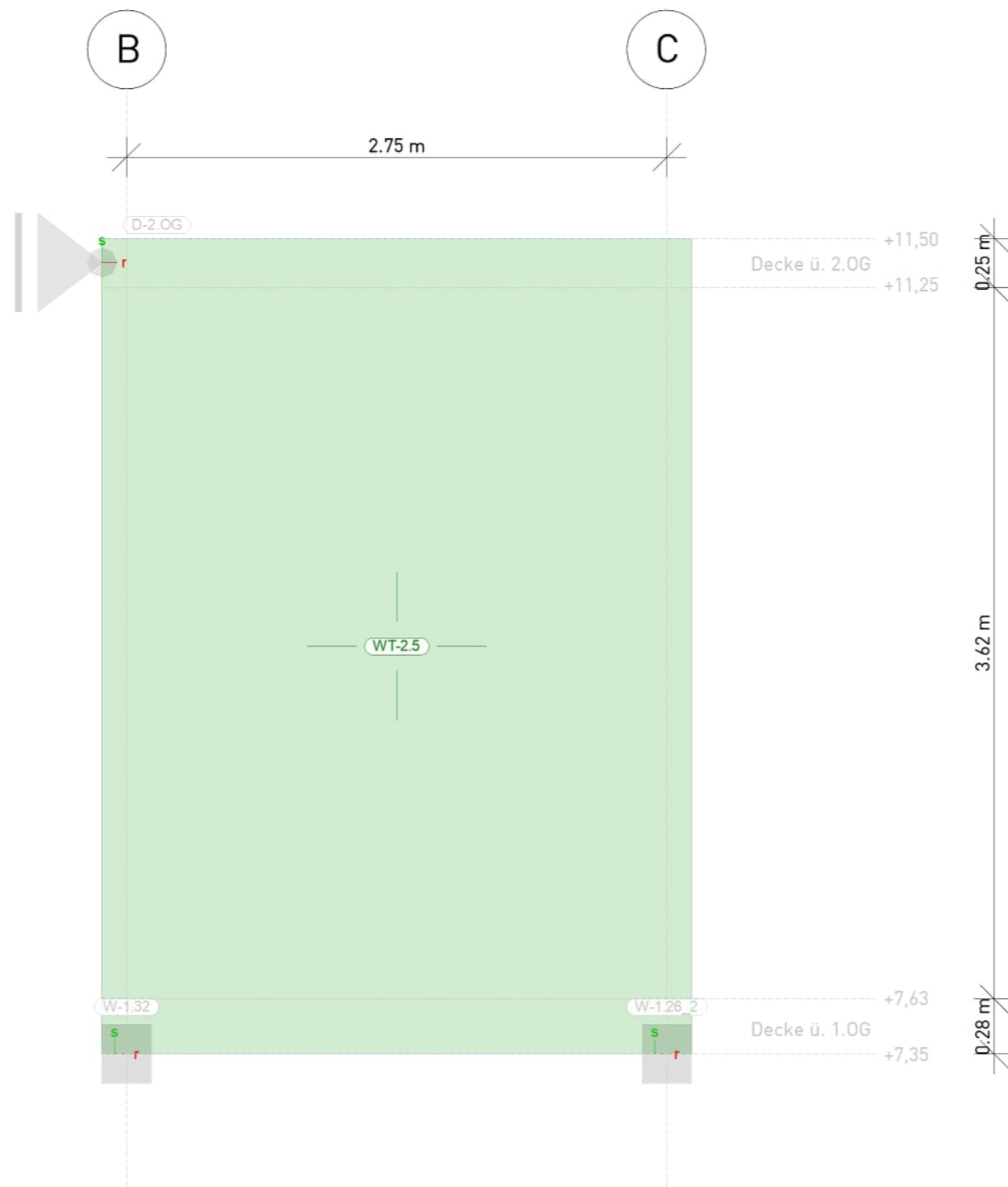
Belastung:

Die Belastung wird aus den Auflagerreaktionen der zugehörigen Wandlager aus den Deckenmodellen D-2.OG und D-1.OG übernommen. Es wird für jeden Lasttyp (Eigengewicht, Ausbau, Nutzlasten) ein eigener Lastfall erstellt. Für die Nutzlasten wird beim Erstellen der Lastfälle in positive und negative Belastungsrichtung unterschieden.

Die Anordnung der Lasten kann aus den Lastplänen entnommen werden.

Bemessung:

Siehe folgende Seiten.



| | | | | |
|--------------------|---|------------------------------|-------------------------------------|---------|
| Bauteil-Positionen |  | Modell | WT-2.5 | Tabelle |
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |

Posi ti onspl an

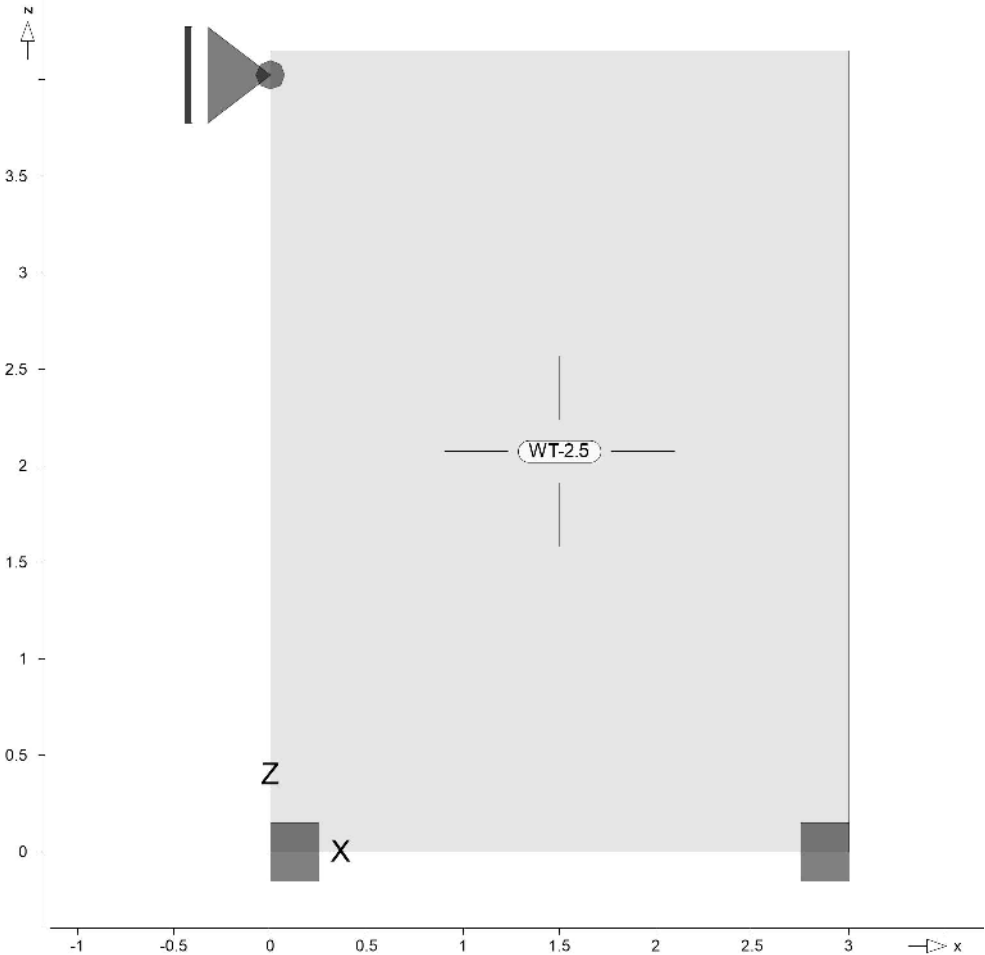
Positionsplan

Bautei le

Bauteil-Positionen

Posi ti onsgafi k

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Schei ben

Scheiben-Positionen

Stahl beton

| Position | Winkel YflŸ | Art | Material | Dicke [cm] |
|----------|----------------|-----|-------------------|---------------|
| WT-2.5 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ↔^b↔=ã^|^&ÄT|ää~↔\
Exz.: Ó[´æ^\ää↔~↔\^Äæ

Exposi ti onskl asse

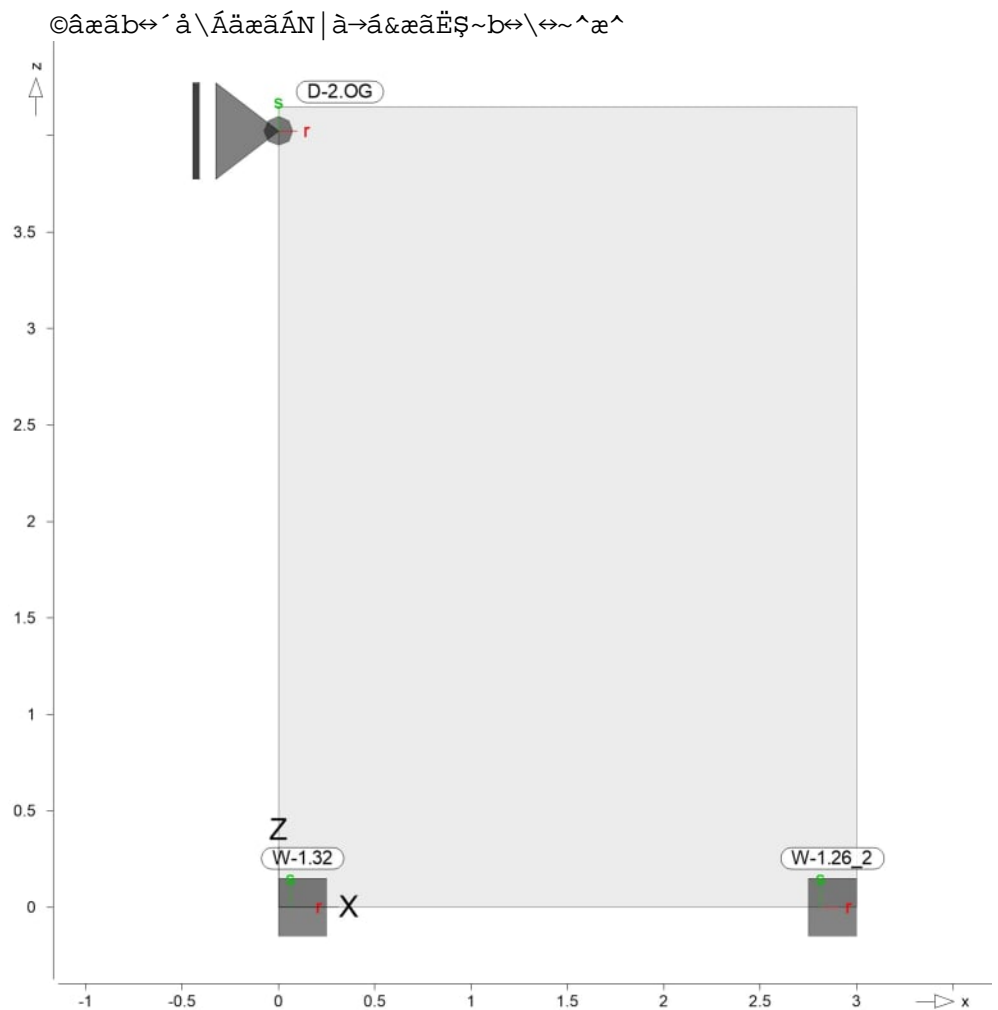
&æ†‡BÁÆØSÁÓSÁFİİĜĖFĖFĖÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|-------------------------------|
| WT-2.5 | umlaufend | XC1 | \ä~´←æ^Ä~ääãÄb\†^ä↔&Ä nass |

Auflager

Positionsgrafik

Auflager-Positionen



Punktlager

Punktlager-Positionen

| Position | | $K_{T,r}$ [kN/m] | $K_{T,s}$ [kN/m] | $K_{R,t}$ [kNm/rad] |
|----------|-----|---------------------|---------------------|------------------------|
| D-2.OG | +/- | fest | frei | frei |

Linienlager

Linienlager-Positionen

lokal

| Position | | $K_{T,r}$ [kN/m/m] | $K_{T,s}$ [kN/m/m] | $K_{R,t}$ [kNm/rad/m] |
|------------------|--|-----------------------|-----------------------|--------------------------|
| W-1.26_2, W-1.32 | | frei | fest | frei |

Material

Materialkennwerte

Stahlbeton

DIN EN 1992-1-1

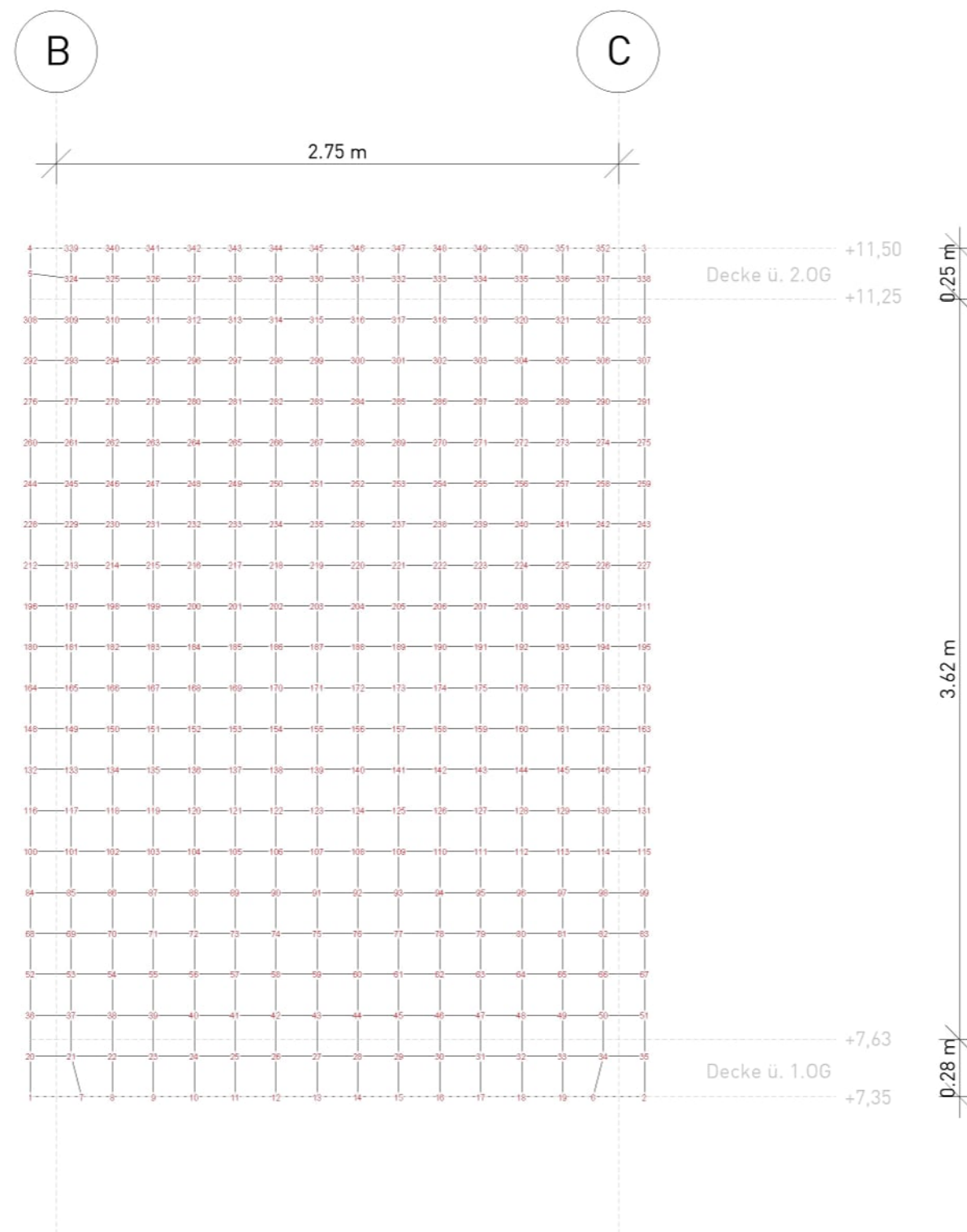
| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|----------|-----------|--------|----------------|-----------------------|
| WT-2.5 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |

Q: $\sigma_b \leq \sigma_{b,Rd}$

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte | E_s | f_{yk} |
|----------|----------|--------------------------------|--------------------------------|--------------------------------|
| | | | G | $f_{tk,cal}$ |
| | | $Y \leftarrow S \rightarrow Z$ | $Y \leftarrow S \rightarrow Z$ | $Y \leftarrow S \rightarrow Z$ |
| WT-2.5 | B 500SA | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |
| WT-2.5 | B 500SB | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |



Netzgröße: 0,2 m x 0,2 m

| | | | | | |
|---------------|---------------------|---|-------------|-------------------------------------|---------|
| Knotennummern | Anzahl Knoten = 352 |  | Modell | WT-2.5 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |

Linienlast-Pos

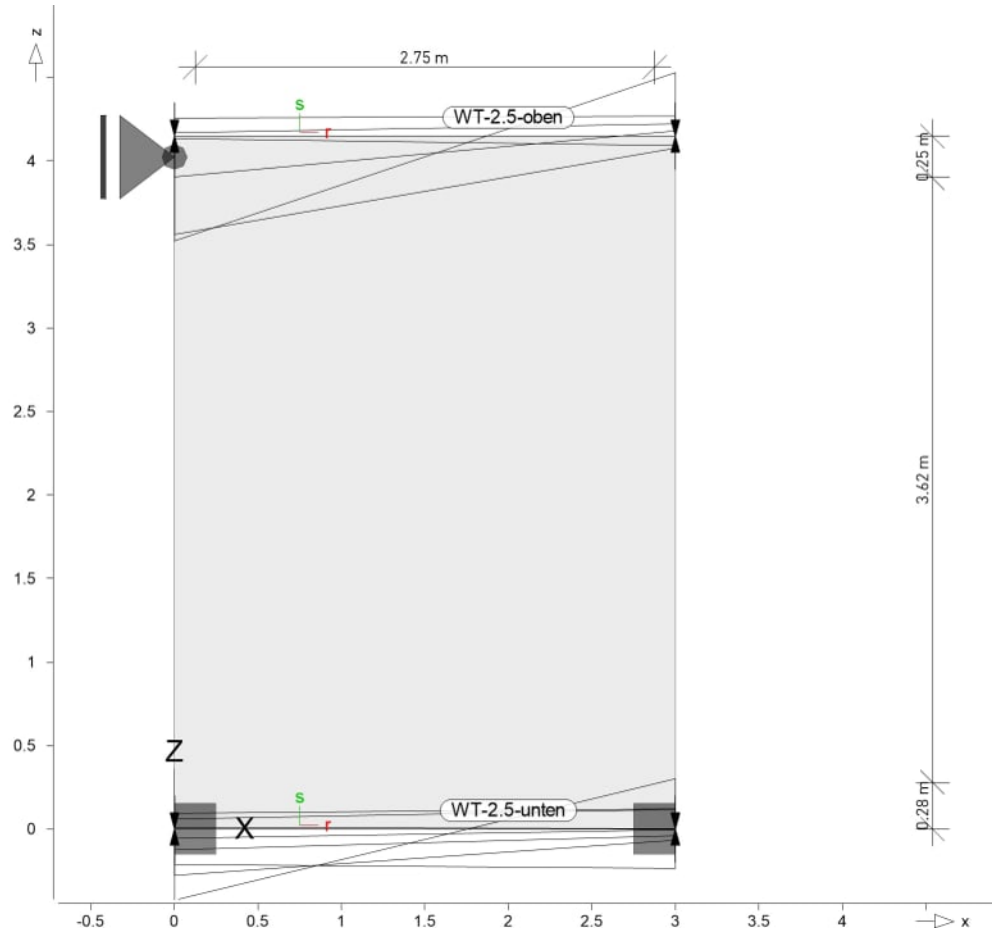
Lasten des FE-Modells

Standardlasten

Standardlasten im FE-Modell

Positionsgrafik

Positionsgrafik des FE-Modells



Linienlasten

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|--------------|-------------------------------|----------|-----|-------------------------------|-------------------------------|
| WT-2.5-oben | Ncuv"YV/407"cwu"Fgemg"Ä0"40QI | | | | |
| | Gk | LF-1 | pGr | -62.98 | 38.03 |
| | Qk.N_DA | LF-4 | pGr | 10.81 | 12.06 |
| | Qk.N_DA | LF-5 | pGr | -58.88 | -7.23 |
| | Qk.N_E1 | LF-9 | pGr | 1.99 | 7.41 |
| | Qk.N_E1 | LF-10 | pGr | -1.44 | -5.59 |
| | Ö← | LF-2 | pGr | -24.32 | 2.97 |
| WT-2.5-unten | Ncuv"YV/407"cwu"Fgemg"Ä0"30QI | | | | |
| | Gk | LF-1 | pGr | -42.38 | 30.04 |
| | Qk.N_C1 | LF-6 | pGr | 1.12 | 0.23 |
| | Qk.N_C5 | LF-12 | pGr | -12.43 | -4.17 |
| | Qk.N_DA | LF-3 | pGr | 9.55 | 11.94 |
| | Qk.N_DA | LF-8 | pGr | -21.17 | -23.44 |
| | Qk.N_E1 | LF-7 | pGr | 5.84 | 11.84 |
| | Qk.N_E1 | LF-11 | pGr | -5.47 | -0.46 |
| | Ö← | LF-2 | pGr | -27.66 | -6.49 |

pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Koordinaten

| Position | Q ⁺ [m] | x [m] | z [m] |
|--------------|--------------------|-------|-------|
| WT-2.5-oben | 3.00 | 0.00 | 4.15 |
| WT-2.5-unten | 3.00 | 0.00 | 0.00 |

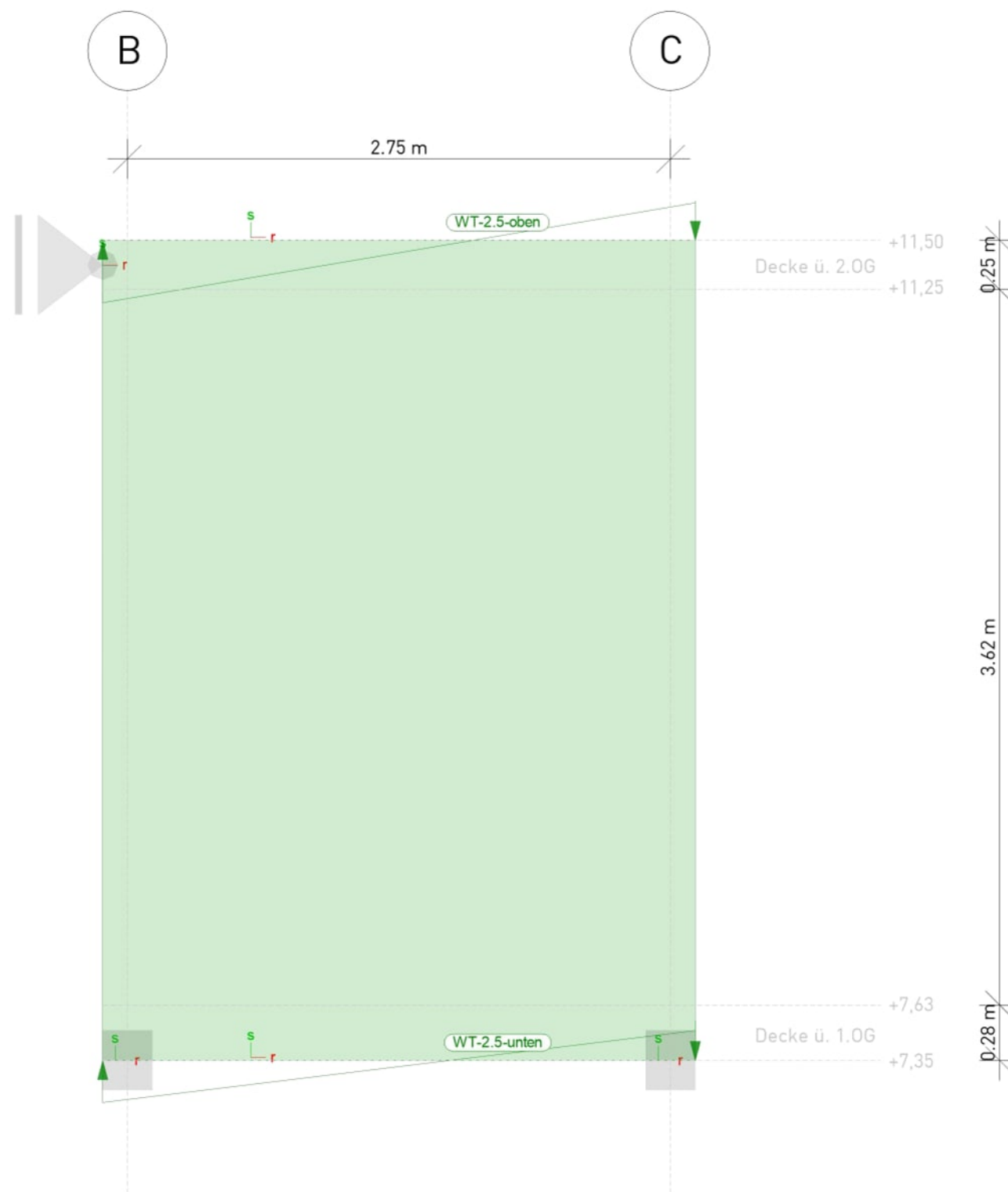
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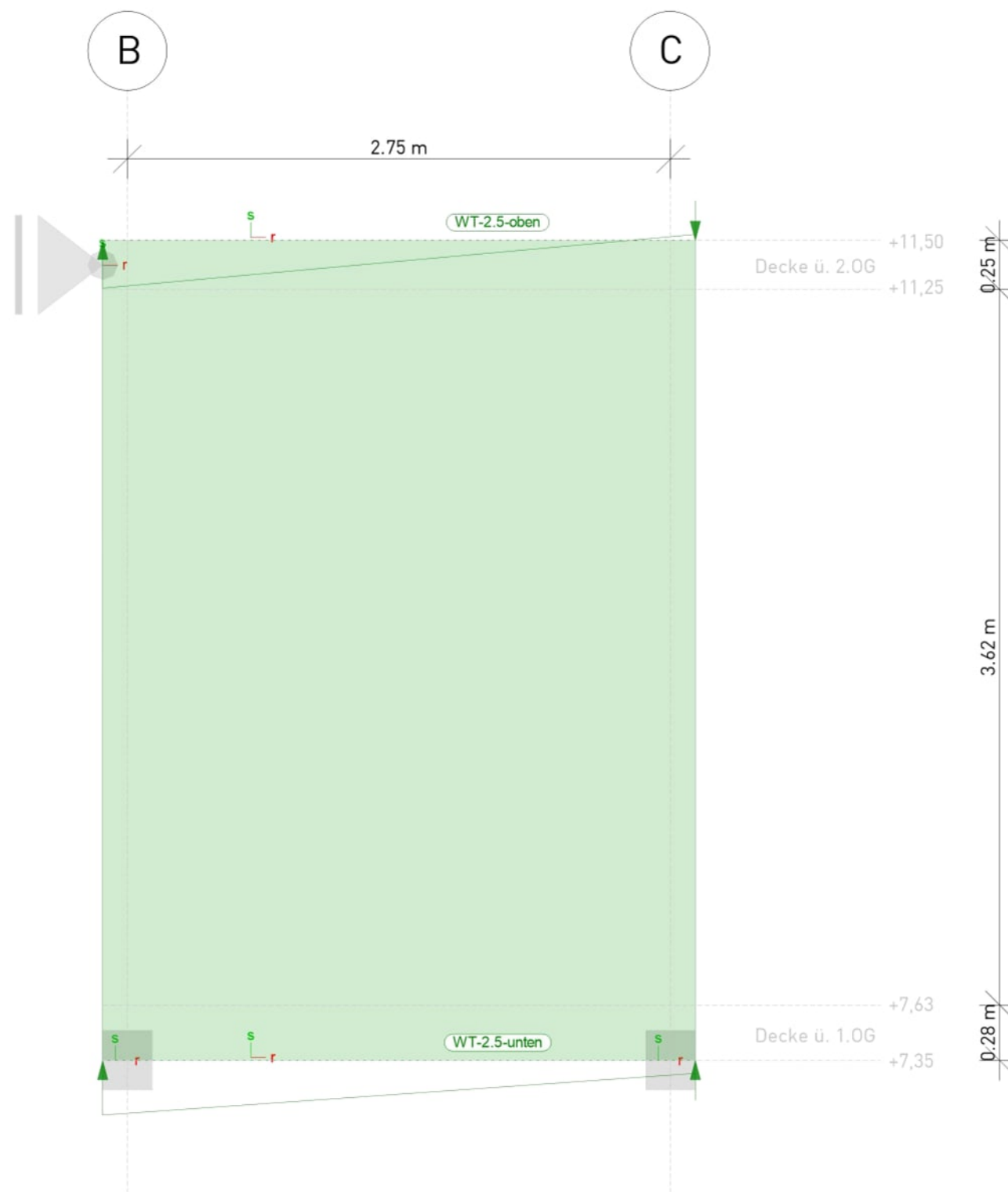
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| Lastfall | Typ | Beschreibung |
|----------|-----|---------------------------|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbau |
| LF-3 | v | Nutzlast Dach unten, pos |
| LF-4 | v | Nutzlast Dach oben, pos |
| LF-5 | v | Nutzlast Dach oben, neg |
| LF-6 | v | Nutzlast Schulung unten |
| LF-7 | v | Nutzlast Lager unten |
| LF-8 | v | Nutzlast Dach unten, neg |
| LF-9 | v | Nutzlast Technik oben |
| LF-10 | v | Nutzlast Technik oben neg |
| LF-11 | v | Nutzlast Lager unten neg |
| LF-12 | v | Nutzlast Forum neg |

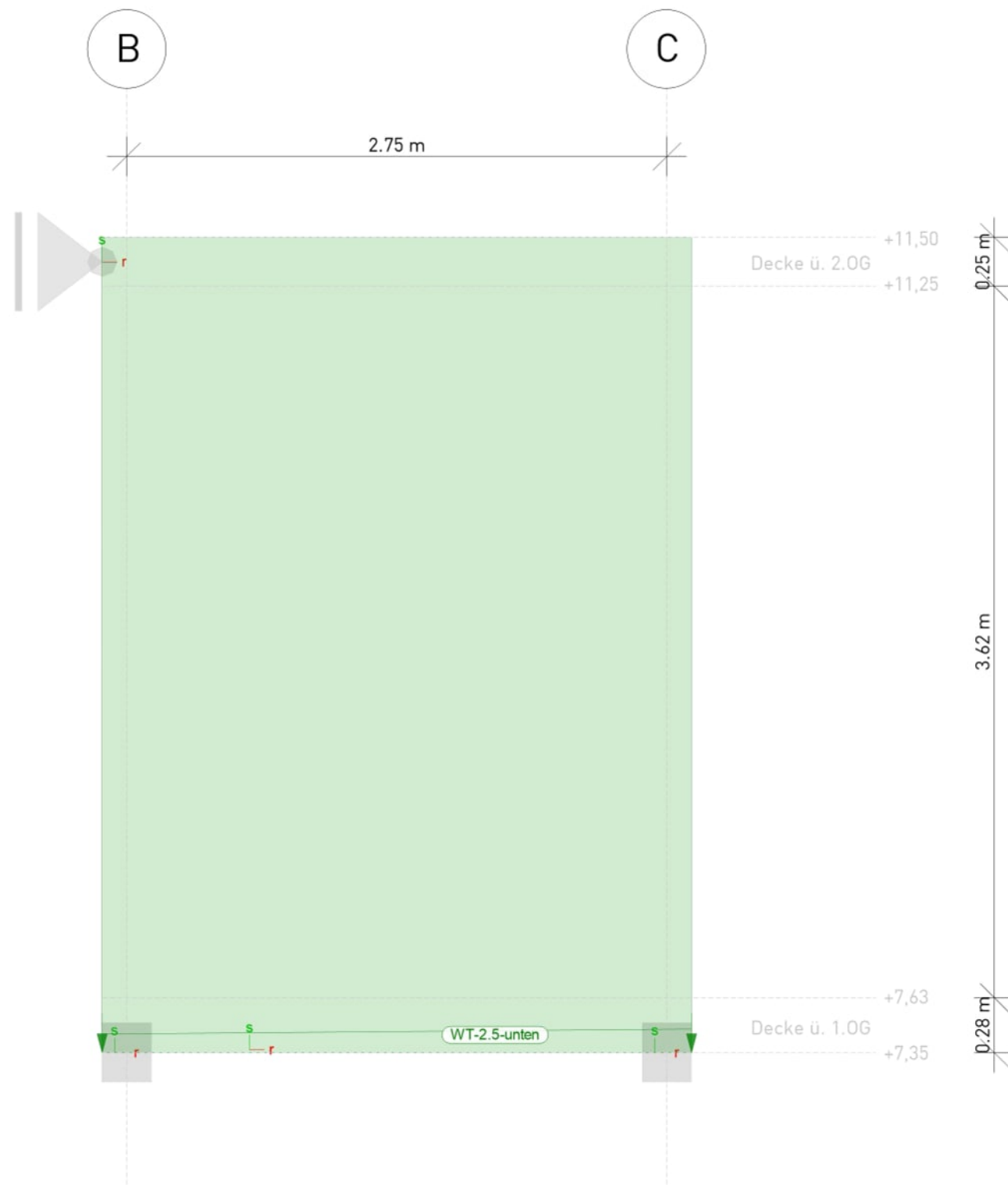
s: b\†^ä↔&æãÁQáb\ää→→
v: {æã†^äæã↔↔´âæãÁQáb\ää→→




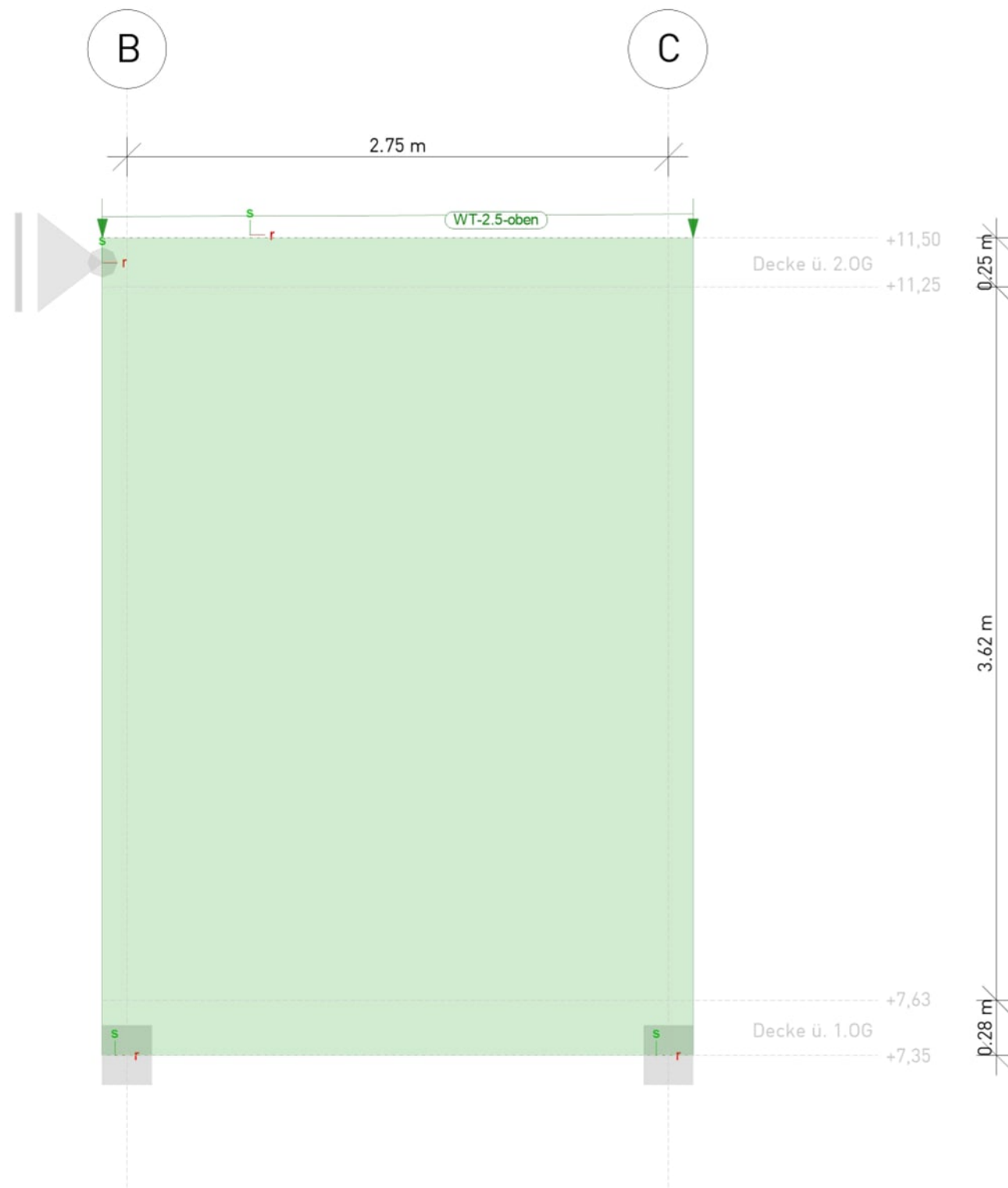
| | | | | | |
|----------------------------------|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.5 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-1 (Eigengewicht) | | | KREBS+KIEFER Ingenieure GmbH | | |




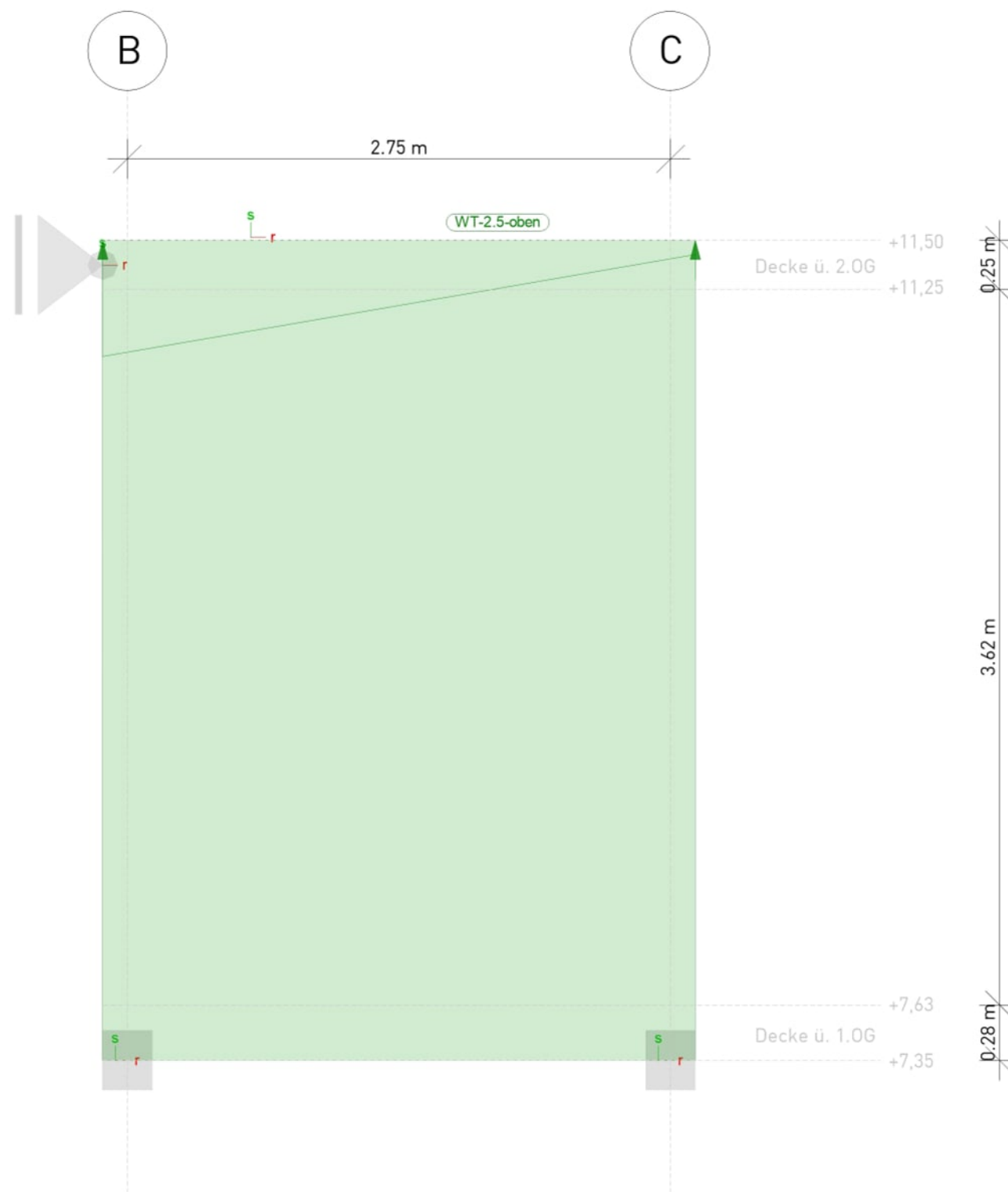
| | | | | | |
|----------------------------|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.5 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-2 (Ausbau) | | KREBS+KIEFER Ingenieure GmbH | | | |




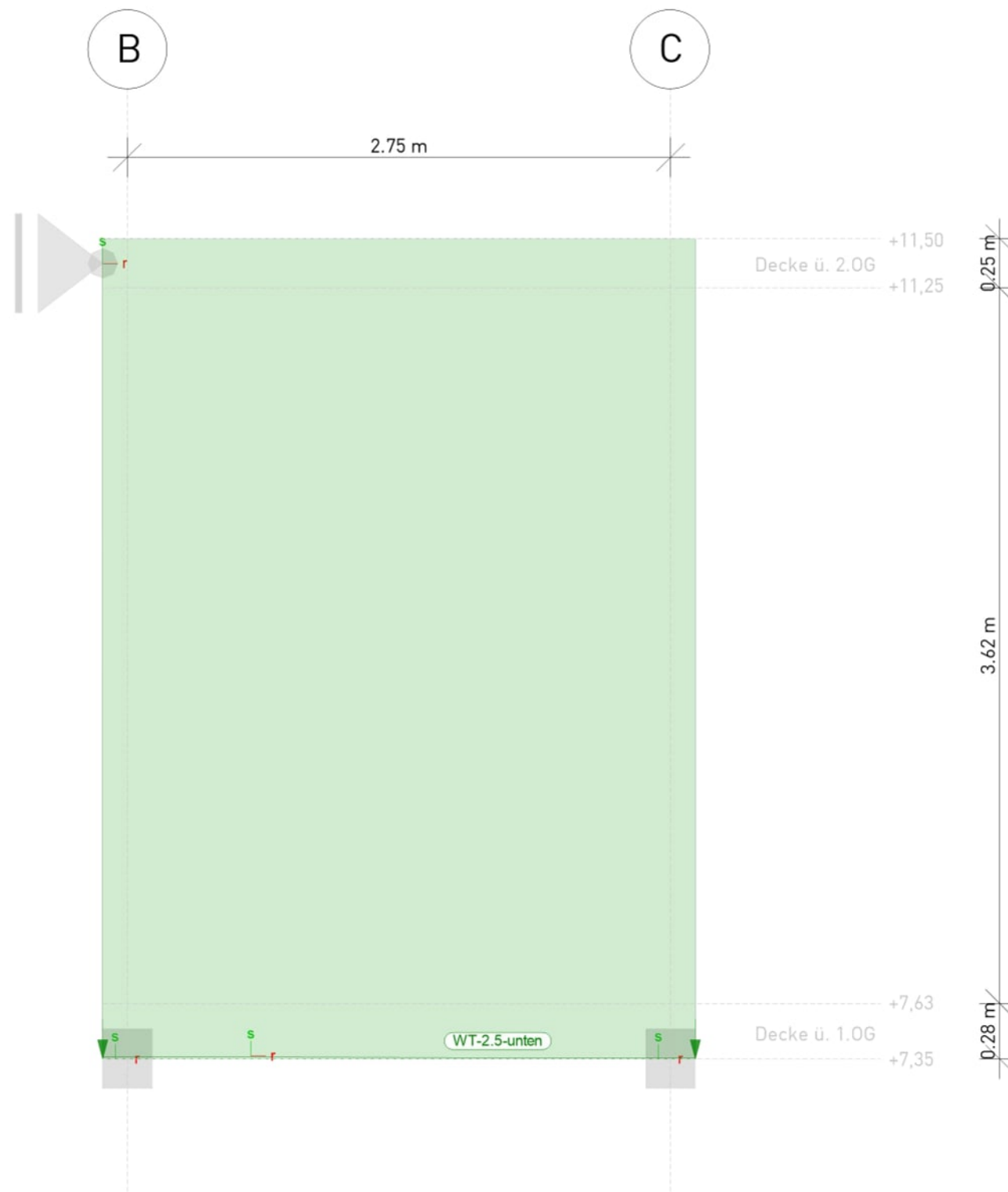
| | | | | | |
|--|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.5 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-3 (Nutzlast Dach unten, pos) | | KREBS+KIEFER Ingenieure GmbH | | | |




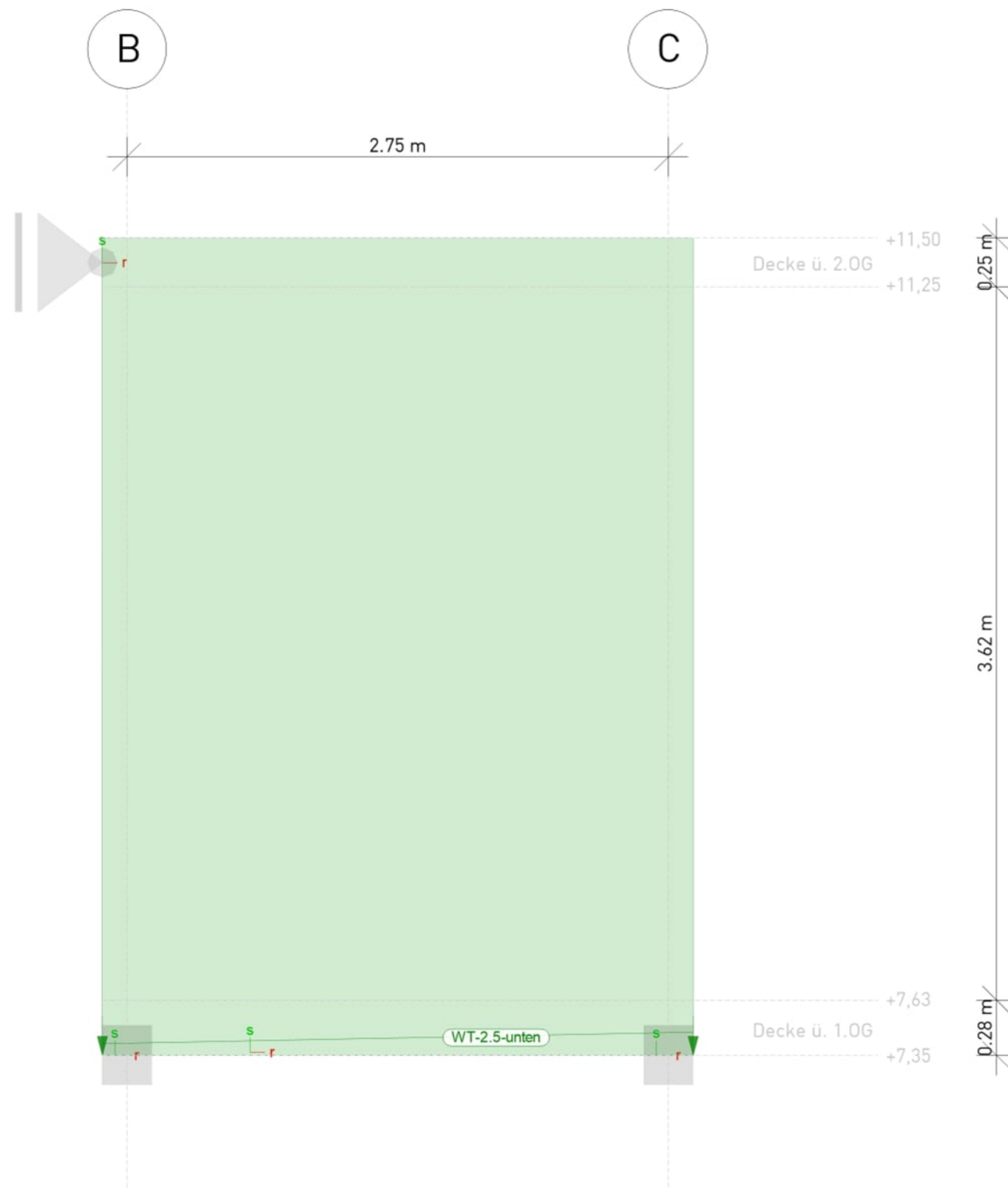
| | | | | |
|---|----------------|---|---|---------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.5 | Tabelle |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-4 (Nutzlast Dach oben, pos) | | KREBS+KIEFER Ingenieure GmbH | | |




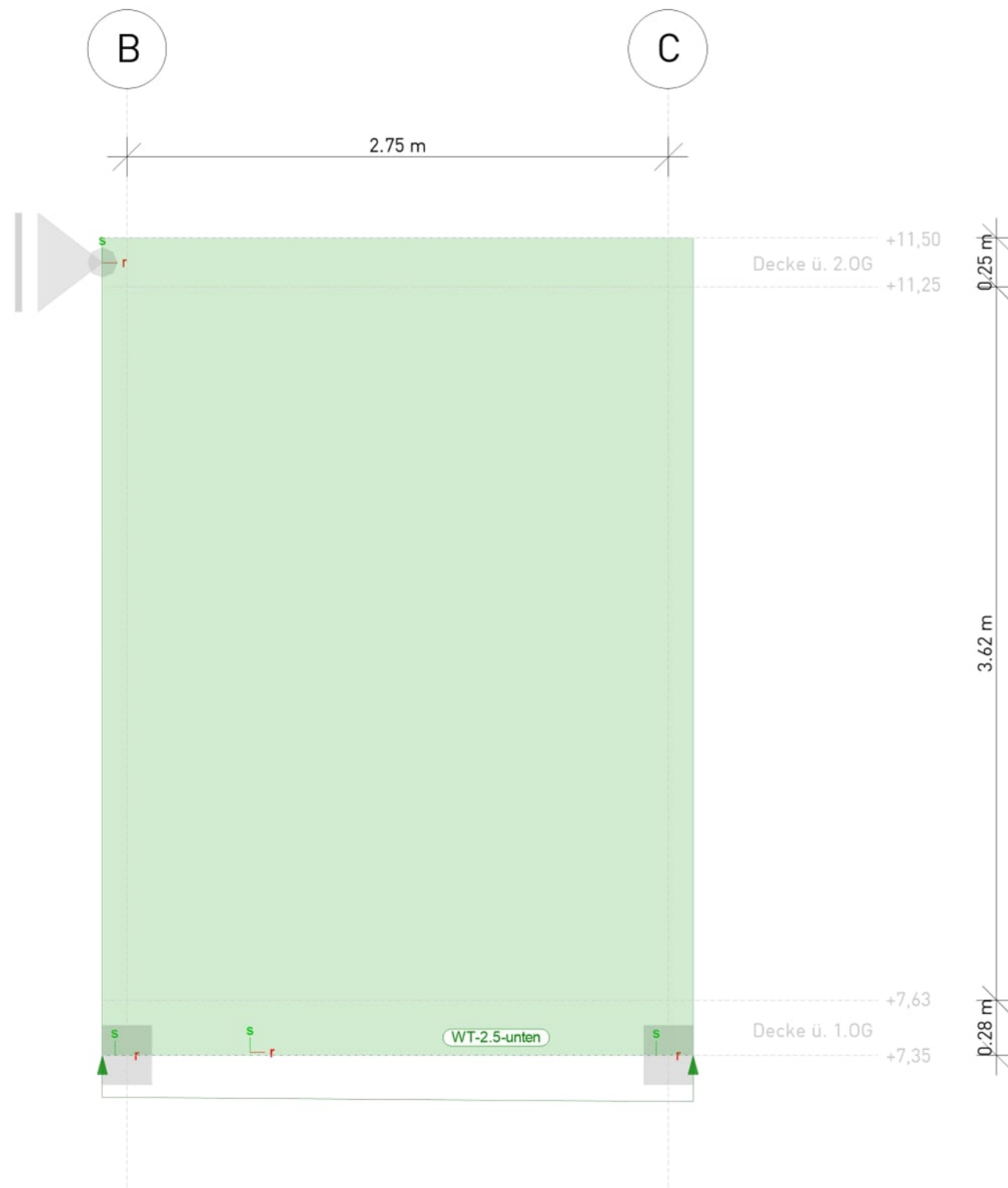
| | | | | | |
|---|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.5 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-5 (Nutzlast Dach oben, neg) | | KREBS+KIEFER Ingenieure GmbH | | | |




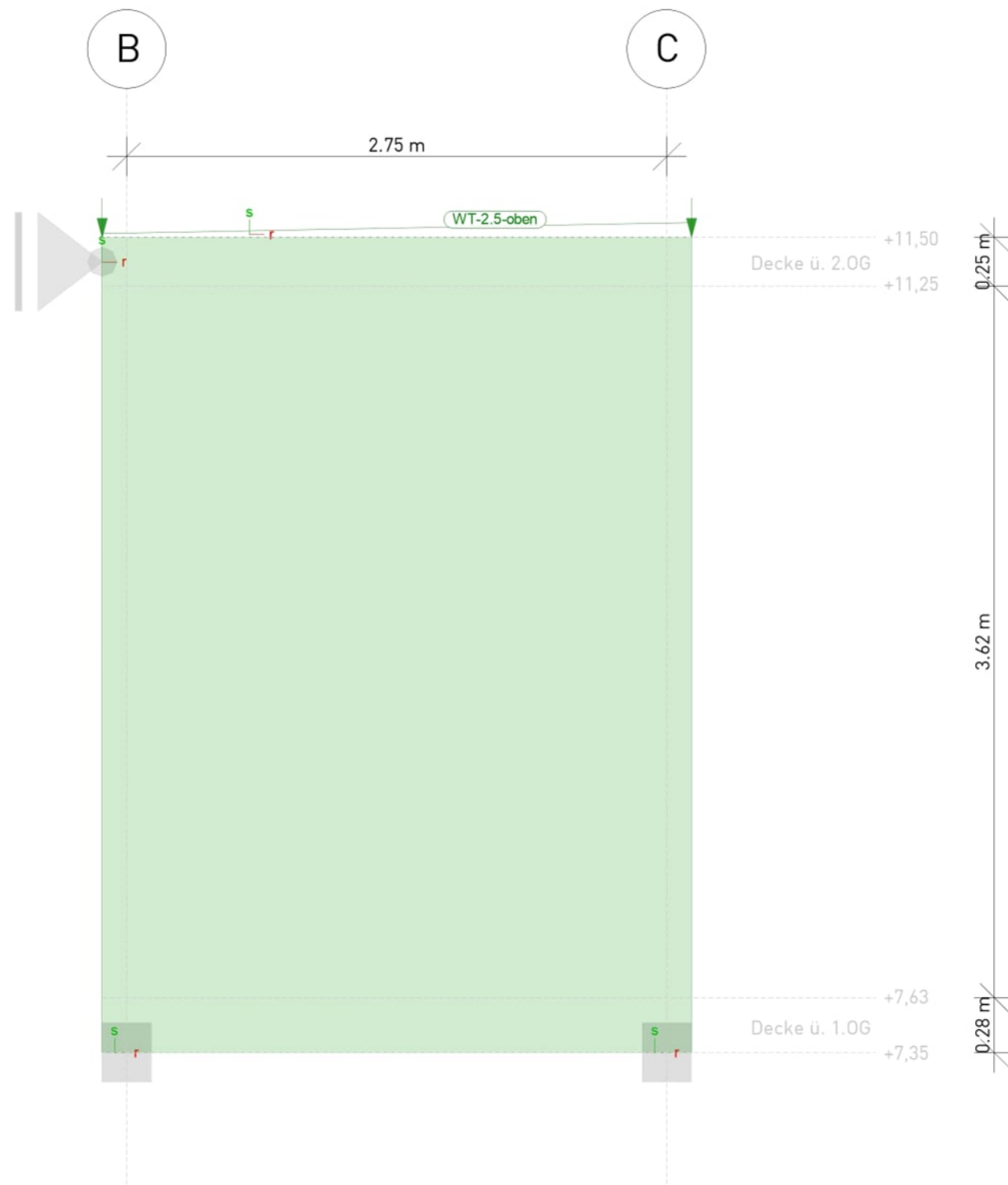
| | | | | | |
|---|----------------|---|-------------|-------------------------------------|-------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.5 | Tafel |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-6 (Nutzlast Schulung unten) | | KREBS+KIEFER Ingenieure GmbH | | | |



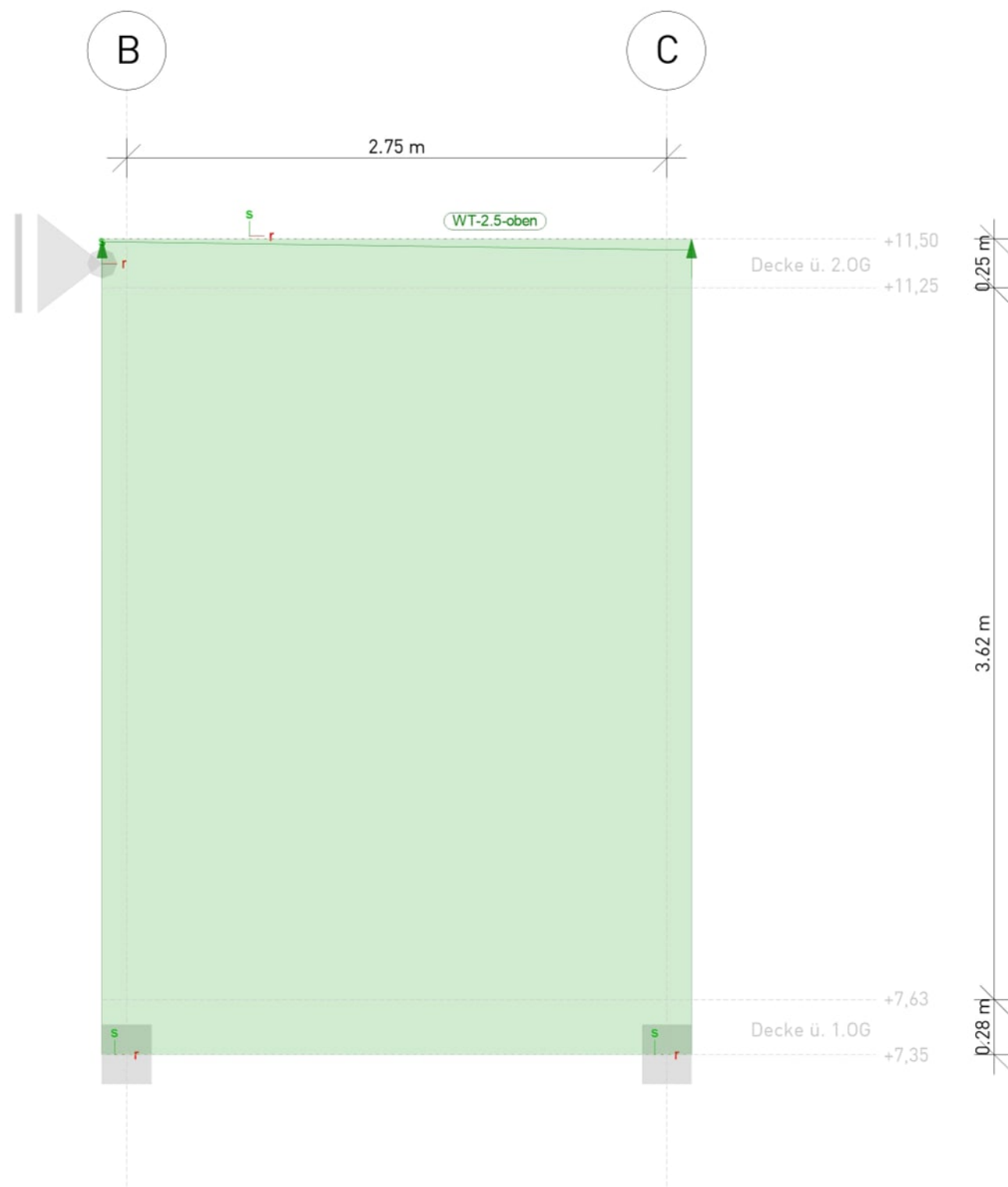
| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.5 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-7 (Nutzlast Lager unten) | | | KREBS+KIEFER Ingenieure GmbH | | |



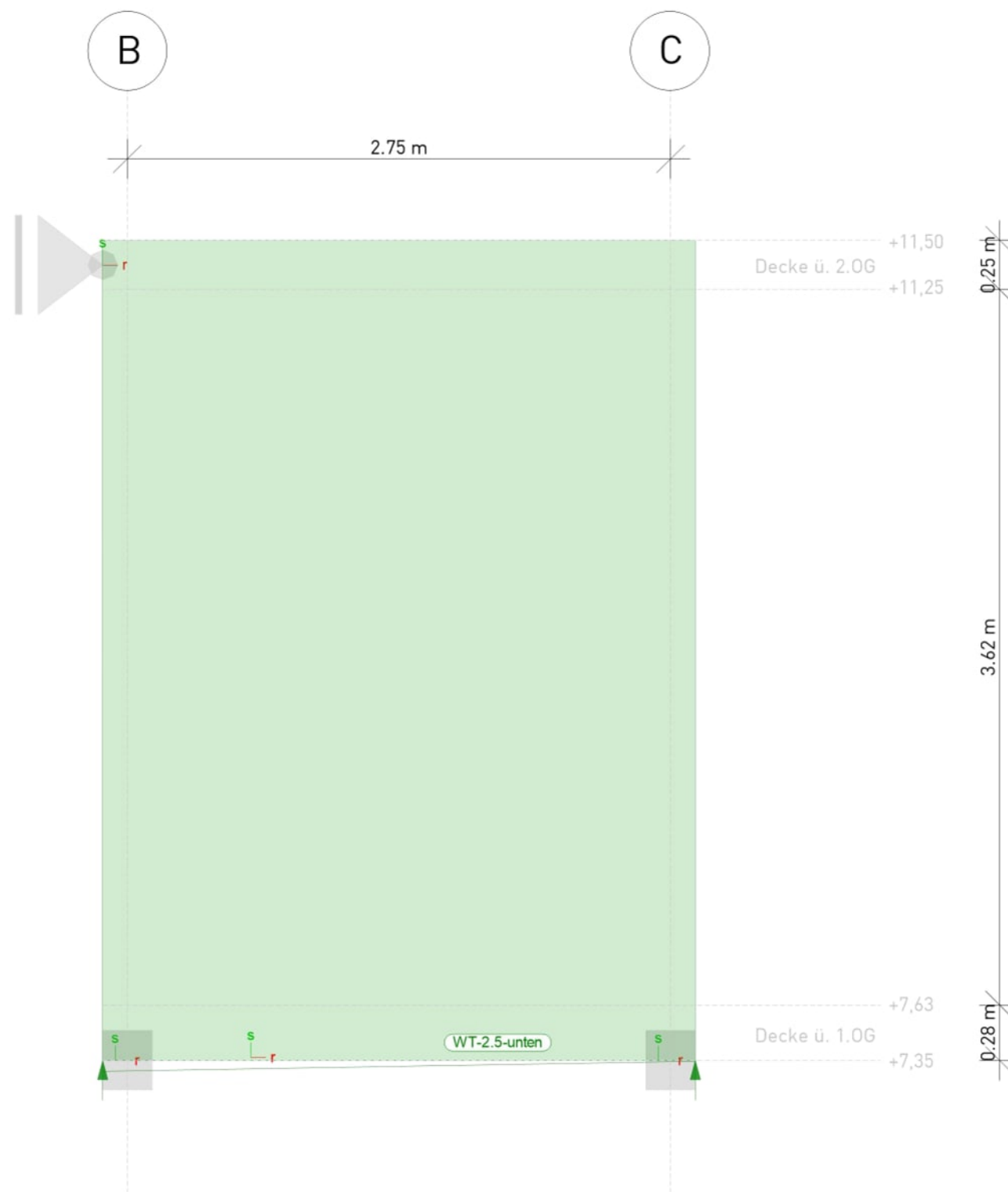
| | | | | | |
|--|----------------|---|-------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.5 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-8 (Nutzlast Dach unten, neg) | | KREBS+KIEFER Ingenieure GmbH | | | |



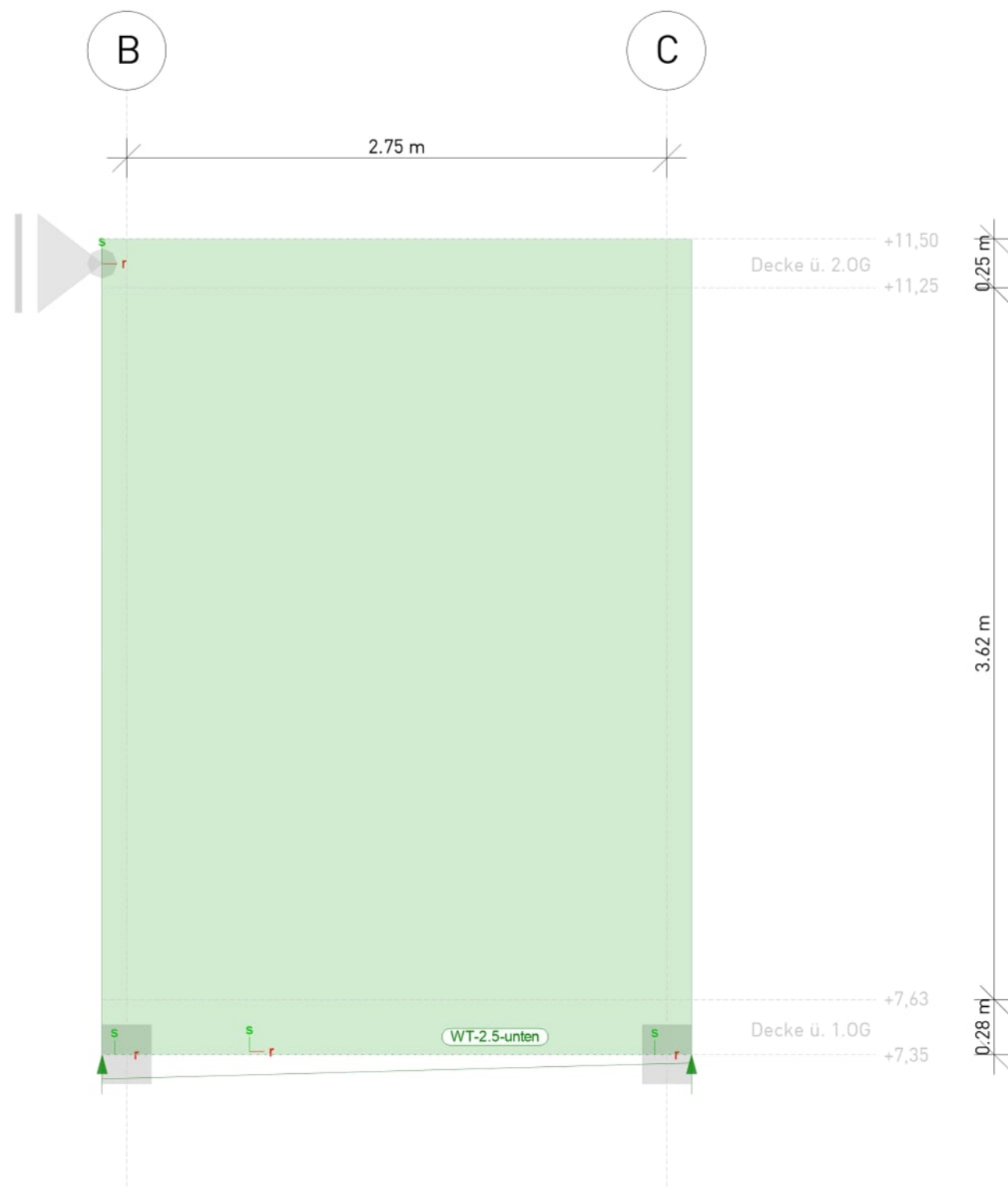
| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|---------|
| Last-Positionen | Lastpositionen |  | Modell | WT-2.5 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-9 (Nutzlast Technik oben) | | | KREBS+KIEFER Ingenieure GmbH | | |




| | | | | |
|--|----------------|---|---|---------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.5 | Tabelle |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-10 (Nutzlast Technik oben neg) | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | |
|---|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.5 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-11 (Nutzlast Lager unten neg) | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | |
|---|----------------|---|---|---------|
| Last-Positionen | Lastpositionen |  | Modell WT-2.5 | Tabelle |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-12 (Nutzlast Forum neg) | | KREBS+KIEFER Ingenieure GmbH | | |

Statik-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 317 | 352 | 1059 | 56354 | 440 KB |

Berechnung

Statische Berechnung

| | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à†→æÁíÁFG

Spei cher

Speicherplatzbedarf

| Arbeitsspeicher | âæ^=\&\ | vorhanden |
|-------------------|---------|-----------|
| Standardverfahren | 1049 KB | ja |

| Festpl. | âæ^=\&\ | vorhanden | Laufwerk:\Pfad |
|---------|---------|-----------|-----------------------|
| Ergebn. | 964 KB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÃäæãÁb\á\&b´âæ^ÁN|à&ââæ

Berechnungszeit : 0 sec

Bel astung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | 55.94 |
| | 0.00 | 0.00 | -55.94 |
| LF-2 | 0.00 | 0.00 | 83.24 |
| | 0.00 | 0.00 | -83.24 |
| LF-3 | 0.00 | 0.00 | -32.23 |
| | -0.00 | 0.00 | 32.23 |
| LF-4 | 0.00 | 0.00 | -34.30 |
| | -0.00 | 0.00 | 34.30 |
| LF-5 | 0.00 | 0.00 | 99.16 |
| | 0.00 | 0.00 | -99.16 |
| LF-6 | 0.00 | 0.00 | -2.03 |
| | -0.00 | 0.00 | 2.03 |
| LF-7 | 0.00 | 0.00 | -26.52 |
| | -0.00 | 0.00 | 26.52 |
| LF-8 | 0.00 | 0.00 | 66.92 |
| | 0.00 | 0.00 | -66.92 |
| LF-9 | 0.00 | 0.00 | -14.10 |
| | -0.00 | 0.00 | 14.10 |
| LF-10 | 0.00 | 0.00 | 10.54 |
| | 0.00 | 0.00 | -10.54 |
| LF-11 | 0.00 | 0.00 | 8.89 |
| | 0.00 | 0.00 | -8.89 |
| LF-12 | 0.00 | 0.00 | 24.89 |
| | 0.00 | 0.00 | -24.89 |
| Summe | | | |
| | 0.00 | 0.00 | 240.42 |
| | 0.00 | 0.00 | -240.42 |

Aufbau der Ergebnisse : 0 sec

Ende der statischen Analyse

Gesamtdauer : 1 sec

*** Berechnung erfolgreich abgeschlossen ***



PROGRAMM **MicroFe**
BAUWERK **Schwesternschule**

2025.015

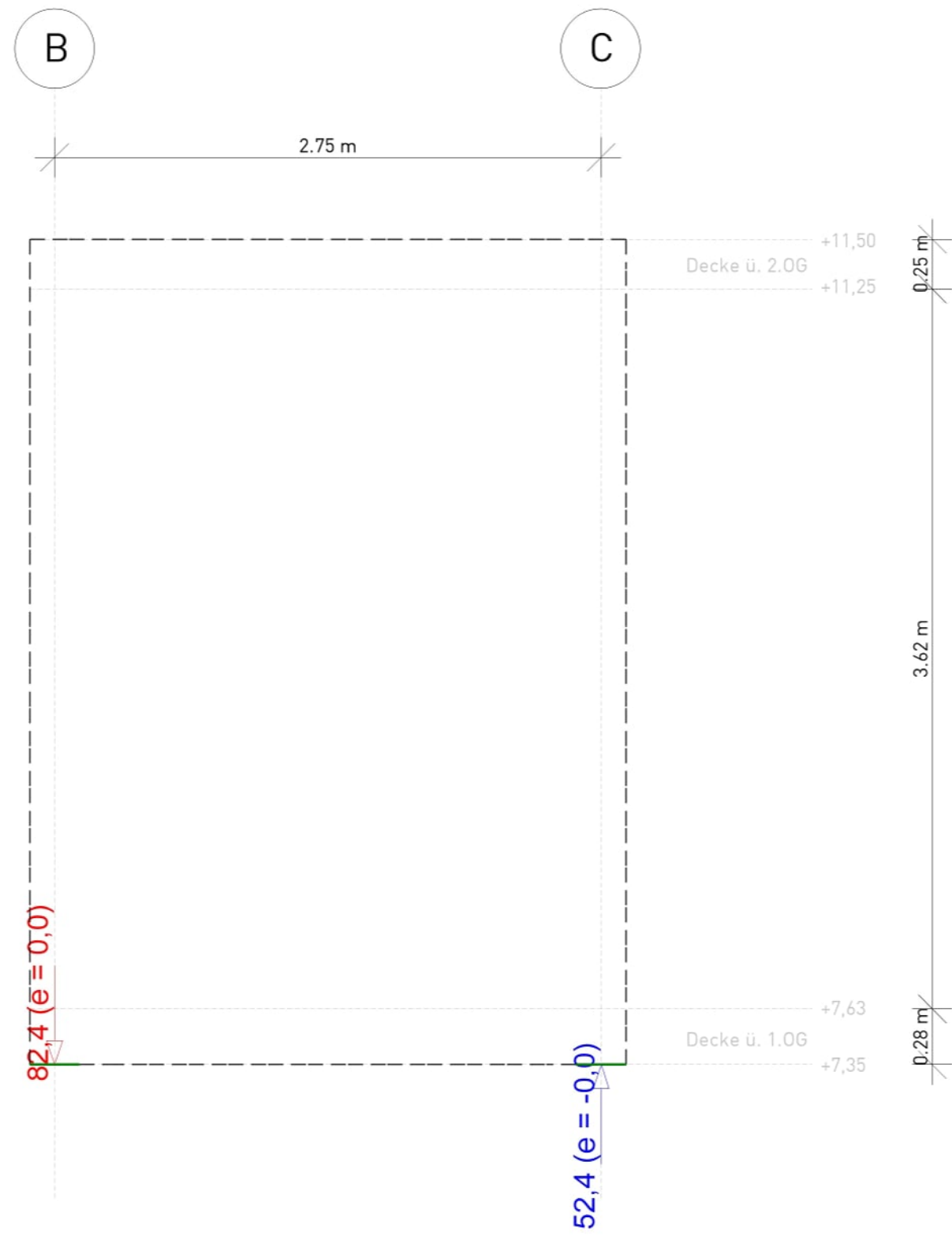
AZ

206208

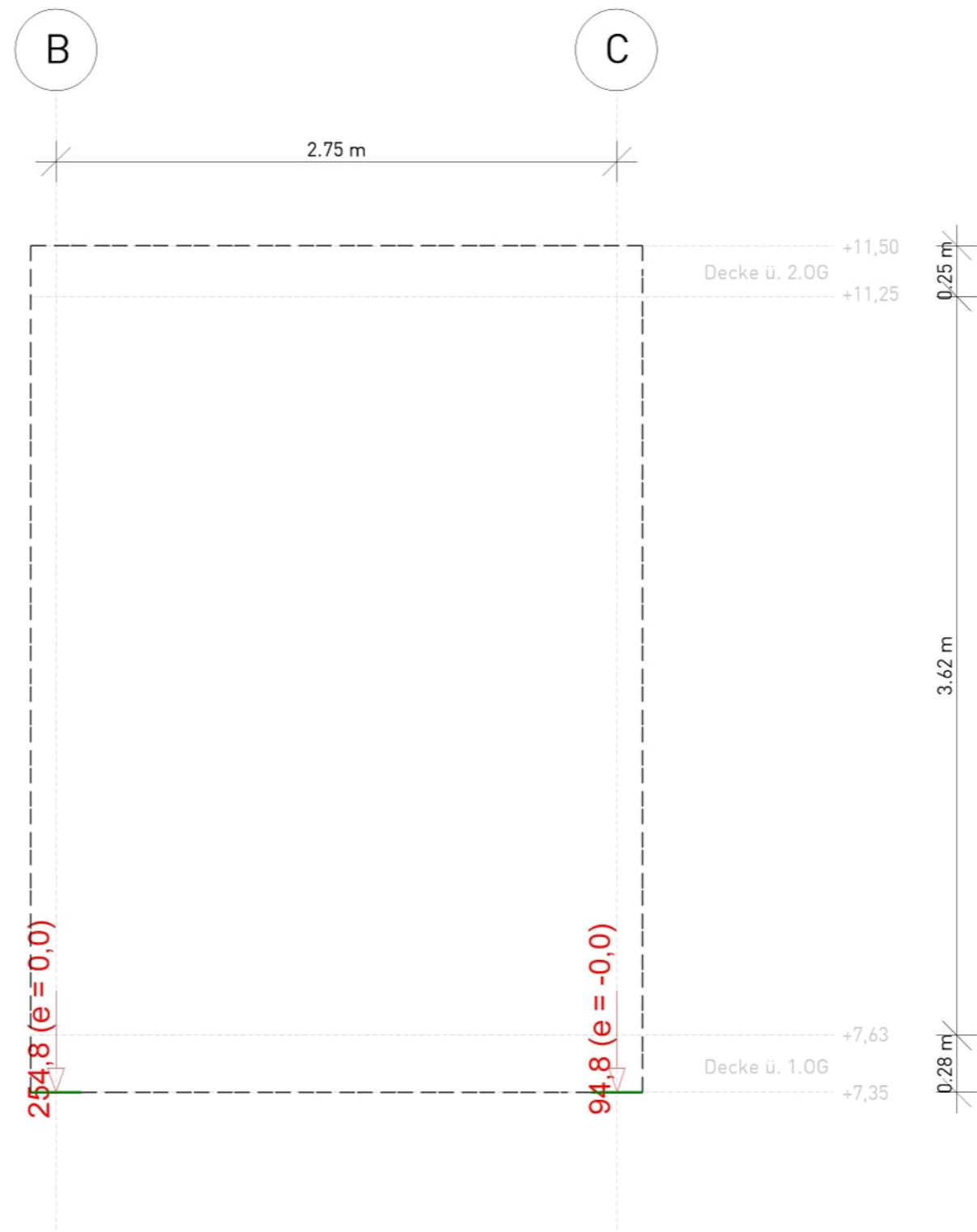
POSITION

WT-2.5

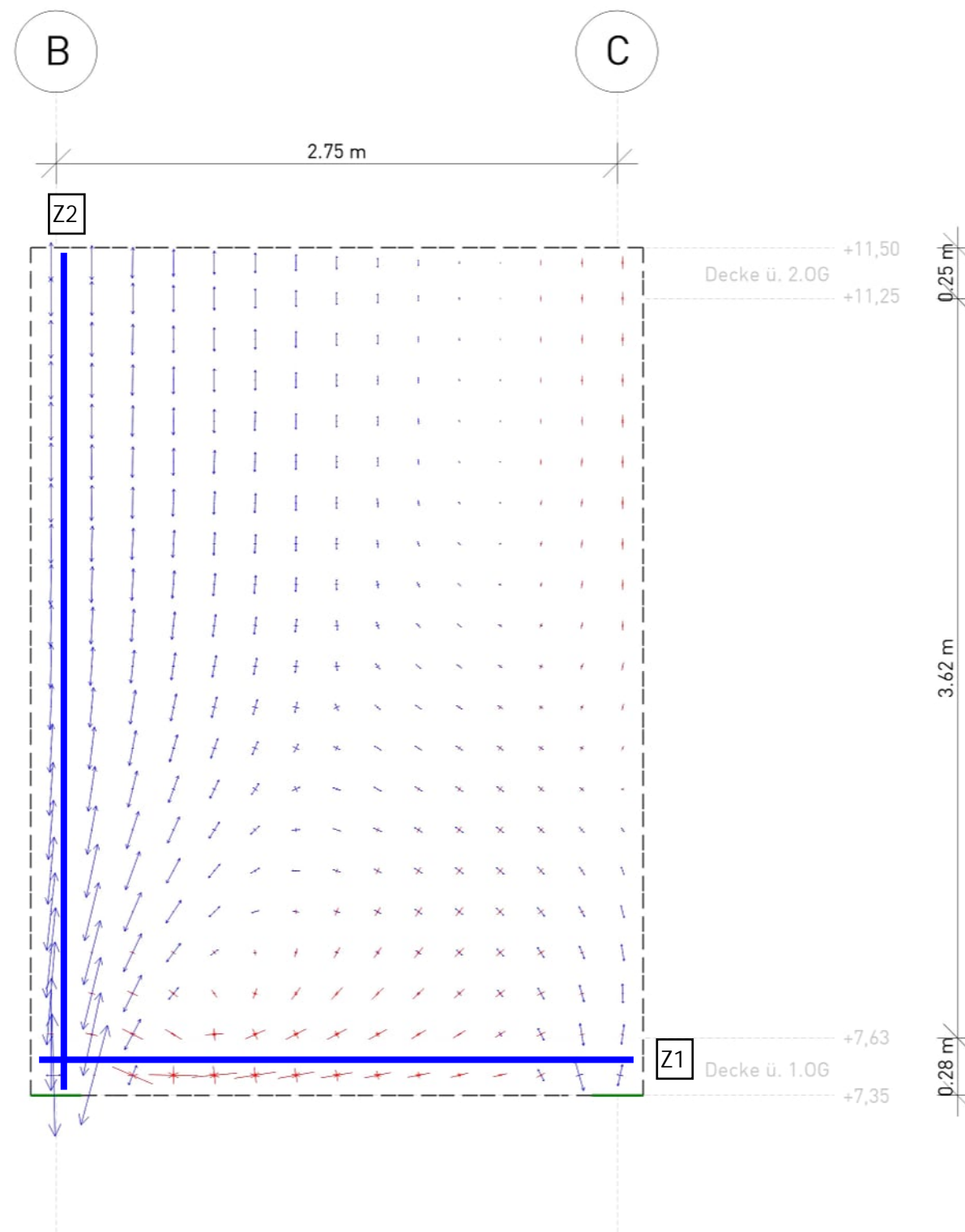
5 i ZU Yf_f} ZN



| | | | | | |
|---|----------------------------------|------------------------------|-------------|-------------------------------------|---------|
| <div>Linienlagerergebnisse</div> <div>Maximum Max = 52.4, Min = -82.4 Resultierende als Kraftvektor</div> | nur lokal ausgerichtete Auflager | <div></div> | Modell | WT-2.5 | Tabelle |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | Lagerkraft in s-Richtung in [kN] | KREBS+KIEFER Ingenieure GmbH | | | |



| | | | | | |
|-------------------------------|----------------------------------|---|------------------------------|-------------------------------------|---------|
| Linienlagerergebnisse | nur lokal ausgerichtete Auflager |  | Modell | WT-2.5 | Tabelle |
| Minimum | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Max = -94.8, Min = -254.8 | | | KREBS+KIEFER Ingenieure GmbH | | |
| Resultierende als Kraftvektor | Lagerkraft in s-Richtung in [kN] | | | | |



Hauptspannungen:

- Zugstreben -

| | | | |
|---------------------------------|------------------------------|------------------|---------|
| Hauptspannungen | Modell | WT-2.5 | Tabelle |
| aus Lastkombination LK-1 | Bauvorhaben | Schulcampus EWK | |
| sigma1: Max = 1.65, Min = -0.23 | | Schwesternschule | |
| sigma2: Max = 0.20, Min = -0.65 | KREBS+KIEFER Ingenieure GmbH | | |

Nachweise Auswertung

Biegebemessung der Scheiben (Stahlbeton) nach DIN EN 1992-1-1

Mat. /Querschnitt

| Position | Winkel YflY | Art | Material | Dicke [cm] |
|----------|----------------|-----|-------------------|---------------|
| WT-2.5 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öab\æ^b^ä^| ^&ÄT| ää^↔\
Exz.: Ó[^æ^ä^↔^↔\ ^\Äæ

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|-------------------------------|
| WT-2.5 | umlaufend | XC1 | \ä~^←æ^Ä~äæäAb\†^ä↔&Ä nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro YflY | so YflY | ru YflY | su YflY |
|----------|------------|------------|------------|------------|
| WT-2.5 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

je Scheibenseite

| Position | Cmin [mm] | #'def [mm] | Cnom [mm] | Cv [mm] |
|----------|--------------|---------------|--------------|------------|
| WT-2.5 | 10 | 10 | 20 | - |

Bemessungsparameter

äfiäÄäæ^ÄÖäæ^~ | b\ä^äÄäæäÜää&à†ä↔&←æ↔\Ä^á^äÄØSÄÓSÄ
1992-1-1

Bi egung

| Position | Bemessungsverfahren | Mindestbewehrung |
|----------|---------------------|------------------|
| WT-2.5 | Üäfiä↔↑ä^^ | ja |

Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2

WT-2.5

Ñæ†æbb | ^&ÄäfiäÄÜ^äæ↔äæÄÇU\äâ→äæ\~^DÄÜÜEGÈI

Erf. Bewehrung

Erforderliche Bewehrung

Kombinationen

Ráß&æäæ^äæÄP~†ä↔^á\↔~^æ^Ä^á^äÄØSÄÓSÄFII€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔æÄÑæ\æ↔↔& | ^&Äæ↔^æ→^æäÄQáb\à†→æÄ↔^æäää→äÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 | Qk.N_DA |
|-------|----|------|------|---------|---------|---------|---------|
| 1-5 | | 1.35 | 1.35 | . | 1.05 | 1.50 | 1.50 |
| 6-7 | | 1.00 | 1.35 | . | 1.05 | 1.50 | 1.50 |
| 8-14 | | 1.00 | 1.00 | 1.05 | . | 1.50 | 1.50 |
| 15-16 | | 1.00 | 1.00 | . | 1.05 | 1.50 | 1.50 |
| 17-18 | | 1.35 | 1.35 | 1.05 | . | 1.50 | 1.50 |
| 19-22 | | 1.35 | 1.00 | 1.05 | . | 1.50 | 1.50 |
| 23 | | 1.00 | 1.35 | 1.05 | . | 1.50 | 1.50 |

Alle Nachweise

Es werden nur lokale Extremwerte dokumentiert.

a_{s,r}

Erforderliche Bewehrung a_{s,r}
(je Scheibenseite)

| Knoten | Lkn | S _{r,Ed} YSD↑↑Y | S _{s,Ed} YSD↑↑Y | S _{rs,Ed} YSD↑↑Y | n _{Ed} [kN/m] | a _{s,r} Y'↑YD↑Y |
|--------|-----|-----------------------------|-----------------------------|------------------------------|---------------------------|-----------------------------|
| 6 | 1 | 0.93 | 2.01 | -0.17 | 136.34 | 2.99 |
| 7 | 1 | 1.41 | 4.20 | 0.39 | 225.66 | 4.94 |
| 54 | 1 | 0.03 | 1.12 | 0.51 | 67.37 | 1.48 |
| 71 | 1 | 0.14 | 0.55 | 0.42 | 69.51 | 1.52 |
| 95 | 1 | 0.08 | 0.03 | -0.27 | 44.69 | 0.98 |

a_{s,s}

Erforderliche Bewehrung a_{s,s}
(je Scheibenseite)

| Knoten | Lkn | S _{r,Ed} YSD↑↑Y | S _{s,Ed} YSD↑↑Y | S _{rs,Ed} YSD↑↑Y | n _{Ed} [kN/m] | a _{s,s} Y'↑YD↑Y |
|--------|-----|-----------------------------|-----------------------------|------------------------------|---------------------------|-----------------------------|
| 4 | 18 | 0.01 | 0.83 | 0.01 | 105.32 | 2.31 |
| 6 | 6 | 0.92 | 2.05 | -0.17 | 277.54 | 6.08 |
| 7 | 1 | 1.41 | 4.20 | 0.39 | 574.06 | 12.57 |
| 36 | 1 | -0.06 | 2.75 | 0.01 | 345.09 | 7.56 |
| 67 | 6 | 0.00 | 1.02 | -0.05 | 134.24 | 2.94 |

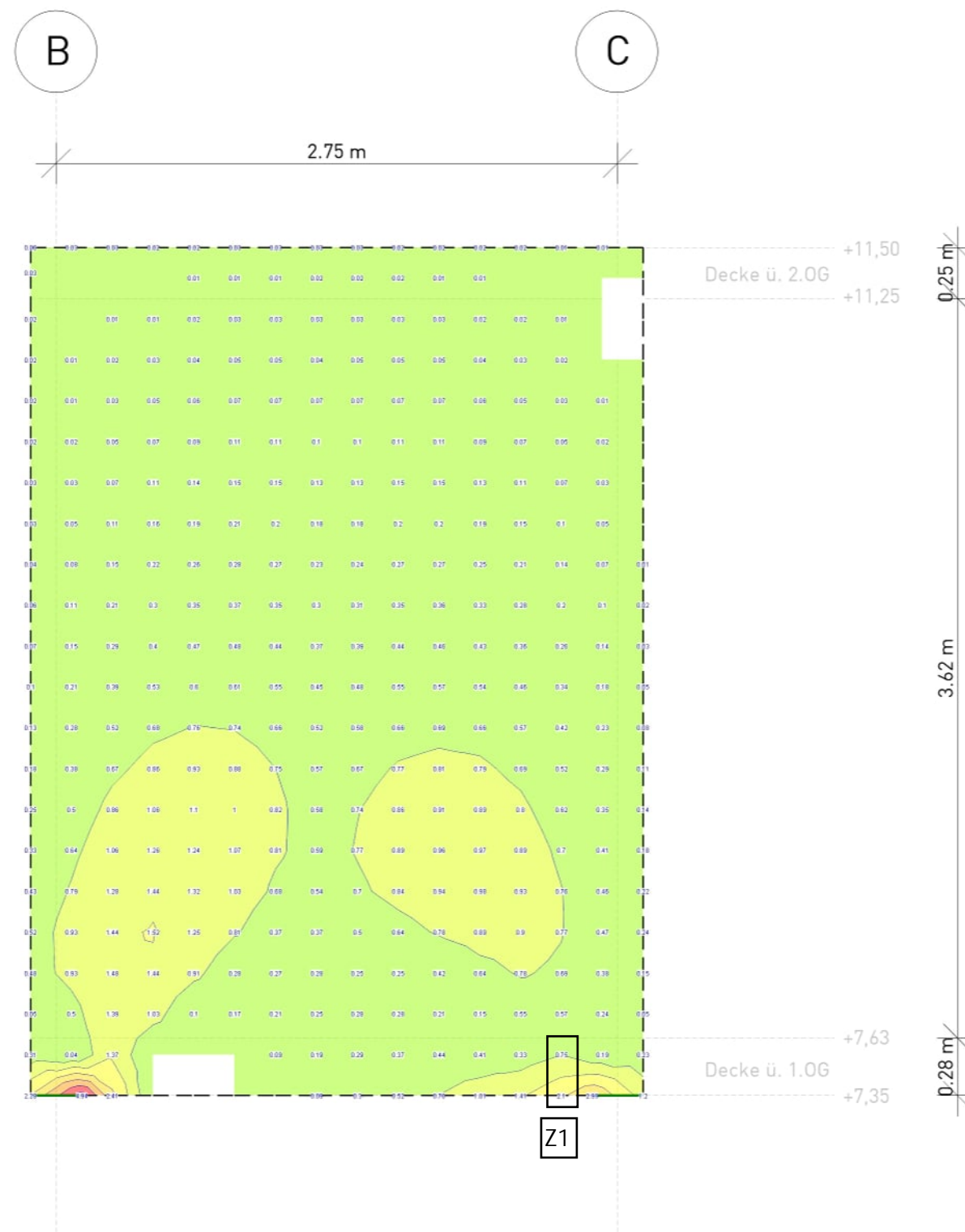
Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | S _{rs,Ed} YSD↑↑Y | n _{cEd} [kN/m] | cd Rd YSD↑↑Y | [%] |
|--------|-----|------------------------------|----------------------------|--------------------|-------|
| 1 | 1 | -0.43 | -107.76 | -0.86 | 6.76 |
| | | | | -12.75 | |
| 2 | 6 | 0.23 | -57.09 | -0.46 | 3.58 |
| | | | | -12.75 | |
| 3 | 5 | 0.01 | -2.35 | -0.02 | 0.15 |
| | | | | -12.75 | |
| 4 | 17 | 0.01 | -2.40 | -0.02 | 0.15 |
| | | | | -12.75 | |
| 8 | 1 | 1.20 | -300.04 | -2.40 | 18.83 |
| | | | | -12.75 | |
| 19 | 6 | -0.62 | -155.75 | -1.25 | 9.77 |
| | | | | -12.75 | |
| 64 | 1 | -0.32 | -79.08 | -0.63 | 4.96 |
| | | | | -12.75 | |
| 343 | 5 | 0.01 | -2.08 | -0.02 | 0.13 |
| | | | | -12.75 | |


vorhandene Betonspannung
~|→tbb&æÑæ\~^ää|'←b*á^^|^&

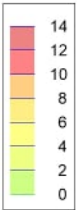
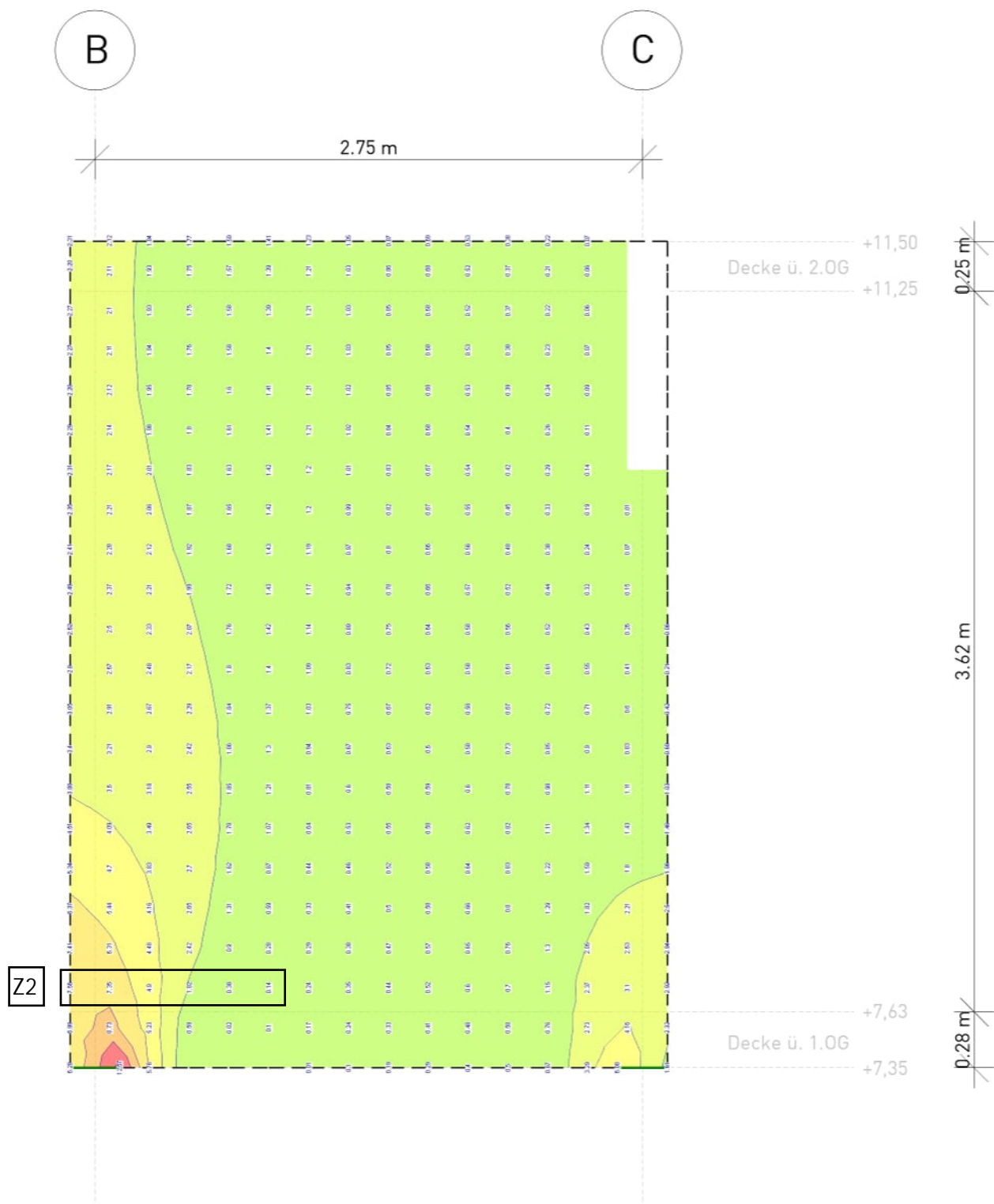
mb-Viewer Version 2025 - Copyright 2024 - mb AEC Software GmbH



r-Richtung
s-Richtung


Scheibenbemessung:
erf. Bewehrung
- r-Richtung -

| | | | | | |
|---|---|---|-------------|-------------------------------------|---------------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-2.5 | T ab • aakfKE |
| Max = 4.94 (Kn. 7), Min = 0 (Kn. 9), Step = 0.75 Bew.-Abstand d' = 30 mm Beton C 30/37 Bauteildicke h = 25.00 cm | aus allen Nachweisen !E@a@`*A> Aq^AÜ&@ä^)*^a^Dq A& D á | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | |



s-Richtung
r-Richtung

Scheibenbemessung:
erf. Bewehrung
- s-Richtung -

| | | | | | |
|---|--------------------------------|---|------------------------------|-------------------------------------|------------------|
| : `} W YbVYa Yggi b[Max = 12.57 (Kn. 7), Min = 0 (Kn. 9), Step = 2 Bew.-Abstand d' = 30 mm Beton C 30/37 Bauteildicke h = 25.00 cm | Erforderliche Bewehrung as,erf |  | Modell | WT-2.5 | T ab • a a K F E |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | aus allen Nachweisen •EÜ&@}*Aq^AÜ&@ä^•^äDqA& D á | KREBS+KIEFER Ingenieure GmbH | | |

Nachweise Auswertung

Biegebemessung der Scheiben (Stahlbeton) nach DIN EN 1992-1-1

Mat. /Querschnitt

| Position | Winkel YflY | Art | Material | Dicke [cm] |
|----------|----------------|-----|-------------------|---------------|
| WT-2.5 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: $\sigma_{ab} \backslash \sigma \leftrightarrow b \leftarrow \tilde{a}^{\wedge} |^{\wedge} \& \tilde{A} T | \tilde{a} \tilde{a} \sim \leftrightarrow \backslash$
Exz.: $\acute{O} [\sim \tilde{a}^{\wedge} \backslash \tilde{a} \leftrightarrow \sim \leftrightarrow \backslash \ddagger \backslash \tilde{A} \tilde{a}$

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|---|
| WT-2.5 | umlaufend | XC1 | $\backslash \tilde{a} \sim \sim \leftarrow \tilde{a}^{\wedge} \tilde{A} \sim \tilde{a} \tilde{a} \tilde{A} b \backslash \ddagger^{\wedge} \tilde{a} \leftrightarrow \& \tilde{A}$ nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ^{ro} YflY | ^{so} YflY | ^{ru} YflY | ^{su} YflY |
|----------|-----------------------|-----------------------|-----------------------|-----------------------|
| WT-2.5 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

je Scheibenseite

| Position | C _{min} [mm] | # _{def} [mm] | C _{nom} [mm] | C _v [mm] |
|----------|--------------------------|--------------------------|--------------------------|------------------------|
| WT-2.5 | 12 | 10 | 22 | 30 |

Grundbewehrung

je Scheibenseite

| Position | R _A \ \ $\tilde{a} \tilde{A} \tilde{U} \backslash \ddagger \tilde{a} \tilde{a}$ $\sim Y \uparrow \uparrow \tilde{Y} \tilde{D} b Y \uparrow \uparrow \tilde{Y}$ | d _r [mm] | a _{sg,r} [cm ² /m] | d _s [mm] | a _{sg,s} [cm ² /m] |
|----------|--|------------------------|---|------------------------|---|
| WT-2.5 | o r Ö3413702 | 36 | 7.54 | | |
| | o s Ö3213702 | | | 47 | 5.24 |

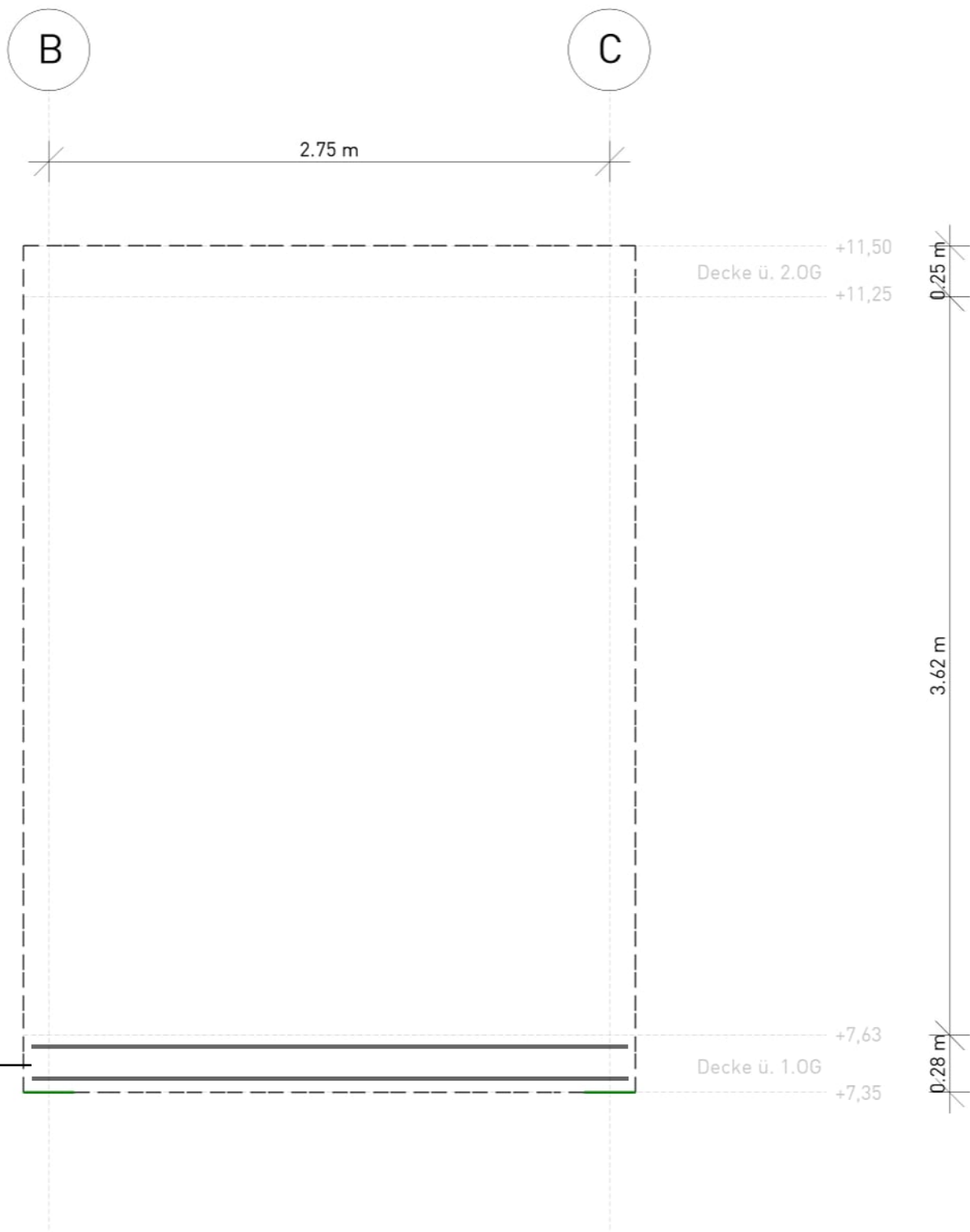
Bemessungsparameter

$\grave{a} \tilde{f} \tilde{a} \tilde{A} \tilde{a} \tilde{a}^{\wedge} \tilde{A} \acute{O} \tilde{a} \tilde{a}^{\sim} \sim | b \backslash \tilde{a}^{\wedge} \tilde{a} \tilde{A} \tilde{a} \tilde{a} \tilde{A} \tilde{U} \tilde{a} \tilde{a} \& \tilde{a} \ddagger \tilde{a} \leftrightarrow \& \leftarrow \tilde{a} \leftrightarrow \backslash \tilde{A}^{\wedge} \tilde{a}^{\sim} \tilde{a} \tilde{A} \tilde{E} \tilde{O} \tilde{S} \tilde{A} \acute{O} \tilde{S} \tilde{A}$
1992-1-1

Bi egung

| Position | Bemessungsverfahren | Mindestbewehrung |
|---|---|------------------|
| WT-2.5 | $\acute{U} \tilde{a} \tilde{f} \tilde{a} \tilde{a} \rightarrow \uparrow \tilde{a}^{\wedge} \tilde{a}$ | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

Grundbewehrung: d12/15
Randeinfassung entsprechend der Grundbewehrung

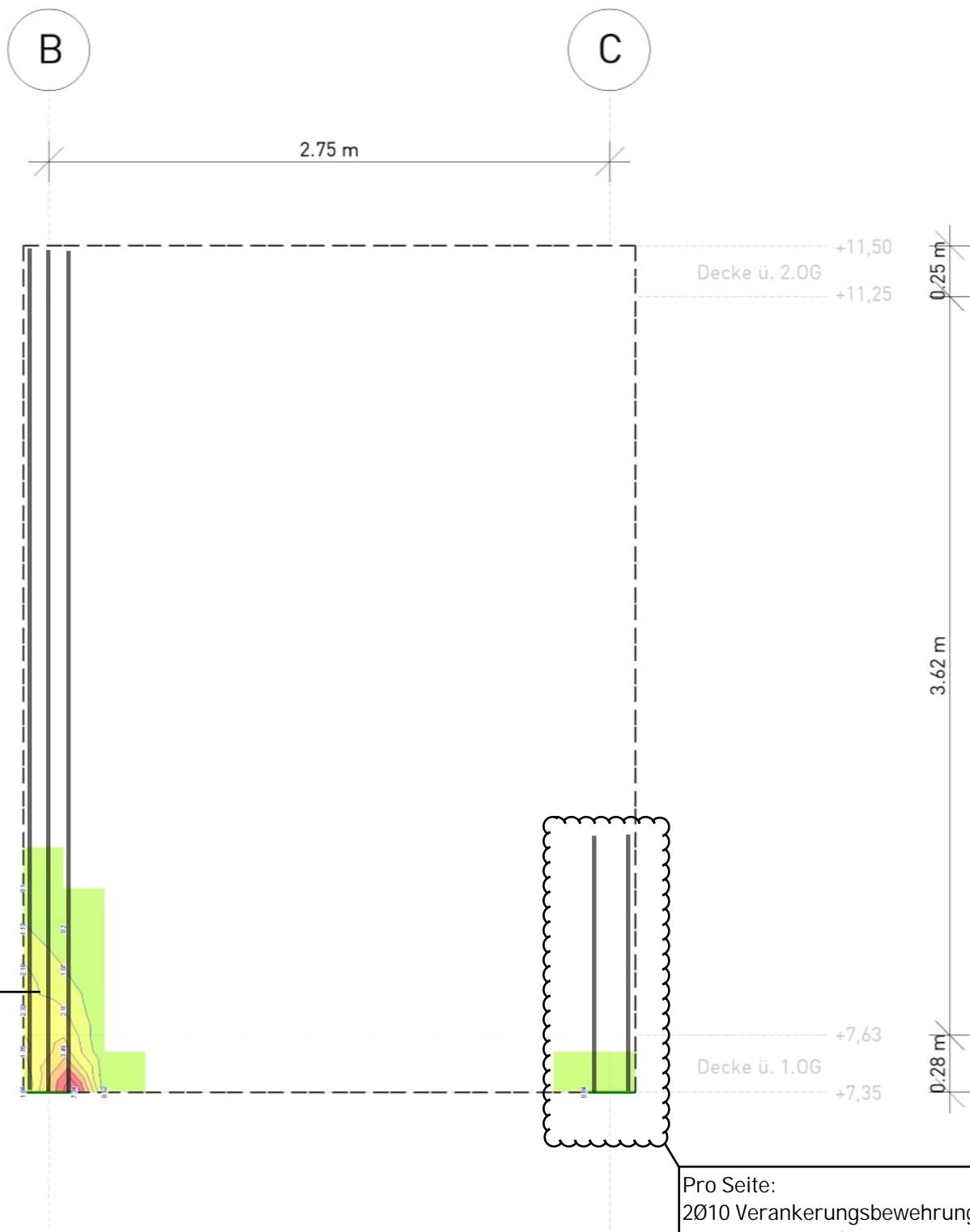


Pro Seite:
2 Lagen mit jeweils 1Ø12 verteilt auf 25 cm
Anordnung im Gesamtquerschnitt:
2 Lagen mit jeweils 2Ø12 verteilt auf 25 cm
 $a_{s,vorh} = 11,31 \text{ cm}^2/\text{m}$

r-Richtung
s-Richtung
Scheibenbemessung:
erf. Zulagen
- r-Richtung -

| | | | | | |
|---|--|---|-------------|-------------------------------------|---------------|
| : `} W YbVYa Yggi b[Vorhandene Bew. as,vorh = 7.54 (Grund+Zulagen) Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00 cm | Erforderliche Bewehrung as,erf aus allen Nachweisen (Differenzbew.) !EÜa@ } * A>: A3 ^AÜ&@ ä ^ ^ ä Dä Äx Q á Max = 0 (Kn. 1), Min = 0 (Kn. 1), Step = 1 |  | Modell | WT-2.5-m.Bw. | T ab • an KFE |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |

Grundbewehrung: d10/15
Randeinfassung entsprechend der Grundbewehrung



Pro Seite:
3 Lagen mit jeweils 1,5Ø12 verteilt auf 25 cm
Anordnung im Gesamtquerschnitt:
3 Lagen mit jeweils 3Ø12 verteilt auf 25 cm
 $a_{s,vorh} = 20,36 \text{ cm}^2/\text{m}$
Diese Bewehrung agiert auch gleichzeitig als Verankerungsbewehrung des Auflagers und ist in die darunterliegende Wand durchzuführen.

Pro Seite:
2Ø10 Verankerungsbewehrung für Auflager
W-1.8 beachten (Aus Wand hochzuführen)

r-Richtung
s-Richtung
Scheibenbemessung:
erf. Zulagen
- s-Richtung -

| | | | | | |
|---|---|---|-------------|-------------------------------------|------------------|
| : `} W YbVYa Yggi b[Vorhandene Bew. as,vorh = 5.24 (Grund+Zulagen) Bew.-Abstand d' = 47 mm Beton C 30/37 Bauteildicke h = 25.00 cm | Erforderliche Bewehrung as,erf aus allen Nachweisen (Differenzbew.) • E u a c } * A > / A j ^ A j & @ a ^ } • a ^ D e / A z Q á Max = 7.34 (Kn. 7), Min = 0 (Kn. 22), Step = 1 |  | Modell | WT-2.5-m.Bw. | T ab • a a K F E |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | | |

Knotenbemessung Wandartiger Träger

| | | |
|--------------|--------|----------|
| CTC - Knoten | WT-2.5 | W-1.26_2 |
|--------------|--------|----------|

Eingangswerte Beton:

| | |
|---------------------------------------|----------------------|
| Auflagerkraft F_{Ed} = | 52,4 kN |
| Auflagerlänge l = | 0,25 m |
| Auflagerbreite b = | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | 25 N/mm ² |

| | |
|-------|------|
| v = | 0,75 |
|-------|------|

Eingangswerte Bewehrung:

| | |
|--|------|
| Höhe des Zugbands u = | 0 cm |
| Durchmesser Druckbewehrung \emptyset = | 8 mm |
| Anzahl Stäbe n = | 4 |

| | |
|--------------------------------|----------------------|
| vorh. Bewehrungsfläche A_s = | 2,01 cm ² |
| Bewehrungsgrad ρ = | 0,32 % |

Nachweis Auflagerpressung (σ_{c1}):

| | |
|--|-------------------------|
| $\sigma_{Rd} = \min(v \cdot f_{cd,T} ; v \cdot f_{cd,D} ; f_{cd,A})$ | 12,75 N/mm ² |
|--|-------------------------|

| | |
|--------------------------------------|------------------------|
| $\sigma_{c1} = F_{Ed} / (l \cdot b)$ | 0,84 N/mm ² |
|--------------------------------------|------------------------|

| | |
|-------------------------------|------|
| $\sigma_{c1} / \sigma_{Rd} =$ | 0,07 |
|-------------------------------|------|

Es ist keine Druckbewehrung erforderlich.

Der Nachweis der Auflagerpressung ist erfüllt.

Es lässt sich durch die komplexe Geometrie des Trägers kein eindeutiger Auflagerknoten für einen Detailnachweis der Druckstrebe bilden. Der Nachweis der Betondruckspannungen ist im FE-Programm an jedem Knoten erfüllt. Demnach werden diese auf diesem Weg als nachgewiesen angesehen.

| Zugverankerung am Auflager | WT-2.5 | W-1.32 |
|---|--------|--------------------------|
| Eingangswerte Beton: | | |
| Auflagerkraft F_{Ed} = | | 254,8 kN |
| Auflagerlänge l = | | 0,25 m |
| Auflagerbreite b = | | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | | 25 N/mm ² |
| Eingangswerte Bewehrung: | | |
| Höhe des Zugbands u = | | 0 cm |
| Durchmesser Verankerungsbewehrung \emptyset = | | 12 mm |
| Anzahl Stäbe n = | | 9 |
| vorh. Bewehrungsfläche A_s = | | 10,18 cm ² |
| Bewehrungsgrad ρ = | | 1,63 % |
| Nachweis Zugverankerung: | | |
| $\sigma_{s,Rd}$ = | | 43,50 kN/cm ² |
| $A_{s,erf} = F_{Ed} / \sigma_{s,Rd}$ | | 5,86 cm ² |
| $A_{s,erf} / A_{s,vorh}$ | | 0,58 |
| Der Nachweis der Zugverankerung ist erfüllt. | | |

| | | |
|----------------------------|--------|----------|
| Zugverankerung am Auflager | WT-2.5 | W-1.26_2 |
|----------------------------|--------|----------|

Eingangswerte Beton:

| | |
|---------------------------------------|----------------------|
| Auflagerkraft F_{Ed} = | 94,8 kN |
| Auflagerlänge l = | 0,25 m |
| Auflagerbreite b = | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | 25 N/mm ² |

Eingangswerte Bewehrung:

| | |
|---|-------|
| Höhe des Zugbands u = | 0 cm |
| Durchmesser Verankerungsbewehrung \emptyset = | 10 mm |
| Anzahl Stäbe n = | 4 |

| | |
|--------------------------------|----------------------|
| vorh. Bewehrungsfläche A_s = | 3,14 cm ² |
| Bewehrungsgrad ρ = | 0,50 % |

Nachweis Zugverankerung:

| | |
|-------------------|--------------------------|
| $\sigma_{s,Rd}$ = | 43,50 kN/cm ² |
|-------------------|--------------------------|

| | |
|--------------------------------------|----------------------|
| $A_{s,erf} = F_{Ed} / \sigma_{s,Rd}$ | 2,18 cm ² |
|--------------------------------------|----------------------|

| | |
|--------------------------|------|
| $A_{s,erf} / A_{s,vorh}$ | 0,69 |
|--------------------------|------|

Der Nachweis der Zugverankerung ist erfüllt.

| | | |
|------------------------------|--------|----|
| Berechnung Bewehrung Zugband | WT-2.2 | Z1 |
|------------------------------|--------|----|

Eingangswerte

| | |
|--------------------------------------|------------------------|
| Größter Wert Zugfeld $a_{s,max}$ = | 2,1 cm ² /m |
| Kleinster Wert Zugfeld $a_{s,min}$ = | 2,1 cm ² /m |
| Länge Zugfeld l_s = | 0,4 m |
| Höhe des Zugbands u = | 20 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 0,84 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 12 mm |
| Anzahl Lagen: | 2 |
| Stäbe pro Lage pro Seite: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 2 |
| vorh. Bewehrungsfläche A_s = | 2,26 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 11,31 cm ² /m |
|-------------------------------|--------------------------|

Nach Beurteilung Spannungstrajektorien bildet sich an der Unterseite kein eindeutiges Zugband aus. Dennoch wird hier eine zusätzliche Bewehrung gewählt um mögliche Lastumlagerungen mit abzudecken.

| | | |
|------------------------------|--------|----|
| Berechnung Bewehrung Zugband | WT-2.5 | Z2 |
|------------------------------|--------|----|

Eingangswerte

| | |
|--------------------------------------|-------------------------|
| Größter Wert Zugfeld $a_{s,max}$ = | 7,56 cm ² /m |
| Kleinster Wert Zugfeld $a_{s,min}$ = | 0,14 cm ² /m |
| Länge Zugfeld l_s = | 1 m |
| Höhe des Zugbands u = | 25 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 3,85 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 12 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1,5 |
| Stäbe pro Lage gesamt: | 3 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 4,5 |
| vorh. Bewehrungsfläche A_s = | 5,09 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 20,36 cm ² /m |
|-------------------------------|--------------------------|

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Genehmigungsplanung Tragwerksplanung

5.2 1. Obergeschoss

5.2.1 WT-1.1

Stat. System:



Vorbemerkung:

Der Träger WT-1.1 wird über 2 Geschosse bemessen. Das Belastungsbild und die Geometrie lassen es zu, dass hier neben dem Nachweis der Auflagerpressung auch ein Nachweis der schrägen Druckstrebe geführt werden kann. Der Winkel dafür wird aus dem Bild der Spannungstrajektorien ausgelesen.

Material:

| | | |
|--------------------|--------------------------------------|--|
| Dicke: | 25 cm | WT-1.1 |
| Betonstahl: | B 500SB | |
| Beton: | C30/37 C45/55 | WT-1.1-20G WT-1.1-10G |
| Expositionsklasse: | XC1, W0 | Innenbauteile |
| Betondeckung: | $c_v = 30 \text{ mm}$ | |
| Grundbewehrung: | Ø12/15 horizontal Ø10/15 vertikal | = 7,54 cm ² /m = 5,24 cm ² /m |

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Genehmigungsplanung Tragwerksplanung

Belastung:

Die Belastung wird aus den Auflagerreaktionen der zugehörigen Wandlager aus den Deckenmodellen D-2.OG, D-1.OG und D-EG übernommen. Es wird für jeden Lasttyp (Eigengewicht, Ausbau, Nutzlasten) ein eigener Lastfall erstellt. Für die Nutzlasten wird beim Erstellen der Lastfälle in positive und negative Belastungsrichtung unterschieden.

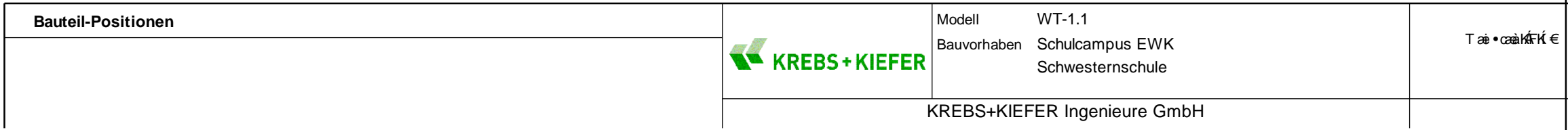
Die Anordnung der Lasten kann aus den Lastplänen entnommen werden.

Bemessung:

Siehe folgende Seiten.

Anpassung LP5:

Durch die Ergänzung eines Durchbruchs in der angrenzenden Wand konzentrieren sich die Lasten auf dem bereits hoch ausgelasteten Auflager in Wand W-0.8. Aus der daraus bedingten Neubemessung hat sich ergeben, dass die Wand W-0.8 und auch die Decke im Bereich unter dem wandartigen Träger in C45/55 auszuführen sind. Es werden im Folgenden die Ausgabe der Auflagerkräfte, die Ausgabe der erforderlichen Bewehrung sowie die Tabellen zur Bemessung der Knoten ausgetauscht.



Positionplan

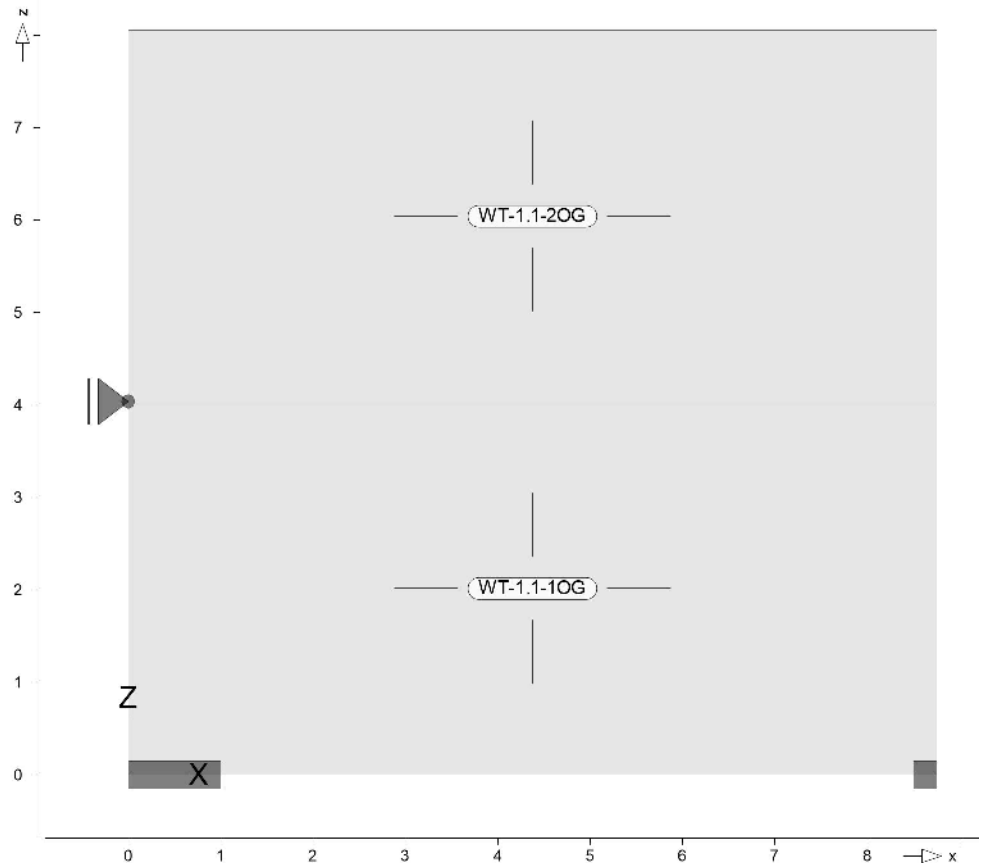
Positionplan

Bauteile

Bauteil-Positionen

Positionsgrafik

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Scheiben

Scheiben-Positionen

Stahlbeton

| Position | Winkel ° | Art | Material | Dicke [cm] |
|------------|-------------|-----|-------------------|---------------|
| WT-1.1-1OG | 0.0 | iso | B 500SB C 45/55 Q | 25.0 |
| WT-1.1-2OG | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Österr. Normen
Exz.: Österr. Normen

Expositionsklasse

Expositionsklasse

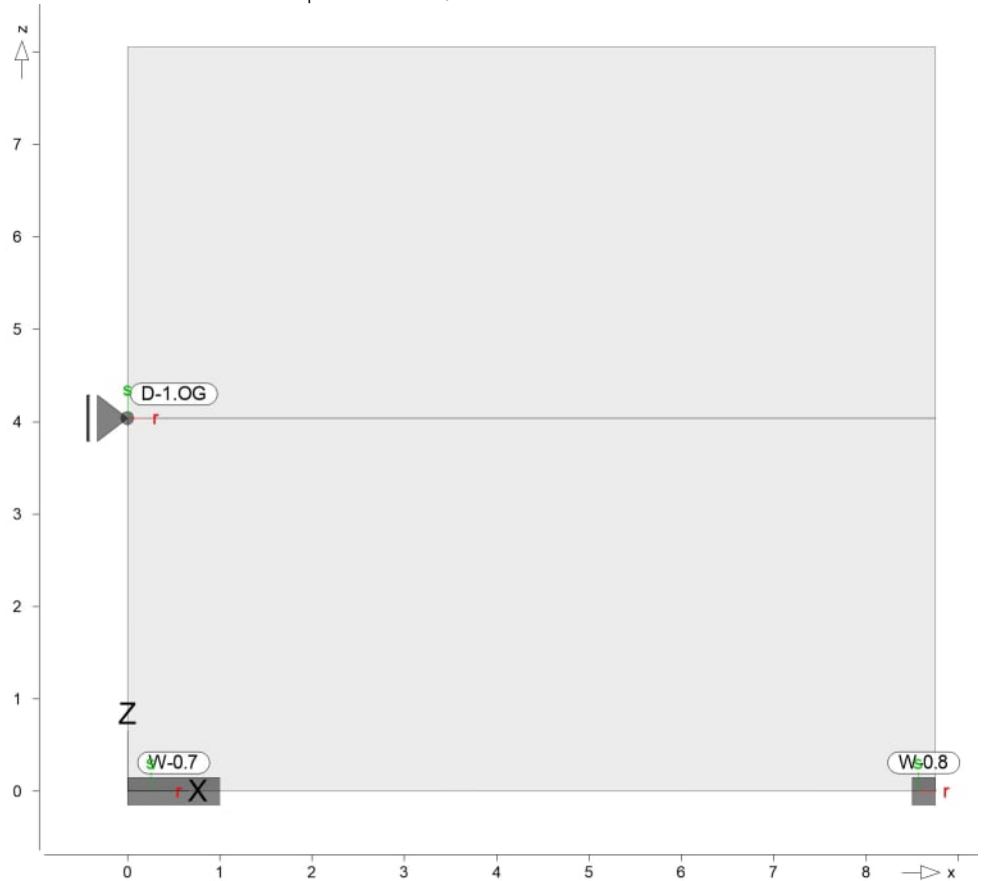
| Position | Seite | Kl | Kommentar |
|------------------------|-----------|-----|-----------|
| WT-1.1-1OG, WT-1.1-2OG | umlaufend | XC1 | nass |

Auflager

Auflager-Positionen

Positionsgrafik

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Punktlager

Punktlager-Positionen

| Position | | $K_{T,r}$ [kN/m] | $K_{T,s}$ [kN/m] | $K_{R,t}$ [kNm/rad] |
|----------|-----|---------------------|---------------------|------------------------|
| D-1.OG | +/- | fest | frei | frei |

Linienlager

Linienlager-Positionen

lokal

| Position | | $K_{T,r}$ [kN/m/m] | $K_{T,s}$ [kN/m/m] | $K_{R,t}$ [kNm/rad/m] |
|--------------|--|-----------------------|-----------------------|--------------------------|
| W-0.7, W-0.8 | | frei | fest | frei |

Material

Materialkennwerte

Stahlbeton

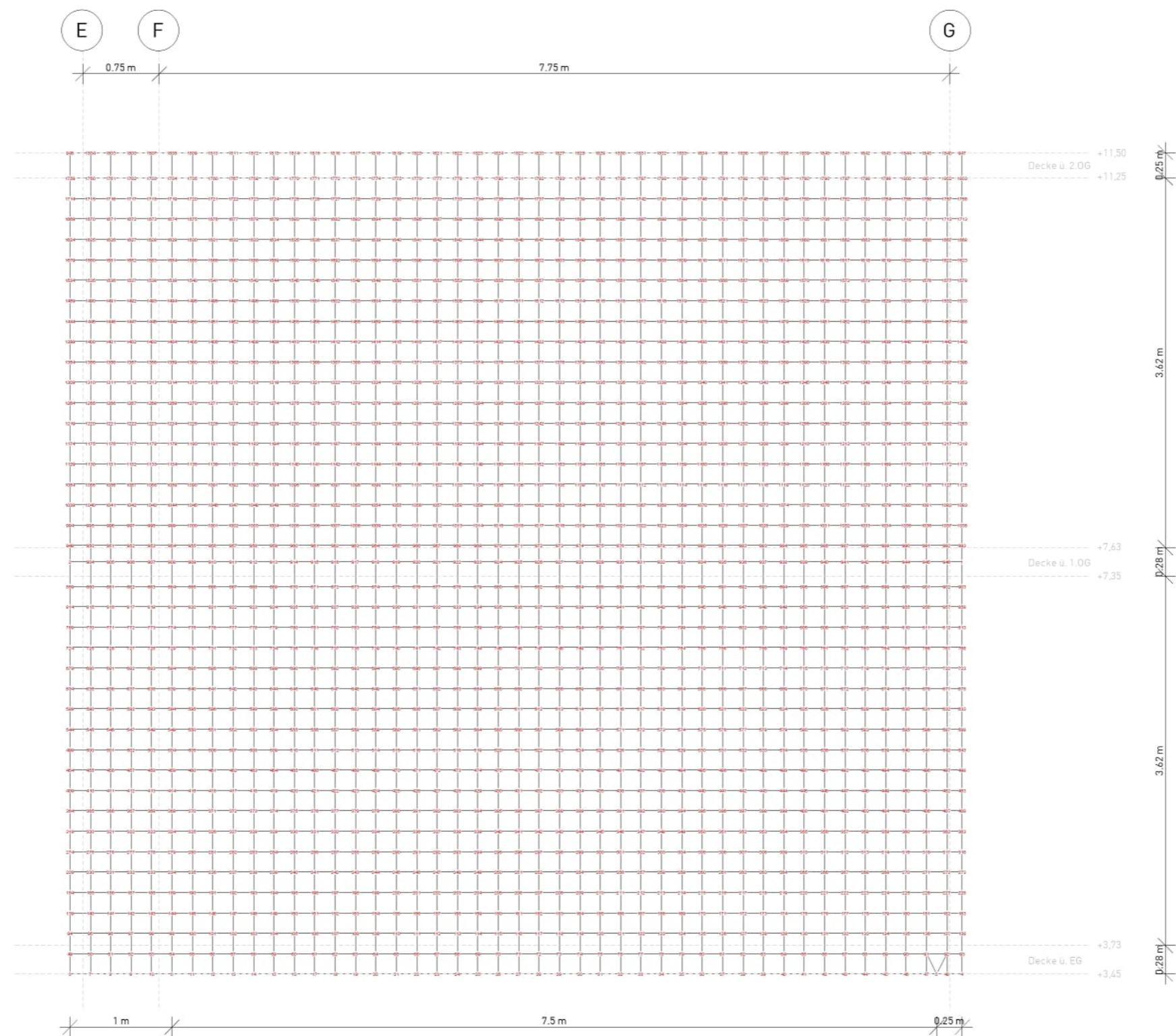
DIN EN 1992-1-1

| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|------------|-----------|--------|---------------|-----------------------|
| WT-1.1-2OG | C 30/37 Q | 25.00 | 33000 | 30.00 |
| | | | 13750 | 2.90 |
| WT-1.1-1OG | C 45/55 Q | 25.00 | 36000 | 45.00 |
| | | | 15000 | 3.80 |


Q: 0.85; 0.85; 0.85; 0.85; 0.85; 0.85; 0.85; 0.85; 0.85; 0.85

Betonstahl
DIN EN 1992-1-1

| Position | Material | Wichte | E_s | f_{yk} |
|------------------------|----------|---|---|---|
| | | $Y \leftarrow S \rightarrow z \ddot{Y}$ | G | $f_{tk, cal}$ |
| | | $Y \leftarrow S \rightarrow z \ddot{Y}$ | $Y \leftarrow S \rightarrow z \ddot{Y}$ | $Y \leftarrow S \rightarrow z \ddot{Y}$ |
| WT-1.1-10G, WT-1.1-20G | B 500SA | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |
| WT-1.1-10G, WT-1.1-20G | B 500SB | 78.50 | 200000 | 500.00 |
| | | | 77000 | 525.00 |



Netzgröße: 0,2 m x 0,2 m

| | | | | | |
|----------------------|----------------------|---|------------------------------|-------------------------------------|-----------|
| Knotennummern | Anzahl Knoten = 1846 |  | Modell | WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

Linienlast-Pos

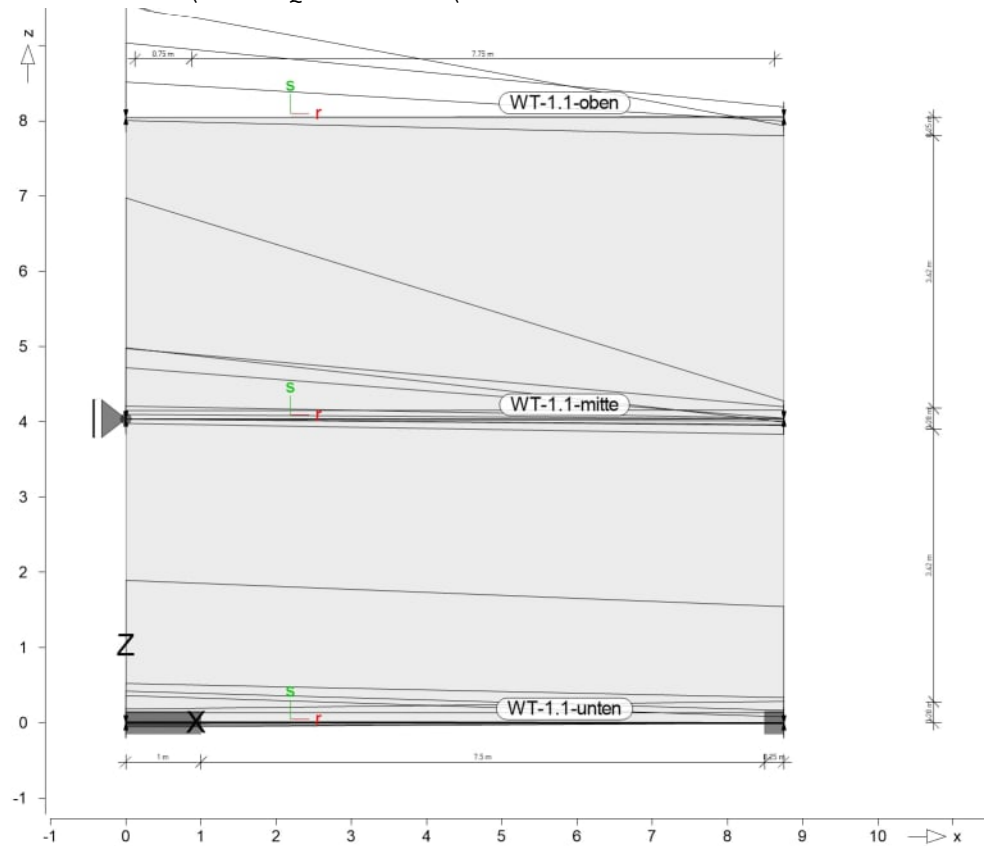
Standardlasten

Positionsgrafik

Lasten des FE-Modells

Standardlasten im FE-Modell

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Linienlasten

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|--------------|-------------------------------|----------|-----|-------------------------------|-------------------------------|
| WT-1.1-mitte | Ncuv"YV/303"cwu"Fgemg"Ä0"40QI | | | | |
| | Gk | LF-1 | pGr | 293.68 | 24.05 |
| | Qk.N_B1 | LF-11 | pGr | 67.58 | 0.85 |
| | Qk.N_B1 | LF-12 | pGr | -0.47 | -8.48 |
| | Qk.N_C1 | LF-13 | pGr | 5.57 | 0.00 |
| | Qk.N_C1 | LF-14 | pGr | 0.00 | -2.83 |
| | Qk.N_C5 | LF-15 | pGr | 11.22 | 11.72 |
| | Qk.N_C5 | LF-16 | pGr | -0.60 | -0.02 |
| | Qk.N_DA | LF-25 | pGr | 93.21 | 15.93 |
| | Qk.N_DA | LF-26 | pGr | -5.83 | -20.63 |
| | Qk.N_E1 | LF-23 | pGr | 16.51 | 0.27 |
| | Qk.N_E1 | LF-24 | pGr | -0.54 | -8.12 |
| | Ö← | LF-2 | pGr | 94.26 | -4.67 |
| WT-1.1-oben | Ncuv"YV/303"cwu"Fgemg"Ä0"40QI | | | | |
| | Gk | LF-1 | pGr | 149.17 | -11.19 |
| | Qk.N_DA | LF-19 | pGr | 98.68 | 13.60 |
| | Qk.N_DA | LF-20 | pGr | -4.65 | -24.82 |
| | Qk.N_E1 | LF-9 | pGr | 0.01 | 0.43 |
| | Qk.N_E1 | LF-10 | pGr | -0.31 | 0.00 |
| WT-1.1-unten | Ncuv"YV/303"cwu"Fgemg"Ä0"GI | | | | |
| | Gk | LF-1 | pGr | 189.18 | 154.04 |
| | Qk.N_B1 | LF-3 | pGr | 36.10 | 7.89 |
| | Qk.N_B1 | LF-4 | pGr | -0.33 | -0.13 |
| | Qk.N_C1 | LF-5 | pGr | 13.21 | 12.81 |
| | Qk.N_C1 | LF-6 | pGr | -5.75 | -0.33 |
| | Qk.N_C5 | LF-7 | pGr | 18.09 | 28.73 |

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|----------|---------|----------|-----|-------------------------------|-------------------------------|
| | Qk.N_C5 | LF-8 | pGr | -0.94 | -0.01 |
| | Qk.N_DA | LF-21 | pGr | 42.22 | 16.13 |
| | Qk.N_DA | LF-22 | pGr | -3.51 | -0.16 |
| | Qk.N_E1 | LF-17 | pGr | 2.49 | 0.03 |
| | Qk.N_E1 | LF-18 | pGr | -0.04 | -1.48 |
| | Ö← | LF-2 | pGr | 52.66 | 33.33 |

pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Koordinaten

| Position | Q_{\pm} [m] | x [m] | z [m] |
|--------------|------------------|----------|----------|
| WT-1.1-mitte | 8.75 | 0.00 | 4.04 |
| | | 8.75 | 4.04 |
| WT-1.1-oben | 8.75 | 0.00 | 8.05 |
| | | 8.75 | 8.05 |
| WT-1.1-unten | 8.75 | 0.00 | 0.00 |
| | | 8.75 | 0.00 |

@UghZ`Y

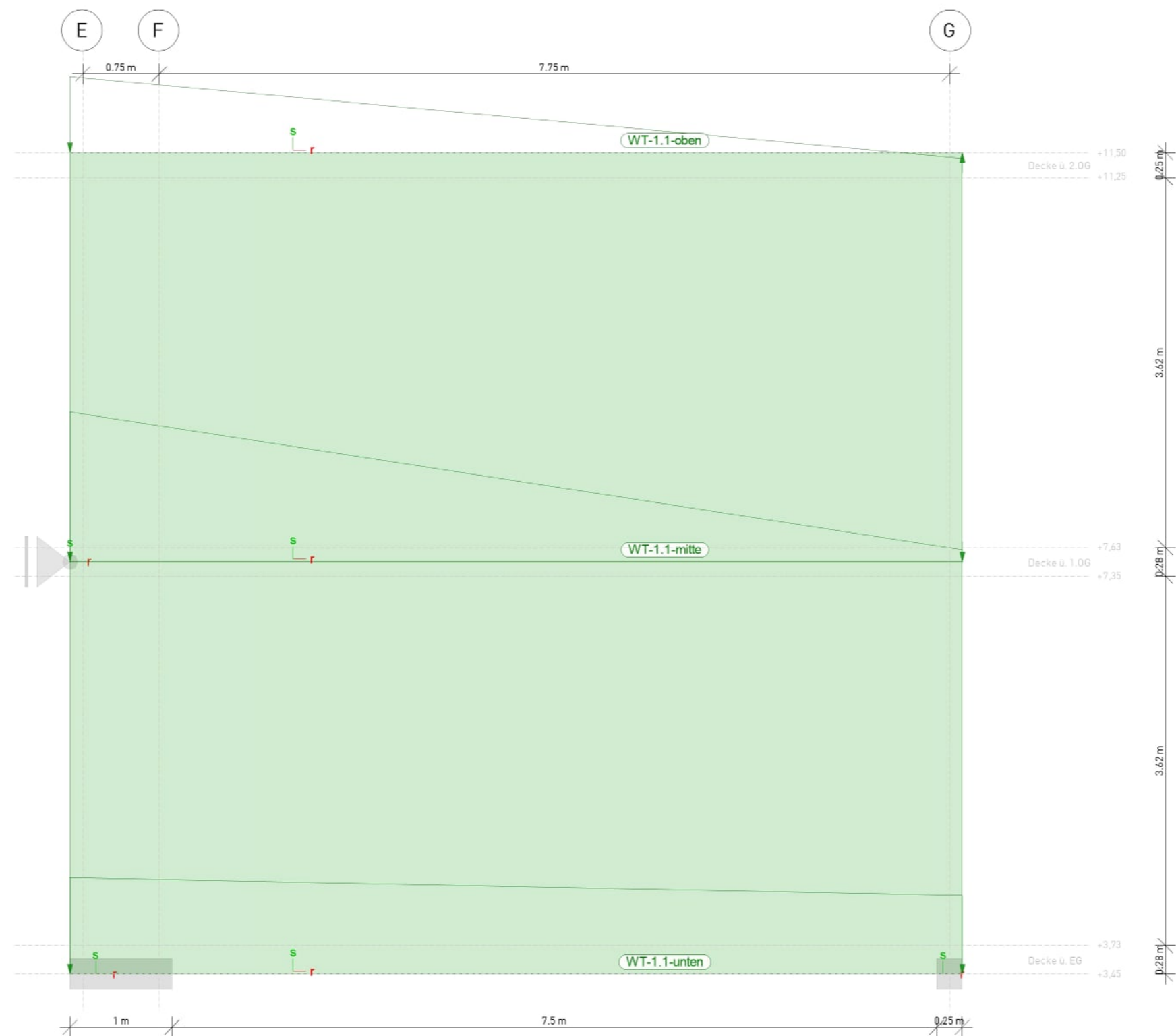
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@UghZ}`Y

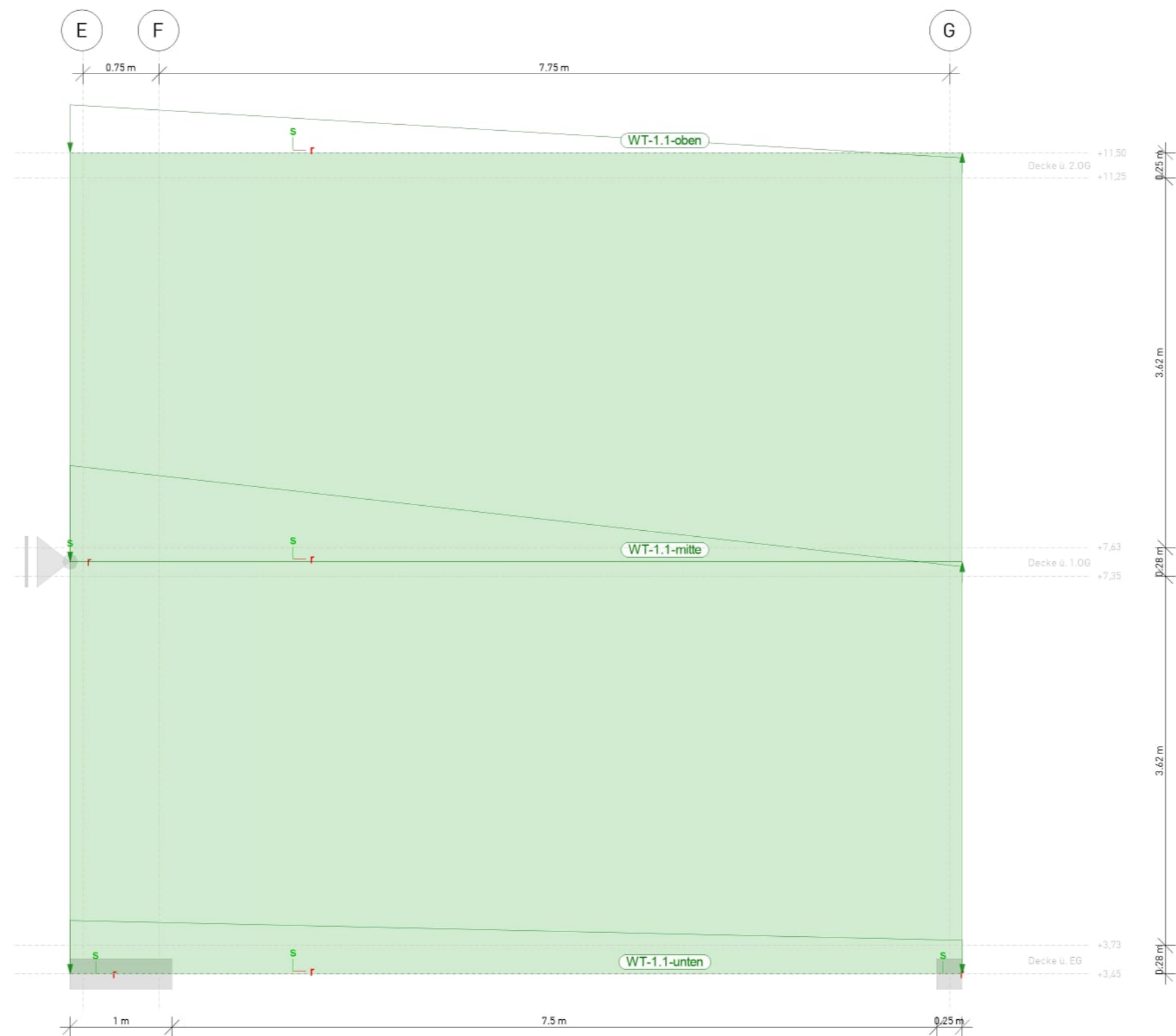
| Lastfall | Typ | Beschreibung |
|----------|-----|-----------------------------|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbau |
| LF-3 | v | S \`→áb\ÁÑfiã~Á ^æ^Á~b |
| LF-4 | v | S \`→áb\ÁÑfiã~Á ^æ^Á^æ& |
| LF-5 | v | Nutzlast Schulung unten pos |
| LF-6 | v | Nutzlast Schulung unten neg |
| LF-7 | v | Nutzlast Forum unten pos |
| LF-8 | v | Nutzlast Forum unten neg |
| LF-9 | v | Nutzlast Lager oben pos |
| LF-10 | v | Nutzlast Lager oben neg |
| LF-11 | v | S \`→áb\ÁÑfiã~Á↑↔\æÁ~b |
| LF-12 | v | S \`→áb\ÁÑfiã~Á↑↔\æÁ^æ& |
| LF-13 | v | Nutzlast Schulung mitte pos |
| LF-14 | v | Nutzlast Schulung mitte neg |
| LF-15 | v | Nutzlast Forum mitte pos |
| LF-16 | v | Nutzlast Forum mitte neg |
| LF-17 | v | Nutzlast Lager unten pos |
| LF-18 | v | Nutzlast Lager unten neg |
| LF-19 | v | Nutzlast Dach oben pos |
| LF-20 | v | Nutzlast Dach oben neg |
| LF-21 | v | Nutzlast Dach unten pos |
| LF-22 | v | Nutzlast Dach unten neg |
| LF-23 | v | Nutzlast Lager mitte pos |
| LF-24 | v | Nutzlast Lager mitte neg |
| LF-25 | v | Nutzlast Dach mitte pos |
| LF-26 | v | Nutzlast Dach mitte neg |


s: b\†^ä↔æãÁQáb\ää→

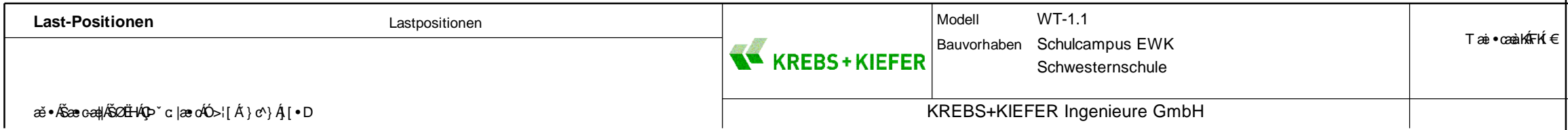
v: {æã†^äæã↔´ääÁQáb\ää→

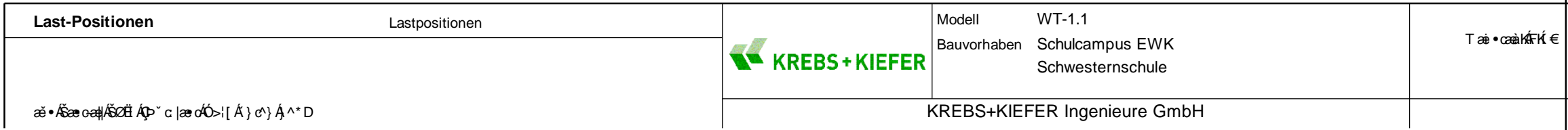


| Last-Positionen | Lastpositionen | Modell | WT-1.1 | Tabelle |
|----------------------------------|----------------|------------------------------|-------------------------------------|---------|
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | W-329 |
| aus Lastfall LF-1 (Eigengewicht) | | KREBS+KIEFER Ingenieure GmbH | | |




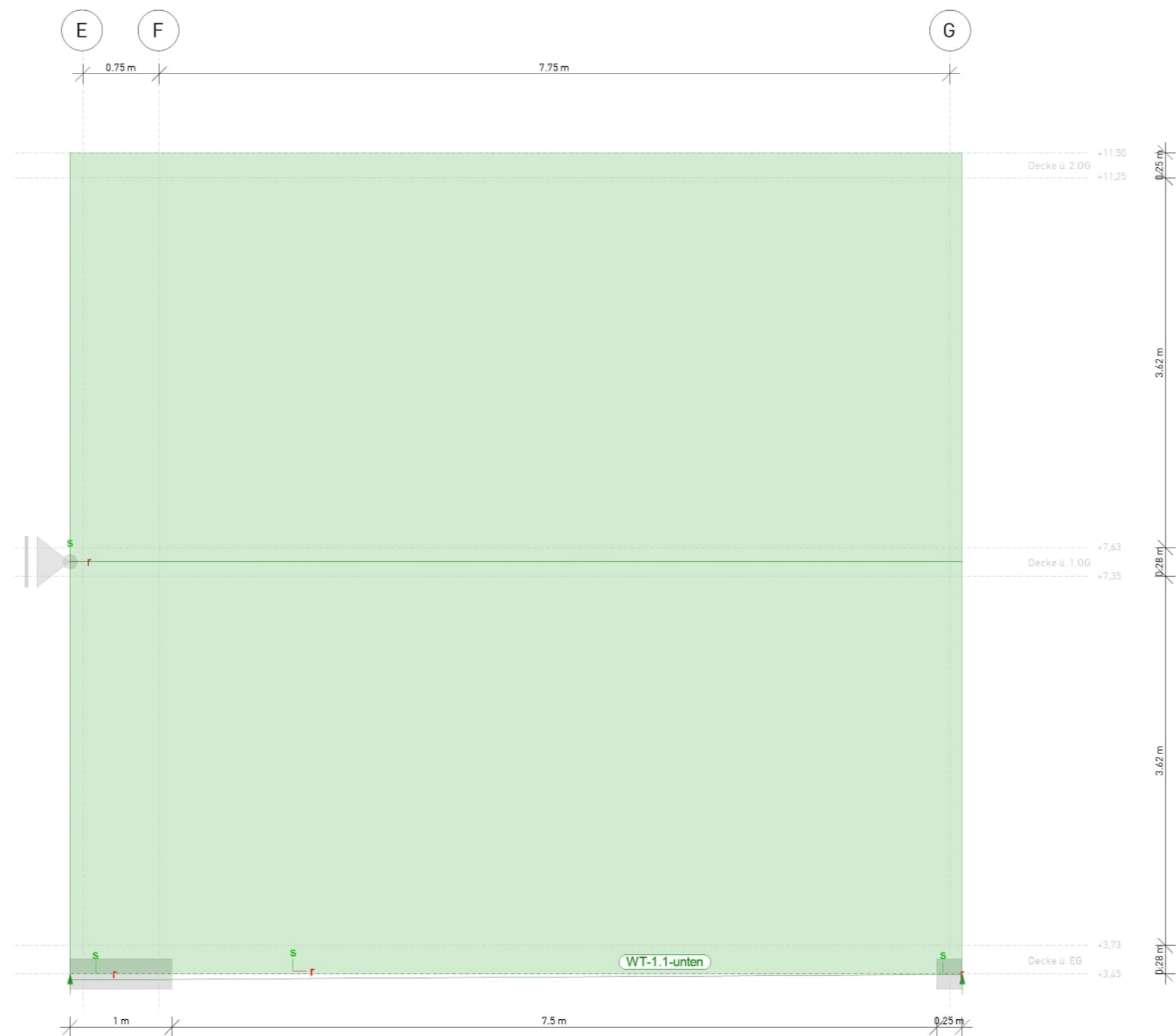
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 Tabelle 2 Tabelle 3 Tabelle 4 Tabelle 5 Tabelle 6 Tabelle 7 Tabelle 8 Tabelle 9 Tabelle 10 Tabelle 11 Tabelle 12 Tabelle 13 Tabelle 14 Tabelle 15 Tabelle 16 Tabelle 17 Tabelle 18 Tabelle 19 Tabelle 20 Tabelle 21 Tabelle 22 Tabelle 23 Tabelle 24 Tabelle 25 Tabelle 26 Tabelle 27 Tabelle 28 Tabelle 29 Tabelle 30 Tabelle 31 Tabelle 32 Tabelle 33 Tabelle 34 Tabelle 35 Tabelle 36 Tabelle 37 Tabelle 38 Tabelle 39 Tabelle 40 Tabelle 41 Tabelle 42 Tabelle 43 Tabelle 44 Tabelle 45 Tabelle 46 Tabelle 47 Tabelle 48 Tabelle 49 Tabelle 50 Tabelle 51 Tabelle 52 Tabelle 53 Tabelle 54 Tabelle 55 Tabelle 56 Tabelle 57 Tabelle 58 Tabelle 59 Tabelle 60 Tabelle 61 Tabelle 62 Tabelle 63 Tabelle 64 Tabelle 65 Tabelle 66 Tabelle 67 Tabelle 68 Tabelle 69 Tabelle 70 Tabelle 71 Tabelle 72 Tabelle 73 Tabelle 74 Tabelle 75 Tabelle 76 Tabelle 77 Tabelle 78 Tabelle 79 Tabelle 80 Tabelle 81 Tabelle 82 Tabelle 83 Tabelle 84 Tabelle 85 Tabelle 86 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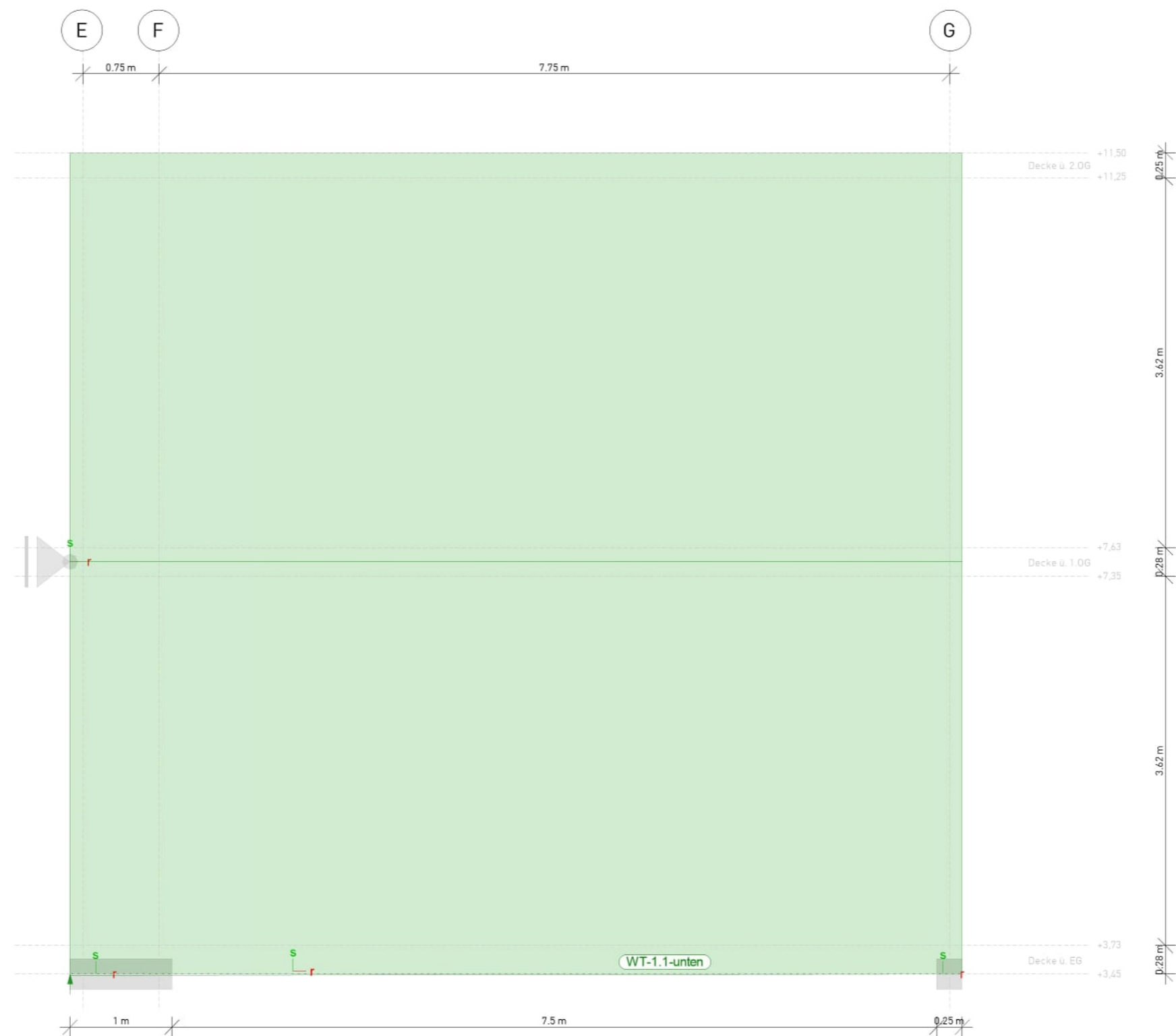





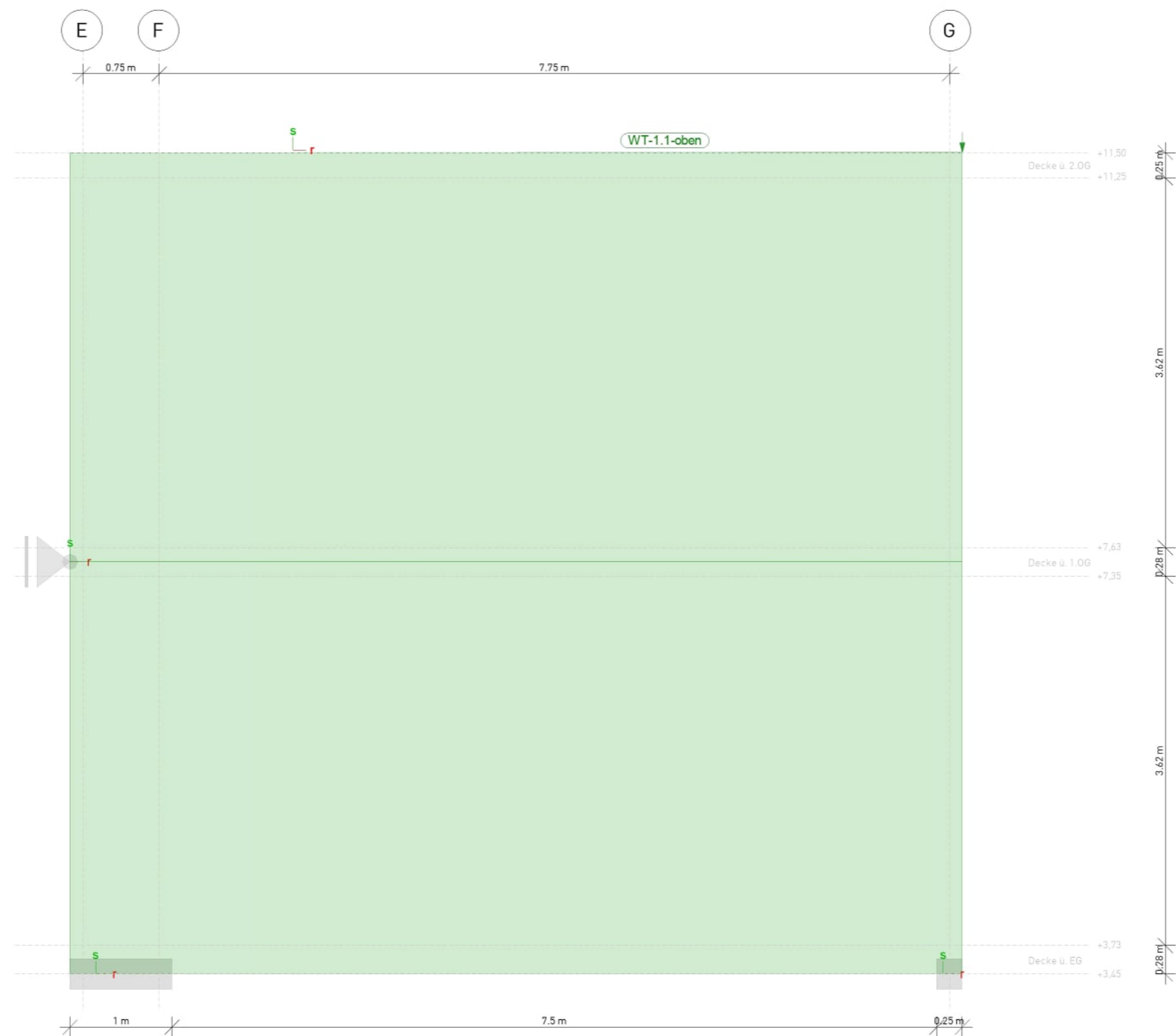
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|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-5 (Nutzlast Schulung unten pos) | | | KREBS+KIEFER Ingenieure GmbH | | |




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|---|------------------------------|---|-------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
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| | KREBS+KIEFER Ingenieure GmbH | | | | |




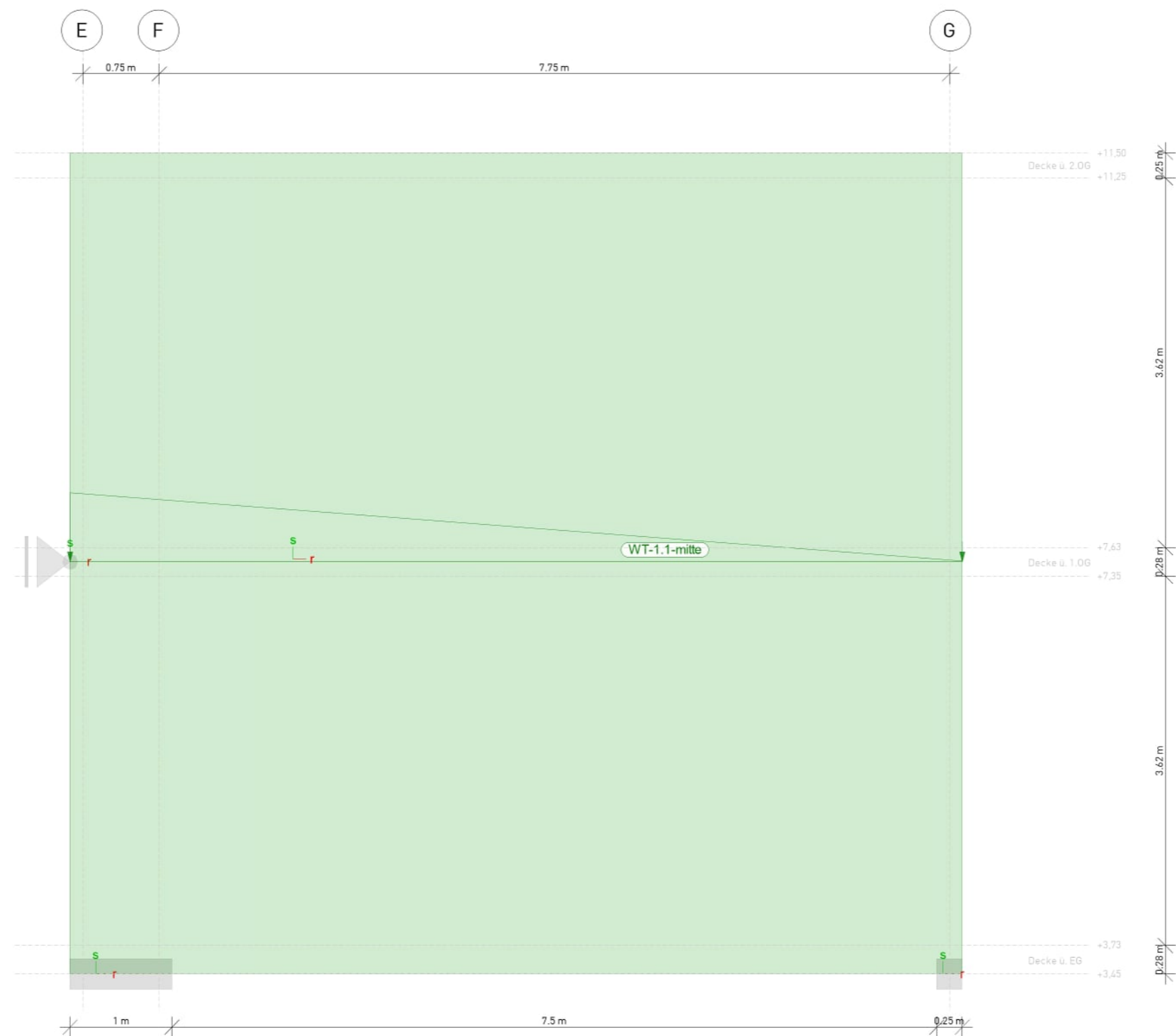
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| | | KREBS+KIEFER Ingenieure GmbH | | |




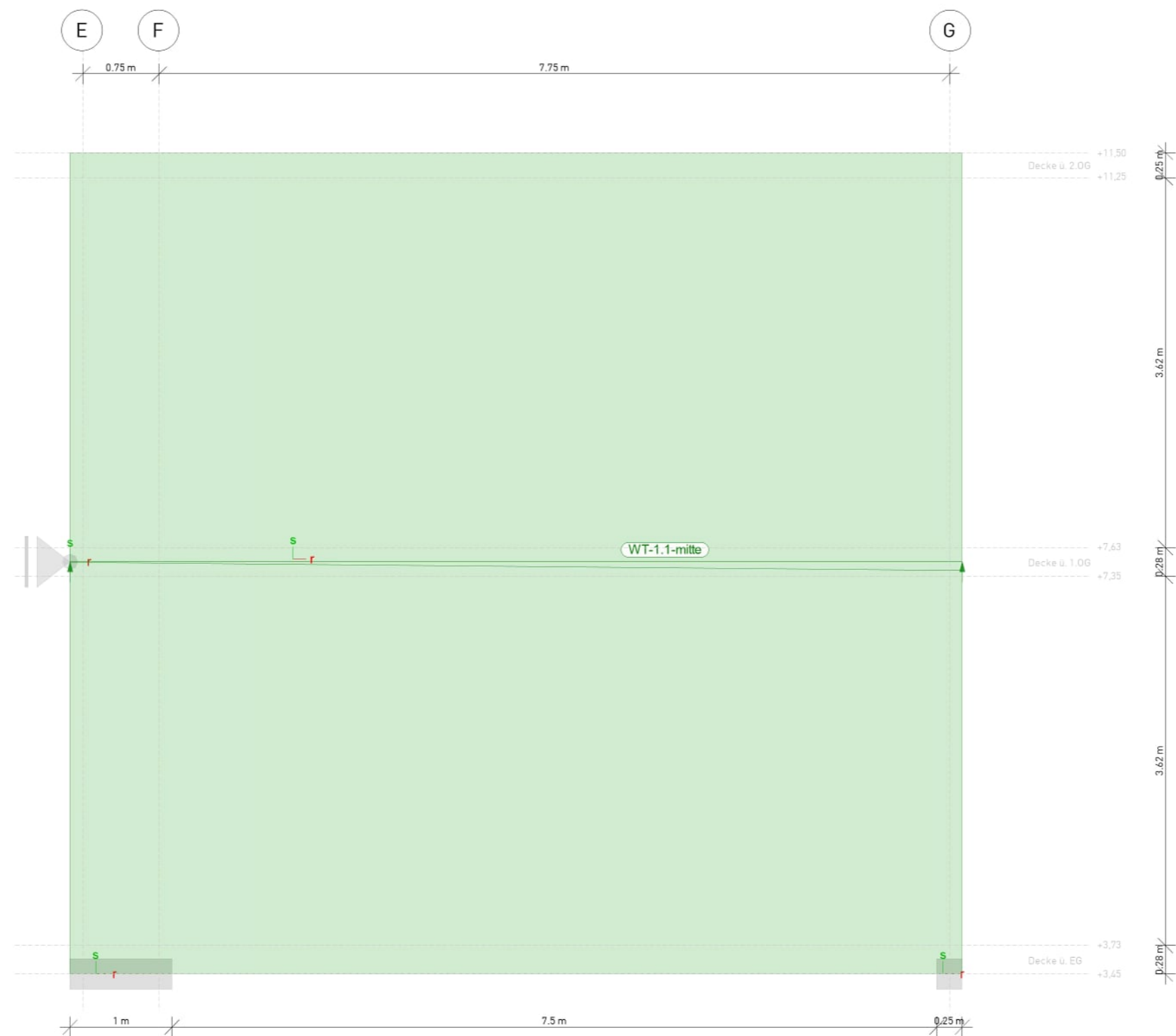
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| | | | KREBS+KIEFER Ingenieure GmbH | | |




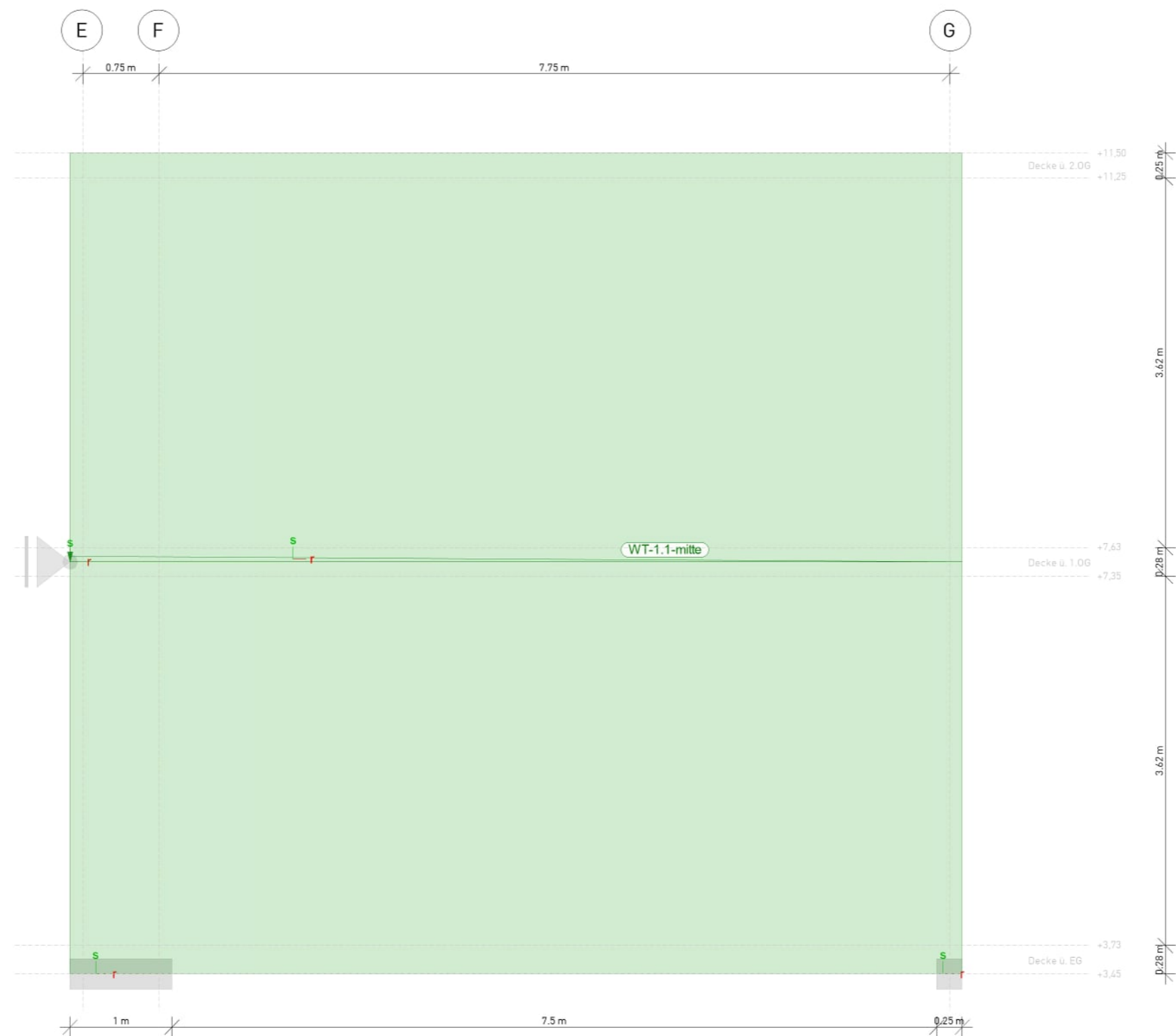
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| Last-Positionen | Lastpositionen |  | Modell WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-10 (Nutzlast Lager oben neg) | | KREBS+KIEFER Ingenieure GmbH | | |




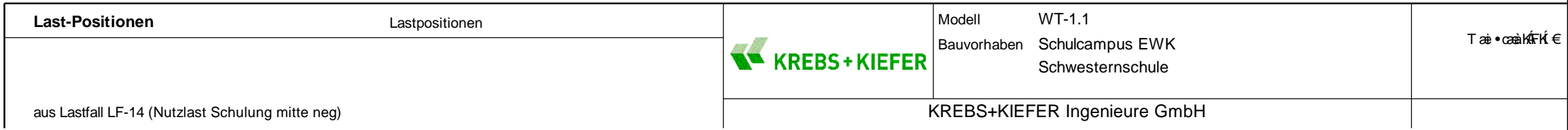
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| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | KREBS+KIEFER Ingenieure GmbH | | | |

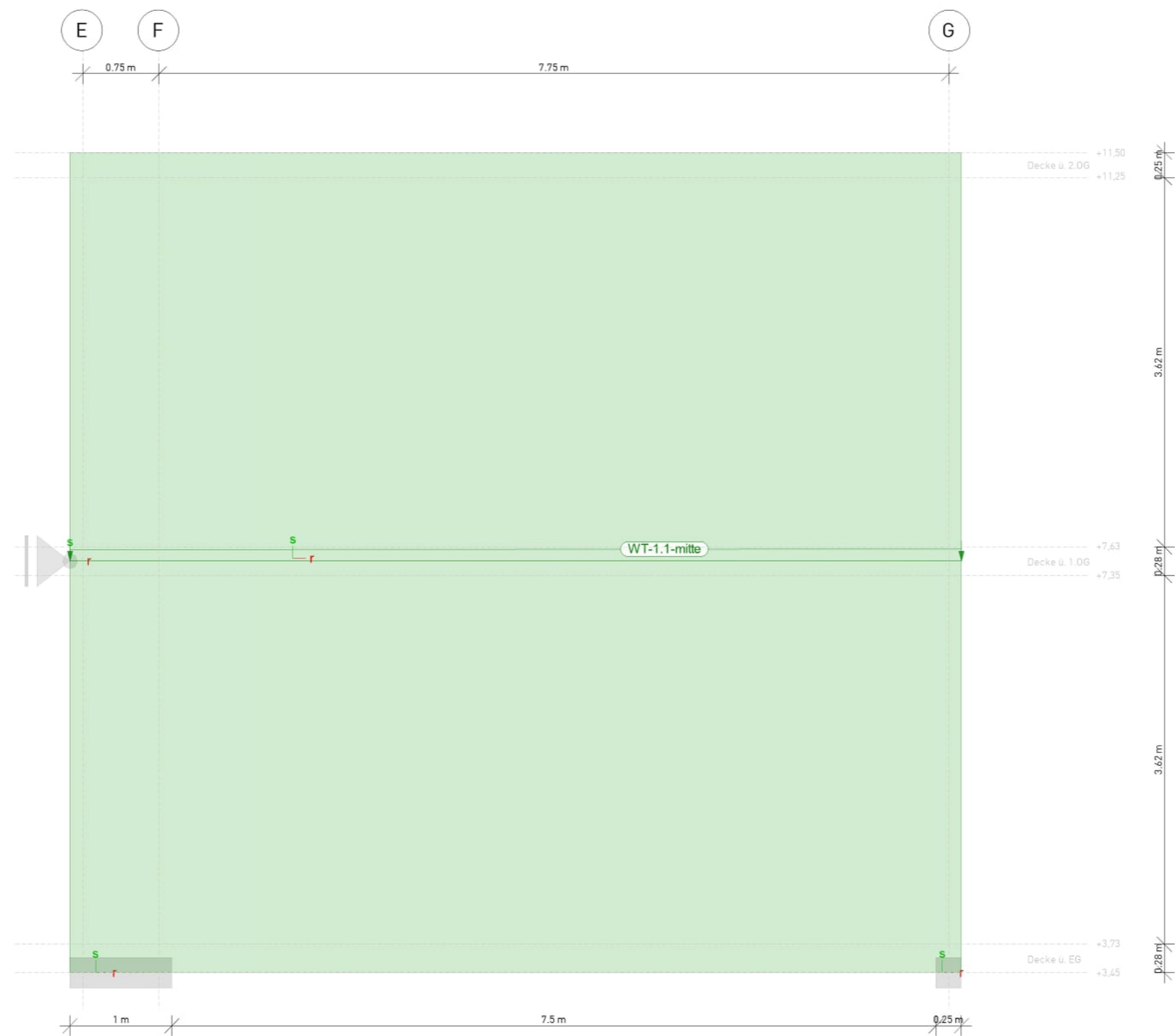


| | | | | | |
|------------------------------|----------------|---|-------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | KREBS+KIEFER Ingenieure GmbH | | | |

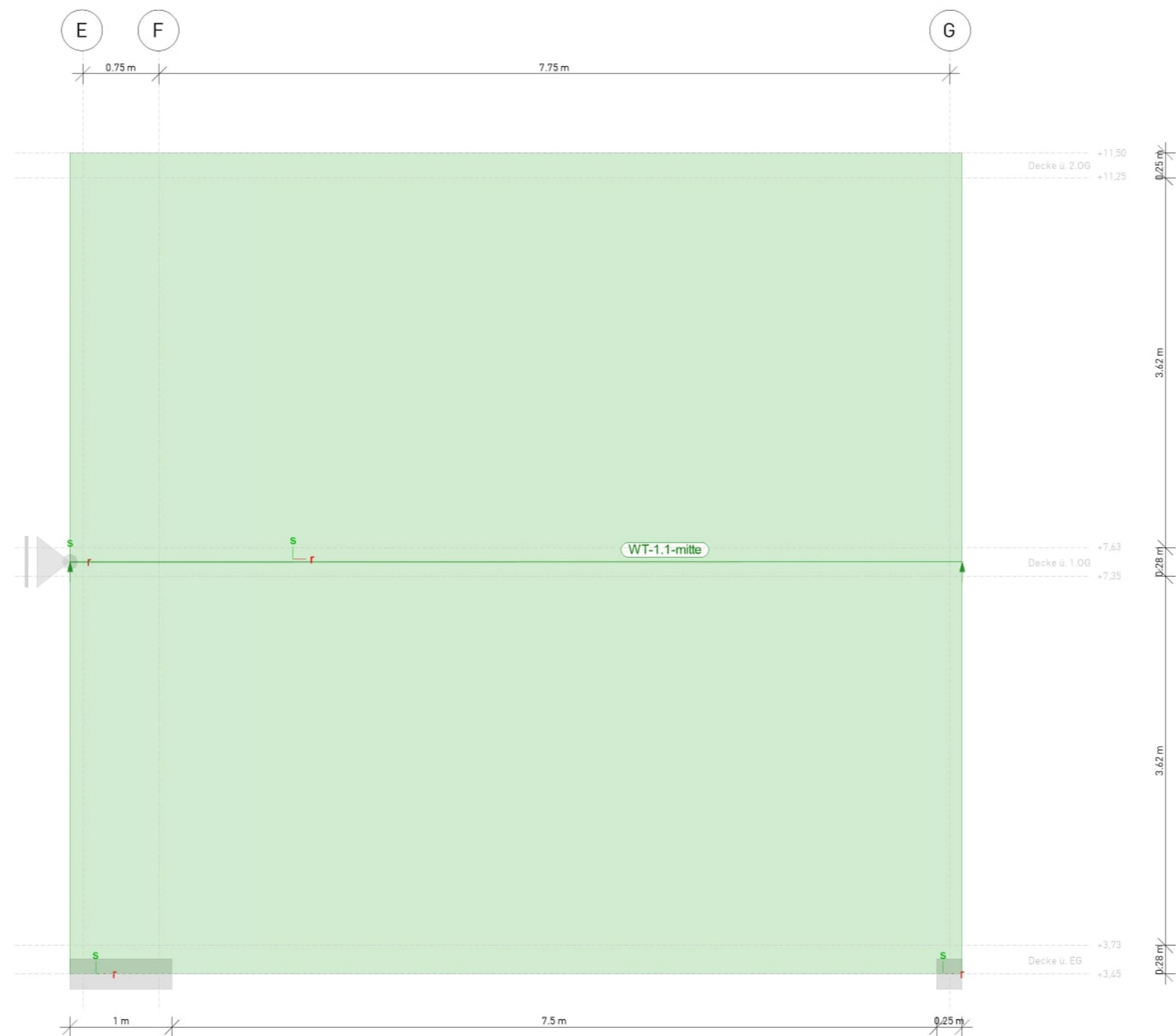



| | | | | |
|--|----------------|---|--|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-13 (Nutzlast Schulung mitte pos) | | KREBS+KIEFER Ingenieure GmbH | | |






| | | | | |
|---|----------------|---|--|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-15 (Nutzlast Forum mitte pos) | | KREBS+KIEFER Ingenieure GmbH | | |




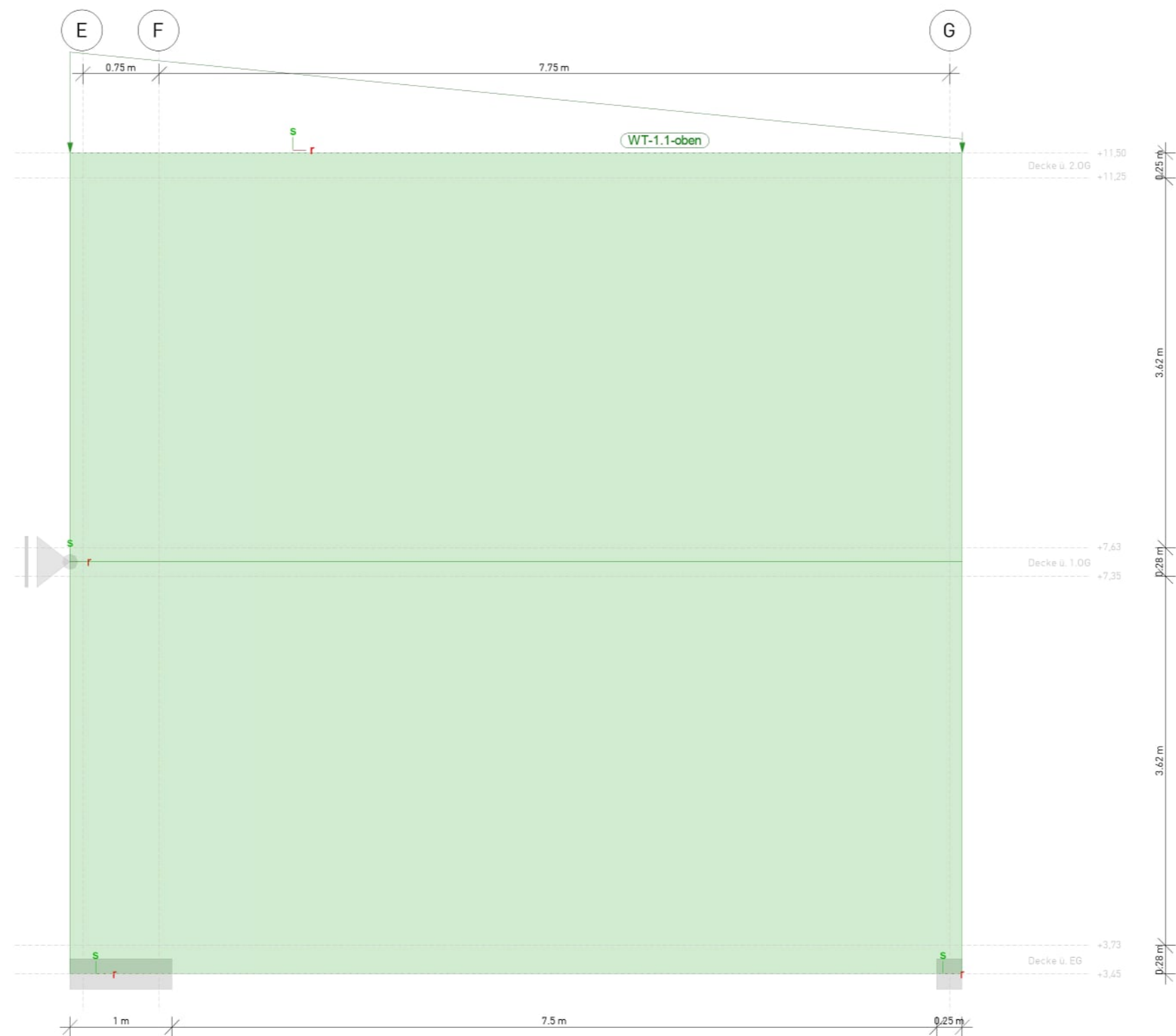
| | | | | | |
|---|----------------|---|-------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-16 (Nutzlast Forum mitte neg) | | KREBS+KIEFER Ingenieure GmbH | | | |




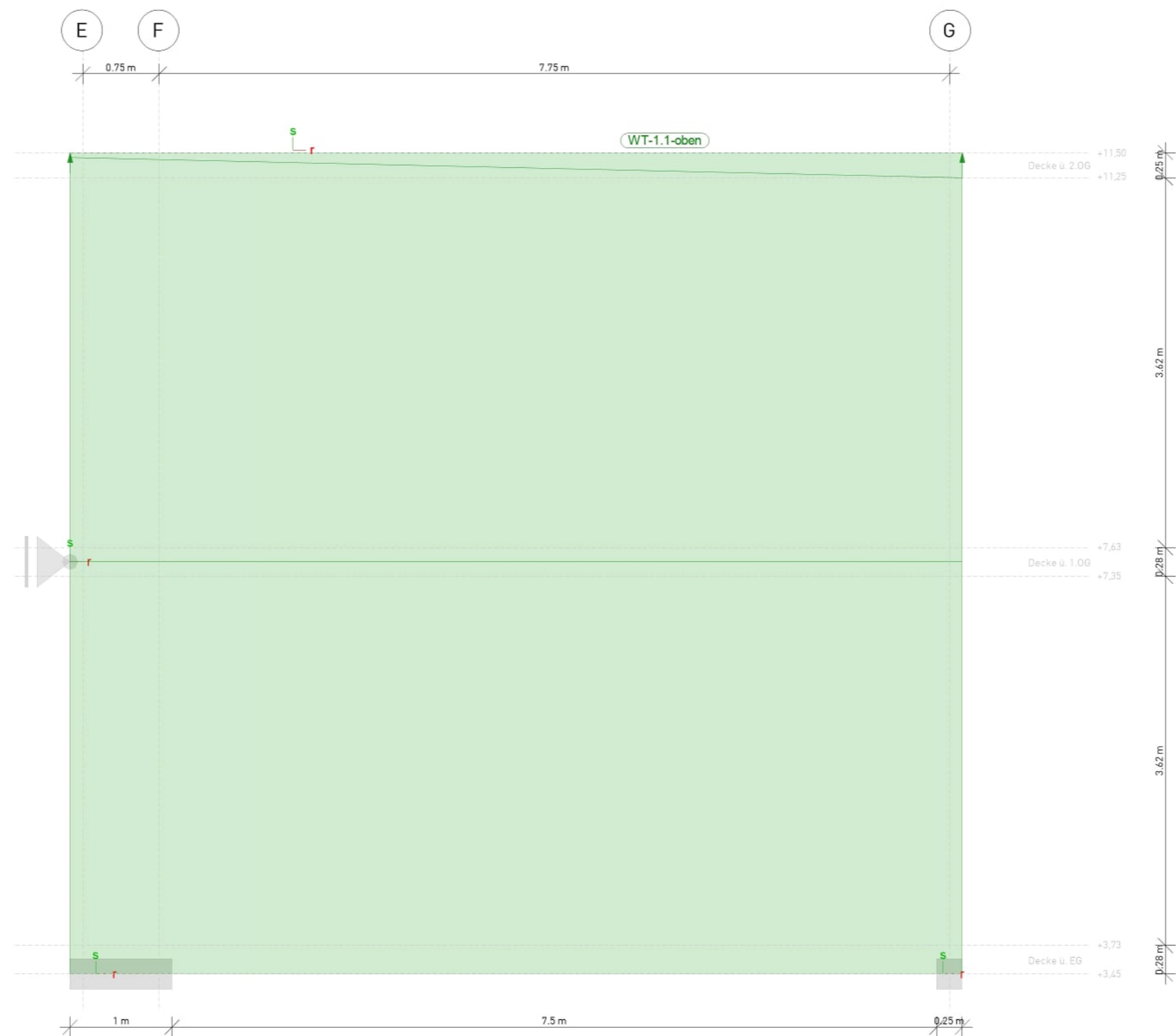
| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
| aus Lastfall LF-17 (Nutzlast Lager unten pos) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |




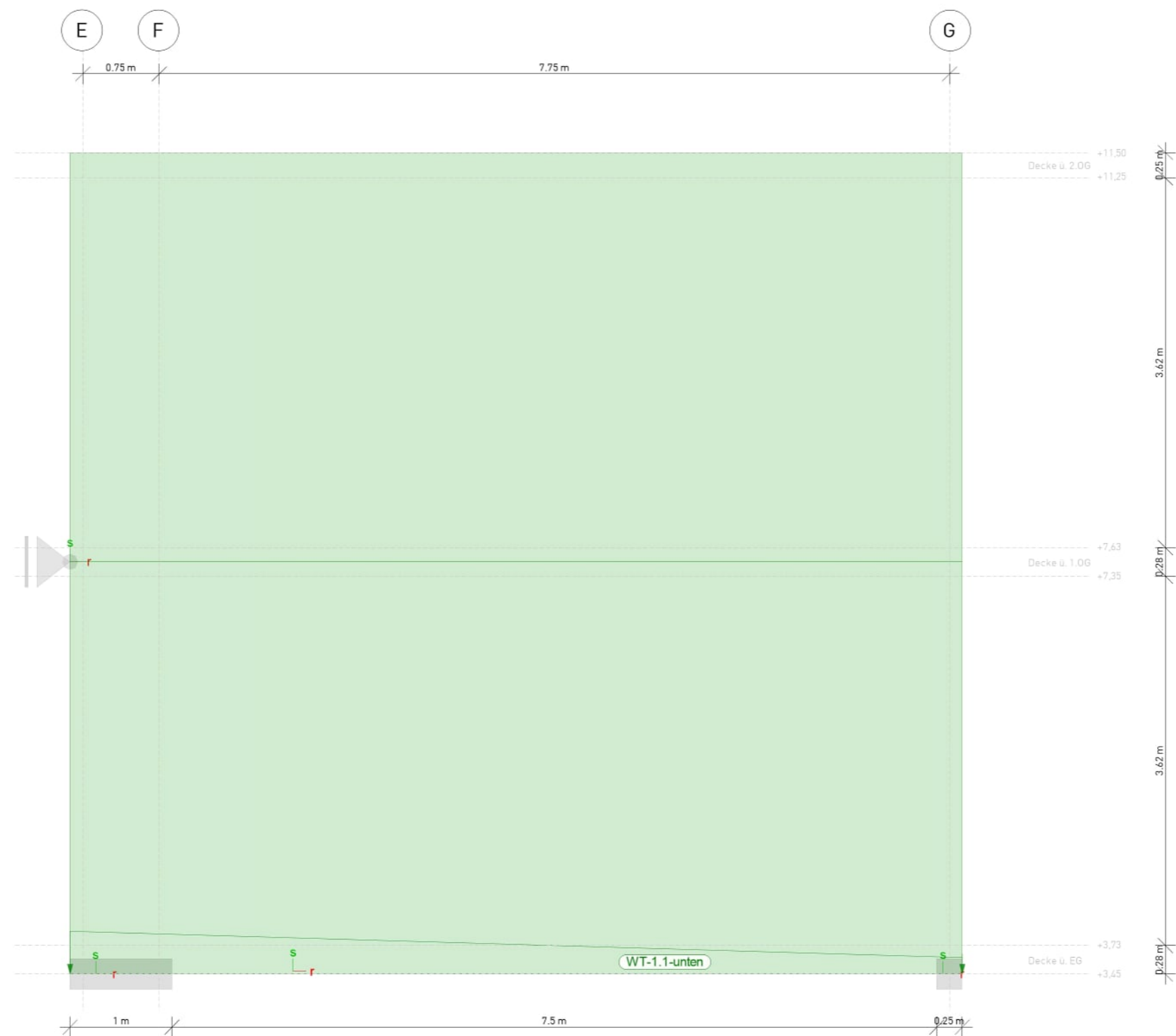
| | | | | | |
|---|----------------|---|-------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-18 (Nutzlast Lager unten neg) | | KREBS+KIEFER Ingenieure GmbH | | | |




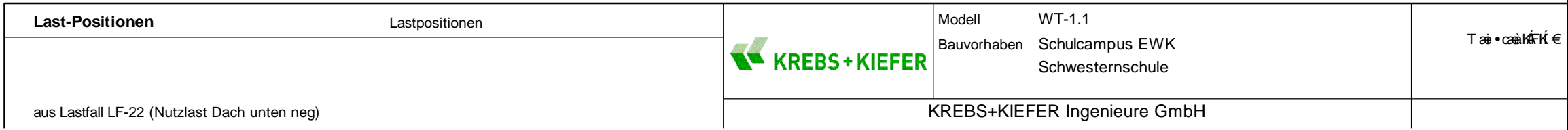
| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-19 (Nutzlast Dach oben pos) | | | KREBS+KIEFER Ingenieure GmbH | | |

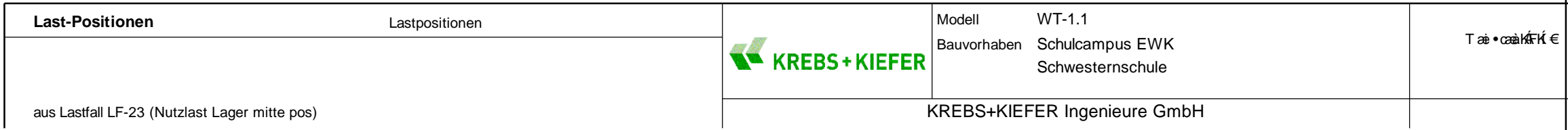


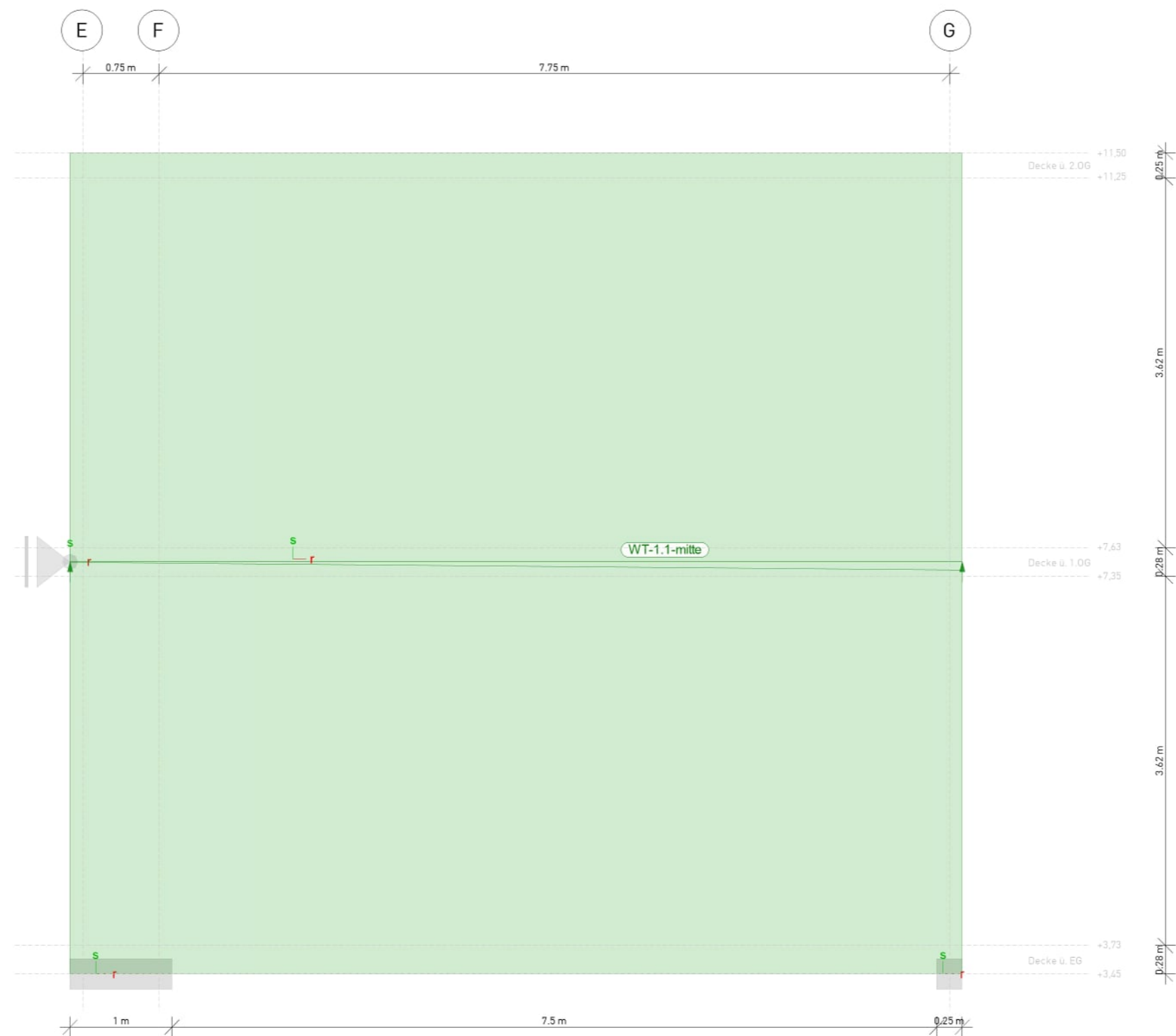
| | | | | |
|---|----------------|---|--|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-20 (Nutzlast Dach oben neg) | | KREBS+KIEFER Ingenieure GmbH | | |




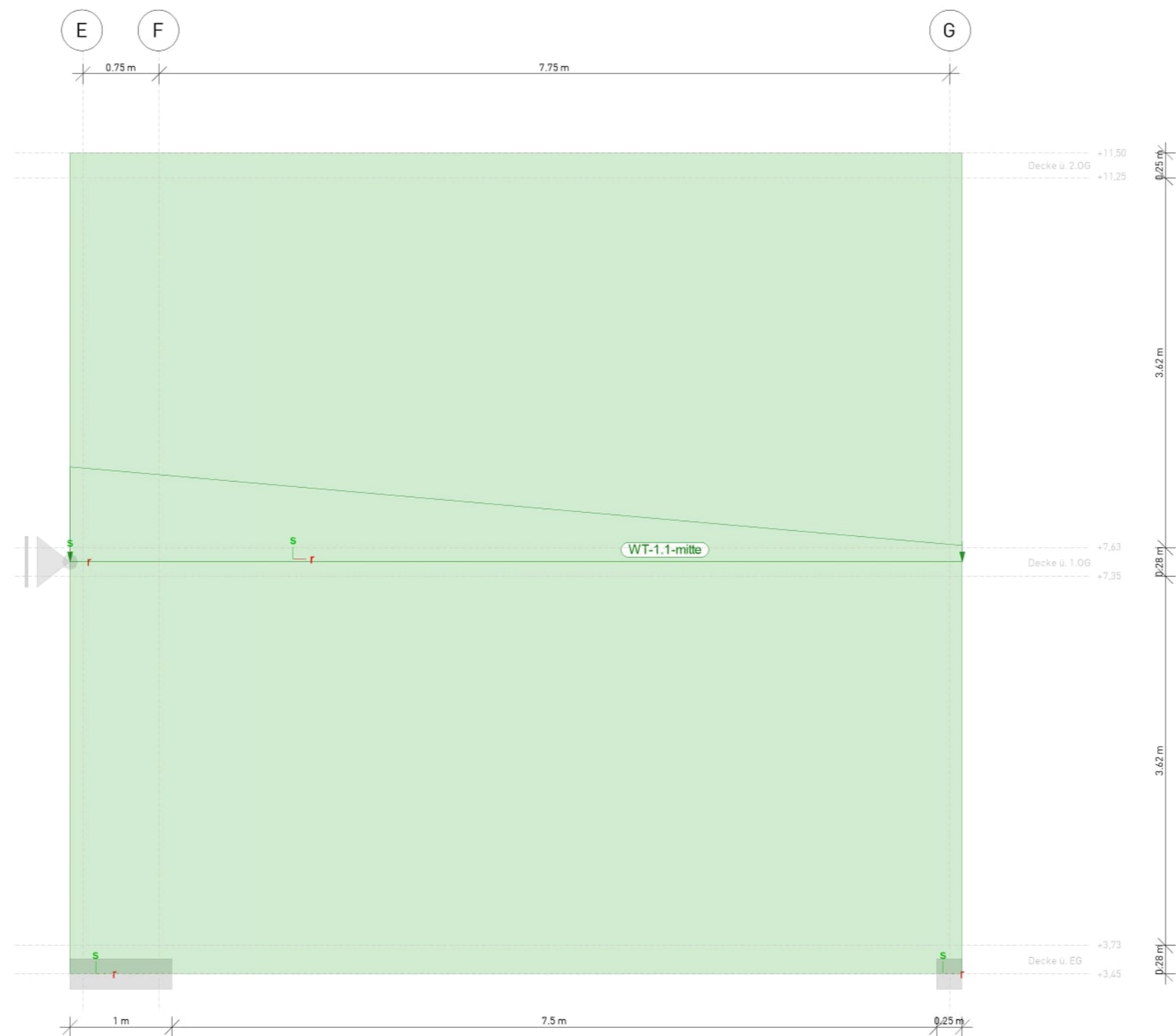
| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
| aus Lastfall LF-21 (Nutzlast Dach unten pos) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |




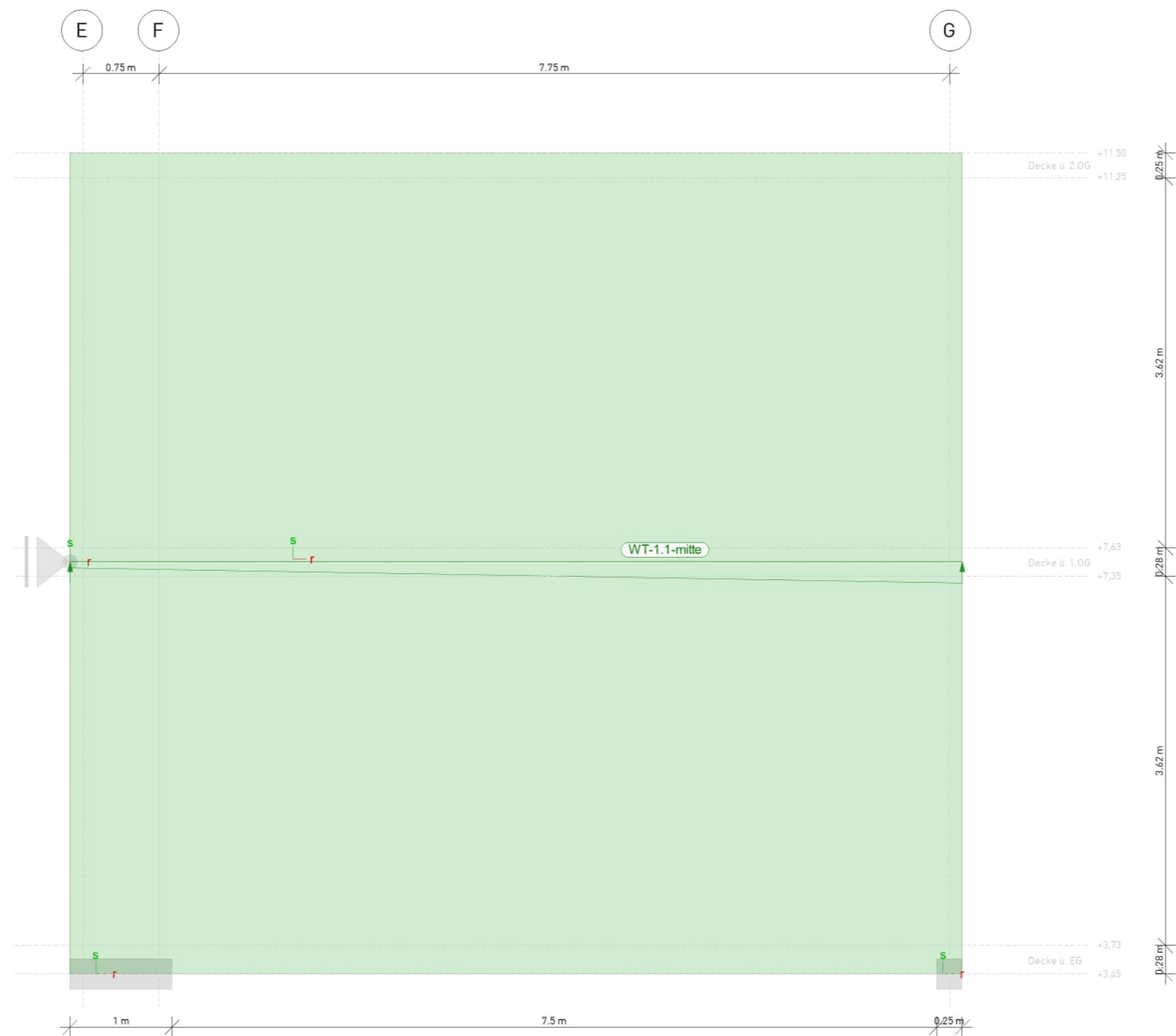





| | | | | |
|---|----------------|---|--|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-24 (Nutzlast Lager mitte neg) | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|--|----------------|---|-------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-25 (Nutzlast Dach mitte pos) | | KREBS+KIEFER Ingenieure GmbH | | | |



| | | | | |
|--|----------------|---|--|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.1 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-26 (Nutzlast Dach mitte neg) | | KREBS+KIEFER Ingenieure GmbH | | |

Stati k-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 1769 | 1846 | 5541 | 466336 | 3643 KB |

Berechnung

Statische Berechnung

| | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à†→æÁíÁGU

Spei cher

Speicherplatzbedarf

| Arbeitsspeicher | âæ^=\&\ | vorhanden |
|-------------------|---------|-----------|
| Standardverfahren | 8829 KB | ja |

| Festpl. | âæ^=\&\ | vorhanden | Laufwerk:\Pfad |
|---------|---------|-----------|-----------------------|
| Ergebn. | 10 MB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 1 sec

Q=b|^&ÄäãÄb\á\&b'âæ^ÄN|à&áâæ

Berechnungszeit : 0 sec

Bel astung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | -3495.32 |
| | 0.00 | 0.00 | 3495.32 |
| LF-2 | 0.00 | 0.00 | -949.43 |
| | 0.00 | 0.00 | 949.43 |
| LF-3 | 0.00 | 0.00 | -192.45 |
| | 0.00 | 0.00 | 192.45 |
| LF-4 | 0.00 | 0.00 | 2.00 |
| | -0.00 | 0.00 | -2.00 |
| LF-5 | 0.00 | 0.00 | -113.85 |
| | -0.00 | 0.00 | 113.85 |
| LF-6 | 0.00 | 0.00 | 26.62 |
| | -0.00 | 0.00 | -26.62 |
| LF-7 | 0.00 | 0.00 | -204.80 |
| | -0.00 | 0.00 | 204.80 |
| LF-8 | 0.00 | 0.00 | 4.13 |
| | -0.00 | 0.00 | -4.13 |
| LF-9 | 0.00 | 0.00 | -1.91 |
| | -0.00 | 0.00 | 1.91 |
| LF-10 | 0.00 | 0.00 | 1.37 |
| | -0.00 | 0.00 | -1.37 |
| LF-11 | 0.00 | 0.00 | -299.38 |
| | 0.00 | 0.00 | 299.38 |
| LF-12 | 0.00 | 0.00 | 39.14 |
| | 0.00 | 0.00 | -39.14 |
| LF-13 | 0.00 | 0.00 | -24.37 |
| | 0.00 | 0.00 | 24.37 |
| LF-14 | 0.00 | 0.00 | 12.39 |
| | 0.00 | 0.00 | -12.39 |
| LF-15 | 0.00 | 0.00 | -100.34 |
| | -0.00 | 0.00 | 100.34 |
| LF-16 | 0.00 | 0.00 | 2.69 |
| | -0.00 | 0.00 | -2.69 |
| LF-17 | 0.00 | 0.00 | -11.00 |
| | 0.00 | 0.00 | 11.00 |
| LF-18 | 0.00 | 0.00 | 6.65 |
| | 0.00 | 0.00 | -6.65 |

W-355

| Lastfall | Px [kN] Ax [kN] | Py [kN] Ay [kN] | Pz [kN] Az [kN] |
|----------|--------------------|--------------------|--------------------|
| LF-19 | 0.00 | 0.00 | -491.22 |
| | 0.00 | 0.00 | 491.22 |
| LF-20 | 0.00 | 0.00 | 128.92 |
| | 0.00 | 0.00 | -128.92 |
| LF-21 | 0.00 | 0.00 | -255.29 |
| | 0.00 | 0.00 | 255.29 |
| LF-22 | 0.00 | 0.00 | 16.06 |
| | -0.00 | 0.00 | -16.06 |
| LF-23 | 0.00 | 0.00 | -73.42 |
| | 0.00 | 0.00 | 73.42 |
| LF-24 | 0.00 | 0.00 | 37.88 |
| | 0.00 | 0.00 | -37.88 |
| LF-25 | 0.00 | 0.00 | -477.45 |
| | 0.00 | 0.00 | 477.45 |
| LF-26 | 0.00 | 0.00 | 115.79 |
| | 0.00 | 0.00 | -115.79 |
| Summe | | | |
| | 0.00 | 0.00 | -6296.58 |
| | 0.00 | 0.00 | 6296.58 |

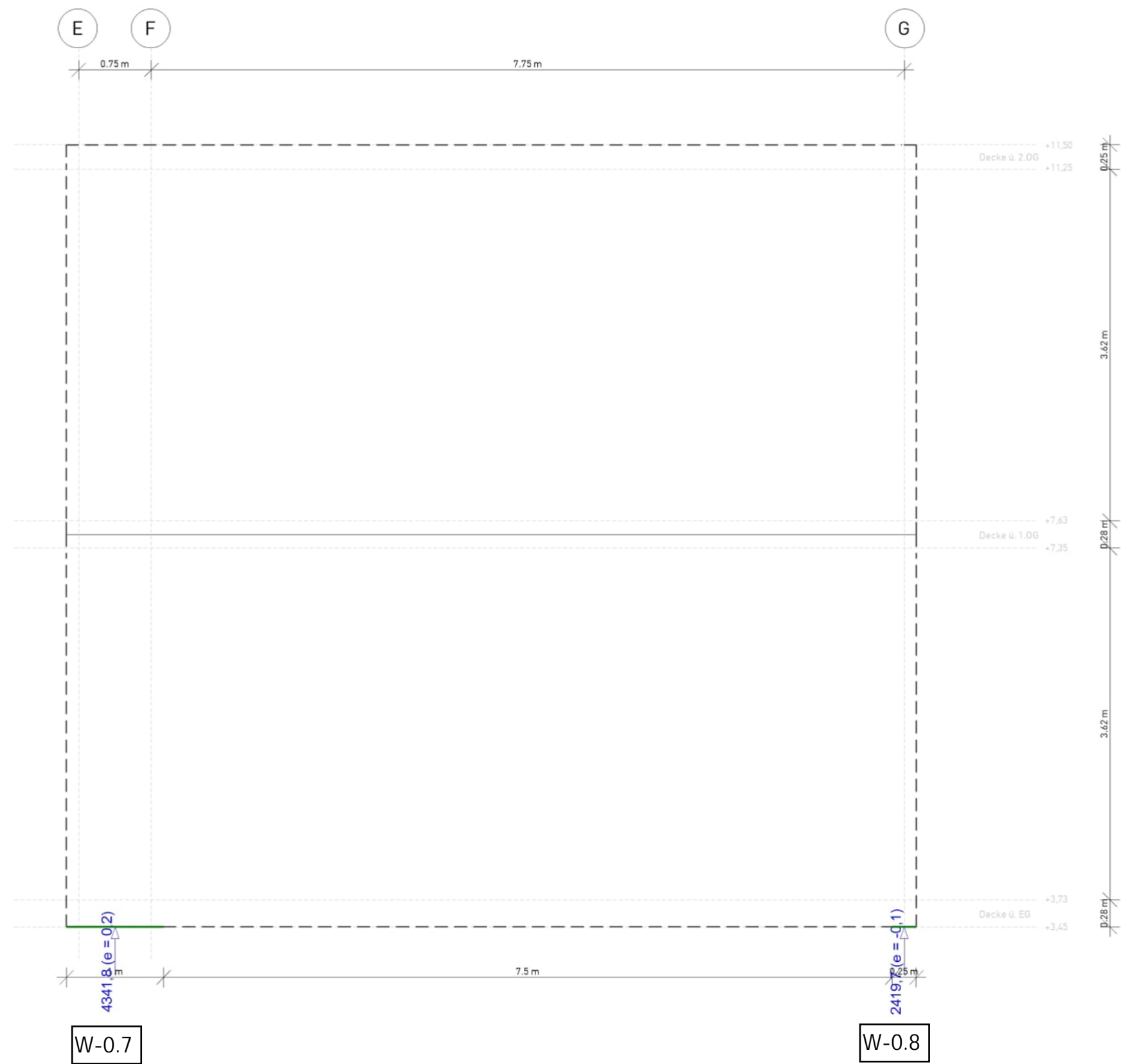
Aufbau der Ergebnisse : 1 sec


Ende der statischen Analyse

Gesamtdauer : 2 sec

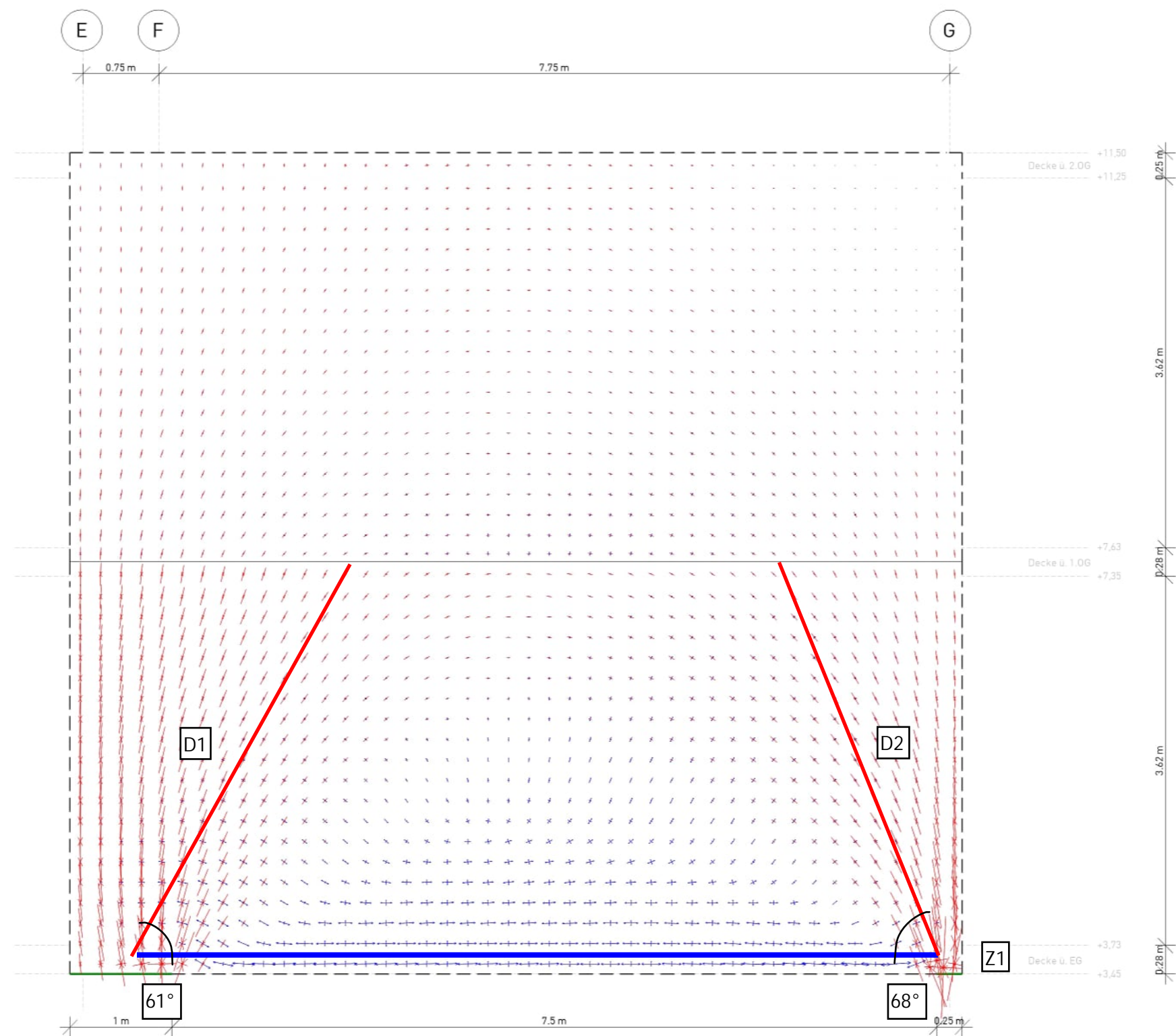
*** Berechnung erfolgreich abgeschlossen ***

5 i ZU Yf_f} ZN



| | | | | | |
|---|----------------------------------|---|------------------------------|-------------------------------------|---------------|
| Linienlagerergebnisse | nur lokal ausgerichtete Auflager |  | Modell | WT-1.1-LP5 | Maßstab: 1:50 |
| aus Überlagerung über LFN und LKN Maximum Max = 4341.8, Min = 2419.7 Resultierende als Kraftvektor | Lagerkraft in s-Richtung in [kN] | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | W-358a |





| | | | |
|---|---|---|--------|
| Hauptspannungen | Pæ]o]æ})~)*^)Áã{ aFÁ}áÁã{ æGÁ}PQ á | Modell WT-1.1 | Tæ•æK€ |
| aus Lastkombination LK-1 sigma1: Max = 6.94, Min = -8.97 sigma2: Max = 1.35, Min = -24.04 |  | Bauvorhaben Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | |

Nachweise Auswertung

Biegebemessung der Scheiben (Stahlbeton) nach DIN EN 1992-1-1

Mat. /Querschni tt

| Position | Winkel yfl | Art | Material | Dicke [cm] |
|------------|---------------|-----|--------------------------|---------------|
| WT-1.1-10G | 0.0 | iso | <i>B 500SB C 45/55 Q</i> | 25.0 |
| WT-1.1-20G | 0.0 | iso | <i>B 500SB C 30/37 Q</i> | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: $\sigma_{ab} = \sigma_{ba} = \tilde{\sigma}^T | \hat{e}_a \hat{e}_b |$
Exz.: $\sigma_{ij} = \tilde{\sigma}^T | \hat{e}_i \hat{e}_j |$

Expositionsklasse

&æ↑‡ßÁǼØSÁÓSÁFïïGëFëFêÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|------------------------|-----------|-----|------------------------------|
| WT-1.1-10G, WT-1.1-20G | umlaufend | XC1 | \~'◀æ^Á~äæäÁb\‡^ä↔&Á nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsri chtung

Orthogonale Bewehrung

| Position | ro YflY | so YflY | ru YflY | su YflY |
|------------------------|------------|------------|------------|------------|
| WT-1.1-10G, WT-1.1-20G | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

je Scheibenseite

| Position | C _{min} [mm] | # _{def} [mm] | C _{nom} [mm] | C _v [mm] |
|------------|--------------------------|--------------------------|--------------------------|------------------------|
| WT-1.1-10G | 10 | 10 | 20 | - |
| WT-1.1-20G | 10 | 10 | 20 | - |

Bemessungsparameter

äfiäÄäæ^ÄÖöæ^~ | b\á^äÄäæäÄÜää&à‡ä↔&←æ↔\Á^á´ äÄØSÁÓSÁ
1992-1-1

Bi egung

| Position | Bemessungsverfahren | Mindestbewehrung |
|---|---------------------|------------------|
| WT-1.1-10G, WT-1.1-20G | Úafiã↔↑á^^ | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

WT-1. 1-10G

Ñæ↑æbb | ^&ÃàfiãÃU´ âæ↔âæÃÇU\áå→âæ\~^DÁÜÚËFÈFËFŠÖ

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á´àÁÆØSÁÓSÁFïï€

| | |
|-----|------------------------|
| Ew | Einwirkungsname |
| Lkn | Lastkombinationsnummer |

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#j cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|-------------|---------|
| 1-2 | | 1.00 | 1.00 | . | 1.05 | 1.50 | 1.50 |
| 3-4 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 5 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 6-35 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 36-69 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 70-77 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 78-79 | | 1.35 | 1.35 | 1.05 | 1.05 | . | 1.50 |

1.50
W-361

Schulcampus EWK \

WT-1.1

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 80 | | 1.00 | 1.35 | 1.05 | 1.05 | . | 1.50 |
| 81-82 | | 1.00 | 1.00 | 1.05 | 1.05 | . | 1.50 |
| 83 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1-2 | | . |
| 3-4 | | . |
| 5 | | . |
| 6-35 | | 1.50 |
| 36-69 | | 1.50 |
| 70-77 | | 1.50 |
| 78-79 | | 1.50 |
| 80 | | 1.50 |
| 81-82 | | 1.50 |
| 83 | | 1.50 |

Alle Nachweise

Öã~ããã~>´âÁQ†^&bâæ}æãã|^&Áá|bÁá->æ^ÁSá´â}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

a_{s,r}

Erforderliche Bewehrung a_{s,r}
(je Scheibenseite)

| Knoten | Lkn | S _{r,Ed} YSD↑↑¥Ÿ | S _{s,Ed} YSD↑↑¥Ÿ | S _{rs,Ed} YSD↑↑¥Ÿ | N _{Ed} [kN/m] | a _{s,r} Y´↑¥D↑Ÿ |
|------------------------------------|-----|------------------------------|------------------------------|-------------------------------|---------------------------|-----------------------------|
| 12 | 36 | 10.53 | 2.45 | 0.20 | 1341.0 | 29.37 |
| 46 | 36 | 17.40 | 1.97 | -0.72 | 2265.8 | 49.63 |
| 55 | 36 | 0.40 | -7.74 | -8.72 | 1140.1 | 24.97 |
| 93 | 36 | 1.92 | -18.74 | -4.52 | 805.60 | 17.65 |
| 136 | 36 | 1.54 | -17.05 | 5.65 | 898.76 | 19.69 |
| 142 | 36 | 1.66 | -15.58 | 1.71 | 421.59 | 9.23 |
| B 47 | 36 | -1.53 | -16.85 | 13.74 | -3434 | *** |
| ***: Nachweis wurde nicht erbracht | | | | | | |
| B: Næ\~^ãã ^´←{æãbã&æ^Á†áß&æãæ^ä | | | | | | |

a_{s,s}

Erforderliche Bewehrung a_{s,s}
(je Scheibenseite)

| Knoten | Lkn | S _{r,Ed} YSD↑↑¥Ÿ | S _{s,Ed} YSD↑↑¥Ÿ | S _{rs,Ed} YSD↑↑¥Ÿ | N _{Ed} [kN/m] | a _{s,s} Y´↑¥D↑Ÿ |
|------------------------------------|-----|------------------------------|------------------------------|-------------------------------|---------------------------|-----------------------------|
| 5 | 36 | -16.36 | -35.93 | 5.42 | -5169 | 49.53 |
| 6 | 36 | -19.63 | -37.80 | -3.30 | -5137 | 48.74 |
| 46 | 36 | 17.40 | 1.97 | -0.72 | 336.83 | 7.38 |
| 102 | 36 | 1.72 | -0.48 | -2.89 | 301.65 | 6.61 |
| 111 | 41 | 5.14 | 1.65 | 0.19 | 230.60 | 5.05 |
| 129 | 36 | 4.93 | 1.51 | -0.42 | 241.06 | 5.28 |
| 159 | 41 | 4.27 | 1.64 | 0.20 | 229.04 | 5.02 |
| 183 | 36 | -0.32 | -26.71 | 1.05 | -3470 | 7.06 |
| 195 | 36 | 1.86 | 0.53 | -1.41 | 242.84 | 5.32 |
| 205 | 41 | 3.54 | 1.63 | 0.19 | 228.20 | 5.00 |
| 440 | 41 | -0.06 | 1.16 | 1.07 | 279.63 | 6.13 |
| B 47 | 36 | -1.53 | -16.85 | 13.74 | -3434 | *** |
| ***: Nachweis wurde nicht erbracht | | | | | | |
| B: Næ\~^ãã ^´←{æãbã&æ^Á†áß&æãæ^ä | | | | | | |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | S _{rs,Ed} YSD↑↑¥Ÿ | N _{cEd} [kN/m] | cd Rd YSD↑↑¥Ÿ | [%] |
|--------|-----|-------------------------------|----------------------------|---------------------|-------|
| 10 | 36 | 4.26 | -1064.55 | -8.52 -19.13 | 44.53 |
| 11 | 36 | -9.42 | -2355.54 | -18.84 | 98.53 |

| Knoten | Lkn | S _{r,s} ,Ed | N _c Ed | cd Rd | |
|--------|-----|----------------------|-------------------|----------|--------|
| | | YSD↑↑Y | [kN/m] | YSD↑↑Y | [%] |
| | | | | -19.13 | |
| 16 | 62 | 0.11 | -27.10 | -0.22 | 1.13 |
| | | | | -19.13 | |
| 44 | 36 | -0.49 | -123.18 | -0.99 | 5.15 |
| | | | | -19.13 | |
| 47 | 36 | 13.74 | -3434.15 | -27.47 | 143.65 |
| | | | | -19.13 | |
| 87 | 36 | -0.53 | -131.87 | -1.05 | 5.52 |
| | | | | -19.13 | |
| 93 | 36 | -4.52 | -1130.13 | -9.04 | 47.27 |
| | | | | -19.13 | |
| 111 | 78 | 0.20 | -48.97 | -0.39 | 2.05 |
| | | | | -19.13 | |
| 129 | 36 | -0.42 | -104.27 | -0.83 | 4.36 |
| | | | | -19.13 | |
| 159 | 78 | 0.21 | -51.29 | -0.41 | 2.15 |
| | | | | -19.13 | |

'äi vorhandene Betonspannung
 P*äi* ~ |→†bb↔&æÃÑæ\~^ää| '←b*á^^|^&

WT-1. 1-20G

Ñæ↑æbb | ^&ÁâfiãÁU´ ºæ↔âæÁÇU\´áº→âæ\~^DÁUÜÉFÈFÈGŠÖ

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nati onen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á^`àÁÆØSÁÓSÁFïï€

| | |
|-----|------------------------|
| Ew | Einwirkungsname |
| Lkn | Lastkombinationsnummer |

Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh} bX] [#j cf ~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ök | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|---------|---------|---------|
| 1-19 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 20-29 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 30 | | 1.35 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 31-35 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|---------|
| 1-19 | | 1.50 |
| 20-29 | | 1.50 |
| 30 | | 1.50 |
| 31-35 | | 1.50 |

Alle Nachweise

$$\{ \tilde{O} \tilde{a} \tilde{a} \sim \tilde{a} \tilde{a} \tilde{x} \tilde{a} \rightarrow \tilde{x} \tilde{a} \tilde{A} \tilde{Q} \vdash \wedge \& \tilde{b} \tilde{a} \tilde{x} \} \tilde{x} \tilde{a} \tilde{a} \mid \wedge \& \tilde{A} \tilde{a} \mid \tilde{b} \tilde{A} \tilde{a} \rightarrow \tilde{x} \wedge \tilde{A} \tilde{S} \tilde{a} \tilde{a} \mid \tilde{a} \} \tilde{x} \leftrightarrow \tilde{b} \tilde{x} \wedge$$

Es werden nur lokale Extremwerte dokumentiert.

 as, r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑↑Y | $S_{s,Ed}$ YSD↑↑↑Y | $S_{rs,Ed}$ YSD↑↑↑Y | n_{Ed} [kN/m] | $a_{s,r}$ Y'↑↑↑Y |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|---------------------|
| 1 | 1 | 0.10 | -2.97 | 0.03 | 16.73 | 0.37 |
| 1001 | 1 | -0.29 | -2.18 | -1.33 | 130.05 | 2.85 |
| 1032 | 1 | -0.32 | -1.37 | 1.26 | 116.87 | 2.56 |

$a_{s,s}$

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,s}$ |
|--------|-----|---|---|---|----------|---|
| | | $\frac{YSD}{\uparrow \downarrow} \frac{Y}{Y}$ | $\frac{YSD}{\uparrow \downarrow} \frac{Y}{Y}$ | $\frac{YSD}{\uparrow \downarrow} \frac{Y}{Y}$ | [kN/m] | $\frac{Y}{Y} \frac{\uparrow \downarrow}{\uparrow \downarrow} \frac{Y}{Y}$ |
| 922 | 2 | -1.00 | 1.18 | -0.29 | 183.91 | 4.03 |
| 930 | 2 | -1.01 | 1.18 | 0.45 | 203.91 | 4.47 |
| 1011 | 2 | -0.96 | 0.68 | -0.71 | 174.11 | 3.81 |
| 1023 | 9 | -0.94 | 0.73 | 0.94 | 208.95 | 4.58 |
| 1713 | 2 | 0.00 | 0.26 | 0.00 | 33.27 | 0.73 |

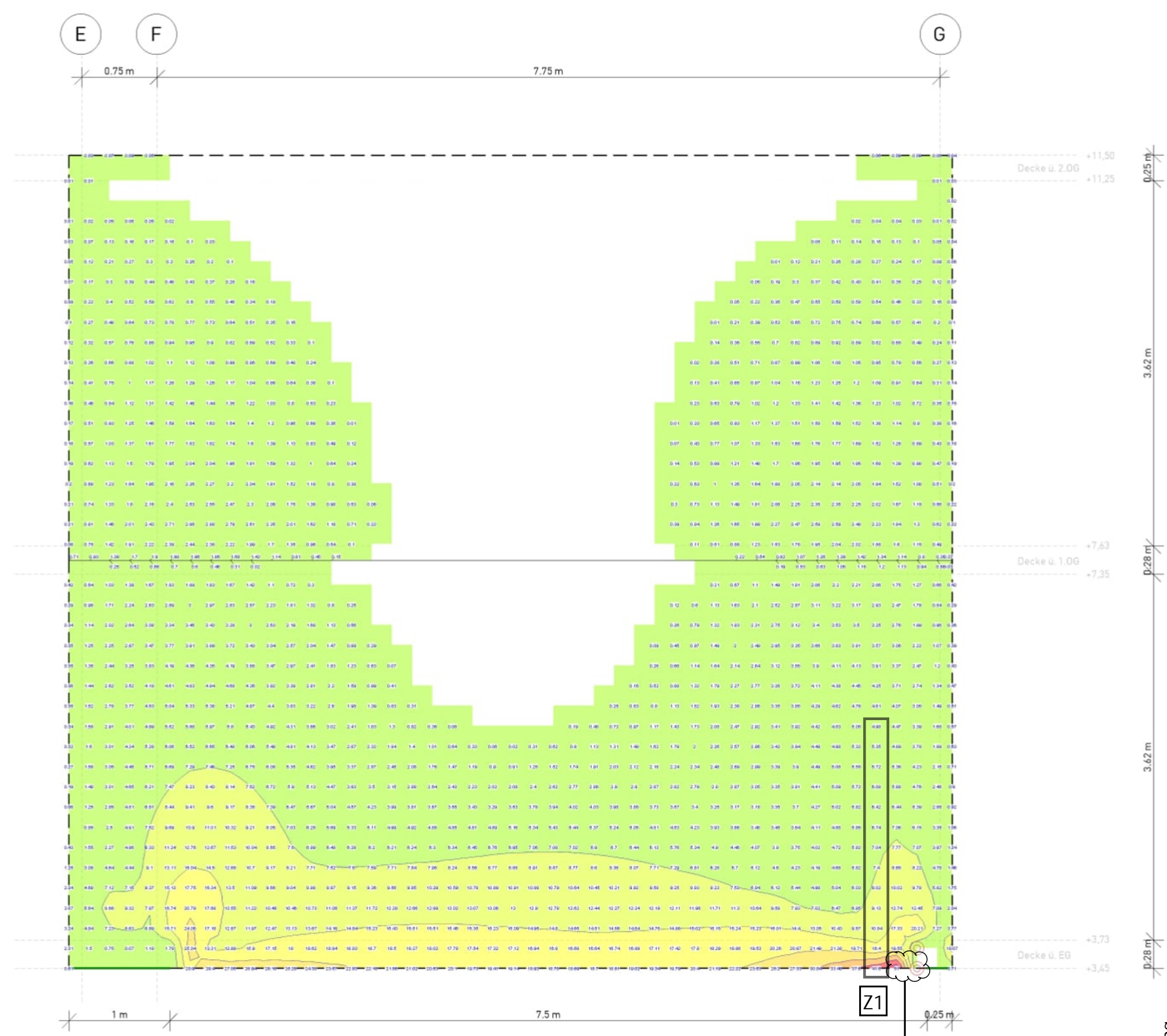
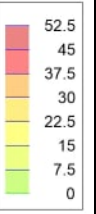
Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ | n_{cEd} | c_d | |
|--------|-----|---|-----------|---|-------|
| | | $\frac{YSD}{\uparrow \downarrow} \frac{Y}{Y}$ | [kN/m] | $\frac{YSD}{\uparrow \downarrow} \frac{Y}{Y}$ | [%] |
| 1004 | 1 | -1.42 | -355.79 | -2.85 | 22.32 |
| | | | | -12.75 | |
| 1029 | 1 | 1.44 | -359.84 | -2.88 | 22.58 |
| | | | | -12.75 | |
| 1760 | 1 | 0.01 | -1.62 | -0.01 | 0.10 |
| | | | | -12.75 | |
| 1846 | 6 | -0.01 | -2.44 | -0.02 | 0.15 |
| | | | | -12.75 | |

 σ_{ai} vorhandene Betonspannung


 σ_{bi} \rightarrow $\frac{b \cdot b \cdot \sigma_{ai}}{A_{Nä}} \sim \frac{b \cdot \sigma_{ai}}{A_{Nä}}$



Singularität
(Unregelmäßigkeit Netz)

r-Richtung
s-Richtung
Scheibenbemessung:
erf. Bewehrung
- r-Richtung -


⊙ --> Nachweis wurde nicht erbracht

| | | | | | |
|---|--|---|------------------------------|-------------------------------------|---------------|
| Flächenbemessung | Erforderliche Bewehrung as,erf |  | Modell | WT-1.1-LP5 | Maßstab: 1:50 |
| Max = 51 (Kn. 46), Min = 0 (Kn. 7), Step = 7.5 Bew.-Abstand d' = 30 mm Beton C 30/37...C 45/55 Bauteildicke h = 25.00 cm | aus allen Nachweisen r-Richtung (für eine Scheibenseite) in [cm²/m] | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | W-365a |

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⊙ --> Nachweis wurde nicht erbracht

| | | | | | |
|--|--|---|-------------|-------------------------------------|---------------|
| Flächenbemessung | Erforderliche Bewehrung as,erf |  KREBS+KIEFER | Modell | WT-1.1-LP5 | Maßstab: 1:50 |
| Max = 52.63 (Kn. 5), Min = 0 (Kn. 3), Step = 7.5 | aus allen Nachweisen s-Richtung (für eine Scheibenseite) in [cm²/m] | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Bew.-Abstand d' = 30 mm | | | | | |
| Beton C 30/37...C 45/55 | | | | | |
| Bauteildicke h = 25.00 cm | | KREBS+KIEFER Ingenieure GmbH | | | W-366a |

Nachweise Auswertung

Biegebemessung der Scheiben (Stahlbeton) nach DIN EN 1992-1-1

Mat. /Querschnitt

| Position | Winkel YflY | Art | Material | Dicke [cm] |
|------------|----------------|-----|-------------------|---------------|
| WT-1.1-1OG | 0.0 | iso | B 500SB C 45/55 Q | 25.0 |
| WT-1.1-2OG | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öab\æ^b^ä^| ^&ÄT| ää^~\
Exz.: Ó[^æ^ \ä^~\ ^\ ^\ Äæ

Exposi ti onskl asse

| Position | Seite | Kl | Kommentar |
|------------------------|-----------|-----|---------------------------------|
| WT-1.1-1OG, WT-1.1-2OG | umlaufend | XC1 | \ä~' ^æ^Ä~äæäÄb\ ^ä^~&Ä nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsri chtung

Orthogonale Bewehrung

| Position | ro YflY | so YflY | ru YflY | su YflY |
|------------------------|------------|------------|------------|------------|
| WT-1.1-1OG, WT-1.1-2OG | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

je Scheibenseite

| Position | Cmin [mm] | #'def [mm] | Cnom [mm] | Cv [mm] |
|------------|--------------|---------------|--------------|------------|
| WT-1.1-1OG | 12 | 10 | 22 | 30 |
| WT-1.1-2OG | 12 | 10 | 22 | 30 |

Grundbewehrung

je Scheibenseite

| Position | Rá\\æÊÄU\ ^âæ ~Y↑↑YËbY'↑Y | d'r [mm] | asg,r [cm ² /m] | d's [mm] | asg,s [cm ² /m] |
|------------|------------------------------|-------------|-------------------------------|-------------|-------------------------------|
| WT-1.1-1OG | o r Ö3413702 | 36 | 7.54 | | |
| | o s Ö3213702 | | | 47 | 5.24 |
| WT-1.1-2OG | o r Ö3413702 | 36 | 7.54 | | |
| | o s Ö3213702 | | | 47 | 5.24 |

Bemessungsparameter

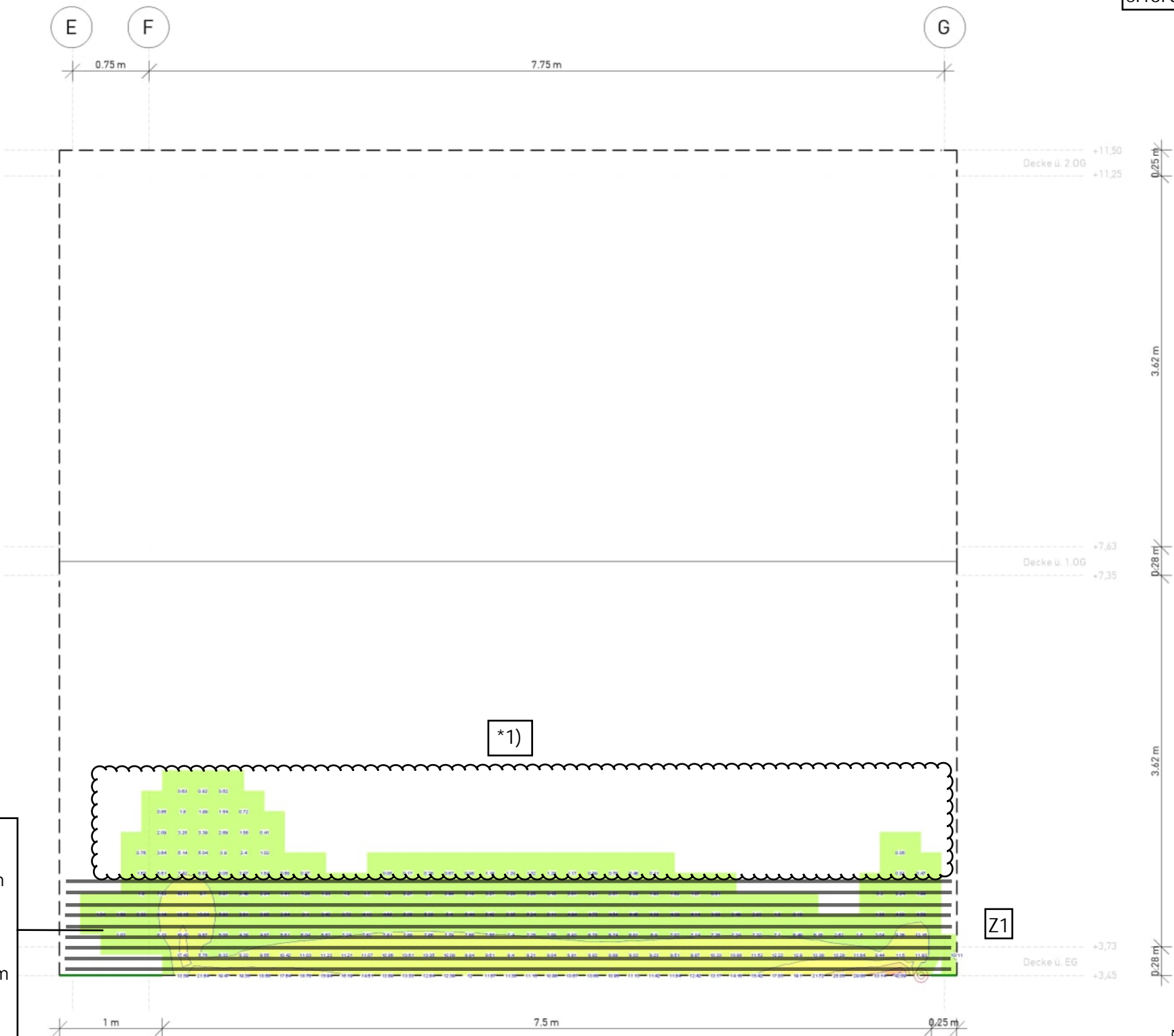
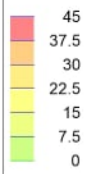
äfiäÄäæ^ÄÖäæ^~ | b\ä^äÄäæäÄÜää&à\ä^~&æ^~\Ä^ä' äÄØSÄÓSÄ
1992-1-1

Bi egung

| Position | Bemessungsverfahren | Mindestbewehrung |
|---|---------------------|------------------|
| WT-1.1-1OG, WT-1.1-2OG | Üäfiä~>↑ä^ | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

Grundbewehrung: d12/15
Randeinfassung entsprechend der Grundbewehrung

*1) Bereich wurde in Berechnung Bewehrungsmenge in Zugstreben berücksichtigt, keine zusätzliche Zulage erforderlich



Pro Seite:
1. Lage mit Ø25
2. - 9. Lage mit jeweils 1020 verteilt auf 85 cm


Anordnung im Gesamtquerschnitt:
1. Lage mit 4Ø25
2. - 9. Lage mit jeweils 2020 verteilt auf 85 cm

$a_{s,vorh} = 41,12 \text{ cm}^2/\text{m}$

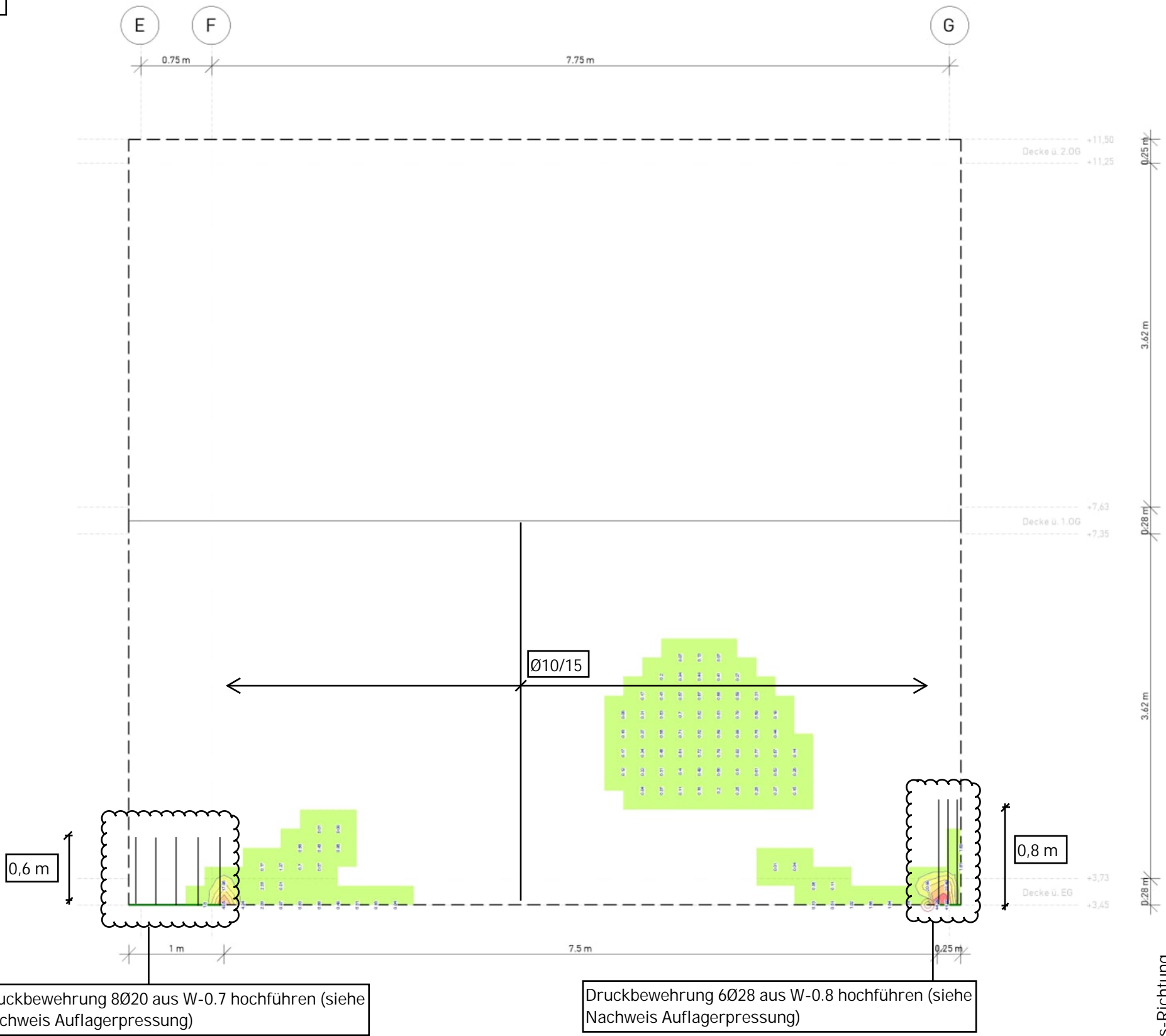
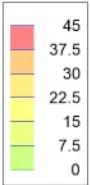
⊙ --> Nachweis wurde nicht erbracht

r-Richtung
s-Richtung

Scheibenbemessung:
erf. Zulagen
- r-Richtung -


| | | | | | | |
|--|--|---|---|-------------|-------------------------------------|-----------------|
| : `) W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  | Modell | WT-1.1-m.Bw. | T a s • a a K € |
| Vorhandene Bew. as,vorh = 7.54 (Grund+Zulagen) | | aus allen Nachweisen (Differenzbew.) | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Bew.-Abstand d' = 36 mm | | ! E u c } * A > ! A q ^ A J & @ a ^ } • ^ a D a / z (D á | KREBS+KIEFER Ingenieure GmbH | | | |
| Beton C 30/37...C 45/55 | | Max = 42.09 (Kn. 46), Min = 0 (Kn. 3), Step = 7.5 | | | | |
| Bauteildicke h = 25.00 cm | | | | | | |

Grundbewehrung: d10/15
Randeinfassung entsprechend der Grundbewehrung



r-Richtung
s-Richtung
Scheibenbemessung:
erf. Zulagen
- s-Richtung -

⊙ --> Nachweis wurde nicht erbracht

| | | | | | |
|---|---|---|-------------|-------------------------------------|-----------------|
| : `} W YbVYa Yggi b[Vorhandene Bew. as,vorh = 5.24 (Grund+Zulagen) Bew.-Abstand d' = 47 mm Beton C 30/37...C 45/55 Bauteildicke h = 25.00 cm | Erforderliche Bewehrung as,erf |  | Modell | WT-1.1-m.Bw. | T a s • a a K € |
| | aus allen Nachweisen (Differenzbew.) • E u a c } * A > ! A a ^ A u & @ a ^) • ^ a D a A x D á Max = 44.29 (Kn. 5), Min = 0 (Kn. 3), Step = 7.5 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | | KREBS+KIEFER Ingenieure GmbH | |

Knotenbemessung Wandartiger Träger

| CTC - Knoten | WT-1.1 | W-0.7 |
|--------------|--------|-------|
|--------------|--------|-------|

Eingangswerte Beton:

| | |
|---------------------------------------|----------------------|
| Auflagerkraft F_{Ed} = | 4342 kN |
| Auflagerlänge l = | 1 m |
| Auflagerbreite b = | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | 45 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | 25 N/mm ² |
| Druckstrebenwinkel θ = | 61 ° |
| v = | 0,75 |

Eingangswerte Bewehrung:

| | |
|--|-------|
| Höhe des Zugbands u = | 85 cm |
| Durchmesser Druckbewehrung \emptyset = | 20 mm |
| Anzahl Stäbe n = | 10 |

| | |
|--------------------------------|-----------------------|
| vorh. Bewehrungsfläche A_s = | 31,42 cm ² |
| Bewehrungsgrad ρ = | 1,26 % |

Nachweis Auflagerpressung (σ_{c1}):

$$\sigma_{Rd} = \min(v \cdot f_{cd,T}; v \cdot f_{cd,D}; f_{cd,A}) \quad 12,75 \text{ N/mm}^2$$

$$\sigma_{c1} = F_{Ed} / (l \cdot b) \quad 17,37 \text{ N/mm}^2$$

$$\sigma_{c1} / \sigma_{Rd} = \quad 1,36$$

Es ist Druckbewehrung erforderlich!

$$\Delta F = F_{Ed} - F_{Cd} \quad 1154,50 \text{ kN}$$

$$A_{s,erf} = \Delta F / \sigma_{sd} \quad 26,54 \text{ cm}^2$$

$$A_{s,erf} / A_{s,vorh} \quad 0,84$$

Der Nachweis der Auflagerpressung ist erfüllt.

Nachweis Druckstrebe (σ_{c2}):

$$\sigma_{Rd} = v \cdot f_{cd,T} \quad 19,13 \text{ N/mm}^2$$

$$\sigma_{c2} = \sigma_{c1} / ((1 + u/l \cdot \cot(\theta)) \cdot \sin^2(\theta)) \quad 15,43 \text{ N/mm}^2$$

$$\sigma_{c2} / \sigma_{Rd} = \quad 0,81$$

Der Nachweis der Druckstrebe ist erfüllt.

| | | |
|--------------|--------|-------|
| CTC - Knoten | WT-1.1 | W-0.8 |
|--------------|--------|-------|

Eingangswerte Beton:

| | |
|---------------------------------------|----------------------|
| Auflagerkraft F_{Ed} = | 2420 kN |
| Auflagerlänge l = | 0,25 m |
| Auflagerbreite b = | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | 45 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | 45 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | 45 N/mm ² |
| Druckstrebenwinkel θ = | 68 ° |
| v = | 0,75 |

Eingangswerte Bewehrung:

| | |
|--|-------|
| Höhe des Zugbands u = | 85 cm |
| Durchmesser Druckbewehrung \emptyset = | 28 mm |
| Anzahl Stäbe n = | 6 |

!!! W-0.8 + Decke müssen in C45/55 ausgeführt werden

| | |
|--------------------------------|-----------------------|
| vorh. Bewehrungsfläche A_s = | 36,95 cm ² |
| Bewehrungsgrad ρ = | 5,91 % |

Nachweis Auflagerpressung (σ_{c1}):

| | |
|--|-------------------------|
| $\sigma_{Rd} = \min(v \cdot f_{cd,T} ; v \cdot f_{cd,D} ; f_{cd,A})$ | 19,13 N/mm ² |
|--|-------------------------|

| | |
|--------------------------------------|-------------------------|
| $\sigma_{c1} = F_{Ed} / (l \cdot b)$ | 38,72 N/mm ² |
|--------------------------------------|-------------------------|

| | |
|-------------------------------|------|
| $\sigma_{c1} / \sigma_{Rd} =$ | 2,02 |
|-------------------------------|------|

Es ist Druckbewehrung erforderlich!

| | |
|------------------------------|------------|
| $\Delta F = F_{Ed} - F_{Cd}$ | 1224,69 kN |
|------------------------------|------------|

| | |
|--------------------------------------|-----------------------|
| $A_{s,erf} = \Delta F / \sigma_{sd}$ | 28,15 cm ² |
|--------------------------------------|-----------------------|

| | |
|--------------------------|------|
| $A_{s,erf} / A_{s,vorh}$ | 0,76 |
|--------------------------|------|

Der Nachweis der Auflagerpressung ist erfüllt.

Nachweis Druckstrebe (σ_{c2}): D2

| | |
|----------------------------------|-------------------------|
| $\sigma_{Rd} = v \cdot f_{cd,T}$ | 19,13 N/mm ² |
|----------------------------------|-------------------------|

| | |
|---|-------------------------|
| $\sigma_{c2} = \sigma_{c1} / ((1 + u/l \cdot \cot(\theta)) \cdot \sin^2(\theta))$ | 18,97 N/mm ² |
|---|-------------------------|

| | |
|-------------------------------|------|
| $\sigma_{c2} / \sigma_{Rd} =$ | 0,99 |
|-------------------------------|------|

Der Nachweis der Druckstrebe ist erfüllt.

| | | |
|------------------------------|--------|----|
| Berechnung Bewehrung Zugband | WT-1.1 | Z1 |
|------------------------------|--------|----|

Da der zweite Bewehrungswert des Zugbands wesentlich kleiner ist, als der erste, wird der Bereich mit dem Spitzenwert gesondert vom restlichen Zugbereich betrachtet.

| | | |
|--------------------------------------|--|-------------------------|
| Eingangswerte | | |
| Spitzenwert Zugfeld $a_{s,s} =$ | | 41,6 cm ² /m |
| FE-Netz $I_{FE} =$ | | 0,2 m |
| Größter Wert Zugfeld $a_{s,max} =$ | | 16,4 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min} =$ | | 4,88 cm ² /m |
| Länge Zugfeld $I_s =$ | | 2,2 m |
| Höhe des Zugbands $u =$ | | 85 cm |

Integration Bewehrung über Länge Spitzenwert: (1. Lage)

| | |
|--------------------------------|----------------------|
| $A_{s,erf} = a_{s,s} * I_{FE}$ | 8,32 cm ² |
|--------------------------------|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung $\emptyset =$ | 25 mm |
| Anzahl Lagen: | 1 |
| Stäbe pro Lage: | 2 |
| Stäbe pro Lage gesamt: | 4 |

| | |
|------------------------------------|----------------------|
| Anzahl Stäbe $n =$ | 2 |
| vorh. Bewehrungsfläche $A_{s,s} =$ | 9,82 cm ² |

Integration Bewehrung über Länge restliches Zugband: (restliche Lagen)

| | |
|---|-----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * I_s * 0,5 + a_{s,min} * I_s$ | 23,41 cm ² |
|---|-----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung $\emptyset =$ | 20 mm |
| Anzahl Lagen: | 8 |
| Stäbe pro Lage pro Seite: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|------------------------------------|-----------------------|
| Anzahl Stäbe $n =$ | 8 |
| vorh. Bewehrungsfläche $A_{s,z} =$ | 25,13 cm ² |

umgerechnet auf Flächenbewehrung:

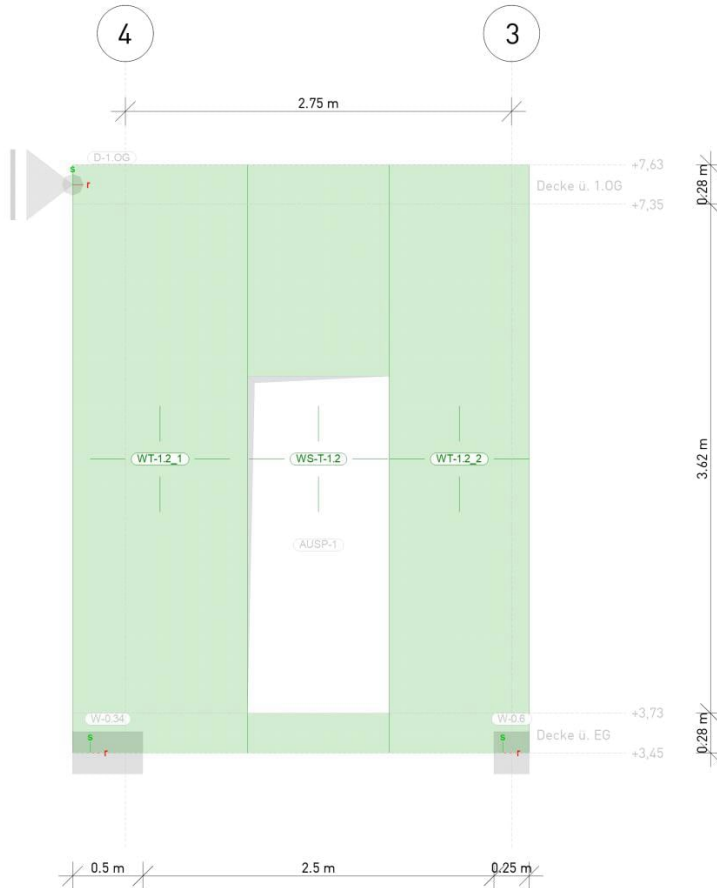
| | |
|--|--------------------------|
| $a_{s,vorh} = (A_{s,s} + A_{s,z}) / u$ | 41,12 cm ² /m |
|--|--------------------------|

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

5.2.2 WT-1.2

Stat. System:



Material:

Dicke: 25 cm | WT-1.2

Betonstahl: B 500SB

Beton: C30/37

Expositionsklasse: XC1, W0 | Innenbauteile

Betondeckung: $c_v = 30 \text{ mm}$

Grundbewehrung: $\emptyset 12/15$ horizontal | = 7,54 cm²/m
 $\emptyset 10/15$ vertikal | = 5,24 cm²/m

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

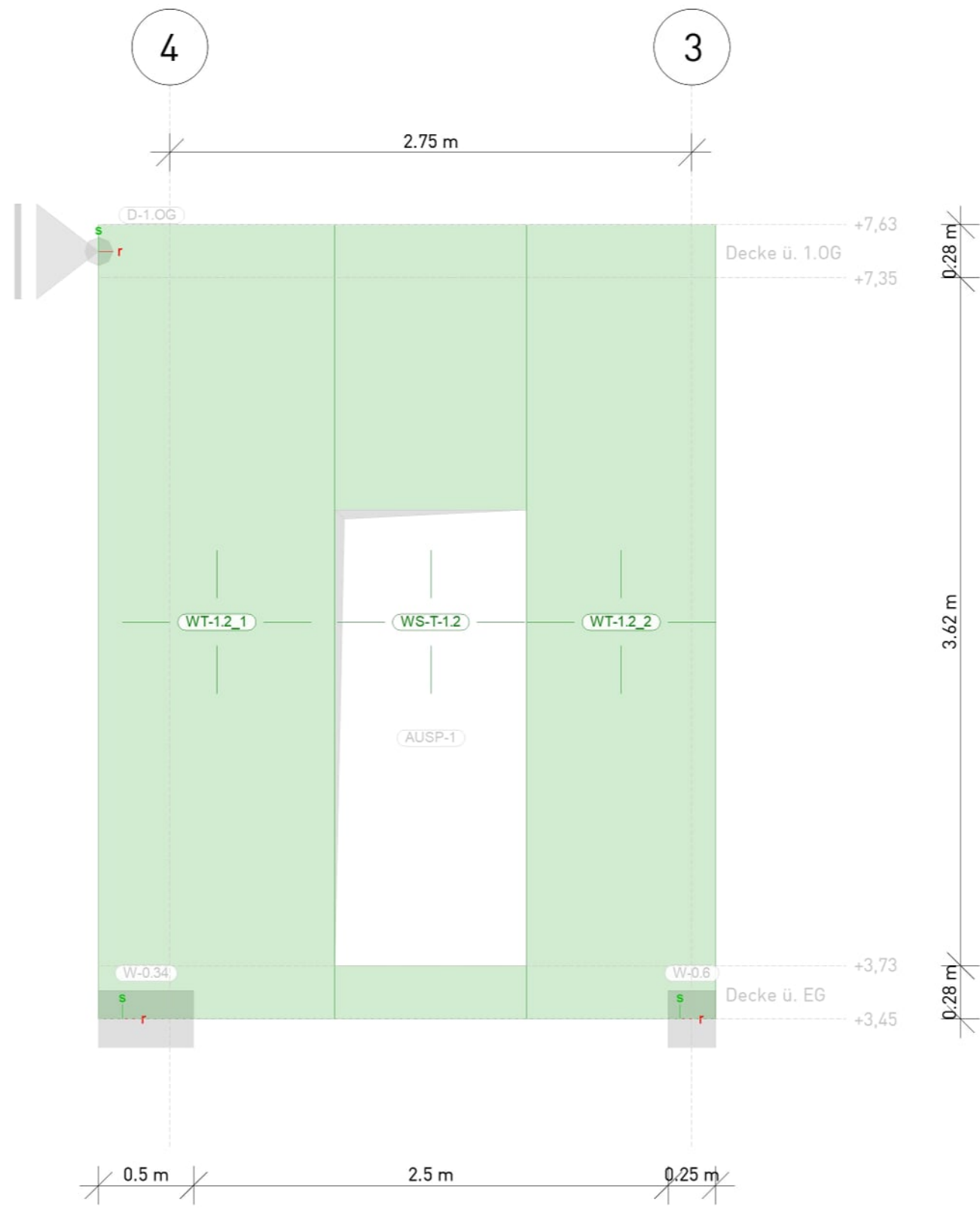
Belastung:


Die Belastung wird aus den Auflagerreaktionen der zugehörigen Wandlager aus den Deckenmodellen D-1.OG und D-EG übernommen. Es wird für jeden Lasttyp (Eigengewicht, Ausbau, Nutzlasten) ein eigener Lastfall erstellt. Für die Nutzlasten wird beim Erstellen der Lastfälle in positive und negative Belastungsrichtung unterschieden.

Die Anordnung der Lasten kann aus den Lastplänen entnommen werden.

Bemessung:

Siehe folgende Seiten.



| | | | | |
|------------------------------|---|-------------|-------------------------------------|---------|
| Bauteil-Positionen |  | Modell | WT-1.2 | Tabelle |
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | |

Positionplan

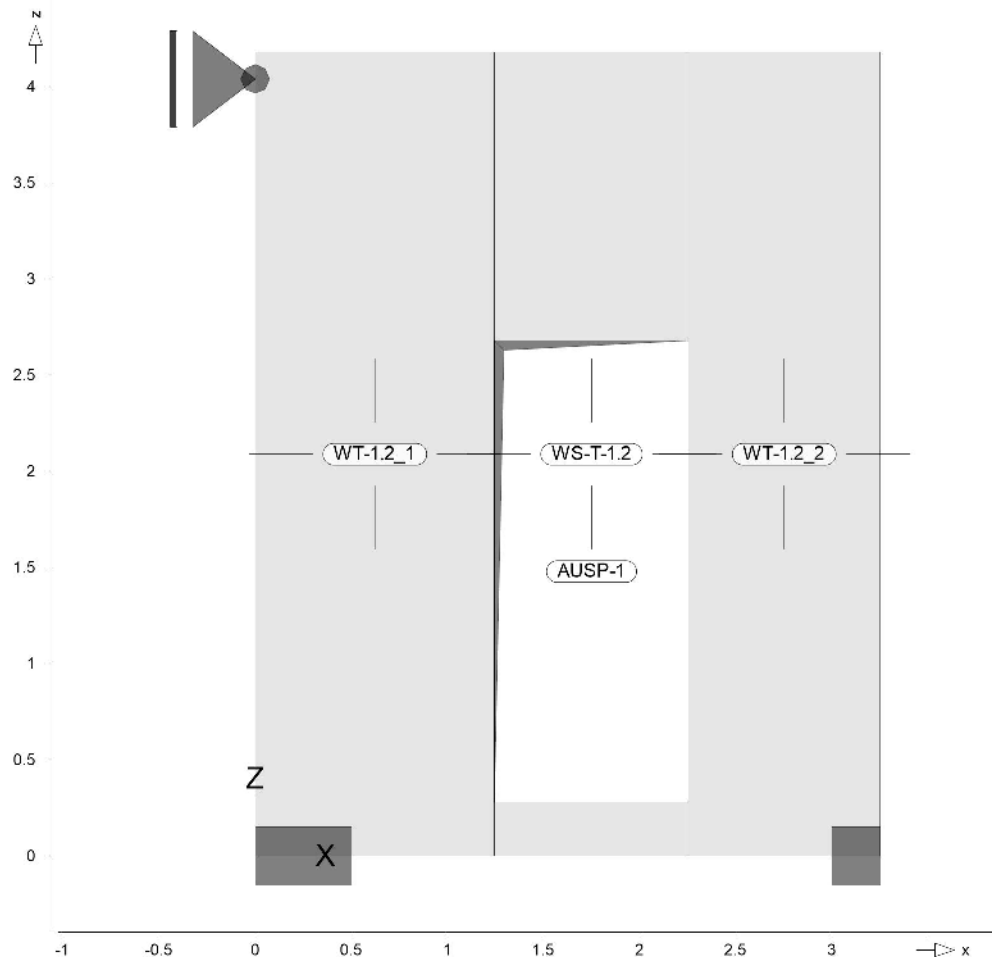
Positionenplan

Bauteile

Bauteil-Positionen

Positionsgrafik

© 2025 by KREBS + KIEFER



Scheiben

Scheiben-Positionen

Stahlbeton

| Position | Winkel YflY | Art | Material | Dicke [cm] |
|--------------------|-----------------|-----|-------------------|---------------|
| WS-T-1.2 | VÄtuvwt/ 0.0 | iso | B 500SB C 30/37 Q | 25.0 |
| WT-1.2_1, WT-1.2_2 | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ^b<=&ã^|^&ÄT|áã^<=&\
Exz.: Ól`æ^ã<=&^<=&\+ã

Expositionsklasse

&æ†ßÁÆØSÁÓSÁFİİGĖFĖFĖÁÚáâĖĖHĖF

| Position | Seite | Kl | Kommentar |
|------------------------------|-----------|-----|--------------------------------|
| WS-T-1.2, WT-1.2_1, WT-1.2_2 | umlaufend | XC1 | \ã~'←æ^Á~äæãÁb\†^ä<=&Á nass |

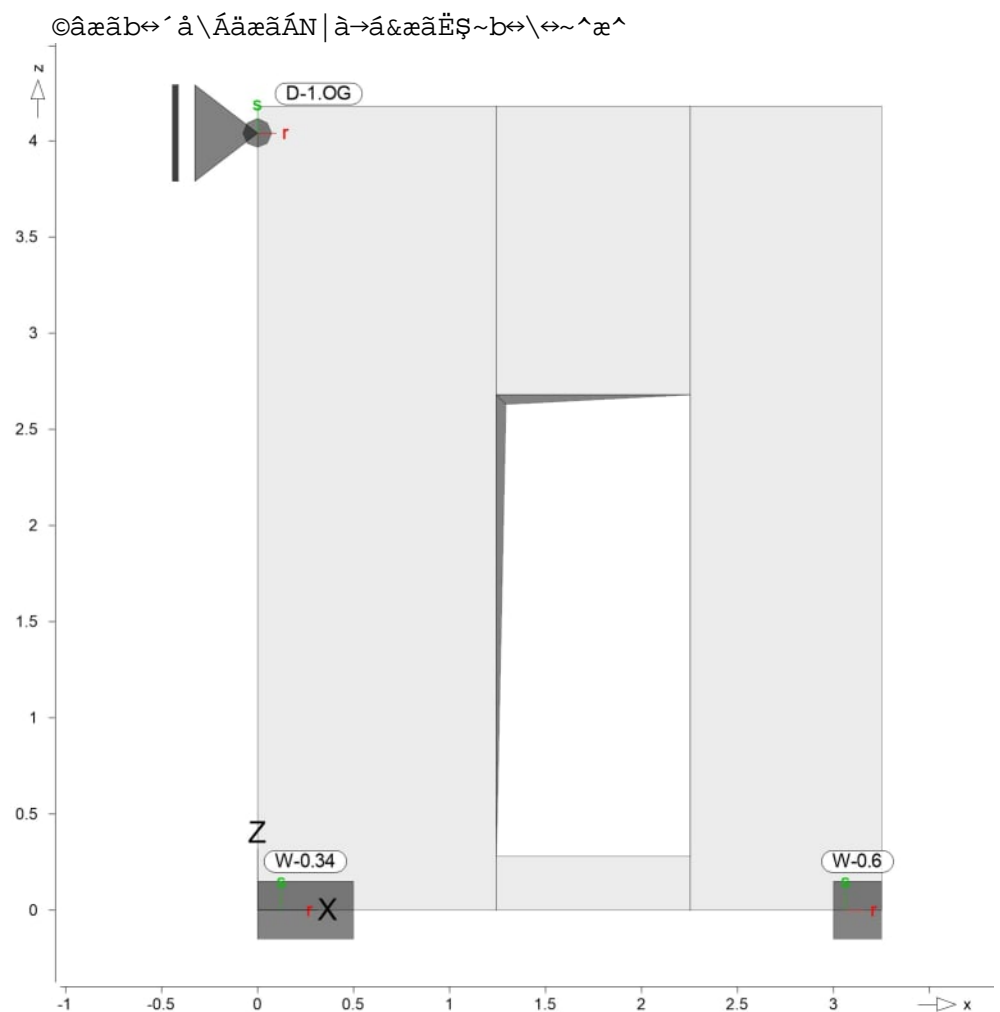
Aussparungen

| Position | $\hat{O} \rightarrow \dagger' \hat{a} \hat{x}$ | x | z |
|----------|--|------|------|
| | [m ²] | [m] | [m] |
| AUSP-1 | 2.42 | 1.25 | 0.28 |
| | | 2.26 | 0.28 |
| | | 2.26 | 2.68 |
| | | 1.25 | 2.68 |

Auflager

Auflager-Positionen

Posi ti onsgrafi k

Punktlager

Punktlager-Positionen

| Position | | $K_{T,r}$ [kN/m] | $K_{T,s}$ [kN/m] | $K_{R,t}$ [kNm/rad] |
|----------|-----|---------------------|---------------------|------------------------|
| D-1.OG | +/- | fest | frei | frei |

Li ni enl ager

Linienlager-Positionen

| | | | | |
|-------|---------------|-----------|-----------|-------------|
| lokal | Position | $K_{T,r}$ | $K_{T,s}$ | $K_{R,t}$ |
| | | [kN/m/m] | [kN/m/m] | [kNm/rad/m] |
| | W-0.6, W-0.34 | | | |
| | | frei | fest | frei |

Material

Materialkennwerte

Stahl beton

DIN EN 1992-1-1

| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|------------------------------|-----------|---------|----------------|-----------------------|
| | | Y←SD↑zY | YSD↑↑Y | YSD↑↑Y |
| WS-T-1.2, WT-1.2_1, WT-1.2_2 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |
| Q: 0æb\æ↔^b←=ã^ ^&ÁT áã~↔\ | | | | |

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte | E_s G | f_{yk} $f_{tk,cal}$ |
|------------------------------|----------|---------|-----------------|--------------------------|
| | | Y←SD↑zY | YSD↑↑Y | YSD↑↑Y |
| WS-T-1.2, WT-1.2_1, WT-1.2_2 | B 500SA | 78.50 | 200000 77000 | 500.00 525.00 |
| WS-T-1.2, WT-1.2_1, WT-1.2_2 | B 500SB | 78.50 | 200000 77000 | 500.00 525.00 |

Linienlast-Pos

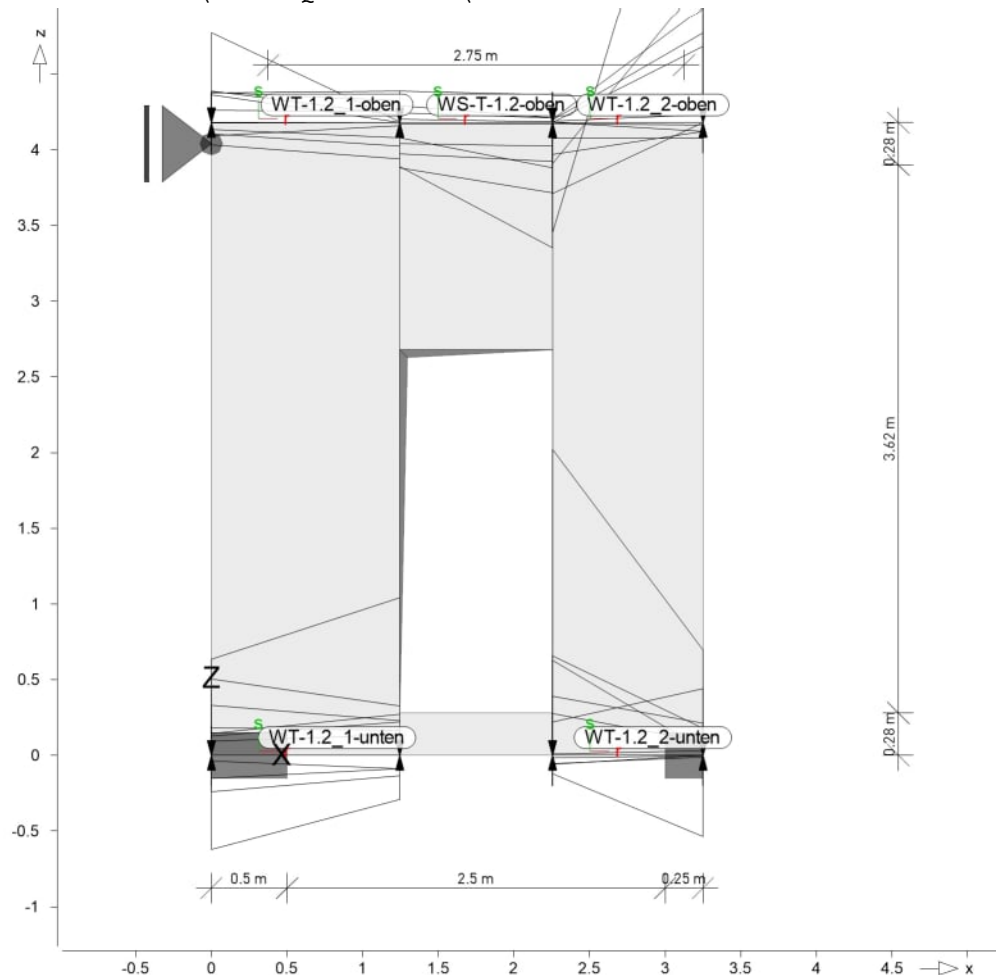
Standardlasten

Positionsgrafik

Lasten des FE-Modells

Standardlasten im FE-Modell

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Linienlasten

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|---------------|---------------------------------|----------|-----|-------------------------------|-------------------------------|
| WS-T-1.2-oben | Ncuv"YU/V/304"cwu"Fgemg"Ä0"30QI | | | | |
| | Gk | LF-1 | pGr | -28.85 | -82.67 |
| | Qk.N_B1 | LF-3 | pGr | 11.05 | 3.02 |
| | Qk.N_B1 | LF-4 | pGr | -13.68 | -15.36 |
| | Qk.N_C1 | LF-6 | pGr | -29.87 | -46.36 |
| | Qk.N_C5 | LF-7 | pGr | 20.98 | 18.43 |
| | Qk.N_DA | LF-11 | pGr | 2.33 | 0.49 |
| | Qk.N_DA | LF-12 | pGr | -1.06 | -1.21 |
| | Qk.N_E1 | LF-9 | pGr | 6.47 | 3.25 |
| | Qk.N_E1 | LF-10 | pGr | -20.38 | -25.82 |
| WT-1.2_1-oben | Ncuv"YV/304a3"cwu"Fgemg"Ä0"30QI | | | | |
| | Gk | LF-1 | pGr | 59.26 | 0.66 |
| | Qk.N_B1 | LF-3 | pGr | 19.86 | 14.40 |
| | Qk.N_B1 | LF-4 | pGr | -4.69 | -9.97 |
| | Qk.N_C1 | LF-6 | pGr | -14.46 | -23.99 |
| | Qk.N_C5 | LF-7 | pGr | 19.57 | 21.02 |
| | Qk.N_C5 | LF-8 | pGr | -0.34 | 0.00 |
| | Qk.N_DA | LF-11 | pGr | 20.75 | 4.97 |
| | Qk.N_DA | LF-12 | pGr | -8.76 | -1.86 |
| | Qk.N_E1 | LF-9 | pGr | 8.22 | 7.33 |
| WT-1.2_2-oben | | | | | |
| | Gk | LF-1 | pGr | -7.30 | -15.45 |

POSITION

WT-1.2

| Position | EW | Lastfall | Art | p_A, m_A [kN/m], [kNm/m] | p_E, m_E [kN/m], [kNm/m] |
|----------------|---------------------------------|----------|-----|-------------------------------|-------------------------------|
| | Ö← | LF-2 | pGr | 18.44 | 0.34 |
| WT-1.2_1-unten | Ncuv"YV/304a4"cwu"Fgemg"Ä0"30QI | | | | |
| | Gk | LF-1 | pGr | 63.75 | 104.29 |
| | Qk.N_B1 | LF-13 | pGr | 18.30 | 16.61 |
| | Qk.N_B1 | LF-14 | pGr | -14.94 | -8.89 |
| | Qk.N_C1 | LF-15 | pGr | 9.41 | 13.67 |
| | Qk.N_C1 | LF-16 | pGr | -62.24 | -29.20 |
| | Qk.N_C5 | LF-17 | pGr | 50.43 | 32.67 |
| | Qk.N_DA | LF-21 | pGr | 12.77 | 21.95 |
| | Qk.N_DA | LF-22 | pGr | -3.89 | -8.99 |
| | Qk.N_E1 | LF-19 | pGr | 32.97 | 22.82 |
| | Qk.N_E1 | LF-20 | pGr | -24.07 | -13.28 |
| | Ö← | LF-2 | pGr | 14.43 | 27.01 |
| WT-1.2_2-oben | Ncuv"YV/304a4"cwu"Fgemg"Ä0"30QI | | | | |
| | Gk | LF-1 | pGr | -72.36 | 256.22 |
| | Qk.N_B1 | LF-3 | pGr | 1.83 | 59.46 |
| | Qk.N_B1 | LF-4 | pGr | -10.38 | -10.35 |
| | Qk.N_C1 | LF-5 | pGr | 0.00 | 50.45 |
| | Qk.N_C1 | LF-6 | pGr | -46.93 | 0.00 |
| | Qk.N_C5 | LF-7 | pGr | 17.48 | 18.19 |
| | Qk.N_C5 | LF-8 | pGr | 0.00 | -5.61 |
| | Qk.N_DA | LF-11 | pGr | 0.84 | 5.41 |
| | Qk.N_DA | LF-12 | pGr | -0.89 | -1.51 |
| | Qk.N_E1 | LF-9 | pGr | 2.33 | 76.39 |
| | Qk.N_E1 | LF-10 | pGr | -21.08 | -5.79 |
| | Ö← | LF-2 | pGr | -26.80 | 94.58 |
| WT-1.2_2-unten | Ncuv"YV/304a4"cwu"Fgemg"Ä0"30QI | | | | |
| | Gk | LF-1 | pGr | 202.13 | 69.62 |
| | Qk.N_B1 | LF-13 | pGr | 27.76 | 8.93 |
| | Qk.N_B1 | LF-14 | pGr | -5.99 | -0.03 |
| | Qk.N_C1 | LF-15 | pGr | 62.78 | 4.08 |
| | Qk.N_C1 | LF-16 | pGr | -12.13 | -53.53 |
| | Qk.N_C5 | LF-17 | pGr | 21.96 | 44.12 |
| | Qk.N_C5 | LF-18 | pGr | 0.00 | -0.02 |
| | Qk.N_DA | LF-21 | pGr | 0.74 | 3.14 |
| | Qk.N_DA | LF-22 | pGr | -1.66 | -0.13 |
| | Qk.N_E1 | LF-19 | pGr | 39.16 | 21.32 |
| | Qk.N_E1 | LF-20 | pGr | -5.40 | -1.29 |
| | Ö← | LF-2 | pGr | 65.71 | 17.72 |

pGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Koordinaten

| Position | $Q^+ \wedge \&$ [m] | x [m] | z [m] |
|----------------|------------------------|----------|----------|
| WS-T-1.2-oben | 1.01 | 1.25 | 4.18 |
| | | 2.26 | 4.18 |
| WT-1.2_1-oben | 1.25 | 0.00 | 4.18 |
| | | 1.25 | 4.18 |
| WT-1.2_1-unten | 1.25 | 0.00 | 0.00 |
| | | 1.25 | 0.00 |
| WT-1.2_2-oben | 1.00 | 2.26 | 4.18 |
| | | 3.25 | 4.18 |
| WT-1.2_2-unten | 1.00 | 2.26 | 0.00 |
| | | 3.25 | 0.00 |

@UghZ`Y

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@UghZ}`Y

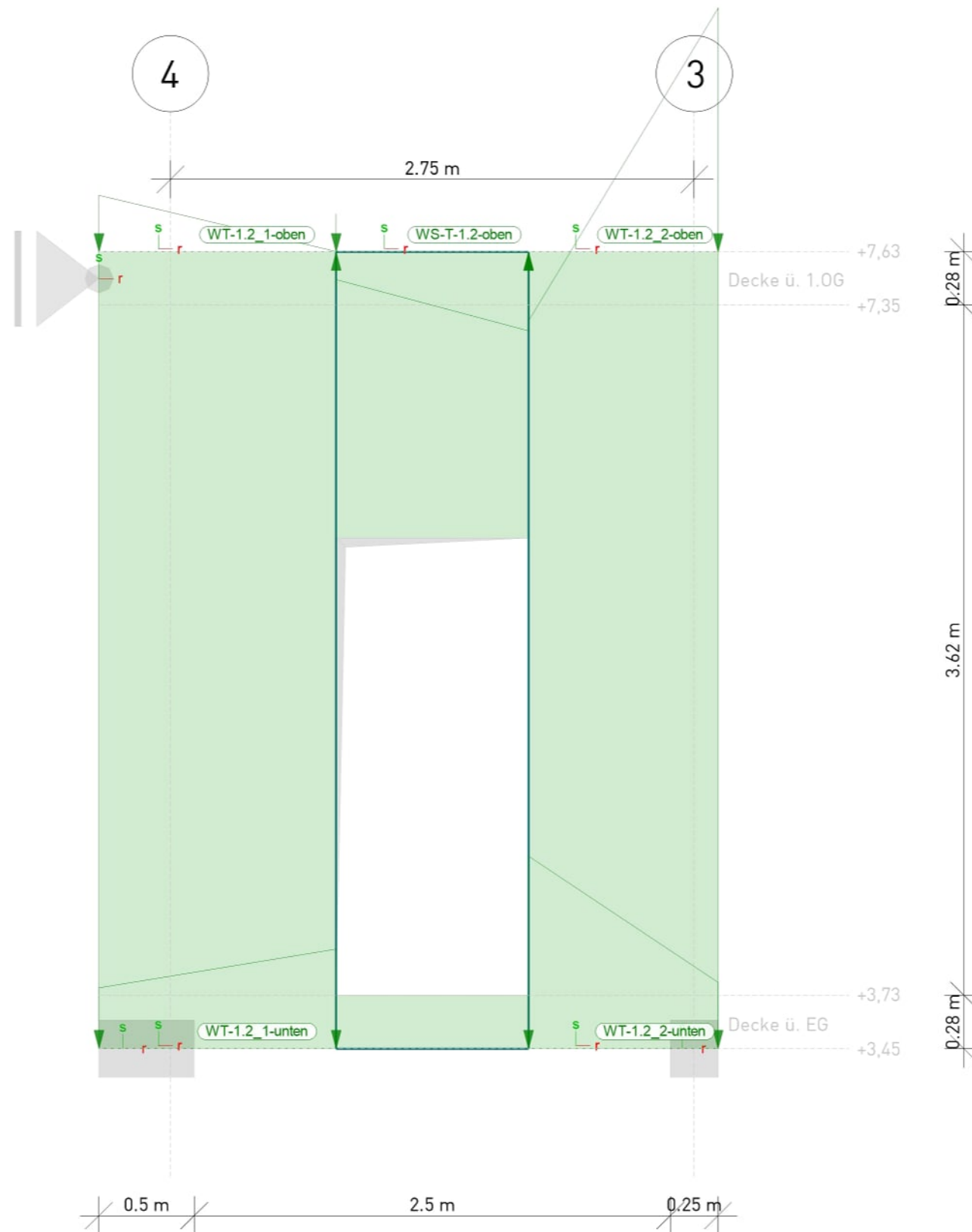
| Lastfall | Typ | Beschreibung |
|----------|-----|----------------------------|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Ausbau |
| LF-3 | v | S \`→áb\ÄÑfiä~Ä~âæ^Ä*~b |
| LF-4 | v | S \`→áb\ÄÑfiä~Ä~âæ^Ä^æ& |
| LF-5 | v | Nutzlast Schulung oben pos |
| LF-6 | v | Nutzlast Schulung oben neg |
| LF-7 | v | Nutzlast Forum oben pos |
| LF-8 | v | Nutzlast Forum oben neg |
| LF-9 | v | Nutzlast Lager oben pos |

W-381

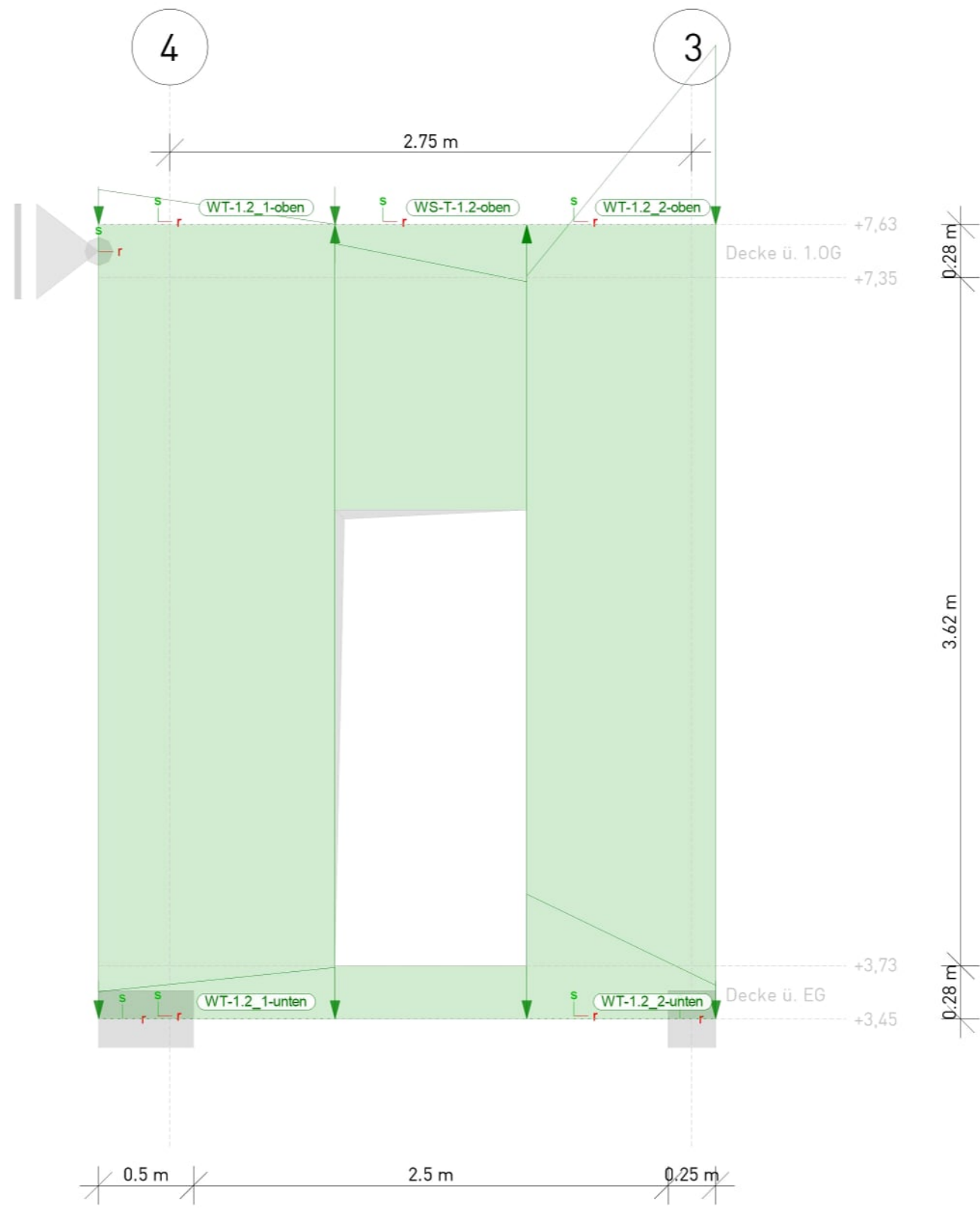
Schulcampus EWK \

WT-1.2

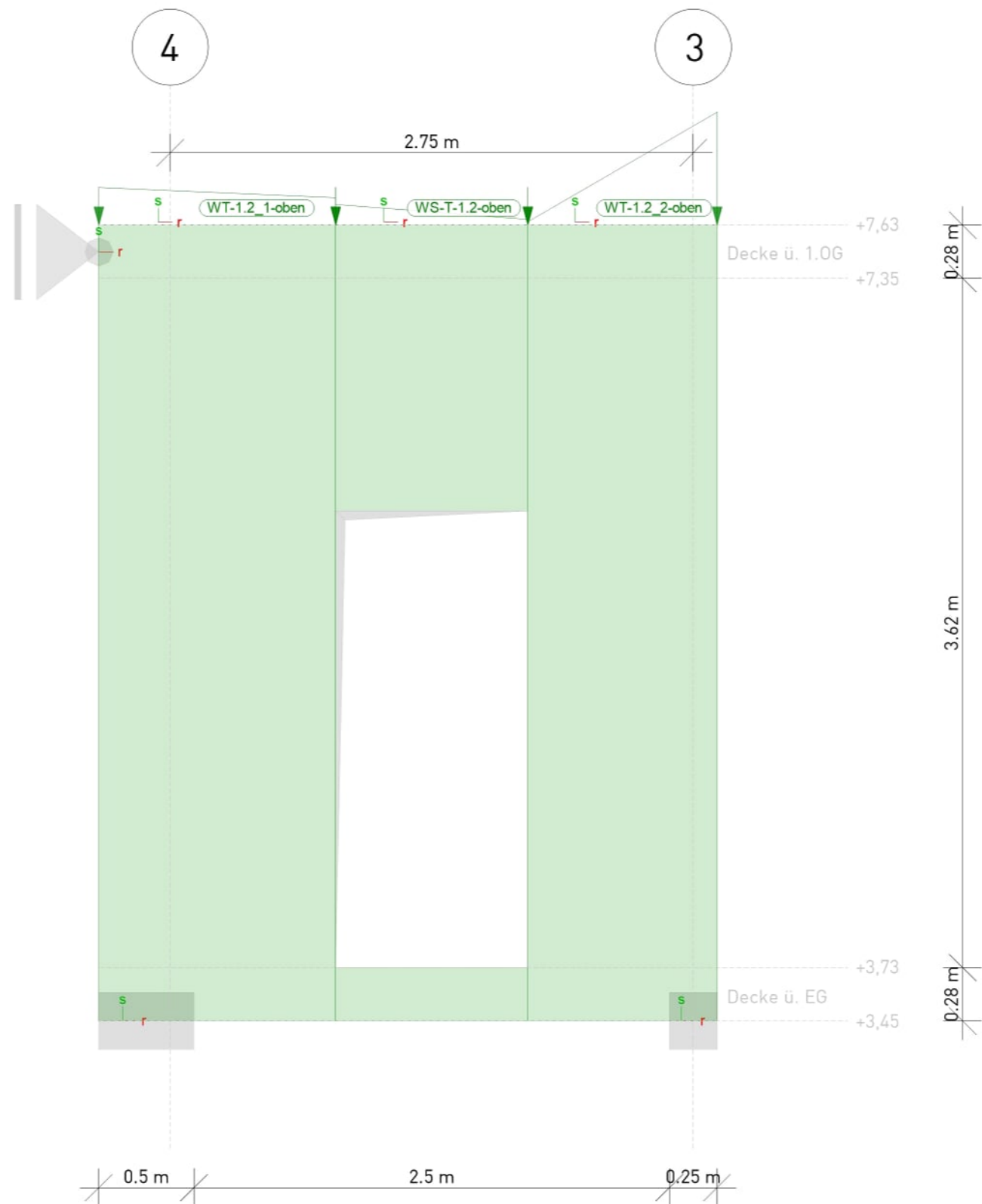
| Lastfall | Typ | Beschreibung |
|--------------------------|-----|-----------------------------|
| LF-10 | v | Nutzlast Lager oben neg# |
| LF-11 | v | Nutzlast Dach oben pos |
| LF-12 | v | Nutzlast Dach oben neg |
| LF-13 | v | S \~→áb\ÁÑfiä~Á ^æ^Á*~b |
| LF-14 | v | S \~→áb\ÁÑfiä~Á ^æ^Á^æ& |
| LF-15 | v | Nutzlast Schulung unten pos |
| LF-16 | v | Nutzlast Schulung unten neg |
| LF-17 | v | Nutzlast Forum unten pos |
| LF-18 | v | Nutzlast Forum unten neg |
| LF-19 | v | Nutzlast Lager unten pos |
| LF-20 | v | Nutzlast Lager unten neg |
| LF-21 | v | Nutzlast Dach unten pos |
| LF-22 | v | Nutzlast Dach unten neg |
| s: b\t^ä↔æäÁQáb\ää→ | | |
| v: {æä†^äæä→'äääÁQáb\ää→ | | |



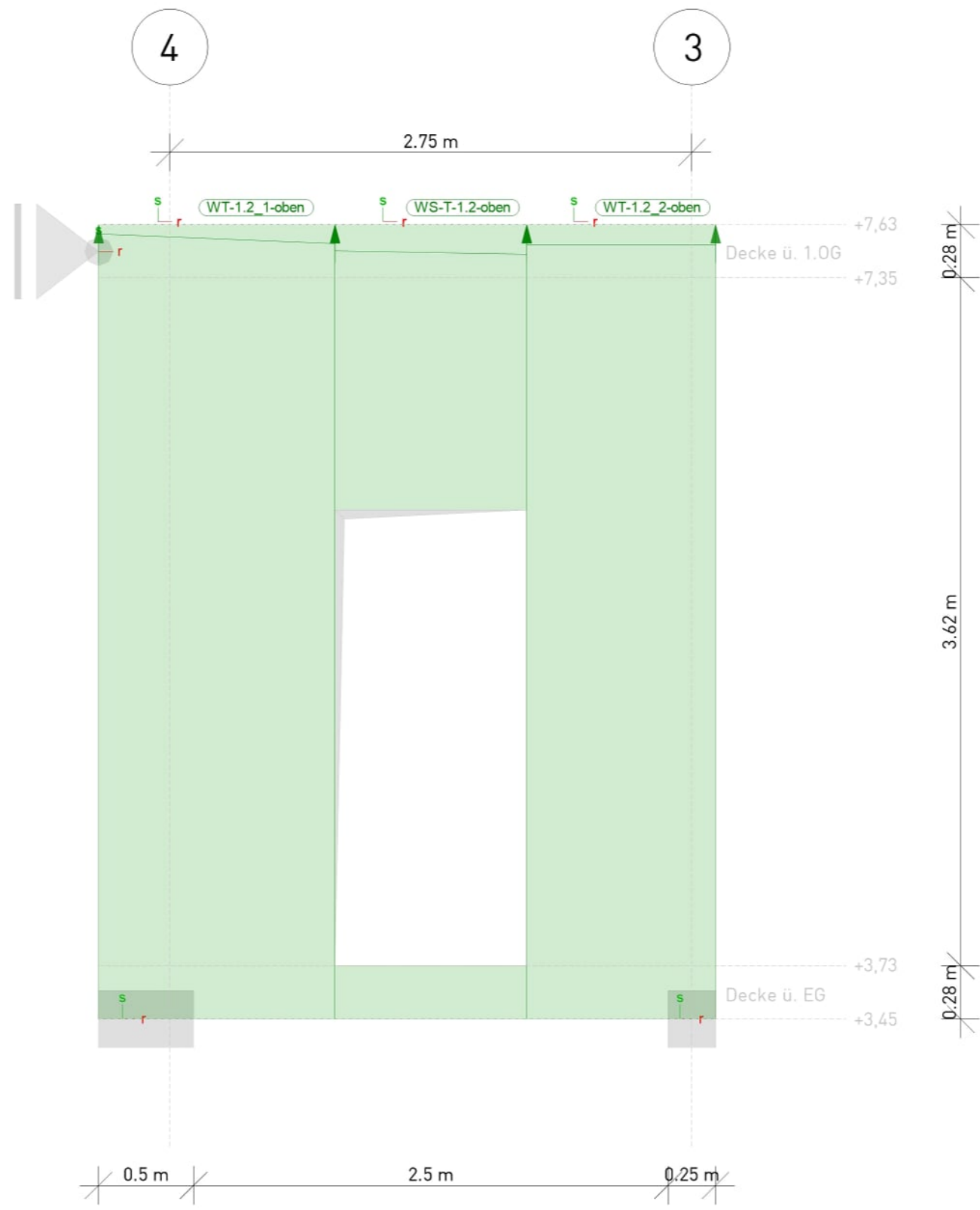
| | | | | | |
|----------------------------------|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-1 (Eigengewicht) | | | KREBS+KIEFER Ingenieure GmbH | | |



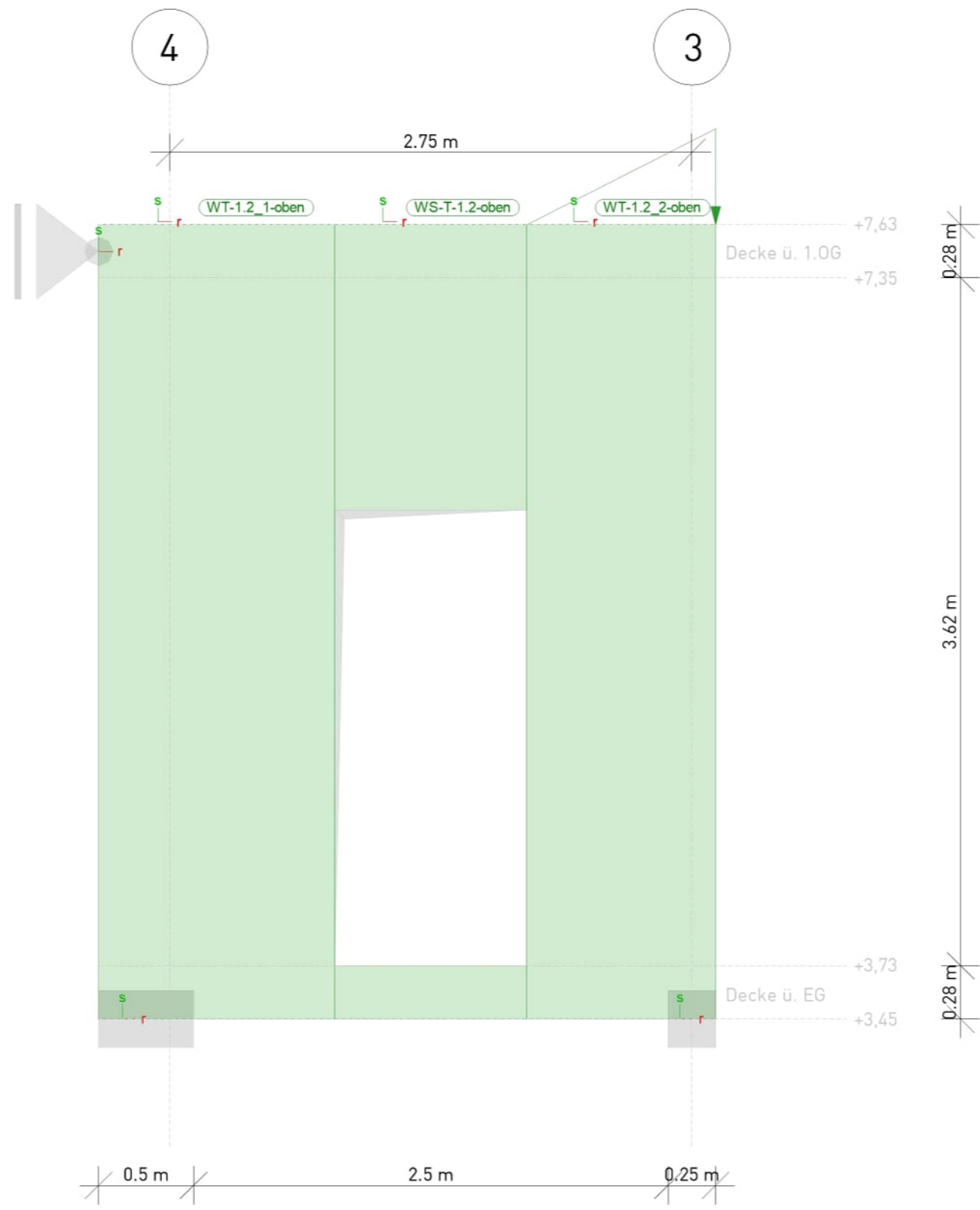
| | | | | | |
|----------------------------|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-2 (Ausbau) | | | KREBS+KIEFER Ingenieure GmbH | | |



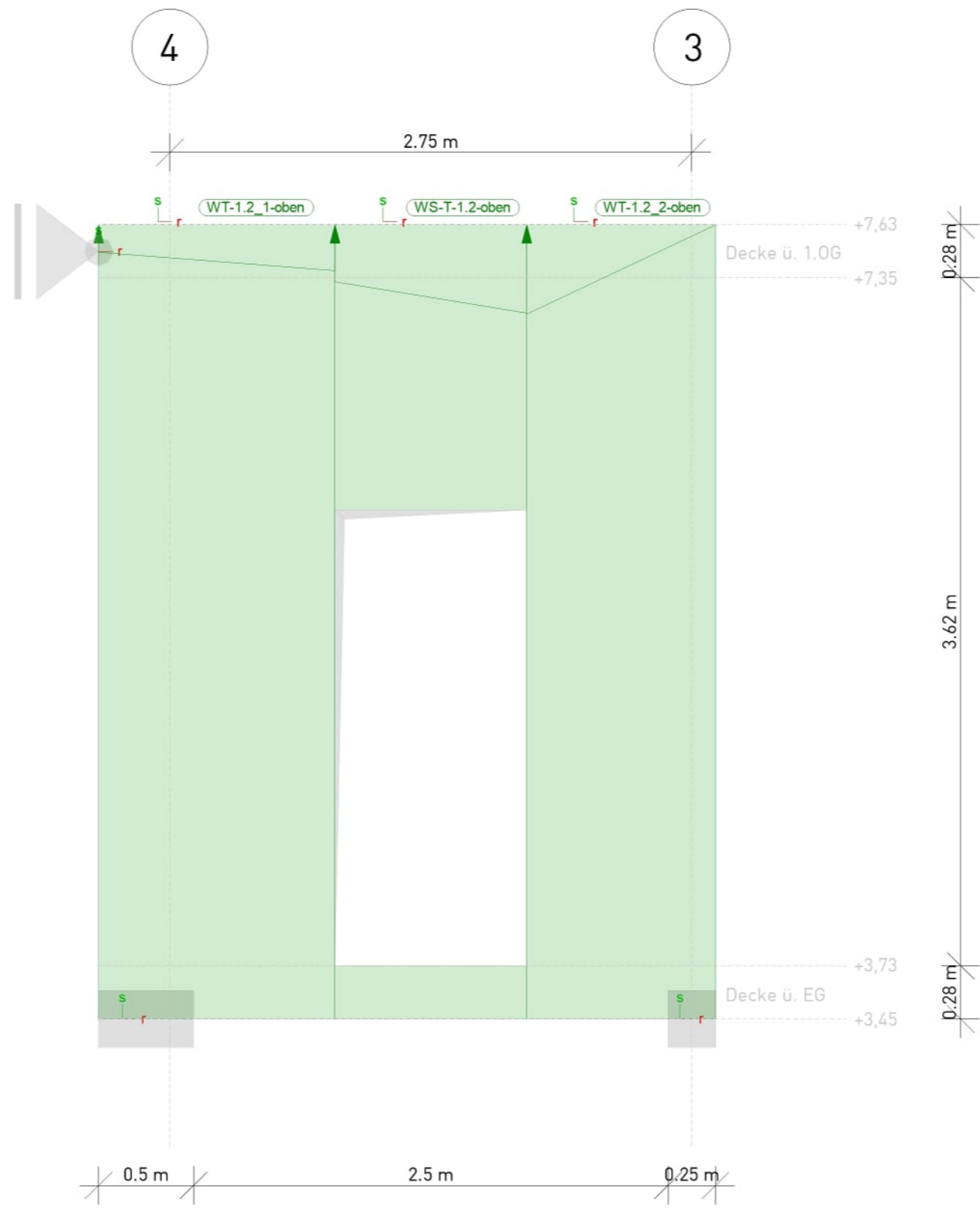
| | | | | |
|------------------------------|----------------|---|--|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | |




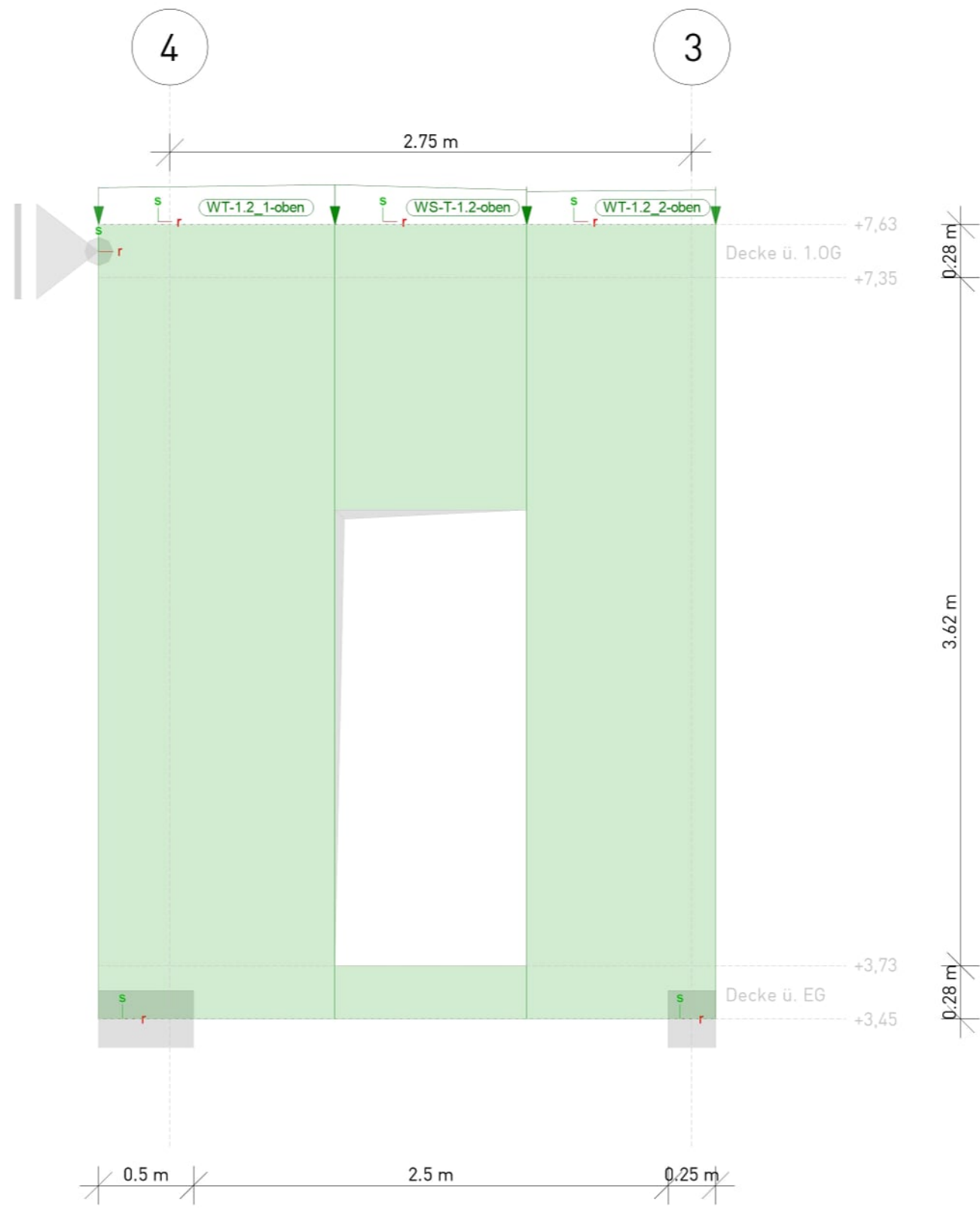
| | | | | | |
|---|----------------|---|-------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
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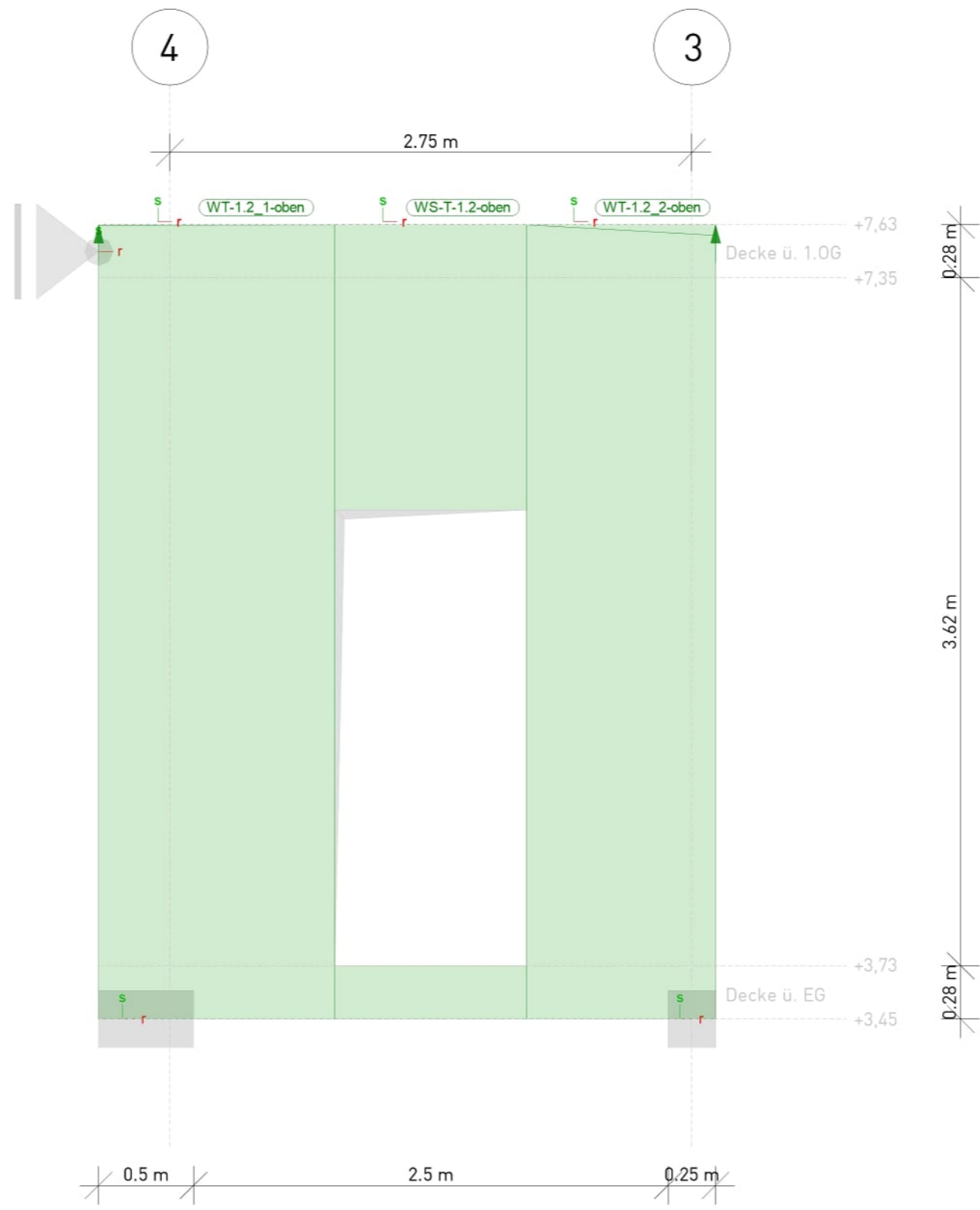
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|--|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-5 (Nutzlast Schulung oben pos) | | KREBS+KIEFER Ingenieure GmbH | | |



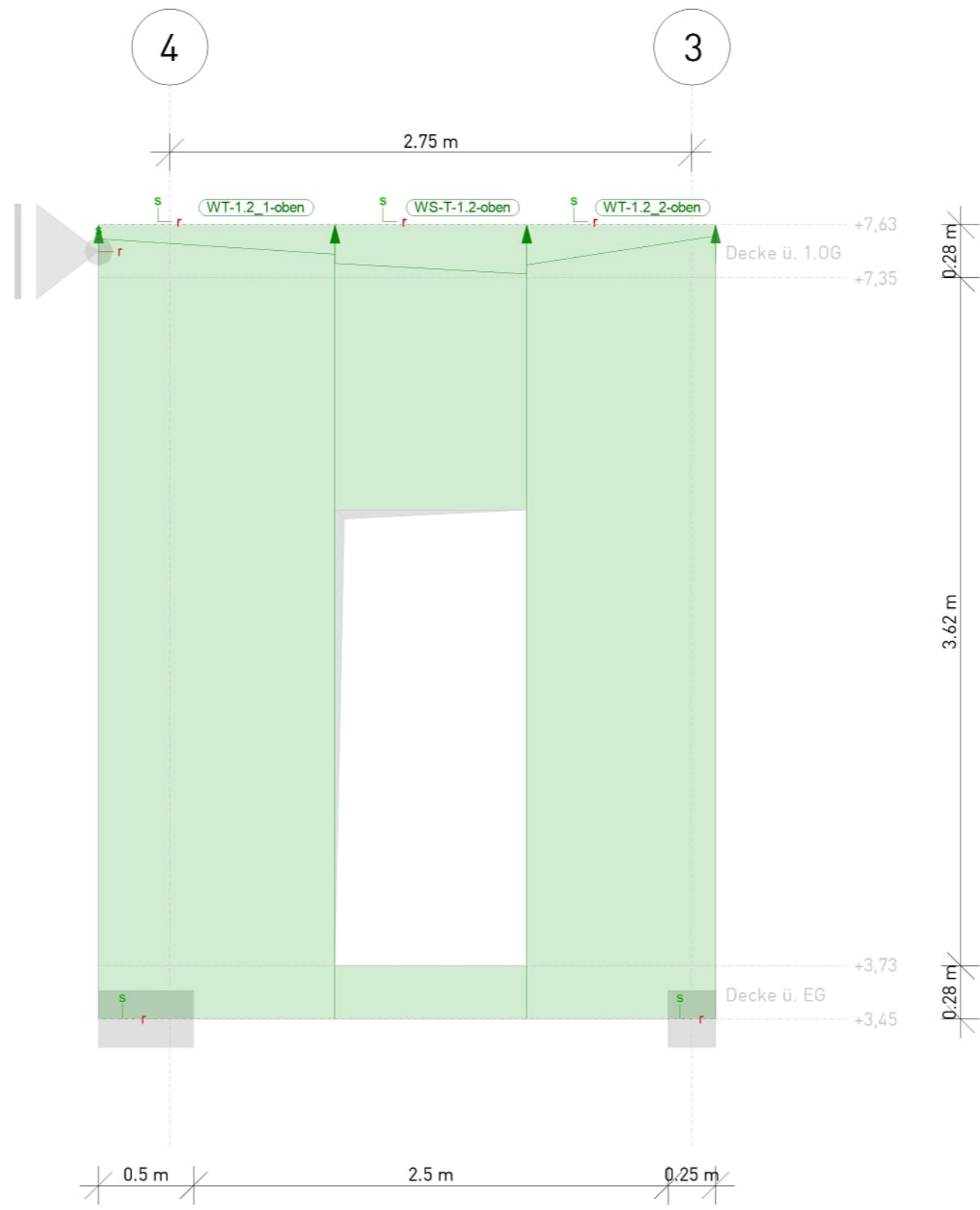
| | | | | |
|--|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-6 (Nutzlast Schulung oben neg) | | KREBS+KIEFER Ingenieure GmbH | | |



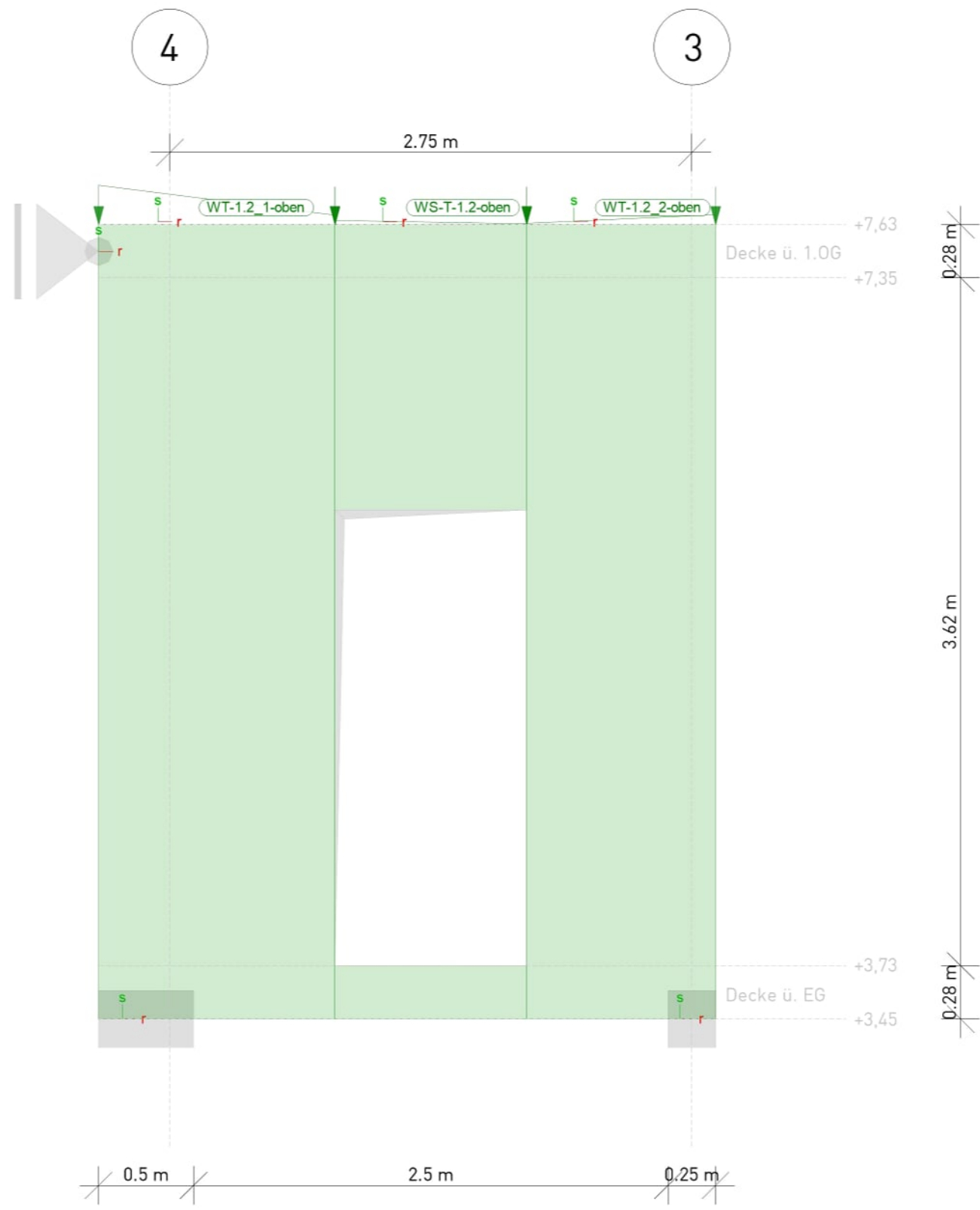
| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-7 (Nutzlast Forum oben pos) | | | KREBS+KIEFER Ingenieure GmbH | | |




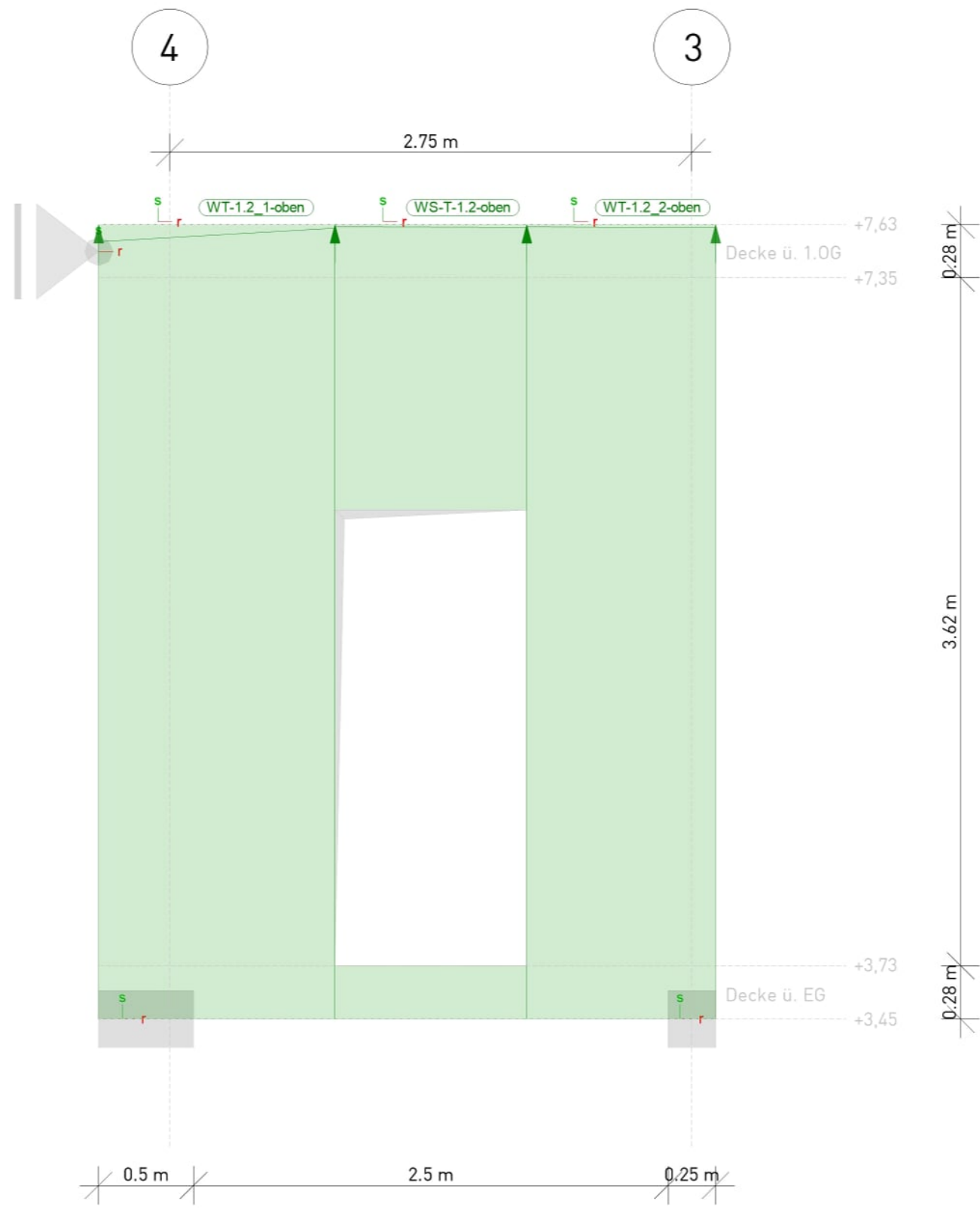
| | | | | |
|---|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-8 (Nutzlast Forum oben neg) | | KREBS+KIEFER Ingenieure GmbH | | |



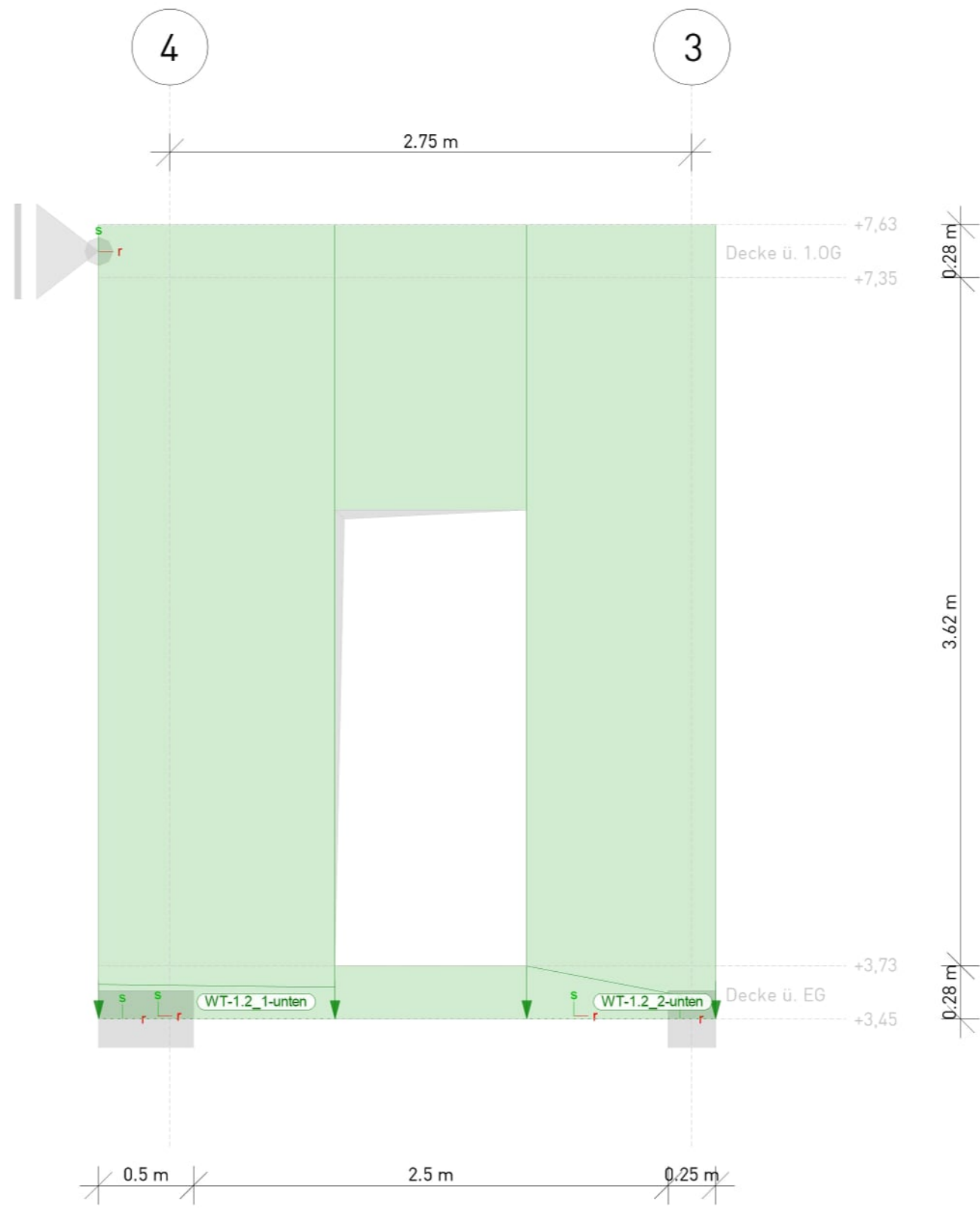
| | | | | |
|---|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-10 (Nutzlast Lager oben neg#) | | KREBS+KIEFER Ingenieure GmbH | | |



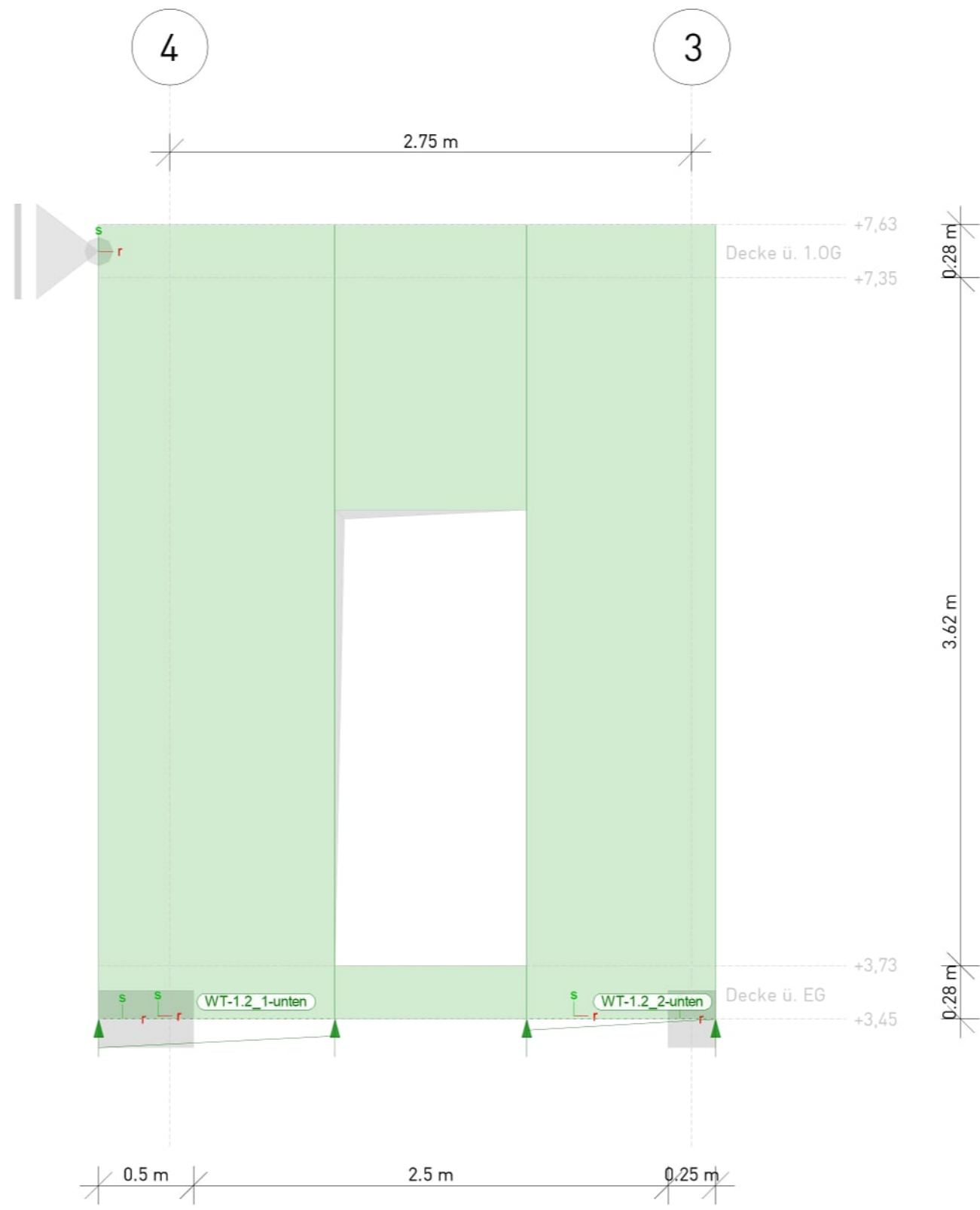
| | | | | |
|---|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-11 (Nutzlast Dach oben pos) | | KREBS+KIEFER Ingenieure GmbH | | |



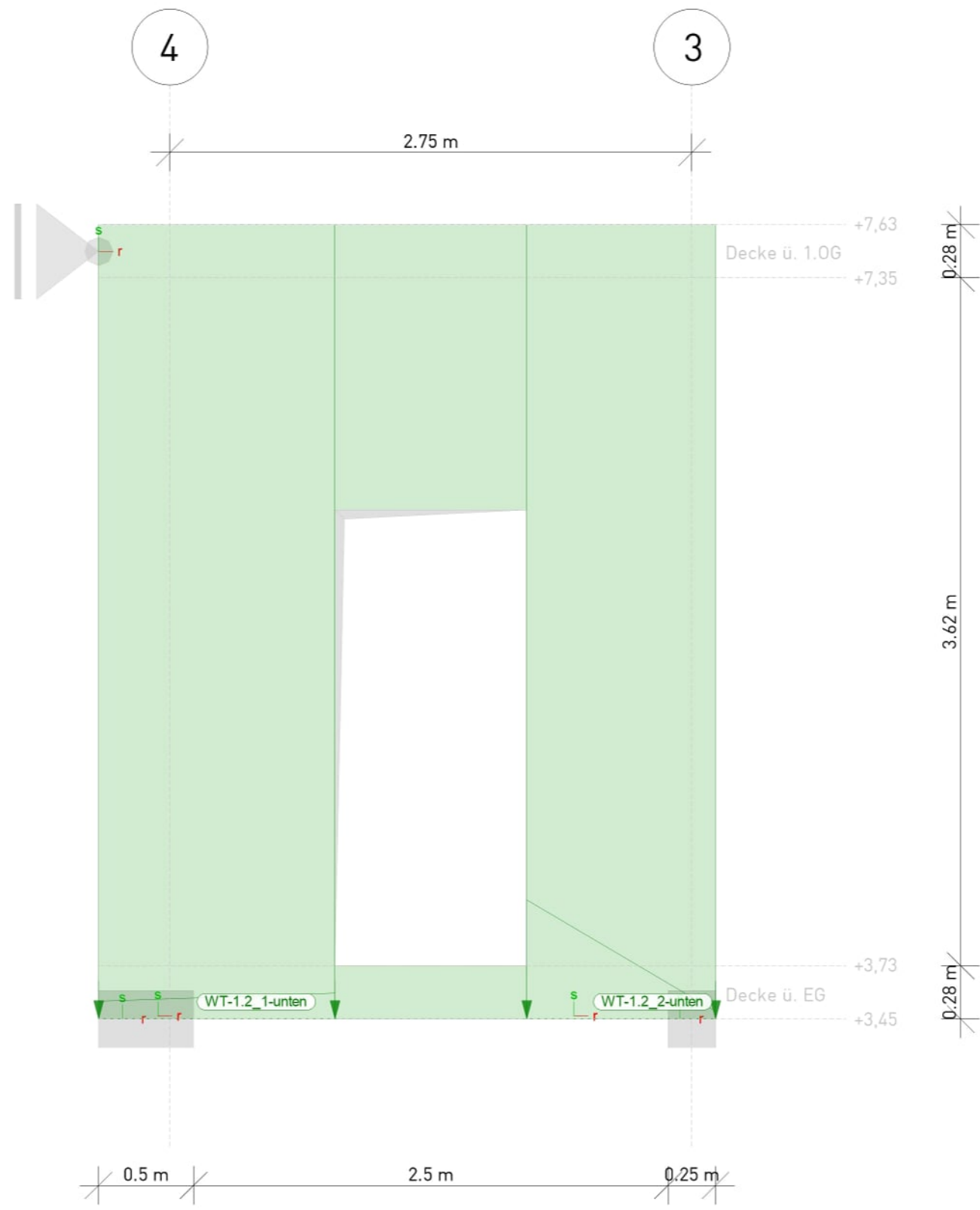
| | | | | |
|---|----------------|---|---|-----------|
| Last-Positionen | Lastpositionen |  | Modell WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-12 (Nutzlast Dach oben neg) | | KREBS+KIEFER Ingenieure GmbH | | |



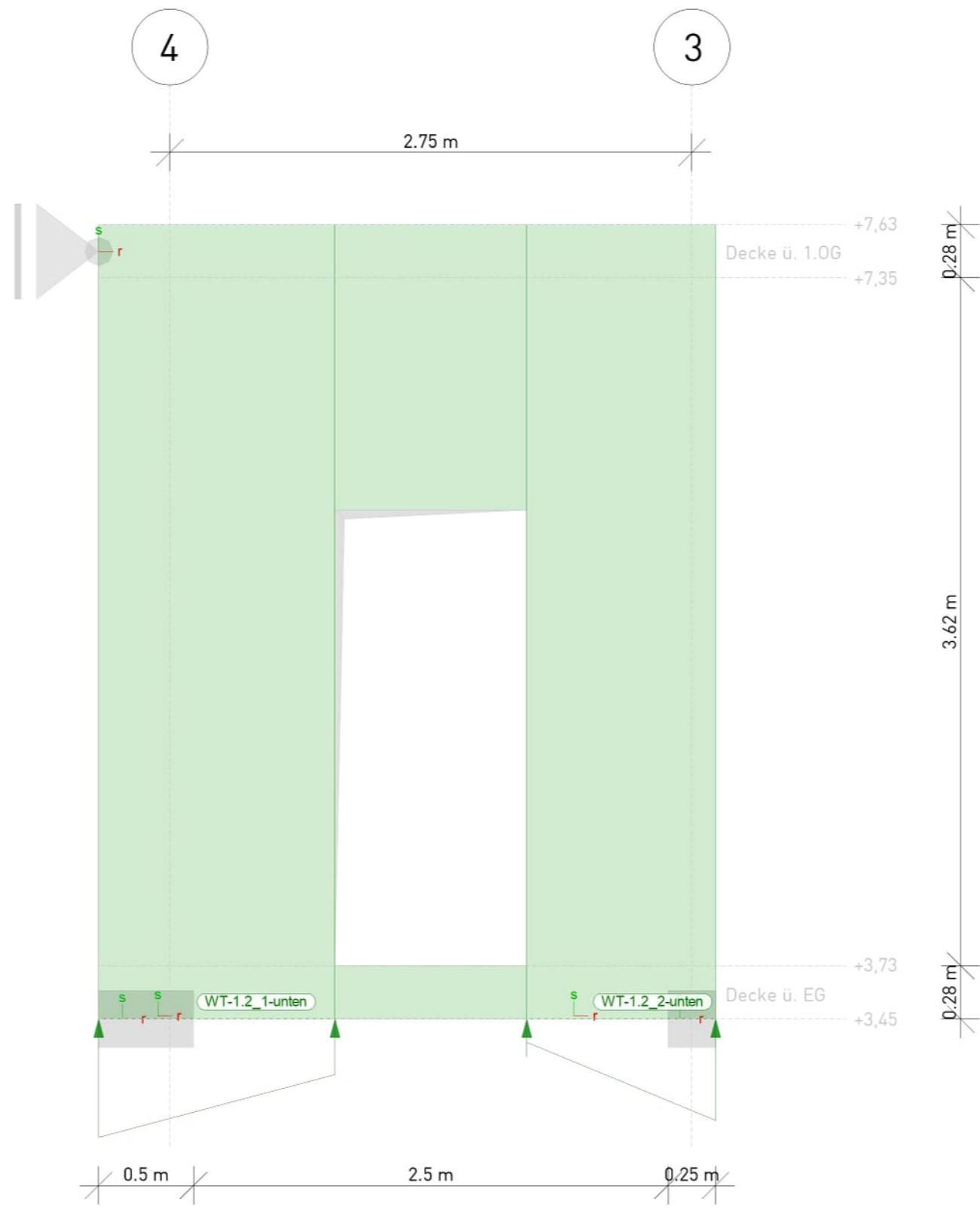
| | | | | | |
|-----------------|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



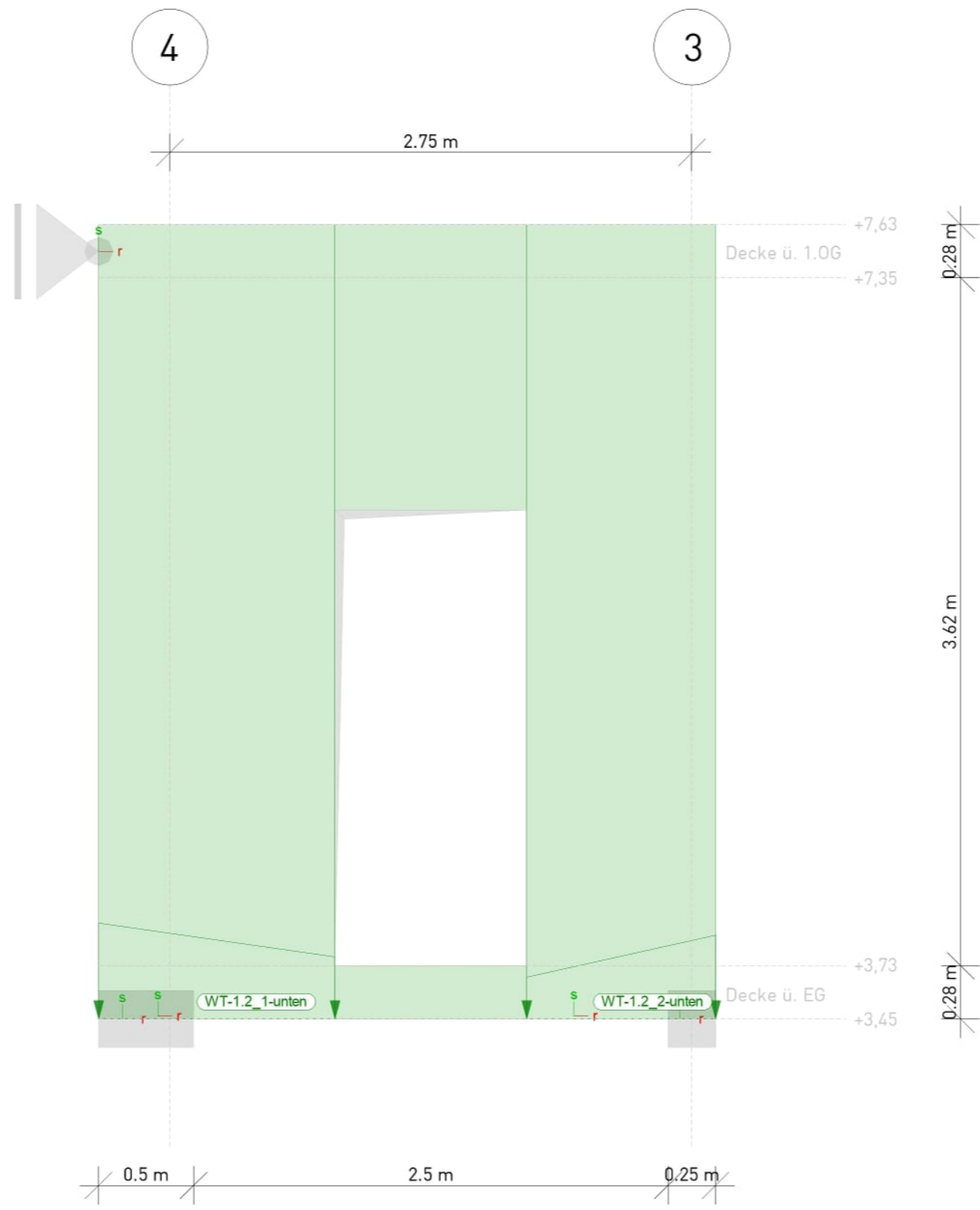
| | | | | | |
|-----------------|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



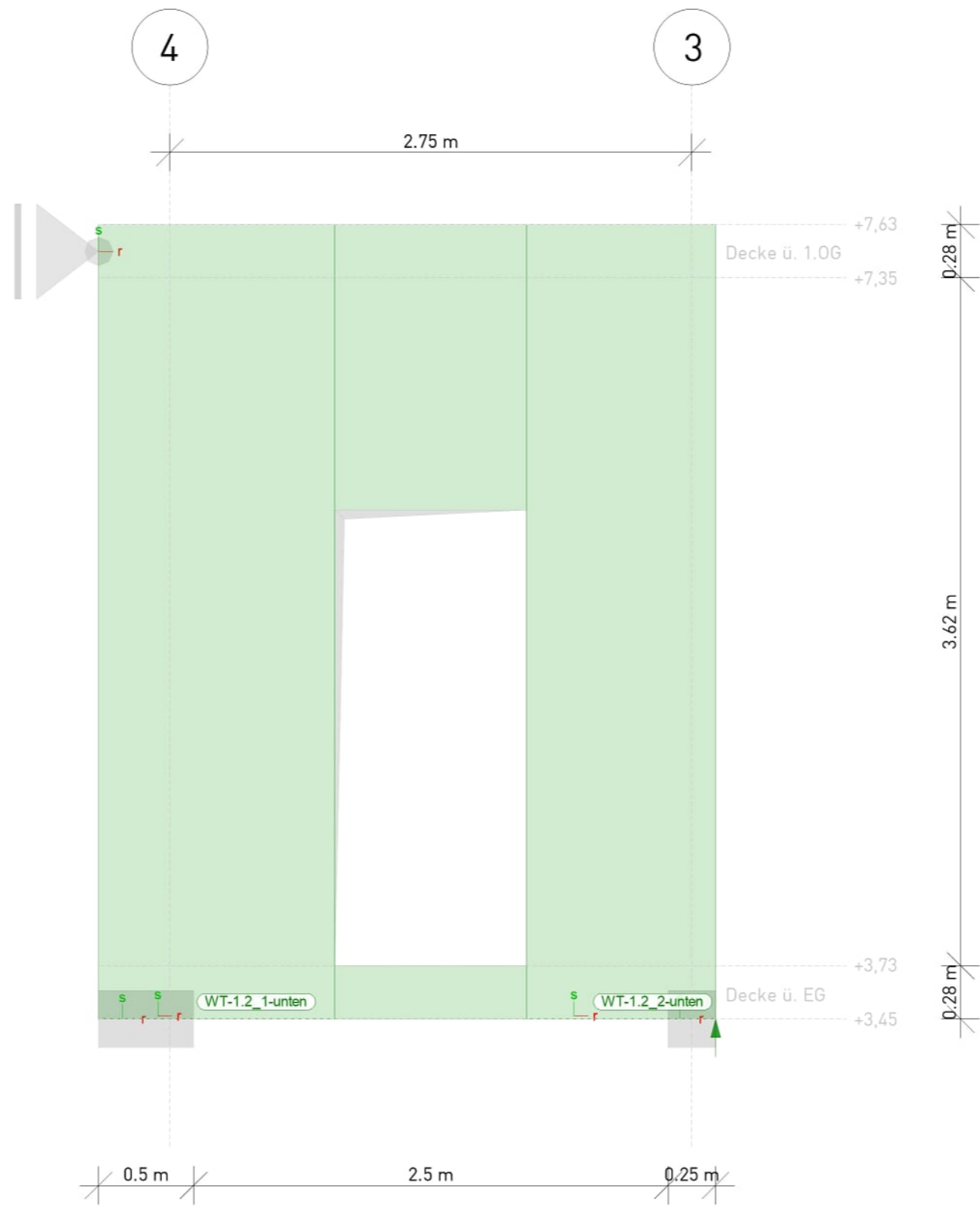
| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| aus Lastfall LF-15 (Nutzlast Schulung unten pos) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |




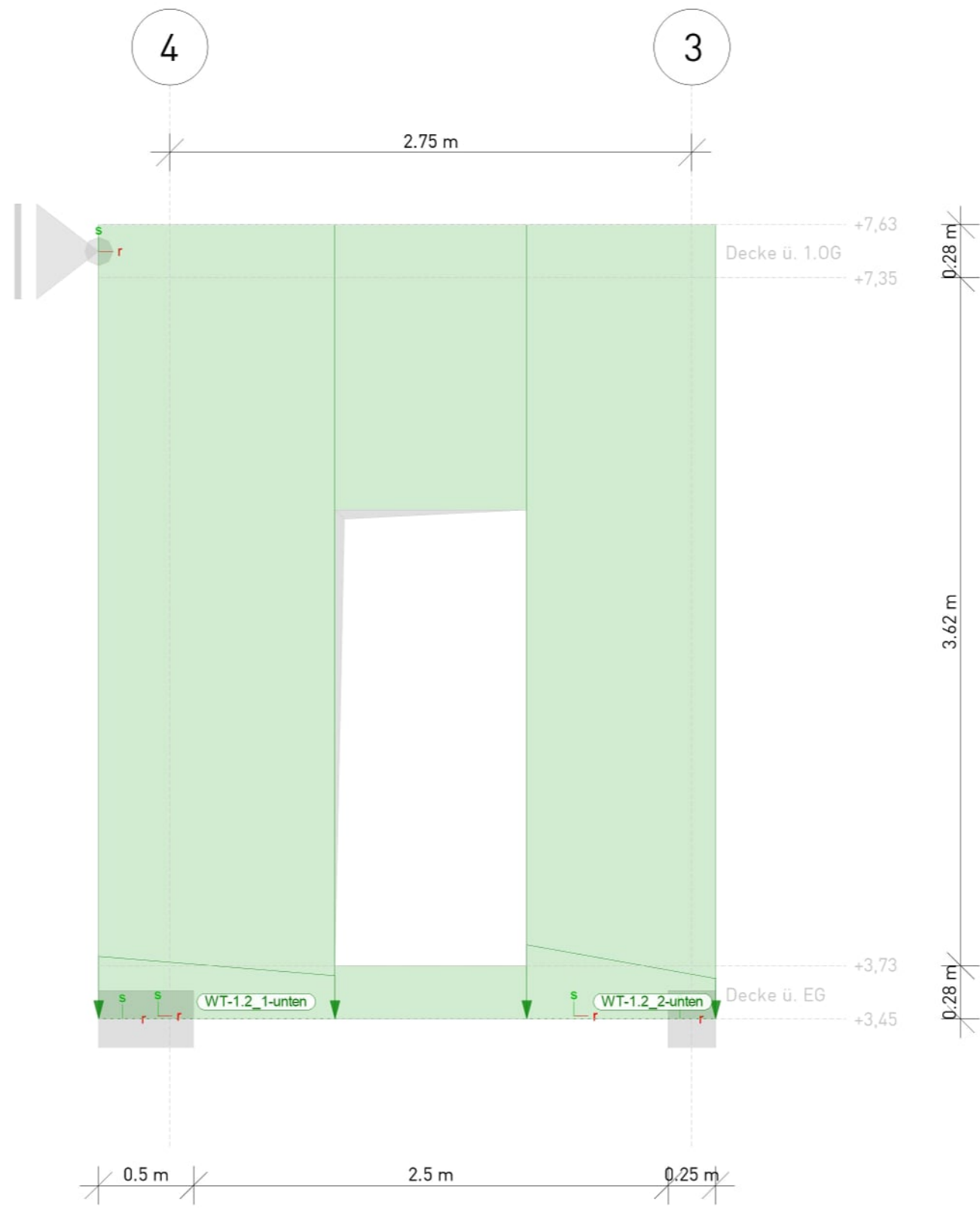
| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| aus Lastfall LF-16 (Nutzlast Schulung unten neg) | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



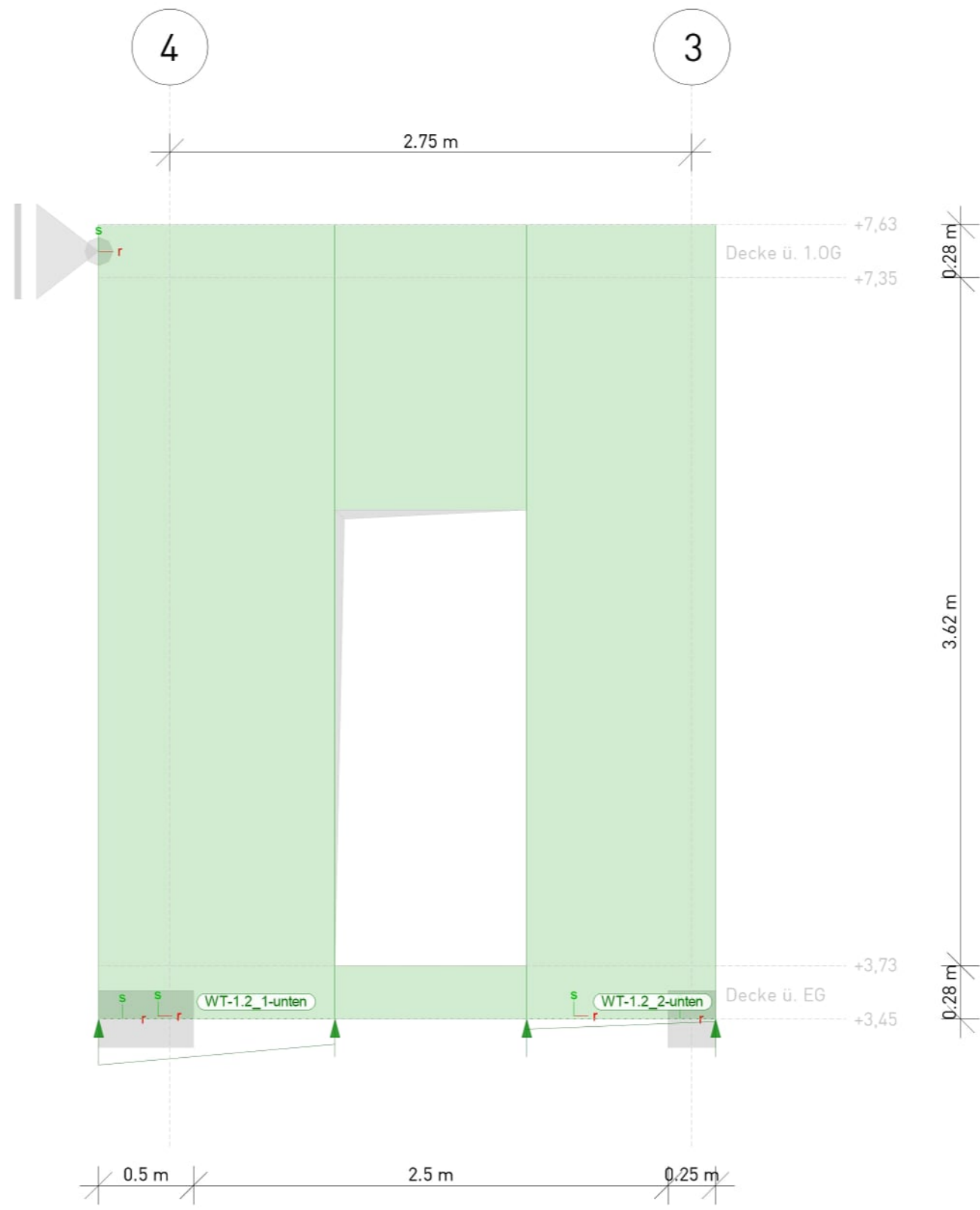
| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-17 (Nutzlast Forum unten pos) | | | KREBS+KIEFER Ingenieure GmbH | | |



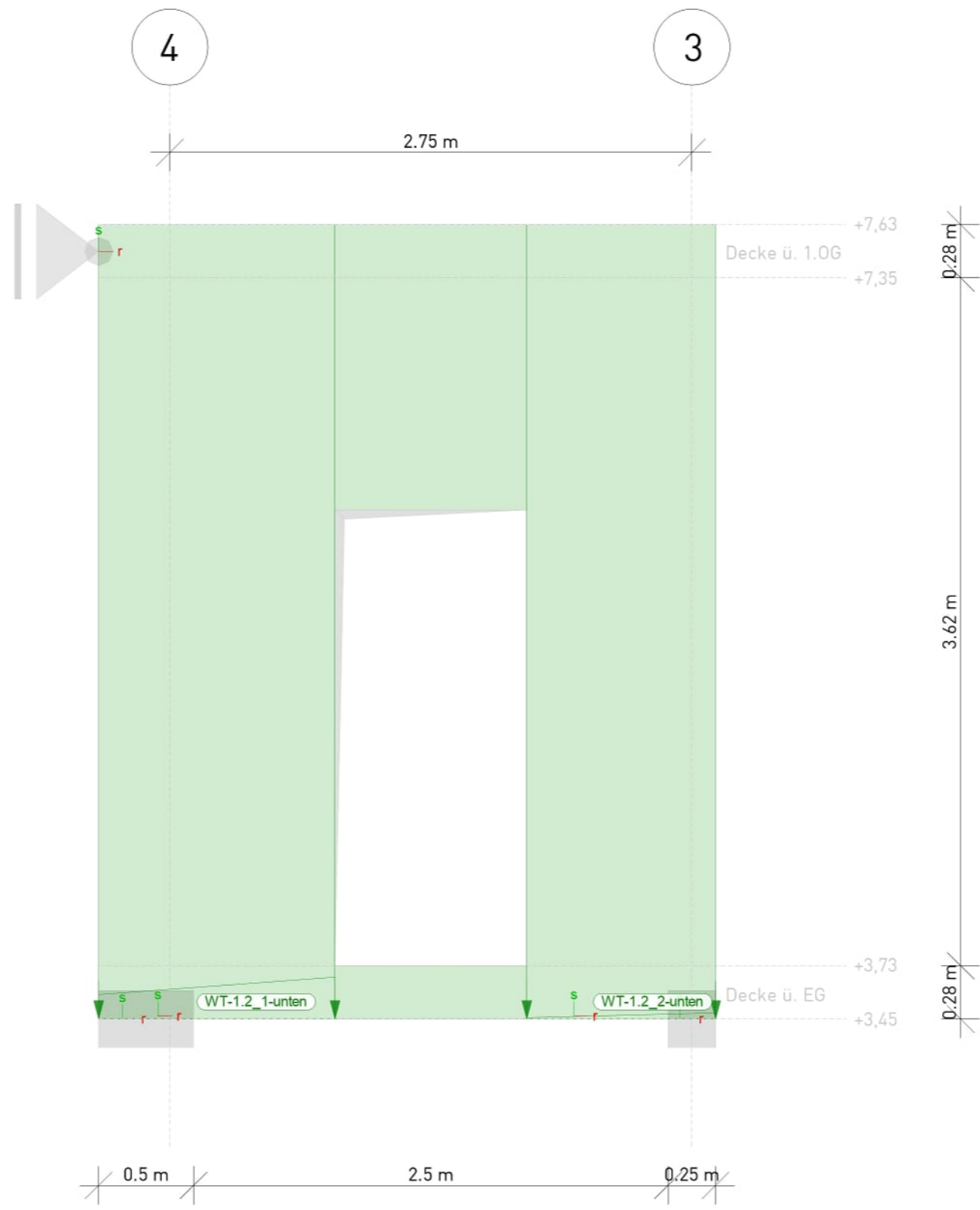
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|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-18 (Nutzlast Forum unten neg) | | | KREBS+KIEFER Ingenieure GmbH | | |



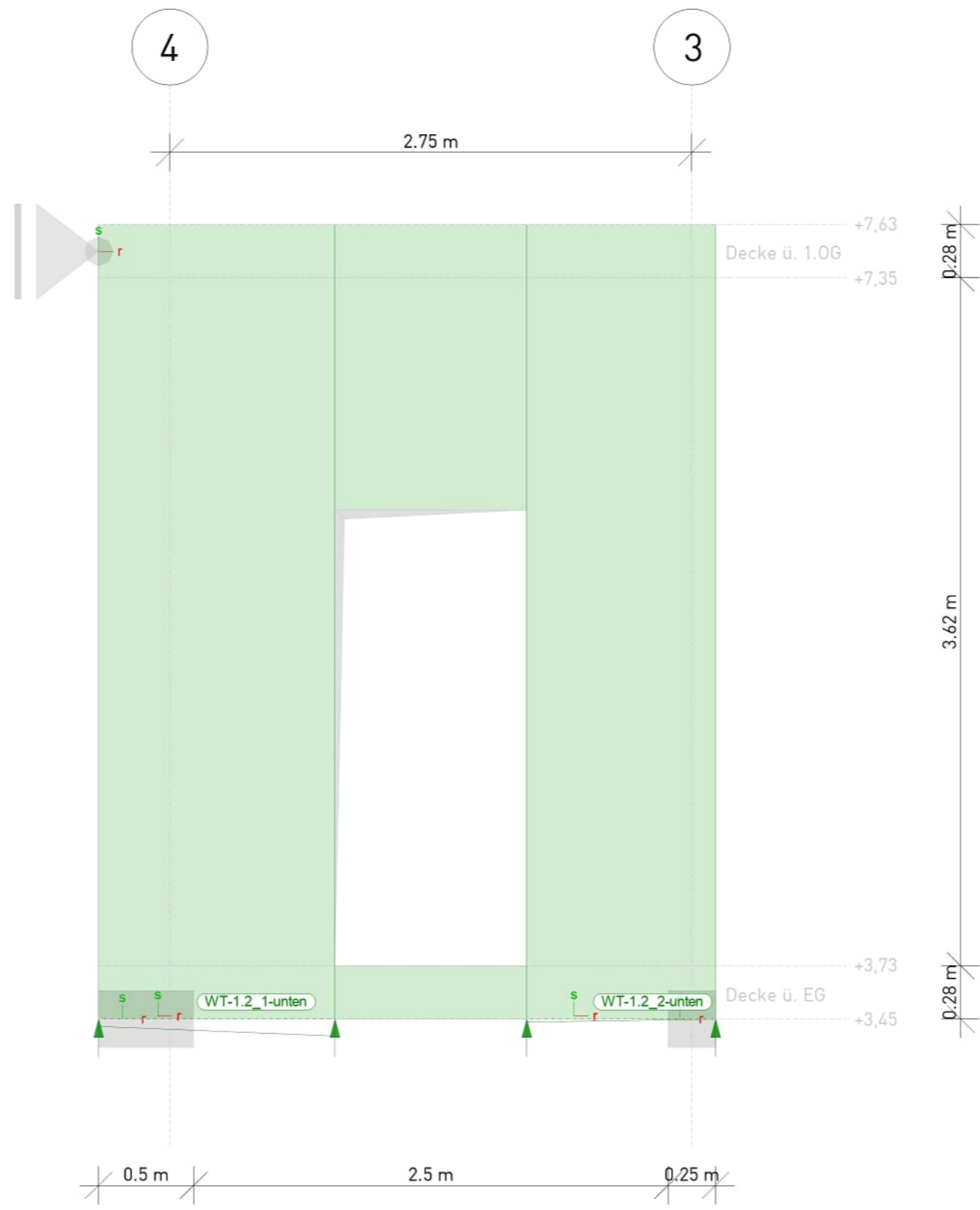
| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-19 (Nutzlast Lager unten pos) | | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|---|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-20 (Nutzlast Lager unten neg) | | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-21 (Nutzlast Dach unten pos) | | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | | |
|--|----------------|---|------------------------------|-------------------------------------|-----------|
| Last-Positionen | Lastpositionen |  | Modell | WT-1.2 | Tabelle 1 |
| | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus Lastfall LF-22 (Nutzlast Dach unten neg) | | | KREBS+KIEFER Ingenieure GmbH | | |

Statik-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 286 | 331 | 996 | 43300 | 338 KB |

Berechnung

Statische Berechnung

| | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à†→æÁíÁGG

Speicher

Speicherplatzbedarf

| Arbeitsspeicher | âæ^=\&\ | vorhanden |
|-------------------|---------|-----------|
| Standardverfahren | 1033 KB | ja |

| Festpl. | âæ^=\&\ | vorhanden | Laufwerk:\Pfad |
|---------|---------|-----------|-----------------------|
| Ergebn. | 1646 KB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÄäãÄb\á\<b'âæ^ÄN|à&áâæ

Berechnungszeit : 0 sec

Belastung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|------------------|
| LF-1 | 0.00 | 0.00 | -323.50 |
| | -0.00 | 0.00 | 323.50 |
| LF-2 | 0.00 | 0.00 | -92.49 |
| | -0.00 | 0.00 | 92.49 |
| LF-3 | 0.00 | 0.00 | -58.93 |
| | -0.00 | 0.00 | 58.93 |
| LF-4 | 0.00 | 0.00 | 34.11 |
| | 0.00 | 0.00 | -34.11 |
| LF-5 | 0.00 | 0.00 | -25.10 |
| | -0.00 | 0.00 | 25.10 |
| LF-6 | 0.00 | 0.00 | 85.78 |
| | 0.00 | 0.00 | -85.78 |
| LF-7 | 0.00 | 0.00 | -62.91 |
| | -0.00 | 0.00 | 62.91 |
| LF-8 | 0.00 | 0.00 | 3.00 |
| | 0.00 | 0.00 | -3.00 |
| LF-9 | 0.00 | 0.00 | -53.75 |
| | -0.00 | 0.00 | 53.75 |
| LF-10 | 0.00 | 0.00 | 50.86 |
| | 0.00 | 0.00 | -50.86 |
| LF-11 | 0.00 | 0.00 | -20.54 |
| | 0.00 | 0.00 | 20.54 |
| LF-12 | 0.00 | 0.00 | 8.95 |
| | -0.00 | 0.00 | -8.95 |
| LF-13 | 0.00 | 0.00 | -39.99 |
| | -0.00 | 0.00 | 39.99 |
| LF-14 | 0.00 | 0.00 | 17.83 |
| | 0.00 | 0.00 | -17.83 |
| LF-15 | 0.00 | 0.00 | -47.63 |
| | -0.00 | 0.00 | 47.63 |
| LF-16 | 0.00 | 0.00 | 89.59 |
| | 0.00 | 0.00 | -89.59 |
| LF-17 | 0.00 | 0.00 | -84.61 |
| | -0.00 | 0.00 | 84.61 |
| LF-18 | 0.00 | 0.00 | 0.01 |
| | 0.00 | 0.00 | -0.01 |

W-405

| Lastfall | Px [kN] Ax [kN] | Py [kN] Ay [kN] | Pz [kN] Az [kN] |
|----------|--------------------|--------------------|--------------------|
| LF-19 | 0.00 -0.00 | 0.00 0.00 | -64.82 64.82 |
| LF-20 | 0.00 0.00 | 0.00 0.00 | 26.58 -26.58 |
| LF-21 | 0.00 -0.00 | 0.00 0.00 | -23.55 23.55 |
| LF-22 | 0.00 0.00 | 0.00 0.00 | 8.90 -8.90 |
| Summe | 0.00 -0.00 | 0.00 0.00 | -572.18 572.18 |

Aufbau der Ergebnisse : 0 sec

Ende der statischen Analyse
Gesamtdauer : 1 sec

*** Berechnung erfolgreich abgeschlossen ***



PROGRAMM **MicroFe**
BAUWERK **Schwesternschule**

2025.015

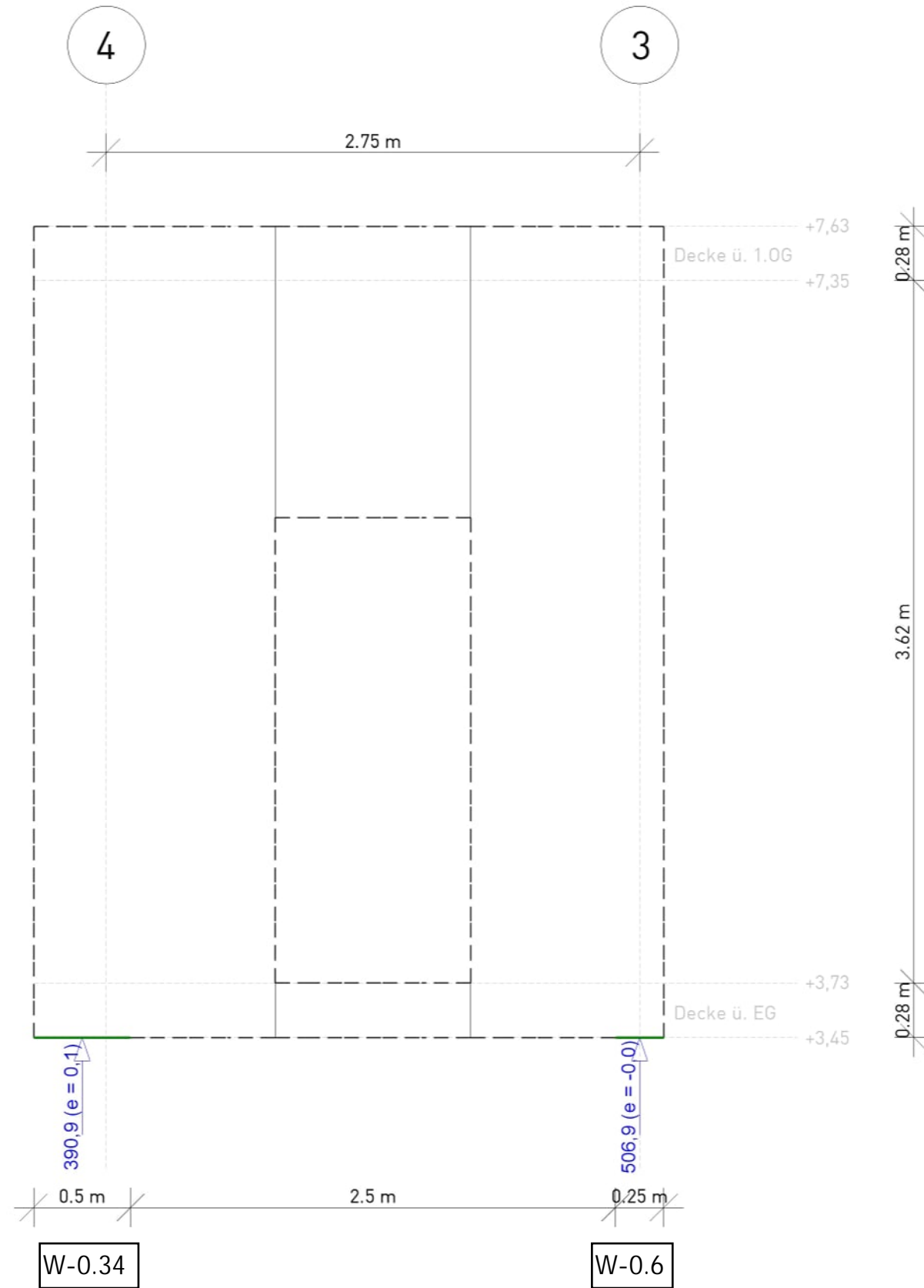
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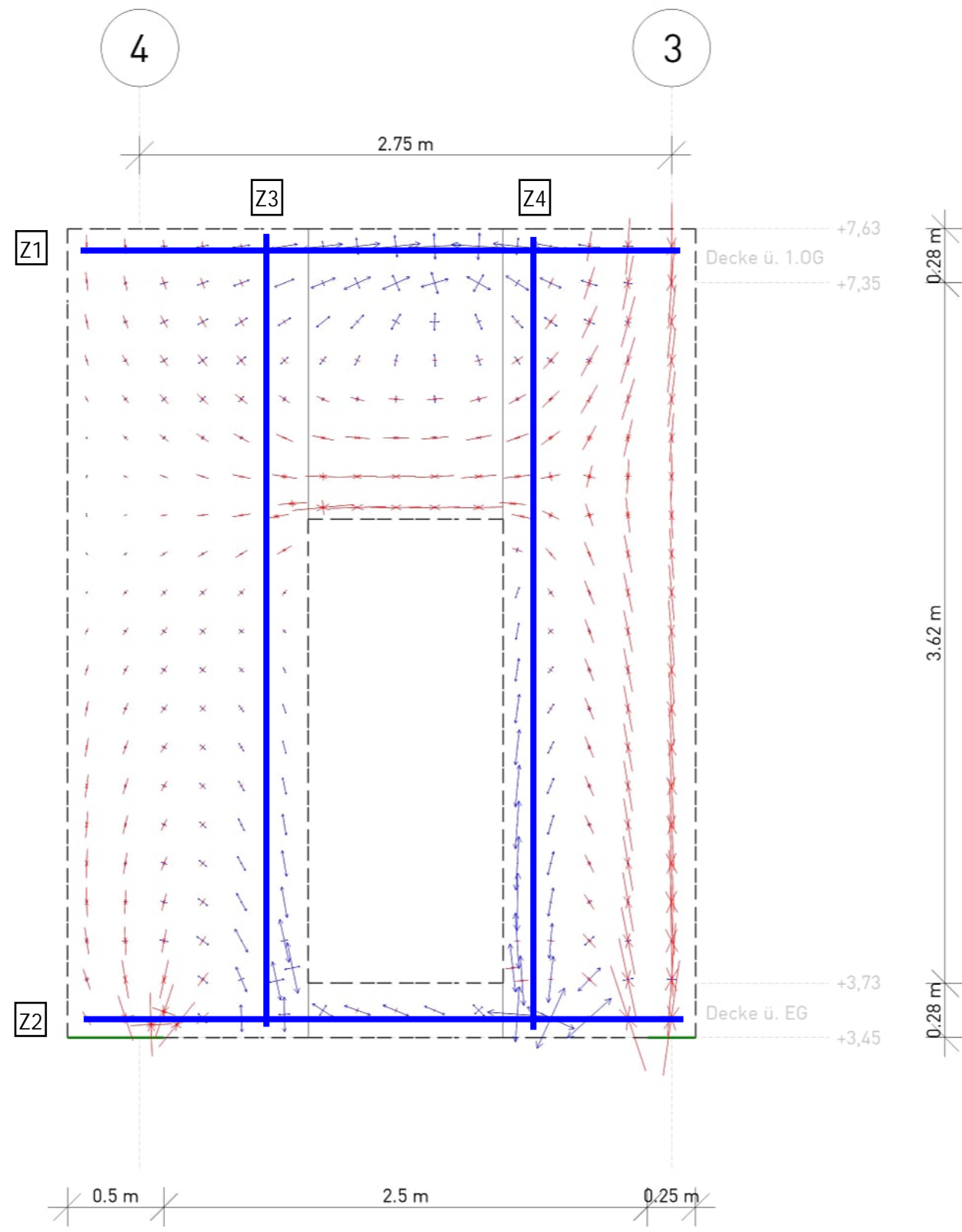
POSITION


WT-1.2

5 i ZU Yf_f} ZN



| | | | | | |
|---|----------------------------------|---|------------------------------|-------------------------------------|---------|
| Linienlagerergebnisse | nur lokal ausgerichtete Auflager |  | Modell | WT-1.2 | Tabelle |
| æ•Á à^ æ^ * Á-à^ æ^ Á-à^ æ^ Maximum Max = 506.9, Min = 390.9 Resultierende als Kraftvektor | Lagerkraft in s-Richtung in [kN] | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |



| | | | | |
|--|---|-------------|-------------------------------------|-----------|
| Hauptspannungen |  | Modell | WT-1.2 | Tabelle 1 |
| aus Lastkombination LK-1 sigma1: Max = 1.34, Min = -0.84 sigma2: Max = 1.12, Min = -2.35 | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | |

gh} bX] [#] cf~ VYf ["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|-------------|-------------|---------|
| 1-21 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 22-28 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 29-33 | | 1.35 | 1.35 | 1.05 | 1.50 | . | 1.50 |
| 34 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 35-36 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 37 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | . |
| 38-39 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 40-42 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 43 | | 1.00 | 1.00 | . | . | 1.05 | . |
| 44 | | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 45-46 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 47 | | 1.00 | 1.00 | . | 1.05 | 1.05 | . |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1-21 | | . |
| 22-28 | | . |
| 29-33 | | . |
| 34 | | . |
| 35-36 | | . |
| 37 | | . |
| 38-39 | | 1.50 |
| 40-42 | | 1.50 |
| 43 | | 1.50 |
| 44 | | 1.50 |
| 45-46 | | 1.50 |
| 47 | | 1.50 |

Alle Nachweise

Öää~ääää→´ääÁQ†^&bâæ}æää| ^&ÁÁ| bÁá→æ^ÁSá´â}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

as,r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,r}$ Y´↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 2 | 1 | 3.58 | 1.14 | 0.22 | 474.97 | 10.40 |
| 3 | 3 | 2.00 | 0.98 | -0.07 | 259.25 | 5.68 |
| 5 | 6 | 2.20 | 1.37 | -0.31 | 314.60 | 6.89 |

as,s

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑¥Ÿ | $S_{s,Ed}$ YSD↑↑¥Ÿ | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{Ed} [kN/m] | $a_{s,s}$ Y´↑¥D↑Ÿ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|----------------------|
| 2 | 2 | 3.54 | 1.17 | 0.21 | 173.03 | 3.79 |
| 3 | 4 | 1.65 | 1.03 | -0.07 | 137.48 | 3.01 |
| 5 | 7 | 1.85 | 1.51 | -0.29 | 225.26 | 4.93 |
| 7 | 23 | -0.52 | 0.55 | -0.13 | 84.14 | 1.84 |
| 11 | 9 | 1.85 | 0.21 | -0.37 | 72.55 | 1.59 |
| 17 | 1 | -2.01 | 0.34 | -0.21 | 68.57 | 1.50 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ YSD↑↑¥Ÿ | n_{cEd} [kN/m] | σ_{cd} Rd YSD↑↑¥Ÿ | [%] |
|--------|-----|------------------------|---------------------|--------------------------------|-------|
| 2 | 32 | 0.23 | -58.35 | -0.47 -12.75 | 3.66 |
| 7 | 42 | 0.20 | -49.96 | -0.40 -12.75 | 3.13 |

| Knoten | Lkn | $S_{rs,Ed}$ | N_{cEd} | σ_{rd} | |
|--------|-----|-------------|-----------|---------------|------|
| | | YSD↑↑% | [kN/m] | YSD↑↑% | [%] |
| 8 | 1 | -0.44 | -109.33 | -0.87 | 6.86 |
| | | | | -12.75 | |
| 11 | 6 | -0.37 | -93.75 | -0.75 | 5.88 |
| | | | | -12.75 | |
| 13 | 6 | -0.44 | -109.17 | -0.87 | 6.85 |
| | | | | -12.75 | |
| 44 | 48 | -0.23 | -58.32 | -0.47 | 3.66 |
| | | | | -12.75 | |
| 46 | 49 | 0.25 | -62.76 | -0.50 | 3.94 |
| | | | | -12.75 | |

äi vorhandene Betonspannung
äi ~|→+bb&äÄ~^ää|'←b*ä^| ^&

WT-1.2_1

Ñæ↑æbb|^&ÄâfiãÄU'âæ↔âæÄÇU\áâ→âæ\~^DÄÜËËÈÈŽF

Erf. Bewehrung

Erforderliche Bewehrung

Kombinationen

Ráß&æäæ^äæÄP~↑â↔^á\↔~^æ^Ä^á'äÄØSÁÓSÁFii€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔æÄÑæ\æ↔↔&|^&Äæ↔^æ→æäÄQáb\à†→æÄ↔^æäää→âÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht dokumentiert.

gh}bX][#]cf~VYf["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|-------------|-------------|---------|
| 1-26 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 27-45 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 46-48 | | 1.00 | 1.35 | 1.05 | 1.50 | . | 1.50 |
| 49-55 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 56-60 | | 1.35 | 1.35 | 1.05 | 1.50 | . | 1.50 |
| 61 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 62 | | 1.35 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 63-74 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |
| 75-77 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 78 | | 1.00 | 1.00 | . | . | 1.05 | . |
| 79 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 80 | | 1.00 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |

| Lkn | Ew | Qk.N_DA |
|-------|----|-------------|
| 1-26 | | . |
| 27-45 | | . |
| 46-48 | | . |
| 49-55 | | . |
| 56-60 | | . |
| 61 | | . |
| 62 | | 1.50 |
| 63-74 | | 1.50 |
| 75-77 | | 1.50 |
| 78 | | 1.50 |
| 79 | | 1.50 |
| 80 | | 1.50 |

Alle Nachweise

Óää~ääæ↔↔'âæÄQ†^&bâæ}æää|^&Äá|bÄá→æ^ÄSá'á}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

a_{s,r}

Erforderliche Bewehrung a_{s,r}
(je Scheibenseite)

| Knoten | Lkn | S _{r,Ed} YSD↑↑¥¥ | S _{s,Ed} YSD↑↑¥¥ | S _{rs,Ed} YSD↑↑¥¥ | n _{Ed} [kN/m] | a _{s,r} Y'↑¥D↑¥ |
|--------|-----|------------------------------|------------------------------|-------------------------------|---------------------------|-----------------------------|
| 4 | 1 | 1.07 | 0.20 | 0.08 | 143.50 | 3.14 |
| 5 | 3 | 0.74 | 1.13 | -0.17 | 113.69 | 2.49 |
| 74 | 68 | 1.34 | 1.18 | 0.09 | 179.24 | 3.93 |
| 83 | 65 | 0.19 | -1.49 | 0.34 | 65.72 | 1.44 |
| 85 | 65 | 0.29 | -0.96 | -0.64 | 116.85 | 2.56 |
| 157 | 61 | -0.13 | -0.47 | -0.31 | 22.70 | 0.50 |

a_{s,s}

Erforderliche Bewehrung a_{s,s}
(je Scheibenseite)

| Knoten | Lkn | S _{r,Ed} YSD↑↑¥¥ | S _{s,Ed} YSD↑↑¥¥ | S _{rs,Ed} YSD↑↑¥¥ | n _{Ed} [kN/m] | a _{s,s} Y'↑¥D↑¥ |
|--------|-----|------------------------------|------------------------------|-------------------------------|---------------------------|-----------------------------|
| 57 | 8 | 0.70 | 0.46 | 0.19 | 81.34 | 1.78 |
| 67 | 66 | -0.04 | 0.60 | 0.06 | 82.05 | 1.80 |
| 75 | 65 | 1.06 | 1.24 | 0.06 | 162.13 | 3.55 |
| 88 | 11 | 0.41 | 2.00 | -0.21 | 276.57 | 6.06 |
| 159 | 56 | 0.00 | 0.47 | -0.01 | 59.21 | 1.30 |
| 181 | 8 | -0.21 | 0.27 | 0.31 | 72.39 | 1.59 |

Betondruckspannungen

Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | S _{rs,Ed} YSD↑↑¥¥ | n _{Ed} [kN/m] | cd Rd YSD↑↑¥¥ | [%] |
|--------|-----|-------------------------------|---------------------------|---------------------|-------|
| 68 | 81 | -0.02 | -4.58 | -0.04 | 0.29 |
| | | | | -12.75 | |
| 73 | 65 | -1.53 | -383.58 | -3.07 | 24.07 |
| | | | | -12.75 | |
| 77 | 65 | 0.50 | -123.90 | -0.99 | 7.77 |
| | | | | -12.75 | |
| 134 | 61 | -0.32 | -79.48 | -0.64 | 4.99 |
| | | | | -12.75 | |
| 156 | 61 | -0.31 | -78.11 | -0.62 | 4.90 |
| | | | | -12.75 | |
| 187 | 22 | 0.38 | -95.79 | -0.77 | 6.01 |
| | | | | -12.75 | |

äi vorhandene Betonspannung
päl ~|→tbb↔æÃÑæ\~^ää|'←b*á^^|^&

WT-1.2_2

Ñæ↑æbb|^&ÃäfiäÁU'âæ↔âæÁÇU\ää→âæ\~^DÁÜÜËFÈGŽG

Erf. Bewehrung

Erforderliche Bewehrung

Kombi nationen

Ráß&æâæ^äæÁP~↑â↔^á\↔~^æ^Á^á'âÁØSÁÓSÁFïï€

Ew Einwirkungsname
Lkn Lastkombinationsnummer

↔æÃÑæ\æ↔↔↔|^&Ãæ↔^~æ→^æÃQáb\à†→æÃ↔^æääá→âÄeiner
Einwirkung wird mit diesem Ausgabeformat nicht
dokumentiert.

gh}bX][#]cf~VYf["

Grundkombinationen

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|------|----|------|------|---------|---------|---------|---------|
| 1 | | 1.00 | 1.00 | 1.50 | 1.05 | 1.05 | 1.50 |
| 2-22 | | 1.35 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |

| Lkn | Ew | Gk | Ö← | Qk.N_B1 | Qk.N_C1 | Qk.N_C5 | Qk.N_E1 |
|-------|----|------|------|---------|-------------|-------------|---------|
| 23-35 | | 1.00 | 1.00 | 1.05 | 1.50 | 1.05 | 1.50 |
| 36-38 | | 1.00 | 1.35 | 1.05 | 1.50 | 1.05 | 1.50 |
| 39-40 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.50 | 1.50 |
| 41-42 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.50 | 1.50 |
| 43 | | 1.00 | 1.00 | . | . | 1.05 | . |
| 44 | | 1.00 | 1.00 | 1.05 | . | 1.05 | 1.50 |
| 45-52 | | 1.00 | 1.00 | 1.05 | 1.05 | 1.05 | 1.50 |
| 53 | | 1.00 | 1.00 | 1.05 | . | 1.05 | . |
| 54-59 | | 1.35 | 1.35 | 1.05 | 1.05 | 1.05 | 1.50 |

| Lkn | Ew | Qk..N_DA |
|-------|----|-------------|
| 1 | | . |
| 2-22 | | . |
| 23-35 | | . |
| 36-38 | | . |
| 39-40 | | . |
| 41-42 | | . |
| 43 | | 1.50 |
| 44 | | 1.50 |
| 45-52 | | 1.50 |
| 53 | | 1.50 |
| 54-59 | | 1.50 |

Alle Nachweise

Óã~ãäæã↔´åæÁQ‡^&bâæ}æã | ^&Áá | bÁá→æ^ÁSá´à}æ↔bæ^

Es werden nur lokale Extremwerte dokumentiert.

 as, r

Erforderliche Bewehrung $a_{s,r}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ YSD↑↑YŸ | $S_{s,Ed}$ YSD↑↑YŸ | $S_{rs,Ed}$ YSD↑↑YŸ | n_{Ed} [kN/m] | $a_{s,r}$ Y↑YSD↑YŸ |
|--------|-----|-----------------------|-----------------------|------------------------|--------------------|-----------------------|
| 2 | 2 | 4.50 | 1.25 | -0.03 | 565.78 | 12.39 |
| 3 | 4 | 2.16 | 0.85 | 0.04 | 274.95 | 6.02 |
| 221 | 3 | 0.66 | -2.47 | -0.96 | 202.76 | 4.44 |
| 261 | 39 | 0.00 | -1.36 | 0.39 | 49.14 | 1.08 |

as, s

Erforderliche Bewehrung $a_{s,s}$
(je Scheibenseite)

| Knoten | Lkn | $S_{r,Ed}$ | $S_{s,Ed}$ | $S_{rs,Ed}$ | n_{Ed} | $a_{s,s}$ |
|--------|-----|---|---|---|----------|--|
| | | $YSD \uparrow \uparrow \uparrow \ddot{Y}$ | $YSD \uparrow \uparrow \uparrow \ddot{Y}$ | $YSD \uparrow \uparrow \uparrow \ddot{Y}$ | [kN/m] | $Y' \uparrow \uparrow \uparrow \ddot{Y}$ |
| 62 | 6 | 0.82 | 0.85 | -0.16 | 126.03 | 2.76 |
| 211 | 9 | -0.40 | 0.47 | -0.59 | 132.81 | 2.91 |
| 214 | 4 | 3.30 | 2.33 | 0.17 | 311.82 | 6.83 |
| 228 | 3 | 0.05 | 2.16 | -0.01 | 270.23 | 5.92 |
| 282 | 15 | 0.06 | 1.17 | -0.06 | 154.09 | 3.38 |

Betondruckspannungen Nachweis der Betondruckspannungen

Es werden nur lokale Extremwerte dokumentiert.

| Knoten | Lkn | $S_{rs,Ed}$ | n_{cEd} | c_d | |
|--------|-----|-------------------------------------|-----------|-------------------------------------|-------|
| | | $Y_{SD} \uparrow \uparrow \ddot{Y}$ | [kN/m] | $Y_{SD} \uparrow \uparrow \ddot{Y}$ | [%] |
| 211 | 3 | -1.17 | -292.36 | -2.34 | 18.34 |
| | | | | -12.75 | |
| 212 | 60 | 0.12 | -29.74 | -0.24 | 1.87 |
| | | | | -12.75 | |
| 214 | 61 | 0.19 | -47.25 | -0.38 | 2.96 |
| | | | | -12.75 | |
| 216 | 3 | 2.20 | -548.77 | -4.39 | 34.43 |
| | | | | -12.75 | |
| 222 | 62 | -0.25 | -63.75 | -0.51 | 4.00 |
| | | | | -12.75 | |

| Knoten | Lkn | $S_{rs,Ed}$ | N_{cEd} | σ_{cd} | |
|--------|-----|--|-----------|--|-------|
| | | $\frac{YSD \uparrow \downarrow \ddot{Y}}{Y}$ | [kN/m] | $\frac{YSD \uparrow \downarrow \ddot{Y}}{Y}$ | [%] |
| 273 | 39 | 0.39 | -98.21 | -0.79 | 6.16 |
| | | | | -12.75 | |
| 284 | 39 | 0.38 | -95.55 | -0.76 | 6.00 |
| | | | | -12.75 | |
| 288 | 55 | 0.33 | -81.38 | -0.65 | 5.11 |
| | | | | -12.75 | |
| 314 | 4 | -0.54 | -135.45 | -1.08 | 8.50 |
| | | | | -12.75 | |

äi vorhandene Betonspannung


äi ~|→†bb→&æÄÑæ\~^äã|'←b*á^^|^&

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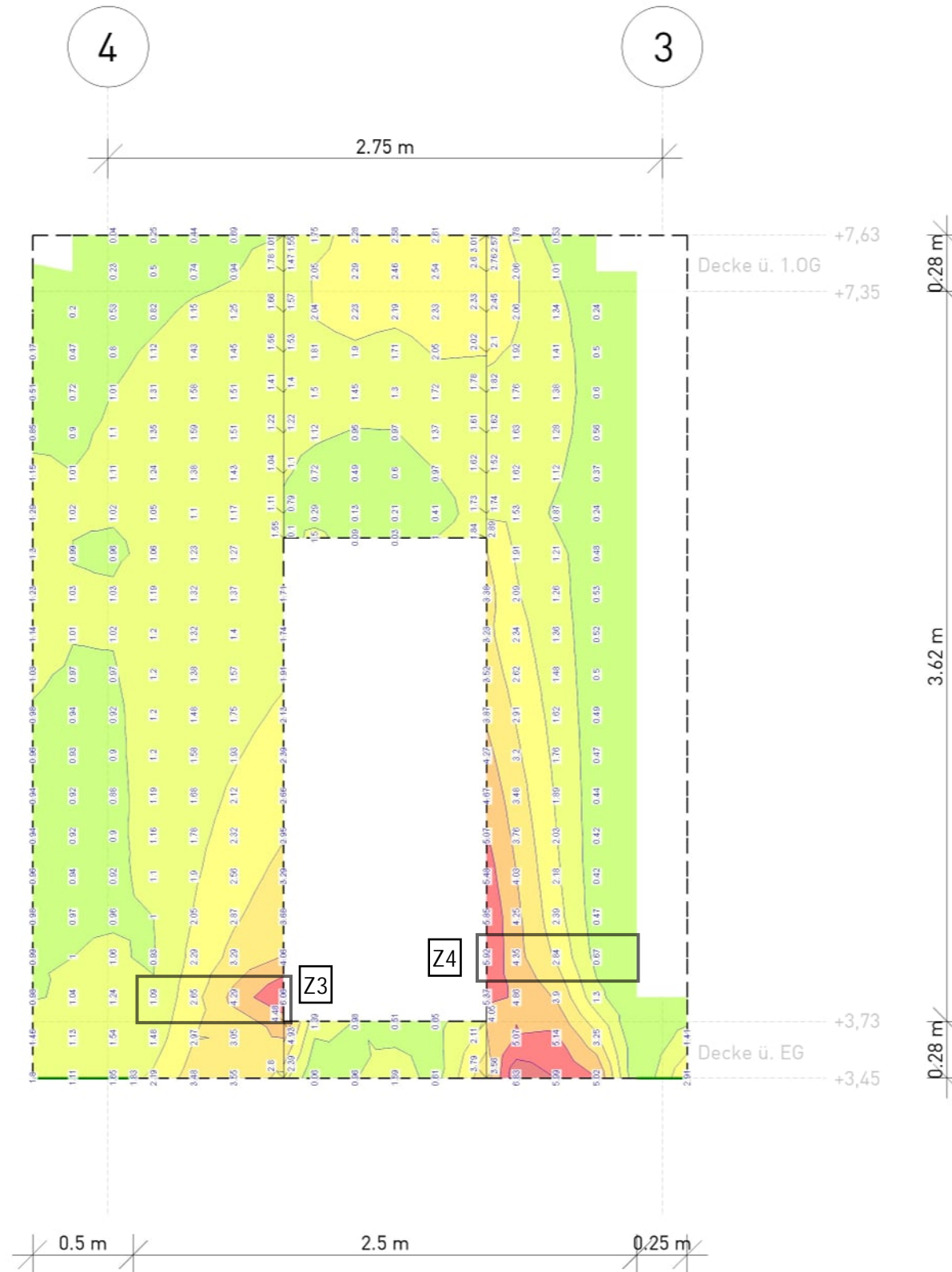


r-Richtung
s-Richtung

Scheibenbemessung:
erf. Bewehrung
- r-Richtung -


| | | | | | |
|--|--------------------------------|---|------------------------------|-------------------------------------|-----------------|
| : `} W YbVYa Yggi b[| Erforderliche Bewehrung as,erf |  | Modell | WT-1.2 | T ab • ca • KKE |
| Max = 12.39 (Kn. 2), Min = 0 (Kn. 16), Step = 2 Bew.-Abstand d' = 30 mm Beton C 30/37 Bauteildicke h = 25.00 cm | aus allen Nachweisen | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | | KREBS+KIEFER Ingenieure GmbH | | |

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r-Richtung
s-Richtung

Scheibenbemessung:
erf. Bewehrung
- s-Richtung -

| | | | | | | |
|--|--|---|---|-------------|-------------------------------------|--------------|
| : `} W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  | Modell | WT-1.2 | T ab • aãKKE |
| Max = 6.83 (Kn. 214), Min = 0 (Kn. 195), Step = 1 Bew.-Abstand d' = 30 mm Beton C 30/37 Bauteildicke h = 25.00 cm | | aus allen Nachweisen •EÜ@C}*Aq^AÜ&@ã)^^ãDãAã D á | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | | | | | |

Nachweise Auswertung

Biegebemessung der Scheiben (Stahlbeton) nach DIN EN 1992-1-1

Mat. /Querschnitt

| Position | Winkel YflY | Art | Material | Dicke [cm] |
|--------------------|-----------------|-----|-------------------|---------------|
| WS-T-1.2 | VÄtuvwt/ 0.0 | iso | B 500SB C 30/37 Q | 25.0 |
| WT-1.2_1, WT-1.2_2 | | | | |
| | 0.0 | iso | B 500SB C 30/37 Q | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ^b<=ã^|^&ÄT|áã~<\
Exz.: Ó[^æ^ã<~<^|&Ä

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|------------------------------|-----------|-----|--------------------------------|
| WS-T-1.2, WT-1.2_1, WT-1.2_2 | umlaufend | XC1 | \ã~'<æ^Á~ãæãÄb\†^ã<æ^Á nass |

Bewehrung

Vorgaben zur Bewehrungsdefinition

Bewehrungsrichtung

Orthogonale Bewehrung

| Position | ro YflY | so YflY | ru YflY | su YflY |
|------------------------------|------------|------------|------------|------------|
| WS-T-1.2, WT-1.2_1, WT-1.2_2 | 0.00 | 90.00 | 0.00 | 90.00 |

Betondeckung

je Scheibenseite

| Position | C _{min} [mm] | # _{def} [mm] | C _{nom} [mm] | C _v [mm] |
|----------|--------------------------|--------------------------|--------------------------|------------------------|
| WS-T-1.2 | 12 | 10 | 22 | 30 |
| WT-1.2_1 | 12 | 10 | 22 | 30 |
| WT-1.2_2 | 12 | 10 | 22 | 30 |

Grundbewehrung

je Scheibenseite

| Position | Rá\\æÊÄU\†âæ ~Y††YËbY'†Y | d' _r [mm] | a _{sg,r} [cm ² /m] | d' _s [mm] | a _{sg,s} [cm ² /m] |
|----------|-----------------------------|-------------------------|---|-------------------------|---|
| WS-T-1.2 | o r | Ö3413702 | 36 | 7.54 | |
| | o s | Ö3213702 | | 47 | 5.24 |
| WT-1.2_1 | o r | Ö3413702 | 36 | 7.54 | |
| | o s | Ö3213702 | | 47 | 5.24 |
| WT-1.2_2 | o r | Ö3413702 | 36 | 7.54 | |
| | o s | Ö3213702 | | 47 | 5.24 |

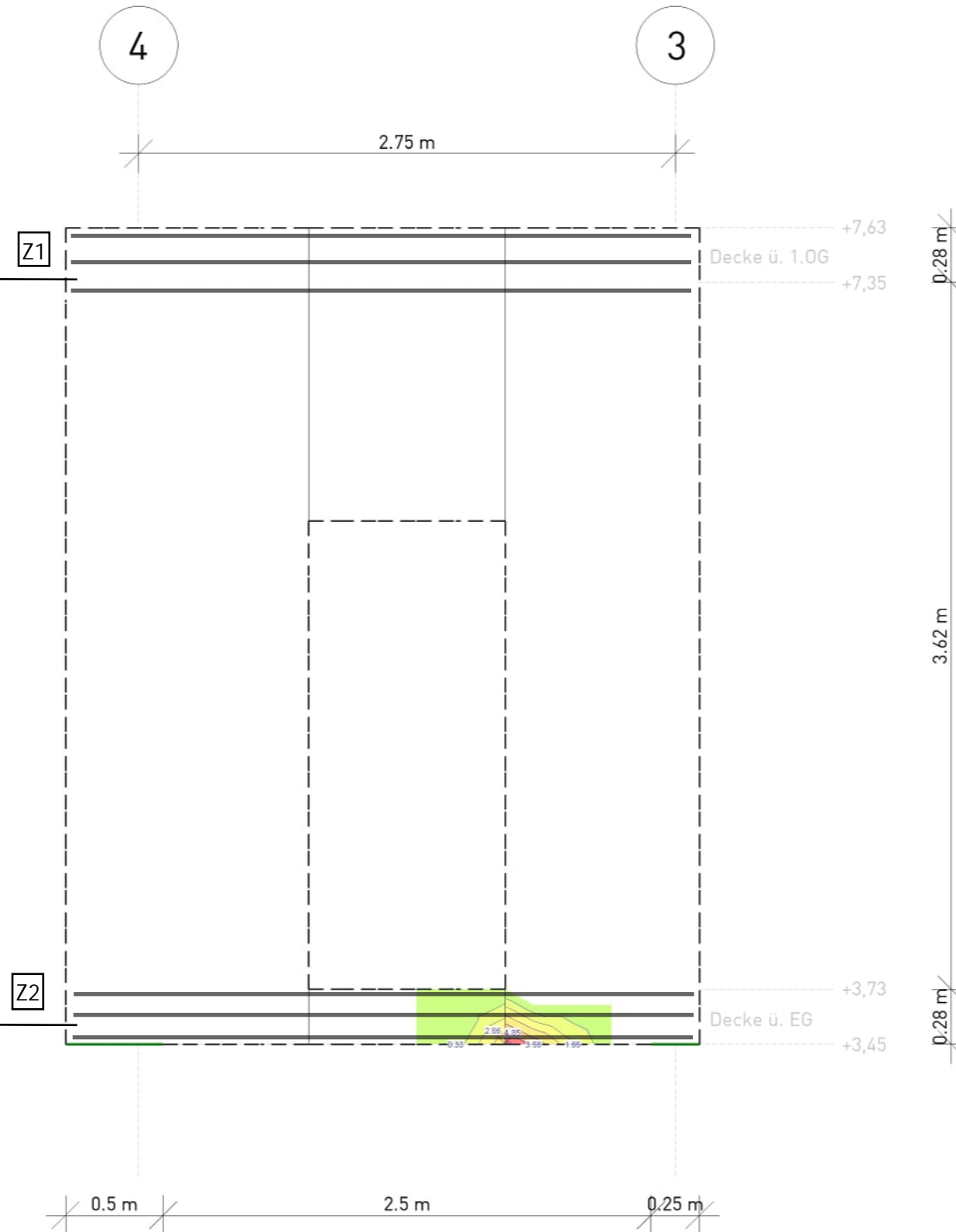
Bemessungsparameter


âfiãÄæ^ÁÖãæ^~ | b\á^ãÄæãÄÜãã&à†ã<æ<æ<Ä^á^'ãÄÆØSÁÓSÁ
1992-1-1

Belegung


| Position | Bemessungsverfahren | Mindestbewehrung |
|---|---------------------|------------------|
| WS-T-1.2, WT-1.2_1, WT-1.2_2 | Üâfiã~>†á^^ | ja |
| Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |

Randeinfassung entsprechend der Grundbewehrung

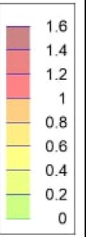
$$a_{s,vorh} = 11,31 \text{ cm}^2/\text{m}$$
$$a_{s,vorh} = 21,54 \text{ cm}^2/\text{m}$$




 r-Richtung
 s-Richtung


Scheibenbemessung:
 erf. Zulagen
 - r-Richtung -

| | | | | | |
|---|--|---|-------------|-------------------------------------|-------------|
| : } W YbVYa Yggi b[Erforderliche Bewehrung as,erf | |  | Modell | WT-1.2-m.Bw. | Tafelnummer |
| Vorhandene Bew. as,vorh = 7.54 (Grund+Zulagen) Bew.-Abstand d' = 36 mm Beton C 30/37 Bauteildicke h = 25.00 cm | | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| aus allen Nachweisen (Differenzbew.) Max = 4.85 (Kn. 2), Min = 0 (Kn. 1), Step = 0.75 | | KREBS+KIEFER Ingenieure GmbH | | | |

Randeinfassung entsprechend der Grundbewehrung





| | | | | | | |
|--|--|---|---|-------------|-------------------------------------|-----------------|
| : } W YbVYa Yggi b[| | Erforderliche Bewehrung as,erf |  KREBS + KIEFER | Modell | WT-1.2-m.Bw. | T ab • ca 14 K€ |
| Vorhandene Bew. as,vorh = 5.24 (Grund+Zulagen) | | aus allen Nachweisen (Differenzbew.) | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| Bew.-Abstand d' = 47 mm | | • 1200 } * 40; 1300 } * 40; 1400 } * 40; 1500 } * 40; 1600 } * 40; 1700 } * 40; 1800 } * 40; 1900 } * 40; 2000 } * 40; 2100 } * 40; 2200 } * 40; 2300 } * 40; 2400 } * 40; 2500 } * 40; 2600 } * 40; 2700 } * 40; 2800 } * 40; 2900 } * 40; 3000 } * 40; 3100 } * 40; 3200 } * 40; 3300 } * 40; 3400 } * 40; 3500 } * 40; 3600 } * 40; 3700 } * 40; 3800 } * 40; 3900 } * 40; 4000 } * 40; 4100 } * 40; 4200 } * 40; 4300 } * 40; 4400 } * 40; 4500 } * 40; 4600 } * 40; 4700 } * 40; 4800 } * 40; 4900 } * 40; 5000 } * 40; 5100 } * 40; 5200 } * 40; 5300 } * 40; 5400 } * 40; 5500 } * 40; 5600 } * 40; 5700 } * 40; 5800 } * 40; 5900 } * 40; 6000 } * 40; 6100 } * 40; 6200 } * 40; 6300 } * 40; 6400 } * 40; 6500 } * 40; 6600 } * 40; 6700 } * 40; 6800 } * 40; 6900 } * 40; 7000 } * 40; 7100 } * 40; 7200 } * 40; 7300 } * 40; 7400 } * 40; 7500 } * 40; 7600 } * 40; 7700 } * 40; 7800 } * 40; 7900 } * 40; 8000 } * 40; 8100 } * 40; 8200 } * 40; 8300 } * 40; 8400 } * 40; 8500 } * 40; 8600 } * 40; 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Knotenbemessung Wandartiger Träger

| CTC - Knoten | WT-1.2 | W-0.34 |
|---------------------------------------|--------|----------------------|
| Eingangswerte Beton: | | |
| Auflagerkraft F_{Ed} = | | 390,9 kN |
| Auflagerlänge l = | | 0,5 m |
| Auflagerbreite b = | | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | | 25 N/mm ² |
| v = | | 0,75 |
| Eingangswerte Bewehrung: | | |
| Höhe des Zugbands u = | | 28 cm |

Nachweis Auflagerpressung (σ_{c1}):

| | |
|--|-------------------------|
| $\sigma_{Rd} = \min(v \cdot f_{cd,T} ; v \cdot f_{cd,D} ; f_{cd,A})$ | 12,75 N/mm ² |
| $\sigma_{c1} = F_{Ed} / (l \cdot b)$ | 3,13 N/mm ² |
| $\sigma_{c1} / \sigma_{Rd} =$ | 0,25 |

Es ist keine Druckbewehrung erforderlich.

Der Nachweis der Auflagerpressung ist erfüllt.

Es lässt sich durch die komplexe Geometrie des Trägers kein eindeutiger Auflagerknoten für einen Detailnachweis der Druckstrebe bilden. Der Nachweis der Betondruckspannungen ist im FE-Programm an jedem Knoten erfüllt. Demnach werden diese auf diesem Weg als nachgewiesen angesehen.

| | | |
|----------------------------|--------|--------|
| Zugverankerung am Auflager | WT-1.2 | W-0.34 |
|----------------------------|--------|--------|

Eingangswerte Beton:

| | |
|--------------------------|---------|
| Auflagerkraft F_{Ed} = | 33,6 kN |
| Auflagerlänge l = | 0,5 m |
| Auflagerbreite b = | 0,25 m |

Eingangswerte Bewehrung:

| | |
|---|----------------------------|
| Höhe des Zugbands u = | 0 cm |
| Durchmesser Verankerungsbewehrung \emptyset = | 8 mm |
| Anzahl Stäbe n = | 6,667 ($\emptyset 8/15$) |

| | |
|--------------------------------|----------------------|
| vorh. Bewehrungsfläche A_s = | 3,35 cm ² |
| Bewehrungsgrad ρ = | 0,27 % |

Nachweis Zugverankerung:

| | |
|-------------------|--------------------------|
| $\sigma_{s,Rd}$ = | 43,50 kN/cm ² |
|-------------------|--------------------------|

| | |
|--------------------------------------|----------------------|
| $A_{s,erf} = F_{Ed} / \sigma_{s,Rd}$ | 0,77 cm ² |
|--------------------------------------|----------------------|

| | |
|--------------------------|------|
| $A_{s,erf} / A_{s,vorh}$ | 0,23 |
|--------------------------|------|

Der Nachweis der Zugverankerung ist erfüllt.

| CTC - Knoten | WT-1.2 | W-0.6 |
|---------------------------------------|--------|----------------------|
| Eingangswerte Beton: | | |
| Auflagerkraft F_{Ed} = | | 506,9 kN |
| Auflagerlänge l = | | 0,25 m |
| Auflagerbreite b = | | 0,25 m |
| Betonfestigkeit Träger $f_{ck,T}$ = | | 30 N/mm ² |
| Betonfestigkeit Decke $f_{ck,D}$ = | | 30 N/mm ² |
| Betonfestigkeit Auflager $f_{ck,A}$ = | | 25 N/mm ² |
| v = | | 0,75 |
| Eingangswerte Bewehrung: | | |
| Höhe des Zugbands u = | | 28 cm |

Nachweis Auflagerpressung (σ_{c1}):

| | |
|--|-------------------------|
| $\sigma_{Rd} = \min(v \cdot f_{cd,T} ; v \cdot f_{cd,D} ; f_{cd,A})$ | 12,75 N/mm ² |
| $\sigma_{c1} = F_{Ed} / (l \cdot b)$ | 8,11 N/mm ² |
| $\sigma_{c1} / \sigma_{Rd} =$ | 0,64 |

Es ist keine Druckbewehrung erforderlich.

Der Nachweis der Auflagerpressung ist erfüllt.

| Berechnung Bewehrung Zugband | WT-1.2 | Z1 |
|------------------------------|--------|----|
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|-------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 6,02 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | | 0 cm ² /m |
| Länge Zugfeld l_s = | | 1 m |
| Höhe des Zugbands u = | | 30 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 3,01 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 12 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 3 |
| vorh. Bewehrungsfläche A_s = | 3,39 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 11,31 cm ² /m |
|-------------------------------|--------------------------|

| Berechnung Bewehrung Zugband | WT-1.2 | Z2 |
|------------------------------|--------|----|
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|--------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 12,39 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | | 12,39 cm ² /m |
| Länge Zugfeld l_s = | | 0,4 m |
| Höhe des Zugbands u = | | 28 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 4,96 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 16 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 3 |
| vorh. Bewehrungsfläche A_s = | 6,03 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 21,54 cm ² /m |
|-------------------------------|--------------------------|

| Berechnung Bewehrung Zugband | WT-1.2 | Z3 |
|------------------------------|--------|----|
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|-------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 6,06 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | | 1,06 cm ² /m |
| Länge Zugfeld l_s = | | 0,6 m |
| Höhe des Zugbands u = | | 30 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 2,14 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 12 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1 |
| Stäbe pro Lage gesamt: | 2 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 3 |
| vorh. Bewehrungsfläche A_s = | 3,39 cm ² |

umgerechnet auf Flächenbewehrung:

| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 11,31 cm ² /m |
|-------------------------------|--------------------------|

| Berechnung Bewehrung Zugband | WT-1.2 | Z4 |
|------------------------------|--------|----|
|------------------------------|--------|----|

| | | |
|--------------------------------------|--|-------------------------|
| Eingangswerte | | |
| Größter Wert Zugfeld $a_{s,max}$ = | | 5,92 cm ² /m |
| Kleinsten Wert Zugfeld $a_{s,min}$ = | | 0 cm ² /m |
| Länge Zugfeld l_s = | | 0,8 m |
| Höhe des Zugbands u = | | 30 cm |

Integration Bewehrung über Länge:

| | |
|---|----------------------|
| $A_{s,erf} = (a_{s,max} - a_{s,min}) * l_s * 0,5 + a_{s,min} * l_s$ | 2,37 cm ² |
|---|----------------------|

| | |
|-------------------------------------|-------|
| Durchmesser Bewehrung \emptyset = | 12 mm |
| Anzahl Lagen: | 3 |
| Stäbe pro Lage: | 1,5 |
| Stäbe pro Lage gesamt: | 3 |

| | |
|--------------------------------|----------------------|
| Anzahl Stäbe n = | 4,5 |
| vorh. Bewehrungsfläche A_s = | 5,09 cm ² |

umgerechnet auf Flächenbewehrung:

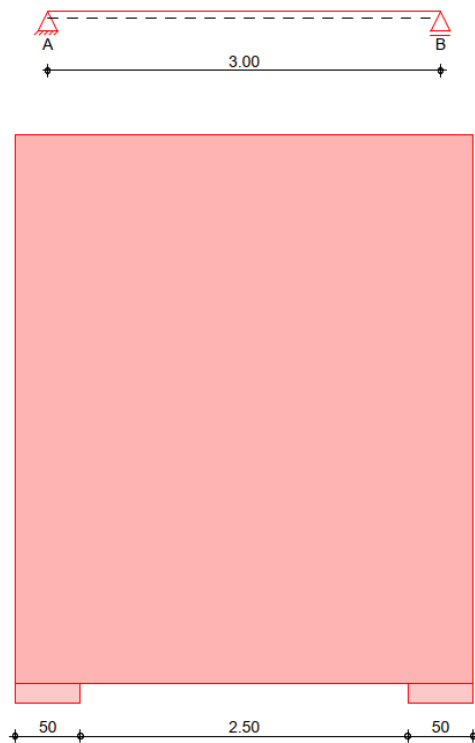
| | |
|-------------------------------|--------------------------|
| $a_{s,vorh} = A_{s,vorh} / u$ | 16,96 cm ² /m |
|-------------------------------|--------------------------|

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Genehmigungsplanung Tragwerksplanung

5.2.3 WT-1.3

Stat. System:



Vorbemerkung:

Der Träger WT-1.3 wird aufgrund der einfachen Geometrie und Belastung mit dem mB BauStatik Modul S360 bemessen.

Material:

| | | |
|--------------------|-----------------------|---------------------------|
| Dicke: | 25 cm | WT-1.3 |
| Betonstahl: | B 500SB | |
| Beton: | C30/37 | |
| Expositionsklasse: | XC1, W0 | Innenbauteile |
| Betondeckung: | $c_v = 30 \text{ mm}$ | |
| Grundbewehrung: | Ø12/15 horizontal | = 7,54 cm ² /m |
| | Ø10/15 vertikal | = 5,24 cm ² /m |

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Genehmigungsplanung Tragwerksplanung

Belastung:

Die Belastung wird aus den Auflagerreaktionen der zugehörigen Wandlager aus den Deckenmodellen D-1.OG und D-EG übernommen. Es wird für jeden Lasttyp (Eigengewicht, Ausbau, Nutzlasten) ein eigener Lastfall erstellt. Für die Nutzlasten wird beim Erstellen der Lastfälle in positive und negative Belastungsrichtung unterschieden.

Die Anordnung der Lasten kann aus den Lastplänen entnommen werden.

Bemessung:

Siehe folgende Seiten.

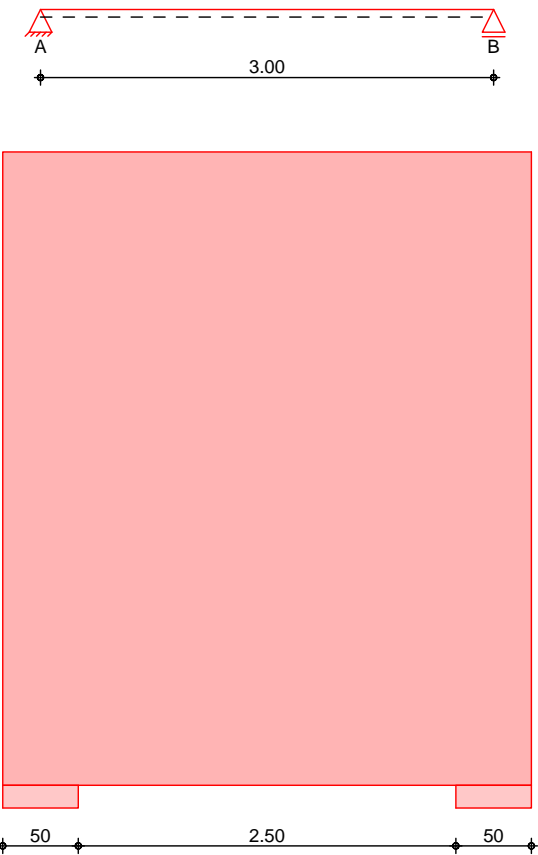
Pos. WT-1.3 KUBUSH[Yf`Hf} [Yf`

An beiden Auflagern ist eine Druckbewehrung von 4Ø12 anzuordnen.

Horizontal sind Ø12/15 einzulegen, statt Ø10/15.

System Üá^ääã\↔&æãÁÜã‡&æãÁ^á´áÁÆØSÁÓSÁFİİĞĖFĖFĖÊÁÔæà\ÁJǦF

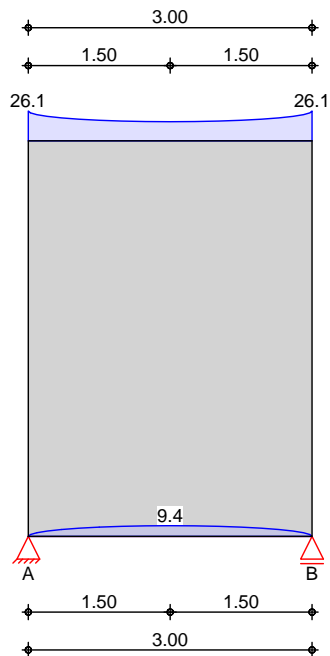
M 1 : 50



| | | | | | | |
|-------------------|--------|--------|------|------|----------|------|
| Abmessungen | Feld | b | h | l | Material | h/l |
| Mat./Querschnitt | | [cm] | [m] | [m] | | [-] |
| | Feld 1 | 25.0 | 4.18 | 3.00 | C 30/37 | 1.39 |
| Expositionsklasse | XC1 | | | | | |
| Auflager | Aufl. | Art | | a | t | |
| | | | | [cm] | [cm] | |
| | Aufl.A | direkt | | 50.0 | 25.0 | |
| | Aufl.B | direkt | | 50.0 | 25.0 | |

Belastungen

Gk (Eigenl.)

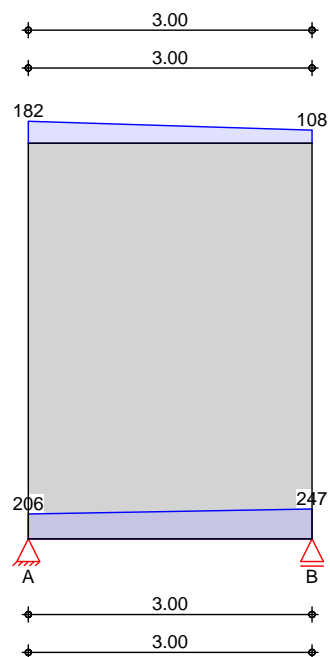


Eigenlast

Aufteilung gemäß DAfSb Heft 631

| Feld | Kommentar | gesamt [kN/m] | unten, max [kN/m] |
|--------|--------------|------------------|----------------------|
| Feld 1 | Eigengewicht | 26.12 | 9.37 |

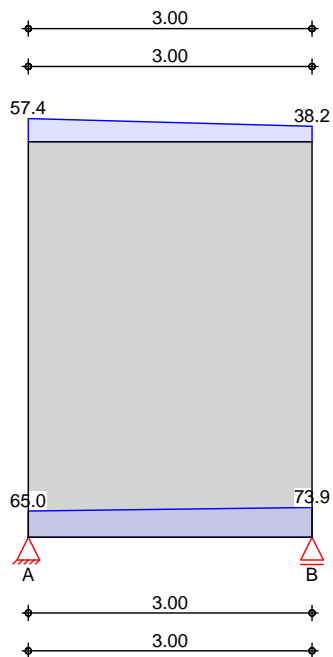
Gk



Trapezlasten

| Nr. | Feld | Angriff | a [m] | s [m] | q _l [kN/m] | q _r [kN/m] |
|-----|--------|---------|----------|----------|--------------------------|--------------------------|
| 1 | Feld 1 | oben | 0.00 | 3.00 | 182.17 | 108.49 |
| 2 | Feld 1 | unten | 0.00 | 3.00 | 205.67 | 246.95 |

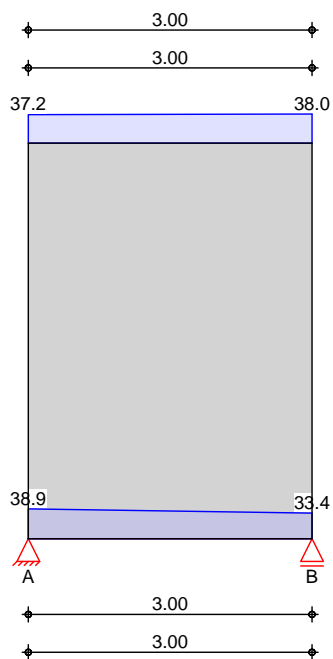
Gk



Trapezlasten

| Nr. | Feld | Angriff | a [m] | s [m] | q ₁ [kN/m] | q _r [kN/m] |
|-----|--------|---------|----------|----------|--------------------------|--------------------------|
| 1 | Feld 1 | oben | 0.00 | 3.00 | 57.37 | 38.17 |
| 2 | Feld 1 | unten | 0.00 | 3.00 | 65.04 | 73.88 |

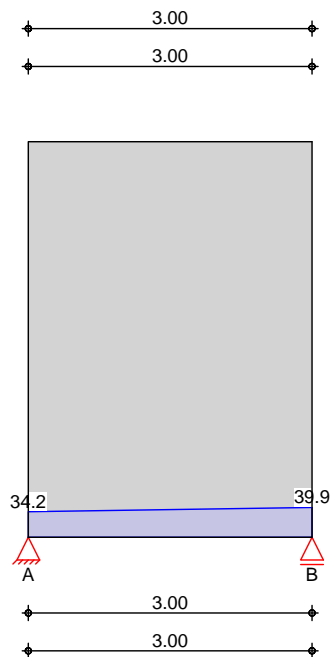
Qk . N_B1



Trapezlasten

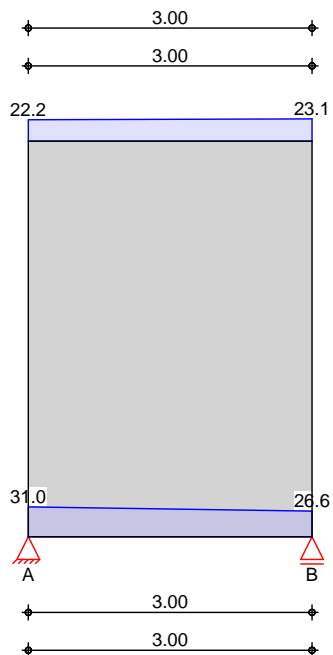
| Nr. | Feld | Angriff | a [m] | s [m] | q ₁ [kN/m] | q _r [kN/m] |
|-----|--------|---------|----------|----------|--------------------------|--------------------------|
| 1 | Feld 1 | oben | 0.00 | 3.00 | 37.22 | 38.01 |
| 2 | Feld 1 | unten | 0.00 | 3.00 | 38.94 | 33.42 |

W-431

$Q_k . N_{C1}$


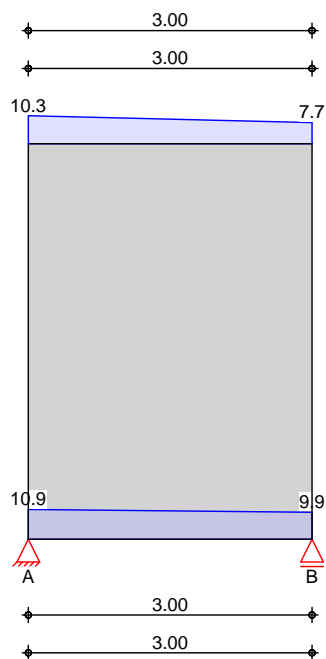
Trapezlasten

| Nr. | Feld | Angriff | a [m] | s [m] | q_1 [kN/m] | q_r [kN/m] |
|-----|--------|---------|----------|----------|-----------------|-----------------|
| 1 | Feld 1 | unten | 0.00 | 3.00 | 34.16 | 39.85 |

 $Q_k . N_{C5}$


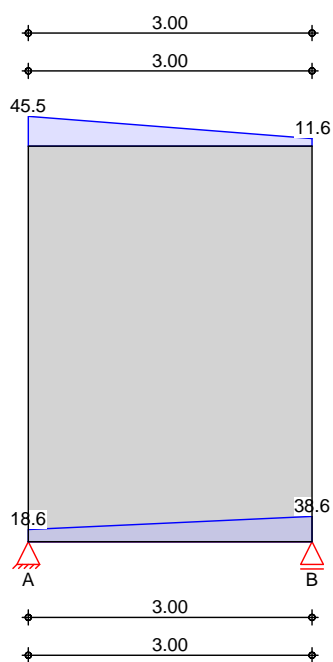
Trapezlasten

| Nr. | Feld | Angriff | a [m] | s [m] | q_1 [kN/m] | q_r [kN/m] |
|-----|--------|---------|----------|----------|-----------------|-----------------|
| 1 | Feld 1 | oben | 0.00 | 3.00 | 22.24 | 23.12 |
| 2 | Feld 1 | unten | 0.00 | 3.00 | 30.99 | 26.59 |

$Q_k . N_{E1}$


Trapezlasten

| Nr. | Feld | Angriff | a [m] | s [m] | q_1 [kN/m] | q_r [kN/m] |
|-----|--------|---------|----------|----------|-----------------|-----------------|
| 1 | Feld 1 | oben | 0.00 | 3.00 | 10.25 | 7.73 |
| 2 | Feld 1 | unten | 0.00 | 3.00 | 10.92 | 9.89 |

 $Q_k . N_{DA}$


Trapezlasten

| Nr. | Feld | Angriff | a [m] | s [m] | q_1 [kN/m] | q_r [kN/m] |
|-----|--------|---------|----------|----------|-----------------|-----------------|
| 1 | Feld 1 | oben | 0.00 | 3.00 | 45.48 | 11.57 |
| 2 | Feld 1 | unten | 0.00 | 3.00 | 18.57 | 38.60 |

Kombi nati onen

Kombinationsbildung nach DIN EN 1990
Darstellung der maßgebenden Kombinationen

| Ek | (* *EW) | | |
|----|---------------|---------------|---------------|
| 1 | 1.35*Gk | EFÈĜIE Ö← | |
| 7 | 1.35*Gk | EFÈĜIE Ö← | +1.05*Qk.N_B1 |
| | +1.05*Qk.N_C1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 |
| | +1.50*Qk.N_DA | | |
| 10 | 1.00*Gk | EFÈĜIE Ö← | |

Mat. /Querschni tt

Expositionsklassen

Abs. 4.2, 4.4

Feld 1

Expositionsklassen

Seite Kl Kommentar

umlaufend XC1 \~'←æ^Á~ääãÄb\†^ä↔&Á^ább

Bewehrungsanordnung

Achsabst ãnde, Betondeckungen

| Bezug | C _{min} [mm] | ' _{dev} [mm] | C _{nom} [mm] | C _v [mm] |
|-------------|--------------------------|--------------------------|--------------------------|------------------------|
| Feld 1 | | | | |
| oben | 10 | 10 | 20 | 30 |
| unten | 10 | 10 | 20 | 30 |
| links | 10 | 10 | 20 | 30 |
| rechts | 10 | 10 | 20 | 30 |
| stirnseitig | 10 | 10 | 20 | 20 |

Nachwei se (GZT)

gem. DIN EN 1992-1-1, DAFStb Heft 631,
ÇU'â→â↔'âDU'â†ääD

Netzbewehrung
je Seite

| b [cm] | As,erf. Y'↑Y↓Y |
|-----------|-------------------|
| 25 | 1.88 |

Q†^&b~|&âæ}æää|^&

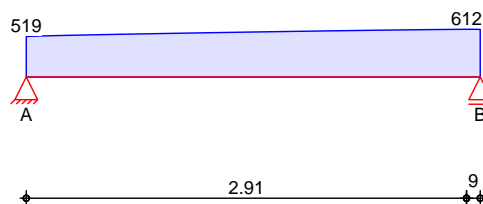
| Ort | Med [kNm] | EK | z [m] | Z [kN] | As,erf. Y'↑Y↓Y |
|--------|--------------|----|----------|-----------|-------------------|
| Feld 1 | 1103.0 | 7 | 1.80 | 612.8 | 14.1 |

N|ää†^&æâæ}æää|^&
Streckenlasten

| Feld | von x [m] | bis x [m] | Aed [kN/m] | EK | As,erf. Y'↑Y↓Y |
|--------|--------------|--------------|---------------|----|-------------------|
| Feld 1 | 0.00 | 3.00 | 612.27 | 7 | 14.08 |

Grundkombinationen

†á[↔†á→ÁÁ|à~|â†^&æ^ääÁQáb\ÁÁ|bÁÖää|^ä←↑â↔^á\↔~^æ^



Knotennachweise
Auflager A

Beton C 30/37

P^~\æ^ÁPIJÁ^á'âÁU'â→â↔'âDU'â†ää

| Spannungsbegrenzung | DIN EN 1992-1-1 | f | = | 0.75 |
|---------------------|-----------------|------|-------|-------|
| a1 | a2 | 2 | a0 | b |
| [cm] | [cm] | YflY | [cm] | [cm] |
| 48.00 | 55.04 | 67.7 | 30.00 | 25.00 |

Druckstrebennachweis

| EK | i | Fi [kN] | ai [cm] | i [N/mm²] | R,d [N/mm²] | [-] |
|----|------|------------|------------|--------------|----------------|------|
| 7 | cd,1 | 1354.7 | 48.0 | 11.3 | 12.7 | 0.89 |
| | cd,2 | 1613.1 | 55.0 | 11.7 | 12.7 | 0.92 |

Verankerungsart

gerader Stab

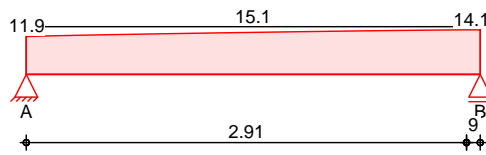
W-434

Schulcampus EWK \

WT-1.3

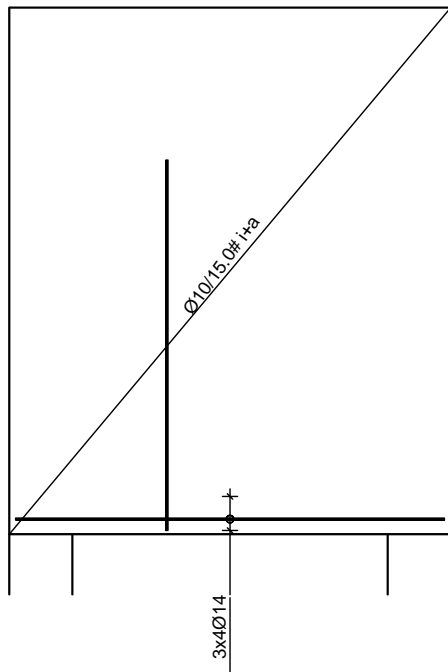
N | ää†^æâæ}æää|^&

Streckenlasten

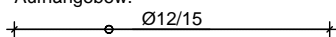


Bewehrungsskizze

M 1:60



Aufhängebew.



Randefassung umlaufend Ø12 + Bügel Ø10/15

5i Z` U[Yf_f}ZhY

charakteristische Lasten nach Heft 631

| EW | Auflager | $F_{z,max}$ [kN] | $F_{z,min}$ [kN] |
|---------|------------|---------------------|---------------------|
| Gk | Auflager A | 604.7 | 604.7 |
| | Auflager B | 588.5 | 588.5 |
| Ö← | Auflager A | 178.4 | 178.4 |
| | Auflager B | 173.3 | 173.3 |
| Qk.N_B1 | Auflager A | 111.9 | 0.0 |
| | Auflager B | 109.5 | 0.0 |
| Qk.N_C1 | Auflager A | 54.1 | 0.0 |
| | Auflager B | 56.9 | 0.0 |
| Qk.N_C5 | Auflager A | 78.1 | 0.0 |
| | Auflager B | 76.3 | 0.0 |
| Qk.N_E1 | Auflager A | 30.0 | 0.0 |

W-436

Schulcampus EWK \

WT-1.3

| EW | Auflager | $F_{z,max}$ [kN] | $F_{z,min}$ [kN] |
|---------|------------|---------------------|---------------------|
| Qk.N_DA | Auflager B | 28.2 | 0.0 |
| | Auflager A | 89.1 | 0.0 |
| | Auflager B | 82.2 | 0.0 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

| | | | [-] |
|------------|------------------------|----|-------|
| Auflager A | Expositionsklassen | OK | |
| | Druckstreben | OK | 0.92 |
| | Überschneidungsbereich | OK | |
| Auflager B | Druckstreben | OK | 0.90 |
| | Überschneidungsbereich | OK | |
| | Bewehrungswahl | OK | |

S

Stützen

Inhaltsverzeichnis

| Inhalt | Seite |
|------------------------------------|--------------|
| 1. Vorbemerkungen | S-3 |
| 2. Bemessung der Stützenpositionen | S-4 |
| 2.1. S-2.2 | S-4 |
| 2.2. S-2.4 | S-10 |
| 2.3. S-1.2 | S-22 |
| 2.4. S-1.7 | S-28 |

1 Vorbemerkungen

In diesem Kapitel werden die erforderlichen Nachweise für die Stützenpositionen, welche in Stahlbetonbauweise ausgeführt werden, erbracht.

Für die Bewehrung der Stützen sind die konstruktiven Angaben der DIN EN 1992-1-1:2011-1 + NA, Abschnitt 9.5 zu beachten.

Die gewählte Bewehrung der Stützen ist zu Zwecken der Lastweiterleitung in die darunterliegenden Wände durchzuführen.

Die Stützen werden mit dem mB BauStatik Modul U412 bemessen. Die Lasten werden aus den dazugehörigen Deckenmodellen übernommen.

2 Bemessung der Stützenpositionen

2.1 S-2.2

Die Bemessung von S-2.2 gilt auch für S-2.1.

Stat. System:



Material:

| | |
|--------------------|------------------------|
| Länge: | ≤ 3,62 m |
| Querschnitt: | b / d = 25 / 90 cm |
| Betonstahl: | B500B |
| Beton: | C30/37 |
| Expositionsklasse: | XC1, W0 |
| Betondeckung: | c _v = 30 mm |

Ausführungsübersicht:

| Position | Querschnitt [cm] | Betongüte | Längsbewehrung | Bügelbewehrung |
|----------|---------------------|-----------|-----------------------|-------------------------------|
| S-2.1 | 25 x 90 | C30/37 | oben/unten je 4Ø12 | Ø8/12 |
| S-2.2 | | | 2x4Ø12 = 8Ø12 | Ø8/7 (Geschoss- übergänge) |

Bemessung:

Siehe folgende Seiten.

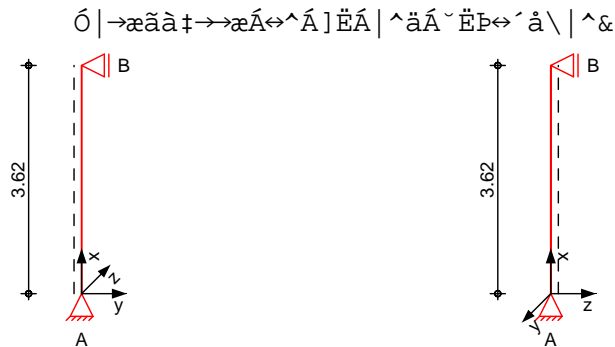
Pos. S-2.2

DYbXYgh mY

) " o . . . o-2.1.

System

M 1:120



Abmessungen
Mat./Querschnitt

| Geschoss | l [m] | Material | b_y/b_z [cm] |
|----------|----------|----------|-------------------|
| EG | 3.62 | C 30/37 | 25/90 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | $K_{T,z}$ [kN/m] | $K_{R,y}$ [kNm/rad] | $K_{T,y}$ [kN/m] | $K_{R,z}$ [kNm/rad] |
|-------|----------|---------------------|------------------------|---------------------|------------------------|
| B | 3.62 | fest | frei | fest | frei |
| A | 0.00 | fest | frei | fest | frei |

Belastungen

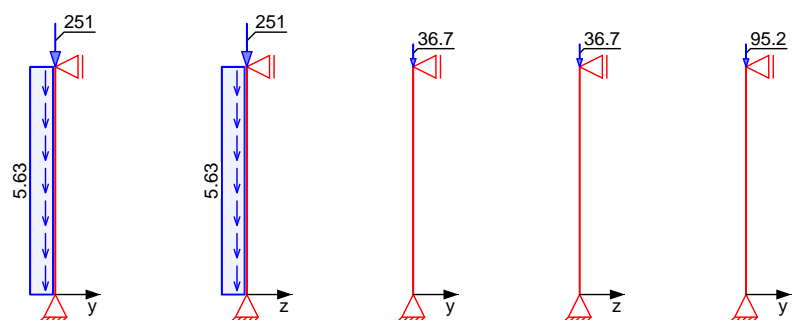
Belastungen auf das System

Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk Gk $\ddot{O} \leftarrow$ $\ddot{O} \leftarrow$ Qk.N_DA



Qk.N_DA



5i Z` U[Yf_f } ZhY

| N à→á&æã&ã=ßæ^Áá↑Á U\fi\`æ^←~*à | Einw | F _{x,k} [kN] | M _{y,k} [kNm] | M _{z,k} [kNm] | F _{y,k} [kN] | F _{z,k} [kN] |
|--------------------------------------|------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|
| Gk | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ö← | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_DA | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| N à→á&æã&ã=ßæ^Áá↑Á U\fi\`æ^à ß | Einw | F _{x,k} [kN] | M _{y,k} [kNm] | M _{z,k} [kNm] | F _{y,k} [kN] | F _{z,k} [kN] |
|-------------------------------------|------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|
| Gk | | 271.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ö← | | 36.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_DA | | 95.2 | 0.0 | 0.0 | 0.0 | 0.0 |

| Anteile aus Th. II Ordnung | Einw | M _{y,k} [kNm] | M _{z,k} [kNm] | F _{y,k} [kN] | F _{z,k} [kN] |
|-------------------------------|------|---------------------------|---------------------------|--------------------------|--------------------------|
| Gk | | 0.0 | 0.0 | 0.0 | 0.0 |
| Ö← | | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_DA | | 0.0 | 0.0 | 0.0 | 0.0 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

| Nachweis | | [-] |
|--------------------------------|----|-------|
| Expositionsklassen | OK | |
| U\áâ↔↔\#\ Ñã `áb`á^↔\&ã=ßæ^ | OK | |
| Querkraftbemessung | OK | 0.14 |
| Brand | OK | |
| Bewehrungswahl | OK | |

Nachweise (Brand)

Brandfall im Grenzzustand der Tragfähigkeit

| Nachweis | | [-] |
|-------------------|----|-------|
| Ñã `áb`á^↔\&ã=ßæ^ | OK | 0.00 |

2.2 S-2.4

Die Bemessung von S-2.4 gilt auch für S-2.3, S-2.5, S-2.6 und S-2.7.

Es werden aufgrund des großen angrenzenden Stützenfeldes zusätzliche Momente mitberücksichtigt, die aus einer Einspannung der Stütze resultieren. Die Momente wurden aus dem Deckenmodell zur Decke über 2. Obergeschoss ermittelt mit zusätzlicher Berücksichtigung einer Einspannung der Stütze. Die angesetzte Federsteifigkeit wurde automatisch aus den Geometrieparametern ermittelt.

Stat. System:



Material:

| | |
|--------------------|------------------------|
| Länge: | ≤ 3,62 m |
| Querschnitt: | b / d = 25 / 25 cm |
| Betonstahl: | B500B |
| Beton: | C30/37 |
| Expositionsklasse: | XC1, W0 |
| Betondeckung: | c _v = 30 mm |

Ausführungsübersicht:

| Position | Querschnitt [cm] | Betongüte | Längsbewehrung | Bügelbewehrung |
|----------|------------------|-----------|----------------|---|
| S-2.3 | 25 x 25 | C30/37 | je Ecke 1Ø25 | Ø8/20 Ø8/12 (Geschoss- übergänge) |
| S-2.4 | | | | |
| S-2.5 | | | | |
| S-2.6 | | | | |
| S-2.7 | | | | |

Bemessung:

Siehe folgende Seiten.

Positionsplan

Positionsplan

Bauteile

Bauteil-Positionen

Platten

Platten-Positionen

Stahl beton

| Position | Winkel YflŸ | Art | Material Quer | Dicke [cm] |
|----------|----------------|-----|------------------------------|---------------|
| D-2.OG | 0.0 | iso | C 30/37 Q B 500SB B 500SB | 25.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: Öæb\æ↔^b↔=ã^|^&ÂT|ää~↔\

Expositionskasse

&æ†‡ßÆØSÁÓSÁFïïGëFëFëÁÚáâëÄHëF

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----|-------------------------------|
| D-2.OG | umlaufend | XC1 | \ã~^↔æ^Ã~ääãÃb\†^ä↔&Ã nass |

I bhYfn~[Y

Unterzug-Positionen

Stahl beton

| Position | Q†^&æ [m] | Betonstahl Ñfi&æ→ | Beton |
|------------------|--------------|----------------------|-----------|
| UZ 2.1 | 22.50 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.2 | 3.50 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.3 | 7.85 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.4, UZ 2.5 | 7.20 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.6 | 5.38 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.7 | 3.50 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.8 | 15.18 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.9 | 2.75 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.10..UZ 2.12 | 10.00 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.14 | 24.00 | B 500SB B 500SB | C 30/37 Q |
| UZ 2.15 | 19.08 | B 500SB B 500SB | C 30/37 Q |

Q: Öæb\æ↔^b↔=ã^|^&ÂT|ää~↔\

Abminderung

| Position | F _D | F _{S,s} | F _{S,t} | F _T | F _{B,s} | F _{B,t} |
|-----------------------------------|----------------|------------------|------------------|----------------|------------------|------------------|
| UZ 2.1..UZ 2.12, UZ 2.14, UZ 2.15 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |

F_D: Nâ†↔^ääã|^&bää↔~ääâfiää↔æÁæá^b\æ↔^&æ↔\
F_{S,s}: Nâ†↔^ääã|^&bää↔~ääâfiää↔æÁU'á|âb\æ↔^&æ↔\Á↔^ÁbË↔^'á|^&
F_{S,t}: Nâ†↔^ääã|^&bää↔~ääâfiää↔æÁU'á|âb\æ↔^&æ↔\Á↔^ÁbË↔^'á|^&
F_T: Nâ†↔^ääã|^&bää↔~ääâfiää↔æÁU'~âb↔~^bb\æ↔^&æ↔\
F_{B,s}: Nâ†↔^ääã|^&bää↔~ääâfiää↔æÁÑ↔æ&b\æ↔^&æ↔\Á|†ÁbËÑ'ábæ
F_{B,t}: Nâ†↔^ääã|^&bää↔~ääâfiää↔æÁÑ↔æ&b\æ↔^&æ↔\Á|†Á\ËÑ'ábæ

Querschnitt

| Position | Exz. [cm] | b _{P1} [cm] | h _f [cm] | b _w [cm] | h [cm] |
|------------------|--------------|-------------------------|------------------------|------------------------|-----------|
| UZ 2.1 | 17.5 | - | - | 25.0 | 170.0 |
| UZ 2.2 | UZ | 25.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.3 | UZ | 200.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.4, UZ 2.5 | UZ | 35.0 | 25.0 | 35.0 | 85.0 |
| UZ 2.6 | UZ | 200.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.7 | UZ | 25.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.8 | 17.5 | - | - | 25.0 | 170.0 |
| UZ 2.9 | UZ | 25.0 | 25.0 | 25.0 | 95.0 |
| UZ 2.10 | 20.0 | - | - | 25.0 | 185.0 |
| UZ 2.11, UZ 2.12 | 5.0 | - | - | 35.0 | 155.0 |
| UZ 2.14, UZ 2.15 | 17.5 | - | - | 25.0 | 170.0 |

UZ: Unterzug
Exz.: æ[~æ^↔^b'ää^&b'á~bbæ^ääÑá~æ^Á†↔\ÁÓ[~æ^↔^&↔\†\Áæ

| Position | Ö=åæ [m] | Q†^&æ [m] | Material | Dicke [cm] |
|----------------------|-------------|--------------|----------------------|---------------|
| W-2.11 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.12 | 3.62 | 1.53 | C 25/30 Q B 500SB | 25.0 |
| W-2.13 | 3.62 | 0.43 | C 25/30 Q B 500SB | 25.0 |
| W-2.14, W-2.15 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.16 | 3.62 | 1.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.17 | 3.62 | 8.83 | C 25/30 Q B 500SB | 25.0 |
| W-2.18_1 | 3.62 | 2.49 | C 25/30 Q B 500SB | 25.0 |
| W-2.18_2 | 3.62 | 2.74 | C 25/30 Q B 500SB | 25.0 |
| W-2.18_3 | 3.62 | 0.40 | C 25/30 Q B 500SB | 25.0 |
| W-2.18_4 | 3.62 | 2.59 | C 25/30 Q B 500SB | 25.0 |
| W-2.19, W-2.20 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.21 | 3.62 | 10.00 | C 25/30 Q B 500SB | 25.0 |
| W-2.22 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.23 | 3.62 | 2.54 | C 25/30 Q B 500SB | 25.0 |
| W-2.24 | 3.62 | 4.27 | C 25/30 Q B 500SB | 25.0 |
| W-2.25, W-2.26 | 3.62 | 8.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.27_1 | 3.62 | 0.46 | C 25/30 Q B 500SB | 25.0 |
| W-2.27_2 | 3.62 | 0.72 | C 25/30 Q B 500SB | 25.0 |
| W-2.27_3 | 3.62 | 0.25 | C 25/30 Q B 500SB | 25.0 |
| W-2.30_2 | 3.62 | 0.50 | C 25/30 Q B 500SB | 25.0 |
| W-2.30_3 | 3.62 | 1.28 | C 25/30 Q B 500SB | 25.0 |
| WS-2.5 | 3.62 | 1.01 | C 25/30 Q B 500SB | 25.0 |
| WS-2.18_1 | 3.62 | 1.52 | C 25/30 Q B 500SB | 25.0 |
| WS-2.18_2, WS-2.18_3 | 3.62 | 1.51 | C 25/30 Q B 500SB | 25.0 |
| WS-2.27_1, WS-2.27_2 | 3.62 | 0.89 | C 25/30 Q B 500SB | 25.0 |

| Position | $\bar{O}=\hat{a}e$ [m] | $Q\ddagger^{\wedge}e$ [m] | Material | Dicke [cm] |
|----------------------|---------------------------|------------------------------|----------------------|---------------|
| WS-2.30_1, WS-2.30_2 | 3.62 | 1.01 | C 25/30 Q B 500SB | 25.0 |
| WS-T-2.1 | 3.62 | 1.00 | C 25/30 Q B 500SB | 25.0 |
| WS-T-2.3 | 3.62 | 1.14 | C 25/30 Q B 500SB | 25.0 |
| WS-T-2.4 | 3.62 | 1.01 | C 25/30 Q B 500SB | 25.0 |
| WT-1.1 | 3.62 | 8.63 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_1 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_2 | 3.62 | 0.98 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_3 | 3.62 | 0.78 | C 25/30 Q B 500SB | 25.0 |
| WT-2.1_4 | 3.62 | 2.05 | C 25/30 Q B 500SB | 35.0 |
| WT-2.2 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |
| WT-2.3_1 | 3.62 | 2.05 | C 25/30 Q B 500SB | 35.0 |
| WT-2.3_2 | 3.62 | 0.81 | C 25/30 Q B 500SB | 25.0 |
| WT-2.3_3 | 3.62 | 3.56 | C 25/30 Q B 500SB | 25.0 |
| WT-2.4_1 | 3.62 | 1.28 | C 25/30 Q B 500SB | 25.0 |
| WT-2.4_2 | 3.62 | 0.34 | C 25/30 Q B 500SB | 25.0 |
| WT-2.4_3 | 3.62 | 3.58 | C 25/30 Q B 500SB | 25.0 |
| WT-2.5 | 3.62 | 2.75 | C 25/30 Q B 500SB | 25.0 |

Q: Öæb\æ↔^b←=ã^|^&ÁT|áã~↔\

Expositionsklasse

&æ↑‡ΒΆΕ∅ΣΆΌΣΆFÏÏGĚFĚFÊÁÚáâÈÁHÈF

| Position | Seite | Kl | Kommentar |
|---|-----------|-----|-------------------------------|
| W-2.1..W-2.4, W-2.5_1, W-2.5_2, W-2.6..W-2.17, W-2.18_1..W-2.18_4, W-2.19..W-2.26, W-2.27_1..W-2.27_3, W-2.30_2, W-2.30_3, WS-2.5, WS-2.18_1..WS-2.18_3, WS-2.27_1, WS-2.27_2, WS-2.30_1, WS-2.30_2, WS-T-2.1, WS-T-2.3, WS-T-2.4, WT-1.1, WT-2.1_1..WT-2.1_4, WT-2.2, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3, WT-2.5 | umlaufend | XC1 | \ä~'←æ^Ã~äæãÄB\‡^ä↔&Ã nass |

Federstei fi qkei ten

| Position | $K_{R,r}$ [kNm/rad/m] | $K_{R,s}$ [kNm/rad/m] | $K_{T,t}$ [kN/m/m] |
|--|--------------------------|--------------------------|-----------------------|
| W-2.1..W-2.4, W-2.5_1, W-2.5_2, W-2.6..W-2.17, W-2.18_1..W-2.18_4, W-2.19..W-2.26, W-2.27_1..W-2.27_3, W-2.30_2, W-2.30_3, WS-2.5, WS-2.18_1..WS-2.18_3, WS-2.27_1, WS-2.27_2, WS-2.30_1, WS-2.30_2, WS-T-2.1, WS-T-2.3, WS-T-2.4, WT-1.1, WT-2.1_1..WT-2.1_3 | frei | frei +/- | 2140884 |

S-14

Schulcampus EWK \ 2OG-LP4-ST

| Position | $K_{R,r}$ [kNm/rad/m] | $K_{R,s}$ [kNm/rad/m] | $K_{T,t}$ [kN/m/m] |
|--|--------------------------|--------------------------|-----------------------|
| WT-2.1_4 | frei | frei | +/- 2997238 |
| WT-2.2 | frei | frei | +/- 2140884 |
| WT-2.3_1 | frei | frei | +/- 2997238 |
| WT-2.3_2, WT-2.3_3, WT-2.4_1, WT-2.4_3, WT-2.5 | frei | frei | +/- 2140884 |

Material

Materialkennwerte

Stahl beton

DIN EN 1992-1-1

| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|---|-----------|--------|----------------|-----------------------|
| S-2.1..S-2.7, W-2.1..W-2.4, W-2.5_1, W-2.5_2, W-2.6..W-2.17, W-2.18_1..W-2.18_4, W-2.19..W-2.26, W-2.27_1..W-2.27_3, W-2.30_2, W-2.30_3, WS-2.5, WS-2.18_1..WS-2.18_3, WS-2.27_1, WS-2.27_2, WS-2.30_1, WS-2.30_2, WS-T-2.1, WS-T-2.3, WS-T-2.4, WT-1.1, WT-2.1_1..WT-2.1_4, WT-2.2, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3, WT-2.5 | C 25/30 Q | 25.00 | 31000 12900 | 25.00 2.60 |
| D-2.OG, UZ 2.1..UZ 2.12, UZ 2.14, UZ 2.15 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |
| Q: Öæb\æ↔^b↔=ã^ ^&ÂT ãã~↔\ | | | | |

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte | E_s G | f_{yk} $f_{tk,cal}$ |
|--|----------|--------|-----------------|--------------------------|
| D-2.OG, S-2.1..S-2.7, UZ 2.1..UZ 2.12, UZ 2.14, UZ 2.15, W-2.1..W-2.4, W-2.5_1, W-2.5_2, W-2.6..W-2.17, W-2.18_1..W-2.18_4, W-2.19..W-2.26, W-2.27_1..W-2.27_3, W-2.30_2, W-2.30_3, WS-2.5, WS-2.18_1..WS-2.18_3, WS-2.27_1, WS-2.27_2, WS-2.30_1, WS-2.30_2, WS-T-2.1, WS-T-2.3, WS-T-2.4, WT-1.1, WT-2.1_1..WT-2.1_4, WT-2.2, WT-2.3_1..WT-2.3_3, WT-2.4_1..WT-2.4_3, WT-2.5 | B 500SB | 78.50 | 200000 77000 | 500.00 525.00 |

Di b_hU Yf_f} zY

§ | ^←\→á&æã←ã‡à\æÁæ↔^}↔ã←| ^&b}æ↔bæ

ËÁ´ááãá←\æã↔b\↔b´áæÁN|à→á&æã←ã‡à\æÁ↓æÁÓ↔^}↔ã←| ^&

ËÁ↑↔^Ð↑á[Á©âæã→á&æã| ^&ÁäæãÁQáb\à‡→æÁ↓æÁÓ↔^}↔ã←| ^&

Tabel l e

Úáâæ→áã↔b´áæÁN|b&áâæÁäæãÁN|à→á&æã←ã‡à\æ

| | EW | $F_{r,min}$ | $F_{s,min}$ | $F_{t,min}$ | $M_{r,min}$ | $M_{s,min}$ | $M_{t,min}$ |
|-------|---------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
| | | $F_{r,max}$ [kN] | $F_{s,max}$ [kN] | $F_{t,max}$ [kN] | $M_{r,max}$ [kNm] | $M_{s,max}$ [kNm] | $M_{t,max}$ [kNm] |
| S-2.1 | Gk | - | - | 196.12 | - | - | - |
| | Ö← | - | - | 18.03 | - | - | - |
| | Qk.N_E1 | - | - | -21.83 | - | - | - |
| | | - | - | 0.00 | - | - | - |
| | Qk.N_DA | - | - | -44.81 | - | - | - |
| S-2.2 | | - | - | 95.32 | - | - | - |
| | Gk | - | - | 251.30 | - | - | - |
| | Ö← | - | - | 36.73 | - | - | - |
| | Qk.N_E1 | - | - | -11.45 | - | - | - |
| | | - | - | 0.00 | - | - | - |
| S-2.3 | Qk.N_DA | - | - | -14.32 | - | - | - |
| | | - | - | 95.18 | - | - | - |
| | Gk | - | - | 178.89 | - | - | - |
| | Ö← | - | - | 65.23 | - | - | - |
| | Qk.N_E1 | - | - | -0.04 | - | - | - |
| S-2.4 | | - | - | 0.02 | - | - | - |
| | Qk.N_DA | - | - | -10.87 | - | - | - |
| | | - | - | 64.00 | - | - | - |
| | Gk | - | - | 368.75 | - | -13.30 | - |
| | Ö← | - | - | 130.98 | - | -4.26 | - |
| S-2.5 | Qk.N_E1 | - | - | -0.09 | - | -0.01 | - |
| | | - | - | 0.05 | - | 0.02 | - |
| | Qk.N_DA | - | - | -2.12 | - | -8.90 | - |
| | | - | - | 133.84 | - | 0.18 | - |
| | Gk | - | - | 241.89 | - | - | - |
| S-2.6 | Ö← | - | - | 86.26 | - | - | - |
| | Qk.N_E1 | - | - | -0.01 | - | - | - |
| | | - | - | 0.01 | - | - | - |
| | Qk.N_DA | - | - | -0.56 | - | - | - |
| | | - | - | 86.98 | - | - | - |
| S-2.7 | Gk | - | - | 140.12 | - | - | - |
| | Ö← | - | - | 50.93 | - | - | - |
| | Qk.N_E1 | - | - | 0.00 | - | - | - |
| | | - | - | 0.03 | - | - | - |
| | Qk.N_DA | - | - | -2.61 | - | - | - |
| | | - | - | 50.60 | - | - | - |
| | Gk | - | - | 101.52 | - | - | - |
| | Ö← | - | - | 37.66 | - | - | - |
| | Qk.N_E1 | - | - | 0.00 | - | - | - |
| | | - | - | 10.45 | - | - | - |
| | Qk.N_DA | - | - | -0.19 | - | - | - |
| | | - | - | 20.62 | - | - | - |

Pos. S-2.4

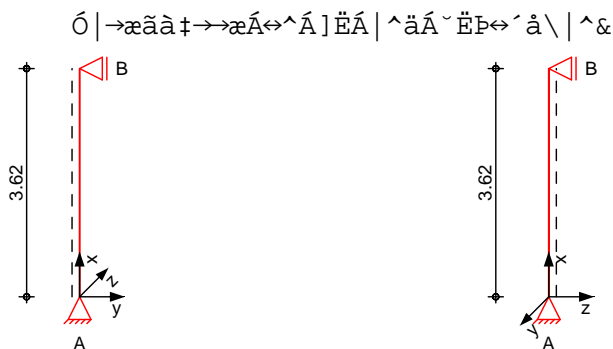
DYbXYgh mY

Um eine ungeplante, außermittige Belastung der Randstützen zu berücksichtigen, wurden zusätzlich zu den Auflagerkräften aus der Decke auch Auflagermomente auf die Stütze eingeprägt. Diese Auflagermomente ergeben sich aus einer zusätzlichen Deckenbetrachtung, bei der die Stützen als biegesteife Auflager modelliert wurden. Die hierbei angesetzte Federsteifigkeit ergibt sich aus der Stützengeometrie und wurde in MicroFE automatisch ermittelt.

Die Bemessung dieser Stütze gilt ebenfalls für die Stützen S-2.3, S-2.5, S-2.6 und S-2.7.

System

M 1:120



Abmessungen

Mat./Querschnitt

| Geschoss | l | Material | b_y/b_z |
|----------|------|----------|-----------|
| | [m] | | [cm] |
| EG | 3.62 | C 30/37 | 25/25 |

Expositionsklasse

XC1

Auflager

| Lager | x | $K_{T,z}$ | $K_{R,y}$ | $K_{T,y}$ | $K_{R,z}$ |
|-------|------|-----------|-----------|-----------|-----------|
| | [m] | [kN/m] | [kNm/rad] | [kN/m] | [kNm/rad] |
| B | 3.62 | fest | frei | fest | frei |
| A | 0.00 | fest | frei | fest | frei |

Belastungen

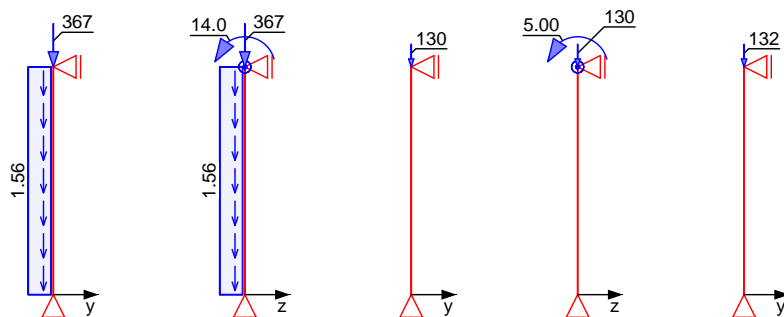
Belastungen auf das System

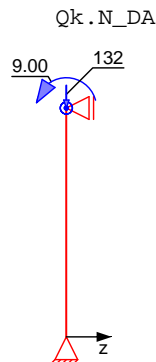
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk Gk $\ddot{O} \leftarrow$ $\ddot{O} \leftarrow$ Qk.N_DA





Streckenlasten in x-Richtung

Einw. G_k

| Ges. | Komm. | Ort | a [m] | s [m] | q_u [kN/m] | q_o [kN/m] |
|------|----------|-----|----------|----------|-----------------|-----------------|
| EG | Eigengew | | 0.00 | 3.62 | | 1.56 |

Punktlasten in x-Richtung

Einw. G_k

Einw. I_m

Einw. $Q_k.N_{DA}$

| Ges. | Komm. | Ort | a [m] | F_x [kN] | e_y [cm] | e_z [cm] |
|--------|-------|-----|----------|---------------|---------------|---------------|
| (a) EG | | | 3.62 | 366.61 | 0.0 | 0.0 |
| (a) EG | | | 3.62 | 130.29 | 0.0 | 0.0 |
| (a) EG | | 1 | 3.62 | 132.40 | 0.0 | 0.0 |

(a)

aus Pos. 'D-2.OG', Lager 'S-2.4'

Punktlasten in z-Richtung

Einw. G_k

Einw. I_m

Einw. $Q_k.N_{DA}$

| Ges. | Komm. | Ort | a [m] | F_z [kN] | M_y [kNm] |
|------|-------|-----|----------|---------------|----------------|
| EG | | | 3.62 | 0.00 | 14.00 |
| EG | | | 3.62 | 0.00 | 5.00 |
| EG | | 2 | 3.62 | 0.00 | 9.00 |

Imperfektionen

Grafik

Figur 3 w_z [cm]

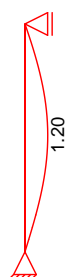


Tabelle Figur 3

EG

| x [m] | w_{yu} [cm] | w_{zu} [cm] | w_{yk} [cm] | w_{zk} [cm] |
|----------|------------------|------------------|------------------|------------------|
| 3.62 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.81 | 0.00 | 0.90 | 0.00 | 0.29 |
| 1.76 | 0.00 | 0.90 * | 0.00 | 0.29 |
| 0.00 | 0.00 * | 0.00 * | 0.00 * | 0.00 * |

Ungewollte Ausmitte affin zur Biegelinie bzw. affin zur Knickfigur bei Kombinationen ohne $\rightarrow \alpha^{\uparrow} \beta \leftrightarrow \alpha \tilde{\alpha}$

$\tilde{U} \tilde{\alpha} \tilde{a} \sim \tilde{a}^{\uparrow} | \wedge \tilde{\alpha} \tilde{b} \tilde{\alpha}^{\leftarrow} \tilde{\alpha} \tilde{\alpha}' \tilde{a} \setminus \tilde{A} \setminus | \tilde{a} \tilde{A} U \setminus f i \setminus \sim \tilde{\alpha}^{\wedge} \tilde{a}' \tilde{a} \tilde{b} \tilde{\alpha} \tilde{E}$

$\tilde{U} \sim \tilde{a}^{\leftarrow} \tilde{a} f i^{\uparrow} \uparrow | \wedge \tilde{\alpha} \tilde{\alpha}^{\wedge}$

| Richtung [-] | x [m] | ei [cm] |
|-----------------|----------|-------------|
| z | 1.00 | 0.90 |

| x | V _{Ed,y} | V _{Rd,c} | V _{Rd,max,y} | N _x | z | erf asw |
|-----|---------------------------|---------------------------|-------------------------------|----------------|------------------------|------------------------|
| [m] | V _{Ed,z} [kN] | V _{Rd,c} [kN] | V _{Rd,max,z} [kN] | [kN] | Y _f [cm] | Y _f [cm] |
| | 24.60 | 172.75 | 149.78 | 877.05 | 22.8 | 13.2 |

m: Mindestquerkraftbew. nach Abs. NDP Zu 9.2.2(5)

Nachweise (Brand)

Brandschutznachweis nach DIN EN 1992-1-2, Abs. 5.3

Brandschutznachweise nach DIN EN 1992-1-2, 5.3.2
ausgesteiften Bauwerks befindet.

| | | | |
|------------------|---|------|---|
| $l_{0,fi}$ | = | 3.62 | m |
| $\bar{\rho}$ | = | 6.00 | m |
| Bewehrungsgehalt | = | 3.14 | % |
| | < | 4.00 | % |

Branddauer

| Ek | x | f _i | a | b' | n |
|----|------|----------------|------|------|-----|
| | [m] | [-] | [mm] | [mm] | [-] |
| 17 | 3.62 | 0.30 | 51 | 250 | 4 |
| 19 | 3.23 | 0.30 | 51 | 250 | 4 |
| 17 | 0.00 | 0.27 | 51 | 250 | 4 |

Branddauer Gl. (5.7)

| Ek | x | R _{fi} | R _a | R _l | R _b | R _n | R |
|----|------|-----------------|----------------|----------------|----------------|----------------|-------|
| | [m] | | | | | | [min] |
| 17 | 3.62 | 58.4 | 32.8 | 13.2 | 22.5 | 0 | 132.7 |
| 19 | 3.23 | 58.4 | 32.8 | 13.2 | 22.5 | 0 | 132.7 |
| 17 | 0.00 | 60.4 | 32.8 | 13.2 | 22.5 | 0 | 136.6 |

eine Feuerwiderstandsdauer von 120min nachgewiesen.

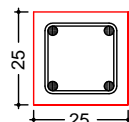
Bewehrungswahl

| von x | bis x | Q Typ | Bew.-Lage | n | d _s |
|-------|-------|------------|-----------|---|----------------|
| [m] | [m] | | | | [mm] |
| 0.00 | 3.62 | 1 Rechteck | je Ecke | 1 | 47 |

Vorhandene Bewehrung

| von x | bis x | Q Typ | c _{v,b} | n | A _{s,ges} | |
|-------|-------|------------|------------------|---|------------------------|------|
| [m] | [m] | | [mm] | | Y _f [cm] | [%] |
| 0.00 | 3.62 | 1 Rechteck | 30 | 4 | 19.63 | 3.14 |

Querschnitt 1 (0.00 m - 3.62 m)
M 1:20



Längsstäbe: 4 Ø25
Querkraftbewehrung: Ø8
Betondeckung:
c_v = 30 mm

Vorhandene Querkraftbewehrung

| von x | bis x | Q Typ | d _s | s | Schnitt | A _{sw} |
|-------|-------|------------|----------------|------|------------------------|------------------------|
| [m] | [m] | | [mm] | [cm] | Y _f [cm] | Y _f [cm] |
| 3.37 | 3.62 | 1 Rechteck | 8 | 12 | 2 | 8.38 |
| 0.25 | 3.37 | 1 Rechteck | 8 | 20 | 2 | 5.03 |
| 0.00 | 0.25 | 1 Rechteck | 8 | 12 | 2 | 8.38 |

5i Z` U[Yf_f } ZhY

N | ä→á&æã&ã=ßæ^Áá↑Á
U\fi\~æ^←~*â

| Einw | $F_{x,k}$ [kN] | $M_{y,k}$ [kNm] | $M_{z,k}$ [kNm] | $F_{y,k}$ [kN] | $F_{z,k}$ [kN] |
|---------|-------------------|--------------------|--------------------|-------------------|-------------------|
| Gk | 0.0 | 0.0 | 0.0 | 0.0 | -3.9 |
| Ö← | 0.0 | 0.0 | 0.0 | 0.0 | -1.4 |
| Qk.N_DA | 0.0 | 0.0 | 0.0 | 0.0 | -2.5 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

N | ä→á&æã&ã=ßæ^Áá↑Á
U\fi\~æ^â|ß

| Einw | $F_{x,k}$ [kN] | $M_{y,k}$ [kNm] | $M_{z,k}$ [kNm] | $F_{y,k}$ [kN] | $F_{z,k}$ [kN] |
|---------|-------------------|--------------------|--------------------|-------------------|-------------------|
| Gk | 372.3 | 0.0 | 0.0 | 0.0 | 3.9 |
| Ö← | 130.3 | 0.0 | 0.0 | 0.0 | 1.4 |
| Qk.N_DA | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 132.4 | 0.0 | 0.0 | 0.0 | 2.5 |

Anteile aus Th. II
Ordnung

| Einw | $M_{y,k}$ [kNm] | $M_{z,k}$ [kNm] | $F_{y,k}$ [kN] | $F_{z,k}$ [kN] |
|---------|--------------------|--------------------|-------------------|-------------------|
| Gk | 0.0 | 0.0 | 0.0 | 0.0 |
| Ö← | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_DA | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.0 | 0.0 | 0.0 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

| | | [-] |
|--------------------|----|------|
| Expositionsklassen | OK | |
| U\áâ↔↔\†\ | OK | |
| Ñã 'áb'á^↔\&ã=ßæ^ | OK | 0.74 |
| Querkraftbemessung | OK | |
| Brand | OK | |
| Bewehrungswahl | OK | |

Nachweise (Brand)

Brandfall im Grenzzustand der Tragfähigkeit

Nachweis

| | | [-] |
|-------------------|----|------|
| Ñã 'áb'á^↔\&ã=ßæ^ | OK | 0.00 |

AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

2.3 S-1.2

Die Bemessung von S-1.2 gilt auch für S-1.1

Stat. System:



Material:

| | |
|--------------------|------------------------------|
| Länge: | $\leq 3,62 \text{ m}$ |
| Querschnitt: | $b / d = 25 / 90 \text{ cm}$ |
| Betonstahl: | B500B |
| Beton: | C30/37 |
| Expositionsklasse: | XC1, W0 |
| Betondeckung: | $c_v = 30 \text{ mm}$ |

Ausführungsübersicht:

| Position | Querschnitt [cm] | Betongüte | Längsbewehrung | Bügelbewehrung |
|----------|---------------------|-----------|-----------------------|-------------------------------|
| S-1.1 | 25 x 90 | C30/37 | oben/unten je 4Ø12 | Ø8/12 |
| S-1.2 | | | 2x4Ø12 = 8Ø12 | Ø8/7 (Geschoss- übergänge) |

Bemessung:

Siehe folgende Seiten.

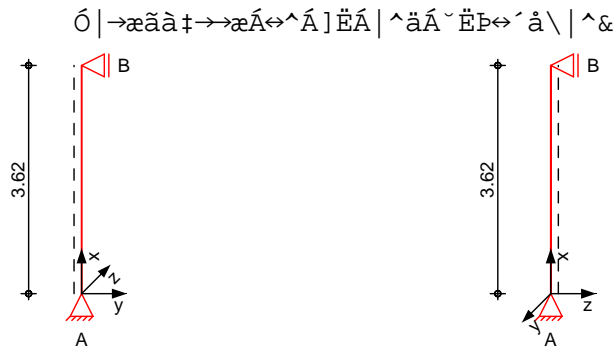
Pos. S-1.2

DYbXYgh mY

) " o o-1.1.

System

M 1:120



Abmessungen
Mat./Querschnitt

| Geschoss | l [m] | Material | b_y/b_z [cm] |
|----------|----------|----------|-------------------|
| EG | 3.62 | C 30/37 | 25/90 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | $K_{T,z}$ [kN/m] | $K_{R,y}$ [kNm/rad] | $K_{T,y}$ [kN/m] | $K_{R,z}$ [kNm/rad] |
|-------|----------|---------------------|------------------------|---------------------|------------------------|
| B | 3.62 | fest | frei | fest | frei |
| A | 0.00 | fest | frei | fest | frei |

Belastungen

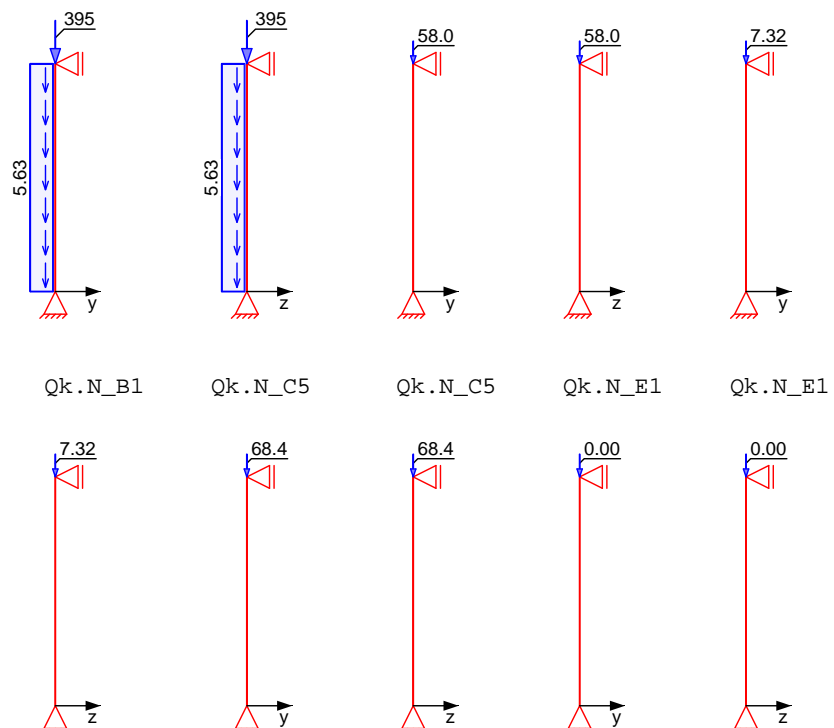
Belastungen auf das System

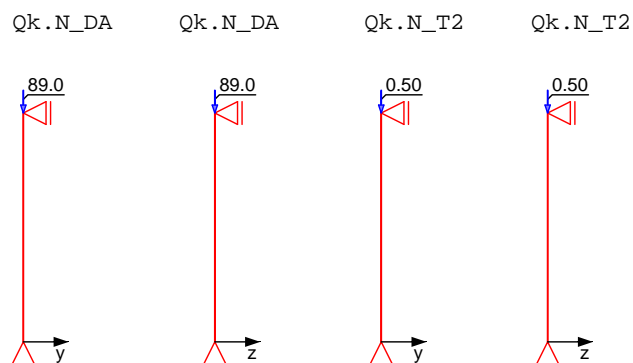
Grafik

Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk Gk $\ddot{O} \leftarrow$ $\ddot{O} \leftarrow$ Qk.N_B1





Streckenlasten
in x-Richtung
Einw. Gk

| Ges. | Komm. | a | s | q _u | q _o |
|------|----------|------|------|----------------|----------------|
| | | [m] | [m] | [kN/m] | [kN/m] |
| EG | Eigengew | 0.00 | 3.62 | | 5.62 |

Punktlasten
in x-Richtung

| Einzellasten | | | | | |
|--------------|-------|------|----------------|----------------|----------------|
| Ges. | Komm. | a | F _x | e _y | e _z |
| | | [m] | [kN] | [cm] | [cm] |
| EG | | 3.62 | 395.14 | 0.0 | 0.0 |
| EG | | 3.62 | 57.96 | 0.0 | 0.0 |
| EG | | 3.62 | 7.32 | 0.0 | 0.0 |
| EG | | 3.62 | 68.44 | 0.0 | 0.0 |
| EG | | 3.62 | 89.01 | 0.0 | 0.0 |
| EG | | 3.62 | 0.50 | 0.0 | 0.0 |

(a)

aus Pos. 'D-1.0G', Lager 'S-1.2'

Imperfekti onen

Grafik

Figur 1 $w_y[\text{cm}]$



Tabelle
Figur 1

| | x | w _{yu} | w _{zu} | w _{yk} | w _{zk} |
|----|------|-----------------|-----------------|-----------------|-----------------|
| | [m] | [cm] | [cm] | [cm] | [cm] |
| EG | 3.62 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 1.81 | 0.90 | 0.00 | 0.04 | 0.00 |
| | 1.76 | 0.90 * | 0.00 | 0.04 * | 0.00 |
| | 0.00 | 0.00 * | 0.00 * | 0.00 * | 0.00 * |

Ungewollte Ausmitte affin zur Biegelinie bzw. affin zur Knickfigur bei Kombinationen ohne $\rightarrow \hat{a}^+ \uparrow \beta \leftrightarrow \& \hat{a}$

Ü~ã←ãfi↑↑ | ^&æ^

| Richtung | x | e |
|----------|------|------|
| [-] | [m] | [cm] |
| y | 0.99 | 1.81 |
| | | 0.90 |

Kombi nati onen

Kombinationsbildung nach DIN EN 1990
Darstellung der maßgebenden Kombinationen

| Ek | Imp. | (* *EW) | | |
|----|------|---|----------------------------|--------------------------------|
| 5 | 1 | 1.35*Gk +1.05*Qk.N_B1 +1.20*Qk.N_T2 | EFEGIE Ö← +1.05*Qk.N_C5 | +1.50*Qk.N_DA +1.50*Qk.N_E1 |
| 6 | 2 | 1.35*Gk +1.05*Qk.N_B1 +1.20*Qk.N_T2 | EFEGIE Ö← +1.05*Qk.N_C5 | +1.50*Qk.N_DA +1.50*Qk.N_E1 |

Mat./Querschnitt

Material- und Querschnittswerte

| Querschnitte | Q | Typ | Bewehr.- anordnung | b/D [cm] | h/Di [cm] | d' [cm] |
|--------------|---|-------|-----------------------|-------------|--------------|------------|
| | 1 | Recht | U\†âæ | 25.0 | 90.0 | |

| Materialien | Q | Beton | Betonstahl | min [%] | max [%] | [-] | Y←SD†zŸ |
|-------------|---|---------|------------|------------|------------|-------|---------|
| | 1 | C 30/37 | B 500SB | 0.30 | 9.00 | 2.50 | 25.0 |

Bemessung (GZT)

æ††BÄEØSÁÓSÁFiiGÉFÉFÊÁGÈFÊÁGÈGÊÁIÈHÊÁIÈIÊÁIÈÎ

6fi V\gV\h] hh[f" fYb

nach nichtlinearer Theorie

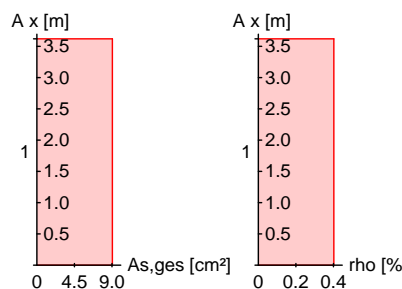
| Komb. 5 | x [m] | Nu [kN] | Myu [kNm] | Mzu [kNm] | s YçŸ | c YçŸ | |
|---------|----------|------------|--------------|--------------|----------|----------|------|
| | 3.62 | 4186.9 | 0.0 | 0.0 | -2.00 | -2.00 | 0.20 |
| | 1.76 | 3799.8 | 0.0 | -36.6 | -1.08 | -2.99 | 0.22 |
| | 0.00 | 4186.9 | 0.0 | 0.0 | -2.00 | -2.00 | 0.20 |

| Komb. 6 | x [m] | Nu [kN] | Myu [kNm] | Mzu [kNm] | s YçŸ | c YçŸ | |
|---------|----------|------------|--------------|--------------|----------|----------|------|
| | 3.62 | 4186.9 | 0.0 | 0.0 | -2.00 | -2.00 | 0.20 |
| | 1.76 | 3799.8 | 0.0 | 36.6 | -1.08 | -2.99 | 0.22 |
| | 0.00 | 4186.9 | 0.0 | 0.0 | -2.00 | -2.00 | 0.20 |

| Vorhandene Bewehrung | von x [m] | bis x [m] | Q Typ | Bew.Art | As,ges Y'†ŸŸ | [%] |
|-------------------------|--------------|--------------|-------|---------|-----------------|-------|
| | 0.00 | 3.62 | 1 R | Üv®dg | 9.05 | 0.40 |

Vorhandene Bewehrung

M 1:120



Nachweise (GZT)

Sá´â}æ†bæÄæ††ÁÖäæ^~ | b\ä^äÄäæäÜäá&à†â&æ†æ†\Á^á´âÄEØSÁ EN 1992-1-1

Querkraftbemessung

| | x [m] | VEd,y [kN] | VRd,c [kN] | VRd,max,y [kN] | Nx [kN] | z [cm] | erf asw Y'†ŸŸ |
|---------|----------|---------------|---------------|-------------------|------------|-----------|------------------|
| Komb. 6 | 3.62 | 6.93 | 349.91 | 475.07 | 825.36 | 18.4 | 13.8 |
| Komb. 5 | 0.00 | 7.10 | 354.34 | 475.07 | 852.85 | 18.4 | 13.8 |

m: Mindestquerkraftbew. nach Abs. NDP Zu 9.2.2(5)

5i Z` U[Yf_f } ZhY

| N à→á&æã&ã=ßæ^Áá↑Á U\fi\`æ^←~*à | Einw | F _{x,k} [kN] | M _{y,k} [kNm] | M _{z,k} [kNm] | F _{y,k} [kN] | F _{z,k} [kN] |
|--------------------------------------|---------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|
| | Gk | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Ö← | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_B1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_C5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_E1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_DA | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_T2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| N à→á&æã&ã=ßæ^Áá↑Á U\fi\`æ^à ß | Einw | F _{x,k} [kN] | M _{y,k} [kNm] | M _{z,k} [kNm] | F _{y,k} [kN] | F _{z,k} [kN] |
|---------------------------------------|---------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|
| | Gk | 415.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Ö← | 58.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_B1 | 7.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_C5 | 68.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_E1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_DA | 89.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_T2 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |

| Anteile aus Th. II Ordnung | Einw | M _{y,k} [kNm] | M _{z,k} [kNm] | F _{y,k} [kN] | F _{z,k} [kN] |
|-------------------------------|---------|---------------------------|---------------------------|--------------------------|--------------------------|
| | Gk | 0.0 | 0.0 | 0.0 | 0.0 |
| | Ö← | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_B1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_C5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_E1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_DA | 0.0 | 0.0 | 0.0 | 0.0 |
| | Qk.N_T2 | 0.0 | 0.0 | 0.0 | 0.0 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

| | | [-] |
|---------------------|----|------|
| Expositionsklassen | OK | |
| U\áâ↔↔\†\ | OK | |
| Ñã ´áb´á^↔\&ã=ßæ^ | OK | 0.22 |
| Querkraftbemessung | OK | |
| Brand | OK | |
| Bewehrungswahl | OK | |

Nachweise (Brand)

Brandfall im Grenzzustand der Tragfähigkeit

Nachweis

| | | [-] |
|---------------------|----|------|
| Ñã ´áb´á^↔\&ã=ßæ^ | OK | 0.00 |

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Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

2.4 S-1.7

Stat. System:



Material:

Länge: $\leq 3,62$ m
Querschnitt: $b / d = 25 / 25$ cm
Betonstahl: B500B
Beton: C30/37
Expositionsklasse: XC1, W0
Betondeckung: $c_v = 30$ mm

Ausführungsübersicht:

| Position | Querschnitt [cm] | Betongüte | Längsbewehrung | Bügelbewehrung |
|----------|---------------------|-----------|----------------|---|
| S-1.7 | 25 x 25 | C30/37 | je Ecke 1 Ø 25 | Ø8/20 Ø8/12 (Geschoss- übergänge) |

Bemessung:

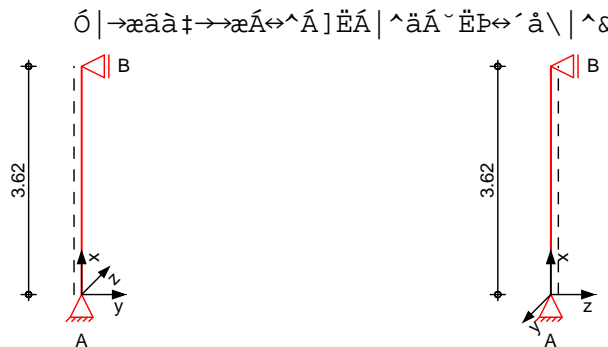
Siehe folgende Seiten.

Pos. S-1.7

DYbXYgh mY

System

M 1:120



Abmessungen

Mat./Querschnitt

| Geschoss | l [m] | Material | b_y/b_z [cm] |
|----------|----------|----------|-------------------|
| EG | 3.62 | C 30/37 | 25/25 |

Expositionsklasse

XC1

Auflager

| Lager | x [m] | $K_{T,z}$ [kN/m] | $K_{R,y}$ [kNm/rad] | $K_{T,y}$ [kN/m] | $K_{R,z}$ [kNm/rad] |
|-------|----------|---------------------|------------------------|---------------------|------------------------|
| B | 3.62 | fest | frei | fest | frei |
| A | 0.00 | fest | frei | fest | frei |

Belastungen

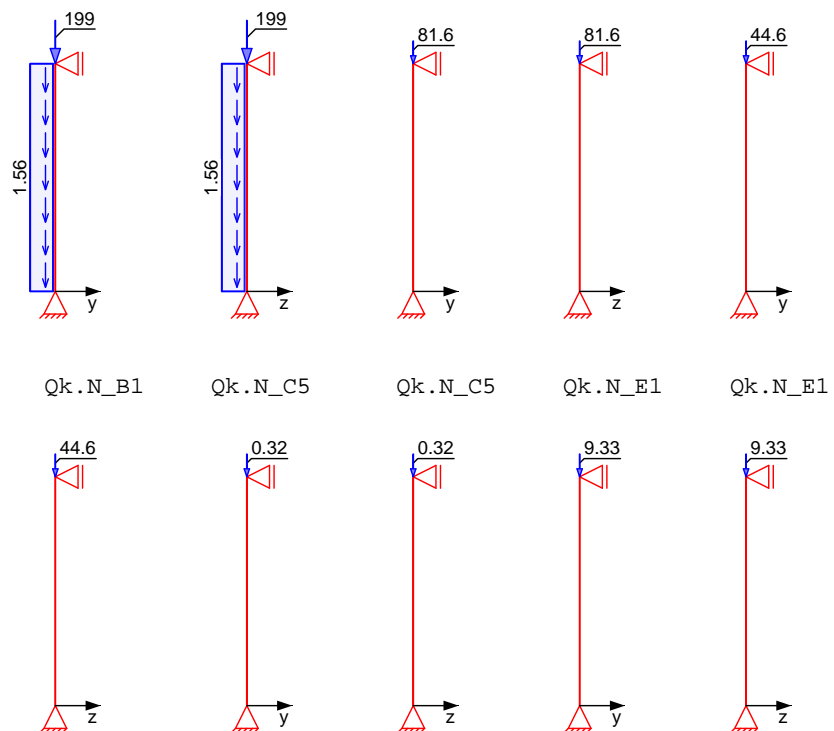
Belastungen auf das System

Grafik

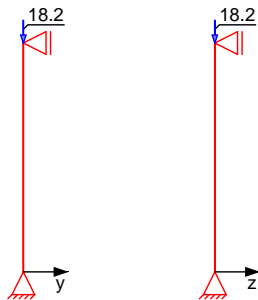
Belastungsgrafiken (einwirkungsbezogen)

Einwirkungen

Gk Gk $\ddot{O} \leftarrow$ $\ddot{O} \leftarrow$ Qk.N_B1



Qk.N_DA Qk.N_DA



Streckenlasten in x-Richtung

Einw. Gk

| Ges. | Komm. | a [m] | s [m] | Q _u [kN/m] | Q _o [kN/m] |
|------|----------|----------|----------|--------------------------|--------------------------|
| EG | Eigengew | 0.00 | 3.62 | | 1.56 |

Punktlasten in x-Richtung

Einw. Gk

Einw. Im

Einw. Qk.N_B1

Einw. Qk.N_C5

Einw. Qk.N_E1

Einw. Qk.N_DA

| Ges. | Komm. | a [m] | F _x [kN] | e _y [cm] | e _z [cm] |
|--------|-------|----------|------------------------|------------------------|------------------------|
| (a) EG | | 3.62 | 199.25 | 0.0 | 0.0 |
| (a) EG | | 3.62 | 81.58 | 0.0 | 0.0 |
| (a) EG | | 3.62 | 44.64 | 0.0 | 0.0 |
| (a) EG | | 3.62 | 0.32 | 0.0 | 0.0 |
| (a) EG | | 3.62 | 9.33 | 0.0 | 0.0 |
| (a) EG | | 3.62 | 18.16 | 0.0 | 0.0 |

(a)

aus Pos. 'D-1.OG', Lager 'S-1.7'

Imperfektionen

Grafik

Figur 3 w_z[cm]

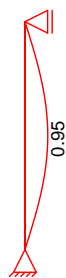


Tabelle Figur 3

EG

| x [m] | W _{yu} [cm] | W _{zu} [cm] | W _{yk} [cm] | W _{zk} [cm] |
|----------|-------------------------|-------------------------|-------------------------|-------------------------|
| 3.62 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.81 | 0.00 | 0.90 | 0.00 | 0.05 |
| 1.76 | 0.00 | 0.90 * | 0.00 | 0.05 * |
| 0.00 | 0.00 * | 0.00 * | 0.00 * | 0.00 * |

Ungewollte Ausmitte affin zur Biegelinie bzw. affin zur Knickfigur bei Kombinationen ohne $\rightarrow \alpha^{\uparrow} \rightarrow \beta \rightarrow \alpha^{\downarrow}$
 $\ddot{U} \sim \ddot{a} \sim \ddot{a}^{\uparrow} \mid \wedge \& \ddot{A} \& \ddot{b} \& \leftarrow \ddot{a} \& \ddot{a}^{\downarrow} \backslash \ddot{A} \sim \mid \ddot{a} \& \ddot{U} \backslash \text{fi} \backslash \sim \ddot{a} \& \ddot{a}^{\downarrow} \& \ddot{b} \& \ddot{E}$

$\ddot{U} \sim \ddot{a} \leftarrow \ddot{a}^{\uparrow} \mid \wedge \& \ddot{a}^{\downarrow}$

| Richtung [-] | x [m] | e _i [cm] |
|-----------------|----------|--------------------------|
| z | 1.00 | 1.81 |
| | | 0.90 |

Kombinationen

Kombinationsbildung nach DIN EN 1990
 Darstellung der maßgebenden Kombinationen

b\†^ä↔&D{~ãfiâæã&È

| Ek | Imp. | (* *EW) | | | |
|----|------|---------------|---------------|---------------|--|
| 7 | 3 | 1.35*Gk | EFEGIE Ö← | +1.50*Qk.N_DA | |
| | | +1.05*Qk.N_B1 | +1.05*Qk.N_C5 | +1.50*Qk.N_E1 | |

Mat./Querschnitt

Material- und Querschnittswerte

Querschnitte

| Q | Typ | Bewehr.- anordnung | b/D [cm] | h/Di [cm] | d' [cm] |
|---|-------|-----------------------|-------------|--------------|------------|
| 1 | Recht | U\†âæ | 25.0 | 25.0 | |

Materialien

| Q | Beton | Betonstahl | min [%] | max [%] | [-] | Y←SD↑zŸ |
|---|---------|------------|------------|------------|------|---------|
| 1 | C 30/37 | B 500SB | 0.30 | 9.00 | 2.50 | 25.0 |

Bemessung (GZT)

&æ††BÁÆØSÁÓSÁFfiIGEFÊFÊFÊÁĞEFEÁĞÈGÊÁIÈHÊÁIÈIÊÁIÈÎ

6fi WXgWxb]hh[f" fYb
Komb. 7

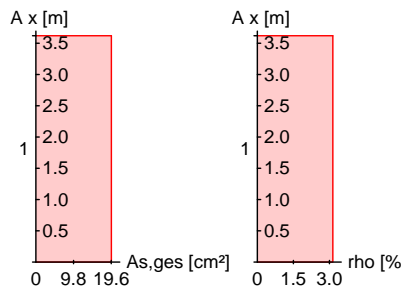
nach nichtlinearer Theorie

| x [m] | Nu [kN] | Myu [kNm] | Mzu [kNm] | s YçŸ | c YçŸ | |
|----------|------------|--------------|--------------|----------|----------|------|
| 3.62 | 1847.9 | 0.0 | 0.0 | -2.00 | -2.00 | 0.25 |
| 1.76 | 1697.6 | 17.1 | 0.0 | -1.33 | -2.77 | 0.28 |
| 0.00 | 1847.9 | 0.0 | 0.0 | -2.00 | -2.00 | 0.26 |

Vorhandene
Bewehrung

| von x [m] | bis x [m] | Q Typ | Bew.Art | As,ges Y'†ŸŸ | [%] |
|--------------|--------------|-------|---------|-----------------|------|
| 0.00 | 3.62 | 1 R | Uv®dg | 19.63 | 3.14 |

Vorhandene Bewehrung
M 1:120



Nachwei se (GZT)

Sá´â}æ↔bæÁ↔†ÁÖöæ^~ | b\á^äÁäæãÁŸää&à†â↔&←æ↔\Á^á´âÁÆØSÁ
EN 1992-1-1

Querkraftbemessung

Komb. 7

Komb. 7

| x [m] | VEd,y VEd,z [kN] | VRd,c VRd,c [kN] | VRd,max,y VRd,max,z [kN] | Nx [kN] | z [cm] | erf asw Y'†ŸŸ |
|----------|------------------------|------------------------|--------------------------------|------------|-----------|------------------|
| 3.62 | | | | | | 2.32 M |
| | 4.17 | 130.19 | 125.75 | 467.57 | 18.4 | 13.2 |
| 0.00 | | | | | | 2.32 M |
| | 4.16 | 131.11 | 125.75 | 475.21 | 18.4 | 13.2 |

m: Mindestquerkraftbew. nach Abs. NDP Zu 9.2.2(5)

N | ä → á & æ ã & ã = ß æ ^ Á á ↑ Á
U \fi \ ^ æ ^ à | ß

| Einw | $F_{x,k}$ [kN] | $M_{y,k}$ [kNm] | $M_{z,k}$ [kNm] | $F_{y,k}$ [kN] | $F_{z,k}$ [kN] |
|---------|-------------------|--------------------|--------------------|-------------------|-------------------|
| Gk | 204.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ö← | 81.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_B1 | 44.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_C5 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_E1 | 9.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_DA | 18.2 | 0.0 | 0.0 | 0.0 | 0.0 |

Anteile aus Th. II
Ordnung

| Einw | $M_{y,k}$ [kNm] | $M_{z,k}$ [kNm] | $F_{y,k}$ [kN] | $F_{z,k}$ [kN] |
|---------|--------------------|--------------------|-------------------|-------------------|
| Gk | 0.0 | 0.0 | 0.0 | 0.0 |
| Ö← | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_B1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_C5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_E1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Qk.N_DA | 0.0 | 0.0 | 0.0 | 0.0 |

Zusammenfassung

Zusammenfassung der Nachweise

Nachweise (GZT)

Nachweise im Grenzzustand der Tragfähigkeit

Nachweis

| | | [-] |
|-------------------------------------|----|------|
| Expositionsklassen | OK | |
| U \á â ↔ \# \ | OK | |
| Ñ ã ' á b ' á ^ ↔ \ \ & ã = ß æ ^ | OK | 0.28 |
| Querkraftbemessung | OK | |
| Brand | OK | |
| Bewehrungswahl | OK | |

Nachweise (Brand)

Brandfall im Grenzzustand der Tragfähigkeit

Nachweis

| | | [-] |
|-------------------------------------|----|------|
| Ñ ã ' á b ' á ^ ↔ \ \ & ã = ß æ ^ | OK | 0.00 |

B

Bodenplatte

Inhaltsverzeichnis

| Inhalt | Seite |
|-------------------------|--------------|
| 1. Vorbemerkungen | B-3 |
| 2. Rissbreitennachweise | B-4 |
| 3. Nachweis Gründung | B-7 |
| 4. Durchstanznachweise | B-137 |

1 Vorbemerkungen

In diesem Kapitel werden die erforderlichen Nachweise für die Gründung des Gebäudes erbracht, um die auftretenden vertikalen und horizontalen Lasten in den Baugrund zu leiten.

Das Gebäude wird auf einer Bodenplatte flach gegründet. Es wird nicht unterkellert. Im Bereich Achse 4-5/C-E gibt es eine Aufzugsunterfahrt, die die Oberkante der Bodenplatte um 1,73m absenkt. Die Aufzugsunterfahrt wird im statischen Modell der Platte über Liniengelenke an die Platte angeschlossen.

Es gibt eine umlaufende Frostschräge mit einer Breite von 30cm und einer Höhe von 60cm (UK Frostschräge bis UK Bodenplatte), die als tragendes Bauteil angesetzt wird.

Die Platte hat eine Stärke von 40cm, außer in einem Bereich zwischen Achse 7-5 und Achse F-J. Hier wird die Bodenplatte auf 70cm verstärkt.

Die Höhenkote von $\pm 0,00$ (=OKFF) entspricht dem Niveau von +33,87 ü. NHN. Die Bodenplatte ist in einer Höhe von -0,17 m = OKRF, für die Gründung unter Erdgeschoss, bzw. -1,90 m = OKRF, im Bereich der Aufzugsunterfahrt, angeordnet.

Der höchste zu erwartende Grundwasserstand liegt bei 31,70m ü NN, bezogen auf unsere Gebäudehöhenkoten, also bei -2,17m.

Die Bodenplatte wird umlaufend und unterseitig gedämmt und befindet sich somit innerhalb der thermischen Hülle.

Die Bodenplatte wird als WU-Konstruktion hergestellt

Um Setzungsunterschiede zu vermeiden und einen tragfähigen Untergrund sicher zu stellen, sind die Bodenverbesserungsmaßnahmen, wie Auffüllen, Nachverdichten oder Bodenaustausch o.ä., laut dem Bodengutachten zu berücksichtigen. Außerdem wird im Bereich der Frostschräge ein Betonstreifen hergestellt, um am Rand die Last gesichert in den tragfähigen Baugrund einzuleiten.

Für die Bemessung im GZT und GZG wird gemäß Bodengutachten eine Bettungsziffer von $k_s = 8,0 \text{ MN/m}^3$ im Innenbereich angesetzt. In den Randbereichen der Platte wird auf einem 80 cm breiten Streifen eine Bettungsziffer von $k_s = 16,0 \text{ MN/m}^3$ angesetzt.

Das Gründungsposter ist mit $D_{PR} \geq 0,98$ herzustellen.

2 Rissbreitennachweise

Die Bodenplatte wird als abdichtendes Bauteil verwendet. An die Bodenplatte grenzen Räume an, die der Nutzungsklasse A zuzuordnen sind. Als Belastung ist mit Bodenfeuchte und Sickerwasser zu rechnen (BKL-2). Es wird der Entwurfsgrundsatz c gewählt. Es dürfen große Trennrisse an den Arbeitsfugen der Bodenplatte entstehen, die über Fugenbleche abgedichtet werden und ggf. nachverpresst werden. Die Rissbreite innerhalb der Plattenbereiche wird auf $w_k = 0,3\text{mm}$ begrenzt. Größere Risse als $w_k = 0,2\text{mm}$ sind vor Nutzungsaufnahme zu verpressen.

Für die Ermittlung der erforderlichen Mindestbewehrung zur Begrenzung der Rissbreite wird davon ausgegangen, dass die Erstrissbildung unter zentrischem Zwang infolge abfließender Hydratationswärme im frühen Betonalter (3-5 Tage nach Einbringen des Betons) eintritt. Gewählt wird ein Beton mit mittlerer Festigkeitsentwicklung ($r < 0,50$). Die wirksame Zugfestigkeit des Betons wird für diesen Bemessungsfall nach DIN EN 1992-1-1:2011-02 Absatz 3.1.2(6) – Betonfestigkeitsentwicklung in Abhängigkeit vom Betonalter wie folgt abgemindert (nach Tabelle 7 – DBV-Merkblatt – Begrenzung der Rissbildung in Stahlbeton- und Spannbetonbeton):

- $f_{ct,eff} = 75 \% \cdot f_{ctm}$ | für $h = 40\text{cm}$ mit C30/37
- $f_{ct,eff} = 75 \% \cdot f_{ctm}$ | für $h = 70\text{cm}$ mit C30/37

Diese Festlegungen sind bei der Bauausführung zu berücksichtigen und für die Ausschreibungen zu beachten. Neben der Anordnung einer Mindestbewehrung kann die Rissbildung in Stahlbetonbauteilen durch ergänzende Maßnahmen günstig beeinflusst werden. Diese Maßnahmen dienen der Sicherung der Gebrauchstauglichkeit und der Dauerhaftigkeit des Gebäudes. Hier sind unter anderem folgende Punkte zu nennen:

- Schwindarmer Zement mit niedriger Wärmeentwicklung
- Niedriger Wasser-Zement-Wert
- sorgfältige Nachbehandlung aller betonierten Bauteile

Bei der gewählten Grundbewehrung wird die Bewehrung für die Bodenplatte kreuzweise (#) oben und unten angegeben. Nachfolgende Rissbreitennachweise sind für die jeweiligen Bodenplattenabschnitte gültig:

| Dicke h [cm] | Betongüte | w_k [mm] | erf a_s gem. Rissbreitennachweis | gewählt a_s |
|-----------------|-----------|---------------|---------------------------------------|--|
| 40 | C30/37 | 0,3 | $a_s : 22,81 \text{ cm}^2/\text{m}$ | 2 x $15,39 \text{ cm}^2/\text{m}$ Ø14/10 # o.+u. |
| 70 | C30/37 | 0,3 | $a_s : 34,74 \text{ cm}^2/\text{m}$ | 1 x $20,11 \text{ cm}^2/\text{m}$ o. Ø16/10 # o. 1 x $31,42 \text{ cm}^2/\text{m}$ u. Ø20/10 # u. |

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Genehmigungsplanung Tragwerksplanung

2.1 Rissbreitenbegrenzung

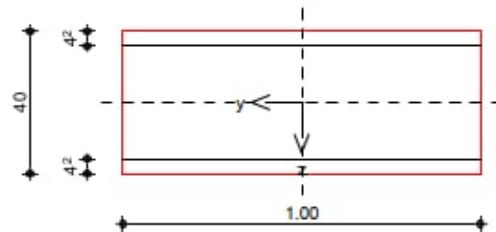
Pos. D-40 wk-03

Stahlbeton-Rissbreitenbeschränkung

System

M 1:20

Platte (Rechteckquerschnitt)



| | | | |
|--------------------------|--------------|--------|-----------------|
| Breite | b = | 100.00 | cm |
| Höhe | h = | 40.00 | cm |
| Bewehrungsabstände | d_o, d_u = | 4.20 | cm |
| mittlere Stabdurchmesser | $d_{s,1}$ = | 14.00 | mm |
| | $d_{s,2}$ = | 14.00 | mm |
| Stahlflächen | A_{s1} = | 15.39 | cm ² |
| | A_{s2} = | 15.39 | cm ² |
| gesamte Stahlfläche | A_s = | 30.78 | cm ² |
| Bewehrungsgrad | ρ = | 0.77 | % |

Expositionsklassen

WF und XC2

Nachweise (GZG)

gemäß DIN EN 1992-1-1, 7.3

Material:

Normalbeton

mittlere Zugfestigkeit

Zugfest. Zeitpunkt Zwang

Zugfest. Zeitpunkt Last

Elastizitätsmodul

Betonstahl

char. Streckgrenze

Elastizitätsmodul

| | | | |
|------------------|--------|-------------------|----------------|
| | | | C 30/37 |
| f_{ctm} = | 2.90 | N/mm ² | |
| $f_{ct,eff,0}$ = | 2.18 | N/mm ² | |
| $f_{ct,eff,1}$ = | 2.90 | N/mm ² | |
| E_{cm} = | 33000 | N/mm ² | |
| | | | B 500SA |
| f_{yk} = | 500.00 | N/mm ² | |
| E_s = | 200000 | N/mm ² | |

Grenzwert für die Rissbreite

 $w_{max} = 0.30$ mm

DIN EN 1992-1-1,
7.3.2

Mindestbewehrung für die Begrenzung der Rissbreite

Nachweis bei reinem Zug aus 'äußerem' Zwang

Gl. (7.1)

| k_c | k | A_{st} | σ_s | d_s^* | $A_{s,min}$ |
|-------|-------|----------------------|----------------------|---------|----------------------|
| [-] | [-] | [cm ² /m] | [N/mm ²] | [mm] | [cm ² /m] |
| 1.00 | 1.00 | 4000.00 | 258.03 | 15.7 | 33.72 |

Gl. (NA.7.5.1)

| $A_{s,eff}$ | σ_s | d_s^* | $A_{s,min}$ |
|----------------------|----------------------|---------|----------------------|
| [cm ² /m] | [N/mm ²] | [mm] | [cm ² /m] |
| 2480.00 | 236.49 | 18.7 | 22.81 |

erf. Mindestbewehrung

 $A_{s,min} = 22.81$ cm²/m

Die geforderte Mindestbewehrung wird eingehalten.

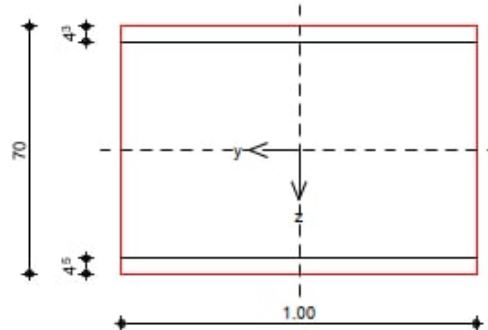
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Neubau Schulcampus für Gesundheits- und Pflegeberufe
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Pos. D-70_wk-03
Stahlbeton-Rissbreitenbeschränkung
System

M 1:20

Platte (Rechteckquerschnitt)



| | | | |
|--------------------------|--------------------|--------|-----------------|
| Breite | b = | 100.00 | cm |
| Höhe | h = | 70.00 | cm |
| Bewehrungsabstände | d _o = | 4.30 | cm |
| | d _u = | 4.50 | cm |
| mittlere Stabdurchmesser | d _{m,1} = | 20.00 | mm |
| | d _{m,2} = | 16.00 | mm |
| | d _m = | 18.22 | mm |
| Stahlflächen | A _{s1} = | 31.42 | cm ² |
| | A _{s2} = | 20.11 | cm ² |
| gesamte Stahlfläche | A _s = | 51.52 | cm ² |
| Bewehrungsgrad | ρ = | 0.74 | % |

Expositionsklassen

WF und XC2

Nachweise (GZG)

gemäß DIN EN 1992-1-1, 7.3

Material:

Normalbeton

mittlere Zugfestigkeit

Zugfest. Zeitpunkt Zwang

Zugfest. Zeitpunkt Last

Elastizitätsmodul

Betonstahl

char. Streckgrenze

Elastizitätsmodul

Grenzwert für die Rissbreite

| | | |
|-------------------------|--------|-------------------|
| | | <i>C 30/37</i> |
| f _{ctm} = | 2.90 | N/mm ² |
| f _{ct,eff,0} = | 2.18 | N/mm ² |
| f _{ct,eff,1} = | 2.90 | N/mm ² |
| E _{cm} = | 33000 | N/mm ² |
| | | <i>B 500SA</i> |
| f _{yk} = | 500.00 | N/mm ² |
| E _s = | 200000 | N/mm ² |
| w _{max} = | 0.30 | mm |

DIN EN 1992-1-1,
7.3.2

Mindestbewehrung für die Begrenzung der Rissbreite

Nachweis bei reinem Zug aus 'äußerem' Zwang

Gl. (7.1)

| k _c | k | A _{ct} | σ _s | d _s * | A _{s,min} |
|----------------|------|----------------------|----------------------|------------------|----------------------|
| [-] | [-] | [cm ² /m] | [N/mm ²] | [mm] | [cm ² /m] |
| 1.00 | 1.00 | 7000.00 | 275.91 | 13.7 | 55.18 |

Gl. (NA.7.5.1)

| A _{c,eff} | σ _s | d _s * | A _{s,min} |
|----------------------|----------------------|------------------|----------------------|
| [cm ² /m] | [N/mm ²] | [mm] | [cm ² /m] |
| 3160.00 | 197.86 | 26.7 | 34.74 |

erf. Mindestbewehrung A_{s,min} = 34.74 cm²/m

Die geforderte Mindestbewehrung wird eingehalten.

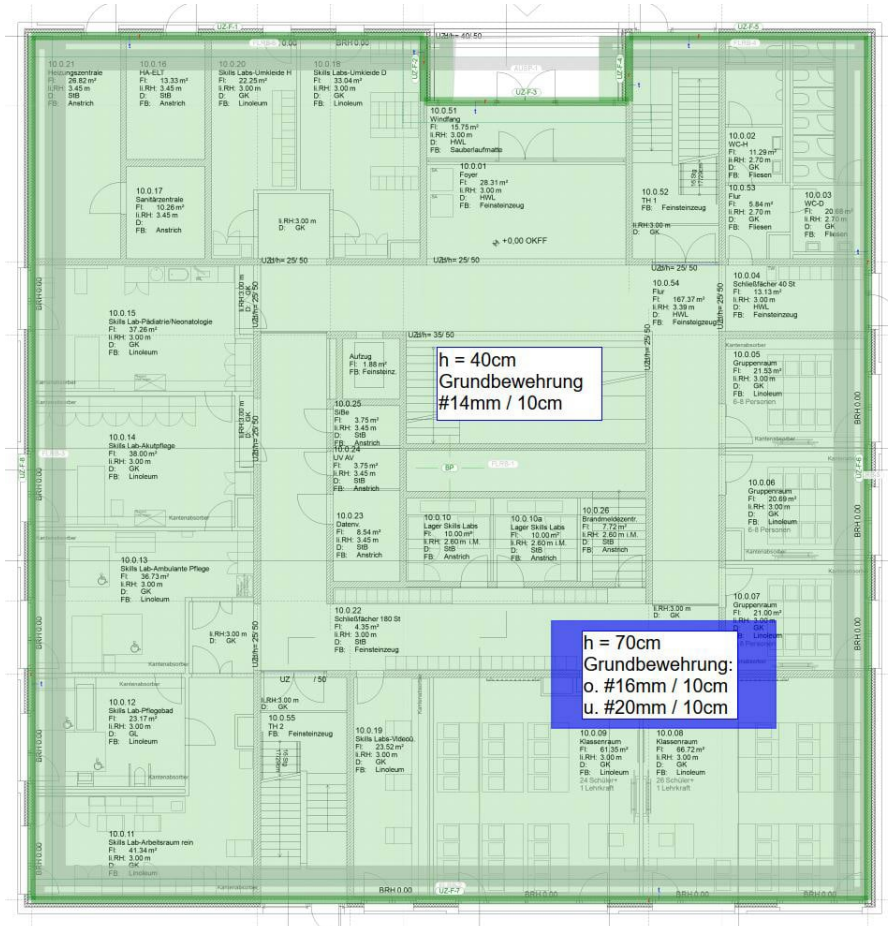
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Genehmigungsplanung Tragwerksplanung

3 Nachweis der Gründung

Stat. System:

- Flächengründung



- $k_s = 6,0 \text{ MN/m}^3$ Innenbereich
- $k_s = 12,0 \text{ MN/m}^3$ Randbereich (80 cm Streifen)

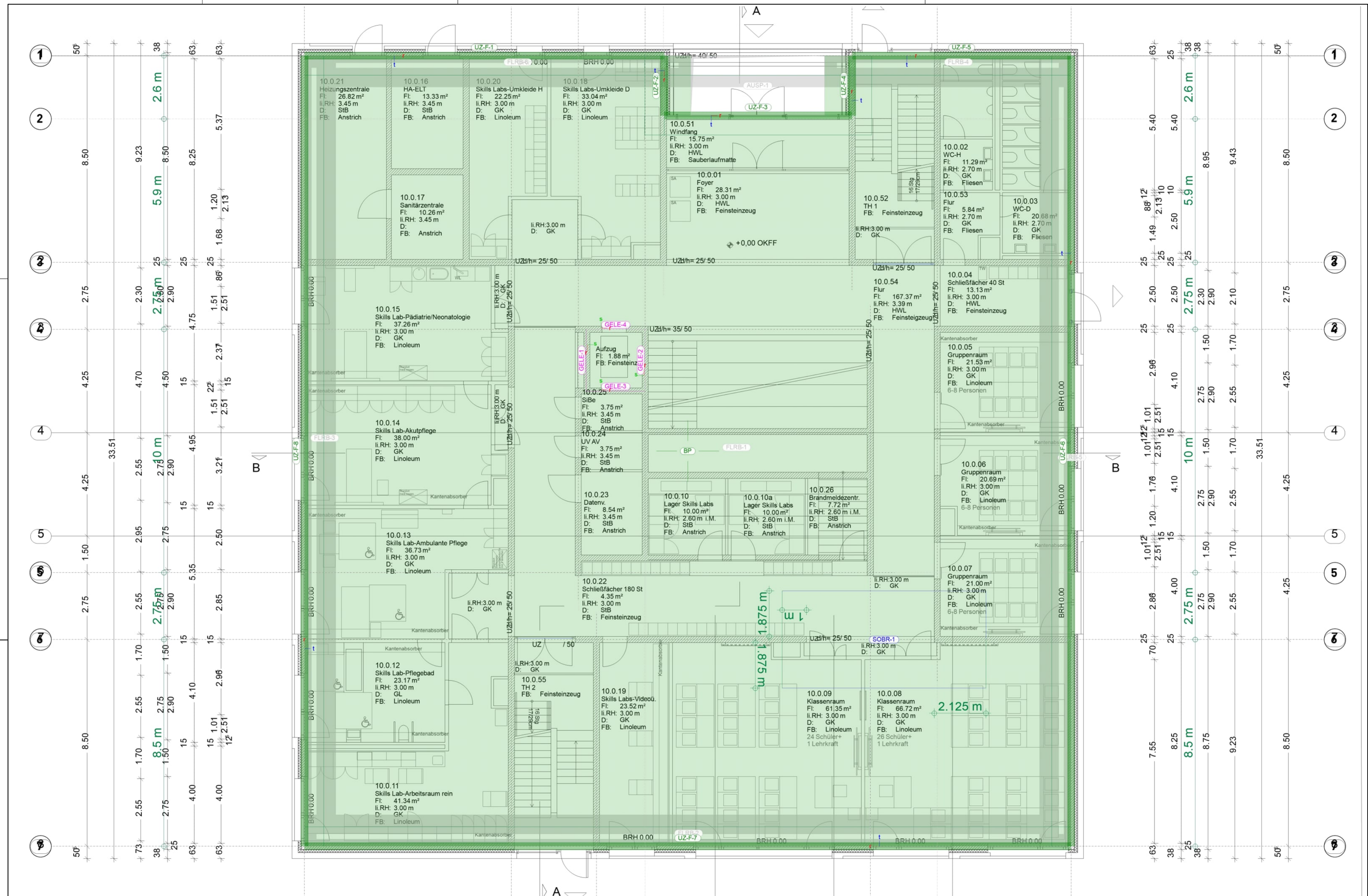
Netzweite (Raster) des FE-Netzes ist mit einer Kantenlänge von 50 cm modelliert

Material:

| | | |
|--------------------|---------------------------|---------------------------------------|
| Dicke: | 40 cm | Regelbereich |
| | 70 cm | erhöhte Lasten an Wandenden |
| Betonstahl: | B500B | |
| Beton: | C30/37 | |
| Expositionsklassen | XC2, WF | Gründungsbauteile (ohne Frost) |
| Betondeckung: | $c_{nom} = 35 \text{ mm}$ | |
| Grundbewehrung: | o. + u. #Ø14/15 | für H = 40 cm; $w_k = 0,3 \text{ mm}$ |
| | o. #Ø16/15 | für H = 70 cm; $w_k = 0,3 \text{ mm}$ |
| | u. #Ø20/15 | für H = 70 cm; Durchstanzen |

Auswertung

System



| | | | | |
|--------------------|---|------------------------------|-------------------------------------|---------|
| Bauteil-Positionen |  | Modell | BP-LP4 Bodenplatte | Tabelle |
| | | Bauvorhaben | Schulcampus EWK Schwesternschule | |
| | | KREBS+KIEFER Ingenieure GmbH | | |

Positionplan

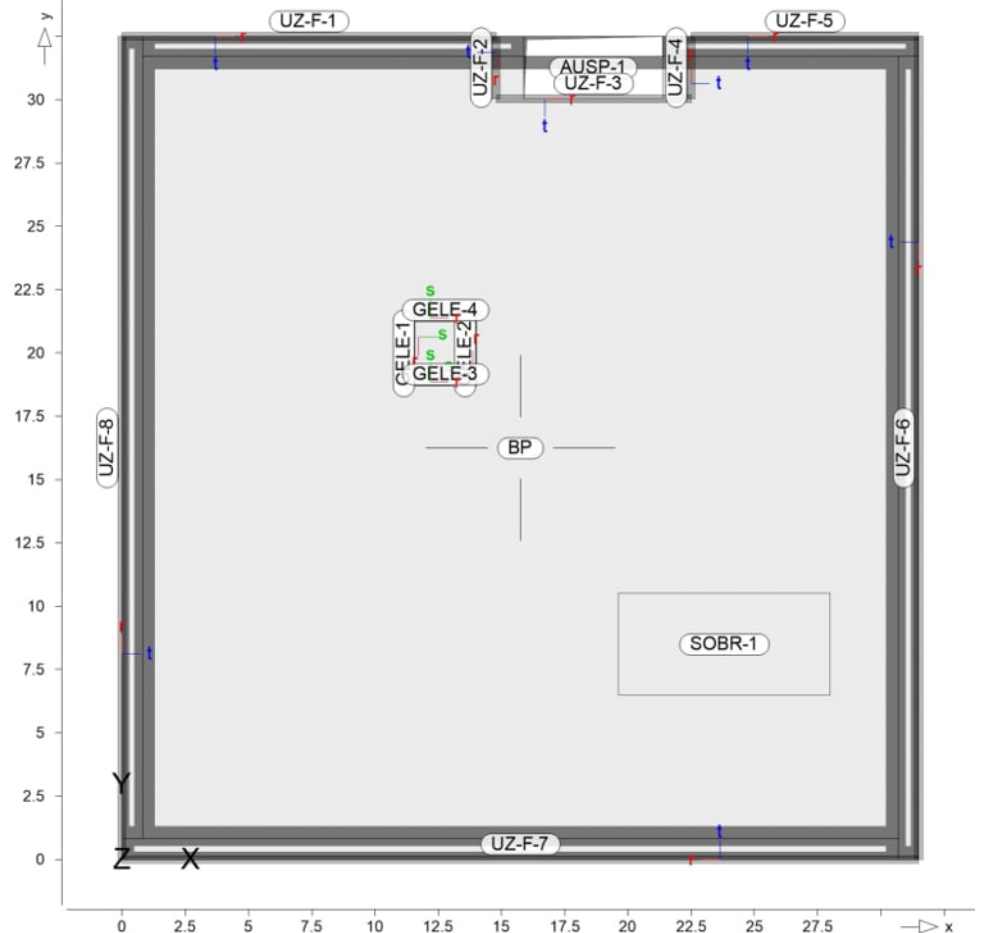
Positionsplan

Bauteile

Bauteil-Positionen

Positionsgrafik

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Platten

Platten-Positionen

Stahlbeton

| Position | Winkel Yfl | Art | Material Quer | Dicke [cm] |
|----------|---------------|-----|------------------------------|---------------|
| BP | 0.0 | iso | C 30/37 Q B 500SA B 500SA | 40.0 |

Winkel: Bewehrungsrichtung r
iso: isotropes Material
Q: $\vec{Q} = \vec{Q}_x + \vec{Q}_y$

Expositionsklasse

Expositionsklasse

| Position | Seite | Kl | Kommentar |
|----------|-----------|-----------|---|
| BP | umlaufend | XC2 WF | nass, selten trocken Zeit feuchter Beton |

Di ckenberei che

| Position | Dicke [cm] |
|----------|---------------|
| SOBR-1 | 30.0 |

Aussparungen

| Position | $\hat{O} \rightarrow \ddagger \hat{a} \hat{a}$ [m ²] | x [m] | y [m] |
|----------|---|----------|----------|
| AUSP-1 | 13.53 | 15.88 | 32.50 |
| | | 15.88 | 30.04 |
| | | 21.38 | 30.04 |
| | | 21.38 | 32.50 |

: ` } W\Yb[Y` Yb_Y

| Position | K _{R,r} | K _{R,s} | K _{T,t} |
|----------------|------------------|------------------|------------------|
| GELE-1..GELE-4 | frei | fest | fest |

I bhYfn` [Y

Unterzug-Positionen

Stahl beton

| Position | Q \ddagger ^&æ [m] | Betonstahl Q \ddagger ^&b Ñfi&æ→ | Beton |
|----------|-------------------------|--|-----------|
| UZ-F-1 | 14.79 | B 500SA B 500SA | C 30/37 Q |
| UZ-F-2 | 2.46 | B 500SA B 500SA | C 30/37 Q |
| UZ-F-3 | 7.72 | B 500SA B 500SA | C 30/37 Q |
| UZ-F-4 | 2.46 | B 500SA B 500SA | C 30/37 Q |
| UZ-F-5 | 9.00 | B 500SA B 500SA | C 30/37 Q |
| UZ-F-6 | 32.50 | B 500SA B 500SA | C 30/37 Q |
| UZ-F-7 | 31.50 | B 500SA B 500SA | C 30/37 Q |
| UZ-F-8 | 32.50 | B 500SA B 500SA | C 30/37 Q |

Q: Öæb\æ↔^b↔=ä^|^&ÄT|ää~↔\

Abmi nderung

| Position | F _D | F _{S,s} | F _{S,t} | F _T | F _{B,s} | F _{B,t} |
|----------------|----------------|------------------|------------------|----------------|------------------|------------------|
| UZ-F-1..UZ-F-8 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |

F_D: Nâ↑↔^äæä|^&bää↔~ääfiää↔æÄæä^b\æ↔ä↔æ↔\
F_{S,s}: Nâ↑↔^äæä|^&bää↔~ääfiää↔æÄU´ä|âb\æ↔ä↔æ↔\Ä↔^ÄbË↔´ä|^&
F_{S,t}: Nâ↑↔^äæä|^&bää↔~ääfiää↔æÄU´ä|âb\æ↔ä↔æ↔\Ä↔^ÄË↔´ä|^&
F_T: Nâ↑↔^äæä|^&bää↔~ääfiää↔æÄU~âb↔~^bb\æ↔ä↔æ↔\
F_{B,s}: Nâ↑↔^äæä|^&bää↔~ääfiää↔æÄN↔æ&æb\æ↔ä↔æ↔\Ä|↑ÄbËN´âbæ
F_{B,t}: Nâ↑↔^äæä|^&bää↔~ääfiää↔æÄN↔æ&æb\æ↔ä↔æ↔\Ä|↑ÄËN´âbæ

Querschni tt

| Position | Exz. [cm] | b _{p1} [cm] | h _f [cm] | b _w [cm] | h [cm] |
|----------------|--------------|-------------------------|------------------------|------------------------|-----------|
| UZ-F-1..UZ-F-8 | UZ | 30.0 | 40.0 | 30.0 | 100.0 |

UZ: Unterzug

Exposi ti onsklasse

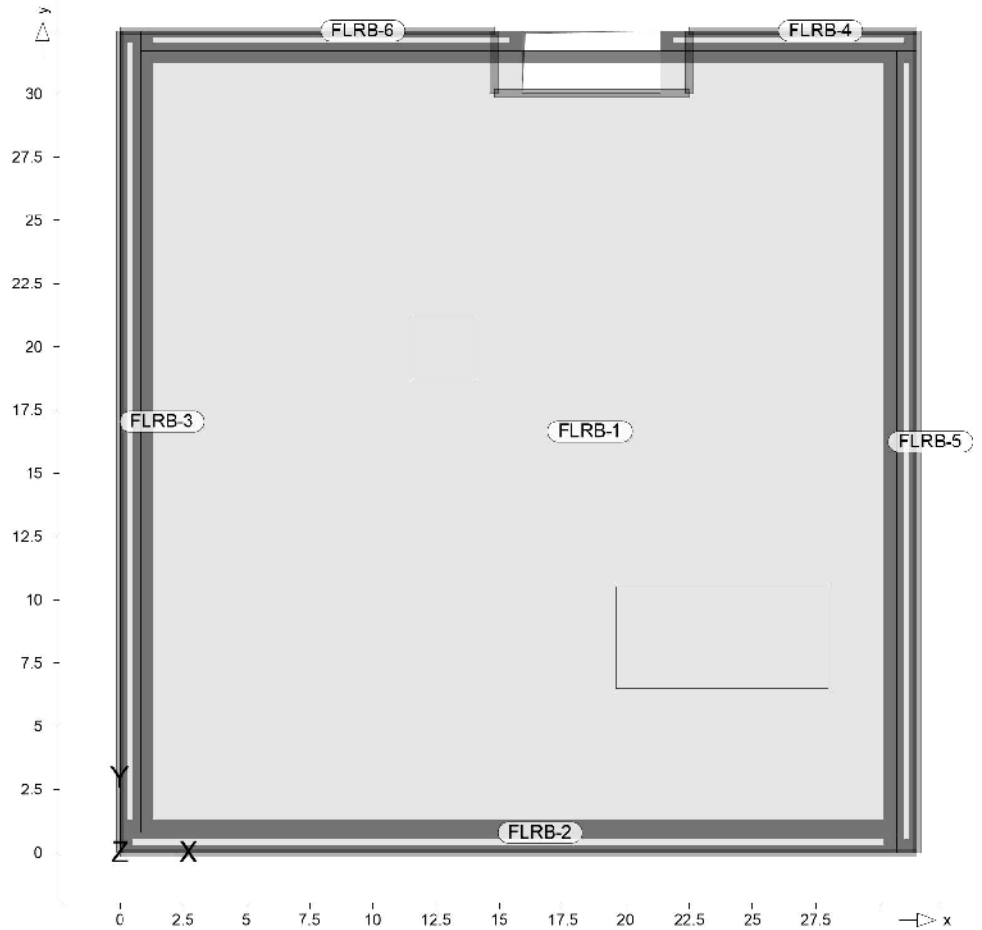
| Position | Seite | Kl | Kommentar |
|----------------|-----------|-----|----------------------|
| UZ-F-1..UZ-F-8 | umlaufend | XC2 | nass, selten trocken |

Auflager

Positionsgrafik

Auflager-Positionen

Österreichische Bundesregierung



Positionsgrafik

(Bettungszi ffer)

Österreichische Bundesregierung

| Position | | $K_{T,z}$ [kN/m ³] |
|----------------|-----|-----------------------------------|
| FLRB-1 | +/- | 8000 |
| FLRB-2..FLRB-6 | +/- | 16000 |

Material

Stahl beton

DIN EN 1992-1-1

Materialkennwerte

| Position | Material | Wichte | E_{cm} G | f_{ck} f_{ctm} |
|------------------------------------|-----------|---------|-----------------|-----------------------|
| | | Y<SD↑zŸ | YSD↑↑ŸŸ | YSD↑↑ŸŸ |
| BP, UZ-F-1..UZ-F-8 | C 30/37 Q | 25.00 | 33000 13750 | 30.00 2.90 |
| Q: Österreichische Bundesregierung | | | | |

Betonstahl

DIN EN 1992-1-1

| Position | Material | Wichte | E_s G | f_{yk} $f_{tk,cal}$ |
|--------------------|----------|---------|-----------------|--------------------------|
| | | Y←SD↑zŸ | YSD↑↑ŸŸ | YSD↑↑ŸŸ |
| BP, UZ-F-1..UZ-F-8 | B 500SA | 78.50 | 200000 77000 | 500.00 525.00 |

Statik-Protokoll

Protokoll der statischen Analyse

Systemwerte

Systemwerte Gesamt

| Elemente | Knoten | Gleichungen | Steifigk. | Speicherpl. |
|----------|--------|-------------|-----------|-------------|
| 4478 | 4392 | 12814 | 1154528 | 9019 KB |

Berechnung

Statische Berechnung

| | Einst. |
|----------------------------------|--------|
| Knotenoptimierung | ja |
| Abbruch bei beweglichen Systemen | ja |
| Konsistente Lasten | ja |
| Multiprozessor | ja |

Qáb\à†→æÁíÁİĜ

Speicher

Speicherplatzbedarf

| Arbeitsspeicher | âæ^=\&\ | vorhanden |
|-------------------|---------|-----------|
| Standardverfahren | 32 MB | ja |

| Festpl. | âæ^=\&\ | vorhanden | Laufwerk:\Pfad |
|---------|---------|-----------|-----------------------|
| Ergebn. | 88 MB | - | "M:\20\6208\433_E..." |

Aufbereitung der Struktur : 0 sec

Q=b|^&ÄäãÄb\á\&b'âæ^ÄN|à&áâæ

Berechnungszeit : 0 sec

Belastung

Gesamtlast / Gesamtauflagerkraft

| Lastfall | Px[kN] Ax[kN] | Py[kN] Ay[kN] | Pz[kN] Az[kN] |
|----------|------------------|------------------|-----------------------|
| LF-1 | 0.00 0.00 | 0.00 0.00 | -10616.59 10616.59 |
| LF-2 | 0.00 0.00 | 0.00 0.00 | -2677.02 2677.02 |
| LF-3 | 0.00 0.00 | 0.00 0.00 | -188.70 188.70 |
| LF-4 | 0.00 0.00 | 0.00 0.00 | -90.75 90.75 |
| LF-5 | 0.00 0.00 | 0.00 0.00 | -123.17 123.17 |
| LF-6 | 0.00 0.00 | 0.00 0.00 | -241.42 241.43 |
| LF-7 | 0.00 0.00 | 0.00 0.00 | -156.32 156.32 |
| LF-8 | 0.00 0.00 | 0.00 0.00 | -965.50 965.50 |
| LF-9 | 0.00 0.00 | 0.00 0.00 | -807.09 807.09 |
| LF-10 | 0.00 0.00 | 0.00 0.00 | -1018.23 1018.23 |
| LF-11 | 0.00 0.00 | 0.00 0.00 | -303.39 303.39 |
| LF-12 | 0.00 0.00 | 0.00 0.00 | -202.81 202.81 |
| LF-13 | 0.00 0.00 | 0.00 0.00 | -137.50 137.50 |
| LF-14 | 0.00 0.00 | 0.00 0.00 | -202.81 202.81 |
| LF-15 | 0.00 0.00 | 0.00 0.00 | -261.72 |

POSITION

BP-LP4

| Lastfall | Px [kN] Ax [kN] | Py [kN] Ay [kN] | Pz [kN] Az [kN] |
|------------|--------------------|--------------------|--------------------|
| | 0.00 | 0.00 | 261.72 |
| LF-16 | 0.00 | 0.00 | -297.50 |
| | 0.00 | 0.00 | 297.50 |
| #1 LF-1 | 0.00 | 0.00 | -11072.65 |
| | 0.00 | 0.00 | 11072.65 |
| #1 LF-2 | 0.00 | 0.00 | -3034.50 |
| | 0.00 | 0.00 | 3034.50 |
| #1 LF-3 | 0.00 | 0.00 | -114.34 |
| | 0.00 | 0.00 | 114.34 |
| #1 LF-4 | 0.00 | 0.00 | -124.68 |
| | 0.00 | 0.00 | 124.68 |
| #1 LF-5 | 0.00 | 0.00 | -90.98 |
| | 0.00 | 0.00 | 90.98 |
| #1 LF-6 | 0.00 | 0.00 | -233.66 |
| | 0.00 | 0.00 | 233.66 |
| #1 LF-7 | 0.00 | 0.00 | -361.63 |
| | 0.00 | 0.00 | 361.63 |
| #1 LF-8 | 0.00 | 0.00 | -78.50 |
| | 0.00 | 0.00 | 78.50 |
| #1 LF-9 | 0.00 | 0.00 | -55.17 |
| | 0.00 | 0.00 | 55.17 |
| #1 LF-10 | 0.00 | 0.00 | -804.73 |
| | 0.00 | 0.00 | 804.73 |
| #1 LF-11 | 0.00 | 0.00 | -692.05 |
| | 0.00 | 0.00 | 692.05 |
| #1 LF-12 | 0.00 | 0.00 | -142.51 |
| | 0.00 | 0.00 | 142.51 |
| #1 LF-13 | 0.00 | 0.00 | -226.50 |
| | 0.00 | 0.00 | 226.50 |
| #1 LF-14 | 0.00 | 0.00 | -287.70 |
| | 0.00 | 0.00 | 287.70 |
| #1 LF-15 | 0.00 | 0.00 | -214.21 |
| | 0.00 | 0.00 | 214.21 |
| #1 LF-16 | 0.00 | 0.00 | -152.29 |
| | 0.00 | 0.00 | 152.29 |
| #1 LF-17 | 0.00 | 0.00 | -80.85 |
| | 0.00 | 0.00 | 80.85 |
| #1 LF-18 | 0.00 | 0.00 | -155.91 |
| | 0.00 | 0.00 | 155.91 |
| #1 LF-19 | 0.00 | 0.00 | -19.25 |
| | 0.00 | 0.00 | 19.25 |
| #1 LF-20 | 0.00 | 0.00 | -96.14 |
| | 0.00 | 0.00 | 96.14 |
| #1 LF-21 | 0.00 | 0.00 | -102.72 |
| | 0.00 | 0.00 | 102.72 |
| #1 LF-22 | 0.00 | 0.00 | -3.77 |
| | 0.00 | 0.00 | 3.77 |
| #1 LF-23 | 0.00 | 0.00 | -154.39 |
| | 0.00 | 0.00 | 154.39 |
| #2 LF-1 | 0.00 | 0.00 | -9569.87 |
| | 0.00 | 0.00 | 9569.87 |
| #2 LF-2 | 0.00 | 0.00 | -2881.19 |
| | 0.00 | 0.00 | 2881.19 |
| #2 LF-3 | 0.00 | 0.00 | -641.95 |
| | 0.00 | 0.00 | 641.95 |
| #2 LF-4 | 0.00 | 0.00 | -345.80 |
| | 0.00 | 0.00 | 345.80 |
| #2 LF-5 | 0.00 | 0.00 | -356.77 |
| | 0.00 | 0.00 | 356.77 |
| #2 LF-6 | 0.00 | 0.00 | -20.58 |
| | 0.00 | 0.00 | 20.58 |
| #2 LF-7 | 0.00 | 0.00 | -356.24 |
| | 0.00 | 0.00 | 356.24 |
| #2 LF-8 | 0.00 | 0.00 | -231.74 |
| | 0.00 | 0.00 | 231.74 |
| #2 LF-9 | 0.00 | 0.00 | -45.79 |

POSITION

BP-LP4

| Lastfall | Px [kN] Ax [kN] | Py [kN] Ay [kN] | Pz [kN] Az [kN] |
|------------|--------------------|--------------------|--------------------|
| | 0.00 | 0.00 | 45.79 |
| #2 LF-10 | 0.00 | 0.00 | -246.71 |
| | 0.00 | 0.00 | 246.71 |
| #2 LF-11 | 0.00 | 0.00 | -139.11 |
| | 0.00 | 0.00 | 139.11 |
| #2 LF-12 | 0.00 | 0.00 | -98.33 |
| | 0.00 | 0.00 | 98.33 |
| #2 LF-13 | 0.00 | 0.00 | -17.75 |
| | 0.00 | 0.00 | 17.75 |
| #2 LF-14 | 0.00 | 0.00 | -110.02 |
| | 0.00 | 0.00 | 110.02 |
| #2 LF-15 | 0.00 | 0.00 | -91.27 |
| | 0.00 | 0.00 | 91.27 |
| #2 LF-16 | 0.00 | 0.00 | -100.30 |
| | 0.00 | 0.00 | 100.30 |
| #2 LF-17 | 0.00 | 0.00 | -249.09 |
| | 0.00 | 0.00 | 249.09 |
| #2 LF-18 | 0.00 | 0.00 | -142.83 |
| | 0.00 | 0.00 | 142.83 |
| #2 LF-19 | 0.00 | 0.00 | -131.67 |
| | 0.00 | 0.00 | 131.67 |
| #2 LF-20 | 0.00 | 0.00 | -98.95 |
| | 0.00 | 0.00 | 98.95 |
| #2 LF-21 | 0.00 | 0.00 | -100.28 |
| | 0.00 | 0.00 | 100.28 |
| #2 LF-22 | 0.00 | 0.00 | -373.63 |
| | 0.00 | 0.00 | 373.63 |
| #3 LF-1 | 0.00 | 0.00 | -10108.73 |
| | 0.00 | 0.00 | 10108.73 |
| #3 LF-2 | 0.00 | 0.00 | -2621.20 |
| | 0.00 | 0.00 | 2621.20 |
| #3 LF-3 | 0.00 | 0.00 | -705.49 |
| | 0.00 | 0.00 | 705.49 |
| #3 LF-4 | 0.00 | 0.00 | -112.69 |
| | 0.00 | 0.00 | 112.69 |
| #3 LF-5 | 0.00 | 0.00 | -707.56 |
| | 0.00 | 0.00 | 707.56 |
| #3 LF-6 | 0.00 | 0.00 | -662.75 |
| | 0.00 | 0.00 | 662.75 |
| #3 LF-7 | 0.00 | 0.00 | -112.76 |
| | 0.00 | 0.00 | 112.76 |
| #3 LF-8 | 0.00 | 0.00 | -182.89 |
| | 0.00 | 0.00 | 182.89 |
| #3 LF-9 | 0.00 | 0.00 | -50.10 |
| | 0.00 | 0.00 | 50.10 |
| #3 LF-10 | 0.00 | 0.00 | -61.41 |
| | 0.00 | 0.00 | 61.41 |
| #3 LF-11 | 0.00 | 0.00 | -76.87 |
| | 0.00 | 0.00 | 76.87 |
| #3 LF-12 | 0.00 | 0.00 | -92.59 |
| | 0.00 | 0.00 | 92.59 |
| #3 LF-13 | 0.00 | 0.00 | -198.03 |
| | 0.00 | 0.00 | 198.03 |
| #3 LF-14 | 0.00 | 0.00 | -4.62 |
| | 0.00 | 0.00 | 4.62 |
| #3 LF-15 | 0.00 | 0.00 | -1.61 |
| | 0.00 | 0.00 | 1.61 |
| #3 LF-16 | 0.00 | 0.00 | -8.07 |
| | 0.00 | 0.00 | 8.07 |
| #3 LF-17 | 0.00 | 0.00 | -224.80 |
| | 0.00 | 0.00 | 224.80 |
| #3 LF-18 | 0.00 | 0.00 | -9.98 |
| | 0.00 | 0.00 | 9.98 |
| #3 LF-19 | 0.00 | 0.00 | -12.08 |
| | 0.00 | 0.00 | 12.08 |
| #3 LF-20 | 0.00 | 0.00 | -1.72 |

| Lastfall | Px [kN] Ax [kN] | Py [kN] Ay [kN] | Pz [kN] Az [kN] |
|------------|--------------------|--------------------|--------------------|
| | 0.00 | 0.00 | 1.72 |
| #3 LF-21 | 0.00 | 0.00 | -4.59 |
| | 0.00 | 0.00 | 4.59 |
| #3 LF-22 | 0.00 | 0.00 | -94.06 |
| | 0.00 | 0.00 | 94.06 |
| #3 LF-23 | 0.00 | 0.00 | -13.69 |
| | 0.00 | 0.00 | 13.69 |
| #4 LF-1 | 0.00 | 0.00 | -752.70 |
| | 0.00 | 0.00 | 752.70 |
| #4 LF-2 | 0.00 | 0.00 | -92.01 |
| | 0.00 | 0.00 | 92.01 |
| #4 LF-3 | 0.00 | 0.00 | -20.91 |
| | 0.00 | 0.00 | 20.91 |
| #4 LF-4 | 0.00 | 0.00 | -84.50 |
| | 0.00 | 0.00 | 84.50 |
| #4 LF-5 | 0.00 | 0.00 | -21.90 |
| | 0.00 | 0.00 | 21.90 |
| #4 LF-6 | 0.00 | 0.00 | -16.55 |
| | 0.00 | 0.00 | 16.55 |
| #4 LF-7 | 0.00 | 0.00 | -40.18 |
| | 0.00 | 0.00 | 40.18 |
| #4 LF-8 | 0.00 | 0.00 | -36.68 |
| | 0.00 | 0.00 | 36.68 |
| Summe | | | |
| | 0.00 | 0.00 | -70073.29 |
| | 0.00 | 0.00 | 70073.29 |

Aufbau der Ergebnisse : 5 sec

Ende der statischen Analyse

Gesamtdauer : 8 sec

*** Berechnung erfolgreich abgeschlossen ***

Belastungen

Ei nwi rkungen

DIN EN 1990

Einwirkungen nach DIN EN 1990

| Pfiã~æ→ | Beschreibung Typisierung |
|---------|--|
| Gk | Eigenlasten U\†^ã&æÁÖ↔^}↔ã← ^&æ^ |
| Ö← | Ausbaulasten U\†^ã&æÁÖ↔^}↔ã← ^&æ^ |
| Qk.N_C5 | Nutzlast Kategorie C5: Forum mit angrenzenden Fluren Pá\æ&~ã&æÁÖÁËÄÜæäbá↑↑ ^&bã† ↑æ |
| Qk.N_E1 | Nutzlast Kategorie E: Lager, Archiv, Bib., Technik Pá\æ&~ã&æÁÖÁËÄÜQá&æä† ↑æ |
| Qk.N_B1 | S \~→áb\ÁPá\æ&~ã&æÁÑFÍÁÑfiã~ã† ↑æÉÁæâæ^ã† ↑æ Pá\æ&~ã&æÁÑÁËÄÜfiã~b |
| Qk.N_C1 | S \~→áb\ÁPá\æ&~ã&æÁÖFíÁU´á → ^&bã† ↑æÉÁ Öä *æ^ã† ↑æÉÁð→æ&æä† ↑æ Pá\æ&~ã&æÁÖÁËÄÜæäbá↑↑ ^&bã† ↑æ |
| Qk.N_DA | Nutzlast Kategorie H: Dach Pá\æ&~ã&æÁÖÁËÄÜæ^´âæä |
| Qk.N_T2 | S \~→áb\ÁPá\æ&~ã&æÁÜGíÁÜüæ*æ^ã† bæä U~^b\↔æ&æÜæä†^äæä↔´äæÁÖ↔^}↔ã← ^&æ^ |

@UghZ} ``Y

Qáb\à†→æÁ|^äÄæææ^ÁX|~ää^|^&Á~|Ääæ^ÁÖ↔^}↔ã←|^&æ^

| | |
|---------|--|
| Gk | LF-1, #1 LF-1, #2 LF-1, #3 LF-1, #4 LF-1 |
| Ö← | LF-2, #1 LF-2, #2 LF-2, #3 LF-2, #4 LF-2 |
| Qk.N_C5 | LF-11, LF-12, LF-13, LF-14, LF-15, #1 LF-15, #1 LF-16, #1 LF-17, #1 LF-18, #1 LF-19, #2 LF-15, #2 LF-16, #2 LF-17, #2 LF-18, #2 LF-19 |
| Qk.N_E1 | LF-3, LF-4, LF-5, LF-6, LF-7, #1 LF-3, #1 LF-4, #1 LF-5, #1 LF-23, #2 LF-11, #2 LF-12, #2 LF-13, #2 LF-14, #3 LF-17, #3 LF-18, #3 LF-19, #3 LF-20, #3 LF-21, #3 LF-22, #3 LF-23, #4 LF-8 |
| Qk.N_B1 | LF-10, #1 LF-13, #1 LF-14, #2 LF-3, #2 LF-4, #2 LF-5, #2 LF-6, #2 LF-7, #2 LF-8, #2 LF-9, #2 LF-10 |
| Qk.N_C1 | LF-8, LF-9, #1 LF-6, #1 LF-7, #1 LF-8, #1 LF-9, #1 LF-10, #1 LF-11, #1 LF-12, #2 LF-22 |
| Qk.N_DA | #3 LF-3, #3 LF-4, #3 LF-5, #3 LF-6, #3 LF-7, #3 LF-8, #3 LF-9, #3 LF-10, #3 LF-11, #3 LF-12, #3 LF-13, #3 LF-14, #3 LF-15, #3 LF-16, #4 LF-3, #4 LF-4, #4 LF-5, #4 LF-6, #4 LF-7 |
| Qk.N_T2 | LF-16, #1 LF-20, #1 LF-21, #1 LF-22, #2 LF-20, #2 LF-21 |

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Lastgruppen

@UghZ} ``Y

| Lastfall | Typ | Beschreibung |
|----------|-----|--|
| LF-1 | s | Eigengewicht |
| LF-2 | s | Lastfall |
| LF-3 | v | Nutzlast Lager/Archiv/Technik |
| LF-4 | v | Nutzlast Lager/Archiv/Technik |
| LF-5 | v | Nutzlast Lager/Archiv/Technik |
| LF-6 | v | Nutzlast Lager/Archiv/Technik |
| LF-7 | v | Nutzlast Lager/Archiv/Technik |
| LF-8 | v | S \~→áb\ÁU´á → ^&bã† ↑æ |
| LF-9 | v | S \~→áb\ÁU´á → ^&bã† ↑æ |
| LF-10 | v | S \~→áb\ÁÑfiã~ |
| LF-11 | v | Nutzlast Flur |
| LF-12 | v | Nutzlast Flur |
| LF-13 | v | Nutzlast Flur |
| LF-14 | v | Nutzlast Flur |
| LF-15 | v | Nutzlast Flur |
| LF-16 | v | Nutzlast Treppe |
| #1 LF-1 | s | aus 'EG-LP4 - U´á →´á†* bíQáb\fiäæ&áäæC |

| Lastfall | Typ | Beschreibung |
|------------|-----|--|
| #1 LF-2 | s | Ausbau |
| #1 LF-3 | v | Nutzlast Lager/Archiv/Technik |
| #1 LF-4 | v | Nutzlast Lager/Archiv/Technik |
| #1 LF-5 | v | Nutzlast Lager/Archiv/Technik |
| #1 LF-6 | v | S \ ~ → á b \ Á U ' á → ^ & b ä † † æ |
| #1 LF-7 | v | S \ ~ → á b \ Á U ' á → ^ & b ä † † æ |
| #1 LF-8 | v | S \ ~ → á b \ Á U ' á → ^ & b ä † † æ |
| #1 LF-9 | v | S \ ~ → á b \ Á U ' á → ^ & b ä † † æ |
| #1 LF-10 | v | S \ ~ → á b \ Á U ' á → ^ & b ä † † æ |
| #1 LF-11 | v | S \ ~ → á b \ Á U ' á → ^ & b ä † † æ |
| #1 LF-12 | v | S \ ~ → á b \ Á U ' á → ^ & b ä † † æ |
| #1 LF-13 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #1 LF-14 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #1 LF-15 | v | Nutzlast Flur |
| #1 LF-16 | v | Nutzlast Flur |
| #1 LF-17 | v | Nutzlast Flur |
| #1 LF-18 | v | Nutzlast Flur |
| #1 LF-19 | v | Nutzlast Flur |
| #1 LF-20 | v | Nutzlast Treppe |
| #1 LF-21 | v | Nutzlast Treppe |
| #1 LF-22 | v | Nutzlast Treppe |
| #1 LF-23 | v | Nutzlast Lager/Archiv/Technik |
| #2 LF-1 | s | aus '10G-LP4 - U ' á → ' á † * b i Q á b \ fi ä æ ä á ä æ C |
| #2 LF-2 | s | Ausbau |
| #2 LF-3 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #2 LF-4 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #2 LF-5 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #2 LF-6 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #2 LF-7 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #2 LF-8 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #2 LF-9 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #2 LF-10 | v | S \ ~ → á b \ Á Ñ fi ä ~ |
| #2 LF-11 | v | Nutzlast Lager/Archiv/Technik |
| #2 LF-12 | v | Nutzlast Lager/Archiv/Technik |
| #2 LF-13 | v | Nutzlast Lager/Archiv/Technik |
| #2 LF-14 | v | Nutzlast Lager/Archiv/Technik |
| #2 LF-15 | v | Nutzlast Flur |
| #2 LF-16 | v | Nutzlast Flur |
| #2 LF-17 | v | Nutzlast Flur |
| #2 LF-18 | v | Nutzlast Flur |
| #2 LF-19 | v | Nutzlast Flur |
| #2 LF-20 | v | Nutzlast Treppe |
| #2 LF-21 | v | Nutzlast Treppe |
| #2 LF-22 | v | Nutzlast Lesesaal |
| #3 LF-1 | s | aus '20G-LP4 - U ' á → ' á † * b i Q á b \ fi ä æ ä á ä æ C |
| #3 LF-2 | s | Ausbau |
| #3 LF-3 | v | Nutzlast Dach |
| #3 LF-4 | v | Nutzlast Dach |
| #3 LF-5 | v | Nutzlast Dach |
| #3 LF-6 | v | Nutzlast Dach |
| #3 LF-7 | v | Nutzlast Dach |
| #3 LF-8 | v | Nutzlast Dach |
| #3 LF-9 | v | Nutzlast Dach |
| #3 LF-10 | v | Nutzlast Dach |
| #3 LF-11 | v | Nutzlast Dach |
| #3 LF-12 | v | Nutzlast Dach |
| #3 LF-13 | v | Nutzlast Dach |
| #3 LF-14 | v | Nutzlast Dach |
| #3 LF-15 | v | Nutzlast Dach |
| #3 LF-16 | v | Nutzlast Dach |
| #3 LF-17 | v | Nutzlast Technik |
| #3 LF-18 | v | Nutzlast Technik |
| #3 LF-19 | v | Nutzlast Technik |
| #3 LF-20 | v | Nutzlast Technik |
| #3 LF-21 | v | Nutzlast Technik |

| Lastfall | Typ | Beschreibung |
|--------------------------|-----|--|
| #3 LF-22 | v | Nutzlast Technik |
| #3 LF-23 | v | Nutzlast Technik |
| #4 LF-1 | s | aus 'TG-LP4 - U'â →'á↑* bIQáb\fiãã&áãæC |
| #4 LF-2 | s | Ausbau |
| #4 LF-3 | v | Nutzlast Dach |
| #4 LF-4 | v | Nutzlast Dach |
| #4 LF-5 | v | Nutzlast Dach |
| #4 LF-6 | v | Nutzlast Dach |
| #4 LF-7 | v | Nutzlast Dach |
| #4 LF-8 | v | Nutzlast Aufzug |
| s: b\†^ã&æãÁQáb\ää→ | | |
| v: {æã†^ääã→'áæãÁQáb\ää→ | | |

Lastkombinationen

Qáb\←~↑â↔^á\↔~^æ^ÄfiãÁ~→^æääæÃÑæã'â^ | ^&

Kombinationen

Manuell vorgegebene Lastkombinationen

| Ew | Einwirkungsname | | | | | |
|------|-----------------|------------|------------|------------|------------|----|
| Lg | Lastgruppenname | | | | | |
| Lf | Lastfallname | | | | | |
| Ew | Gk | Gk | Gk | Gk | Gk | Gk |
| Lg | . | . | . | . | . | . |
| Lf | LF-1 | #1 LF-1 | #2 LF-1 | #3 LF-1 | #4 LF-1 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ew | Ö← | Ö← | Ö← | Ö← | Ö← | |
| Lg | . | . | . | . | . | . |
| Lf | LF-2 | #1 LF-2 | #2 LF-2 | #3 LF-2 | #4 LF-2 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ew | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | |
| Lg | . | . | . | . | . | . |
| Lf | LF-10 | #1 LF-13 | #1 LF-14 | #2 LF-3 | #2 LF-4 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ew | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | Qk.N_B1 | |
| Lg | . | . | . | . | . | . |
| Lf | #2 LF-5 | #2 LF-6 | #2 LF-7 | #2 LF-8 | #2 LF-9 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ew | Qk.N_B1 | Qk.N_C1 | Qk.N_C1 | Qk.N_C1 | Qk.N_C1 | |
| Lg | . | . | . | . | . | . |
| Lf | #2 LF-10 | LF-8 | LF-9 | #1 LF-6 | #1 LF-7 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ew | Qk.N_C1 | Qk.N_C1 | Qk.N_C1 | Qk.N_C1 | Qk.N_C1 | |
| Lg | . | . | . | . | . | . |
| Lf | #1 LF-8 | #1 LF-9 | #1 LF-10 | #1 LF-11 | #1 LF-12 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ew | Qk.N_C1 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | |
| Lg | . | . | . | . | . | . |
| Lf | #2 LF-22 | LF-11 | LF-12 | LF-13 | LF-14 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ew | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | |
| Lg | . | . | . | . | . | . |
| Lf | LF-15 | #1 LF-15 | #1 LF-16 | #1 LF-17 | #1 LF-18 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ew | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | Qk.N_C5 | |
| Lg | . | . | . | . | . | . |
| Lf | #1 LF-19 | #2 LF-15 | #2 LF-16 | #2 LF-17 | #2 LF-18 | |
| LK-1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |

| | | | | | | |
|------|----|------------|------------|------------|------------|------------|
| | Ew | Qk.N_C5 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| | Lg | . | . | . | . | . |
| | Lf | #2 LF-19 | LF-3 | LF-4 | LF-5 | LF-6 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| | Lg | . | . | . | . | . |
| | Lf | LF-7 | #1 LF-3 | #1 LF-4 | #1 LF-5 | #1 LF-23 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| | Lg | . | . | . | . | . |
| | Lf | #2 LF-11 | #2 LF-12 | #2 LF-13 | #2 LF-14 | #3 LF-17 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 | Qk.N_E1 |
| | Lg | . | . | . | . | . |
| | Lf | #3 LF-18 | #3 LF-19 | #3 LF-20 | #3 LF-21 | #3 LF-22 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_E1 | Qk.N_E1 | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | #3 LF-23 | #4 LF-8 | #3 LF-3 | #3 LF-4 | #3 LF-5 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | #3 LF-6 | #3 LF-7 | #3 LF-8 | #3 LF-9 | #3 LF-10 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | #3 LF-11 | #3 LF-12 | #3 LF-13 | #3 LF-14 | #3 LF-15 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA | Qk.N_DA |
| | Lg | . | . | . | . | . |
| | Lf | #3 LF-16 | #4 LF-3 | #4 LF-4 | #4 LF-5 | #4 LF-6 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_DA | Qk.N_T2 | Qk.N_T2 | Qk.N_T2 | Qk.N_T2 |
| | Lg | . | . | . | . | . |
| | Lf | #4 LF-7 | LF-16 | #1 LF-20 | #1 LF-21 | #1 LF-22 |
| LK-1 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Ew | Qk.N_T2 | Qk.N_T2 | | | |
| | Lg | . | . | | | |
| | Lf | #2 LF-20 | #2 LF-21 | | | |
| LK-1 | | 1.00 | 1.00 | | | |

Lastplan

Bauteil lasten

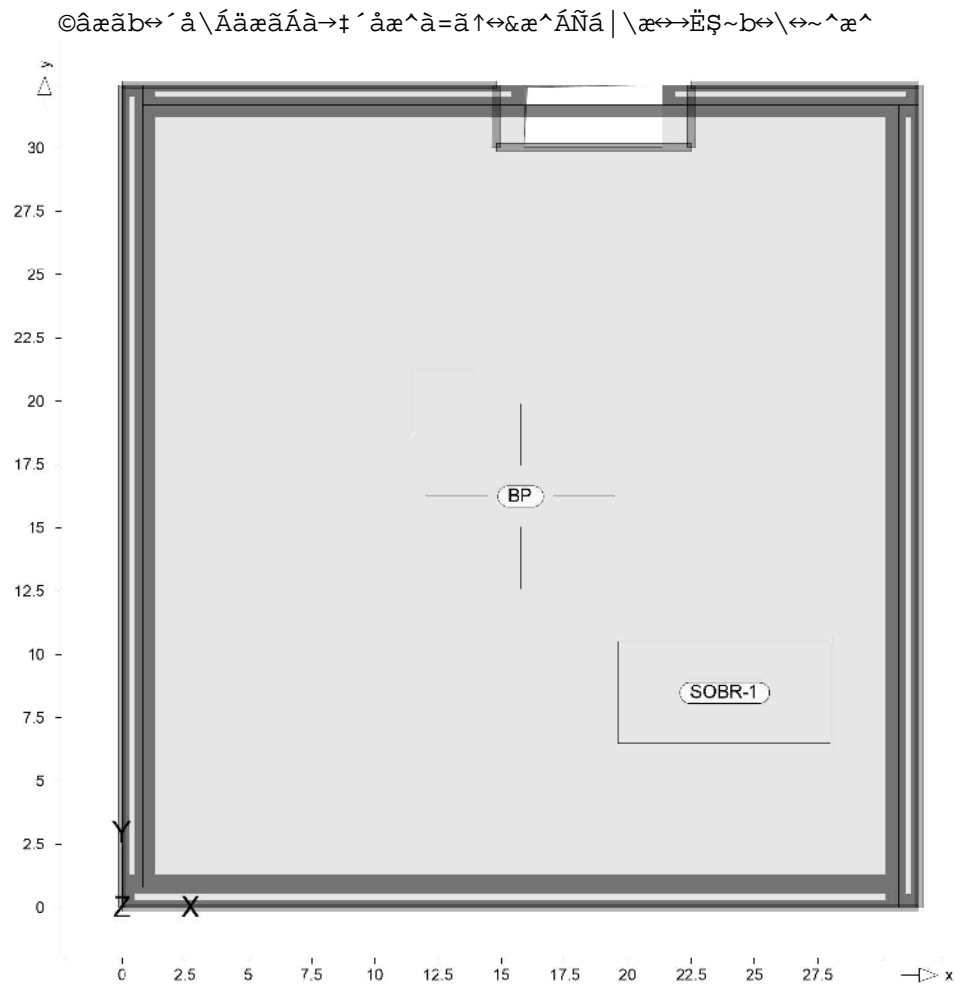
:` } WYbdcg] h] cbYb

Lasten des FE-Modells

Bauteilbezogene Lasten

ô→‡´âæ^â=ã↑↔&æÁÑá | \æ↔→Ë\$~b↔\↔~^æ^

Positionsgrafik



Eigengewicht

| Position | EW | Lastfall | Art | g [kN/m ²] |
|----------|----|----------|-----|---------------------------|
| BP | Gk | LF-1 | PGr | von 7.50 bis 10.00 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

Dickenbereiche

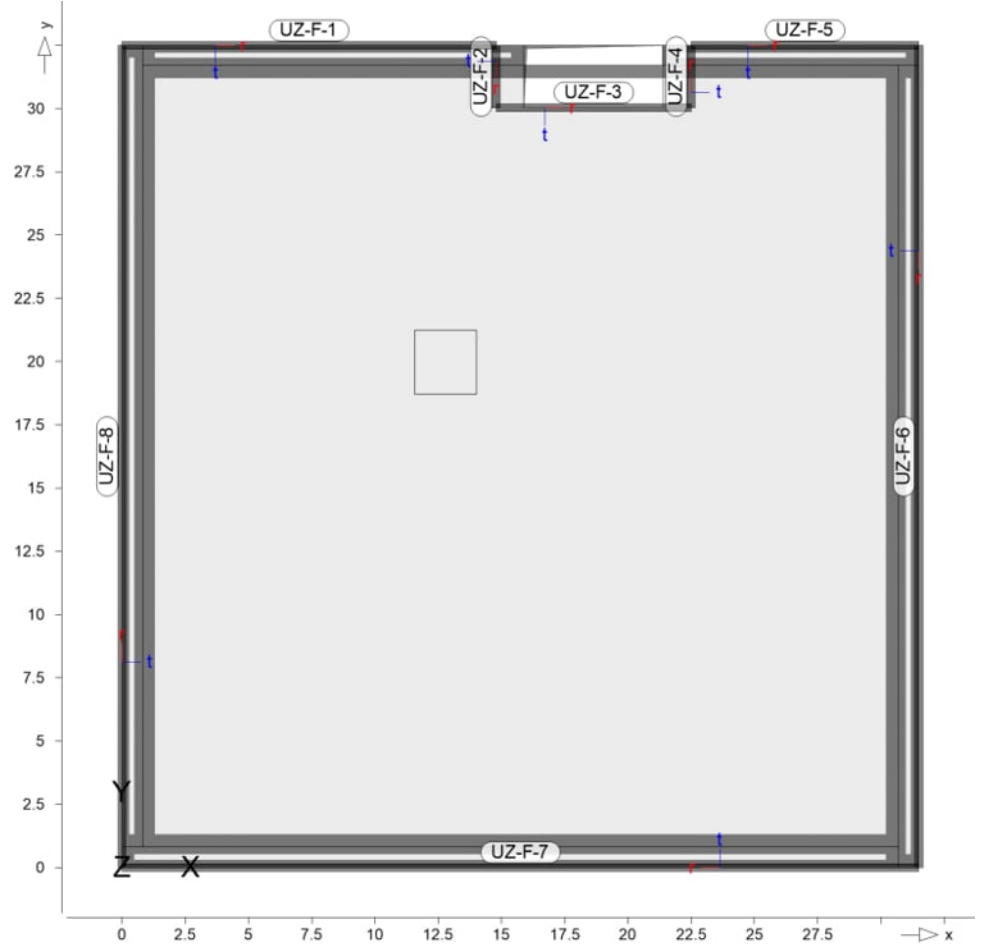
| Position | Bereiche mit abweichender Regeldicke Dickenbereiche | g [kN/m ²] |
|----------|--|---------------------------|
| BP | SOBR-1 | 7.50 |

Streckenposi ti onen

$Q \leftrightarrow \text{æ}^{\wedge} \text{à} = \text{ã} \uparrow \leftrightarrow \text{æ}^{\wedge} \text{Ñ} \text{á} \mid \backslash \text{æ} \leftrightarrow \text{Ë} \text{§} \sim \text{b} \leftrightarrow \backslash \leftrightarrow \sim^{\wedge} \text{æ}^{\wedge}$

Posi ti onsgrafi k

$\text{©} \hat{\text{â}} \text{æ} \text{ã} \text{b} \leftrightarrow \text{' } \hat{\text{â}} \backslash \text{Ä} \text{ä} \text{æ} \text{ã} \text{Ä} \rightarrow \leftrightarrow \text{æ}^{\wedge} \text{à} = \text{ã} \uparrow \leftrightarrow \text{æ}^{\wedge} \text{Ñ} \text{á} \mid \backslash \text{æ} \leftrightarrow \text{Ë} \text{§} \sim \text{b} \leftrightarrow \backslash \leftrightarrow \sim^{\wedge} \text{æ}^{\wedge}$



Ei gengewi cht

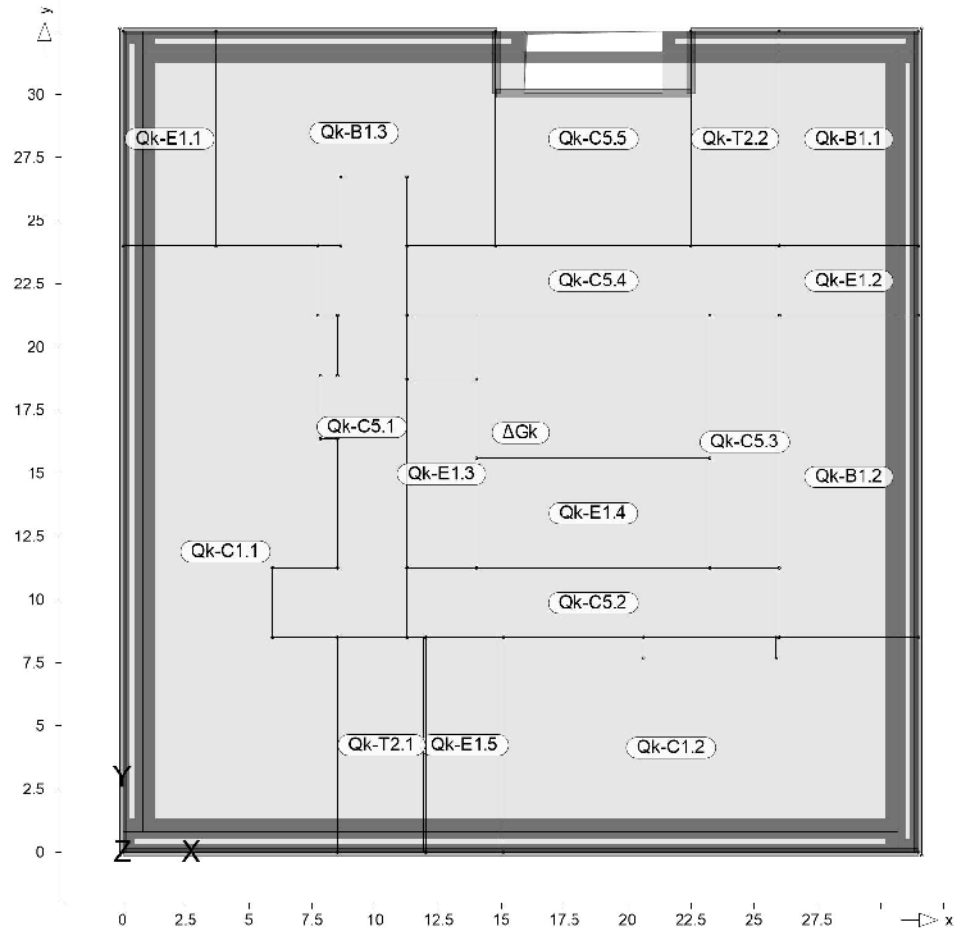
| Position | EW | Lastfall | Art | g [kN/m] |
|--|----|----------|-----|-------------|
| UZ-F-1..UZ-F-8 | Gk | LF-1 | PGr | 4.50 |
| PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten | | | | |

Standardlasten

Standardlasten im FE-Modell

Positionsgrafik

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Positionsgrafik

| Position | EW | Lastfall | Art | p [kN/m²] |
|----------|---------|----------|-----|--------------|
| Qk-B1.1 | Qk.N_B1 | LF-10 | PGr | 5.00 |
| Qk-B1.2 | Qk.N_B1 | LF-10 | PGr | 5.00 |
| Qk-B1.3 | Qk.N_B1 | LF-10 | PGr | 5.00 |
| Qk-C1.1 | Qk.N_C1 | LF-8 | PGr | 5.00 |
| Qk-C1.2 | Qk.N_C1 | LF-9 | PGr | 5.00 |
| Qk-C5.1 | Qk.N_C5 | LF-11 | PGr | 5.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-C5.2 | Qk.N_C5 | LF-12 | PGr | 5.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-C5.3 | Qk.N_C5 | LF-13 | PGr | 5.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-C5.4 | Qk.N_C5 | LF-14 | PGr | 5.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-C5.5 | Qk.N_C5 | LF-15 | PGr | 5.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-E1.1 | Qk.N_E1 | LF-3 | PGr | 6.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-E1.2 | Qk.N_E1 | LF-4 | PGr | 6.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-E1.3 | Qk.N_E1 | LF-5 | PGr | 6.00 |
| | Ö← | LF-2 | PGr | 0.50 |
| Qk-E1.4 | Qk.N_E1 | LF-6 | PGr | 6.00 |
| | Ö← | LF-2 | PGr | 0.50 |

| Position | EW | Lastfall | Art | p [kN/m ²] |
|----------|---------------|--------------|-----|---------------------------|
| Qk-E1.5 | Qk.N_E1 Ö← | LF-7 LF-2 | PGr | 6.00 0.50 |
| Qk-T2.1 | Qk.N_T2 | LF-16 | PGr | 5.00 |
| Qk-T2.2 | Qk.N_T2 | LF-16 | PGr | 5.00 |
| Ö← | Ö← | LF-2 | PGr | 2.50 |

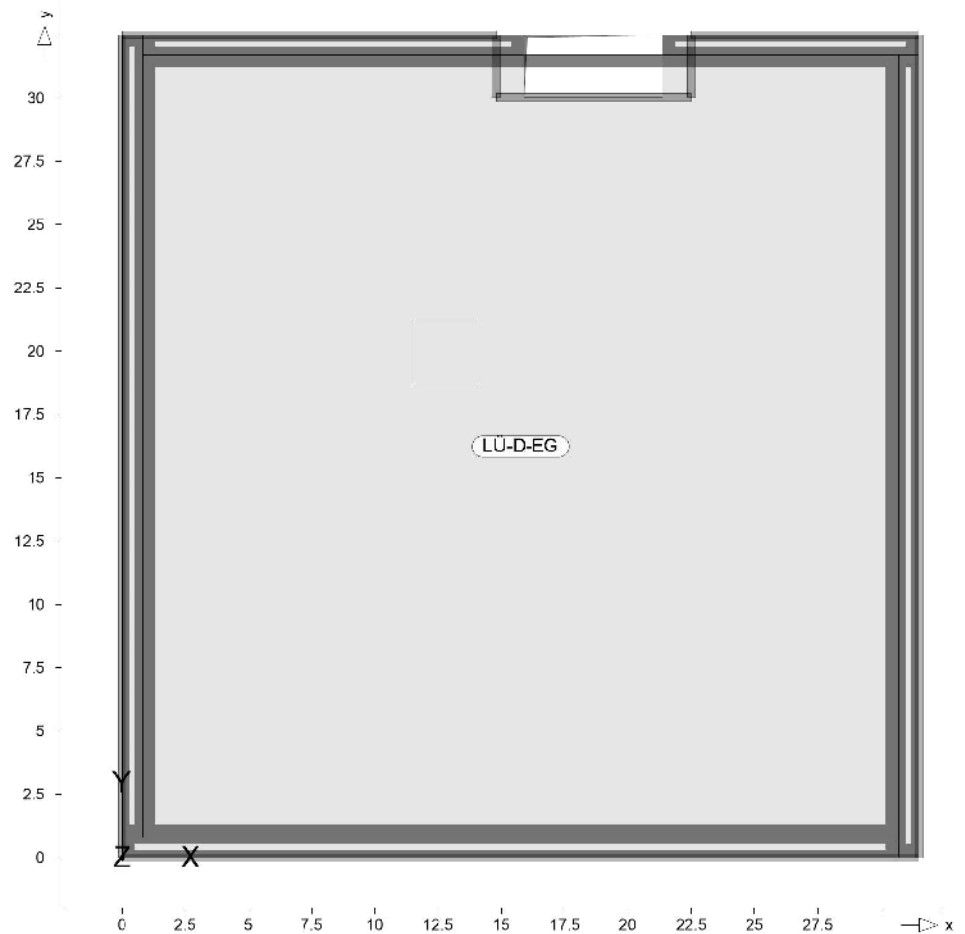
PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

@Ugh~ VYfbU\ aYb

Posi ti onsgrafi k

Qáb\fiâæã^áâ↑æÁá | bÁR↔'ã~ÔæËR~äæ→æ^

ôâæãb↔'â\ÁäæãÁQáb\fiâæã^áâ↑æ^

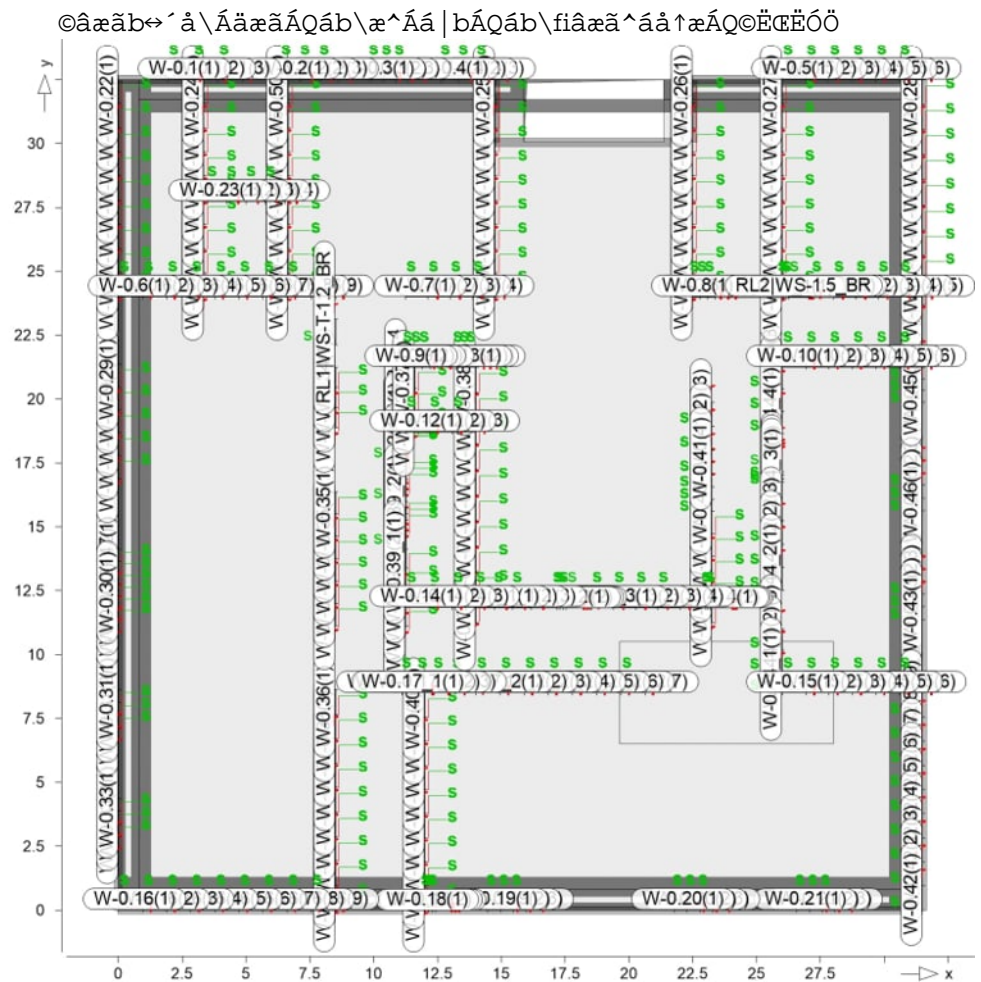


@y! 8! 9;

Qáb\fiâæã^áâ↑æÁCU'â | →'á↑* | bIQáb\fiâæã&áâæCÁá | bÁR~äæ→Á
'EG-LP4'

↔æÁQáb\fiâæã^áâ↑æÁæãà~&\Á→áb\àá→\ãæ | È
↔æÁQáb\á^\æ→æÁá | bÁb\†^ä↔&æ^ÁQáb\æ^ÁäæãÁU\fi\~æ^ËÁund
Ûá^ä→á&æãÁ}æãäæ^Áâæãfi'←b↔'â\↔&\È

Positi onsgrafi k



Li ni enl asten

Blocklasten der einzelnen Abschnitte in
Gravitationsrichtung

RL1 | WS-T-1.2_BR

Gk

á | bÁÛÈÜËËFÈGÁÓ↔&æ^&æ}↔'á\ÁÑñfib\ | ^&

Lastfall Lasten (1 Abschnitte je 1.01m)

[kN/m]

#2 | LF-1

0.00

RL2 | WS-1.5_BR

Gk

á | bÁÛÈÜËËFÈIÁÓ↔&æ^&æ}↔'á\ÁÑñfib\ | ^&

Lastfall Lasten (1 Abschnitte je 0.89m)

[kN/m]

#2 | LF-1

0.00

W-0.1

Gk

Lastfall Lasten (3 Abschnitte je 0.98m)

[kN/m]

#1 | LF-1 (g)

39.37 22.86 28.09

#2 | LF-1

-2.56 45.35 133.4

#3 | LF-1

-1.56 62.27 146.1

#4 | LF-1

0.00 0.01 0.02

Ö-

#1 | LF-2 (g)

19.79 8.51 12.86

#2 | LF-2

-0.83 19.98 58.89

#3 | LF-2

-0.49 21.94 51.24

Qk.N_E1

#1 | LF-3

0.00 0.00 0.00

#1 | LF-6

-0.14 -0.09 0.45

#1 | LF-7

1.46 0.92 -4.86

#1 | LF-8

-2.14 0.04 8.89

#1 | LF-9

0.03 0.01 0.00

#1 | LF-10

0.00 0.00 -0.01

#1 | LF-12

10.44 -0.69 -2.38

#1 | LF-13

0.00 0.00 0.00

#2 | LF-4

0.00 0.00 0.00

#2 | LF-5

0.04 -0.36 -1.06

| | Lastfall | Lasten (3 Abschnitte je 0.98m) | [kN/m] | | |
|--------------|---|--------------------------------|--------|-------|-------|
| Qk.N_DA | #2 | LF-7 | -0.05 | -0.34 | 0.18 |
| | #2 | LF-11 | -0.35 | 0.54 | 9.64 |
| | #2 | LF-12 | 0.02 | -0.24 | -0.67 |
| | #2 | LF-13 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-14 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-15 | 0.00 | 0.00 | 0.02 |
| | #2 | LF-19 | 0.01 | -0.12 | -0.40 |
| | #2 | LF-22 | -1.30 | 22.20 | 63.64 |
| | #3 | LF-5 | 0.06 | -0.66 | -1.68 |
| | #3 | LF-6 | -0.93 | 20.25 | 49.15 |
| | #3 | LF-7 | 0.00 | 0.00 | 0.04 |
| | #3 | LF-8 | 0.00 | 0.00 | -0.02 |
| Qk.N_T2 | #3 | LF-10 | 0.00 | 0.00 | 0.01 |
| | #3 | LF-11 | 0.00 | 0.01 | 0.06 |
| | #3 | LF-14 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-21 | 0.00 | 0.00 | -0.01 |
| | #2 | LF-21 | 0.00 | 0.00 | -0.01 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | | | | |
| | | | | | |
| W-0.2 | | | | | |
| Gk | Lastfall | Lasten (3 Abschnitte je 0.75m) | [kN/m] | | |
| Ö← | #1 | LF-1 (g) | 16.34 | 24.47 | 46.40 |
| | #2 | LF-1 | 3.76 | -2.74 | 7.70 |
| | #3 | LF-1 | 3.44 | -2.86 | 6.44 |
| | #4 | LF-1 | 0.00 | 0.00 | 0.00 |
| Qk.N_E1 | #1 | LF-2 (g) | 8.44 | 11.74 | 22.33 |
| | #2 | LF-2 | 1.66 | -1.21 | 3.55 |
| | #3 | LF-2 | 1.20 | -1.00 | 2.23 |
| | #1 | LF-6 | 1.08 | 0.56 | 0.15 |
| | #1 | LF-7 | -9.24 | 1.87 | 16.12 |
| | #1 | LF-8 | 1.93 | -1.59 | -1.41 |
| | #1 | LF-9 | 0.03 | 0.03 | 0.02 |
| | #1 | LF-10 | -0.02 | -0.01 | 0.00 |
| | #1 | LF-12 | 0.15 | 0.31 | 0.25 |
| | #1 | LF-13 | 0.01 | 0.00 | 0.00 |
| | #1 | LF-16 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-17 | -0.01 | -0.01 | -0.01 |
| | #1 | LF-18 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-5 | -0.03 | 0.02 | -0.03 |
| | #2 | LF-7 | 0.05 | -0.02 | 0.38 |
| | #2 | LF-11 | 0.27 | -0.45 | 2.17 |
| | Qk.N_DA | #2 | LF-12 | -0.02 | 0.01 |
| #2 | | LF-15 | 0.01 | 0.00 | 0.00 |
| #2 | | LF-19 | -0.01 | 0.01 | -0.02 |
| #2 | | LF-22 | 1.83 | -1.12 | 2.12 |
| #3 | | LF-5 | -0.04 | 0.03 | -0.05 |
| #3 | | LF-6 | 1.19 | -0.99 | 2.27 |
| #3 | | LF-7 | 0.00 | 0.00 | 0.02 |
| #3 | | LF-8 | 0.00 | 0.00 | -0.01 |
| #3 | | LF-11 | 0.00 | 0.00 | 0.01 |
| Qk.N_T2 | | #1 | LF-21 | -0.02 | -0.01 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-0.3 | | | | | |
| Gk | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
| Ö← | #1 | LF-1 (g) | 59.97 | 52.37 | 58.73 |
| | #2 | LF-1 | 130.0 | 104.8 | 67.48 |
| | #3 | LF-1 | 143.7 | 150.5 | 142.5 |
| | #4 | LF-1 | 0.00 | 0.00 | 0.00 |
| Qk.N_E1 | #1 | LF-2 (g) | 25.69 | 21.67 | 25.27 |
| | #2 | LF-2 | 58.68 | 46.32 | 28.60 |
| | #3 | LF-2 | 49.85 | 52.25 | 49.46 |
| | #4 | LF-2 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-3 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-6 | -1.05 | -1.93 | -4.36 |
| | #1 | LF-7 | 25.78 | 21.91 | 27.80 |
| | #1 | LF-8 | -0.51 | -0.24 | -0.11 |
| | #1 | LF-9 | -0.02 | -0.02 | -0.02 |
| | #1 | LF-10 | 0.02 | 0.02 | 0.02 |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | | [kN/m] | | |
|---|----------|--------------------------------|--------------------------------|--------|--------|-------|
| Qk.N_DA | #1 | LF-12 | 0.10 | 0.05 | 0.03 | |
| | #1 | LF-13 | -0.01 | -0.01 | -0.03 | |
| | #1 | LF-16 | 0.00 | 0.01 | 0.01 | |
| | #1 | LF-17 | 0.01 | 0.04 | 0.12 | |
| | #1 | LF-18 | 0.00 | 0.00 | 0.00 | |
| | #2 | LF-5 | -0.49 | -0.32 | -0.12 | |
| | #2 | LF-7 | 5.87 | 4.77 | 2.61 | |
| | #2 | LF-8 | -0.03 | -0.06 | -0.08 | |
| | #2 | LF-11 | 37.09 | 32.44 | 24.54 | |
| | #2 | LF-12 | -0.30 | -0.19 | -0.07 | |
| | #2 | LF-13 | 0.01 | 0.00 | 0.00 | |
| | #2 | LF-15 | 0.10 | 0.13 | 0.16 | |
| | #2 | LF-16 | 0.00 | 0.00 | 0.00 | |
| | #2 | LF-19 | -0.29 | -0.21 | -0.10 | |
| | #2 | LF-22 | 33.29 | 22.01 | 8.25 | |
| | #3 | LF-17 | 0.00 | 0.00 | 0.00 | |
| | Qk.N_DA | #3 | LF-5 | -0.92 | -0.84 | -0.66 |
| | | #3 | LF-6 | 50.51 | 52.95 | 50.14 |
| | | #3 | LF-7 | 0.37 | 0.30 | 0.20 |
| | | #3 | LF-8 | -0.20 | -0.17 | -0.13 |
| | | #3 | LF-10 | 0.04 | 0.04 | 0.04 |
| | | #3 | LF-11 | 0.16 | 0.14 | 0.10 |
| #3 | | LF-13 | 0.00 | 0.01 | 0.01 | |
| #3 | | LF-14 | 0.00 | 0.00 | 0.00 | |
| Qk.N_T2 | | #4 | LF-4 | 0.01 | 0.01 | 0.01 |
| | | #1 | LF-21 | 0.02 | 0.04 | 0.08 |
| | #2 | LF-21 | 0.10 | 0.18 | 0.25 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| W-0.4 | | | | | | |
| Gk | | Lastfall | Lasten (3 Abschnitte je 0.71m) | | [kN/m] | |
| Ö← | #1 | LF-1 (g) | 37.84 | 8.77 | 29.69 | |
| | #2 | LF-1 | -1.17 | 48.19 | 179.6 | |
| | #3 | LF-1 | 5.89 | 54.29 | 175.8 | |
| | #4 | LF-1 | 0.00 | 0.01 | 0.01 | |
| Qk.N_E1 | #1 | LF-2 (g) | 18.64 | 4.39 | 13.29 | |
| | #2 | LF-2 | -0.67 | 21.15 | 79.43 | |
| | #3 | LF-2 | 2.05 | 19.09 | 61.78 | |
| | #4 | LF-2 | 0.00 | 0.00 | 0.01 | |
| | #1 | LF-3 | 0.00 | 0.00 | 0.00 | |
| | #1 | LF-6 | -10.5 | -14.5 | 7.68 | |
| | #1 | LF-7 | 20.37 | 6.31 | -9.63 | |
| | #1 | LF-8 | -0.01 | 0.02 | 0.11 | |
| | #1 | LF-9 | -0.01 | 0.00 | 0.02 | |
| | #1 | LF-10 | 0.01 | 0.00 | -0.02 | |
| | #1 | LF-12 | 0.00 | -0.01 | -0.02 | |
| | #1 | LF-13 | -0.06 | -0.08 | -0.01 | |
| | #1 | LF-16 | 0.02 | 0.02 | 0.00 | |
| | #1 | LF-17 | 0.26 | 0.26 | 0.12 | |
| | #1 | LF-18 | 0.00 | 0.00 | 0.00 | |
| | #2 | LF-5 | 0.00 | 0.04 | 0.12 | |
| | #2 | LF-7 | -1.53 | 26.75 | 98.70 | |
| | #2 | LF-8 | -0.01 | 0.05 | 0.20 | |
| | #2 | LF-9 | 0.00 | 0.00 | 0.00 | |
| | #2 | LF-10 | 0.00 | 0.00 | 0.00 | |
| | #2 | LF-11 | 0.95 | 0.48 | 1.59 | |
| | #2 | LF-12 | 0.00 | 0.02 | 0.08 | |
| | #2 | LF-15 | 0.02 | -0.17 | -0.66 | |
| | #2 | LF-16 | 0.00 | 0.00 | 0.00 | |
| #2 | LF-18 | 0.00 | 0.00 | 0.00 | | |
| #2 | LF-19 | 0.00 | 0.02 | 0.06 | | |
| #2 | LF-22 | -0.29 | -1.80 | -4.71 | | |
| Qk.N_DA | #3 | LF-17 | 0.00 | 0.00 | 0.01 | |
| | #3 | LF-3 | 0.00 | 0.00 | -0.01 | |
| | #3 | LF-5 | -0.03 | 0.08 | 0.25 | |
| | #3 | LF-6 | 2.10 | 19.60 | 63.13 | |
| | #3 | LF-7 | 0.01 | -0.48 | -1.47 | |
| | #3 | LF-8 | -0.01 | 0.23 | 0.73 | |

| | Lastfall | Lasten (3 Abschnitte je 0.71m) | | | | [kN/m] | |
|---------|---|--------------------------------|--|------|-------|--------|--|
| Qk.N_T2 | #3 LF-9 | | | 0.00 | 0.00 | -0.01 | |
| | #3 LF-10 | | | 0.01 | -0.07 | -0.24 | |
| | #3 LF-11 | | | 0.01 | -0.14 | -0.46 | |
| | #3 LF-13 | | | 0.00 | 0.00 | -0.01 | |
| | #4 LF-4 | | | 0.00 | 0.01 | 0.01 | |
| | #1 LF-21 | | | 0.17 | 0.22 | 0.04 | |
| | #2 LF-21 | | | 0.03 | -0.15 | -0.62 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |

| W-0.5 | | Lastfall | Lasten (6 Abschnitte je 0.92m) | | | | | [kN/m] | | |
|---|---------|----------|--------------------------------|-------|-------|-------|-------|--------|-------|-------|
| Gk | | #1 | LF-1 (g) | 20.99 | 38.21 | 40.30 | 40.51 | 38.15 | 19.13 | |
| | | #2 | LF-1 | 22.65 | 35.84 | 40.55 | 40.58 | 35.40 | 21.90 | |
| | | #3 | LF-1 | 29.44 | 36.28 | 41.45 | 42.65 | 38.48 | 29.19 | |
| Ö← | | #1 | LF-2 (g) | 7.11 | 14.90 | 15.62 | 15.65 | 14.80 | 8.01 | |
| | | #2 | LF-2 | 7.00 | 13.81 | 15.75 | 15.69 | 13.82 | 9.02 | |
| | | #3 | LF-2 | 9.53 | 14.11 | 16.31 | 16.65 | 15.29 | 12.34 | |
| Qk.N_E1 | | #1 | LF-5 | 0.03 | -0.03 | -0.03 | -0.03 | -0.03 | 0.03 | |
| | | #1 | LF-6 | -0.10 | 0.17 | 0.17 | 0.14 | 0.10 | -0.13 | |
| | | #1 | LF-7 | 0.01 | -0.02 | -0.02 | -0.01 | -0.01 | 0.01 | |
| | | #1 | LF-13 | -1.37 | 11.38 | 12.85 | 12.95 | 11.21 | -2.65 | |
| | | #1 | LF-14 | -0.01 | 0.01 | 0.02 | 0.02 | 0.01 | -0.02 | |
| | | #1 | LF-17 | 0.01 | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | |
| | | #2 | LF-7 | -0.10 | 0.14 | 0.19 | 0.16 | 0.07 | -0.11 | |
| | | #2 | LF-8 | -0.19 | 9.55 | 12.95 | 12.94 | 9.18 | -0.59 | |
| | | #2 | LF-9 | 0.01 | -0.01 | -0.02 | -0.02 | -0.01 | 0.02 | |
| | | #2 | LF-10 | -0.01 | 0.01 | 0.02 | 0.02 | 0.01 | -0.02 | |
| | | #2 | LF-11 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | | #2 | LF-15 | 0.01 | -0.01 | -0.01 | -0.01 | -0.01 | 0.01 | |
| | | #3 | LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | Qk.N_DA | | #3 | LF-6 | 0.03 | 1.69 | 1.20 | 0.57 | 0.17 | -0.23 |
| | | | #3 | LF-7 | 1.53 | -1.62 | -1.27 | -0.54 | -0.15 | 0.19 |
| | | | #3 | LF-8 | 0.11 | 5.20 | 8.51 | 9.19 | 6.53 | 0.60 |
| | | | #3 | LF-9 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | 0.01 |
| | | #3 | LF-10 | 0.00 | -0.02 | -0.02 | -0.01 | 0.00 | 0.00 | |
| | | #3 | LF-11 | 0.00 | -0.03 | -0.03 | -0.01 | -0.01 | 0.01 | |
| Qk.N_T2 | | #1 | LF-21 | 0.19 | -0.32 | -0.32 | -0.26 | -0.18 | 0.23 | |
| | | #2 | LF-21 | 0.28 | -0.22 | -0.30 | -0.24 | -0.11 | 0.15 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | | | |

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|-------------|---------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| W-0.6 Gk | #1 LF-1 (g) | | | | | | | |
| | | 36.42 | 66.63 | 88.47 | 106.4 | 65.49 | 36.77 | 65.59 |
| | | 57.54 | 69.59 | | | | | |
| | #2 LF-1 | 22.54 | 73.40 | 97.13 | 76.13 | 43.58 | 46.07 | 70.55 |
| | | 105.09 | 166.5 | | | | | |
| | #3 LF-1 | 45.92 | 67.98 | 78.18 | 71.73 | 85.21 | 132.3 | 99.34 |
| | | 26.62 | -0.63 | | | | | |
| | #4 LF-1 | 0.04 | -0.06 | -0.13 | -0.15 | -0.14 | -0.29 | -0.41 |
| | | -0.30 | -0.02 | | | | | |
| Ö- | #1 LF-2 (g) | | | | | | | |
| | | 8.28 | 16.96 | 25.12 | 32.14 | 16.71 | 5.88 | 17.03 |
| | | 13.67 | 16.29 | | | | | |
| | #2 LF-2 | 6.31 | 20.17 | 28.46 | 21.77 | 8.91 | 9.33 | 19.60 |
| | | 32.48 | 54.28 | | | | | |
| | #3 LF-2 | 12.06 | 15.93 | 18.39 | 17.07 | 20.07 | 34.19 | 27.24 |
| | | 7.57 | 0.02 | | | | | |
| | #4 LF-2 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.02 | -0.02 |
| | | -0.01 | 0.00 | | | | | |
| Qk.N_E1 | #1 LF-3 | 8.36 | 14.46 | 21.67 | 28.29 | 17.46 | 10.09 | 20.97 |
| | | 16.48 | 2.49 | | | | | |
| | #1 LF-4 | -0.01 | 0.02 | 0.05 | 0.08 | 0.04 | 0.01 | 0.06 |
| | | 0.05 | -0.01 | | | | | |
| | #1 LF-6 | 0.00 | -0.03 | -0.07 | -0.03 | 0.06 | 0.14 | 0.53 |
| | | 0.14 | -2.09 | | | | | |
| | #1 LF-7 | 0.01 | 0.39 | 0.79 | 0.16 | -0.88 | -2.28 | -7.49 |
| | | 1.96 | 34.84 | | | | | |
| | #1 LF-8 | 0.00 | 0.01 | 0.06 | 0.05 | -0.02 | -0.01 | 0.03 |

Qk . N_DA

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | 0.09 | -0.13 | | | | | |
| #1 LF-9 | -0.04 | -0.88 | -1.71 | 0.41 | 2.94 | 1.90 | 3.49 |
| | -1.16 | -1.76 | | | | | |
| #1 LF-10 | -2.92 | 10.72 | 24.06 | 37.01 | 16.67 | 2.55 | 18.89 |
| | 12.28 | -3.04 | | | | | |
| #1 LF-12 | 3.58 | 9.30 | 6.43 | -0.35 | -2.24 | -0.37 | -0.49 |
| | 0.18 | 0.33 | | | | | |
| #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | -0.02 | | | | | |
| #1 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.01 | | | | | |
| #1 LF-17 | 0.02 | -0.04 | -0.14 | -0.27 | -0.13 | -0.09 | -0.73 |
| | -1.31 | 1.88 | | | | | |
| #1 LF-18 | 0.08 | -0.13 | -0.40 | -0.74 | -0.35 | -0.12 | -0.90 |
| | -0.91 | -0.14 | | | | | |
| #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-4 | 0.60 | 0.20 | 0.01 | -0.01 | -0.02 | -0.02 | -0.02 |
| | -0.02 | -0.02 | | | | | |
| #2 LF-5 | -6.40 | 6.19 | 12.16 | 8.80 | 3.82 | 3.06 | 4.00 |
| | -0.64 | -6.32 | | | | | |
| #2 LF-6 | 0.01 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.01 | | | | | |
| #2 LF-7 | -0.21 | -0.02 | 0.08 | -0.15 | -0.76 | -2.07 | -2.12 |
| | 7.23 | 26.03 | | | | | |
| #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.01 | | | | | |
| #2 LF-11 | -0.54 | 0.24 | 0.93 | 0.64 | -0.93 | -2.07 | 0.66 |
| | 16.23 | 40.94 | | | | | |
| #2 LF-12 | 7.77 | 13.22 | 14.87 | 11.53 | 9.42 | 8.20 | 5.44 |
| | 0.78 | -2.88 | | | | | |
| #2 LF-13 | 0.00 | -0.01 | -0.02 | -0.01 | -0.01 | -0.02 | -0.03 |
| | -0.05 | -0.21 | | | | | |
| #2 LF-14 | 0.01 | -0.01 | -0.02 | -0.02 | -0.01 | -0.01 | -0.02 |
| | 0.01 | 0.04 | | | | | |
| #2 LF-15 | 0.01 | -0.02 | -0.04 | -0.05 | -0.06 | -0.33 | -0.89 |
| | 0.49 | 6.70 | | | | | |
| #2 LF-19 | -0.68 | 0.88 | 1.87 | 1.63 | 1.40 | 3.62 | 6.70 |
| | 5.11 | 0.72 | | | | | |
| #2 LF-22 | 0.49 | 16.92 | 27.10 | 21.16 | 4.81 | 7.73 | 24.32 |
| | 34.68 | 42.11 | | | | | |
| #3 LF-18 | 0.00 | 0.00 | -0.01 | -0.01 | -0.03 | -0.11 | -0.12 |
| | -0.06 | -0.01 | | | | | |
| #3 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-21 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #4 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | -0.01 | -0.03 | | | | | |
| #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-5 | 6.07 | 15.19 | 19.30 | 17.17 | 15.45 | 13.84 | 8.38 |
| | 2.07 | -0.97 | | | | | |
| #3 LF-6 | -0.53 | 10.50 | 17.37 | 17.65 | 24.54 | 52.02 | 43.69 |
| | 12.43 | 0.87 | | | | | |
| #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|----------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #3 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | | 0.00 | -0.03 | | | | | |
| | #3 LF-11 | -0.03 | -0.09 | -0.14 | -0.11 | 0.60 | 3.03 | 2.74 |
| | | 0.73 | 0.16 | | | | | |
| | #3 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | -0.09 | -0.07 |
| | | -0.03 | -0.03 | | | | | |
| | #3 LF-15 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.02 | | | | | |
| | #4 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.01 | | | | | |
| | #4 LF-5 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.04 | -0.05 |
| | | -0.03 | 0.00 | | | | | |
| | #4 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | 0.00 | 0.04 | | | | | |
| | #2 LF-20 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.02 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.7
Gk

Öe

Qk.N_E1

| Lastfall | | Lasten (4 Abschnitte je 0.88m) | | | | [kN/m] |
|----------|---------------|--------------------------------|-------|-------|-------|--------|
| Gk | #1 LF-1 (g) | 112.3 | 59.83 | 35.21 | 27.85 | |
| | #2 LF-1 | 3.22 | 1.24 | 51.52 | 165.5 | |
| | #3 LF-1 | -3.07 | 2.12 | 54.33 | 173.8 | |
| | #4 LF-1 | 0.49 | 0.08 | -0.27 | -0.74 | |
| Öe | #1 LF-2 (g) | 31.97 | 14.03 | 5.35 | 2.45 | |
| | #2 LF-2 | 0.85 | 0.42 | 17.51 | 55.54 | |
| | #3 LF-2 | -0.97 | 0.57 | 15.37 | 48.71 | |
| | #4 LF-2 | -0.01 | -0.05 | -0.11 | -0.23 | |
| Qk.N_E1 | #1 LF-3 | -2.71 | -0.04 | 0.23 | 0.05 | |
| | #1 LF-4 | -0.01 | 0.01 | 0.00 | 0.00 | |
| | #1 LF-6 | -6.77 | -6.24 | -5.23 | -4.80 | |
| | #1 LF-7 | 56.73 | 22.82 | 5.42 | -0.78 | |
| | #1 LF-8 | -0.26 | -0.07 | 0.02 | 0.01 | |
| | #1 LF-9 | -0.28 | -0.03 | 0.02 | 0.01 | |
| | #1 LF-10 | -4.12 | 0.32 | 0.54 | 0.09 | |
| | #1 LF-12 | 0.11 | 0.02 | -0.01 | 0.00 | |
| | #1 LF-13 | -0.05 | -0.05 | -0.04 | -0.04 | |
| | #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-16 | 0.02 | 0.00 | -0.01 | 0.03 | |
| | #1 LF-17 | 17.43 | 9.68 | 8.26 | 8.59 | |
| | #1 LF-18 | 0.53 | -0.15 | -0.14 | -0.02 | |
| | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-5 | -0.33 | -0.03 | -0.21 | -0.68 | |
| | #2 LF-7 | 0.02 | 0.39 | 19.88 | 64.10 | |
| | #2 LF-8 | 0.00 | 0.00 | 0.02 | 0.05 | |
| | #2 LF-11 | 1.29 | 0.19 | 7.37 | 22.71 | |
| | #2 LF-12 | -0.14 | -0.02 | -0.13 | -0.40 | |
| | #2 LF-13 | -0.04 | -0.02 | -0.07 | -0.19 | |
| | #2 LF-14 | 0.01 | 0.00 | 0.01 | 0.01 | |
| | #2 LF-15 | 1.05 | 0.39 | 4.81 | 15.11 | |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | #2 LF-18 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | #2 LF-19 | -0.03 | -0.07 | -0.24 | -0.64 | |
| | #2 LF-22 | -0.28 | -0.02 | 2.71 | 8.22 | |
| | #3 LF-17 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | #3 LF-18 | 0.04 | 0.00 | -0.06 | -0.17 | |
| | #3 LF-21 | 0.00 | 0.00 | 0.00 | 0.01 | |
| | #3 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | |

| | Lastfall | Lasten (4 Abschnitte je 0.88m) | | | [kN/m] |
|---|-------------|--------------------------------|-------|-------|--------|
| Qk.N_DA | #4 LF-8 | 0.00 | 0.01 | 0.00 | -0.04 |
| | #3 LF-3 | 0.00 | 0.00 | 0.00 | -0.01 |
| | #3 LF-5 | -0.27 | -0.06 | -0.40 | -1.26 |
| | #3 LF-6 | -1.75 | 0.96 | 27.56 | 87.44 |
| | #3 LF-7 | 0.00 | 0.00 | -0.05 | -0.16 |
| | #3 LF-8 | 0.00 | 0.00 | 0.03 | 0.09 |
| | #3 LF-10 | 0.03 | -0.01 | -0.39 | -1.34 |
| | #3 LF-11 | 0.07 | 0.28 | 4.08 | 12.94 |
| | #3 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #3 LF-13 | 0.00 | 0.00 | -0.01 | -0.02 |
| | #3 LF-14 | -0.01 | -0.01 | -0.03 | -0.08 |
| | #3 LF-15 | 0.00 | 0.00 | 0.00 | 0.01 |
| | #4 LF-3 | 0.02 | 0.02 | 0.01 | 0.00 |
| | #4 LF-4 | -0.07 | -0.11 | -0.21 | -0.41 |
| | #4 LF-5 | 0.02 | 0.00 | -0.02 | -0.06 |
| Qk.N_T2 | #4 LF-6 | 0.00 | 0.00 | 0.00 | 0.01 |
| | #1 LF-21 | 0.13 | 0.12 | 0.10 | 0.11 |
| | #2 LF-21 | 0.00 | 0.00 | -0.04 | -0.14 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-0.8 | Lastfall | Lasten (3 Abschnitte je 0.29m) | | | [kN/m] |
| Gk | #1 LF-1 (g) | 66.59 | 78.57 | 92.69 | |
| | #2 LF-1 | 23.05 | 17.33 | 14.11 | |
| | #3 LF-1 | 28.88 | 20.98 | 16.23 | |
| | #4 LF-1 | 0.09 | 0.08 | 0.07 | |
| Ö | #1 LF-2 (g) | 15.02 | 18.97 | 23.63 | |
| | #2 LF-2 | 3.32 | 2.42 | 1.97 | |
| | #3 LF-2 | 3.39 | 2.37 | 1.77 | |
| | #4 LF-2 | 0.02 | 0.02 | 0.02 | |
| Qk.N_E1 | #1 LF-5 | -0.03 | 0.11 | 0.34 | |
| | #1 LF-6 | -13.9 | -17.5 | -20.8 | |
| | #1 LF-7 | 1.53 | 1.76 | 2.00 | |
| | #1 LF-8 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-12 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-13 | -1.56 | -3.73 | -6.31 | |
| | #1 LF-14 | -0.40 | -0.61 | -0.87 | |
| | #1 LF-16 | 12.19 | 17.85 | 24.33 | |
| | #1 LF-17 | 19.71 | 20.37 | 21.05 | |
| | #1 LF-18 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-3 | -0.04 | -0.02 | 0.00 | |
| | #2 LF-7 | -4.64 | -3.60 | -2.84 | |
| | #2 LF-8 | -0.79 | -0.81 | -0.87 | |
| | #2 LF-9 | -0.01 | -0.04 | -0.06 | |
| | #2 LF-10 | -0.15 | -0.20 | -0.27 | |
| | #2 LF-11 | -0.17 | -0.11 | -0.07 | |
| | #2 LF-15 | 7.53 | 5.27 | 3.84 | |
| | #2 LF-16 | 0.37 | 0.39 | 0.42 | |
| | #2 LF-17 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-18 | 0.06 | 0.02 | 0.00 | |
| | #2 LF-22 | -0.04 | -0.03 | -0.01 | |
| | #3 LF-17 | -0.23 | -0.18 | -0.16 | |
| Qk.N_DA | #3 LF-3 | 0.11 | 0.08 | 0.06 | |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-6 | -2.15 | -1.69 | -1.38 | |
| | #3 LF-7 | 2.17 | 1.93 | 1.84 | |
| | #3 LF-8 | -0.52 | -0.46 | -0.42 | |
| | #3 LF-9 | 0.02 | 0.08 | 0.16 | |
| | #3 LF-10 | 1.55 | 0.91 | 0.48 | |
| | #3 LF-11 | 5.24 | 3.62 | 2.58 | |
| | #3 LF-12 | -0.05 | -0.04 | -0.03 | |
| | #3 LF-13 | 0.57 | 0.44 | 0.36 | |
| Qk.N_T2 | #4 LF-4 | 0.04 | 0.04 | 0.03 | |
| | #1 LF-21 | 6.39 | 12.33 | 18.86 | |
| | #2 LF-21 | 2.94 | 2.78 | 2.76 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

W-0.9

| | Lastfall | Lasten (3 Abschnitte je 0.33m) | | | | [kN/m] |
|---------|---|--------------------------------|-------|-------|--|--------|
| Gk | #1 LF-1 (g) | 10.55 | 25.54 | 33.08 | | |
| | #2 LF-1 | 30.44 | 28.44 | 26.24 | | |
| | #3 LF-1 | 32.49 | 29.58 | 26.67 | | |
| | #4 LF-1 | 24.33 | 22.61 | 20.61 | | |
| Ö← | #1 LF-2 (g) | -1.38 | 3.18 | 5.77 | | |
| | #2 LF-2 | 2.73 | 2.34 | 1.82 | | |
| | #3 LF-2 | 2.51 | 2.02 | 1.52 | | |
| | #4 LF-2 | 0.69 | 0.35 | -0.04 | | |
| Qk.N_E1 | #1 LF-3 | -7.53 | -1.77 | 1.80 | | |
| | #1 LF-4 | -0.25 | 0.03 | 0.19 | | |
| | #1 LF-6 | 4.24 | 4.26 | 5.28 | | |
| | #1 LF-7 | -18.1 | -13.2 | -10.3 | | |
| | #1 LF-8 | 0.13 | 0.09 | 0.06 | | |
| | #1 LF-9 | 0.26 | 0.12 | 0.03 | | |
| | #1 LF-10 | -24.9 | -4.34 | 8.05 | | |
| | #1 LF-12 | 0.02 | -0.02 | -0.04 | | |
| | #1 LF-13 | 0.03 | 0.04 | 0.06 | | |
| | #1 LF-16 | -0.04 | -0.12 | -0.26 | | |
| | #1 LF-17 | 24.05 | 14.62 | 7.77 | | |
| | #1 LF-18 | 10.93 | 2.08 | -3.28 | | |
| | #2 LF-5 | 1.01 | 0.41 | 0.05 | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | | |
| | #2 LF-7 | -3.96 | -4.31 | -5.30 | | |
| | #2 LF-8 | -0.01 | -0.01 | -0.02 | | |
| | #2 LF-10 | 0.00 | 0.00 | 0.01 | | |
| | #2 LF-11 | -1.83 | -1.30 | -1.08 | | |
| | #2 LF-12 | 0.39 | 0.13 | -0.03 | | |
| | #2 LF-13 | 1.80 | 1.10 | 0.40 | | |
| | #2 LF-14 | -0.08 | 0.01 | 0.08 | | |
| | #2 LF-15 | 8.71 | 8.32 | 8.52 | | |
| | #2 LF-16 | 0.00 | -0.01 | -0.02 | | |
| | #2 LF-18 | 0.00 | 0.00 | 0.01 | | |
| | #2 LF-19 | 1.08 | 0.29 | -0.20 | | |
| | #2 LF-22 | -4.04 | -2.14 | -0.96 | | |
| | #3 LF-17 | 0.00 | 0.00 | 0.01 | | |
| | #3 LF-18 | 2.16 | 1.70 | 1.20 | | |
| | #3 LF-21 | -0.05 | -0.04 | -0.03 | | |
| | #3 LF-22 | -0.06 | -0.02 | 0.01 | | |
| | #4 LF-8 | 2.86 | 3.06 | 3.15 | | |
| Qk.N_DA | #3 LF-3 | 0.00 | 0.00 | -0.01 | | |
| | #3 LF-5 | 0.43 | 0.10 | 0.01 | | |
| | #3 LF-6 | -3.39 | -3.52 | -4.08 | | |
| | #3 LF-7 | 0.02 | 0.02 | 0.03 | | |
| | #3 LF-8 | -0.01 | -0.01 | -0.02 | | |
| | #3 LF-10 | -0.01 | -0.06 | -0.14 | | |
| | #3 LF-11 | 6.16 | 6.08 | 6.19 | | |
| | #3 LF-13 | 0.00 | -0.01 | -0.01 | | |
| | #3 LF-14 | 0.13 | -0.01 | -0.12 | | |
| | #3 LF-15 | -0.04 | -0.02 | -0.01 | | |
| | #4 LF-3 | 1.92 | 2.06 | 2.16 | | |
| | #4 LF-4 | -2.09 | -2.67 | -3.25 | | |
| | #4 LF-5 | 1.54 | 1.29 | 0.98 | | |
| | #4 LF-6 | 0.00 | 0.02 | 0.03 | | |
| | #4 LF-7 | 0.00 | 0.00 | 0.01 | | |
| Qk.N_T2 | #1 LF-21 | -0.09 | -0.11 | -0.16 | | |
| | #2 LF-21 | 0.02 | 0.03 | 0.05 | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

W-0.10

| | Lastfall | Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
|---------|-------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Gk | #1 LF-1 (g) | 42.89 | 36.39 | 49.11 | 53.98 | 50.74 | 37.34 | |
| | #2 LF-1 | 43.82 | 40.79 | 45.59 | 51.88 | 62.32 | 58.33 | |
| | #3 LF-1 | 45.47 | 36.85 | 40.00 | 50.32 | 70.75 | 70.48 | |
| | #4 LF-1 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Ö← | #1 LF-2 (g) | 7.43 | 5.34 | 10.00 | 11.61 | 10.82 | 10.32 | |
| | #2 LF-2 | 7.72 | 6.79 | 7.99 | 10.19 | 16.79 | 20.76 | |
| | #3 LF-2 | 5.72 | 4.90 | 5.95 | 9.10 | 17.21 | 20.43 | |
| Qk.N_E1 | #1 LF-5 | 7.83 | 8.50 | 9.16 | 9.16 | 8.49 | 6.80 | |

| | Lastfall | Lasten (6 Abschnitte je 0.92m) | | | | | | [kN/m] |
|---|----------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | #1 LF-6 | -0.07 | 0.41 | -0.02 | -0.15 | -0.12 | -0.09 | |
| | #1 LF-7 | 0.00 | -0.07 | -0.01 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-11 | 0.01 | -0.01 | -0.02 | -0.03 | -0.02 | 0.00 | |
| | #1 LF-13 | -1.77 | -1.91 | -2.63 | -2.97 | -2.52 | -2.20 | |
| | #1 LF-14 | 0.78 | 11.98 | 17.30 | 18.80 | 15.69 | 4.40 | |
| | #1 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-16 | 6.02 | -5.09 | -2.58 | -0.91 | -0.34 | 0.09 | |
| | #1 LF-17 | 0.53 | -2.00 | -0.60 | -0.05 | 0.03 | 0.02 | |
| | #2 LF-3 | -0.11 | -0.07 | -0.03 | -0.03 | -0.01 | 0.00 | |
| | #2 LF-7 | -0.41 | 0.12 | 0.02 | -0.13 | -0.14 | -0.09 | |
| | #2 LF-8 | -1.84 | -2.50 | -2.86 | -2.82 | -2.37 | -1.68 | |
| | #2 LF-9 | 0.34 | 1.62 | 4.06 | 6.37 | 7.05 | 5.09 | |
| | #2 LF-10 | 1.98 | 10.18 | 16.19 | 18.05 | 16.88 | 10.78 | |
| | #2 LF-11 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-15 | 6.02 | 0.45 | -1.13 | -0.60 | -0.14 | 0.02 | |
| | #2 LF-16 | 2.18 | -1.40 | -1.71 | -0.97 | -0.38 | 0.00 | |
| | #2 LF-17 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | |
| | #2 LF-18 | 0.16 | 0.09 | 0.03 | 0.02 | 0.02 | 0.02 | |
| | #3 LF-17 | 8.62 | 14.79 | 17.17 | 14.22 | 9.09 | 4.09 | |
| Qk.N_DA | #3 LF-3 | -0.01 | -0.17 | -0.14 | -0.06 | 0.09 | 0.19 | |
| | #3 LF-6 | -0.10 | 0.09 | -0.06 | -0.15 | -0.15 | -0.12 | |
| | #3 LF-7 | 0.13 | 0.16 | 0.13 | 0.12 | 0.12 | 0.09 | |
| | #3 LF-8 | -1.03 | -1.42 | -1.67 | -1.75 | -1.73 | -1.39 | |
| | #3 LF-9 | 2.09 | 2.77 | 3.55 | 4.49 | 4.96 | 3.64 | |
| | #3 LF-10 | 0.37 | -0.59 | -0.36 | -0.06 | 0.03 | 0.04 | |
| | #3 LF-11 | 3.24 | 0.02 | -0.83 | -0.43 | -0.08 | 0.03 | |
| | #3 LF-12 | 0.02 | 0.08 | 0.06 | 0.03 | 0.02 | 0.01 | |
| | #3 LF-13 | 1.33 | 0.07 | 1.77 | 5.33 | 9.51 | 9.35 | |
| | #4 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Qk.N_T2 | #1 LF-21 | 0.23 | 0.34 | 0.31 | 0.27 | 0.19 | 0.14 | |
| | #2 LF-21 | 0.23 | 0.25 | 0.25 | 0.25 | 0.19 | 0.11 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |

W-0.11_1

| | Lastfall | Lasten (3 Abschnitte je 0.08m) | | | [kN/m] |
|---------|-------------|--------------------------------|-------|-------|--------|
| Gk | #1 LF-1 (g) | | 61.65 | 59.86 | 58.08 |
| | #2 LF-1 | | 41.23 | 40.92 | 40.60 |
| | #3 LF-1 | | 42.85 | 42.50 | 42.16 |
| Ö← | #1 LF-2 (g) | | 12.97 | 12.40 | 11.84 |
| | #2 LF-2 | | 8.02 | 7.98 | 7.95 |
| | #3 LF-2 | | 5.61 | 5.58 | 5.55 |
| Qk.N_E1 | #1 LF-5 | | 8.04 | 8.03 | 8.02 |
| | #1 LF-6 | | -2.04 | -1.70 | -1.35 |
| | #1 LF-7 | | 0.18 | 0.15 | 0.12 |
| | #1 LF-13 | | -6.52 | -5.94 | -5.36 |
| | #1 LF-14 | | -2.99 | -2.93 | -2.88 |
| | #1 LF-16 | | 16.09 | 15.18 | 14.27 |
| | #1 LF-17 | | 2.66 | 2.40 | 2.14 |
| | #2 LF-3 | | -0.07 | -0.07 | -0.07 |
| | #2 LF-7 | | -2.77 | -2.69 | -2.60 |
| | #2 LF-8 | | -1.93 | -1.82 | -1.71 |
| | #2 LF-9 | | 0.03 | 0.04 | 0.05 |
| | #2 LF-10 | | -1.45 | -1.46 | -1.47 |
| | #2 LF-11 | | -0.06 | -0.06 | -0.05 |
| | #2 LF-15 | | 9.62 | 9.50 | 9.37 |
| | #2 LF-16 | | 0.48 | 0.47 | 0.46 |
| | #2 LF-18 | | 0.10 | 0.10 | 0.10 |
| | #2 LF-22 | | -0.01 | -0.01 | -0.01 |
| | #3 LF-17 | | -0.30 | -0.29 | -0.29 |
| Qk.N_DA | #3 LF-3 | | 0.03 | 0.03 | 0.03 |
| | #3 LF-6 | | -1.90 | -1.85 | -1.81 |
| | #3 LF-7 | | 4.04 | 3.97 | 3.90 |
| | #3 LF-8 | | 0.25 | 0.31 | 0.37 |
| | #3 LF-9 | | 2.58 | 2.59 | 2.59 |
| | #3 LF-10 | | 0.46 | 0.45 | 0.44 |
| | #3 LF-11 | | 5.71 | 5.64 | 5.57 |
| | #3 LF-13 | | 0.30 | 0.28 | 0.27 |
| Qk.N_T2 | #1 LF-21 | | 6.80 | 6.13 | 5.46 |

| | | Lastfall | Lasten (3 Abschnitte je 0.08m) | | | | [kN/m] | | | |
|----------|-------|---|--------------------------------|---|-------|-------|--------|-------|-------|-------|
| | | #2 | LF-21 | | 5.53 | 5.39 | 5.25 | | | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |
| | | Lastfall | Lasten (5 Abschnitte je 0.87m) | | | | [kN/m] | | | |
| W-0.11_2 | Gk | #1 | LF-1 (g) | 42.61 | 43.83 | 54.71 | 51.10 | 32.94 | | |
| | | #2 | LF-1 | 46.91 | 53.78 | 53.05 | 47.43 | 34.12 | | |
| | | #3 | LF-1 | 41.76 | 46.82 | 46.77 | 44.48 | 38.06 | | |
| | | #4 | LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Ö← | | #1 | LF-2 (g) | 7.83 | 8.19 | 12.00 | 11.03 | 8.05 | | |
| | | #2 | LF-2 | 9.61 | 10.77 | 10.46 | 9.70 | 8.64 | | |
| | | #3 | LF-2 | 6.65 | 7.38 | 7.55 | 8.29 | 9.57 | | |
| Qk.N_E1 | | #1 | LF-5 | 7.92 | 7.92 | 9.30 | 8.63 | 6.44 | | |
| | | #1 | LF-6 | 1.65 | 0.77 | 0.65 | 0.29 | -0.05 | | |
| | | #1 | LF-7 | -0.16 | -0.07 | -0.06 | -0.03 | 0.00 | | |
| | | #1 | LF-11 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | | |
| | | #1 | LF-13 | 12.76 | 12.45 | 19.21 | 15.96 | 3.38 | | |
| | | #1 | LF-14 | -2.00 | -2.45 | -3.28 | -2.69 | -2.64 | | |
| | | #1 | LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | #1 | LF-16 | -0.90 | -0.32 | 0.09 | 0.17 | 0.13 | | |
| | | #1 | LF-17 | -0.63 | -0.17 | -0.05 | 0.00 | 0.02 | | |
| | | #2 | LF-3 | 0.01 | 0.02 | 0.01 | 0.00 | -0.01 | | |
| | | #2 | LF-7 | 2.22 | 1.74 | 0.82 | 0.31 | -0.06 | | |
| | | #2 | LF-8 | 13.23 | 18.48 | 18.36 | 13.55 | 3.41 | | |
| | | #2 | LF-9 | 2.05 | 4.70 | 6.50 | 6.69 | 5.05 | | |
| | | #2 | LF-10 | -2.84 | -3.22 | -2.95 | -2.87 | -3.43 | | |
| | | #2 | LF-11 | 0.06 | 0.05 | 0.02 | 0.01 | 0.00 | | |
| | | #2 | LF-15 | 0.66 | -0.49 | -0.37 | -0.10 | 0.04 | | |
| | | #2 | LF-16 | 0.14 | 0.16 | 0.16 | 0.16 | 0.15 | | |
| | | #2 | LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | | |
| | | #2 | LF-18 | -0.01 | -0.02 | -0.01 | -0.01 | 0.00 | | |
| | | #2 | LF-22 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | | |
| | | Qk.N_DA | | #3 | LF-17 | -0.84 | -1.30 | -1.46 | -1.71 | -2.04 |
| #3 | LF-3 | | | 0.00 | 0.00 | 0.01 | -0.01 | -0.03 | | |
| #3 | LF-6 | | | 1.14 | 1.33 | 0.88 | 0.43 | -0.01 | | |
| #3 | LF-7 | | | -0.44 | -1.04 | -0.79 | -0.39 | 0.00 | | |
| #3 | LF-8 | | | 8.97 | 12.35 | 12.61 | 9.67 | 3.15 | | |
| #3 | LF-9 | | | 5.14 | 5.90 | 5.71 | 5.15 | 3.88 | | |
| #3 | LF-10 | | | -0.21 | -0.15 | -0.05 | 0.00 | 0.00 | | |
| #3 | LF-11 | | | 0.67 | -0.22 | -0.24 | -0.07 | 0.02 | | |
| #3 | LF-12 | | | 0.00 | 0.00 | -0.01 | -0.01 | 0.00 | | |
| #3 | LF-13 | | | -0.69 | -0.91 | -0.92 | -0.95 | -1.15 | | |
| Qk.N_T2 | | | | #1 | LF-21 | -2.66 | -1.37 | -1.17 | -0.54 | 0.08 |
| | | | | #2 | LF-21 | -2.40 | -2.17 | -1.13 | -0.45 | 0.07 |
| | | | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| | | Lastfall | Lasten (3 Abschnitte je 0.92m) | | | | [kN/m] | | | |
| W-0.12 | Gk | #1 | LF-1 (g) | | 31.70 | 41.66 | 28.08 | | | |
| | | #2 | LF-1 | | 26.70 | 30.68 | 27.59 | | | |
| | | #3 | LF-1 | | 24.31 | 29.37 | 26.79 | | | |
| | | #4 | LF-1 | | 13.89 | 9.44 | 15.81 | | | |
| Ö← | | #1 | LF-2 (g) | | 3.65 | 7.16 | 2.31 | | | |
| | | #2 | LF-2 | | 2.78 | 3.39 | 2.02 | | | |
| | | #3 | LF-2 | | 1.77 | 2.35 | 1.31 | | | |
| | | #4 | LF-2 | | 0.52 | -1.57 | -0.01 | | | |
| Qk.N_E1 | | #1 | LF-3 | | 0.01 | 1.14 | 0.09 | | | |
| | | #1 | LF-4 | | 3.76 | 7.40 | 3.84 | | | |
| | | #1 | LF-6 | | -0.01 | 0.08 | 0.26 | | | |
| | | #1 | LF-7 | | 0.04 | 0.03 | 0.00 | | | |
| | | #1 | LF-9 | | 0.00 | -0.02 | 0.00 | | | |
| | | #1 | LF-10 | | 1.62 | 9.78 | 1.03 | | | |
| | | #1 | LF-11 | | 0.00 | 0.00 | 0.00 | | | |
| | | #1 | LF-12 | | 0.00 | -0.01 | 0.00 | | | |
| | | #1 | LF-13 | | 0.00 | 0.00 | 0.00 | | | |
| | | #1 | LF-15 | | 0.00 | 0.00 | 0.00 | | | |
| | | #1 | LF-16 | | 0.00 | -0.01 | -0.02 | | | |
| | | #1 | LF-17 | | -0.06 | -0.42 | -0.61 | | | |
| | | #1 | LF-18 | | 0.96 | -3.55 | -0.38 | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.92m) | | [kN/m] |
|---------------|---|--------------------------------|-------|--------|
| | #1 LF-23 | 0.00 | 0.00 | 0.00 |
| | #2 LF-4 | 0.01 | 0.01 | 0.00 |
| | #2 LF-5 | 1.08 | 0.71 | 0.23 |
| | #2 LF-6 | 0.02 | 0.01 | 0.01 |
| | #2 LF-7 | 0.03 | 0.04 | -0.02 |
| | #2 LF-10 | 0.00 | 0.00 | 0.00 |
| | #2 LF-11 | 0.00 | 0.01 | -0.01 |
| | #2 LF-12 | 0.11 | 0.07 | 0.02 |
| | #2 LF-13 | 0.97 | -0.09 | -0.11 |
| | #2 LF-14 | 2.58 | 5.10 | 3.27 |
| | #2 LF-15 | -0.10 | 0.02 | 0.01 |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 |
| | #2 LF-19 | 0.44 | 0.23 | 0.10 |
| | #2 LF-22 | -0.06 | 0.01 | -0.02 |
| | #3 LF-18 | 1.12 | 0.11 | -0.10 |
| | #3 LF-21 | 0.37 | -0.10 | -0.14 |
| | #3 LF-22 | 2.72 | 4.67 | 2.98 |
| | #3 LF-23 | 0.00 | -0.01 | 0.00 |
| | #4 LF-8 | 3.32 | 4.96 | 3.74 |
| Qk.N_DA | #3 LF-5 | 0.94 | 1.34 | 0.54 |
| | #3 LF-6 | -0.16 | 0.00 | -0.10 |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 |
| | #3 LF-8 | 0.00 | 0.00 | 0.00 |
| | #3 LF-10 | 0.00 | 0.00 | 0.00 |
| | #3 LF-11 | -0.30 | 0.02 | 0.06 |
| | #3 LF-13 | 0.00 | 0.00 | 0.00 |
| | #3 LF-14 | 0.01 | -0.09 | -0.03 |
| | #3 LF-15 | -0.11 | -0.17 | -0.07 |
| | #3 LF-16 | 0.00 | 0.00 | 0.00 |
| | #4 LF-3 | 1.81 | 2.46 | 1.75 |
| | #4 LF-4 | -4.09 | -9.48 | -4.03 |
| | #4 LF-5 | 2.84 | 2.90 | 1.73 |
| | #4 LF-6 | 0.42 | 0.69 | 0.41 |
| | #4 LF-7 | 0.06 | 0.27 | 0.12 |
| Qk.N_T2 | #1 LF-20 | 0.00 | 0.00 | 0.00 |
| | #1 LF-21 | 0.00 | 0.00 | -0.01 |
| | #2 LF-21 | 0.00 | 0.00 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| W-0.13 | | | | |
| Gk | Lastfall | Lasten (3 Abschnitte je 0.26m) | | [kN/m] |
| | #1 LF-1 (g) | 40.44 | 54.97 | 69.50 |
| | #2 LF-1 | 18.46 | 19.87 | 21.29 |
| | #3 LF-1 | 17.36 | 18.71 | 20.06 |
| | #4 LF-1 | 23.85 | 25.82 | 27.79 |
| Öe | #1 LF-2 (g) | 7.55 | 11.23 | 14.91 |
| | #2 LF-2 | -0.87 | -0.45 | -0.03 |
| | #3 LF-2 | -0.65 | -0.33 | -0.01 |
| | #4 LF-2 | 1.42 | 1.95 | 2.48 |
| Qk.N_E1 | #1 LF-3 | 0.84 | 0.64 | 0.44 |
| | #1 LF-4 | 0.04 | 0.03 | 0.02 |
| | #1 LF-6 | 2.62 | -1.96 | -6.54 |
| | #1 LF-7 | -6.06 | -4.99 | -3.92 |
| | #1 LF-8 | 0.03 | 0.02 | 0.02 |
| | #1 LF-9 | 0.01 | 0.01 | 0.01 |
| | #1 LF-10 | 2.88 | 2.18 | 1.48 |
| | #1 LF-12 | -0.02 | -0.01 | -0.01 |
| | #1 LF-13 | 0.03 | -0.03 | -0.10 |
| | #1 LF-14 | 0.03 | 0.04 | 0.04 |
| | #1 LF-16 | -0.67 | -0.37 | -0.06 |
| | #1 LF-17 | 13.13 | 22.45 | 31.77 |
| | #1 LF-18 | -1.16 | -0.87 | -0.59 |
| | #2 LF-3 | -0.01 | -0.01 | 0.00 |
| | #2 LF-5 | 0.00 | 0.01 | 0.01 |
| | #2 LF-7 | -7.32 | -6.24 | -5.16 |
| | #2 LF-8 | -0.02 | -0.01 | 0.00 |
| | #2 LF-10 | 0.03 | 0.01 | 0.00 |
| | #2 LF-11 | -1.80 | -1.60 | -1.41 |

| | Lastfall | Lasten (3 Abschnitte je 0.26m) | | | [kN/m] |
|--------------|---|--------------------------------|-------|-------|--------|
| Qk.N_DA | #2 LF-12 | -0.01 | 0.00 | 0.01 | |
| | #2 LF-13 | -0.13 | -0.10 | -0.08 | |
| | #2 LF-14 | 0.05 | 0.04 | 0.04 | |
| | #2 LF-15 | 6.52 | 6.08 | 5.63 | |
| | #2 LF-16 | -0.06 | -0.03 | 0.00 | |
| | #2 LF-18 | 0.01 | 0.01 | 0.00 | |
| | #2 LF-19 | -0.09 | -0.06 | -0.04 | |
| | #2 LF-22 | -0.79 | -0.74 | -0.68 | |
| | #3 LF-17 | 0.02 | 0.01 | 0.00 | |
| | #3 LF-18 | -0.05 | -0.06 | -0.07 | |
| | #3 LF-22 | 0.02 | 0.02 | 0.02 | |
| | #4 LF-8 | 2.62 | 2.56 | 2.50 | |
| | #3 LF-3 | -0.03 | -0.02 | -0.01 | |
| | #3 LF-5 | 0.05 | 0.04 | 0.03 | |
| | #3 LF-6 | -5.56 | -4.70 | -3.84 | |
| | #3 LF-7 | 0.03 | 0.02 | 0.00 | |
| Qk.N_T2 | #3 LF-8 | -0.02 | -0.01 | 0.00 | |
| | #3 LF-10 | -0.94 | -0.93 | -0.91 | |
| | #3 LF-11 | 4.60 | 4.37 | 4.13 | |
| | #3 LF-12 | 0.01 | 0.00 | 0.00 | |
| | #3 LF-13 | -0.04 | -0.02 | 0.00 | |
| | #3 LF-14 | -0.04 | -0.03 | -0.02 | |
| | #4 LF-3 | 2.04 | 1.99 | 1.95 | |
| | #4 LF-4 | 0.79 | 1.92 | 3.05 | |
| | #4 LF-5 | -0.08 | -0.10 | -0.12 | |
| | #4 LF-6 | 0.01 | 0.01 | 0.00 | |
| | #4 LF-7 | 0.07 | 0.08 | 0.08 | |
| | #1 LF-21 | -0.10 | 0.08 | 0.26 | |
| | #2 LF-21 | 0.06 | 0.03 | 0.00 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| | | | | | |
| | | | | | |
| W-0.14 Gk | Lastfall | Lasten (3 Abschnitte je 0.92m) | | | [kN/m] |
| | #1 LF-1 (g) | 42.56 | 56.38 | 37.72 | |
| | #2 LF-1 | 31.87 | 39.55 | 31.88 | |
| | #3 LF-1 | 14.46 | 12.39 | 14.18 | |
| | #4 LF-1 | 8.35 | 9.59 | 22.21 | |
| Öe | #1 LF-2 (g) | 7.98 | 13.28 | 6.33 | |
| | #2 LF-2 | 3.90 | 6.80 | 4.35 | |
| | #3 LF-2 | 0.82 | 1.39 | 1.24 | |
| | #4 LF-2 | 0.39 | 0.82 | 3.20 | |
| Qk.N_E1 | #1 LF-3 | 0.09 | 0.17 | 0.04 | |
| | #1 LF-4 | 6.47 | 11.96 | 6.96 | |
| | #1 LF-7 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-10 | 6.03 | 13.75 | 3.35 | |
| | #1 LF-11 | 0.00 | -0.79 | -1.20 | |
| | #1 LF-12 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-15 | 2.90 | 5.31 | 4.22 | |
| | #1 LF-17 | 0.00 | -0.01 | 0.00 | |
| | #1 LF-18 | 0.17 | -3.45 | -0.97 | |
| | #1 LF-19 | -0.03 | -0.04 | 0.24 | |
| | #1 LF-23 | -0.21 | -0.85 | -0.92 | |
| | #2 LF-3 | 0.52 | 0.92 | 1.50 | |
| | #2 LF-4 | 0.52 | 0.72 | 0.40 | |
| | #2 LF-5 | 0.25 | 2.25 | 1.13 | |
| | #2 LF-6 | 1.28 | -0.62 | -0.48 | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-12 | 0.00 | 0.03 | 0.02 | |
| | #2 LF-14 | 5.97 | 8.97 | 5.74 | |
| | #2 LF-17 | 0.22 | 0.36 | 0.62 | |
| | #2 LF-18 | -0.67 | 0.01 | -0.61 | |
| | #2 LF-19 | -0.03 | 0.87 | 0.45 | |
| | #2 LF-22 | 0.00 | -0.01 | -0.01 | |
| | #3 LF-19 | 1.77 | 0.65 | 0.10 | |
| | #3 LF-20 | 0.12 | 0.11 | 0.02 | |
| | #3 LF-21 | -0.01 | -0.01 | 0.00 | |
| | #3 LF-22 | 3.59 | 3.04 | 2.62 | |

| Lastfall | | Lasten (3 Abschnitte je 0.92m) | | | | | [kN/m] |
|----------|---|--------------------------------|-------|-------|--|--|--------|
| Qk.N_DA | #3 LF-23 | 1.72 | 0.43 | -0.06 | | | |
| | #4 LF-8 | 0.00 | 0.01 | 0.04 | | | |
| | #3 LF-3 | -0.10 | -0.70 | -0.30 | | | |
| | #3 LF-4 | -0.05 | 0.01 | 0.01 | | | |
| | #3 LF-5 | -2.94 | -0.13 | 0.44 | | | |
| | #3 LF-6 | 0.02 | 0.00 | -0.01 | | | |
| | #3 LF-10 | 0.01 | -0.07 | -0.23 | | | |
| | #3 LF-12 | 0.89 | 1.38 | 0.83 | | | |
| | #3 LF-15 | 0.00 | -0.01 | 0.00 | | | |
| | #3 LF-16 | 0.31 | -0.02 | -0.07 | | | |
| Qk.N_T2 | #4 LF-3 | 0.00 | 0.00 | 0.01 | | | |
| | #4 LF-4 | -1.36 | -0.09 | 4.83 | | | |
| | #4 LF-5 | 0.00 | 0.00 | 0.00 | | | |
| | #4 LF-6 | -0.03 | -0.01 | -0.02 | | | |
| | #4 LF-7 | 2.17 | 1.73 | 1.59 | | | |
| | #1 LF-20 | -0.10 | 0.00 | 0.09 | | | |
| | #2 LF-20 | -0.16 | -0.17 | -0.16 | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |

W-0.15

| Lastfall | | Lasten (6 Abschnitte je 0.92m) | | | | | [kN/m] |
|---|-------------|--------------------------------|-------|-------|-------|-------|--------|
| Gk | #1 LF-1 (g) | 168.3 | 33.30 | 97.60 | 86.11 | 66.76 | 31.52 |
| | #2 LF-1 | 142.3 | 71.20 | 81.90 | 82.98 | 62.58 | 30.84 |
| | #3 LF-1 | 122.5 | 80.83 | 75.51 | 73.30 | 58.06 | 36.00 |
| Ö← | #1 LF-2 (g) | 51.60 | 3.65 | 26.51 | 22.31 | 15.93 | 8.42 |
| | #2 LF-2 | 44.83 | 18.49 | 22.41 | 22.75 | 16.40 | 8.52 |
| | #3 LF-2 | 30.39 | 18.69 | 17.22 | 16.52 | 12.72 | 8.61 |
| Qk.N_E1 | #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | #1 LF-10 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-11 | 98.91 | 5.30 | 40.11 | 28.94 | 17.22 | -3.37 |
| | #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | #1 LF-14 | -5.61 | 6.58 | 15.35 | 17.55 | 14.68 | 7.67 |
| | #1 LF-15 | 7.86 | -3.41 | -1.27 | -0.57 | -0.19 | -0.07 |
| | #1 LF-16 | 0.17 | -0.27 | -0.49 | -0.38 | -0.21 | 0.04 |
| | #1 LF-19 | -0.04 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| | #1 LF-23 | 0.44 | -0.05 | 0.02 | 0.00 | -0.01 | -0.02 |
| | #2 LF-3 | 50.61 | 18.86 | 18.00 | 15.39 | 6.77 | -4.04 |
| | #2 LF-4 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #2 LF-7 | -0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | #2 LF-10 | -2.54 | 6.13 | 14.20 | 16.59 | 13.53 | 6.42 |
| | #2 LF-15 | 0.02 | -0.03 | -0.02 | -0.01 | 0.00 | 0.00 |
| | #2 LF-16 | 0.08 | -0.25 | -0.46 | -0.41 | -0.21 | 0.04 |
| | #2 LF-17 | 28.95 | 11.72 | 13.06 | 12.94 | 8.82 | 2.40 |
| | #2 LF-18 | 5.67 | -1.26 | -1.60 | -0.85 | -0.31 | -0.02 |
| | #3 LF-17 | 2.69 | 8.62 | 13.53 | 12.37 | 7.01 | 1.11 |
| Qk.N_DA | #3 LF-3 | 56.62 | 32.80 | 24.84 | 20.73 | 11.84 | -0.15 |
| | #3 LF-4 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #3 LF-5 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #3 LF-6 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 |
| | #3 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| | #3 LF-10 | -0.50 | -0.68 | -0.42 | -0.20 | -0.06 | 0.02 |
| | #3 LF-11 | 0.00 | 0.02 | 0.02 | 0.02 | 0.01 | 0.00 |
| | #3 LF-12 | 1.18 | -0.30 | -0.43 | -0.25 | -0.09 | 0.00 |
| | #3 LF-13 | 1.79 | 0.16 | 2.08 | 4.68 | 5.59 | 4.08 |
| Qk.N_T2 | #1 LF-20 | -0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-22 | -0.01 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 |
| | #2 LF-20 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |

W-0.16

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | [kN/m] |
|----------|-------------|--------------------------------|-------|-------|-------|-------|--------|
| Gk | #1 LF-1 (g) | 7.39 | 43.11 | 47.20 | 49.05 | 49.21 | 47.64 |
| | | 41.97 | 11.58 | | | | 44.83 |
| | #2 LF-1 | -0.36 | 35.63 | 48.00 | 49.47 | 49.52 | 48.19 |
| | | 37.93 | 13.55 | | | | 45.87 |

| | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|---------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | Lastfall | | | | | | | |
| | #3 LF-1 | 21.79 | 40.55 | 49.43 | 51.01 | 50.40 | 47.80 | 42.80 |
| | | 33.78 | 21.11 | | | | | |
| | #4 LF-1 | 0.04 | 0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | | | | | | | | |
| Ö← | #1 LF-2 (g) | | | | | | | |
| | | 8.56 | 16.25 | 17.91 | 18.66 | 18.74 | 18.19 | 17.23 |
| | | 16.25 | 3.79 | | | | | |
| | #2 LF-2 | 3.52 | 14.25 | 18.19 | 18.81 | 18.87 | 18.42 | 17.65 |
| | | 14.58 | 3.77 | | | | | |
| | | | | | | | | |
| | #3 LF-2 | 10.32 | 16.05 | 18.77 | 19.27 | 19.09 | 18.29 | 16.74 |
| | | 13.35 | 6.88 | | | | | |
| | | | | | | | | |
| Qk.N_E1 | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | #1 LF-10 | -14.81 | 14.92 | 17.70 | 18.96 | 19.09 | 17.99 | 16.00 |
| | | 13.98 | -8.08 | | | | | |
| | | | | | | | | |
| | #1 LF-11 | -0.19 | 0.04 | 0.05 | 0.08 | 0.11 | 0.14 | 0.16 |
| | | 0.17 | -0.13 | | | | | |
| | | | | | | | | |
| | #1 LF-15 | 0.01 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 |
| | | -0.01 | 0.01 | | | | | |
| | | | | | | | | |
| | #1 LF-18 | 0.04 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | | | | | | | | |
| | #1 LF-23 | -0.14 | 0.03 | 0.04 | 0.05 | 0.08 | 0.10 | 0.12 |
| | | 0.12 | -0.10 | | | | | |
| | | | | | | | | |
| | #2 LF-3 | -0.16 | 0.00 | 0.05 | 0.06 | 0.09 | 0.11 | 0.14 |
| | | 0.10 | -0.10 | | | | | |
| | | | | | | | | |
| | #2 LF-4 | -14.03 | 9.27 | 17.37 | 18.43 | 18.57 | 17.79 | 16.32 |
| | | 10.92 | -5.67 | | | | | |
| | | | | | | | | |
| | #2 LF-5 | -4.29 | -0.24 | 0.78 | 0.71 | 0.62 | 0.49 | 0.36 |
| | | 0.10 | -0.86 | | | | | |
| | | | | | | | | |
| | #2 LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | #2 LF-12 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | #2 LF-17 | -0.04 | 0.00 | 0.01 | 0.02 | 0.02 | 0.03 | 0.04 |
| | | 0.03 | -0.03 | | | | | |
| | | | | | | | | |
| | #2 LF-18 | 0.03 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | | -0.01 | 0.01 | | | | | |
| | | | | | | | | |
| | #2 LF-19 | -0.53 | -0.01 | 0.12 | 0.12 | 0.11 | 0.09 | 0.07 |
| | | 0.02 | -0.16 | | | | | |
| | | | | | | | | |
| | #2 LF-22 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | #3 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | #3 LF-23 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| Qk.N_DA | #3 LF-3 | -0.23 | -0.01 | 0.11 | 0.17 | 0.28 | 0.52 | 1.13 |
| | | 1.66 | -0.12 | | | | | |
| | | | | | | | | |
| | #3 LF-4 | 0.19 | 0.01 | -0.09 | -0.15 | -0.25 | -0.50 | -1.22 |
| | | -1.64 | 1.61 | | | | | |
| | | | | | | | | |
| | #3 LF-5 | -7.75 | 6.84 | 13.66 | 14.67 | 14.19 | 12.51 | 9.39 |
| | | 3.67 | -4.89 | | | | | |
| | | | | | | | | |
| | #3 LF-6 | -0.12 | -0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | #3 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | -0.01 | 0.00 | | | | | |
| | | | | | | | | |
| | #3 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.02 |
| | | -0.03 | 0.00 | | | | | |
| | | | | | | | | |
| | #3 LF-16 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| | #4 LF-7 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | | | | | | | | |
| Qk.N_T2 | #1 LF-20 | 0.40 | -0.08 | -0.11 | -0.16 | -0.23 | -0.30 | -0.35 |
| | | -0.37 | 0.28 | | | | | |
| | | | | | | | | |
| | #2 LF-20 | 0.28 | 0.01 | -0.09 | -0.12 | -0.16 | -0.21 | -0.27 |
| | | -0.21 | 0.32 | | | | | |
| | | | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.17_1

Gk

| Lastfall | Lasten (3 Abschnitte je 0.62m) | | | | [kN/m] |
|-------------|--------------------------------|-------|-------|--|--------|
| #1 LF-1 (g) | -35.3 | 14.21 | 41.10 | | |
| #2 LF-1 | 8.59 | 6.76 | 12.06 | | |
| #3 LF-1 | 11.88 | 11.94 | 13.75 | | |
| #4 LF-1 | 0.35 | 0.55 | 0.59 | | |

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| | | | | | |
|-------------|-------|-------|-------|--|--|
| #1 LF-2 (g) | -20.1 | -2.00 | 7.69 | | |
| #2 LF-2 | -0.05 | -2.53 | -0.89 | | |
| #3 LF-2 | 0.73 | -1.21 | -1.12 | | |
| #4 LF-2 | -0.02 | -0.07 | -0.09 | | |

Qk.N_E1

| | | | | | |
|----------|-------|-------|-------|--|--|
| #1 LF-3 | -0.11 | -0.03 | 0.00 | | |
| #1 LF-4 | -0.28 | -0.16 | -0.11 | | |
| #1 LF-10 | -64.1 | -14.5 | 5.83 | | |
| #1 LF-11 | -12.0 | -6.94 | -3.24 | | |
| #1 LF-12 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-14 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-15 | 9.32 | 9.55 | 9.61 | | |
| #1 LF-17 | 0.00 | 0.00 | 0.00 | | |
| #1 LF-18 | 14.53 | 4.78 | 0.35 | | |
| #1 LF-19 | 0.06 | 0.04 | 0.03 | | |
| #1 LF-23 | -9.98 | -3.09 | 4.81 | | |
| #2 LF-3 | -3.09 | -5.34 | -4.86 | | |
| #2 LF-4 | -2.53 | -6.19 | -4.81 | | |
| #2 LF-5 | -1.32 | -3.84 | -3.24 | | |
| #2 LF-6 | -0.11 | -0.17 | -0.17 | | |
| #2 LF-12 | -0.01 | -0.01 | 0.00 | | |
| #2 LF-14 | -0.02 | -0.01 | -0.01 | | |
| #2 LF-16 | 0.00 | 0.00 | 0.00 | | |
| #2 LF-17 | -0.05 | -0.12 | 0.51 | | |
| #2 LF-18 | 3.67 | 7.47 | 8.55 | | |
| #2 LF-19 | -0.10 | -1.37 | -1.30 | | |
| #2 LF-22 | 0.00 | 0.00 | 0.00 | | |
| #3 LF-17 | 0.00 | 0.00 | 0.00 | | |
| #3 LF-19 | -0.02 | -0.07 | -0.08 | | |
| #3 LF-20 | 0.33 | 0.64 | 0.73 | | |
| #3 LF-21 | 0.00 | 0.00 | 0.00 | | |
| #3 LF-22 | -0.05 | -0.13 | -0.17 | | |
| #3 LF-23 | -0.03 | -0.07 | -0.09 | | |

Qk.N_DA

| | | | | | |
|----------|-------|-------|-------|--|--|
| #3 LF-3 | -1.38 | -2.33 | -1.88 | | |
| #3 LF-4 | 1.92 | 2.56 | 2.17 | | |
| #3 LF-5 | -1.54 | -7.51 | -8.28 | | |
| #3 LF-6 | 0.00 | 0.00 | 0.00 | | |
| #3 LF-10 | 0.04 | 0.03 | -0.04 | | |
| #3 LF-12 | 2.67 | 5.23 | 6.22 | | |
| #3 LF-13 | 0.00 | 0.01 | 0.01 | | |
| #3 LF-16 | -0.05 | -0.06 | -0.06 | | |
| #4 LF-4 | -0.12 | -0.30 | -0.40 | | |
| #4 LF-6 | 0.00 | 0.00 | 0.00 | | |
| #4 LF-7 | 0.08 | 0.17 | 0.21 | | |

Qk.N_T2

| | | | | | |
|----------|-------|------|-------|--|--|
| #1 LF-20 | 16.00 | 2.97 | -3.08 | | |
| #2 LF-20 | 2.87 | 3.45 | 2.09 | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.17_2

Gk

| Lastfall | Lasten (7 Abschnitte je 0.95m) | | | | | | | [kN/m] |
|-------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| #1 LF-1 (g) | 66.48 | 73.21 | 78.64 | 89.78 | 96.35 | 29.71 | 265.8 | |
| #2 LF-1 | 54.65 | 74.50 | 82.65 | 84.32 | 79.75 | 89.39 | 224.1 | |
| #3 LF-1 | 46.00 | 63.79 | 74.36 | 82.45 | 84.74 | 107.0 | 197.5 | |
| #4 LF-1 | 0.02 | -0.12 | -0.13 | -0.07 | -0.02 | 0.01 | 0.00 | |

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| | | | | | | | | |
|-------------|-------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-2 (g) | 16.55 | 19.00 | 20.99 | 25.05 | 27.38 | 3.28 | 87.93 | |
| #2 LF-2 | 14.93 | 20.95 | 23.63 | 24.08 | 22.24 | 25.41 | 74.95 | |
| #3 LF-2 | 9.51 | 13.82 | 16.60 | 18.61 | 18.84 | 24.65 | 50.10 | |
| #4 LF-2 | -0.04 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |

Qk.N_E1

| | | | | | | | | |
|----------|-------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-4 | -0.06 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-10 | 2.62 | 1.13 | 0.57 | 0.38 | 0.20 | -0.11 | 0.21 | |
| #1 LF-11 | 10.35 | 18.92 | 25.94 | 34.85 | 40.91 | -1.25 | 126.8 | |

| | | Lasten (7 Abschnitte je 0.95m) | | | | | | | [kN/m] |
|---|---|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| Qk . N_DA | #1 LF-14 | 0.00 | 0.01 | 0.01 | 0.03 | 0.08 | 0.23 | -1.66 | |
| | #1 LF-15 | 8.39 | 8.67 | 9.00 | 9.47 | 9.37 | 6.67 | 39.78 | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.02 | |
| | #1 LF-18 | -0.22 | -0.06 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-19 | 0.15 | 0.27 | 0.35 | 0.40 | 0.40 | 0.22 | 0.46 | |
| | #1 LF-23 | 14.26 | 9.82 | 5.64 | 3.87 | 2.30 | -0.75 | 2.25 | |
| | #2 LF-3 | 10.61 | 16.81 | 20.69 | 21.73 | 19.57 | 20.59 | 69.86 | |
| | #2 LF-4 | 1.35 | 1.07 | 0.52 | 0.23 | 0.10 | 0.02 | 0.09 | |
| | #2 LF-5 | 0.50 | 0.37 | 0.15 | 0.06 | 0.02 | 0.00 | 0.02 | |
| | #2 LF-6 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.06 | |
| | #2 LF-10 | 0.02 | 0.04 | 0.04 | 0.06 | 0.08 | -0.20 | -1.55 | |
| | #2 LF-14 | -0.04 | -0.04 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-15 | 0.00 | -0.01 | -0.01 | 0.00 | 0.00 | 0.03 | 0.16 | |
| | #2 LF-16 | -0.01 | -0.02 | -0.02 | -0.01 | -0.01 | 0.02 | 0.09 | |
| | #2 LF-17 | 10.13 | 13.50 | 14.35 | 14.21 | 12.96 | 14.55 | 43.48 | |
| | #2 LF-18 | 5.38 | 7.01 | 7.61 | 7.66 | 7.63 | 10.74 | 24.10 | |
| | #2 LF-19 | 0.14 | 0.11 | 0.05 | 0.02 | 0.01 | 0.00 | 0.01 | |
| | #3 LF-17 | 0.03 | 0.05 | 0.06 | 0.08 | 0.06 | -0.27 | -1.37 | |
| | #3 LF-19 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-20 | -0.04 | -0.06 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-22 | -0.10 | -0.07 | -0.02 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #3 LF-23 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Qk . N_T2 | #3 LF-3 | 15.68 | 23.24 | 27.80 | 30.48 | 29.82 | 38.13 | 79.17 | |
| | #3 LF-4 | -0.94 | -0.91 | -0.59 | -0.37 | -0.19 | -0.06 | -0.10 | |
| | #3 LF-5 | 1.50 | 1.59 | 0.99 | 0.57 | 0.27 | 0.09 | 0.13 | |
| | #3 LF-6 | -0.01 | 0.00 | 0.01 | 0.02 | 0.04 | 0.07 | 0.13 | |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-10 | -1.17 | -1.33 | -0.77 | -0.01 | 0.42 | 1.02 | 3.36 | |
| | #3 LF-11 | -0.01 | -0.01 | -0.02 | -0.03 | -0.04 | -0.06 | -0.12 | |
| | #3 LF-12 | 4.08 | 5.11 | 5.71 | 6.38 | 7.08 | 9.34 | 14.88 | |
| | #3 LF-13 | -0.05 | -0.09 | -0.11 | -0.11 | 0.00 | 0.87 | 3.26 | |
| | #3 LF-16 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #4 LF-4 | -0.09 | -0.04 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | |
| | #4 LF-7 | 0.01 | -0.02 | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | |
| W-0.18 Gk | #1 LF-20 | -1.70 | -0.91 | -0.50 | -0.34 | -0.18 | 0.09 | -0.18 | |
| | #1 LF-22 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.35 | |
| | #2 LF-20 | -1.39 | -1.17 | -0.66 | -0.33 | -0.15 | -0.03 | -0.13 | |
| | #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | | |
| Öe | Lastfall Lasten (3 Abschnitte je 0.14m) | | | | | | | | [kN/m] |
| | #1 LF-1 (g) | | | | | -21.0 | -13.1 | -5.23 | |
| | #2 LF-1 | | | | | -9.62 | -8.12 | -6.62 | |
| | #3 LF-1 | | | | | 27.47 | 27.68 | 27.89 | |
| Qk . N_E1 | #4 LF-1 | | | | | 0.01 | 0.01 | 0.01 | |
| | #1 LF-2 (g) | | | | | -7.88 | -4.51 | -1.13 | |
| | #2 LF-2 | | | | | -10.0 | -9.22 | -8.41 | |
| | #3 LF-2 | | | | | 7.24 | 7.46 | 7.69 | |
| Qk . N_DA | #1 LF-10 | | | | | -0.72 | -0.47 | -0.22 | |
| | #1 LF-11 | | | | | -34.4 | -33.1 | -31.7 | |
| | #1 LF-15 | | | | | 0.61 | 0.52 | 0.44 | |
| | #1 LF-19 | | | | | 0.04 | 0.03 | 0.03 | |
| | #1 LF-23 | | | | | 1.10 | 6.07 | 11.03 | |
| | #2 LF-3 | | | | | -21.9 | -21.0 | -20.1 | |
| | #2 LF-4 | | | | | -0.27 | -0.25 | -0.23 | |
| | #2 LF-5 | | | | | -0.07 | -0.07 | -0.06 | |
| | #2 LF-10 | | | | | -0.01 | -0.01 | -0.01 | |
| | #2 LF-17 | | | | | -2.97 | -2.90 | -2.83 | |
| | #2 LF-18 | | | | | 0.39 | 0.38 | 0.37 | |
| | #2 LF-19 | | | | | -0.02 | -0.02 | -0.02 | |
| | #3 LF-17 | | | | | -0.01 | -0.01 | -0.01 | |
| Qk . N_DA | #3 LF-3 | | | | | -7.42 | -7.10 | -6.77 | |
| | #3 LF-4 | | | | | 3.52 | 3.24 | 2.96 | |
| | #3 LF-5 | | | | | -0.30 | -0.14 | 0.02 | |
| | #3 LF-10 | | | | | 0.19 | 0.19 | 0.19 | |

| | | Lastfall Lasten (3 Abschnitte je 0.14m) [kN/m] | | |
|---------------|---|---|-------|-------|
| Qk.N_T2 | #3 LF-12 | 0.24 | 0.23 | 0.23 |
| | #3 LF-13 | 0.02 | 0.02 | 0.02 |
| | #1 LF-20 | 0.63 | 0.41 | 0.18 |
| | #2 LF-20 | 0.67 | 0.61 | 0.56 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| W-0.19 | | Lastfall Lasten (3 Abschnitte je 0.50m) [kN/m] | | |
| Gk | #1 LF-1 (g) | 71.11 | 119.3 | 190.9 |
| | #2 LF-1 | 103.6 | 128.0 | 152.0 |
| | #3 LF-1 | 88.06 | 105.9 | 124.9 |
| | #4 LF-1 | -0.01 | -0.01 | -0.02 |
| Ö- | #1 LF-2 (g) | 30.10 | 51.81 | 84.60 |
| | #2 LF-2 | 44.52 | 56.02 | 67.36 |
| | #3 LF-2 | 30.65 | 37.08 | 43.84 |
| Qk.N_E1 | #1 LF-4 | 0.00 | 0.00 | 0.00 |
| | #1 LF-10 | 0.77 | 0.78 | 0.87 |
| | #1 LF-11 | 10.78 | 45.53 | 93.82 |
| | #1 LF-14 | 0.00 | 0.03 | 0.06 |
| | #1 LF-15 | -0.24 | -0.56 | -1.01 |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 |
| | #1 LF-19 | -0.01 | -0.03 | -0.06 |
| | #1 LF-23 | 22.31 | 17.93 | 14.95 |
| | #2 LF-3 | 48.12 | 62.97 | 77.59 |
| | #2 LF-4 | 0.39 | 0.45 | 0.50 |
| | #2 LF-5 | 0.10 | 0.11 | 0.13 |
| | #2 LF-10 | 0.03 | 0.04 | 0.06 |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 |
| | #2 LF-16 | 0.00 | -0.01 | -0.01 |
| | #2 LF-17 | 2.03 | 3.06 | 4.07 |
| | #2 LF-18 | -0.36 | -0.50 | -0.62 |
| | #2 LF-19 | 0.03 | 0.03 | 0.04 |
| | #3 LF-17 | 0.03 | 0.03 | 0.04 |
| Qk.N_DA | #3 LF-3 | 26.96 | 34.68 | 42.52 |
| | #3 LF-4 | -1.11 | -1.54 | -1.89 |
| | #3 LF-5 | 1.53 | 1.70 | 1.84 |
| | #3 LF-6 | 0.00 | 0.00 | 0.00 |
| | #3 LF-10 | -0.12 | -0.18 | -0.25 |
| | #3 LF-11 | 0.00 | 0.00 | 0.00 |
| | #3 LF-12 | -0.17 | -0.24 | -0.31 |
| | #3 LF-13 | -0.01 | -0.02 | -0.03 |
| Qk.N_T2 | #4 LF-4 | 0.00 | 0.00 | 0.00 |
| | #1 LF-20 | -0.71 | -0.71 | -0.78 |
| | #1 LF-22 | 0.00 | 0.00 | -0.01 |
| | #2 LF-20 | -0.58 | -0.68 | -0.75 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | |
| W-0.20 | | Lastfall Lasten (3 Abschnitte je 0.50m) [kN/m] | | |
| Gk | #1 LF-1 (g) | 198.7 | 138.2 | 109.1 |
| | #2 LF-1 | 166.3 | 150.3 | 137.3 |
| | #3 LF-1 | 216.6 | 207.0 | 197.6 |
| | #4 LF-1 | -0.01 | 0.00 | 0.00 |
| Ö- | #1 LF-2 (g) | 87.33 | 58.83 | 44.96 |
| | #2 LF-2 | 72.73 | 64.98 | 58.68 |
| | #3 LF-2 | 75.75 | 72.28 | 68.88 |
| Qk.N_E1 | #1 LF-10 | 0.20 | 0.05 | -0.05 |
| | #1 LF-11 | 109.9 | 72.76 | 55.20 |
| | #1 LF-14 | 0.04 | -0.06 | -0.15 |
| | #1 LF-15 | -0.56 | -0.07 | 0.28 |
| | #1 LF-19 | -0.05 | -0.02 | 0.00 |
| | #1 LF-23 | 1.82 | 0.45 | -0.45 |
| | #2 LF-3 | 85.76 | 76.17 | 68.41 |
| | #2 LF-4 | 0.09 | 0.04 | 0.01 |
| | #2 LF-5 | 0.02 | 0.01 | 0.00 |
| | #2 LF-10 | -0.01 | -0.07 | -0.12 |
| | #2 LF-15 | -0.01 | -0.01 | 0.00 |
| | #2 LF-16 | -0.02 | -0.01 | -0.01 |
| | #2 LF-17 | 5.63 | 5.12 | 4.72 |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|--------|
| Qk.N_DA | #2 LF-18 | -0.41 | -0.29 | -0.19 | |
| | #2 LF-19 | 0.01 | 0.00 | 0.00 | |
| | #3 LF-17 | -0.02 | -0.05 | -0.08 | |
| | #3 LF-3 | 76.61 | 73.28 | 70.04 | |
| | #3 LF-4 | -0.44 | -0.25 | -0.11 | |
| | #3 LF-5 | 0.45 | 0.29 | 0.17 | |
| | #3 LF-6 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-10 | -0.42 | -0.38 | -0.34 | |
| | #3 LF-11 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-12 | -0.42 | -0.38 | -0.34 | |
| Qk.N_T2 | #3 LF-13 | -0.08 | -0.09 | -0.09 | |
| | #1 LF-20 | -0.17 | -0.04 | 0.05 | |
| | #1 LF-22 | -0.01 | -0.01 | 0.00 | |
| | #2 LF-20 | -0.13 | -0.06 | -0.01 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | | | [kN/m] |
|--------------|---------------|--------------------------------|-------|-------|--------|
| W-0.21 Gk | #1 LF-1 (g) | 106.1 | 101.3 | 104.1 | |
| | #2 LF-1 | 104.2 | 101.7 | 97.95 | |
| | #3 LF-1 | 112.0 | 104.5 | 97.69 | |
| Ö← | #1 LF-2 (g) | 43.77 | 43.20 | 46.68 | |
| | #2 LF-2 | 44.18 | 43.82 | 43.00 | |
| | #3 LF-2 | 38.90 | 36.45 | 34.29 | |
| Qk.N_E1 | #1 LF-10 | -0.06 | -0.03 | -0.01 | |
| | #1 LF-11 | 53.37 | 49.08 | 49.40 | |
| | #1 LF-14 | -0.43 | -0.41 | -0.42 | |
| | #1 LF-15 | 0.33 | 0.17 | 0.05 | |
| | #1 LF-16 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-23 | -0.49 | -0.25 | -0.08 | |
| | #2 LF-3 | 48.35 | 46.59 | 44.13 | |
| | #2 LF-4 | -0.03 | -0.02 | -0.01 | |
| | #2 LF-5 | -0.01 | -0.01 | 0.00 | |
| | #2 LF-10 | -0.44 | -0.41 | -0.37 | |
| | #2 LF-16 | 0.01 | 0.01 | 0.01 | |
| | #2 LF-17 | 2.94 | 2.53 | 2.08 | |
| | #2 LF-18 | 0.09 | 0.06 | 0.04 | |
| | #3 LF-17 | -0.23 | -0.22 | -0.19 | |
| Qk.N_DA | #3 LF-3 | 37.87 | 34.09 | 30.45 | |
| | #3 LF-4 | 0.17 | 0.14 | 0.12 | |
| | #3 LF-5 | -0.18 | -0.16 | -0.14 | |
| | #3 LF-10 | -0.02 | 0.00 | 0.02 | |
| | #3 LF-12 | 0.03 | 0.05 | 0.06 | |
| | #3 LF-13 | -0.12 | -0.11 | -0.10 | |
| Qk.N_T2 | #1 LF-20 | 0.05 | 0.02 | 0.01 | |
| | #2 LF-20 | 0.04 | 0.03 | 0.02 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|--------------|---------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| W-0.22 Gk | #1 LF-1 (g) | 33.72 | 31.56 | 32.63 | 32.81 | 32.79 | 32.39 | 30.17 |
| | | 22.82 | 10.74 | | | | | |
| | #2 LF-1 | -9.08 | 14.63 | 23.67 | 25.01 | 23.98 | 19.95 | 11.51 |
| | | -4.50 | -18.0 | | | | | |
| | #3 LF-1 | 29.96 | 41.62 | 48.48 | 50.22 | 49.10 | 44.92 | 35.50 |
| | | 20.99 | 19.14 | | | | | |
| | #4 LF-1 | -0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.03 |
| | | 0.07 | 0.11 | | | | | |
| Ö← | #1 LF-2 (g) | 17.21 | 12.13 | 12.68 | 12.85 | 12.87 | 12.72 | 11.89 |
| | | 9.02 | 3.35 | | | | | |
| | #2 LF-2 | 9.80 | 15.02 | 17.51 | 18.13 | 17.79 | 16.31 | 13.20 |
| | | 6.99 | -0.84 | | | | | |
| | #3 LF-2 | 13.30 | 16.44 | 18.42 | 19.00 | 18.66 | 17.33 | 14.23 |
| | | 8.89 | 6.48 | | | | | |
| | #4 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| Qk.N_E1 | #1 LF-3 | 0.01 | 0.01 | 0.02 | 0.04 | 0.06 | -0.06 | -0.73 |

Qk.N_DA

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | -2.60 | -1.52 | | | | | |
| #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | -0.01 | -0.02 | | | | | |
| #1 LF-6 | 0.01 | -0.03 | -0.04 | -0.03 | -0.02 | -0.01 | -0.01 |
| | 0.00 | 0.01 | | | | | |
| #1 LF-7 | -0.09 | 0.31 | 0.37 | 0.31 | 0.22 | 0.14 | 0.11 |
| | 0.05 | -0.11 | | | | | |
| #1 LF-8 | 0.08 | -0.42 | -0.50 | -0.42 | -0.25 | -0.09 | 0.01 |
| | 0.03 | 0.03 | | | | | |
| #1 LF-9 | 0.01 | 0.02 | 0.03 | 0.00 | -0.08 | -0.19 | -0.27 |
| | -0.17 | 0.19 | | | | | |
| #1 LF-10 | 0.01 | 0.01 | 0.03 | 0.07 | 0.09 | -0.06 | -0.91 |
| | -3.35 | -9.96 | | | | | |
| #1 LF-12 | 4.92 | 6.68 | 7.32 | 7.32 | 7.27 | 7.25 | 7.09 |
| | 5.81 | 0.60 | | | | | |
| #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.01 | 0.04 | | | | | |
| #1 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | 0.05 | 0.16 | | | | | |
| #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.04 |
| | 0.03 | 0.53 | | | | | |
| #2 LF-5 | 0.75 | 0.00 | -0.26 | -0.39 | -0.66 | -1.13 | -1.92 |
| | -4.98 | -12.2 | | | | | |
| #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.01 | | | | | |
| #2 LF-7 | -1.16 | -0.04 | 0.25 | 0.22 | 0.17 | 0.09 | -0.01 |
| | -0.13 | -0.26 | | | | | |
| #2 LF-11 | -3.60 | -0.15 | 0.79 | 0.74 | 0.65 | 0.45 | 0.15 |
| | -0.27 | -0.77 | | | | | |
| #2 LF-12 | 0.48 | 0.00 | -0.17 | -0.25 | -0.44 | -0.85 | -1.72 |
| | -2.36 | 0.68 | | | | | |
| #2 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | 0.01 | 0.01 | | | | | |
| #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.01 | 0.02 | | | | | |
| #2 LF-15 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | 0.01 | 0.02 | | | | | |
| #2 LF-19 | 0.27 | 0.00 | -0.09 | -0.12 | -0.18 | -0.28 | -0.44 |
| | -0.81 | -1.44 | | | | | |
| #2 LF-22 | -6.89 | 10.22 | 16.68 | 17.81 | 17.65 | 15.98 | 12.22 |
| | 4.49 | -6.05 | | | | | |
| #3 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.01 | 0.01 | | | | | |
| #3 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | -0.01 | | | | | |
| #3 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-5 | 1.09 | 0.06 | -0.46 | -0.74 | -1.21 | -2.10 | -4.14 |
| | -7.35 | -5.80 | | | | | |
| #3 LF-6 | -6.04 | 7.19 | 13.74 | 15.01 | 14.66 | 13.02 | 9.56 |
| | 2.99 | -4.82 | | | | | |
| #3 LF-7 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-11 | -0.05 | -0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|---|--------------------------------|------|-------|------|------|------|------|--------|
| Qk.N_T2 | #3 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.01 | | | | | |
| | #3 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #4 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #4 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |

W-0.23
Gk

Ö-

Qk.N_E1

| Lastfall | Lasten (4 Abschnitte je 0.76m) | | | | | | | [kN/m] |
|---|--------------------------------|-------|-------|-------|-------|--|--|--------|
| Gk | #1 LF-1 (g) | 26.45 | 20.10 | 4.01 | 2.74 | | | |
| | #2 LF-1 | -0.60 | -1.43 | -2.06 | -1.59 | | | |
| | #3 LF-1 | -0.43 | -0.22 | 0.35 | 0.41 | | | |
| | #4 LF-1 | 0.00 | 0.01 | 0.02 | 0.02 | | | |
| Ö- | #1 LF-2 (g) | 1.34 | -0.90 | -6.53 | -6.95 | | | |
| | #2 LF-2 | -0.27 | -0.56 | -0.76 | -0.58 | | | |
| | #3 LF-2 | -0.14 | -0.09 | 0.08 | 0.10 | | | |
| | #4 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Qk.N_E1 | #1 LF-3 | 0.57 | 0.47 | 0.23 | 0.21 | | | |
| | #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #1 LF-6 | 0.17 | 1.12 | 2.80 | 2.71 | | | |
| | #1 LF-7 | -1.95 | -12.0 | -29.1 | -25.5 | | | |
| | #1 LF-8 | 4.38 | 8.31 | 8.51 | 4.67 | | | |
| | #1 LF-9 | 4.11 | 7.64 | 7.73 | 4.24 | | | |
| | #1 LF-10 | 0.87 | 0.60 | 0.07 | 0.07 | | | |
| | #1 LF-12 | -5.32 | -7.92 | -3.56 | -0.70 | | | |
| | #1 LF-13 | 0.00 | 0.01 | 0.02 | 0.02 | | | |
| | #1 LF-16 | 0.00 | 0.00 | -0.01 | -0.01 | | | |
| | #1 LF-17 | 0.01 | 0.06 | 0.15 | 0.13 | | | |
| | #1 LF-18 | -0.01 | 0.00 | 0.02 | 0.02 | | | |
| | #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #2 LF-5 | -0.02 | 0.01 | 0.10 | 0.12 | | | |
| | #2 LF-7 | -0.03 | -0.14 | -0.27 | -0.23 | | | |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #2 LF-11 | -0.06 | -0.32 | -0.67 | -0.60 | | | |
| | #2 LF-12 | -0.03 | -0.01 | 0.06 | 0.07 | | | |
| | #2 LF-13 | 0.00 | 0.00 | -0.01 | 0.00 | | | |
| | #2 LF-15 | 0.00 | 0.01 | 0.02 | 0.02 | | | |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #2 LF-19 | 0.01 | 0.04 | 0.11 | 0.10 | | | |
| | #2 LF-22 | -0.30 | -0.63 | -0.89 | -0.69 | | | |
| | #3 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #4 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Qk.N_DA | #3 LF-5 | -0.01 | -0.01 | 0.02 | 0.03 | | | |
| | #3 LF-6 | -0.13 | -0.05 | 0.14 | 0.14 | | | |
| | #3 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #3 LF-11 | 0.00 | 0.02 | 0.04 | 0.03 | | | |
| | #4 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #4 LF-4 | 0.00 | 0.00 | -0.01 | -0.01 | | | |
| Qk.N_T2 | #4 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| | #1 LF-21 | 0.00 | -0.02 | -0.06 | -0.05 | | | |
| | #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |

W-0.24
Gk

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|-------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| #1 LF-1 (g) | | 33.14 | 43.85 | 45.27 | 45.56 | 46.37 | 46.57 | 38.26 |
| | | -0.30 | -7.04 | | | | | |
| #2 LF-1 | | 16.69 | 1.07 | -0.90 | -0.12 | 0.48 | -0.03 | -1.58 |
| | | 1.48 | 34.69 | | | | | |

| Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|----------|---------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Ö← | #3 LF-1 | 23.49 | 0.95 | -1.26 | -0.33 | 0.12 | -0.20 | -1.10 |
| | | 2.15 | 32.58 | | | | | |
| | #4 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.04 | 0.00 | | | | | |
| | #1 LF-2 (g) | 7.20 | 7.68 | 7.86 | 8.13 | 8.52 | 8.60 | 5.42 |
| | | -9.18 | -11.4 | | | | | |
| | #2 LF-2 | 7.34 | 0.47 | -0.40 | -0.06 | 0.22 | 0.08 | -0.44 |
| | | 0.35 | 9.94 | | | | | |
| Qk.N_E1 | #3 LF-2 | 8.28 | 0.33 | -0.45 | -0.11 | 0.06 | -0.01 | -0.26 |
| | | 0.45 | 7.70 | | | | | |
| | #4 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-3 | 0.00 | 0.01 | 0.02 | 0.01 | -0.09 | -0.24 | -2.60 |
| | | -12.59 | -9.51 | | | | | |
| | #1 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | -0.05 | -0.05 | | | | | |
| | #1 LF-6 | 0.08 | 0.34 | 0.44 | 0.27 | -0.12 | -0.22 | 0.03 |
| | | 0.15 | 0.06 | | | | | |
| | #1 LF-7 | -0.84 | -3.47 | -4.37 | -2.58 | 1.33 | 2.16 | -0.59 |
| | | -1.81 | -0.66 | | | | | |
| | #1 LF-8 | 4.07 | 8.74 | 9.43 | 7.59 | 2.64 | -1.56 | -1.28 |
| | | -0.32 | 0.01 | | | | | |
| | #1 LF-9 | 0.02 | 0.00 | -0.25 | -1.03 | -1.36 | 2.39 | 7.14 |
| | | 7.89 | 3.84 | | | | | |
| | #1 LF-10 | 0.00 | 0.01 | 0.02 | 0.01 | -0.06 | -0.20 | -3.89 |
| | | -20.96 | -20.6 | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-12 | 4.22 | 9.50 | 10.90 | 12.14 | 14.64 | 14.76 | 11.86 |
| | | 8.64 | 3.48 | | | | | |
| | #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.01 | 0.04 |
| | | 0.19 | 0.18 | | | | | |
| | #1 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 | 0.07 |
| | | 0.44 | 0.45 | | | | | |
| | #2 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-5 | -0.13 | -0.01 | 0.01 | 0.01 | 0.01 | -0.02 | -0.10 |
| | | 0.20 | 3.79 | | | | | |
| | #2 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-7 | -0.14 | 0.02 | 0.03 | 0.04 | 0.05 | 0.01 | -0.07 |
| | | -0.08 | -0.03 | | | | | |
| | #2 LF-11 | 0.05 | 0.12 | -0.02 | 0.01 | 0.08 | 0.03 | -0.13 |
| | | -0.14 | 0.34 | | | | | |
| | #2 LF-12 | -0.09 | 0.00 | 0.01 | 0.01 | 0.00 | -0.06 | -0.18 |
| | | 0.37 | 5.25 | | | | | |
| | #2 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.01 | | | | | |
| | #2 LF-19 | -0.04 | 0.00 | 0.01 | 0.00 | -0.01 | -0.01 | -0.03 |
| | | -0.04 | 0.54 | | | | | |
| | #2 LF-22 | 8.22 | 0.52 | -0.42 | -0.05 | 0.26 | 0.13 | -0.37 |
| | | 0.55 | 10.21 | | | | | |
| | #3 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|---|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | #3 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-5 | -0.25 | -0.01 | 0.02 | 0.01 | -0.01 | -0.12 | -0.35 |
| | | 0.33 | 7.67 | | | | | |
| | #3 LF-6 | 7.63 | 0.36 | -0.38 | -0.09 | 0.04 | -0.03 | -0.19 |
| | | 0.77 | 8.30 | | | | | |
| | #3 LF-11 | 0.01 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | 0.01 |
| | | 0.01 | -0.07 | | | | | |
| Qk.N_T2 | #3 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.01 | | | | | |
| | #3 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #4 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | #4 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-21 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| | | | | | | | | |

W-0.25
Gk

Ö-

Qk.N_E1

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|--------------|---------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| W-0.25 Gk | #1 LF-1 (g) | 92.14 | 72.98 | 76.21 | 80.06 | 79.68 | 74.72 | 63.16 |
| | | 39.41 | 16.26 | | | | | |
| | #2 LF-1 | 93.20 | -1.02 | -5.29 | -1.51 | -0.30 | -0.47 | -1.62 |
| | | 0.36 | 52.64 | | | | | |
| | #3 LF-1 | 85.51 | -0.83 | -4.91 | -1.48 | -0.48 | -0.80 | -2.04 |
| | | 0.58 | 57.34 | | | | | |
| | #4 LF-1 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.05 | -0.11 |
| | | -0.28 | -0.54 | | | | | |
| | #1 LF-2 (g) | 34.84 | 18.91 | 18.80 | 20.33 | 20.31 | 18.59 | 14.52 |
| | | 6.15 | -1.99 | | | | | |
| Ö- | #2 LF-2 | 41.33 | -0.47 | -2.35 | -0.67 | -0.13 | -0.14 | -0.52 |
| | | 0.05 | 17.11 | | | | | |
| | #3 LF-2 | 30.01 | -0.30 | -1.73 | -0.51 | -0.15 | -0.22 | -0.56 |
| | | 0.12 | 15.73 | | | | | |
| | #4 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | -0.02 | -0.09 | | | | | |
| Qk.N_E1 | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 |
| | | 0.04 | 0.01 | | | | | |
| | #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-6 | 41.96 | 20.14 | 19.13 | 20.87 | 21.16 | 19.95 | 17.16 |
| | | 12.72 | 3.18 | | | | | |
| | #1 LF-7 | -4.97 | 14.86 | 20.01 | 21.21 | 21.09 | 19.85 | 17.01 |
| | | 9.43 | -0.56 | | | | | |
| | #1 LF-8 | 0.07 | -0.07 | -0.11 | -0.11 | -0.09 | -0.06 | -0.03 |
| | | 0.01 | 0.02 | | | | | |
| Qk.N_E1 | #1 LF-9 | 0.02 | -0.01 | -0.02 | -0.02 | -0.03 | -0.03 | -0.03 |
| | | -0.01 | 0.01 | | | | | |
| | #1 LF-10 | -0.02 | 0.00 | 0.01 | 0.03 | 0.05 | 0.08 | 0.11 |
| | | 0.08 | -0.01 | | | | | |
| | #1 LF-12 | -0.02 | 0.01 | 0.02 | 0.03 | 0.02 | 0.02 | 0.01 |
| | | 0.00 | -0.01 | | | | | |
| | #1 LF-13 | 0.14 | 0.06 | 0.07 | 0.10 | 0.11 | 0.10 | 0.08 |
| | | 0.05 | 0.01 | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #1 LF-16 | -0.02 | -0.01 | -0.01 | -0.02 | -0.04 | -0.07 | -0.12 |
| | -0.19 | -0.14 | | | | | |
| #1 LF-17 | -0.25 | -0.12 | -0.18 | -0.40 | -0.83 | -1.77 | -3.96 |
| | -7.99 | -5.39 | | | | | |
| #1 LF-18 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.02 | -0.02 |
| | -0.01 | 0.01 | | | | | |
| #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-5 | 0.06 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | 0.00 | -0.16 | | | | | |
| #2 LF-7 | 51.03 | -0.59 | -2.91 | -0.83 | -0.14 | -0.14 | -0.55 |
| | 0.29 | 20.82 | | | | | |
| #2 LF-8 | 0.10 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | -0.01 |
| | -0.01 | 0.01 | | | | | |
| #2 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.01 | 0.01 | | | | | |
| #2 LF-11 | 0.63 | -0.01 | -0.01 | 0.03 | 0.04 | 0.00 | -0.18 |
| | -0.11 | 6.11 | | | | | |
| #2 LF-12 | 0.04 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 |
| | 0.00 | -0.10 | | | | | |
| #2 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.01 | -0.04 | | | | | |
| #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-15 | -0.35 | 0.00 | 0.01 | -0.01 | -0.03 | -0.09 | -0.22 |
| | -0.05 | 4.73 | | | | | |
| #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 |
| | -0.02 | -0.02 | | | | | |
| #2 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-19 | 0.03 | 0.00 | -0.01 | -0.01 | -0.01 | -0.02 | -0.02 |
| | 0.00 | -0.15 | | | | | |
| #2 LF-22 | -2.11 | 0.02 | 0.14 | 0.07 | 0.07 | 0.06 | 0.01 |
| | -0.01 | 2.11 | | | | | |
| #3 LF-17 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.01 | 0.01 | | | | | |
| #3 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | -0.05 | | | | | |
| #3 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #4 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | -0.02 | -0.04 | | | | | |
| #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | -0.01 | | | | | |
| #3 LF-5 | 0.13 | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 | 0.01 |
| | 0.01 | -0.38 | | | | | |
| #3 LF-6 | 30.43 | -0.33 | -1.74 | -0.50 | -0.14 | -0.30 | -0.92 |
| | 0.31 | 28.26 | | | | | |
| #3 LF-7 | -0.65 | 0.02 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | -0.05 | | | | | |
| #3 LF-8 | 0.34 | -0.01 | -0.02 | -0.01 | -0.01 | -0.01 | 0.00 |
| | 0.00 | 0.03 | | | | | |
| #3 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-10 | -0.12 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | -0.05 | -0.58 | | | | | |
| #3 LF-11 | -0.22 | 0.00 | 0.01 | -0.01 | -0.02 | -0.07 | -0.18 |
| | 0.01 | 4.29 | | | | | |
| #3 LF-13 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | -0.01 | -0.02 | | | | | |
| #3 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | -0.02 | | | | | |
| #3 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #4 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |

Qk.N_DA

| | | | | | | | | | |
|---------|--|---|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
| | | | -0.02 | -0.02 | | | | | |
| | | #4 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | -0.02 | -0.15 | | | | | |
| | | #4 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | -0.01 | | | | | |
| Qk.N_T2 | | #1 LF-21 | -0.39 | -0.18 | -0.20 | -0.27 | -0.30 | -0.28 | -0.21 |
| | | | -0.14 | -0.02 | | | | | |
| | | #2 LF-21 | -0.33 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 |
| | | | 0.01 | -0.04 | | | | | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| W-0.26 | | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
| Gk | | #1 LF-1 (g) | | | | | | | |
| | | | 86.85 | 35.28 | 39.69 | 40.44 | 58.87 | 74.04 | 53.22 |
| | | | 27.24 | 20.39 | | | | | |
| | | #2 LF-1 | 85.23 | 49.29 | 42.12 | 46.15 | 60.53 | 76.73 | 65.99 |
| | | | 45.21 | 33.67 | | | | | |
| | | #3 LF-1 | 111.42 | 74.42 | 61.80 | 64.62 | 64.00 | 55.36 | 41.89 |
| | | | 31.98 | 34.84 | | | | | |
| | | #4 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.05 |
| | | | -0.09 | -0.07 | | | | | |
| Ö← | | #1 LF-2 (g) | | | | | | | |
| | | | 30.34 | 4.03 | 5.89 | 6.31 | 12.60 | 18.16 | 11.15 |
| | | | 2.21 | -0.28 | | | | | |
| | | #2 LF-2 | 30.85 | 10.89 | 6.51 | 8.22 | 13.32 | 19.22 | 15.77 |
| | | | 8.65 | 5.05 | | | | | |
| | | #3 LF-2 | 32.86 | 17.85 | 12.42 | 13.36 | 13.40 | 11.13 | 7.56 |
| | | | 4.43 | 4.03 | | | | | |
| | | #4 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | | -0.02 | -0.01 | | | | | |
| Qk.N_E1 | | #1 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | #1 LF-5 | 0.00 | 0.00 | 0.00 | -0.01 | 0.04 | 0.11 | 0.11 |
| | | | 0.08 | -0.01 | | | | | |
| | | #1 LF-6 | 31.49 | 9.95 | 13.12 | 13.12 | 16.92 | 26.65 | 22.47 |
| | | | 15.42 | 4.22 | | | | | |
| | | #1 LF-7 | -2.21 | -0.29 | -0.51 | -0.50 | -0.89 | -1.80 | -1.32 |
| | | | -0.83 | -0.17 | | | | | |
| | | #1 LF-8 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| | | | 0.01 | 0.00 | | | | | |
| | | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | #1 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | #1 LF-13 | 0.00 | 0.04 | 0.16 | 0.31 | -2.01 | -4.12 | -2.77 |
| | | | -1.57 | -0.65 | | | | | |
| | | #1 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | -0.06 | -0.01 |
| | | | 0.13 | 0.12 | | | | | |
| | | #1 LF-16 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | -0.23 | -1.10 |
| | | | -3.13 | -1.12 | | | | | |
| | | #1 LF-17 | 0.13 | -0.05 | -0.08 | -0.05 | -0.22 | -1.69 | -4.49 |
| | | | -10.55 | -6.05 | | | | | |
| | | #1 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 |
| | | | 0.01 | -0.07 | | | | | |
| | | #2 LF-5 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | | |
| | | #2 LF-7 | 20.20 | 14.77 | 15.14 | 15.99 | 20.01 | 27.83 | 25.28 |
| | | | 12.81 | -1.29 | | | | | |
| | | #2 LF-8 | -0.02 | 0.04 | 0.16 | 0.02 | -1.37 | -3.00 | -2.77 |
| | | | -2.03 | -1.43 | | | | | |
| | | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.05 | 0.05 |
| | | | 0.04 | 0.03 | | | | | |
| | | #2 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | -0.03 | -0.04 | -0.02 |

| | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|--------------|---|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_DA | Lastfall | 0.04 | 0.04 | | | | | |
| | #2 LF-11 | -1.18 | -0.06 | 0.23 | 0.17 | 0.22 | 0.40 | 0.31 |
| | | 0.04 | -0.20 | | | | | |
| | #2 LF-12 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-15 | 0.11 | -0.03 | -0.08 | -0.06 | -0.31 | -1.54 | -3.22 |
| | | -1.88 | 5.94 | | | | | |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.04 | -0.16 |
| | | -0.27 | -0.06 | | | | | |
| | #2 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.04 |
| | | -0.02 | 0.10 | | | | | |
| | #2 LF-19 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-22 | -0.37 | -0.03 | 0.06 | 0.03 | 0.04 | 0.09 | 0.06 |
| | | -0.01 | -0.07 | | | | | |
| | #3 LF-17 | 0.00 | 0.00 | -0.01 | -0.02 | -0.02 | 0.02 | 0.11 |
| | | 0.19 | -0.04 | | | | | |
| | #4 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 | -0.07 |
| | | -0.11 | 0.00 | | | | | |
| | #3 LF-5 | 0.06 | 0.01 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-6 | 14.52 | 17.30 | 21.66 | 24.24 | 23.63 | 20.43 | 15.63 |
| | | 8.34 | 0.19 | | | | | |
| | #3 LF-7 | 7.63 | 7.62 | 7.35 | 7.16 | 7.01 | 6.70 | 6.38 |
| | | 5.91 | 4.19 | | | | | |
| | #3 LF-8 | -1.10 | -1.71 | -2.18 | -2.49 | -2.50 | -2.18 | -1.82 |
| | | -1.48 | -0.99 | | | | | |
| | #3 LF-9 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 | 0.03 | 0.04 |
| | | 0.05 | 0.02 | | | | | |
| | #3 LF-10 | 0.08 | -0.03 | -0.12 | -0.17 | -0.32 | -0.98 | -2.15 |
| | | -2.47 | 0.17 | | | | | |
| | #3 LF-11 | 0.09 | -0.07 | -0.20 | -0.30 | -0.60 | -1.53 | -2.52 |
| | | -0.96 | 4.42 | | | | | |
| | #3 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 |
| | | 0.04 | 0.00 | | | | | |
| | #3 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.10 | -0.33 |
| | | -0.43 | 0.17 | | | | | |
| Qk.N_T2 | #4 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 |
| | | -0.04 | -0.03 | | | | | |
| | #1 LF-21 | -0.02 | -0.13 | -0.57 | -0.65 | 10.88 | 17.38 | 10.44 |
| | | 7.63 | 4.60 | | | | | |
| | #2 LF-21 | 0.66 | 0.47 | 0.02 | 1.10 | 8.12 | 14.72 | 12.53 |
| | | 9.05 | 6.01 | | | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| | | | | | | | | |
| W-0.27 Gk | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
| | #1 LF-1 (g) | 17.32 | 38.87 | 40.43 | 39.80 | 56.20 | 69.91 | 55.34 |
| | | 42.77 | 47.95 | | | | | |
| | #2 LF-1 | 21.23 | 35.35 | 40.53 | 41.90 | 50.58 | 59.45 | 53.90 |
| | | 44.39 | 41.22 | | | | | |
| | #3 LF-1 | 32.06 | 42.00 | 47.92 | 49.44 | 49.26 | 47.11 | 43.41 |
| | | 40.89 | 41.86 | | | | | |
| | #4 LF-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-2 (g) | -0.37 | 5.69 | 6.33 | 6.14 | 11.55 | 16.35 | 11.52 |
| Ö | | 6.97 | 8.27 | | | | | |
| | #2 LF-2 | 1.71 | 4.68 | 6.31 | 6.82 | 9.66 | 12.68 | 10.91 |
| | | 7.78 | 7.37 | | | | | |
| | #3 LF-2 | 5.88 | 6.59 | 7.89 | 8.43 | 8.42 | 7.84 | 6.74 |
| | | | | | | | | |

| | Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | | 5.73 | 5.51 | | | | | |
| | #4 LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_E1 | #1 LF-5 | 0.05 | -0.01 | -0.01 | 0.00 | -0.04 | -0.32 | -0.85 |
| | | -1.35 | 2.15 | | | | | |
| | #1 LF-6 | -0.25 | 0.07 | 0.24 | 0.45 | -3.15 | -6.32 | -3.96 |
| | | -2.04 | -2.13 | | | | | |
| | #1 LF-7 | 0.02 | -0.01 | -0.02 | -0.04 | 0.31 | 0.62 | 0.37 |
| | | 0.17 | 0.17 | | | | | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-13 | -4.66 | 11.06 | 12.49 | 11.90 | 14.27 | 20.77 | 17.69 |
| | | 10.16 | -1.00 | | | | | |
| | #1 LF-14 | -0.03 | 0.00 | 0.00 | 0.00 | 0.02 | 0.17 | 0.47 |
| | | 0.86 | -0.38 | | | | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.01 | 0.05 | -0.16 | -0.82 |
| | | -0.93 | 7.16 | | | | | |
| | #1 LF-17 | 0.02 | -0.01 | -0.02 | -0.04 | 0.31 | 0.55 | 0.06 |
| | | -0.47 | 0.98 | | | | | |
| Qk.N_DA | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | 0.00 | -0.05 | | | | | |
| | #2 LF-7 | -0.19 | 0.04 | 0.34 | 0.00 | -3.06 | -6.45 | -5.74 |
| | | -4.04 | -3.41 | | | | | |
| | #2 LF-8 | -1.64 | 8.52 | 12.45 | 12.52 | 14.31 | 18.06 | 17.01 |
| | | 10.13 | 1.07 | | | | | |
| | #2 LF-9 | 0.02 | 0.00 | -0.01 | -0.01 | -0.05 | -0.20 | -0.38 |
| | | -0.43 | -0.17 | | | | | |
| | #2 LF-10 | -0.02 | 0.00 | 0.01 | 0.00 | 0.04 | 0.26 | 0.65 |
| | | 0.73 | -0.48 | | | | | |
| | #2 LF-11 | -0.01 | 0.00 | 0.01 | 0.00 | -0.08 | -0.17 | -0.15 |
| | | -0.10 | -0.08 | | | | | |
| | #2 LF-15 | 0.01 | 0.00 | -0.01 | 0.02 | 0.06 | -0.29 | -0.85 |
| | | 0.81 | 6.82 | | | | | |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | -0.03 | -0.14 |
| | | -0.18 | 0.13 | | | | | |
| | #2 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 |
| | | 0.00 | 0.07 | | | | | |
| | #2 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.05 | -0.04 |
| | | -0.03 | -0.02 | | | | | |
| Qk.N_DA | #3 LF-17 | 0.00 | 0.00 | 0.01 | 0.03 | 0.05 | 0.10 | 0.14 |
| | | -0.04 | -0.42 | | | | | |
| | #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 |
| | | -0.02 | 0.00 | | | | | |
| | #3 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-6 | -3.63 | -4.71 | -4.99 | -5.49 | -5.46 | -4.62 | -3.65 |
| | | -2.84 | -2.29 | | | | | |
| | #3 LF-7 | 7.30 | 8.25 | 7.54 | 7.26 | 7.13 | 6.78 | 6.40 |
| | | 5.96 | 4.97 | | | | | |
| | #3 LF-8 | 1.42 | 9.03 | 13.94 | 15.34 | 15.10 | 13.76 | 11.15 |
| | | 6.67 | 1.77 | | | | | |
| | #3 LF-9 | 0.01 | 0.00 | -0.02 | -0.05 | -0.13 | -0.28 | -0.31 |
| | | 0.33 | 1.82 | | | | | |
| | #3 LF-10 | 0.03 | 0.04 | 0.05 | 0.09 | 0.16 | 0.12 | -0.07 |
| | | -0.15 | 0.20 | | | | | |
| | #3 LF-11 | 0.06 | 0.07 | 0.10 | 0.15 | 0.10 | -0.17 | -0.11 |
| | | 1.56 | 4.65 | | | | | |
| | #3 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.00 | | | | | |

| | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------------|---|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | Lastfall | | | | | | | |
| | #3 LF-13 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.02 | -0.04 |
| | | -0.04 | 0.17 | | | | | |
| | #4 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-21 | 0.46 | -0.14 | -0.57 | -0.63 | 10.93 | 17.45 | 10.37 |
| | | 7.88 | 8.00 | | | | | |
| | #2 LF-21 | 0.79 | 0.53 | 0.03 | 1.16 | 8.27 | 14.79 | 12.56 |
| | | 9.12 | 7.14 | | | | | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| W-0.28 | | Lasten (9 Abschnitte je 0.98m) | | | | | | [kN/m] |
| Gk | Lastfall | | | | | | | |
| | #1 LF-1 (g) | 19.57 | 37.66 | 39.73 | 40.25 | 39.83 | 38.47 | 35.37 |
| | | 28.29 | 18.15 | | | | | |
| | #2 LF-1 | 21.96 | 35.19 | 39.88 | 40.42 | 39.96 | 38.41 | 34.65 |
| | | 27.92 | 24.49 | | | | | |
| | #3 LF-1 | 28.97 | 38.27 | 42.60 | 43.39 | 43.19 | 41.96 | 38.46 |
| | | 33.02 | 32.92 | | | | | |
| | #1 LF-2 (g) | 8.17 | 14.62 | 15.36 | 15.55 | 15.40 | 14.90 | 13.74 |
| | | 10.83 | 7.23 | | | | | |
| | #2 LF-2 | 9.03 | 13.74 | 15.41 | 15.61 | 15.45 | 14.90 | 13.47 |
| Ök | | 10.63 | 8.39 | | | | | |
| | #3 LF-2 | 12.27 | 15.21 | 16.59 | 16.84 | 16.79 | 16.40 | 15.18 |
| | | 12.68 | 10.73 | | | | | |
| | #1 LF-5 | 0.04 | -0.01 | -0.01 | -0.03 | -0.08 | -0.21 | -0.60 |
| | | -1.38 | 3.17 | | | | | |
| | #1 LF-6 | -0.13 | 0.07 | 0.11 | 0.17 | 0.22 | 0.21 | 0.13 |
| | | -0.02 | -0.26 | | | | | |
| | #1 LF-7 | 0.01 | -0.01 | -0.01 | -0.02 | -0.02 | -0.02 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_E1 | | 0.00 | 0.01 | | | | | |
| | #1 LF-13 | -2.34 | 10.83 | 12.36 | 12.79 | 12.56 | 11.63 | 9.46 |
| | | 4.48 | -5.65 | | | | | |
| | #1 LF-14 | -0.02 | 0.00 | 0.00 | 0.01 | 0.04 | 0.12 | 0.34 |
| | | 0.85 | -2.22 | | | | | |
| | #1 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 |
| | | -0.05 | 0.08 | | | | | |
| | #1 LF-17 | 0.01 | -0.01 | -0.01 | -0.01 | -0.02 | -0.01 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| | #2 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | | 0.00 | -0.02 | | | | | |
| | #2 LF-7 | -0.11 | 0.05 | 0.13 | 0.20 | 0.25 | 0.25 | 0.16 |
| | | -0.03 | -0.23 | | | | | |
| | #2 LF-8 | -0.56 | 9.01 | 12.41 | 12.84 | 12.57 | 11.54 | 9.12 |
| | | 3.83 | -2.59 | | | | | |
| | #2 LF-9 | 0.02 | 0.00 | -0.01 | -0.02 | -0.06 | -0.18 | -0.53 |
| | | -0.23 | 2.90 | | | | | |
| | #2 LF-10 | -0.02 | 0.00 | 0.01 | 0.02 | 0.06 | 0.17 | 0.47 |
| | | -0.07 | -3.31 | | | | | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 |
| Qk.N_DA | | 0.00 | -0.01 | | | | | |
| | #2 LF-15 | 0.01 | 0.00 | -0.01 | -0.01 | -0.02 | -0.03 | -0.03 |
| | | 0.00 | 0.07 | | | | | |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 |
| | | -0.02 | 0.12 | | | | | |
| | #2 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #3 LF-17 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.09 | 0.19 |
| | | -0.32 | -1.93 | | | | | |
| | #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_DA | | -0.02 | -0.05 | | | | | |
| | #3 LF-6 | -0.22 | 0.17 | 0.37 | 0.42 | 0.40 | 0.31 | 0.15 |
| | | -0.07 | -0.23 | | | | | |
| | #3 LF-7 | 0.18 | -0.16 | -0.32 | -0.35 | -0.33 | -0.26 | -0.13 |
| | | 0.05 | 0.19 | | | | | |

| | Lastfall | Lasten (9 Abschnitte je 0.98m) | | | | | | [kN/m] |
|---------|----------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #3 LF-8 | 0.46 | 6.40 | 9.15 | 9.66 | 9.56 | 8.91 | 7.05 |
| | | 3.21 | -0.62 | | | | | |
| | #3 LF-9 | 0.01 | 0.00 | -0.01 | -0.02 | -0.06 | -0.19 | -0.41 |
| | | 0.11 | 2.42 | | | | | |
| | #3 LF-10 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-11 | 0.01 | 0.00 | -0.01 | -0.01 | -0.02 | -0.02 | -0.01 |
| | | 0.00 | 0.04 | | | | | |
| | #3 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.05 | 0.07 |
| | | -0.43 | -1.21 | | | | | |
| | #1 LF-21 | 0.24 | -0.13 | -0.22 | -0.32 | -0.40 | -0.39 | -0.24 |
| | | 0.04 | 0.46 | | | | | |
| | #2 LF-21 | 0.17 | -0.08 | -0.20 | -0.29 | -0.35 | -0.35 | -0.22 |
| | | 0.05 | 0.31 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.29
Gk

Ö-

Qk.N_E1

| | Lastfall | Lasten (5 Abschnitte je 0.90m) | | | | | | [kN/m] |
|---------|-------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | #1 LF-1 (g) | | 53.31 | 43.87 | 44.45 | 46.39 | 86.77 | |
| | #2 LF-1 | | 96.12 | 105.9 | 14.49 | -1.56 | -6.48 | |
| | #3 LF-1 | | 130.0 | 71.47 | 6.62 | -1.31 | -7.68 | |
| | #4 LF-1 | | -0.18 | -0.17 | -0.03 | 0.00 | 0.00 | |
| | #1 LF-2 (g) | | 19.22 | 17.89 | 19.27 | 20.15 | 39.09 | |
| | #2 LF-2 | | 42.40 | 48.02 | 6.60 | -0.72 | -2.90 | |
| | #3 LF-2 | | 45.48 | 25.15 | 2.32 | -0.47 | -2.69 | |
| | #4 LF-2 | | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | #1 LF-3 | | 14.62 | 2.79 | 1.25 | 0.78 | 0.62 | |
| | #1 LF-4 | | -0.01 | 0.01 | 0.01 | 0.02 | 0.05 | |
| | #1 LF-6 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-7 | | -0.04 | 0.01 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-8 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-9 | | 0.08 | -0.02 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-10 | | 7.57 | 13.00 | 14.81 | 16.48 | 42.01 | |
| | #1 LF-11 | | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | #1 LF-12 | | -1.31 | -0.06 | 0.00 | -0.01 | -0.01 | |
| | #1 LF-17 | | -0.01 | -0.02 | -0.02 | -0.02 | -0.02 | |
| | #1 LF-18 | | 0.04 | -0.06 | -0.09 | -0.11 | -0.29 | |
| | #1 LF-23 | | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | |
| | #2 LF-3 | | -0.01 | -0.02 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-4 | | -1.14 | -3.68 | -0.59 | 0.07 | -0.78 | |
| | #2 LF-5 | | 32.09 | 52.86 | 7.96 | -0.78 | -2.64 | |
| | #2 LF-6 | | 0.00 | -0.03 | -0.01 | 0.00 | 0.00 | |
| | #2 LF-7 | | -0.40 | -0.22 | -0.02 | 0.00 | 0.00 | |
| | #2 LF-11 | | -1.02 | -0.50 | -0.04 | 0.01 | 0.00 | |
| | #2 LF-12 | | 14.22 | 6.84 | 0.55 | -0.12 | -0.03 | |
| | #2 LF-13 | | -0.02 | -0.03 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-14 | | -0.03 | -0.05 | -0.01 | 0.00 | 0.00 | |
| | #2 LF-15 | | -0.03 | -0.03 | -0.01 | 0.00 | 0.00 | |
| | #2 LF-17 | | 0.00 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-18 | | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | #2 LF-19 | | 1.74 | 3.21 | 0.51 | -0.03 | -0.12 | |
| | #2 LF-22 | | -9.91 | -3.78 | -0.17 | 0.09 | 0.02 | |
| | #3 LF-18 | | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-21 | | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-22 | | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-23 | | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-3 | | -0.04 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-4 | | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-5 | | 44.44 | 25.20 | 2.39 | -0.45 | -2.71 | |
| | #3 LF-6 | | -7.59 | -3.13 | -0.17 | 0.07 | 0.05 | |
| | #3 LF-11 | | -0.06 | -0.03 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-14 | | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-15 | | -0.03 | -0.02 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-16 | | -0.02 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #4 LF-4 | | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| | #4 LF-5 | | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | |
| Qk.N_T2 | #4 LF-7 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-20 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | |

| | | Lastfall | Lasten (5 Abschnitte je 0.90m) | | | | [kN/m] |
|---------------|--|---|--------------------------------|-------|-------|-------|--------|
| | | #2 | LF-20 | 0.01 | 0.04 | 0.01 | 0.00 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| | | | | | | | |
| W-0.30 | | Lastfall | Lasten (3 Abschnitte je 0.46m) | | | | [kN/m] |
| Gk | | #1 | LF-1 (g) | 65.38 | 73.34 | 85.90 | |
| | | #2 | LF-1 | 125.2 | 143.7 | 154.7 | |
| | | #3 | LF-1 | 168.0 | 180.9 | 183.7 | |
| | | #4 | LF-1 | -0.26 | -0.27 | -0.28 | |
| Öe | | #1 | LF-2 (g) | 26.36 | 29.91 | 35.73 | |
| | | #2 | LF-2 | 55.71 | 63.89 | 68.71 | |
| | | #3 | LF-2 | 58.73 | 63.23 | 64.20 | |
| | | #4 | LF-2 | -0.02 | -0.02 | -0.02 | |
| Qk.N_E1 | | #1 | LF-3 | -0.08 | -0.11 | -0.14 | |
| | | #1 | LF-4 | 0.02 | 0.02 | 0.02 | |
| | | #1 | LF-10 | 26.88 | 31.86 | 39.73 | |
| | | #1 | LF-11 | 0.00 | 0.00 | 0.01 | |
| | | #1 | LF-15 | 0.00 | -0.01 | -0.01 | |
| | | #1 | LF-17 | 0.00 | 0.00 | 0.00 | |
| | | #1 | LF-18 | -0.14 | -0.14 | -0.16 | |
| | | #1 | LF-23 | 0.00 | 0.00 | 0.01 | |
| | | #2 | LF-3 | 0.05 | 0.08 | 0.10 | |
| | | #2 | LF-4 | 10.51 | 16.01 | 20.68 | |
| | | #2 | LF-5 | 55.49 | 60.00 | 61.36 | |
| | | #2 | LF-6 | -0.08 | -0.09 | -0.09 | |
| | | #2 | LF-7 | 0.00 | 0.01 | 0.01 | |
| | | #2 | LF-11 | 0.00 | 0.01 | 0.02 | |
| | | #2 | LF-12 | 0.03 | -0.02 | -0.08 | |
| | | #2 | LF-13 | 0.00 | 0.00 | 0.00 | |
| | | #2 | LF-14 | -0.01 | -0.01 | 0.00 | |
| | | #2 | LF-17 | 0.02 | 0.02 | 0.03 | |
| | | #2 | LF-18 | -0.03 | -0.04 | -0.05 | |
| | | #2 | LF-19 | 3.25 | 3.48 | 3.52 | |
| | | #2 | LF-22 | 0.12 | 0.12 | 0.13 | |
| | | #3 | LF-19 | -0.01 | -0.01 | -0.01 | |
| | | #3 | LF-21 | -0.01 | -0.01 | -0.01 | |
| | | #3 | LF-22 | 0.02 | 0.02 | 0.02 | |
| | | #3 | LF-23 | -0.03 | -0.04 | -0.04 | |
| Qk.N_DA | | #3 | LF-3 | 0.09 | 0.10 | 0.10 | |
| | | #3 | LF-4 | -0.07 | -0.08 | -0.08 | |
| | | #3 | LF-5 | 59.83 | 64.42 | 65.40 | |
| | | #3 | LF-6 | -0.66 | -0.73 | -0.76 | |
| | | #3 | LF-11 | -0.01 | -0.01 | -0.01 | |
| | | #3 | LF-12 | 0.00 | 0.00 | 0.00 | |
| | | #3 | LF-14 | 0.00 | 0.00 | 0.00 | |
| | | #3 | LF-15 | -0.02 | -0.02 | -0.02 | |
| | | #3 | LF-16 | -0.04 | -0.04 | -0.05 | |
| | | #4 | LF-4 | -0.01 | -0.01 | -0.01 | |
| | | #4 | LF-5 | 0.00 | 0.00 | 0.00 | |
| | | #4 | LF-7 | -0.03 | -0.03 | -0.03 | |
| Qk.N_T2 | | #1 | LF-20 | 0.00 | -0.01 | -0.02 | |
| | | #2 | LF-20 | -0.08 | -0.12 | -0.16 | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| | | | | | | | |
| W-0.31 | | Lastfall | Lasten (3 Abschnitte je 0.50m) | | | | [kN/m] |
| Gk | | #1 | LF-1 (g) | 105.6 | 102.9 | 109.1 | |
| | | #2 | LF-1 | 24.10 | 18.92 | 22.27 | |
| | | #3 | LF-1 | 22.74 | 17.41 | 20.72 | |
| | | #4 | LF-1 | -0.04 | -0.02 | 0.00 | |
| Öe | | #1 | LF-2 (g) | 46.42 | 44.94 | 47.41 | |
| | | #2 | LF-2 | 10.66 | 8.30 | 9.68 | |
| | | #3 | LF-2 | 7.93 | 6.03 | 7.13 | |
| | | #4 | LF-2 | 0.00 | 0.00 | 0.00 | |
| Qk.N_E1 | | #1 | LF-3 | -0.09 | -0.07 | -0.05 | |
| | | #1 | LF-4 | 0.01 | 0.00 | 0.00 | |
| | | #1 | LF-10 | 52.29 | 50.83 | 55.02 | |
| | | #1 | LF-11 | 0.09 | 0.13 | 0.19 | |
| | | #1 | LF-12 | 0.00 | 0.00 | 0.00 | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| Qk.N_DA | #1 | LF-15 | -0.02 | -0.02 | -0.02 |
| | #1 | LF-17 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-18 | -0.12 | -0.08 | -0.05 |
| | #1 | LF-23 | 0.07 | 0.10 | 0.14 |
| | #2 | LF-3 | 0.02 | 0.03 | 0.04 |
| | #2 | LF-4 | 4.83 | 6.85 | 12.19 |
| | #2 | LF-5 | 8.19 | 3.79 | 0.80 |
| | #2 | LF-6 | -0.02 | -0.01 | 0.00 |
| | #2 | LF-7 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-11 | 0.01 | 0.00 | 0.00 |
| | #2 | LF-12 | -0.04 | -0.03 | -0.02 |
| | #2 | LF-14 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-17 | 0.01 | 0.01 | 0.01 |
| | #2 | LF-18 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-19 | 0.47 | 0.23 | 0.08 |
| | #2 | LF-22 | 0.01 | 0.01 | 0.00 |
| | #3 | LF-21 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-23 | -0.01 | 0.00 | 0.00 |
| | #3 | LF-3 | 0.01 | 0.03 | 0.06 |
| | #3 | LF-4 | -0.01 | -0.02 | -0.05 |
| | #3 | LF-5 | 8.17 | 6.33 | 7.58 |
| | #3 | LF-6 | -0.11 | -0.02 | 0.08 |
| Qk.N_T2 | #3 | LF-11 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-12 | 0.01 | 0.01 | 0.01 |
| | #3 | LF-15 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-16 | -0.01 | 0.00 | 0.00 |
| | #4 | LF-7 | -0.01 | 0.00 | 0.00 |
| | #1 | LF-20 | -0.20 | -0.27 | -0.39 |
| | #2 | LF-20 | -0.03 | -0.04 | -0.08 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| | Lastfall | Lasten (3 Abschnitte je 0.72m) | [kN/m] | | |
| W-0.32_1 Gk | #1 | LF-1 (g) | 25.15 | 25.51 | 24.09 |
| | #2 | LF-1 | 9.00 | 0.41 | -0.30 |
| | #3 | LF-1 | 6.79 | 0.70 | -0.13 |
| | #4 | LF-1 | 13.85 | 1.76 | -0.24 |
| Ö | #1 | LF-2 (g) | 1.09 | 1.53 | 1.22 |
| | #2 | LF-2 | 0.46 | -0.10 | -0.04 |
| | #3 | LF-2 | 0.38 | 0.01 | -0.01 |
| | #4 | LF-2 | 2.19 | 0.29 | -0.03 |
| Qk.N_E1 | #1 | LF-3 | -0.02 | 0.00 | 0.00 |
| | #1 | LF-4 | -0.44 | -0.28 | -0.05 |
| | #1 | LF-10 | -0.87 | -0.32 | -0.22 |
| | #1 | LF-11 | 0.73 | -2.13 | -4.87 |
| | #1 | LF-14 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-15 | 0.64 | 2.85 | 4.51 |
| | #1 | LF-18 | 0.18 | 0.01 | -0.02 |
| | #1 | LF-19 | 1.42 | 2.41 | 2.65 |
| | #1 | LF-23 | 0.09 | -0.76 | -1.38 |
| | #2 | LF-3 | 0.63 | 0.05 | -0.02 |
| | #2 | LF-4 | 0.05 | 0.01 | 0.01 |
| | #2 | LF-5 | -0.02 | -0.05 | -0.01 |
| | #2 | LF-6 | 0.01 | 0.03 | 0.01 |
| | #2 | LF-14 | 0.56 | -0.14 | -0.07 |
| | #2 | LF-17 | 0.25 | 0.03 | 0.01 |
| | #2 | LF-18 | -0.47 | -0.08 | 0.01 |
| | #2 | LF-19 | -0.01 | -0.02 | 0.00 |
| | #3 | LF-19 | -0.02 | -0.01 | 0.00 |
| | #3 | LF-20 | -0.02 | -0.01 | 0.00 |
| | #3 | LF-21 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-22 | 0.93 | 0.07 | -0.03 |
| | #3 | LF-23 | -0.05 | 0.00 | 0.00 |
| Qk.N_DA | #4 | LF-8 | 0.03 | 0.00 | 0.00 |
| | #3 | LF-3 | 0.10 | 0.02 | 0.01 |
| | #3 | LF-4 | 0.00 | -0.01 | -0.01 |
| | #3 | LF-5 | 0.13 | 0.02 | 0.02 |
| | #3 | LF-6 | 0.00 | 0.00 | 0.00 |

| | | | | | | | |
|-----------------|----|---|--------------------------------|-------|--------|-------|-------|
| | | Lastfall | Lasten (3 Abschnitte je 0.72m) | | [kN/m] | | |
| Qk.N_T2 | | #3 | LF-10 | -0.17 | -0.03 | -0.01 | |
| | | #3 | LF-12 | 0.04 | -0.03 | -0.01 | |
| | | #3 | LF-13 | 0.00 | 0.00 | 0.00 | |
| | | #3 | LF-16 | -0.01 | 0.00 | 0.00 | |
| | | #4 | LF-3 | 0.01 | 0.00 | 0.00 | |
| | | #4 | LF-4 | 3.81 | 0.54 | -0.05 | |
| | | #4 | LF-5 | 0.00 | 0.00 | 0.00 | |
| | | #4 | LF-6 | -0.02 | 0.00 | 0.00 | |
| | | #4 | LF-7 | 0.58 | 0.03 | -0.02 | |
| | | #1 | LF-20 | 0.01 | 0.12 | 0.18 | |
| | #2 | LF-20 | -0.04 | -0.01 | -0.01 | | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-0.32_2 | | | | | | | |
| Gk | | Lastfall | Lasten (3 Abschnitte je 0.12m) | | [kN/m] | | |
| Ö← | | #1 | LF-1 (g) | 21.95 | 21.93 | 21.92 | |
| | | #2 | LF-1 | -0.21 | -0.22 | -0.23 | |
| | | #3 | LF-1 | -0.14 | -0.14 | -0.15 | |
| | | #4 | LF-1 | -0.02 | -0.02 | -0.02 | |
| Qk.N_E1 | | #1 | LF-2 (g) | 0.52 | 0.51 | 0.51 | |
| | | #2 | LF-2 | -0.09 | -0.09 | -0.09 | |
| | | #3 | LF-2 | -0.04 | -0.05 | -0.05 | |
| | | #1 | LF-10 | -0.15 | -0.15 | -0.15 | |
| | | #1 | LF-11 | -7.07 | -7.10 | -7.13 | |
| | | #1 | LF-14 | 0.01 | 0.01 | 0.01 | |
| | | #1 | LF-15 | 4.90 | 4.90 | 4.91 | |
| | | #1 | LF-19 | 2.70 | 2.70 | 2.70 | |
| | | #1 | LF-23 | -1.15 | -1.13 | -1.12 | |
| | | #2 | LF-3 | -0.09 | -0.09 | -0.10 | |
| Qk.N_DA | | #2 | LF-10 | 0.00 | 0.00 | 0.00 | |
| | | #2 | LF-17 | -0.04 | -0.04 | -0.04 | |
| | | #2 | LF-18 | -0.02 | -0.02 | -0.02 | |
| | | #3 | LF-3 | -0.06 | -0.07 | -0.07 | |
| | | #3 | LF-5 | 0.00 | 0.00 | 0.00 | |
| | | #3 | LF-10 | 0.00 | 0.00 | 0.00 | |
| | | #3 | LF-12 | 0.00 | 0.00 | -0.01 | |
| | | #3 | LF-13 | -0.01 | -0.01 | -0.01 | |
| Qk.N_T2 | | #4 | LF-4 | -0.01 | 0.00 | 0.00 | |
| | | #1 | LF-20 | 0.13 | 0.12 | 0.12 | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-0.32_3 | | | | | | | |
| Gk | | Lastfall | Lasten (4 Abschnitte je 0.87m) | | [kN/m] | | |
| Ö← | | #1 | LF-1 (g) | 22.15 | 22.19 | 22.72 | 23.93 |
| | | #2 | LF-1 | -0.15 | 0.29 | 0.64 | 0.39 |
| | | #3 | LF-1 | -0.04 | 0.28 | 0.50 | 0.21 |
| | | #4 | LF-1 | 0.00 | 0.00 | 0.00 | 0.00 |
| Qk.N_E1 | | #1 | LF-2 (g) | 0.61 | 0.62 | 0.75 | 0.95 |
| | | #2 | LF-2 | -0.07 | 0.09 | 0.23 | 0.18 |
| | | #3 | LF-2 | -0.02 | 0.07 | 0.13 | 0.09 |
| | | #1 | LF-10 | -0.06 | -0.04 | -0.03 | -0.02 |
| | | #1 | LF-11 | -7.33 | -7.59 | -7.55 | -6.57 |
| | | #1 | LF-14 | 0.05 | 0.08 | 0.14 | 0.75 |
| | | #1 | LF-15 | 4.81 | 4.88 | 5.05 | 4.63 |
| | | #1 | LF-16 | 0.00 | -0.01 | -0.06 | -0.44 |
| | | #1 | LF-19 | 2.70 | 2.69 | 2.30 | 0.94 |
| | | #1 | LF-23 | -0.56 | -0.37 | -0.26 | -0.19 |
| | | #2 | LF-3 | -0.08 | 0.08 | 0.21 | 0.21 |
| | | #2 | LF-7 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | #2 | LF-10 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | #2 | LF-15 | 0.00 | 0.00 | 0.00 | 0.01 |
| | | #2 | LF-16 | 0.00 | 0.00 | 0.00 | -0.02 |
| Qk.N_DA | | #2 | LF-17 | -0.03 | 0.06 | 0.14 | 0.13 |
| | | #2 | LF-18 | -0.01 | 0.04 | 0.08 | 0.03 |
| | | #3 | LF-17 | 0.00 | -0.01 | -0.01 | -0.02 |
| | | #3 | LF-3 | -0.04 | 0.10 | 0.22 | 0.21 |
| | | #3 | LF-6 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | #3 | LF-10 | 0.00 | 0.01 | 0.01 | -0.01 |
| | | #3 | LF-11 | 0.00 | 0.00 | 0.00 | 0.00 |

| | Lastfall | Lasten (4 Abschnitte je 0.87m) | [kN/m] | | | |
|---|---|--------------------------------|--------|-------|-------|-------|
| Qk.N_T2 | #3 | LF-12 | 0.01 | 0.03 | 0.05 | 0.02 |
| | #3 | LF-13 | 0.00 | 0.01 | 0.01 | -0.02 |
| | #1 | LF-20 | 0.05 | 0.03 | 0.02 | 0.02 |
| | #1 | LF-22 | -0.01 | 0.01 | 0.41 | 1.73 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-0.32_4 | | | | | | |
| | Lastfall | Lasten (3 Abschnitte je 0.08m) | [kN/m] | | | |
| Gk | #1 | LF-1 (g) | 25.45 | 25.81 | 26.17 | |
| | #2 | LF-1 | -0.72 | -0.33 | 0.06 | |
| | #3 | LF-1 | -0.55 | -0.11 | 0.34 | |
| Ö← | #1 | LF-2 (g) | 1.52 | 1.82 | 2.11 | |
| | #2 | LF-2 | -0.29 | -0.24 | -0.18 | |
| | #3 | LF-2 | -0.19 | -0.14 | -0.10 | |
| Qk.N_E1 | #1 | LF-11 | -2.02 | -2.23 | -2.43 | |
| | #1 | LF-14 | -2.13 | -3.60 | -5.07 | |
| | #1 | LF-15 | 2.34 | 3.28 | 4.22 | |
| | #1 | LF-16 | 2.81 | 3.82 | 4.83 | |
| | #1 | LF-19 | -0.06 | -0.06 | -0.05 | |
| | #1 | LF-23 | 0.02 | 0.00 | -0.01 | |
| | #2 | LF-3 | -0.33 | -0.37 | -0.42 | |
| | #2 | LF-7 | 0.00 | 0.01 | 0.01 | |
| | #2 | LF-10 | -0.08 | -0.09 | -0.11 | |
| | #2 | LF-15 | -0.01 | -0.02 | -0.04 | |
| | #2 | LF-16 | 0.03 | 0.09 | 0.14 | |
| | #2 | LF-17 | -0.17 | -0.17 | -0.16 | |
| | #2 | LF-18 | 0.01 | 0.11 | 0.21 | |
| | #3 | LF-17 | -0.07 | -0.05 | -0.04 | |
| Qk.N_DA | #3 | LF-3 | -0.37 | -0.44 | -0.50 | |
| | #3 | LF-6 | 0.00 | 0.01 | 0.01 | |
| | #3 | LF-10 | 0.05 | 0.10 | 0.16 | |
| | #3 | LF-11 | -0.01 | -0.02 | -0.03 | |
| | #3 | LF-12 | 0.00 | 0.04 | 0.09 | |
| Qk.N_T2 | #3 | LF-13 | 0.01 | 0.07 | 0.13 | |
| | #1 | LF-22 | 1.09 | 1.03 | 0.96 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | |
| W-0.33 | | | | | | |
| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | | |
| Gk | #1 | LF-1 (g) | 108.1 | 95.56 | 88.45 | |
| | #2 | LF-1 | 144.6 | 135.7 | 120.7 | |
| | #3 | LF-1 | 155.8 | 151.8 | 141.5 | |
| | #4 | LF-1 | -0.01 | -0.01 | -0.01 | |
| Ö← | #1 | LF-2 (g) | 45.20 | 40.75 | 39.50 | |
| | #2 | LF-2 | 63.44 | 59.71 | 53.43 | |
| | #3 | LF-2 | 54.18 | 52.97 | 49.61 | |
| Qk.N_E1 | #1 | LF-3 | -0.01 | -0.01 | -0.01 | |
| | #1 | LF-4 | 0.00 | 0.00 | 0.00 | |
| | #1 | LF-10 | 54.23 | 45.16 | 39.08 | |
| | #1 | LF-11 | 0.23 | 0.16 | 0.10 | |
| | #1 | LF-15 | -0.02 | -0.01 | -0.01 | |
| | #1 | LF-18 | 0.00 | 0.01 | 0.02 | |
| | #1 | LF-23 | 0.16 | 0.12 | 0.07 | |
| | #2 | LF-3 | 0.25 | 0.22 | 0.17 | |
| | #2 | LF-4 | 71.50 | 65.43 | 56.35 | |
| | #2 | LF-5 | 6.32 | 5.16 | 3.46 | |
| | #2 | LF-6 | 0.00 | 0.00 | 0.00 | |
| | #2 | LF-7 | 0.01 | 0.00 | 0.00 | |
| | #2 | LF-11 | 0.01 | 0.01 | 0.01 | |
| | #2 | LF-12 | -0.09 | -0.07 | -0.05 | |
| | #2 | LF-14 | 0.01 | 0.01 | 0.00 | |
| | #2 | LF-17 | 0.07 | 0.06 | 0.05 | |
| | #2 | LF-18 | -0.06 | -0.05 | -0.04 | |
| | #2 | LF-19 | 0.43 | 0.32 | 0.17 | |
| | #2 | LF-22 | 0.03 | 0.02 | 0.02 | |
| | #3 | LF-21 | 0.00 | 0.00 | 0.00 | |
| | #3 | LF-23 | 0.00 | 0.00 | 0.00 | |
| Qk.N_DA | #3 | LF-3 | 0.39 | 0.36 | 0.30 | |
| | #3 | LF-4 | -0.34 | -0.31 | -0.27 | |

| | Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|---|----------|--------------------------------|--------|-------|-------|
| Qk.N_T2 | #3 | LF-5 | 54.26 | 51.94 | 47.12 |
| | #3 | LF-6 | 0.44 | 0.40 | 0.34 |
| | #3 | LF-10 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-11 | 0.01 | 0.00 | 0.00 |
| | #3 | LF-12 | -0.01 | -0.01 | -0.01 |
| | #3 | LF-15 | 0.01 | 0.01 | 0.00 |
| | #3 | LF-16 | -0.01 | -0.01 | -0.01 |
| | #4 | LF-4 | 0.00 | 0.00 | 0.00 |
| | #4 | LF-7 | -0.01 | -0.01 | -0.01 |
| | #1 | LF-20 | -0.48 | -0.34 | -0.21 |
| | #2 | LF-20 | -0.44 | -0.38 | -0.29 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-0.34 Gk | Lastfall | Lasten (3 Abschnitte je 0.79m) | [kN/m] | | |
| | #1 | LF-1 (g) | 70.01 | 75.26 | 79.08 |
| | #2 | LF-1 | 48.06 | 74.64 | 98.85 |
| | #3 | LF-1 | 42.78 | 45.70 | 43.39 |
| | #4 | LF-1 | 0.20 | 0.26 | 0.22 |
| Ö- | #1 | LF-2 (g) | 18.56 | 19.99 | 21.15 |
| | #2 | LF-2 | 10.73 | 20.88 | 30.09 |
| | #3 | LF-2 | 8.53 | 9.77 | 9.88 |
| | #4 | LF-2 | 0.02 | 0.03 | 0.03 |
| Qk.N_E1 | #1 | LF-3 | 9.21 | 5.26 | 3.48 |
| | #1 | LF-4 | 0.03 | -0.02 | -0.14 |
| | #1 | LF-6 | 0.08 | -0.14 | -0.11 |
| | #1 | LF-7 | -1.19 | 0.63 | 0.56 |
| | #1 | LF-8 | 0.01 | 0.00 | 0.00 |
| | #1 | LF-9 | -0.08 | -0.07 | -0.05 |
| | #1 | LF-10 | 18.79 | 25.34 | 30.12 |
| | #1 | LF-12 | -0.05 | -0.05 | -0.05 |
| | #1 | LF-16 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-17 | 2.85 | 0.09 | -0.49 |
| | #1 | LF-18 | 5.70 | 7.39 | 7.52 |
| | #2 | LF-4 | -0.04 | 0.00 | 0.08 |
| | #2 | LF-5 | 15.40 | 21.62 | 32.27 |
| | #2 | LF-6 | 0.00 | 0.01 | -0.01 |
| | #2 | LF-7 | -3.86 | -1.09 | -0.51 |
| | #2 | LF-11 | -5.77 | -1.87 | -1.06 |
| | #2 | LF-12 | 5.84 | 5.22 | 5.48 |
| | #2 | LF-13 | 2.69 | 4.42 | 3.46 |
| | #2 | LF-14 | -0.40 | -0.75 | -0.30 |
| | #2 | LF-15 | -0.52 | -1.66 | -1.03 |
| | #2 | LF-18 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-19 | 16.11 | 17.61 | 21.70 |
| | #2 | LF-22 | -11.2 | -5.07 | -4.27 |
| | #3 | LF-18 | 0.24 | 0.45 | 0.37 |
| | #3 | LF-21 | -0.19 | -0.27 | -0.24 |
| | #3 | LF-22 | 0.06 | 0.06 | 0.04 |
| | #3 | LF-23 | 0.00 | 0.01 | -0.01 |
| | #4 | LF-8 | 0.00 | -0.01 | -0.03 |
| Qk.N_DA | #3 | LF-5 | 26.32 | 28.45 | 24.85 |
| | #3 | LF-6 | -11.9 | -10.6 | -6.42 |
| | #3 | LF-10 | 0.01 | 0.01 | 0.00 |
| | #3 | LF-11 | 0.64 | -0.81 | -1.03 |
| | #3 | LF-12 | 0.00 | 0.00 | 0.00 |
| | #3 | LF-14 | 1.98 | 2.37 | 1.91 |
| | #3 | LF-15 | -0.23 | -0.20 | 0.09 |
| | #3 | LF-16 | 0.00 | 0.00 | -0.02 |
| | #4 | LF-3 | 0.01 | 0.00 | -0.01 |
| | #4 | LF-4 | -0.06 | -0.05 | -0.04 |
| | #4 | LF-5 | 0.09 | 0.15 | 0.15 |
| | #4 | LF-6 | -0.05 | -0.10 | -0.09 |
| Qk.N_T2 | #4 | LF-7 | 0.04 | 0.07 | 0.05 |
| | #1 | LF-20 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-21 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-20 | 0.00 | 0.00 | 0.00 |
| | #2 | LF-21 | 0.00 | 0.00 | 0.00 |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.35

Gk

| Lastfall | Lasten (6 Abschnitte je 0.88m) | [kN/m] | | | | | |
|-------------|-------------------------------------|--------|--|--|--|--|--|
| #1 LF-1 (g) | 86.62 86.78 86.05 84.90 98.79 185.5 | | | | | | |
| #2 LF-1 | 84.01 76.96 70.13 21.20 0.19 4.48 | | | | | | |
| #3 LF-1 | 81.18 79.11 62.56 17.72 0.11 3.72 | | | | | | |
| #4 LF-1 | 0.46 1.61 3.23 1.25 0.24 0.12 | | | | | | |

Ök

| | | | | | | | |
|-------------|-------------------------------------|--|--|--|--|--|--|
| #1 LF-2 (g) | 23.49 23.53 23.27 22.88 27.77 58.12 | | | | | | |
| #2 LF-2 | 23.84 21.06 20.62 6.37 0.01 1.50 | | | | | | |
| #3 LF-2 | 19.01 18.15 14.73 4.18 -0.04 1.03 | | | | | | |
| #4 LF-2 | -0.04 0.13 0.31 0.12 0.02 0.00 | | | | | | |

Qk.N_E1

| | | | | | | | |
|----------|-------------------------------------|--|--|--|--|--|--|
| #1 LF-3 | 0.85 0.54 0.34 0.21 0.13 0.11 | | | | | | |
| #1 LF-4 | -1.16 -1.19 -1.05 -0.77 -0.43 -0.14 | | | | | | |
| #1 LF-7 | 0.01 0.01 0.00 0.00 0.00 0.00 | | | | | | |
| #1 LF-9 | -0.01 0.00 0.00 0.00 0.00 0.00 | | | | | | |
| #1 LF-10 | 39.53 39.91 39.71 39.23 47.06 96.04 | | | | | | |
| #1 LF-11 | -0.01 -0.03 -0.06 -0.06 0.12 0.91 | | | | | | |
| #1 LF-12 | -0.02 -0.01 -0.01 0.00 0.00 0.00 | | | | | | |
| #1 LF-15 | 0.02 0.04 0.03 -0.08 -0.17 0.07 | | | | | | |
| #1 LF-17 | -0.04 -0.02 -0.01 -0.01 0.00 0.00 | | | | | | |
| #1 LF-18 | 6.50 6.50 6.31 6.03 7.46 16.37 | | | | | | |
| #1 LF-19 | 0.00 0.00 0.00 0.00 0.00 -0.01 | | | | | | |
| #1 LF-23 | -0.01 -0.02 -0.03 -0.02 0.10 0.60 | | | | | | |
| #2 LF-3 | 0.00 -0.01 -0.02 0.00 0.02 -0.03 | | | | | | |
| #2 LF-4 | 0.50 -0.12 -0.34 -0.28 -0.21 1.36 | | | | | | |
| #2 LF-5 | 24.91 22.28 22.03 6.86 0.08 0.72 | | | | | | |
| #2 LF-6 | -0.29 2.67 4.41 1.67 0.24 -0.05 | | | | | | |
| #2 LF-7 | -0.04 -0.03 -0.03 -0.01 0.00 0.00 | | | | | | |
| #2 LF-11 | -0.08 -0.07 -0.06 -0.02 0.00 0.00 | | | | | | |
| #2 LF-12 | 0.78 0.57 0.52 0.16 0.00 -0.01 | | | | | | |
| #2 LF-13 | -0.16 0.01 0.02 0.01 0.00 0.00 | | | | | | |
| #2 LF-14 | 3.07 0.12 -0.96 -0.36 -0.05 -0.08 | | | | | | |
| #2 LF-15 | 0.01 -0.02 -0.02 0.00 0.00 0.00 | | | | | | |
| #2 LF-17 | 0.00 0.00 0.00 0.01 0.01 -0.05 | | | | | | |
| #2 LF-18 | -0.01 -0.29 -0.58 -0.28 -0.09 0.36 | | | | | | |
| #2 LF-19 | 16.07 14.42 13.84 4.28 0.05 0.44 | | | | | | |
| #2 LF-22 | -0.46 -0.34 -0.33 -0.10 0.00 0.01 | | | | | | |
| #3 LF-18 | -0.06 -0.01 0.01 0.00 0.00 0.00 | | | | | | |
| #3 LF-19 | -0.06 -0.01 0.07 0.09 0.08 0.04 | | | | | | |
| #3 LF-20 | 0.00 -0.01 -0.03 -0.02 -0.01 0.02 | | | | | | |
| #3 LF-21 | 0.26 -0.19 -0.26 -0.09 -0.01 0.00 | | | | | | |
| #3 LF-22 | -0.05 -0.16 -0.28 -0.03 0.08 0.03 | | | | | | |
| #3 LF-23 | -0.26 0.36 0.84 0.38 0.11 0.01 | | | | | | |
| #4 LF-8 | 0.00 0.02 0.01 0.00 0.00 0.00 | | | | | | |

Qk.N_DA

| | | | | | | | |
|----------|------------------------------------|--|--|--|--|--|--|
| #3 LF-3 | 0.01 -0.01 -0.01 0.02 0.03 -0.04 | | | | | | |
| #3 LF-4 | -0.01 -0.02 -0.04 -0.03 -0.03 0.11 | | | | | | |
| #3 LF-5 | 36.20 33.97 26.99 7.49 -0.22 1.64 | | | | | | |
| #3 LF-6 | -0.83 -0.62 -0.40 -0.10 0.00 0.01 | | | | | | |
| #3 LF-10 | 0.00 0.00 0.00 0.00 0.00 0.00 | | | | | | |
| #3 LF-11 | 0.01 -0.02 -0.02 -0.01 0.00 0.00 | | | | | | |
| #3 LF-12 | 0.00 -0.19 -0.38 -0.20 -0.07 0.30 | | | | | | |
| #3 LF-14 | -0.09 -0.03 0.00 0.00 0.00 0.00 | | | | | | |
| #3 LF-15 | 1.78 0.53 -0.11 -0.09 -0.02 0.00 | | | | | | |
| #3 LF-16 | 0.57 2.26 2.89 0.99 0.08 -0.06 | | | | | | |
| #4 LF-4 | 0.05 -0.10 -0.07 -0.02 0.00 0.00 | | | | | | |
| #4 LF-5 | 0.00 -0.06 -0.06 -0.02 0.00 0.00 | | | | | | |
| #4 LF-6 | 0.09 -0.08 -0.13 -0.05 -0.01 0.00 | | | | | | |
| #4 LF-7 | -0.22 0.49 0.89 0.33 0.05 0.01 | | | | | | |

Qk.N_T2

| | | | | | | | |
|----------|------------------------------------|--|--|--|--|--|--|
| #1 LF-20 | 0.00 0.00 0.01 0.00 -0.20 -0.95 | | | | | | |
| #2 LF-20 | -0.01 -0.02 -0.04 -0.04 -0.04 0.11 | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.36

Gk

| Lastfall | Lasten (9 Abschnitte je 0.96m) | [kN/m] | | | | | |
|-------------|--|--------|--|--|--|--|--|
| #1 LF-1 (g) | 199.21 99.60 37.94 98.91 69.85 42.79 44.83 | | | | | | |
| | 43.29 2.57 | | | | | | |
| #2 LF-1 | 149.57 114.9 82.42 63.24 55.47 49.16 45.88 | | | | | | |
| | 36.33 9.47 | | | | | | |

| Lastfall | | Lasten (9 Abschnitte je 0.96m) | | | | | | [kN/m] |
|----------|---------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Ö← | #3 LF-1 | 129.69 | 110.5 | 65.02 | 47.23 | 57.12 | 68.80 | 63.25 |
| | | 46.92 | 25.55 | | | | | |
| | #4 LF-1 | -1.26 | -0.69 | -0.03 | 0.06 | 0.03 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #1 LF-2 (g) | 61.36 | 27.20 | 5.50 | 26.92 | 16.45 | 7.18 | 7.90 |
| | | 7.27 | -5.65 | | | | | |
| | #2 LF-2 | 47.08 | 33.18 | 21.11 | 14.08 | 11.41 | 9.39 | 8.21 |
| | | 4.99 | -2.54 | | | | | |
| Qk.N_E1 | #3 LF-2 | 34.25 | 27.47 | 13.38 | 7.86 | 11.03 | 14.69 | 12.83 |
| | | 8.15 | 3.77 | | | | | |
| | #4 LF-2 | -0.13 | -0.07 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-3 | 0.02 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-4 | 0.08 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-10 | 103.65 | 49.64 | 7.48 | 45.86 | 24.66 | 13.43 | 15.56 |
| | | 14.20 | -15.1 | | | | | |
| | #1 LF-11 | 0.16 | -0.94 | -1.61 | -5.49 | -3.57 | 0.28 | 0.26 |
| | | 0.08 | -0.29 | | | | | |
| | #1 LF-15 | 0.19 | -0.06 | 0.05 | 0.30 | 0.20 | -0.02 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-18 | 10.54 | 0.02 | -0.57 | -0.32 | -0.02 | 0.03 | 0.01 |
| | | 0.00 | 0.02 | | | | | |
| | #1 LF-19 | 0.00 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-23 | -0.17 | -0.83 | -1.23 | -3.88 | -2.45 | 0.20 | 0.18 |
| | | 0.06 | -0.21 | | | | | |
| | #2 LF-3 | -1.29 | -2.03 | -3.70 | -3.91 | -2.31 | -0.30 | 0.19 |
| | | 0.03 | -0.18 | | | | | |
| | #2 LF-4 | 37.46 | 34.77 | 32.18 | 20.23 | 17.59 | 17.58 | 16.36 |
| | | 9.52 | -8.63 | | | | | |
| | #2 LF-5 | 24.89 | 13.47 | 3.23 | 0.58 | 0.15 | -0.03 | -0.07 |
| | | -0.24 | -1.17 | | | | | |
| | #2 LF-6 | -0.87 | -0.36 | 0.02 | 0.03 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-12 | 0.02 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-14 | 0.08 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-17 | -0.76 | -0.77 | -1.03 | -0.97 | -0.55 | -0.06 | 0.05 |
| | | 0.01 | -0.05 | | | | | |
| | #2 LF-18 | 7.56 | 3.29 | -0.10 | -0.16 | -0.03 | -0.01 | -0.01 |
| | | 0.00 | 0.02 | | | | | |
| | #2 LF-19 | 15.63 | 7.67 | 0.77 | -0.14 | -0.10 | -0.06 | -0.05 |
| | | -0.06 | -0.23 | | | | | |
| | #2 LF-22 | -0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-19 | -0.09 | -0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-20 | 0.39 | 0.18 | -0.02 | -0.03 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-22 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_DA | #3 LF-23 | -0.34 | -0.16 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-3 | -1.69 | -2.37 | -2.81 | -3.17 | -4.60 | -5.52 | -4.98 |
| | | -4.66 | -3.84 | | | | | |
| | #3 LF-4 | 5.42 | 6.19 | 5.77 | 5.63 | 6.49 | 7.31 | 7.61 |
| | | 8.36 | 7.56 | | | | | |

| Lastfall | | Lasten (9 Abschnitte je 0.96m) | | | | | | [kN/m] |
|----------|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_T2 | #3 LF-5 | 58.65 | 47.75 | 23.56 | 13.40 | 20.12 | 27.57 | 23.34 |
| | | 11.87 | -2.50 | | | | | |
| | #3 LF-6 | 0.00 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-10 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 |
| | | 0.03 | 0.02 | | | | | |
| | #3 LF-12 | 6.06 | 3.16 | 0.04 | -0.25 | -0.02 | 0.10 | 0.09 |
| | | 0.07 | 0.05 | | | | | |
| | #3 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-15 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-16 | -0.37 | -0.19 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-4 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-6 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-7 | -0.30 | -0.15 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-20 | 6.02 | 6.40 | 6.82 | 16.66 | 13.22 | -0.14 | -0.69 |
| | | -0.20 | 0.62 | | | | | |
| | #2 LF-20 | 6.58 | 8.01 | 10.84 | 12.73 | 8.23 | 1.74 | 0.17 |
| | | 0.54 | 0.84 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.37

Gk

Ö-

Qk.N_E1

| Lastfall | | Lasten (3 Abschnitte je 0.84m) | | | [kN/m] |
|----------|---------------|--------------------------------|-------|-------|--------|
| Gk | #1 LF-1 (g) | | 23.27 | 23.93 | 22.45 |
| | #2 LF-1 | | 27.41 | 26.01 | 27.61 |
| | #3 LF-1 | | 25.78 | 20.87 | 23.97 |
| | #4 LF-1 | | 25.09 | 23.81 | 18.38 |
| Ö- | #1 LF-2 (g) | | 0.86 | 0.59 | 0.14 |
| | #2 LF-2 | | 1.67 | 1.23 | 2.27 |
| | #3 LF-2 | | 0.62 | -0.61 | 0.88 |
| | #4 LF-2 | | 1.22 | 2.08 | 1.58 |
| Qk.N_E1 | #1 LF-3 | | -1.76 | -0.83 | -0.67 |
| | #1 LF-4 | | -0.07 | -0.68 | -0.86 |
| | #1 LF-6 | | 0.31 | -0.52 | -0.09 |
| | #1 LF-7 | | -0.69 | 2.15 | 0.35 |
| | #1 LF-8 | | 0.01 | -0.02 | 0.00 |
| | #1 LF-9 | | 0.04 | -0.01 | 0.01 |
| | #1 LF-10 | | -6.03 | -4.26 | -4.17 |
| | #1 LF-12 | | 0.01 | 0.01 | 0.01 |
| | #1 LF-13 | | 0.00 | 0.00 | 0.00 |
| | #1 LF-15 | | 0.00 | 0.00 | 0.00 |
| | #1 LF-16 | | -0.01 | 0.01 | 0.00 |
| | #1 LF-17 | | 2.51 | -1.79 | -0.29 |
| | #1 LF-18 | | 4.28 | 4.38 | 3.70 |
| | #2 LF-4 | | 0.00 | 0.01 | 0.01 |
| | #2 LF-5 | | 0.51 | 0.77 | 1.33 |
| | #2 LF-6 | | 0.00 | 0.02 | 0.03 |
| | #2 LF-7 | | -1.54 | 0.59 | 0.28 |
| | #2 LF-8 | | 0.00 | 0.00 | 0.00 |
| | #2 LF-11 | | -1.04 | -0.52 | -0.11 |
| | #2 LF-12 | | 0.15 | 0.12 | 0.14 |
| | #2 LF-13 | | 2.89 | 4.42 | 2.71 |
| | #2 LF-14 | | -0.29 | -0.83 | 0.26 |
| | #2 LF-15 | | 2.29 | -2.70 | -1.10 |
| | #2 LF-16 | | 0.00 | 0.00 | 0.00 |
| | #2 LF-19 | | 0.34 | 0.36 | 0.58 |
| | #2 LF-22 | | -1.01 | 0.07 | -0.01 |
| | #3 LF-18 | | 2.63 | 3.34 | 2.33 |
| | #3 LF-21 | | -0.11 | -0.17 | 0.11 |
| | #3 LF-22 | | -0.19 | -0.22 | 1.11 |
| | #3 LF-23 | | 0.00 | 0.01 | 0.02 |
| | #4 LF-8 | | 4.31 | 5.78 | 4.42 |
| Qk.N_DA | #3 LF-5 | | 0.14 | 0.37 | 1.01 |

| Lastfall | | Lasten (3 Abschnitte je 0.84m) | | | [kN/m] |
|----------|---|--------------------------------|-------|-------|--------|
| Qk.N_T2 | #3 | LF-6 | -3.80 | -2.69 | -0.86 |
| | #3 | LF-7 | 0.01 | -0.01 | 0.00 |
| | #3 | LF-8 | -0.01 | 0.00 | 0.00 |
| | #3 | LF-10 | 0.02 | 0.04 | 0.01 |
| | #3 | LF-11 | 2.81 | -1.53 | -1.18 |
| | #3 | LF-14 | 0.13 | 0.25 | 0.14 |
| | #3 | LF-15 | -0.06 | -0.15 | -0.16 |
| | #3 | LF-16 | 0.00 | 0.01 | 0.01 |
| | #4 | LF-3 | 2.51 | 3.00 | 2.36 |
| | #4 | LF-4 | -2.06 | -1.70 | -2.35 |
| | #4 | LF-5 | 2.09 | 3.15 | 3.22 |
| | #4 | LF-6 | -0.11 | -0.38 | -0.14 |
| | #4 | LF-7 | 0.02 | 0.08 | 0.06 |
| | #1 | LF-21 | -0.01 | 0.01 | 0.00 |
| | #2 | LF-21 | 0.00 | -0.01 | 0.00 |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

W-0.38
Gk

Ö-

Qk.N_E1

| Lastfall | | Lasten (10 Abschnitte je 1.00m) | | | | | | | [kN/m] | |
|----------|---------------|---------------------------------|-------|-------|-------|-------|-------|-------|--------|--|
| Qk.N_T2 | #1 LF-1 (g) | | | | | | | | | |
| | | 54.77 | 21.16 | 21.62 | 30.63 | 33.94 | 34.35 | 34.37 | | |
| | | 33.35 | 29.45 | 19.33 | | | | | | |
| | #2 LF-1 | 24.39 | 23.60 | 24.32 | 28.40 | 30.98 | 31.59 | 31.82 | | |
| | | 31.34 | 28.14 | 22.57 | | | | | | |
| | #3 LF-1 | 18.28 | 23.02 | 24.73 | 27.25 | 29.33 | 30.47 | 31.21 | | |
| | | 30.75 | 25.87 | 15.15 | | | | | | |
| | #4 LF-1 | 50.10 | 54.30 | 32.67 | 47.11 | 53.02 | 57.66 | 57.86 | | |
| | | 54.31 | 49.54 | 27.86 | | | | | | |
| | #1 LF-2 (g) | | | | | | | | | |
| | | 8.29 | -0.43 | -0.44 | 3.27 | 4.59 | 4.74 | 4.74 | | |
| | | 4.29 | 2.43 | 0.31 | | | | | | |
| | #2 LF-2 | 0.58 | 0.29 | 0.64 | 2.49 | 3.60 | 3.86 | 3.94 | | |
| | | 3.63 | 2.49 | 2.02 | | | | | | |
| | #3 LF-2 | -0.96 | 0.18 | 0.60 | 1.52 | 2.22 | 2.56 | 2.76 | | |
| | | 2.70 | 2.10 | 1.09 | | | | | | |
| | #4 LF-2 | 7.68 | 9.05 | 4.19 | 6.54 | 7.49 | 8.36 | 9.23 | | |
| | | 9.63 | 8.88 | 4.41 | | | | | | |
| Qk.N_E1 | #1 LF-3 | 0.01 | -0.03 | -0.11 | 0.11 | 0.17 | 0.12 | 0.08 | | |
| | | 0.05 | 0.01 | -0.02 | | | | | | |
| | #1 LF-4 | 0.02 | -0.44 | -0.62 | 5.52 | 7.34 | 7.44 | 7.41 | | |
| | | 7.00 | 4.47 | 0.83 | | | | | | |
| | #1 LF-6 | -8.01 | 0.35 | -0.23 | -0.04 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | 0.00 | | | | | | |
| | #1 LF-7 | 2.75 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | 0.00 | | | | | | |
| | #1 LF-8 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | 0.00 | | | | | | |
| | #1 LF-9 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | 0.00 | | | | | | |
| | #1 LF-10 | 0.02 | -0.32 | -1.46 | 1.41 | 2.65 | 2.88 | 2.96 | | |
| | | 2.67 | 1.00 | -1.76 | | | | | | |
| | #1 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | -0.01 | | |
| | | 0.32 | 3.13 | -12.3 | | | | | | |
| | #1 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | 0.00 | | | | | | |
| | #1 LF-13 | -0.12 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | 0.00 | | | | | | |
| | #1 LF-14 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | 0.01 | | | | | | |
| | #1 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | -0.01 | | |
| | | -0.54 | -3.40 | 12.75 | | | | | | |
| | #1 LF-16 | 0.43 | -0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | | 0.00 | 0.00 | 0.00 | | | | | | |
| | #1 LF-17 | 17.19 | -0.94 | 0.56 | 0.09 | -0.01 | -0.01 | 0.00 | | |
| | | 0.00 | 0.00 | 0.00 | | | | | | |
| | #1 LF-18 | 0.01 | 0.10 | 0.44 | -0.45 | -0.80 | -0.81 | -0.79 | | |
| | | -0.74 | -0.35 | 0.32 | | | | | | |
| | #1 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

Qk . N_DA

| Lastfall | Lasten (10 Abschnitte je 1.00m) | | | [kN/m] | | | |
|------------|---------------------------------|-------|-------|--------|-------|-------|-------|
| | -0.02 | -0.13 | 1.38 | | | | |
| #1 LF-23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | 0.16 | 1.26 | -4.85 | | | | |
| #2 LF-3 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 |
| | 0.17 | 0.87 | 1.35 | | | | |
| #2 LF-4 | 0.00 | 0.00 | -0.01 | 0.00 | 0.01 | 0.04 | 0.09 |
| | 0.12 | 0.12 | 0.25 | | | | |
| #2 LF-5 | 0.02 | -0.05 | -0.05 | 0.12 | 0.33 | 0.48 | 0.62 |
| | 0.60 | 0.31 | 0.33 | | | | |
| #2 LF-6 | 0.00 | 0.00 | 0.02 | 0.01 | -0.04 | -0.16 | -0.29 |
| | -0.29 | -0.15 | -0.16 | | | | |
| #2 LF-7 | 1.46 | 0.92 | -0.03 | -0.02 | -0.01 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #2 LF-8 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #2 LF-10 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #2 LF-11 | -0.20 | 0.13 | 0.00 | 0.00 | -0.01 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #2 LF-12 | 0.02 | 0.00 | 0.00 | 0.01 | 0.03 | 0.02 | 0.02 |
| | 0.01 | 0.00 | 0.00 | | | | |
| #2 LF-13 | 0.04 | 0.01 | 0.02 | -0.02 | -0.01 | 0.01 | 0.01 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #2 LF-14 | -0.05 | -0.34 | 0.98 | 4.77 | 6.77 | 7.11 | 7.16 |
| | 6.66 | 4.54 | 2.32 | | | | |
| #2 LF-15 | -0.60 | -0.60 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #2 LF-16 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #2 LF-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.08 | 0.36 | 0.67 | | | | |
| #2 LF-18 | -0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.01 |
| | -0.31 | -1.06 | -0.63 | | | | |
| #2 LF-19 | 0.03 | -0.02 | -0.01 | 0.04 | 0.12 | 0.19 | 0.24 |
| | 0.24 | 0.13 | 0.13 | | | | |
| #2 LF-22 | 0.01 | 0.08 | 0.00 | -0.01 | -0.01 | -0.01 | -0.01 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #3 LF-17 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #3 LF-18 | -0.01 | 0.02 | 0.00 | -0.03 | -0.03 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #3 LF-19 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.03 | -0.01 |
| | 0.06 | 0.06 | -0.04 | | | | |
| #3 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | -0.03 | -0.08 | -0.02 | | | | |
| #3 LF-21 | 0.00 | 0.00 | -0.06 | -0.05 | -0.08 | -0.09 | -0.07 |
| | -0.03 | 0.00 | 0.00 | | | | |
| #3 LF-22 | -0.07 | -0.31 | 1.24 | 4.28 | 6.19 | 6.99 | 7.41 |
| | 7.13 | 5.29 | 2.18 | | | | |
| #3 LF-23 | 0.00 | 0.00 | 0.01 | -0.02 | -0.05 | -0.10 | -0.16 |
| | -0.17 | -0.14 | -0.12 | | | | |
| #4 LF-8 | 3.13 | 4.72 | 2.18 | -0.49 | -0.77 | -0.26 | -0.07 |
| | -0.03 | 0.03 | 0.05 | | | | |
| #3 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | 0.02 |
| | 0.43 | 1.08 | 0.36 | | | | |
| #3 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | -0.02 | -0.03 | -0.06 | | | | |
| #3 LF-5 | 0.02 | -0.08 | -0.01 | 0.22 | 0.52 | 0.72 | 0.89 |
| | 0.93 | 0.75 | 0.44 | | | | |
| #3 LF-6 | -2.68 | 0.67 | 0.16 | -0.01 | -0.03 | -0.03 | -0.02 |
| | -0.01 | 0.00 | -0.01 | | | | |
| #3 LF-7 | -0.03 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #3 LF-8 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | | | | |
| #3 LF-10 | -0.57 | -0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.04 | 0.01 | -0.32 | | | | |

| Lastfall | Lasten (10 Abschnitte je 1.00m) | | | | | | | [kN/m] |
|------------|---------------------------------|-------|-------|-------|-------|-------|-------|--------|
| #3 LF-11 | 0.67 | -0.53 | -0.05 | 0.02 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #3 LF-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | -0.02 | |
| | -0.49 | -1.03 | 0.34 | | | | | |
| #3 LF-13 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #3 LF-14 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #3 LF-15 | 0.00 | 0.01 | 0.00 | -0.04 | -0.07 | -0.07 | -0.03 | |
| | -0.01 | 0.00 | 0.00 | | | | | |
| #3 LF-16 | 0.00 | 0.00 | 0.01 | 0.00 | -0.02 | -0.06 | -0.11 | |
| | -0.12 | -0.08 | -0.05 | | | | | |
| #4 LF-3 | 2.06 | 2.29 | 1.03 | -0.09 | -0.25 | -0.09 | -0.03 | |
| | -0.01 | 0.01 | 0.01 | | | | | |
| #4 LF-4 | 13.46 | 16.17 | 6.49 | 10.49 | 11.57 | 12.20 | 12.57 | |
| | 12.55 | 12.72 | 7.34 | | | | | |
| #4 LF-5 | -0.15 | -0.08 | 0.79 | 1.31 | 0.90 | 0.19 | -0.05 | |
| | -0.03 | -0.01 | 0.00 | | | | | |
| #4 LF-6 | -0.05 | -0.19 | 0.22 | 1.69 | 2.81 | 2.59 | 1.10 | |
| | -0.01 | -0.17 | -0.04 | | | | | |
| #4 LF-7 | 0.05 | -0.08 | -0.14 | -0.33 | -0.04 | 1.83 | 4.86 | |
| | 6.77 | 5.21 | 1.50 | | | | | |
| #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | -0.02 | -0.15 | 0.64 | | | | | |
| #1 LF-21 | 0.32 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| #2 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | -0.01 | -0.03 | -0.22 | | | | | |
| #2 LF-21 | -0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0.00 | 0.00 | 0.00 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.39_1
Gk

Ö←

Qk.N_E1

| Lastfall | Lasten (4 Abschnitte je 0.75m) | | | | [kN/m] |
|---------------|--------------------------------|-------|-------|-------|--------|
| #1 LF-1 (g) | 17.87 | 11.12 | 1.40 | -3.09 | |
| #2 LF-1 | 16.54 | 19.27 | 21.72 | 21.69 | |
| #3 LF-1 | 15.97 | 16.59 | 15.59 | 14.16 | |
| #4 LF-1 | 8.43 | 10.20 | 10.54 | 9.53 | |
| #1 LF-2 (g) | -0.22 | -2.93 | -6.53 | -6.61 | |
| #2 LF-2 | -0.07 | -0.82 | -0.04 | 1.21 | |
| #3 LF-2 | -0.09 | -0.73 | -0.41 | 0.36 | |
| #4 LF-2 | 0.78 | 0.89 | 0.74 | 0.49 | |
| #1 LF-3 | -0.27 | -0.23 | -0.24 | -0.30 | |
| #1 LF-4 | 9.79 | 7.34 | 2.90 | -0.54 | |
| #1 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | |
| #1 LF-10 | -18.6 | -20.9 | -27.0 | -45.8 | |
| #1 LF-11 | 0.39 | 0.83 | 0.83 | -0.90 | |
| #1 LF-12 | 0.01 | 0.00 | 0.00 | 0.01 | |
| #1 LF-15 | -0.99 | -2.23 | -1.48 | 8.84 | |
| #1 LF-17 | 0.01 | 0.01 | 0.01 | 0.01 | |
| #1 LF-18 | 7.70 | 7.77 | 9.87 | 20.70 | |
| #1 LF-19 | -0.02 | -0.03 | -0.03 | 0.01 | |
| #1 LF-23 | 0.21 | 0.49 | 0.48 | -0.92 | |
| #2 LF-3 | 0.21 | 0.42 | 0.49 | 0.14 | |
| #2 LF-4 | -1.00 | -0.98 | -0.36 | 0.31 | |
| #2 LF-5 | -6.91 | -7.98 | -4.85 | -1.23 | |
| #2 LF-6 | 5.83 | 6.66 | 4.62 | 2.14 | |
| #2 LF-7 | 0.01 | 0.01 | 0.01 | 0.00 | |
| #2 LF-11 | 0.01 | 0.01 | 0.01 | 0.00 | |
| #2 LF-12 | -0.10 | -0.12 | -0.08 | -0.03 | |
| #2 LF-13 | 0.02 | 0.01 | 0.00 | 0.00 | |
| #2 LF-14 | 6.49 | 6.65 | 4.63 | 2.52 | |
| #2 LF-17 | 0.12 | 0.24 | 0.25 | 0.01 | |
| #2 LF-18 | -1.13 | -2.04 | -1.74 | -0.33 | |
| #2 LF-19 | -2.87 | -3.42 | -2.19 | -0.64 | |
| #2 LF-22 | 0.05 | 0.07 | 0.04 | 0.01 | |
| #3 LF-18 | 0.01 | 0.01 | 0.00 | 0.00 | |

| | Lastfall | Lasten (4 Abschnitte je 0.75m) | | | | [kN/m] |
|----------------|---|--------------------------------|-------|-------|-------|--------|
| Qk . N_DA | #3 LF-19 | 3.00 | 4.16 | 3.41 | 1.77 | |
| | #3 LF-20 | -0.18 | -0.24 | -0.06 | 0.19 | |
| | #3 LF-21 | -0.18 | -0.14 | -0.05 | 0.00 | |
| | #3 LF-22 | 7.02 | 7.46 | 5.35 | 3.00 | |
| | #3 LF-23 | 3.99 | 4.62 | 3.48 | 1.93 | |
| | #4 LF-8 | 0.04 | 0.02 | 0.00 | 0.00 | |
| | #3 LF-3 | 0.38 | 0.62 | 0.51 | -0.04 | |
| | #3 LF-4 | -0.01 | -0.03 | -0.07 | -0.12 | |
| | #3 LF-5 | -7.59 | -9.58 | -7.41 | -3.86 | |
| | #3 LF-6 | 0.05 | 0.07 | 0.06 | 0.02 | |
| Qk . N_T2 | #3 LF-10 | 0.03 | 0.04 | 0.04 | 0.02 | |
| | #3 LF-12 | -1.28 | -1.70 | -0.57 | 1.12 | |
| | #3 LF-14 | 0.01 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-15 | -0.11 | -0.08 | -0.02 | 0.00 | |
| | #3 LF-16 | 1.27 | 1.40 | 0.93 | 0.38 | |
| | #4 LF-3 | 0.01 | 0.01 | 0.00 | 0.00 | |
| | #4 LF-4 | -1.19 | -1.01 | -1.00 | -1.13 | |
| | #4 LF-5 | -0.05 | -0.03 | -0.01 | 0.00 | |
| | #4 LF-6 | 0.23 | 0.08 | -0.03 | -0.05 | |
| | #4 LF-7 | 2.56 | 2.74 | 2.53 | 2.16 | |
| W-0.39_2 Gk | #1 LF-20 | 0.04 | 0.05 | 0.00 | -0.31 | |
| | #2 LF-20 | -0.02 | -0.07 | -0.13 | -0.25 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
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| Qk . N_E1 | | | | | | |
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| Qk . N_DA | | | | | | |
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| | Lastfall | Lasten (3 Abschnitte je 0.24m) | | | [kN/m] |
|---------|---|--------------------------------|-------|-------|--------|
| Qk.N_T2 | #3 LF-15 | 0.15 | 0.11 | 0.08 | |
| | #3 LF-16 | -0.08 | -0.05 | -0.02 | |
| | #4 LF-3 | -0.03 | -0.02 | -0.01 | |
| | #4 LF-4 | -3.47 | -3.53 | -3.32 | |
| | #4 LF-5 | 0.26 | 0.19 | 0.14 | |
| | #4 LF-6 | 2.23 | 2.18 | 2.01 | |
| | #4 LF-7 | 3.25 | 3.44 | 3.34 | |
| | #1 LF-20 | 0.01 | 0.01 | 0.01 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.24m) | | | [kN/m] |
|-----------------------|---|--------------------------------|-------|-------|--------|
| W-0.39_3 Gk | #1 LF-1 (g) | 20.19 | 21.17 | 22.10 | |
| | #2 LF-1 | 17.39 | 17.77 | 17.42 | |
| | #3 LF-1 | 13.52 | 13.87 | 13.64 | |
| | #4 LF-1 | 18.78 | 19.37 | 18.75 | |
| Ö← | #1 LF-2 (g) | 0.61 | 0.99 | 1.36 | |
| | #2 LF-2 | 2.68 | 2.77 | 2.79 | |
| | #3 LF-2 | 1.78 | 1.86 | 1.87 | |
| | #4 LF-2 | 1.11 | 1.15 | 1.13 | |
| Qk.N_E1 | #1 LF-3 | -1.16 | -1.04 | -0.90 | |
| | #1 LF-4 | 9.02 | 9.49 | 9.98 | |
| | #1 LF-9 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-10 | -16.6 | -16.2 | -15.9 | |
| | #1 LF-11 | -0.01 | -0.01 | -0.01 | |
| | #1 LF-12 | 0.02 | 0.02 | 0.02 | |
| | #1 LF-15 | 0.01 | 0.01 | 0.01 | |
| | #1 LF-17 | 0.01 | 0.00 | -0.01 | |
| | #1 LF-18 | 8.34 | 8.15 | 7.98 | |
| | #2 LF-4 | 0.02 | 0.03 | 0.04 | |
| | #2 LF-5 | -1.96 | -2.06 | -1.93 | |
| | #2 LF-6 | -0.28 | -0.31 | -0.34 | |
| | #2 LF-7 | 0.01 | 0.01 | 0.01 | |
| | #2 LF-11 | 0.06 | 0.05 | 0.05 | |
| | #2 LF-12 | -0.17 | -0.19 | -0.19 | |
| | #2 LF-13 | -0.50 | -0.52 | -0.49 | |
| | #2 LF-14 | 8.88 | 9.27 | 9.12 | |
| | #2 LF-15 | 0.15 | 0.14 | 0.12 | |
| | #2 LF-18 | 0.01 | 0.01 | 0.02 | |
| | #2 LF-19 | -0.77 | -0.82 | -0.78 | |
| | #2 LF-22 | 0.08 | 0.09 | 0.10 | |
| | #3 LF-18 | -0.26 | -0.29 | -0.30 | |
| | #3 LF-19 | -0.02 | -0.02 | -0.03 | |
| | #3 LF-21 | 2.90 | 3.00 | 2.90 | |
| | #3 LF-22 | 5.42 | 5.65 | 5.56 | |
| | #3 LF-23 | -0.19 | -0.20 | -0.19 | |
| | #4 LF-8 | -0.53 | -0.58 | -0.58 | |
| Qk.N_DA | #3 LF-5 | -2.56 | -2.63 | -2.43 | |
| | #3 LF-6 | 0.33 | 0.34 | 0.33 | |
| | #3 LF-11 | 0.17 | 0.17 | 0.16 | |
| | #3 LF-12 | 0.01 | 0.01 | 0.02 | |
| | #3 LF-14 | -0.12 | -0.12 | -0.12 | |
| | #3 LF-15 | 0.68 | 0.70 | 0.68 | |
| | #3 LF-16 | -0.14 | -0.15 | -0.15 | |
| | #4 LF-3 | -0.15 | -0.17 | -0.18 | |
| | #4 LF-4 | -2.60 | -2.72 | -2.71 | |
| | #4 LF-5 | 1.86 | 1.87 | 1.74 | |
| | #4 LF-6 | 3.10 | 3.24 | 3.18 | |
| | #4 LF-7 | 0.00 | 0.08 | 0.24 | |
| Qk.N_T2 | #1 LF-20 | 0.00 | 0.00 | 0.01 | |
| | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.08m) | | | [kN/m] |
|-----------------------|-------------|--------------------------------|-------|-------|--------|
| W-0.39_4 Gk | #1 LF-1 (g) | -10.5 | -9.10 | -7.73 | |
| | #2 LF-1 | 23.88 | 23.25 | 22.61 | |
| | #3 LF-1 | 18.53 | 18.01 | 17.49 | |
| | #4 LF-1 | 13.16 | 12.87 | 12.58 | |
| Ö← | #1 LF-2 (g) | -10.5 | -10.0 | -9.52 | |

| | | Lasten (3 Abschnitte je 0.08m) | | | | [kN/m] | |
|---|---------------|---------------------------------|-------|-------|-------|--------|-------|
| Qk . N_E1 | #2 LF-2 | 3.19 | 3.12 | 3.05 | | | |
| | #3 LF-2 | 1.36 | 1.34 | 1.33 | | | |
| | #4 LF-2 | 1.07 | 1.04 | 1.00 | | | |
| | #1 LF-3 | -5.40 | -5.17 | -4.94 | | | |
| | #1 LF-4 | -0.61 | -0.29 | 0.04 | | | |
| | #1 LF-6 | -0.02 | -0.02 | -0.02 | | | |
| | #1 LF-7 | -0.09 | -0.08 | -0.08 | | | |
| | #1 LF-9 | 0.07 | 0.07 | 0.06 | | | |
| | #1 LF-10 | -38.5 | -37.3 | -36.1 | | | |
| | #1 LF-12 | 0.07 | 0.07 | 0.06 | | | |
| | #1 LF-15 | 0.01 | 0.01 | 0.01 | | | |
| | #1 LF-17 | 1.00 | 0.93 | 0.86 | | | |
| | #1 LF-18 | 17.88 | 17.32 | 16.77 | | | |
| | #2 LF-4 | 0.01 | 0.01 | 0.01 | | | |
| | #2 LF-5 | 2.07 | 1.97 | 1.86 | | | |
| | #2 LF-7 | 0.02 | 0.02 | 0.01 | | | |
| | #2 LF-11 | -0.04 | -0.03 | -0.03 | | | |
| | #2 LF-12 | 0.23 | 0.22 | 0.21 | | | |
| Qk . N_DA | #2 LF-13 | 1.26 | 1.18 | 1.09 | | | |
| | #2 LF-14 | 1.64 | 1.74 | 1.84 | | | |
| | #2 LF-15 | -0.05 | -0.03 | -0.02 | | | |
| | #2 LF-19 | 1.19 | 1.14 | 1.08 | | | |
| | #2 LF-22 | -0.44 | -0.42 | -0.40 | | | |
| | #3 LF-18 | 1.23 | 1.16 | 1.09 | | | |
| | #3 LF-21 | 0.69 | 0.72 | 0.75 | | | |
| | #3 LF-22 | 1.56 | 1.60 | 1.64 | | | |
| | #3 LF-23 | -0.01 | -0.01 | -0.01 | | | |
| | #4 LF-8 | 1.78 | 1.67 | 1.57 | | | |
| | #3 LF-5 | 0.90 | 0.81 | 0.72 | | | |
| | #3 LF-6 | -0.60 | -0.55 | -0.50 | | | |
| | #3 LF-11 | -0.27 | -0.25 | -0.22 | | | |
| | #3 LF-14 | 0.13 | 0.12 | 0.11 | | | |
| | #3 LF-15 | 0.04 | 0.05 | 0.06 | | | |
| | #3 LF-16 | -0.01 | -0.01 | -0.01 | | | |
| | #4 LF-3 | 1.05 | 0.99 | 0.94 | | | |
| | #4 LF-4 | -1.35 | -1.34 | -1.34 | | | |
| | #4 LF-5 | 2.14 | 2.09 | 2.03 | | | |
| | #4 LF-6 | 0.39 | 0.43 | 0.47 | | | |
| | #4 LF-7 | -0.09 | -0.09 | -0.10 | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | |
| | | Lasten (9 Abschnitte je 0.094m) | | | | [kN/m] | |
| W-0.40 Gk | #1 LF-1 (g) | 20.05 | 36.96 | 57.50 | 76.53 | 61.04 | 45.57 |
| | | 43.90 | 5.07 | | | | 46.70 |
| | #2 LF-1 | 11.39 | 34.54 | 59.60 | 70.58 | 59.05 | 48.01 |
| | | 37.74 | 6.60 | | | | 46.82 |
| | #3 LF-1 | 18.52 | 31.30 | 42.61 | 51.86 | 58.96 | 62.55 |
| | | 51.11 | 36.27 | | | | 60.44 |
| | #4 LF-1 | 0.05 | -0.26 | -0.12 | 0.00 | 0.03 | 0.01 |
| | | 0.00 | 0.01 | | | | 0.00 |
| | #1 LF-2 (g) | -1.18 | 4.59 | 12.17 | 18.76 | 13.30 | 8.17 |
| | | 7.43 | -4.31 | | | | 8.54 |
| | #2 LF-2 | -2.56 | 4.67 | 13.56 | 17.20 | 12.93 | 9.10 |
| | | 5.43 | -5.44 | | | | 8.70 |
| | #3 LF-2 | -0.66 | 2.56 | 6.37 | 9.46 | 11.71 | 12.76 |
| | | 9.74 | 7.57 | | | | 12.01 |
| | #4 LF-2 | -0.04 | 0.03 | 0.03 | 0.02 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | 0.00 |
| | #1 LF-4 | 0.03 | 0.07 | 0.02 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | 0.00 |
| Qk . N_E1 | #1 LF-10 | -7.06 | -6.13 | -8.75 | -12.2 | -6.15 | 0.90 |
| | | 0.18 | -0.55 | | | | 0.53 |
| | #1 LF-11 | -1.90 | 3.51 | 10.81 | 16.59 | 8.79 | 5.37 |
| | | 5.31 | -13.3 | | | | 6.30 |
| | #1 LF-15 | -1.05 | -3.87 | -1.95 | -0.97 | -0.24 | -0.08 |
| | | | | | | | -0.10 |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|------------|--------------------------------|-------|-------|-------|-------|-------|--------|
| | -0.08 | 0.31 | | | | | |
| #1 LF-18 | 0.27 | -1.07 | -0.44 | -0.08 | 0.02 | 0.01 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #1 LF-19 | -0.04 | -0.08 | -0.07 | -0.05 | -0.02 | -0.01 | -0.01 |
| | 0.00 | 0.02 | | | | | |
| #1 LF-23 | 3.20 | 11.69 | 17.45 | 20.24 | 14.41 | 12.10 | 12.64 |
| | 11.25 | -0.42 | | | | | |
| #2 LF-3 | -4.10 | 4.39 | 15.77 | 21.53 | 18.25 | 16.03 | 16.37 |
| | 10.11 | -10.8 | | | | | |
| #2 LF-4 | -9.03 | -7.87 | -6.93 | -6.15 | -2.61 | 0.17 | 0.36 |
| | 0.05 | -0.25 | | | | | |
| #2 LF-5 | -5.11 | -3.40 | -1.86 | -1.19 | -0.38 | 0.09 | 0.08 |
| | 0.01 | -0.06 | | | | | |
| #2 LF-6 | -0.10 | 0.02 | 0.05 | 0.02 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-12 | -0.01 | -0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-14 | -0.05 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #2 LF-17 | 2.18 | 7.13 | 8.28 | 5.43 | 2.01 | 0.74 | 0.67 |
| | 0.13 | -1.82 | | | | | |
| #2 LF-18 | 5.23 | -0.44 | -1.97 | -1.10 | -0.31 | -0.09 | -0.09 |
| | -0.01 | 0.25 | | | | | |
| #2 LF-19 | -1.74 | -1.07 | -0.55 | -0.35 | -0.11 | 0.03 | 0.02 |
| | 0.00 | -0.02 | | | | | |
| #2 LF-22 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-17 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | -0.01 | | | | | |
| #3 LF-19 | -0.04 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-20 | 0.51 | 0.04 | -0.14 | -0.08 | -0.01 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-22 | -0.14 | -0.03 | 0.04 | 0.03 | 0.01 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| #3 LF-23 | -0.05 | 0.01 | 0.03 | 0.02 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | | | | | |
| Qk . N_DA | #3 LF-3 | -0.17 | 7.14 | 14.57 | 19.86 | 23.30 | 22.13 |
| | | 13.48 | -0.43 | | | | |
| | #3 LF-4 | 4.43 | 6.16 | 6.64 | 6.93 | 7.18 | 7.46 |
| | | 7.95 | 6.62 | | | | |
| | #3 LF-5 | -9.31 | -8.26 | -6.86 | -6.57 | -6.28 | -5.57 |
| | | -4.35 | -2.68 | | | | |
| | #3 LF-6 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | |
| | #3 LF-10 | 0.06 | 0.01 | -0.11 | -0.16 | -0.15 | -0.13 |
| | | -0.03 | 0.11 | | | | |
| | #3 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | |
| | #3 LF-12 | 4.06 | 0.28 | -1.44 | -1.09 | -0.52 | -0.28 |
| | | -0.05 | 0.14 | | | | |
| | #3 LF-13 | 0.01 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 |
| | | 0.00 | 0.01 | | | | |
| | #3 LF-16 | -0.04 | 0.01 | 0.02 | 0.02 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | |
| | #4 LF-4 | -0.13 | 0.13 | 0.12 | 0.04 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | |
| | #4 LF-7 | 0.05 | -0.08 | -0.05 | -0.01 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | |
| Qk . N_T2 | #1 LF-20 | 4.92 | 8.03 | 10.66 | 17.47 | 11.77 | -0.51 |
| | | -0.18 | 0.49 | | | | -0.65 |
| | #1 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | |

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|----------|--------------------------------|------|-------|-------|------|------|-------|--------|
| #2 LF-20 | 6.63 | 9.59 | 13.20 | 15.38 | 8.70 | 1.14 | -0.05 | |
| | 0.50 | 0.86 | | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.41

Gk

| Lastfall | Lasten (3 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|-------------|--------------------------------|--|--|--|-------|-------|-------|--------|
| #1 LF-1 (g) | | | | | 25.15 | 22.38 | 71.04 | |
| #2 LF-1 | | | | | -2.83 | 24.79 | 168.3 | |
| #3 LF-1 | | | | | -3.64 | 32.43 | 220.3 | |
| #4 LF-1 | | | | | 0.00 | -0.02 | 0.09 | |

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|-------------|--|--|--|--|-------|------|-------|--|
| #1 LF-2 (g) | | | | | 1.59 | 0.77 | 15.38 | |
| #2 LF-2 | | | | | -0.42 | 3.43 | 23.53 | |
| #3 LF-2 | | | | | -0.52 | 4.53 | 30.80 | |
| #4 LF-2 | | | | | 0.00 | 0.00 | 0.02 | |

Qk.N_E1

| | | | | | | | | |
|----------|--|--|--|--|-------|-------|-------|--|
| #1 LF-5 | | | | | 0.09 | 0.11 | 0.12 | |
| #1 LF-6 | | | | | 0.18 | 0.76 | -5.62 | |
| #1 LF-7 | | | | | -0.03 | -0.12 | 0.87 | |
| #1 LF-8 | | | | | 0.00 | 0.00 | -0.01 | |
| #1 LF-10 | | | | | 0.00 | 0.00 | -0.01 | |
| #1 LF-11 | | | | | 0.02 | 0.01 | 0.01 | |
| #1 LF-13 | | | | | -0.05 | -0.06 | -0.04 | |
| #1 LF-14 | | | | | -3.51 | -2.80 | -3.34 | |
| #1 LF-15 | | | | | 0.01 | 0.00 | 0.00 | |
| #1 LF-16 | | | | | 5.89 | 5.08 | 17.27 | |
| #1 LF-17 | | | | | -0.49 | -2.06 | 15.11 | |
| #1 LF-18 | | | | | 0.00 | 0.00 | 0.00 | |
| #2 LF-3 | | | | | -0.10 | 0.98 | 6.55 | |
| #2 LF-4 | | | | | 0.00 | 0.00 | 0.03 | |
| #2 LF-5 | | | | | 0.00 | 0.00 | 0.01 | |
| #2 LF-7 | | | | | 0.21 | -2.00 | -13.5 | |
| #2 LF-8 | | | | | 0.01 | -0.04 | -0.35 | |
| #2 LF-9 | | | | | 0.00 | 0.03 | 0.17 | |
| #2 LF-10 | | | | | 0.10 | -1.72 | -11.6 | |
| #2 LF-11 | | | | | 0.01 | -0.08 | -0.48 | |
| #2 LF-15 | | | | | -0.53 | 4.93 | 33.85 | |
| #2 LF-16 | | | | | -0.47 | 4.33 | 29.18 | |
| #2 LF-17 | | | | | -0.02 | 0.16 | 1.08 | |
| #2 LF-18 | | | | | 0.14 | -1.35 | -9.02 | |
| #2 LF-19 | | | | | 0.00 | 0.00 | 0.00 | |
| #2 LF-22 | | | | | 0.00 | -0.02 | -0.14 | |
| #3 LF-17 | | | | | 0.05 | -1.18 | -7.81 | |
| #3 LF-3 | | | | | -0.12 | 1.18 | 7.88 | |
| #3 LF-4 | | | | | 0.00 | -0.01 | -0.04 | |
| #3 LF-5 | | | | | 0.00 | 0.01 | 0.07 | |
| #3 LF-6 | | | | | 0.18 | -1.79 | -12.0 | |
| #3 LF-7 | | | | | 0.00 | 0.02 | 0.07 | |
| #3 LF-8 | | | | | 0.01 | 0.00 | -0.05 | |
| #3 LF-9 | | | | | -0.01 | 0.01 | 0.10 | |
| #3 LF-10 | | | | | -0.48 | 4.67 | 31.46 | |
| #3 LF-11 | | | | | -0.42 | 3.97 | 27.11 | |
| #3 LF-12 | | | | | 0.07 | -0.64 | -4.26 | |
| #3 LF-13 | | | | | -0.28 | 2.42 | 16.36 | |
| #4 LF-4 | | | | | 0.00 | -0.01 | 0.05 | |
| #1 LF-21 | | | | | 0.01 | 0.01 | 0.01 | |
| #2 LF-20 | | | | | 0.00 | -0.01 | -0.04 | |
| #2 LF-21 | | | | | 0.00 | 0.08 | 0.35 | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.42

Gk

| Lastfall | Lasten (9 Abschnitte je 0.94m) | | | | | | | [kN/m] |
|-------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|
| #1 LF-1 (g) | | | | | | | | |
| | 13.60 | 42.75 | 46.89 | 48.50 | 47.82 | 44.34 | 37.24 | |
| | 24.71 | 5.53 | | | | | | |
| #2 LF-1 | 19.19 | 38.49 | 46.86 | 48.41 | 47.61 | 44.09 | 36.79 | |
| | 23.16 | 9.27 | | | | | | |
| #3 LF-1 | 40.83 | 44.63 | 48.69 | 50.71 | 50.22 | 47.09 | 40.22 | |
| | 27.75 | 18.15 | | | | | | |

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|-------------|-------|-------|-------|-------|-------|-------|-------|--|
| #1 LF-2 (g) | | | | | | | | |
| | 11.86 | 16.04 | 17.77 | 18.45 | 18.22 | 16.99 | 14.42 | |

| | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---------|----------|--------------------------------|-------|-------|-------|-------|-------|--------|
| Qk.N_E1 | Lastfall | 9.74 | 3.62 | | | | | |
| | #2 LF-2 | 12.80 | 15.62 | 17.75 | 18.50 | 18.33 | 17.22 | 14.74 |
| | | 9.63 | 3.80 | | | | | |
| | #3 LF-2 | 17.15 | 17.50 | 18.50 | 19.16 | 19.02 | 18.02 | 15.74 |
| | | 11.02 | 5.89 | | | | | |
| | #1 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-11 | -11.12 | 14.71 | 17.51 | 18.63 | 18.29 | 16.15 | 11.91 |
| | | 4.78 | -11.4 | | | | | |
| | #1 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #1 LF-14 | 0.41 | -0.08 | -0.11 | -0.19 | -0.35 | -0.71 | -1.52 |
| | | -3.32 | -2.84 | | | | | |
| | #1 LF-15 | -0.16 | 0.03 | 0.03 | 0.03 | 0.04 | 0.05 | 0.06 |
| | | 0.09 | 0.06 | | | | | |
| | #1 LF-16 | -0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.05 |
| | | 0.09 | 0.19 | | | | | |
| | #1 LF-23 | -0.05 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | -0.01 |
| | | -0.02 | -0.03 | | | | | |
| Qk.N_DA | #2 LF-3 | -4.15 | 10.70 | 16.68 | 17.39 | 16.27 | 12.66 | 6.29 |
| | | -1.38 | -8.56 | | | | | |
| | #2 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #2 LF-10 | 0.32 | 0.00 | -0.12 | -0.20 | -0.38 | -0.77 | -1.67 |
| | | -3.17 | -2.15 | | | | | |
| | #2 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-16 | -0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.03 | 0.05 |
| | | 0.12 | 0.20 | | | | | |
| | #2 LF-17 | -2.51 | 0.09 | 0.95 | 1.28 | 1.95 | 3.39 | 5.38 |
| | | 4.66 | 0.17 | | | | | |
| | #2 LF-18 | -0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.06 |
| | | 0.12 | 0.14 | | | | | |
| | #3 LF-17 | 0.15 | 0.00 | -0.08 | -0.14 | -0.26 | -0.52 | -1.08 |
| | | -2.29 | -3.02 | | | | | |
| | #3 LF-3 | -1.91 | 8.26 | 13.60 | 14.81 | 14.45 | 12.70 | 8.98 |
| | | 2.23 | -5.27 | | | | | |
| Qk.N_T2 | #3 LF-4 | -0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-5 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.04 | | | | | |
| | #3 LF-9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.01 | 0.03 | | | | | |
| | #3 LF-10 | 0.06 | 0.00 | -0.02 | -0.02 | -0.01 | 0.00 | 0.02 |
| | | 0.04 | 0.06 | | | | | |
| | #3 LF-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.01 | | | | | |
| | #3 LF-12 | 0.02 | 0.00 | -0.01 | -0.01 | -0.01 | 0.00 | 0.02 |
| | | 0.04 | 0.05 | | | | | |
| | #3 LF-13 | 0.07 | 0.00 | -0.04 | -0.06 | -0.12 | -0.25 | -0.58 |
| | | -1.00 | 0.23 | | | | | |
| | #1 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |

(g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand

W-0.43
Gk

| Lastfall | Lasten (3 Abschnitte je 0.50m) | [kN/m] | | |
|-------------|--------------------------------|--------|-------|-------|
| #1 LF-1 (g) | | 51.64 | 61.77 | 75.76 |

| | | Lastfall | Lasten (3 Abschnitte je 0.50m) | | [kN/m] | |
|-----------------|---------|---|--------------------------------|-------|--------|------|
| Ö← | #2 | LF-1 | 81.34 | 84.56 | 84.12 | |
| | #3 | LF-1 | 112.8 | 112.9 | 108.1 | |
| | #1 | LF-2 (g) | 24.51 | 27.01 | 31.62 | |
| Qk.N_E1 | #2 | LF-2 | 35.34 | 36.65 | 36.33 | |
| | #3 | LF-2 | 39.79 | 40.01 | 38.43 | |
| | #1 | LF-5 | 0.03 | 0.11 | 0.22 | |
| | #1 | LF-6 | 0.00 | 0.00 | -0.01 | |
| | #1 | LF-11 | -13.1 | -7.38 | -2.40 | |
| | #1 | LF-13 | -0.02 | -0.06 | -0.13 | |
| | #1 | LF-14 | 27.07 | 29.12 | 34.05 | |
| | #1 | LF-15 | -0.37 | -0.30 | -0.25 | |
| | #1 | LF-16 | -0.25 | -0.43 | -0.66 | |
| | #1 | LF-17 | 0.00 | 0.00 | 0.01 | |
| | #1 | LF-23 | -0.02 | -0.01 | 0.00 | |
| | #2 | LF-3 | -6.19 | -5.02 | -3.72 | |
| | #2 | LF-7 | -0.01 | -0.01 | -0.01 | |
| | #2 | LF-8 | -0.03 | -0.04 | -0.04 | |
| | #2 | LF-9 | 0.00 | 0.00 | 0.00 | |
| | #2 | LF-10 | 34.67 | 35.68 | 35.10 | |
| | Qk.N_DA | #2 | LF-15 | 0.02 | 0.02 | 0.03 |
| #2 | | LF-16 | -0.61 | -0.67 | -0.69 | |
| #2 | | LF-17 | -2.76 | -2.41 | -1.96 | |
| #2 | | LF-18 | -0.34 | -0.35 | -0.34 | |
| #3 | | LF-17 | 13.39 | 13.68 | 13.33 | |
| #3 | | LF-3 | -6.52 | -5.91 | -5.11 | |
| #3 | | LF-6 | 0.00 | 0.00 | 0.00 | |
| #3 | | LF-7 | -0.01 | -0.01 | -0.01 | |
| #3 | | LF-8 | 0.16 | 0.18 | 0.18 | |
| #3 | | LF-9 | -0.18 | -0.18 | -0.18 | |
| #3 | | LF-10 | -0.03 | -0.04 | -0.05 | |
| #3 | | LF-11 | 0.03 | 0.04 | 0.04 | |
| #3 | | LF-12 | -0.07 | -0.08 | -0.08 | |
| #3 | | LF-13 | 23.40 | 23.44 | 22.44 | |
| Qk.N_T2 | | #1 | LF-21 | 0.00 | 0.00 | 0.01 |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | |
| W-0.44_1 | | | | | | |
| Gk | | Lastfall | Lasten (3 Abschnitte je 0.83m) | | [kN/m] | |
| Ö← | #1 | LF-1 (g) | 156.6 | -2.57 | 16.74 | |
| | #2 | LF-1 | 125.2 | 41.90 | 9.35 | |
| | #3 | LF-1 | 106.9 | 51.65 | 19.51 | |
| Qk.N_E1 | #1 | LF-2 (g) | 47.89 | -8.28 | -1.24 | |
| | #2 | LF-2 | 37.87 | 6.70 | -3.39 | |
| | #3 | LF-2 | 24.34 | 7.60 | 0.15 | |
| | #1 | LF-10 | 0.03 | -0.03 | -0.02 | |
| | #1 | LF-11 | 67.44 | -41.6 | -28.4 | |
| | #1 | LF-14 | -1.91 | 11.80 | 16.55 | |
| | #1 | LF-15 | 24.57 | 11.14 | 6.79 | |
| | #1 | LF-16 | 0.30 | 0.04 | 1.16 | |
| | #1 | LF-19 | 0.02 | 0.03 | 0.01 | |
| | #1 | LF-23 | 0.35 | -0.31 | -0.20 | |
| | #2 | LF-3 | 32.70 | -10.3 | -18.9 | |
| | #2 | LF-4 | 0.01 | -0.01 | -0.01 | |
| | #2 | LF-5 | 0.00 | 0.00 | 0.00 | |
| | #2 | LF-7 | -0.04 | -0.06 | -0.05 | |
| | #2 | LF-10 | 0.54 | 9.23 | 11.16 | |
| | #2 | LF-11 | 0.00 | 0.00 | 0.00 | |
| | Qk.N_DA | #2 | LF-15 | 0.12 | 0.15 | 0.14 |
| #2 | | LF-16 | 0.13 | 0.20 | 0.36 | |
| #2 | | LF-17 | 23.09 | 0.71 | -6.62 | |
| #2 | | LF-18 | 12.17 | 11.12 | 7.02 | |
| #3 | | LF-17 | 5.90 | 13.98 | 15.15 | |
| #3 | | LF-3 | 37.41 | -3.25 | -17.3 | |
| #3 | | LF-4 | -0.01 | 0.01 | 0.01 | |
| #3 | | LF-5 | 0.02 | -0.01 | -0.02 | |
| #3 | | LF-6 | 0.01 | 0.00 | -0.01 | |
| #3 | | LF-8 | 0.00 | 0.00 | 0.00 | |
| #3 | | LF-10 | 0.34 | 0.71 | 0.59 | |

| | Lastfall | Lasten (3 Abschnitte je 0.83m) | | | [kN/m] |
|---|----------|--------------------------------|-------|-------|--------|
| Qk.N_T2 | #3 | LF-11 | 0.00 | 0.02 | 0.03 |
| | #3 | LF-12 | 2.34 | 1.74 | 0.84 |
| | #3 | LF-13 | 4.76 | 6.87 | 6.15 |
| | #1 | LF-20 | -0.02 | 0.03 | 0.02 |
| | #1 | LF-22 | 0.11 | 0.06 | 0.02 |
| | #2 | LF-20 | -0.01 | 0.01 | 0.02 |
| | #2 | LF-21 | 0.00 | 0.00 | 0.00 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-0.44_2 | | | | | |
| Gk | Lastfall | Lasten (3 Abschnitte je 0.91m) | | | [kN/m] |
| Ö← | #1 | LF-1 (g) | 58.83 | 61.27 | 62.04 |
| | #2 | LF-1 | 47.78 | 60.21 | 48.63 |
| | #3 | LF-1 | 49.86 | 63.56 | 50.64 |
| Qk.N_E1 | #1 | LF-2 (g) | 13.65 | 14.56 | 14.86 |
| | #2 | LF-2 | 11.10 | 14.31 | 11.78 |
| | #3 | LF-2 | 10.41 | 13.38 | 10.97 |
| | #1 | LF-5 | 0.00 | -0.01 | -0.02 |
| | #1 | LF-6 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-10 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-11 | -0.88 | -0.21 | -0.08 |
| | #1 | LF-13 | 0.00 | 0.00 | 0.01 |
| | #1 | LF-14 | 20.34 | 20.57 | 20.55 |
| | #1 | LF-15 | -1.13 | -0.62 | -0.18 |
| | #1 | LF-16 | 7.65 | 7.90 | 7.86 |
| | #1 | LF-17 | 0.00 | 0.01 | 0.01 |
| | #1 | LF-19 | -0.01 | 0.00 | 0.00 |
| | #1 | LF-23 | 0.02 | 0.01 | 0.00 |
| | #2 | LF-3 | -0.52 | -0.14 | 0.17 |
| | #2 | LF-7 | 0.03 | 0.04 | 0.04 |
| | #2 | LF-8 | 0.00 | 0.00 | 0.01 |
| | #2 | LF-9 | 0.00 | -0.01 | -0.01 |
| | #2 | LF-10 | 15.83 | 19.96 | 16.32 |
| | #2 | LF-15 | -0.07 | -0.11 | -0.10 |
| | Qk.N_DA | #2 | LF-16 | 6.39 | 7.91 |
| #2 | | LF-17 | -0.43 | -0.22 | -0.03 |
| #2 | | LF-18 | -0.28 | -0.44 | -0.47 |
| #3 | | LF-17 | 20.92 | 26.30 | 21.34 |
| #3 | | LF-3 | -0.94 | -0.36 | 0.17 |
| #3 | | LF-5 | 0.00 | 0.00 | 0.00 |
| #3 | | LF-6 | 0.03 | 0.04 | 0.04 |
| #3 | | LF-8 | 0.00 | 0.01 | 0.01 |
| #3 | | LF-9 | 0.00 | -0.01 | -0.01 |
| #3 | | LF-10 | -0.05 | -0.31 | -0.46 |
| #3 | | LF-11 | -0.07 | -0.11 | -0.10 |
| #3 | | LF-12 | -0.11 | -0.19 | -0.22 |
| Qk.N_T2 | | #3 | LF-13 | 7.84 | 9.89 |
| | #1 | LF-20 | 0.00 | 0.00 | 0.00 |
| | #1 | LF-22 | -0.03 | -0.01 | 0.00 |
| | #2 | LF-21 | 0.00 | 0.00 | 0.00 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-0.44_3 | | | | | |
| Gk | Lastfall | Lasten (3 Abschnitte je 0.13m) | | | [kN/m] |
| Ö← | #1 | LF-1 (g) | 60.75 | 60.66 | 60.56 |
| | #2 | LF-1 | 16.25 | 16.23 | 16.22 |
| | #3 | LF-1 | 15.42 | 15.40 | 15.37 |
| Qk.N_E1 | #1 | LF-2 (g) | 14.42 | 14.39 | 14.35 |
| | #2 | LF-2 | 4.02 | 4.01 | 4.01 |
| | #3 | LF-2 | 4.12 | 4.11 | 4.11 |
| | #1 | LF-5 | -0.15 | -0.16 | -0.17 |
| | #1 | LF-6 | 0.06 | 0.07 | 0.07 |
| | #1 | LF-7 | -0.01 | -0.01 | -0.01 |
| | #1 | LF-13 | 0.07 | 0.08 | 0.08 |
| | #1 | LF-14 | 19.86 | 19.82 | 19.78 |
| | #1 | LF-16 | 7.65 | 7.64 | 7.63 |
| | #1 | LF-17 | -0.17 | -0.19 | -0.21 |
| | #2 | LF-3 | 0.06 | 0.06 | 0.06 |
| | #2 | LF-7 | 0.08 | 0.08 | 0.08 |
| | | | | | |
| | | | | | |

| | Lastfall | Lasten (3 Abschnitte je 0.13m) | | | [kN/m] |
|---|----------|--------------------------------|-------|-------|--------|
| Qk.N_DA | #2 LF-8 | 0.01 | 0.01 | 0.01 | |
| | #2 LF-9 | -0.02 | -0.02 | -0.02 | |
| | #2 LF-10 | 5.65 | 5.66 | 5.66 | |
| | #2 LF-15 | -0.23 | -0.23 | -0.24 | |
| | #2 LF-16 | 2.06 | 2.06 | 2.06 | |
| | #2 LF-17 | 0.02 | 0.02 | 0.01 | |
| | #2 LF-18 | -0.07 | -0.06 | -0.06 | |
| | #3 LF-17 | 8.16 | 8.16 | 8.16 | |
| | #3 LF-3 | 0.10 | 0.10 | 0.09 | |
| | #3 LF-6 | 0.06 | 0.06 | 0.07 | |
| | #3 LF-8 | 0.02 | 0.02 | 0.02 | |
| | #3 LF-9 | -0.04 | -0.04 | -0.04 | |
| | #3 LF-10 | -0.30 | -0.30 | -0.30 | |
| | #3 LF-11 | -0.21 | -0.21 | -0.22 | |
| | #3 LF-12 | -0.05 | -0.05 | -0.04 | |
| | #3 LF-13 | 3.06 | 3.06 | 3.06 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

W-0.44_4
Gk

| | Lastfall | Lasten (3 Abschnitte je 0.86m) | | | [kN/m] |
|---|-------------|--------------------------------|-------|-------|--------|
| Gk | #1 LF-1 (g) | 51.82 | 50.15 | 63.19 | |
| | #2 LF-1 | 40.67 | 50.61 | 50.75 | |
| | #3 LF-1 | 43.56 | 56.82 | 57.66 | |
| | #4 LF-1 | -0.01 | -0.01 | 0.00 | |
| Ö | #1 LF-2 (g) | 11.25 | 10.50 | 14.90 | |
| | #2 LF-2 | 8.50 | 9.90 | 9.45 | |
| | #3 LF-2 | 8.12 | 9.19 | 7.89 | |
| | #4 LF-2 | 0.00 | 0.00 | 0.00 | |
| Qk.N_E1 | #1 LF-5 | -1.18 | -1.44 | 2.47 | |
| | #1 LF-6 | 0.31 | -0.15 | -1.33 | |
| | #1 LF-7 | -0.05 | 0.02 | 0.19 | |
| | #1 LF-8 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-10 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-11 | 0.02 | 0.02 | 0.03 | |
| | #1 LF-13 | 0.52 | 0.79 | -0.16 | |
| | #1 LF-14 | 14.73 | 8.28 | -2.81 | |
| | #1 LF-15 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-16 | 7.57 | 10.37 | 20.81 | |
| | #1 LF-17 | -0.73 | 1.06 | 5.69 | |
| | #2 LF-3 | 0.06 | 0.03 | -0.03 | |
| | #2 LF-7 | -0.05 | -0.38 | -0.87 | |
| | #2 LF-8 | 0.62 | 0.61 | -0.49 | |
| | #2 LF-9 | -0.36 | -0.42 | -0.19 | |
| | #2 LF-10 | 9.91 | 7.56 | 0.97 | |
| | #2 LF-11 | 0.00 | -0.01 | -0.02 | |
| Qk.N_DA | #2 LF-15 | -0.09 | 2.64 | 7.58 | |
| | #2 LF-16 | 6.55 | 8.13 | 6.77 | |
| | #2 LF-17 | 0.01 | 0.01 | 0.00 | |
| | #2 LF-18 | -0.07 | -0.02 | 0.06 | |
| | #2 LF-22 | 0.00 | 0.00 | 0.00 | |
| | #3 LF-17 | 14.23 | 13.00 | 7.50 | |
| | #3 LF-3 | 0.16 | 0.22 | 0.24 | |
| | #3 LF-6 | 0.08 | -0.03 | -0.34 | |
| | #3 LF-7 | -0.10 | -0.17 | -0.10 | |
| | #3 LF-8 | 0.24 | 0.06 | -0.50 | |
| Qk.N_T2 | #3 LF-9 | -0.38 | 0.02 | 1.08 | |
| | #3 LF-10 | 0.07 | 0.73 | 1.51 | |
| | #3 LF-11 | 0.53 | 2.54 | 4.86 | |
| | #3 LF-12 | -0.07 | -0.10 | -0.10 | |
| | #3 LF-13 | 6.25 | 6.55 | 4.31 | |
| | #4 LF-4 | 0.00 | 0.00 | 0.00 | |
| | #1 LF-21 | -0.08 | -0.24 | -0.36 | |
| | #2 LF-21 | -0.11 | -0.18 | -0.09 | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |

W-0.45
Gk

| Lastfall | Lasten (3 Abschnitte je 0.46m) | | | [kN/m] |
|-------------|--------------------------------|-------|-------|--------|
| #1 LF-1 (g) | 54.28 | 41.45 | 31.17 | |
| #2 LF-1 | 33.84 | 28.68 | 27.04 | |

| | Lastfall | Lasten (3 Abschnitte je 0.46m) | [kN/m] | | |
|---|----------|--------------------------------|--------------------------------|-------|--------|
| Ö← | #3 | LF-1 | 33.39 | 31.46 | 32.75 |
| | #1 | LF-2 (g) | 24.92 | 18.99 | 14.38 |
| | #2 | LF-2 | 14.60 | 12.04 | 10.97 |
| | #3 | LF-2 | 11.16 | 10.19 | 10.31 |
| Qk.N_E1 | #1 | LF-5 | -1.41 | 0.95 | 3.85 |
| | #1 | LF-6 | 0.06 | 0.01 | -0.05 |
| | #1 | LF-7 | -0.01 | 0.00 | 0.00 |
| | #1 | LF-11 | -0.09 | -0.03 | 0.01 |
| | #1 | LF-13 | 1.34 | 0.12 | -1.46 |
| | #1 | LF-14 | 16.05 | 6.62 | -1.60 |
| | #1 | LF-15 | 0.02 | 0.01 | 0.01 |
| | #1 | LF-16 | -0.10 | 0.13 | 0.34 |
| | #1 | LF-17 | -0.01 | 0.00 | 0.02 |
| | #2 | LF-3 | 0.17 | 0.08 | 0.02 |
| | #2 | LF-7 | 0.00 | -0.02 | -0.04 |
| | #2 | LF-8 | -0.11 | -0.44 | -0.80 |
| | #2 | LF-9 | 0.62 | 1.21 | 1.86 |
| | #2 | LF-10 | 10.89 | 6.92 | 4.12 |
| | #2 | LF-15 | -0.01 | 0.01 | 0.04 |
| | #2 | LF-16 | -0.19 | -0.06 | 0.05 |
| | #2 | LF-17 | 0.10 | 0.05 | 0.01 |
| | #2 | LF-18 | 0.02 | 0.01 | 0.01 |
| Qk.N_DA | #3 | LF-17 | 2.42 | 1.58 | 0.96 |
| | #3 | LF-3 | 0.26 | 0.18 | 0.12 |
| | #3 | LF-6 | -0.01 | -0.03 | -0.06 |
| | #3 | LF-7 | 0.01 | 0.03 | 0.04 |
| | #3 | LF-8 | -0.27 | -0.45 | -0.64 |
| | #3 | LF-9 | 0.53 | 0.91 | 1.35 |
| | #3 | LF-10 | 0.01 | 0.02 | 0.02 |
| | #3 | LF-11 | 0.00 | 0.02 | 0.03 |
| Qk.N_T2 | #3 | LF-13 | 5.57 | 4.66 | 4.20 |
| | #1 | LF-21 | -0.11 | -0.03 | 0.08 |
| | #2 | LF-21 | 0.00 | 0.02 | 0.05 |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | |
| W-0.46 | | | | | |
| Gk | Lastfall | | Lasten (3 Abschnitte je 0.50m) | | [kN/m] |
| | #1 | LF-1 (g) | 83.14 | 77.89 | 78.64 |
| | #2 | LF-1 | 54.12 | 68.83 | 85.97 |
| | #3 | LF-1 | 50.03 | 60.91 | 74.50 |
| Ö← | #1 | LF-2 (g) | 36.09 | 33.82 | 34.25 |
| | #2 | LF-2 | 23.70 | 30.29 | 37.92 |
| | #3 | LF-2 | 17.68 | 21.45 | 26.20 |
| Qk.N_E1 | #1 | LF-5 | -0.13 | -0.72 | -1.49 |
| | #1 | LF-6 | 0.00 | 0.02 | 0.04 |
| | #1 | LF-11 | 1.55 | 0.86 | 0.33 |
| | #1 | LF-13 | 0.05 | 0.39 | 0.83 |
| | #1 | LF-14 | 35.60 | 32.92 | 33.75 |
| | #1 | LF-15 | -0.03 | 0.00 | 0.02 |
| | #1 | LF-16 | -0.90 | -0.81 | -0.79 |
| | #1 | LF-17 | 0.00 | -0.01 | -0.02 |
| | #2 | LF-3 | 0.29 | 0.48 | 0.65 |
| | #2 | LF-7 | 0.02 | 0.03 | 0.04 |
| | #2 | LF-8 | 0.30 | 0.46 | 0.64 |
| | #2 | LF-9 | -0.28 | -0.44 | -0.62 |
| | #2 | LF-10 | 21.69 | 27.64 | 34.63 |
| | #2 | LF-15 | -0.01 | -0.03 | -0.05 |
| | #2 | LF-16 | -0.51 | -0.67 | -0.85 |
| | #2 | LF-17 | 0.06 | 0.19 | 0.31 |
| | #2 | LF-18 | -0.04 | -0.01 | 0.01 |
| | #3 | LF-17 | 5.34 | 6.21 | 7.43 |
| Qk.N_DA | #3 | LF-3 | -0.12 | 0.26 | 0.57 |
| | #3 | LF-6 | 0.01 | 0.02 | 0.02 |
| | #3 | LF-7 | -0.01 | -0.01 | -0.02 |
| | #3 | LF-8 | 0.13 | 0.17 | 0.21 |
| | #3 | LF-9 | -0.04 | -0.05 | -0.07 |
| | #3 | LF-10 | -0.01 | -0.01 | 0.00 |
| | #3 | LF-11 | 0.00 | -0.01 | -0.02 |

| | | Lastfall | Lasten (3 Abschnitte je 0.50m) | | [kN/m] |
|---------|--|---|--------------------------------|-------|--------|
| Qk.N_T2 | | #3 | LF-12 | -0.01 | 0.00 |
| | | | | 0.01 | |
| | | #3 | LF-13 | 9.37 | 11.19 |
| | | | | 13.58 | |
| | | #1 | LF-21 | 0.00 | -0.03 |
| Gk | | #2 | LF-21 | -0.02 | -0.04 |
| | | | | -0.05 | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| | | | | | |
| | | | | | |
| | | Lastfall | Lasten (3 Abschnitte je 0.46m) | | [kN/m] |
| Gk | | #1 | LF-1 (g) | 98.97 | 80.24 |
| | | | | 67.75 | |
| | | #2 | LF-1 | 29.40 | 55.03 |
| | | | | 85.43 | |
| | | #3 | LF-1 | 53.51 | 87.20 |
| Ö← | | | | 125.4 | |
| | | #4 | LF-1 | -0.09 | -0.14 |
| | | | | -0.20 | |
| | | #1 | LF-2 (g) | 43.40 | 34.23 |
| | | | | 27.95 | |
| | | #2 | LF-2 | 13.17 | 24.57 |
| | | | | 38.08 | |
| | | #3 | LF-2 | 18.71 | 30.48 |
| | | | | 43.82 | |
| | | #4 | LF-2 | -0.01 | -0.01 |
| Qk.N_E1 | | | | -0.02 | |
| | | #1 | LF-3 | 0.12 | 0.04 |
| | | | | -0.02 | |
| | | #1 | LF-4 | 0.07 | 0.05 |
| | | | | 0.03 | |
| | | #1 | LF-7 | 0.00 | 0.00 |
| | | | | 0.00 | |
| | | #1 | LF-10 | 48.18 | 36.33 |
| | | | | 28.42 | |
| | | #1 | LF-11 | -0.02 | -0.01 |
| | | | | -0.01 | |
| | | #1 | LF-17 | -0.01 | 0.00 |
| | | | | 0.00 | |
| | | #1 | LF-18 | -0.34 | -0.25 |
| | | | | -0.18 | |
| | | #1 | LF-23 | -0.01 | -0.01 |
| | | | | 0.00 | |
| | | #2 | LF-3 | -0.01 | 0.00 |
| | | | | 0.02 | |
| | | #2 | LF-4 | -2.39 | 0.01 |
| | | | | 3.49 | |
| | | #2 | LF-5 | 17.61 | 28.73 |
| | | | | 41.33 | |
| | | #2 | LF-6 | -0.03 | -0.04 |
| | | | | -0.06 | |
| | | #2 | LF-7 | 0.00 | 0.00 |
| | | | | 0.00 | |
| | | #2 | LF-11 | -0.01 | 0.00 |
| | | | | 0.00 | |
| | | #2 | LF-12 | 0.07 | 0.08 |
| | | | | 0.07 | |
| | | #2 | LF-13 | 0.00 | -0.01 |
| | | | | -0.01 | |
| | | #2 | LF-14 | -0.01 | -0.01 |
| | | | | -0.01 | |
| | | #2 | LF-15 | 0.00 | 0.00 |
| | | | | 0.00 | |
| | | #2 | LF-17 | 0.00 | 0.00 |
| | | | | 0.01 | |
| | | #2 | LF-18 | 0.00 | -0.01 |
| | | | | -0.01 | |
| | | #2 | LF-19 | 1.10 | 1.74 |
| | | | | 2.46 | |
| | | #2 | LF-22 | 0.04 | 0.06 |
| | | | | 0.09 | |
| | | #3 | LF-19 | 0.00 | 0.00 |
| | | | | 0.00 | |
| | | #3 | LF-21 | -0.01 | -0.01 |
| | | | | -0.01 | |
| | | #3 | LF-22 | 0.00 | 0.01 |
| Qk.N_DA | | | | 0.01 | |
| | | #3 | LF-23 | -0.01 | -0.02 |
| | | | | -0.03 | |
| | | #3 | LF-3 | 0.02 | 0.04 |
| | | | | 0.06 | |
| | | #3 | LF-4 | -0.02 | -0.04 |
| | | | | -0.05 | |
| | | #3 | LF-5 | 19.09 | 31.08 |
| | | | | 44.65 | |
| | | #3 | LF-6 | -0.19 | -0.32 |
| | | | | -0.48 | |
| | | #3 | LF-11 | 0.00 | -0.01 |
| | | | | -0.01 | |
| | | #3 | LF-12 | 0.00 | 0.00 |
| | | | | 0.00 | |
| | | #3 | LF-14 | 0.00 | 0.00 |
| | | | | 0.00 | |
| | | #3 | LF-15 | 0.00 | -0.01 |
| | | | | -0.01 | |
| | | #3 | LF-16 | -0.01 | -0.02 |
| | | | | -0.03 | |
| | | #4 | LF-4 | 0.00 | 0.00 |
| | | | | -0.01 | |
| | | #4 | LF-5 | 0.00 | 0.00 |
| | | | | 0.00 | |
| Qk.N_T2 | | #4 | LF-7 | -0.01 | -0.02 |
| | | | | -0.02 | |
| | | #1 | LF-20 | 0.03 | 0.02 |
| | | | | 0.01 | |
| | | #2 | LF-20 | 0.02 | 0.00 |
| | | | | -0.02 | |
| | | (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | Lastfall | Lasten (3 Abschnitte je 0.48m) | | [kN/m] |
| Gk | | #1 | LF-1 | 3.16 | 3.22 |
| | | | | 3.27 | |
| | | #2 | LF-1 | -0.57 | -0.61 |
| | | | | -1.03 | |
| | | #3 | LF-1 | -0.72 | -0.75 |
| Ö← | | | | -1.27 | |
| | | #1 | LF-2 | 1.75 | 1.77 |
| | | | | 1.80 | |
| | | #2 | LF-2 | -0.08 | -0.11 |
| | | | | -0.17 | |
| | | #3 | LF-2 | -0.09 | -0.11 |
| | | | | -0.19 | |
| | | #1 | LF-5 | 0.04 | 0.05 |
| | | | | 0.07 | |
| | | #1 | LF-6 | 0.00 | 0.00 |
| Qk.N_E1 | | | | 0.01 | |
| | | #1 | LF-11 | 0.09 | 0.07 |
| | | | | 0.05 | |
| | | | | | |
| | | | | | |

| Lastfall | | Lasten (3 Abschnitte je 0.48m) | | | | [kN/m] |
|--------------|------------|--------------------------------|--------------------------------|-------|-------|--------|
| Qk . N_DA | #1 LF-13 | | | -0.02 | -0.03 | -0.03 |
| | #1 LF-14 | | | -4.15 | -4.05 | -3.93 |
| | #1 LF-15 | | | 0.02 | 0.02 | 0.01 |
| | #1 LF-16 | | | 6.27 | 6.26 | 6.25 |
| | #1 LF-17 | | | 0.00 | -0.01 | -0.05 |
| | #2 LF-3 | | | 0.08 | 0.02 | -0.02 |
| | #2 LF-7 | | | 0.00 | 0.02 | 0.06 |
| | #2 LF-8 | | | 0.00 | 0.00 | 0.00 |
| | #2 LF-10 | | | 0.00 | -0.05 | -0.05 |
| | #2 LF-15 | | | 0.01 | -0.04 | -0.14 |
| | #2 LF-16 | | | -0.11 | -0.10 | -0.16 |
| | #2 LF-17 | | | 0.02 | 0.01 | 0.00 |
| | #2 LF-18 | | | -0.09 | -0.02 | 0.03 |
| Qk . N_T2 | #3 LF-17 | | | -0.01 | -0.07 | -0.06 |
| | #3 LF-3 | | | 0.10 | 0.03 | -0.02 |
| | #3 LF-6 | | | 0.00 | 0.01 | 0.05 |
| | #3 LF-8 | | | 0.00 | 0.00 | 0.00 |
| | #3 LF-10 | | | -0.10 | -0.07 | -0.14 |
| | #3 LF-11 | | | 0.00 | -0.03 | -0.11 |
| | #3 LF-12 | | | -0.05 | -0.01 | 0.01 |
| W-0.49 Gk | #3 LF-13 | | | -0.10 | -0.09 | -0.12 |
| | #1 LF-21 | | | 0.00 | 0.00 | 0.00 |
| Ö- | Lastfall | | Lasten (5 Abschnitte je 0.87m) | | | |
| | #1 LF-1 | | 3.17 | 3.32 | 3.03 | 0.64 |
| | #2 LF-1 | | -1.35 | 6.49 | 86.90 | 63.96 |
| | #3 LF-1 | | -1.88 | 8.70 | 118.4 | 87.94 |
| | #4 LF-1 | | 0.00 | 0.00 | -0.01 | -0.01 |
| Qk . N_E1 | #1 LF-2 | | 1.76 | 1.80 | 1.62 | 0.61 |
| | #2 LF-2 | | -0.06 | 0.45 | 4.99 | 3.27 |
| | #3 LF-2 | | -0.14 | 0.74 | 9.39 | 6.76 |
| | #1 LF-5 | | 0.03 | 0.01 | 0.01 | 0.00 |
| | #1 LF-6 | | 0.00 | 0.00 | 0.00 | 0.00 |
| | #1 LF-10 | | 0.00 | 0.00 | 0.00 | 0.02 |
| | #1 LF-11 | | 0.17 | 0.34 | 0.90 | 2.17 |
| | #1 LF-13 | | -0.01 | -0.01 | 0.00 | 0.00 |
| | #1 LF-14 | | -4.24 | -4.19 | -3.71 | -3.66 |
| | #1 LF-15 | | 0.02 | -0.08 | -1.06 | -3.68 |
| | #1 LF-16 | | 6.30 | 6.30 | 6.14 | 5.94 |
| | #1 LF-17 | | 0.01 | 0.00 | 0.00 | 0.00 |
| | #1 LF-19 | | 0.00 | 0.00 | -0.01 | -0.08 |
| Qk . N_DA | #1 LF-23 | | 0.00 | 0.00 | 0.03 | 0.15 |
| | #2 LF-3 | | 0.34 | -1.33 | -19.4 | -15.0 |
| | #2 LF-4 | | 0.00 | -0.01 | -0.09 | -0.07 |
| | #2 LF-5 | | 0.00 | 0.00 | -0.02 | -0.02 |
| | #2 LF-7 | | -0.03 | 0.14 | 2.05 | 1.55 |
| | #2 LF-9 | | 0.00 | 0.00 | 0.04 | 0.03 |
| | #2 LF-10 | | 0.30 | -1.06 | -16.7 | -12.6 |
| | #2 LF-11 | | 0.00 | 0.01 | 0.07 | 0.06 |
| | #2 LF-15 | | 0.09 | -0.37 | -5.33 | -4.02 |
| | #2 LF-16 | | -0.32 | 1.48 | 20.32 | 15.30 |
| | #2 LF-17 | | 0.07 | -0.27 | -3.98 | -3.27 |
| | #2 LF-18 | | -0.44 | 1.81 | 26.02 | 19.45 |
| | #2 LF-19 | | 0.00 | 0.00 | -0.01 | -0.01 |
| | #2 LF-22 | | 0.00 | 0.00 | 0.02 | 0.02 |
| Qk . N_DA | #3 LF-17 | | 0.26 | -0.69 | -12.2 | -9.30 |
| | #3 LF-3 | | 0.44 | -1.76 | -25.6 | -19.7 |
| | #3 LF-4 | | 0.00 | 0.01 | 0.13 | 0.10 |
| | #3 LF-5 | | 0.00 | -0.01 | -0.19 | -0.14 |
| | #3 LF-6 | | -0.03 | 0.12 | 1.72 | 1.29 |
| | #3 LF-7 | | 0.00 | 0.00 | -0.02 | -0.02 |
| | #3 LF-8 | | 0.00 | 0.00 | -0.03 | -0.02 |
| | #3 LF-9 | | 0.00 | 0.00 | 0.04 | 0.03 |
| | #3 LF-10 | | -0.39 | 1.61 | 23.05 | 17.36 |
| | #3 LF-11 | | 0.06 | -0.26 | -3.71 | -2.80 |
| | #3 LF-12 | | -0.25 | 1.03 | 14.83 | 11.10 |
| | #3 LF-13 | | -0.27 | 1.24 | 16.88 | 12.66 |
| | #3 LF-13 | | -0.27 | 1.24 | 16.88 | 12.66 |

| | Lastfall | | Lasten (5 Abschnitte je 0.87m) | | | | | [kN/m] |
|--------------|----------|----------|--------------------------------|-------|-------|-------|-------|--------|
| | | | | | | | | |
| Qk.N_T2 | #1 | LF-20 | 0.00 | 0.00 | 0.00 | -0.01 | 0.07 | |
| | #1 | LF-22 | 0.00 | 0.00 | -0.04 | -0.03 | 1.57 | |
| | #2 | LF-20 | 0.00 | 0.01 | 0.12 | 0.09 | 0.00 | |
| | #2 | LF-21 | 0.00 | -0.01 | -0.08 | -0.06 | 0.00 | |
| | Lastfall | | Lasten (9 Abschnitte je 0.94m) | | | | | [kN/m] |
| | | | | | | | | |
| W-0.50 Gk | #1 | LF-1 (g) | 35.17 | 55.77 | 63.03 | 67.96 | 75.83 | 58.73 |
| | | | 25.24 | 8.15 | | | | |
| | #2 | LF-1 | 3.67 | 0.67 | -0.35 | -0.02 | 0.85 | 0.67 |
| | | | 7.73 | 42.29 | | | | |
| | #3 | LF-1 | 3.42 | 0.57 | -0.46 | -0.53 | -0.67 | -1.80 |
| | | | 1.28 | 25.92 | | | | |
| | #4 | LF-1 | 0.00 | 0.00 | 0.00 | -0.01 | -0.02 | -0.03 |
| | | | 0.03 | -0.08 | | | | |
| | #1 | LF-2 (g) | 9.09 | 11.86 | 14.06 | 15.98 | 18.83 | 18.48 |
| | | | 0.26 | -5.58 | | | | |
| Ö← | #2 | LF-2 | 1.62 | 0.30 | -0.16 | -0.04 | 0.31 | 0.37 |
| | | | 2.68 | 12.85 | | | | |
| | #3 | LF-2 | 1.19 | 0.20 | -0.16 | -0.17 | -0.19 | -0.30 |
| | | | 0.40 | 7.32 | | | | |
| | #4 | LF-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | |
| Qk.N_E1 | #1 | LF-3 | 0.00 | 0.01 | 0.01 | 0.02 | 0.07 | 0.16 |
| | | | -7.92 | -5.52 | | | | |
| | #1 | LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | -0.04 | -0.04 | | | | |
| | #1 | LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | |
| | #1 | LF-6 | 0.15 | -0.93 | -1.48 | -2.11 | -3.16 | -2.93 |
| | | | -0.14 | 0.34 | | | | |
| | #1 | LF-7 | 2.73 | 17.01 | 22.72 | 28.90 | 39.64 | 38.62 |
| | | | 11.44 | 1.15 | | | | |
| | #1 | LF-8 | 5.53 | 8.54 | 9.07 | 7.25 | 2.29 | -1.89 |
| | | | -0.34 | 0.04 | | | | |
| | #1 | LF-9 | 0.03 | -0.02 | -0.29 | -1.10 | -1.52 | 2.25 |
| | | | 7.86 | 3.80 | | | | |
| | #1 | LF-10 | -0.01 | 0.01 | 0.04 | 0.11 | 0.33 | 0.61 |
| | | | -10.40 | -11.3 | | | | |
| | #1 | LF-12 | -0.36 | -0.96 | -1.16 | -0.62 | 0.50 | 0.67 |
| | | | -0.56 | -0.15 | | | | |
| | #1 | LF-13 | 0.00 | -0.01 | -0.01 | -0.02 | -0.02 | -0.02 |
| | | | 0.00 | 0.00 | | | | |
| | #1 | LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | |
| | #1 | LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | |
| | #1 | LF-16 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| | | | 0.00 | 0.00 | | | | |
| | #1 | LF-17 | 0.01 | 0.02 | 0.01 | -0.04 | -0.16 | -0.25 |
| | | | 0.07 | -0.02 | | | | |
| | #1 | LF-18 | 0.00 | 0.00 | -0.01 | -0.01 | -0.04 | -0.05 |
| | | | 0.45 | 0.42 | | | | |
| | #2 | LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | -0.01 | | | | |
| | #2 | LF-5 | -0.03 | -0.01 | 0.00 | -0.02 | -0.08 | -0.14 |
| | | | -0.60 | 0.32 | | | | |
| | #2 | LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | |
| | #2 | LF-7 | 0.01 | -0.06 | -0.07 | -0.02 | 0.11 | 0.24 |
| | | | 1.18 | 1.12 | | | | |
| | #2 | LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | 0.00 | 0.00 | | | | |
| | #2 | LF-11 | 0.33 | 0.11 | 0.04 | 0.14 | 0.42 | 0.55 |
| | | | 2.11 | 4.40 | | | | |
| | #2 | LF-12 | -0.02 | 0.00 | 0.00 | -0.01 | -0.05 | -0.11 |

| | | Lasten (9 Abschnitte je 0.94m) | | | | | | [kN/m] |
|---|----------|---|-------|-------|-------|-------|-------|--------|
| | | -0.29 | 1.00 | | | | | |
| Qk.N_DA | #2 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | | 0.03 | 0.03 | | | | | |
| | #2 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-15 | 0.00 | 0.00 | -0.01 | -0.02 | -0.03 | -0.04 | -0.04 |
| | | -0.20 | -0.71 | | | | | |
| | #2 LF-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #2 LF-19 | -0.01 | 0.00 | -0.01 | -0.03 | -0.09 | -0.16 | -0.33 |
| | | -0.33 | 2.49 | | | | | |
| | #2 LF-22 | 1.77 | 0.36 | -0.12 | 0.04 | 0.45 | 0.49 | 0.47 |
| | | 3.55 | 16.69 | | | | | |
| | #3 LF-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.03 | | | | | |
| | #3 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.01 | | | | | |
| | #3 LF-5 | -0.04 | -0.01 | 0.01 | 0.00 | -0.02 | -0.08 | -0.19 |
| | | -0.15 | 1.71 | | | | | |
| | #3 LF-6 | 1.18 | 0.20 | -0.15 | -0.18 | -0.25 | -0.43 | -0.70 |
| | | 0.92 | 12.28 | | | | | |
| | #3 LF-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-11 | 0.00 | 0.00 | 0.00 | -0.01 | -0.03 | -0.05 | -0.06 |
| | | 0.03 | 0.73 | | | | | |
| | #3 LF-13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #3 LF-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | -0.01 | -0.04 | | | | | |
| | #3 LF-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| | #4 LF-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | -0.01 | | | | | |
| | #4 LF-6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| Qk.N_T2 | #1 LF-21 | 0.00 | 0.02 | 0.03 | 0.04 | 0.06 | 0.06 | 0.03 |
| | | 0.00 | -0.01 | | | | | |
| | #2 LF-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | | | | | |
| (g): Lastfall beinhaltet Eigengewicht (22.62 kN/m) der Wand | | | | | | | | |
| WS-0.11_BR | | á bÁÛÜÊ€ÈFFÁÓ↔&æ^&æ}↔´â\ÃÑfib\ ^& | | | | | | |
| | | Lastfall Lasten (1 Abschnitte je 0.89m) | | | | | | [kN/m] |
| Gk | #1 LF-1 | | | | | | | 0.00 |
| WS-0.11_SA_W-0.11_1 | | aus WS-0.11 Sturzanfang | | | | | | |
| | | Lastfall Lasten (1 Abschnitte je 0.08m) | | | | | | [kN/m] |
| Gk | #1 LF-1 | | | | | | | 31.53 |
| | | | | | | | | 118.0 |
| | #2 LF-1 | | | | | | | 175.7 |
| | #3 LF-1 | | | | | | | 176.6 |
| | #4 LF-1 | | | | | | | -0.04 |
| | #1 LF-2 | | | | | | | 41.94 |
| | #2 LF-2 | | | | | | | 35.07 |
| | #3 LF-2 | | | | | | | 24.42 |
| Ö← | | | | | | | | |

| | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Qk.N_E1 | #4 | LF-2 | -0.01 |
| | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 42.64 |
| | #1 | LF-6 | 5.83 |
| | #1 | LF-7 | -0.58 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 0.03 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 11.74 |
| | #1 | LF-14 | -12.4 |
| | #1 | LF-15 | 0.01 |
| | #1 | LF-16 | 29.78 |
| | #1 | LF-17 | 0.86 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-3 | -0.22 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | -5.69 |
| | #2 | LF-8 | 6.76 |
| | #2 | LF-9 | 1.52 |
| | #2 | LF-10 | -7.35 |
| | #2 | LF-11 | -0.11 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 30.94 |
| | #2 | LF-16 | 1.48 |
| | #2 | LF-17 | -0.03 |
| | #2 | LF-18 | 0.33 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-22 | -0.03 |
| | #3 | LF-17 | -1.32 |
| | #3 | LF-18 | 0.00 |
| | #3 | LF-19 | 0.00 |
| | #3 | LF-20 | 0.00 |
| | #3 | LF-21 | 0.00 |
| | #3 | LF-22 | 0.00 |
| | #3 | LF-23 | 0.00 |
| Qk.N_DA | #4 | LF-8 | 0.00 |
| | #3 | LF-3 | 0.06 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | -4.72 |
| | #3 | LF-7 | 12.21 |
| | #3 | LF-8 | 9.48 |
| | #3 | LF-9 | 13.35 |
| | #3 | LF-10 | 1.16 |
| | #3 | LF-11 | 18.79 |
| | #3 | LF-12 | -0.01 |
| | #3 | LF-13 | 0.12 |
| | #3 | LF-14 | 0.00 |
| | #3 | LF-15 | 0.00 |
| | #3 | LF-16 | 0.00 |
| | #4 | LF-3 | 0.00 |
| | #4 | LF-4 | -0.01 |
| | #4 | LF-5 | 0.00 |
| | #4 | LF-6 | 0.00 |
| | #4 | LF-7 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | -0.29 |
| | #1 | LF-22 | 0.00 |

| | | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|----------------------------|--|-----------------------|--------------------------------|--------|
| | | #2 | LF-20 | 0.00 |
| | | #2 | LF-21 | 13.90 |
| WS-0.11_SE_W-0.11_2 | | | | |
| | | aus WS-0.11 Sturzende | | |
| | | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
| Gk | | #1 | LF-1 | 3.01 |
| | | | | 9.75 |
| | | #2 | LF-1 | 16.11 |
| | | #3 | LF-1 | 15.60 |
| Öe | | #4 | LF-1 | 0.00 |
| | | #1 | LF-2 | 3.63 |
| | | #2 | LF-2 | 3.24 |
| | | #3 | LF-2 | 2.26 |
| Qk.N_E1 | | #4 | LF-2 | 0.00 |
| | | #1 | LF-3 | 0.00 |
| | | #1 | LF-4 | 0.00 |
| | | #1 | LF-5 | 4.16 |
| | | #1 | LF-6 | 0.91 |
| | | #1 | LF-7 | -0.09 |
| | | #1 | LF-8 | 0.00 |
| | | #1 | LF-9 | 0.00 |
| | | #1 | LF-10 | 0.00 |
| | | #1 | LF-11 | 0.00 |
| | | #1 | LF-12 | 0.00 |
| | | #1 | LF-13 | 3.14 |
| | | #1 | LF-14 | -1.11 |
| | | #1 | LF-15 | 0.00 |
| | | #1 | LF-16 | 1.20 |
| | | #1 | LF-17 | -0.22 |
| | | #1 | LF-18 | 0.00 |
| | | #1 | LF-19 | 0.00 |
| | | #1 | LF-23 | 0.00 |
| | | #2 | LF-3 | -0.01 |
| | | #2 | LF-4 | 0.00 |
| | | #2 | LF-5 | 0.00 |
| | | #2 | LF-6 | 0.00 |
| | | #2 | LF-7 | -0.06 |
| | | #2 | LF-8 | 1.90 |
| | | #2 | LF-9 | 0.27 |
| | | #2 | LF-10 | -0.76 |
| | | #2 | LF-11 | 0.00 |
| | | #2 | LF-12 | 0.00 |
| | | #2 | LF-13 | 0.00 |
| | | #2 | LF-14 | 0.00 |
| | | #2 | LF-15 | 1.95 |
| | | #2 | LF-16 | 0.10 |
| | | #2 | LF-17 | 0.00 |
| | | #2 | LF-18 | 0.02 |
| | | #2 | LF-19 | 0.00 |
| | | #2 | LF-22 | 0.00 |
| | | #3 | LF-17 | -0.15 |
| | | #3 | LF-18 | 0.00 |
| | | #3 | LF-19 | 0.00 |
| | | #3 | LF-20 | 0.00 |
| | | #3 | LF-21 | 0.00 |
| | | #3 | LF-22 | 0.00 |
| | | #3 | LF-23 | 0.00 |
| Qk.N_DA | | #4 | LF-8 | 0.00 |
| | | #3 | LF-3 | 0.00 |
| | | #3 | LF-4 | 0.00 |
| | | #3 | LF-5 | 0.00 |
| | | #3 | LF-6 | -0.16 |
| | | #3 | LF-7 | 0.70 |
| | | #3 | LF-8 | 1.58 |
| | | #3 | LF-9 | 1.40 |
| | | #3 | LF-10 | 0.04 |
| | | #3 | LF-11 | 1.23 |

| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
|------------------------------------|----------|--------------------------------|--------|
| | #3 | LF-12 | 0.00 |
| | #3 | LF-13 | -0.08 |
| | #3 | LF-14 | 0.00 |
| | #3 | LF-15 | 0.00 |
| | #3 | LF-16 | 0.00 |
| | #4 | LF-3 | 0.00 |
| | #4 | LF-4 | 0.00 |
| | #4 | LF-5 | 0.00 |
| | #4 | LF-6 | 0.00 |
| | #4 | LF-7 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | -0.94 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.54 |
| WS-0.17_BR | | | |
| á bÁÛÜË€ÈFÍÁÓ↔&æ^&æ}↔´â\ÃÑăfib\ ^& | | | |
| | Lastfall | Lasten (1 Abschnitte je 1.00m) | [kN/m] |
| Gk | #1 | LF-1 | 0.00 |
| WS-0.17_SA_W-0.17_1 | | | |
| aus WS-0.17 Sturzanfang | | | |
| | Lastfall | Lasten (1 Abschnitte je 0.62m) | [kN/m] |
| Gk | #1 | LF-1 | 4.75 |
| | | | 25.34 |
| | #2 | LF-1 | 12.88 |
| | #3 | LF-1 | 11.15 |
| | #4 | LF-1 | 0.29 |
| Ö← | #1 | LF-2 | 9.83 |
| | #2 | LF-2 | 2.22 |
| | #3 | LF-2 | 0.97 |
| | #4 | LF-2 | -0.03 |
| Qk.N_E1 | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | -0.07 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 5.39 |
| | #1 | LF-11 | 0.95 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 7.18 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | -0.40 |
| | #1 | LF-19 | 0.03 |
| | #1 | LF-23 | 9.50 |
| | #2 | LF-3 | -0.01 |
| | #2 | LF-4 | -0.87 |
| | #2 | LF-5 | -0.69 |
| | #2 | LF-6 | -0.06 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #2 | LF-17 | 1.78 |
| | #2 | LF-18 | 3.51 |
| | #2 | LF-19 | -0.32 |
| | #2 | LF-22 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.62m) | [kN/m] |
|---------------------|----------|--------------------------------|--------|
| Qk . N_DA | #3 | LF-17 | 0.00 |
| | #3 | LF-18 | 0.00 |
| | #3 | LF-19 | -0.03 |
| | #3 | LF-20 | 0.23 |
| | #3 | LF-21 | 0.00 |
| | #3 | LF-22 | -0.08 |
| | #3 | LF-23 | -0.03 |
| | #4 | LF-8 | 0.00 |
| | #3 | LF-3 | 1.58 |
| | #3 | LF-4 | 0.46 |
| | #3 | LF-5 | -2.43 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #3 | LF-9 | 0.00 |
| | #3 | LF-10 | -0.20 |
| | #3 | LF-11 | 0.00 |
| | #3 | LF-12 | 2.70 |
| | #3 | LF-13 | 0.00 |
| | #3 | LF-14 | 0.00 |
| | #3 | LF-15 | 0.00 |
| | #3 | LF-16 | -0.02 |
| Qk . N_T2 | #4 | LF-3 | 0.00 |
| | #4 | LF-4 | -0.13 |
| | #4 | LF-5 | 0.00 |
| | #4 | LF-6 | 0.00 |
| | #4 | LF-7 | 0.07 |
| WS-0.17_SE_W-0.17_2 | #1 | LF-20 | -2.70 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.12 |
| | #2 | LF-21 | 0.00 |
| Gk | #1 | LF-1 | 3.14 |
| | #2 | LF-1 | 18.66 |
| | #3 | LF-1 | 11.64 |
| | #4 | LF-1 | 9.78 |
| Ö- | #1 | LF-2 | 0.15 |
| | #1 | LF-2 | 7.16 |
| | #2 | LF-2 | 2.69 |
| | #3 | LF-2 | 1.51 |
| Qk . N_E1 | #4 | LF-2 | -0.01 |
| | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | -0.04 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 2.97 |
| | #1 | LF-12 | 1.68 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 4.62 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-20 | -0.25 |
| | #1 | LF-21 | 0.03 |
| | #1 | LF-22 | 7.19 |
| | #2 | LF-3 | 1.26 |
| | #2 | LF-4 | -0.09 |
| | #2 | LF-5 | -0.15 |
| | #2 | LF-6 | -0.02 |
| | #2 | LF-7 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.95m) | [kN/m] |
|-----------------------|---|--------------------------------|--------|
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #2 | LF-17 | 1.94 |
| | #2 | LF-18 | 1.95 |
| | #2 | LF-19 | -0.09 |
| | #2 | LF-22 | 0.00 |
| | #3 | LF-17 | 0.00 |
| | #3 | LF-18 | 0.00 |
| | #3 | LF-19 | -0.01 |
| | #3 | LF-20 | 0.08 |
| | #3 | LF-21 | 0.00 |
| | #3 | LF-22 | -0.04 |
| | #3 | LF-23 | -0.01 |
| | #4 | LF-8 | 0.00 |
| Qk.N_DA | #3 | LF-3 | 2.47 |
| | #3 | LF-4 | 0.03 |
| | #3 | LF-5 | -0.69 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #3 | LF-9 | 0.00 |
| | #3 | LF-10 | -0.23 |
| | #3 | LF-11 | 0.00 |
| | #3 | LF-12 | 1.51 |
| | #3 | LF-13 | -0.01 |
| | #3 | LF-14 | 0.00 |
| | #3 | LF-15 | 0.00 |
| | #3 | LF-16 | -0.01 |
| | #4 | LF-3 | 0.00 |
| | #4 | LF-4 | -0.06 |
| | #4 | LF-5 | 0.00 |
| | #4 | LF-6 | 0.00 |
| | #4 | LF-7 | 0.03 |
| Qk.N_T2 | #1 | LF-20 | -1.56 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | -0.18 |
| | #2 | LF-21 | 0.00 |
| WS-0.32_2_BR | á bÁÛÜË€ÈĞŽGÁÓ↔&æ^&æ}↔´â\ÁÑăfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 1.01m) | [kN/m] |
| | #1 | LF-1 | 0.00 |
| WS-0.32_2_SA_W-0.32_2 | aus WS-0.32_2 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.12m) | [kN/m] |
| | #1 | LF-1 | 25.70 |
| | #2 | LF-1 | -3.09 |
| | #3 | LF-1 | -1.31 |
| | #4 | LF-1 | -0.81 |
| | #1 | LF-2 | -0.04 |
| Ö← | #1 | LF-2 | 2.21 |
| | #2 | LF-2 | -0.53 |
| | #3 | LF-2 | -0.26 |
| | #4 | LF-2 | -0.01 |
| Qk.N_E1 | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |

| Lastfall | Lasten (1 Abschnitte je 0.12m) | [kN/m] |
|-------------------------|--------------------------------|--------|
| #1 | LF-9 | 0.00 |
| #1 | LF-10 | -0.51 |
| #1 | LF-11 | -31.4 |
| #1 | LF-12 | 0.00 |
| #1 | LF-13 | 0.00 |
| #1 | LF-14 | 0.09 |
| #1 | LF-15 | 21.14 |
| #1 | LF-16 | 0.00 |
| #1 | LF-17 | 0.00 |
| #1 | LF-18 | 0.00 |
| #1 | LF-19 | 11.70 |
| #1 | LF-23 | -4.06 |
| #2 | LF-3 | -0.54 |
| #2 | LF-4 | 0.00 |
| #2 | LF-5 | 0.00 |
| #2 | LF-6 | 0.00 |
| #2 | LF-7 | 0.00 |
| #2 | LF-8 | 0.00 |
| #2 | LF-9 | 0.00 |
| #2 | LF-10 | 0.02 |
| #2 | LF-11 | 0.00 |
| #2 | LF-12 | 0.00 |
| #2 | LF-13 | 0.00 |
| #2 | LF-14 | 0.00 |
| #2 | LF-15 | 0.00 |
| #2 | LF-16 | 0.00 |
| #2 | LF-17 | -0.27 |
| #2 | LF-18 | -0.12 |
| #2 | LF-19 | 0.00 |
| #2 | LF-22 | 0.00 |
| #3 | LF-17 | 0.02 |
| #3 | LF-18 | 0.00 |
| #3 | LF-19 | 0.00 |
| #3 | LF-20 | 0.00 |
| #3 | LF-21 | 0.00 |
| #3 | LF-22 | 0.00 |
| #3 | LF-23 | 0.00 |
| #4 | LF-8 | 0.00 |
| Qk . N_DA | #3 LF-3 | -0.40 |
| | #3 LF-4 | 0.00 |
| | #3 LF-5 | 0.01 |
| | #3 LF-6 | 0.00 |
| | #3 LF-7 | 0.00 |
| | #3 LF-8 | 0.00 |
| | #3 LF-9 | 0.00 |
| | #3 LF-10 | -0.01 |
| | #3 LF-11 | 0.00 |
| | #3 LF-12 | -0.03 |
| | #3 LF-13 | -0.04 |
| | #3 LF-14 | 0.00 |
| | #3 LF-15 | 0.00 |
| | #3 LF-16 | 0.00 |
| | #4 LF-3 | 0.00 |
| | #4 LF-4 | -0.01 |
| | #4 LF-5 | 0.00 |
| | #4 LF-6 | 0.00 |
| | #4 LF-7 | 0.00 |
| Qk . N_T2 | #1 LF-20 | 0.43 |
| | #1 LF-21 | 0.00 |
| | #1 LF-22 | -0.02 |
| | #2 LF-20 | 0.00 |
| | #2 LF-21 | 0.00 |
| WS-0.32_2_SE_W- | | |
| 0.32_3 | | |
| Gk | | |
| aus WS-0.32_2 Sturzende | | |
| Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
| #1 | LF-1 | 3.46 |
| | | -0.38 |

| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Öe | #2 | LF-1 | -0.19 |
| | #3 | LF-1 | -0.11 |
| | #4 | LF-1 | 0.00 |
| | #1 | LF-2 | 0.31 |
| Qk.N_E1 | #2 | LF-2 | -0.07 |
| | #3 | LF-2 | -0.04 |
| | #4 | LF-2 | 0.00 |
| | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | -0.06 |
| | #1 | LF-11 | -4.26 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.02 |
| | #1 | LF-15 | 2.85 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 1.58 |
| | #1 | LF-23 | -0.49 |
| | #2 | LF-3 | -0.08 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #2 | LF-17 | -0.04 |
| | #2 | LF-18 | -0.02 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-22 | 0.00 |
| | #3 | LF-17 | 0.00 |
| | #3 | LF-18 | 0.00 |
| | #3 | LF-19 | 0.00 |
| | #3 | LF-20 | 0.00 |
| | #3 | LF-21 | 0.00 |
| | #3 | LF-22 | 0.00 |
| | #3 | LF-23 | 0.00 |
| | #4 | LF-8 | 0.00 |
| Qk.N_DA | #3 | LF-3 | -0.06 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #3 | LF-9 | 0.00 |
| | #3 | LF-10 | 0.00 |
| | #3 | LF-11 | 0.00 |
| | #3 | LF-12 | 0.00 |
| | #3 | LF-13 | 0.00 |
| | #3 | LF-14 | 0.00 |
| | #3 | LF-15 | 0.00 |
| | #3 | LF-16 | 0.00 |
| | #4 | LF-3 | 0.00 |
| | #4 | LF-4 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.87m) | [kN/m] |
|-----------------------|--|--------------------------------|--------|
| Qk.N_T2 | #4 | LF-5 | 0.00 |
| | #4 | LF-6 | 0.00 |
| | #4 | LF-7 | 0.00 |
| | #1 | LF-20 | 0.05 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| WS-0.39_1_BR | | | |
| | á bÁÙUË€ÈĞİŽFÁÓ↔&æ^&æ}↔´â\ÁÑñfib\ ^& | | |
| | Lastfall | Lasten (1 Abschnitte je 1.13m) | [kN/m] |
| Gk | #1 | LF-1 | 0.00 |
| WS-0.39_1_SA_W-0.39_1 | | | |
| | aus WS-0.39_1 Sturzanfang | | |
| | Lastfall | Lasten (1 Abschnitte je 0.75m) | [kN/m] |
| Gk | #1 | LF-1 | 4.49 |
| | | | -1.30 |
| | #2 | LF-1 | 8.76 |
| | #3 | LF-1 | 7.97 |
| Ö€ | #4 | LF-1 | 4.31 |
| | #1 | LF-2 | 0.76 |
| | #2 | LF-2 | 1.03 |
| | #3 | LF-2 | 0.58 |
| Qk.N_E1 | #4 | LF-2 | 0.41 |
| | #1 | LF-3 | -0.27 |
| | #1 | LF-4 | 8.02 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | 0.00 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | -13.3 |
| | #1 | LF-11 | 0.06 |
| | #1 | LF-12 | 0.01 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | -0.15 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.01 |
| | #1 | LF-18 | 5.94 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-23 | 0.03 |
| | #2 | LF-3 | 0.03 |
| | #2 | LF-4 | -0.25 |
| | #2 | LF-5 | -1.32 |
| | #2 | LF-6 | 1.55 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | -0.01 |
| | #2 | LF-13 | 0.01 |
| | #2 | LF-14 | 2.90 |
| | #2 | LF-15 | 0.00 |
| | #2 | LF-16 | 0.00 |
| | #2 | LF-17 | 0.02 |
| | #2 | LF-18 | -0.21 |
| | #2 | LF-19 | -0.51 |
| | #2 | LF-22 | 0.00 |
| | #3 | LF-17 | 0.00 |
| | #3 | LF-18 | 0.00 |
| | #3 | LF-19 | 0.69 |
| | #3 | LF-20 | -0.04 |
| | #3 | LF-21 | 0.09 |
| | #3 | LF-22 | 2.73 |
| | #3 | LF-23 | 1.14 |

| | Lastfall | Lasten (1 Abschnitte je 0.75m) | [kN/m] |
|-----------------|-------------------------|--------------------------------|--------|
| Qk.N_DA | #4 | LF-8 | 0.02 |
| | #3 | LF-3 | 0.08 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | -1.54 |
| | #3 | LF-6 | 0.00 |
| | #3 | LF-7 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #3 | LF-9 | 0.00 |
| | #3 | LF-10 | 0.01 |
| | #3 | LF-11 | 0.00 |
| | #3 | LF-12 | -0.29 |
| | #3 | LF-13 | 0.00 |
| | #3 | LF-14 | 0.00 |
| | #3 | LF-15 | -0.03 |
| | #3 | LF-16 | 0.36 |
| | #4 | LF-3 | 0.00 |
| | #4 | LF-4 | -0.92 |
| | #4 | LF-5 | -0.02 |
| | #4 | LF-6 | 0.41 |
| | #4 | LF-7 | 1.35 |
| Qk.N_T2 | #1 | LF-20 | 0.02 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| WS-0.39_1_SE_W- | | | |
| 0.39_2 | | | |
| Gk | aus WS-0.39_1 Sturzende | | |
| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| | #1 | LF-1 | 14.14 |
| | #2 | LF-1 | -2.80 |
| | #3 | LF-1 | 32.44 |
| Ö← | #4 | LF-1 | 27.25 |
| | #1 | LF-2 | 16.21 |
| | #1 | LF-2 | 2.89 |
| | #2 | LF-2 | 5.75 |
| | #3 | LF-2 | 3.13 |
| Qk.N_E1 | #4 | LF-2 | 1.54 |
| | #1 | LF-3 | -0.97 |
| | #1 | LF-4 | 25.47 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | -0.01 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.01 |
| | #1 | LF-10 | -41.2 |
| | #1 | LF-11 | 0.07 |
| | #1 | LF-12 | 0.02 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | -0.18 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.04 |
| | #1 | LF-18 | 18.79 |
| | #1 | LF-19 | -0.01 |
| | #1 | LF-23 | 0.03 |
| | #2 | LF-3 | 0.04 |
| | #2 | LF-4 | -0.23 |
| | #2 | LF-5 | -0.09 |
| | #2 | LF-6 | 2.30 |
| | #2 | LF-7 | 0.00 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | -0.01 |
| | #2 | LF-12 | 0.02 |
| | #2 | LF-13 | 0.05 |
| | #2 | LF-14 | 9.68 |

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|-----------------------|--|--------------------------------|--------|
| | #2 | LF-15 | -0.01 |
| | #2 | LF-16 | 0.00 |
| | #2 | LF-17 | 0.02 |
| | #2 | LF-18 | -0.25 |
| | #2 | LF-19 | 0.08 |
| | #2 | LF-22 | -0.06 |
| | #3 | LF-17 | 0.00 |
| | #3 | LF-18 | -0.01 |
| | #3 | LF-19 | 0.96 |
| | #3 | LF-20 | -0.06 |
| | #3 | LF-21 | 0.86 |
| | #3 | LF-22 | 7.95 |
| | #3 | LF-23 | 2.11 |
| | #4 | LF-8 | 0.04 |
| Qk.N_DA | #3 | LF-3 | 0.11 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | -1.17 |
| | #3 | LF-6 | -0.05 |
| | #3 | LF-7 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #3 | LF-9 | 0.00 |
| | #3 | LF-10 | 0.01 |
| | #3 | LF-11 | 0.00 |
| | #3 | LF-12 | -0.41 |
| | #3 | LF-13 | 0.00 |
| | #3 | LF-14 | -0.01 |
| | #3 | LF-15 | -0.02 |
| | #3 | LF-16 | 0.56 |
| | #4 | LF-3 | 0.01 |
| | #4 | LF-4 | -4.10 |
| | #4 | LF-5 | 0.03 |
| | #4 | LF-6 | 2.22 |
| | #4 | LF-7 | 4.92 |
| Qk.N_T2 | #1 | LF-20 | 0.05 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| WS-0.39_2_BR | á bÁÛÜË€ÈĞİŽGÁÓ↔&æ^&æ}↔´â\ÁÑăfib\ ^& | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.88m) | [kN/m] |
| | #1 | LF-1 | 0.00 |
| WS-0.39_2_SA_W-0.39_2 | aus WS-0.39_2 Sturzanfang | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| | #1 | LF-1 | 11.02 |
| | | | 0.67 |
| | #2 | LF-1 | 31.25 |
| | #3 | LF-1 | 24.18 |
| | #4 | LF-1 | 22.73 |
| Ö← | #1 | LF-2 | 3.22 |
| | #2 | LF-2 | 6.23 |
| | #3 | LF-2 | 3.60 |
| | #4 | LF-2 | 1.68 |
| Qk.N_E1 | #1 | LF-3 | -1.18 |
| | #1 | LF-4 | 19.82 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | -0.01 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.01 |
| | #1 | LF-10 | -29.5 |
| | #1 | LF-11 | -0.03 |
| | #1 | LF-12 | 0.02 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.05 |

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|---------------------------------|----------|--------------------------------|--------|
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.00 |
| | #1 | LF-18 | 14.41 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-23 | -0.02 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.24 |
| | #2 | LF-5 | 0.69 |
| | #2 | LF-6 | -0.64 |
| | #2 | LF-7 | 0.01 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.03 |
| | #2 | LF-12 | -0.11 |
| | #2 | LF-13 | -0.34 |
| | #2 | LF-14 | 11.99 |
| | #2 | LF-15 | 0.07 |
| | #2 | LF-16 | 0.00 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | 0.07 |
| | #2 | LF-19 | 0.34 |
| | #2 | LF-22 | 0.03 |
| | #3 | LF-17 | 0.00 |
| | #3 | LF-18 | -0.25 |
| | #3 | LF-19 | -0.14 |
| | #3 | LF-20 | 0.01 |
| | #3 | LF-21 | 2.88 |
| | #3 | LF-22 | 7.73 |
| | #3 | LF-23 | 0.10 |
| | #4 | LF-8 | -0.44 |
| Qk . N_DA | #3 | LF-3 | -0.01 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | -0.40 |
| | #3 | LF-6 | 0.20 |
| | #3 | LF-7 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #3 | LF-9 | 0.00 |
| | #3 | LF-10 | 0.00 |
| | #3 | LF-11 | 0.11 |
| | #3 | LF-12 | 0.06 |
| | #3 | LF-13 | 0.00 |
| | #3 | LF-14 | -0.10 |
| | #3 | LF-15 | 0.57 |
| | #3 | LF-16 | -0.19 |
| | #4 | LF-3 | -0.16 |
| | #4 | LF-4 | -4.75 |
| | #4 | LF-5 | 1.22 |
| | #4 | LF-6 | 3.94 |
| | #4 | LF-7 | 3.10 |
| Qk . N_T2 | #1 | LF-20 | 0.01 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| WS-0.39_2_SE_W- 0.39_3 Gk | | aus WS-0.39_2 Sturzende | |
| | #1 | LF-1 | 11.02 |
| | | | 0.76 |
| | #2 | LF-1 | 29.08 |
| | #3 | LF-1 | 22.65 |
| | #4 | LF-1 | 24.61 |
| Ö← | #1 | LF-2 | 3.22 |
| | #2 | LF-2 | 5.45 |
| | #3 | LF-2 | 3.32 |
| | #4 | LF-2 | 1.68 |

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|---------|----------|--------------------------------|--------|
| Qk.N_E1 | #1 | LF-3 | -1.27 |
| | #1 | LF-4 | 19.60 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | 0.00 |
| | #1 | LF-7 | -0.01 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.01 |
| | #1 | LF-10 | -29.1 |
| | #1 | LF-11 | -0.02 |
| | #1 | LF-12 | 0.02 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.04 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | -0.01 |
| | #1 | LF-18 | 14.36 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-23 | -0.01 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.18 |
| | #2 | LF-5 | -0.64 |
| | #2 | LF-6 | -0.62 |
| | #2 | LF-7 | 0.01 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.05 |
| | #2 | LF-12 | -0.18 |
| | #2 | LF-13 | -0.49 |
| | #2 | LF-14 | 12.62 |
| | #2 | LF-15 | 0.11 |
| | #2 | LF-16 | 0.00 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | 0.05 |
| | #2 | LF-19 | -0.22 |
| | #2 | LF-22 | 0.08 |
| | #3 | LF-17 | 0.00 |
| | #3 | LF-18 | -0.33 |
| | #3 | LF-19 | -0.11 |
| | #3 | LF-20 | 0.00 |
| | #3 | LF-21 | 3.43 |
| | #3 | LF-22 | 7.94 |
| | #3 | LF-23 | -0.06 |
| | #4 | LF-8 | -0.62 |
| Qk.N_DA | #3 | LF-3 | -0.01 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | -1.54 |
| | #3 | LF-6 | 0.31 |
| | #3 | LF-7 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #3 | LF-9 | 0.00 |
| | #3 | LF-10 | 0.00 |
| | #3 | LF-11 | 0.16 |
| | #3 | LF-12 | 0.05 |
| | #3 | LF-13 | 0.00 |
| | #3 | LF-14 | -0.13 |
| | #3 | LF-15 | 0.74 |
| | #3 | LF-16 | -0.21 |
| | #4 | LF-3 | -0.21 |
| | #4 | LF-4 | -4.47 |
| | #4 | LF-5 | 1.71 |
| | #4 | LF-6 | 4.25 |
| | #4 | LF-7 | 2.08 |
| Qk.N_T2 | #1 | LF-20 | 0.01 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |

| | | | |
|------------------------------|----------|---|--------|
| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| | #2 | LF-21 | 0.00 |
| WS-0.39_3_BR | | | |
| | | á bÁÛÜËëÈÈĞİŽĞÁÓ↔&æ^&æ}↔´â\ÁÑăfib\ ^& | |
| | Lastfall | Lasten (1 Abschnitte je 0.89m) | [kN/m] |
| Gk | #1 | LF-1 | 0.00 |
| WS-0.39_3_SA_W-0.39_3 | | | |
| | | aus WS-0.39_3 Sturzanfang | |
| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
| Gk | #1 | LF-1 | 11.02 |
| | | | -19.5 |
| | #2 | LF-1 | 28.29 |
| | #3 | LF-1 | 21.47 |
| | #4 | LF-1 | 23.56 |
| Ö- | #1 | LF-2 | -4.43 |
| | #2 | LF-2 | 4.27 |
| | #3 | LF-2 | 2.38 |
| | #4 | LF-2 | 1.44 |
| Qk.N_E1 | #1 | LF-3 | -4.01 |
| | #1 | LF-4 | 11.25 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | -0.01 |
| | #1 | LF-7 | -0.02 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.05 |
| | #1 | LF-10 | -39.9 |
| | #1 | LF-11 | -0.01 |
| | #1 | LF-12 | 0.06 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.01 |
| | #1 | LF-16 | 0.00 |
| | #1 | LF-17 | 0.33 |
| | #1 | LF-18 | 19.34 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-23 | -0.01 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.01 |
| | #2 | LF-5 | -0.68 |
| | #2 | LF-6 | -0.24 |
| | #2 | LF-7 | 0.01 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.07 |
| | #2 | LF-12 | -0.04 |
| | #2 | LF-13 | -0.13 |
| | #2 | LF-14 | 9.40 |
| | #2 | LF-15 | 0.23 |
| | #2 | LF-16 | 0.00 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | 0.01 |
| | #2 | LF-19 | -0.07 |
| | #2 | LF-22 | -0.13 |
| | #3 | LF-17 | 0.00 |
| | #3 | LF-18 | 0.20 |
| | #3 | LF-19 | -0.01 |
| | #3 | LF-20 | 0.00 |
| | #3 | LF-21 | 3.14 |
| | #3 | LF-22 | 5.98 |
| | #3 | LF-23 | -0.20 |
| | #4 | LF-8 | 0.15 |
| Qk.N_DA | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | -2.14 |
| | #3 | LF-6 | 0.16 |
| | #3 | LF-7 | 0.00 |
| | #3 | LF-8 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.24m) | [kN/m] |
|-------------------------|----------|--------------------------------|--------|
| | #3 | LF-9 | 0.00 |
| | #3 | LF-10 | 0.00 |
| | #3 | LF-11 | 0.13 |
| | #3 | LF-12 | 0.01 |
| | #3 | LF-13 | 0.00 |
| | #3 | LF-14 | -0.07 |
| | #3 | LF-15 | 0.68 |
| | #3 | LF-16 | -0.14 |
| | #4 | LF-3 | 0.28 |
| | #4 | LF-4 | -3.16 |
| | #4 | LF-5 | 2.80 |
| | #4 | LF-6 | 3.16 |
| | #4 | LF-7 | -0.21 |
| Qk.N_T2 | #1 | LF-20 | 0.01 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| WS-0.39_3_SE_W- | | | |
| 0.39_4 | | | |
| Gk | | | |
| aus WS-0.39_3 Sturzende | | | |
| | #1 | LF-1 | 31.53 |
| | | | -87.9 |
| | #2 | LF-1 | 87.92 |
| | #3 | LF-1 | 66.84 |
| | #4 | LF-1 | 60.46 |
| Ö- | #1 | LF-2 | -24.4 |
| | #2 | LF-2 | 12.82 |
| | #3 | LF-2 | 6.42 |
| | #4 | LF-2 | 4.01 |
| Qk.N_E1 | #1 | LF-3 | -15.6 |
| | #1 | LF-4 | 21.55 |
| | #1 | LF-5 | 0.00 |
| | #1 | LF-6 | -0.04 |
| | #1 | LF-7 | -0.13 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.19 |
| | #1 | LF-10 | -136 |
| | #1 | LF-11 | -0.03 |
| | #1 | LF-12 | 0.21 |
| | #1 | LF-13 | 0.00 |
| | #1 | LF-14 | 0.00 |
| | #1 | LF-15 | 0.04 |
| | #1 | LF-16 | 0.01 |
| | #1 | LF-17 | 1.86 |
| | #1 | LF-18 | 64.44 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-23 | -0.02 |
| | #2 | LF-3 | 0.00 |
| | #2 | LF-4 | 0.04 |
| | #2 | LF-5 | 2.56 |
| | #2 | LF-6 | -0.38 |
| | #2 | LF-7 | 0.02 |
| | #2 | LF-8 | 0.00 |
| | #2 | LF-9 | 0.00 |
| | #2 | LF-10 | 0.00 |
| | #2 | LF-11 | 0.11 |
| | #2 | LF-12 | 0.31 |
| | #2 | LF-13 | 1.46 |
| | #2 | LF-14 | 18.95 |
| | #2 | LF-15 | 0.50 |
| | #2 | LF-16 | 0.00 |
| | #2 | LF-17 | 0.00 |
| | #2 | LF-18 | 0.01 |
| | #2 | LF-19 | 1.97 |
| | #2 | LF-22 | -0.91 |
| | #3 | LF-17 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.08m) | [kN/m] |
|--|---------------------------|--------------------------------|--------|
| Qk.N_DA | #3 | LF-18 | 2.16 |
| | #3 | LF-19 | -0.01 |
| | #3 | LF-20 | 0.00 |
| | #3 | LF-21 | 6.53 |
| | #3 | LF-22 | 12.87 |
| | #3 | LF-23 | -0.35 |
| | #4 | LF-8 | 2.83 |
| | #3 | LF-3 | 0.00 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | -2.28 |
| | #3 | LF-6 | -0.45 |
| | #3 | LF-7 | 0.00 |
| | #3 | LF-8 | 0.00 |
| | #3 | LF-9 | 0.00 |
| | #3 | LF-10 | 0.00 |
| | #3 | LF-11 | -0.06 |
| Qk.N_T2 | #3 | LF-12 | 0.01 |
| | #3 | LF-13 | 0.00 |
| | #3 | LF-14 | 0.08 |
| | #3 | LF-15 | 1.24 |
| | #3 | LF-16 | -0.25 |
| | #4 | LF-3 | 2.04 |
| | #4 | LF-4 | -7.66 |
| | #4 | LF-5 | 8.21 |
| | #4 | LF-6 | 6.04 |
| | #4 | LF-7 | -0.60 |
| | #1 | LF-20 | 0.03 |
| | #1 | LF-21 | 0.00 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | 0.00 |
| WS-0.44_3_BR | | | |
| á bÁÙÜË€ÈHHŽĜÁÓ↔&æ^&æ}↔´â\ÁÑăfib\ ^& | | | |
| Gk | Lastfall | Lasten (1 Abschnitte je 1.51m) | [kN/m] |
| | #1 | LF-1 | 0.00 |
| WS-0.44_3_SA_W-0.44_3 | | | |
| Ö← | aus WS-0.44_3 Sturzanfang | | |
| | Lastfall | Lasten (1 Abschnitte je 0.13m) | [kN/m] |
| | #1 | LF-1 | 33.62 |
| | | | 203.7 |
| | #2 | LF-1 | 62.03 |
| | #3 | LF-1 | 59.80 |
| | #4 | LF-1 | -0.02 |
| | #1 | LF-2 | 77.46 |
| | #2 | LF-2 | 14.94 |
| | #3 | LF-2 | 14.90 |
| | #4 | LF-2 | 0.00 |
| | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | -1.88 |
| | #1 | LF-6 | 1.05 |
| | #1 | LF-7 | -0.15 |
| Qk.N_E1 | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 0.06 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.86 |
| | #1 | LF-14 | 107.5 |
| | #1 | LF-15 | 0.03 |
| | #1 | LF-16 | 42.32 |
| | #1 | LF-17 | -2.89 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-3 | 0.12 |
| | #2 | LF-4 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.13m) | [kN/m] |
|---------------------------------|----------|--------------------------------|--------|
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.40 |
| | #2 | LF-8 | 0.29 |
| | #2 | LF-9 | -0.22 |
| | #2 | LF-10 | 21.39 |
| | #2 | LF-11 | 0.01 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | -1.69 |
| | #2 | LF-16 | 8.41 |
| | #2 | LF-17 | 0.04 |
| | #2 | LF-18 | -0.10 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-22 | 0.00 |
| | #3 | LF-17 | 30.02 |
| | #3 | LF-18 | 0.00 |
| | #3 | LF-19 | 0.00 |
| | #3 | LF-20 | 0.00 |
| | #3 | LF-21 | 0.00 |
| | #3 | LF-22 | 0.00 |
| | #3 | LF-23 | 0.00 |
| | #4 | LF-8 | 0.00 |
| Qk.N_DA | #3 | LF-3 | 0.23 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.35 |
| | #3 | LF-7 | -0.02 |
| | #3 | LF-8 | 0.18 |
| | #3 | LF-9 | -0.41 |
| | #3 | LF-10 | -1.20 |
| | #3 | LF-11 | -1.10 |
| | #3 | LF-12 | -0.09 |
| | #3 | LF-13 | 11.40 |
| | #3 | LF-14 | 0.00 |
| | #3 | LF-15 | 0.00 |
| | #3 | LF-16 | 0.00 |
| | #4 | LF-3 | 0.00 |
| | #4 | LF-4 | -0.01 |
| | #4 | LF-5 | 0.00 |
| | #4 | LF-6 | 0.00 |
| | #4 | LF-7 | 0.00 |
| Qk.N_T2 | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | -0.06 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | -0.02 |
| WS-0.44_3_SE_W- 0.44_4 Gk | | aus WS-0.44_3 Sturzende | |
| | #1 | LF-1 | 5.19 |
| | | | 29.78 |
| | #2 | LF-1 | 12.26 |
| | #3 | LF-1 | 12.40 |
| | #4 | LF-1 | 0.00 |
| Ö← | #1 | LF-2 | 11.38 |
| | #2 | LF-2 | 2.76 |
| | #3 | LF-2 | 2.67 |
| | #4 | LF-2 | 0.00 |
| Qk.N_E1 | #1 | LF-3 | 0.00 |
| | #1 | LF-4 | 0.00 |
| | #1 | LF-5 | -0.44 |
| | #1 | LF-6 | 0.24 |
| | #1 | LF-7 | -0.03 |
| | #1 | LF-8 | 0.00 |
| | #1 | LF-9 | 0.00 |

| | Lastfall | Lasten (1 Abschnitte je 0.86m) | [kN/m] |
|-----------|----------|--------------------------------|--------|
| | #1 | LF-10 | 0.00 |
| | #1 | LF-11 | 0.01 |
| | #1 | LF-12 | 0.00 |
| | #1 | LF-13 | 0.20 |
| | #1 | LF-14 | 15.84 |
| | #1 | LF-15 | 0.00 |
| | #1 | LF-16 | 6.43 |
| | #1 | LF-17 | -0.64 |
| | #1 | LF-18 | 0.00 |
| | #1 | LF-19 | 0.00 |
| | #1 | LF-23 | 0.00 |
| | #2 | LF-3 | 0.02 |
| | #2 | LF-4 | 0.00 |
| | #2 | LF-5 | 0.00 |
| | #2 | LF-6 | 0.00 |
| | #2 | LF-7 | 0.05 |
| | #2 | LF-8 | 0.13 |
| | #2 | LF-9 | -0.08 |
| | #2 | LF-10 | 3.77 |
| | #2 | LF-11 | 0.00 |
| | #2 | LF-12 | 0.00 |
| | #2 | LF-13 | 0.00 |
| | #2 | LF-14 | 0.00 |
| | #2 | LF-15 | -0.32 |
| | #2 | LF-16 | 1.84 |
| | #2 | LF-17 | 0.01 |
| | #2 | LF-18 | -0.01 |
| | #2 | LF-19 | 0.00 |
| | #2 | LF-22 | 0.00 |
| | #3 | LF-17 | 5.21 |
| | #3 | LF-18 | 0.00 |
| | #3 | LF-19 | 0.00 |
| | #3 | LF-20 | 0.00 |
| | #3 | LF-21 | 0.00 |
| | #3 | LF-22 | 0.00 |
| | #3 | LF-23 | 0.00 |
| | #4 | LF-8 | 0.00 |
| Qk . N_DA | #3 | LF-3 | 0.04 |
| | #3 | LF-4 | 0.00 |
| | #3 | LF-5 | 0.00 |
| | #3 | LF-6 | 0.05 |
| | #3 | LF-7 | -0.01 |
| | #3 | LF-8 | 0.07 |
| | #3 | LF-9 | -0.13 |
| | #3 | LF-10 | -0.13 |
| | #3 | LF-11 | -0.12 |
| | #3 | LF-12 | -0.02 |
| | #3 | LF-13 | 2.09 |
| | #3 | LF-14 | 0.00 |
| | #3 | LF-15 | 0.00 |
| | #3 | LF-16 | 0.00 |
| | #4 | LF-3 | 0.00 |
| | #4 | LF-4 | 0.00 |
| Qk . N_T2 | #4 | LF-5 | 0.00 |
| | #4 | LF-6 | 0.00 |
| | #4 | LF-7 | 0.00 |
| | #1 | LF-20 | 0.00 |
| | #1 | LF-21 | -0.02 |
| | #1 | LF-22 | 0.00 |
| | #2 | LF-20 | 0.00 |
| | #2 | LF-21 | -0.02 |

Lastsummen

Einwirkungsweise Lastsummen der Punktlasten und Linienlast-Resultierenden, getrennt nach positiven und negativen Anteilen

Lasten aus Lastgruppen werden nicht

Linienlasten

| Position | EW | Art | *~b↔↔{ [kN] | ^æ&ä↔↔{ [kN] |
|----------|-------------|-----|----------------|-----------------|
| RL1 | WS-T-1.2_BR | Gk | PGr | 0.00 |
| RL2 | WS-1.5_BR | Gk | PGr | 0.00 |
| W-0.1 | Gk | PGr | 465.44 | |
| | Ö← | PGr | 188.69 | |
| | Qk.N_B1 | PGr | 0.21 | -1.79 |
| | Qk.N_C1 | PGr | 106.29 | -11.43 |
| | Qk.N_C5 | PGr | 0.03 | -0.51 |
| | Qk.N_E1 | PGr | 10.05 | -1.23 |
| | Qk.N_DA | PGr | 68.44 | -3.24 |
| W-0.2 | Qk.N_T2 | PGr | 0.01 | -0.02 |
| | Gk | PGr | 77.22 | |
| | Ö← | PGr | 36.70 | |
| | Qk.N_B1 | PGr | 0.35 | -0.06 |
| | Qk.N_C1 | PGr | 19.85 | -10.04 |
| | Qk.N_C5 | PGr | 0.02 | -0.04 |
| | Qk.N_E1 | PGr | 1.84 | -0.36 |
| W-0.3 | Qk.N_DA | PGr | 2.64 | -0.82 |
| | Qk.N_T2 | PGr | 0.00 | -0.03 |
| | Gk | PGr | 455.03 | |
| | Ö← | PGr | 178.90 | |
| | Qk.N_B1 | PGr | 6.62 | -0.58 |
| | Qk.N_C1 | PGr | 69.65 | -4.12 |
| | Qk.N_C5 | PGr | 0.30 | -0.30 |
| W-0.4 | Qk.N_E1 | PGr | 47.04 | -0.29 |
| | Qk.N_DA | PGr | 77.52 | -1.46 |
| | Qk.N_T2 | PGr | 0.33 | 0.00 |
| | Gk | PGr | 381.71 | |
| | Ö← | PGr | 155.25 | |
| | Qk.N_B1 | PGr | 89.16 | -1.20 |
| | Qk.N_C1 | PGr | 24.46 | -29.42 |
| W-0.5 | Qk.N_C5 | PGr | 0.55 | -0.60 |
| | Qk.N_E1 | PGr | 2.22 | 0.00 |
| | Qk.N_DA | PGr | 61.04 | -2.08 |
| | Qk.N_T2 | PGr | 0.32 | -0.54 |
| | Gk | PGr | 560.72 | |
| | Ö← | PGr | 215.80 | |
| | Qk.N_B1 | PGr | 85.92 | -4.71 |
| W-0.6 | Qk.N_C1 | PGr | 0.54 | -0.26 |
| | Qk.N_C5 | PGr | 0.03 | -0.07 |
| | Qk.N_E1 | PGr | 0.08 | -0.12 |
| | Qk.N_DA | PGr | 32.61 | -3.64 |
| | Qk.N_T2 | PGr | 0.78 | -1.79 |
| | Gk | PGr | 1793.58 | |
| | Ö← | PGr | 477.76 | |
| W-0.7 | Qk.N_B1 | PGr | 68.20 | -17.77 |
| | Qk.N_C1 | PGr | 348.79 | -26.45 |
| | Qk.N_C5 | PGr | 29.39 | -7.99 |
| | Qk.N_E1 | PGr | 256.44 | -6.91 |
| | Qk.N_DA | PGr | 268.10 | -2.30 |
| | Qk.N_T2 | PGr | 0.05 | -0.05 |
| | Gk | PGr | 597.98 | |
| W-0.8 | Ö← | PGr | 167.47 | |
| | Qk.N_B1 | PGr | 73.91 | -1.24 |
| | Qk.N_C1 | PGr | 84.90 | -25.29 |
| | Qk.N_C5 | PGr | 57.67 | -1.16 |
| | Qk.N_E1 | PGr | 27.98 | -3.54 |
| | Qk.N_DA | PGr | 116.89 | -5.91 |
| | Qk.N_T2 | PGr | 0.41 | -0.16 |
| W-0.8 | Gk | PGr | 104.61 | |

POSITION

BP-LP4

| Position | EW | Art | *~b⇔{ [kN] | ^æ&ã\⇔{ [kN] |
|----------|---------|-----|---------------|-----------------|
| | Ö← | PGr | 21.27 | |
| | Qk.N_B1 | PGr | 0.00 | -8.11 |
| | Qk.N_C1 | PGr | 1.55 | -15.26 |
| | Qk.N_C5 | PGr | 38.91 | 0.00 |
| | Qk.N_E1 | PGr | 0.13 | -0.28 |
| | Qk.N_DA | PGr | 6.51 | -1.97 |
| | Qk.N_T2 | PGr | 13.44 | 0.00 |
| W-0.9 | Gk | PGr | 100.97 | |
| | Ö← | PGr | 6.99 | |
| | Qk.N_B1 | PGr | 0.53 | -4.42 |
| | Qk.N_C1 | PGr | 7.33 | -25.35 |
| | Qk.N_C5 | PGr | 28.09 | -1.28 |
| | Qk.N_E1 | PGr | 6.53 | -4.57 |
| | Qk.N_DA | PGr | 9.49 | -6.34 |
| | Qk.N_T2 | PGr | 0.03 | -0.12 |
| W-0.10 | Gk | PGr | 813.11 | |
| | Ö← | PGr | 173.31 | |
| | Qk.N_B1 | PGr | 153.70 | -26.67 |
| | Qk.N_C1 | PGr | 0.42 | -0.54 |
| | Qk.N_C5 | PGr | 14.39 | -16.48 |
| | Qk.N_E1 | PGr | 108.09 | -0.02 |
| | Qk.N_DA | PGr | 49.42 | -11.28 |
| | Qk.N_T2 | PGr | 2.54 | 0.00 |
| W-0.11_1 | Gk | PGr | 35.82 | |
| | Ö← | PGr | 6.49 | |
| | Qk.N_B1 | PGr | 0.01 | -3.73 |
| | Qk.N_C1 | PGr | 0.04 | -0.43 |
| | Qk.N_C5 | PGr | 6.91 | 0.00 |
| | Qk.N_E1 | PGr | 2.01 | -0.09 |
| | Qk.N_DA | PGr | 3.32 | -0.46 |
| | Qk.N_T2 | PGr | 2.88 | 0.00 |
| W-0.11_2 | Gk | PGr | 592.21 | |
| | Ö← | PGr | 118.50 | |
| | Qk.N_B1 | PGr | 140.49 | -24.83 |
| | Qk.N_C1 | PGr | 3.01 | -0.33 |
| | Qk.N_C5 | PGr | 1.65 | -2.70 |
| | Qk.N_E1 | PGr | 35.20 | -6.41 |
| | Qk.N_DA | PGr | 67.24 | -7.24 |
| | Qk.N_T2 | PGr | 0.13 | -10.39 |
| W-0.12 | Gk | PGr | 280.53 | |
| | Ö← | PGr | 23.54 | |
| | Qk.N_B1 | PGr | 1.98 | -0.02 |
| | Qk.N_C1 | PGr | 11.79 | -0.12 |
| | Qk.N_C5 | PGr | 1.60 | -4.74 |
| | Qk.N_E1 | PGr | 48.01 | -0.51 |
| | Qk.N_DA | PGr | 16.84 | -17.08 |
| | Qk.N_T2 | PGr | 0.00 | -0.02 |
| W-0.13 | Gk | PGr | 92.47 | |
| | Ö← | PGr | 9.60 | |
| | Qk.N_B1 | PGr | 0.05 | -4.88 |
| | Qk.N_C1 | PGr | 2.39 | -6.64 |
| | Qk.N_C5 | PGr | 22.11 | -1.03 |
| | Qk.N_E1 | PGr | 2.56 | -1.37 |
| | Qk.N_DA | PGr | 6.53 | -4.50 |
| | Qk.N_T2 | PGr | 0.11 | -0.03 |
| W-0.14 | Gk | PGr | 294.44 | |
| | Ö← | PGr | 46.30 | |
| | Qk.N_B1 | PGr | 8.69 | -1.01 |
| | Qk.N_C1 | PGr | 21.22 | -1.86 |
| | Qk.N_C5 | PGr | 14.09 | -5.33 |
| | Qk.N_E1 | PGr | 55.56 | -1.90 |
| | Qk.N_DA | PGr | 13.06 | -5.63 |
| | Qk.N_T2 | PGr | 0.09 | -0.54 |
| W-0.15 | Gk | PGr | 1284.80 | |
| | Ö← | PGr | 335.47 | |
| | Qk.N_B1 | PGr | 209.36 | -11.19 |

POSITION

BP-LP4

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&ã\⇔{ [kN] |
|----------|---------|-----|-----------------|-----------------|
| | Qk.N_C1 | PGr | 174.64 | -3.09 |
| | Qk.N_C5 | PGr | 84.13 | -11.33 |
| | Qk.N_E1 | PGr | 41.99 | -0.09 |
| | Qk.N_DA | PGr | 152.67 | -2.94 |
| | Qk.N_T2 | PGr | 0.01 | -0.11 |
| W-0.16 | Gk | PGr | 971.34 | |
| | Ö← | PGr | 380.03 | |
| | Qk.N_B1 | PGr | 106.05 | -23.95 |
| | Qk.N_C1 | PGr | 112.75 | -21.93 |
| | Qk.N_C5 | PGr | 0.74 | -0.89 |
| | Qk.N_E1 | PGr | 0.53 | -0.24 |
| | Qk.N_DA | PGr | 76.17 | -16.14 |
| | Qk.N_T2 | PGr | 1.21 | -2.51 |
| W-0.17_1 | Gk | PGr | 54.02 | |
| | Ö← | PGr | -12.29 | |
| | Qk.N_B1 | PGr | 0.00 | -22.29 |
| | Qk.N_C1 | PGr | 3.65 | -62.95 |
| | Qk.N_C5 | PGr | 42.81 | -1.83 |
| | Qk.N_E1 | PGr | 4.07 | -9.09 |
| | Qk.N_DA | PGr | 13.33 | -14.97 |
| | Qk.N_T2 | PGr | 17.11 | -1.93 |
| W-0.17_2 | Gk | PGr | 1935.20 | |
| | Ö← | PGr | 528.51 | |
| | Qk.N_B1 | PGr | 175.10 | -3.29 |
| | Qk.N_C1 | PGr | 248.82 | -1.29 |
| | Qk.N_C5 | PGr | 272.14 | -0.42 |
| | Qk.N_E1 | PGr | 36.42 | -2.78 |
| | Qk.N_DA | PGr | 294.64 | -6.91 |
| | Qk.N_T2 | PGr | 0.41 | -7.29 |
| W-0.18 | Gk | PGr | 2.73 | |
| | Ö← | PGr | -2.66 | |
| | Qk.N_B1 | PGr | 0.00 | -9.07 |
| | Qk.N_C1 | PGr | 0.00 | -14.25 |
| | Qk.N_C5 | PGr | 0.40 | -1.24 |
| | Qk.N_E1 | PGr | 2.58 | 0.00 |
| | Qk.N_DA | PGr | 1.57 | -3.08 |
| | Qk.N_T2 | PGr | 0.43 | 0.00 |
| W-0.19 | Gk | PGr | 542.13 | |
| | Ö← | PGr | 223.08 | |
| | Qk.N_B1 | PGr | 95.34 | 0.00 |
| | Qk.N_C1 | PGr | 76.31 | 0.00 |
| | Qk.N_C5 | PGr | 4.63 | -1.71 |
| | Qk.N_E1 | PGr | 27.67 | 0.00 |
| | Qk.N_DA | PGr | 54.64 | -2.94 |
| | Qk.N_T2 | PGr | 0.00 | -2.10 |
| W-0.20 | Gk | PGr | 760.56 | |
| | Ö← | PGr | 302.21 | |
| | Qk.N_B1 | PGr | 115.28 | -0.21 |
| | Qk.N_C1 | PGr | 119.06 | -0.03 |
| | Qk.N_C5 | PGr | 7.88 | -0.83 |
| | Qk.N_E1 | PGr | 1.14 | -0.30 |
| | Qk.N_DA | PGr | 110.42 | -1.69 |
| | Qk.N_T2 | PGr | 0.02 | -0.22 |
| W-0.21 | Gk | PGr | 464.77 | |
| | Ö← | PGr | 187.15 | |
| | Qk.N_B1 | PGr | 69.53 | -1.29 |
| | Qk.N_C1 | PGr | 75.93 | -0.05 |
| | Qk.N_C5 | PGr | 4.17 | 0.00 |
| | Qk.N_E1 | PGr | 0.00 | -0.73 |
| | Qk.N_DA | PGr | 51.50 | -0.42 |
| | Qk.N_T2 | PGr | 0.09 | 0.00 |
| W-0.22 | Gk | PGr | 648.82 | |
| | Ö← | PGr | 331.88 | |
| | Qk.N_B1 | PGr | 1.95 | -21.90 |
| | Qk.N_C1 | PGr | 143.05 | -28.30 |
| | Qk.N_C5 | PGr | 0.57 | -3.20 |

POSITION

BP-LP4

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&â\⇌{ [kN] |
|----------|---------|-----|-----------------|-----------------|
| | Qk.N_E1 | PGr | 3.94 | -14.69 |
| | Qk.N_DA | PGr | 73.13 | -30.94 |
| | Qk.N_T2 | PGr | 0.00 | -0.01 |
| W-0.23 | Gk | PGr | 36.43 | |
| | Ö← | PGr | -11.63 | |
| | Qk.N_B1 | PGr | 0.22 | -0.53 |
| | Qk.N_C1 | PGr | 44.23 | -67.54 |
| | Qk.N_C5 | PGr | 0.54 | -0.03 |
| | Qk.N_E1 | PGr | 1.23 | -1.30 |
| | Qk.N_DA | PGr | 0.32 | -0.17 |
| | Qk.N_T2 | PGr | 0.00 | -0.10 |
| W-0.24 | Gk | PGr | 377.68 | |
| | Ö← | PGr | 62.67 | |
| | Qk.N_B1 | PGr | 3.94 | -0.56 |
| | Qk.N_C1 | PGr | 159.33 | -63.26 |
| | Qk.N_C5 | PGr | 1.87 | -0.17 |
| | Qk.N_E1 | PGr | 5.98 | -24.35 |
| | Qk.N_DA | PGr | 23.78 | -1.46 |
| | Qk.N_T2 | PGr | 0.01 | -0.03 |
| W-0.25 | Gk | PGr | 814.57 | |
| | Ö← | PGr | 233.22 | |
| | Qk.N_B1 | PGr | 69.02 | -5.13 |
| | Qk.N_C1 | PGr | 286.00 | -7.86 |
| | Qk.N_C5 | PGr | 4.54 | -21.35 |
| | Qk.N_E1 | PGr | 6.61 | -0.58 |
| | Qk.N_DA | PGr | 60.39 | -6.31 |
| | Qk.N_T2 | PGr | 0.08 | -2.23 |
| W-0.26 | Gk | PGr | 1398.77 | |
| | Ö← | PGr | 307.76 | |
| | Qk.N_B1 | PGr | 144.85 | -21.99 |
| | Qk.N_C1 | PGr | 145.19 | -8.53 |
| | Qk.N_C5 | PGr | 6.02 | -34.50 |
| | Qk.N_E1 | PGr | 1.92 | -1.47 |
| | Qk.N_DA | PGr | 199.46 | -28.42 |
| | Qk.N_T2 | PGr | 97.85 | -1.29 |
| W-0.27 | Gk | PGr | 1124.94 | |
| | Ö← | PGr | 192.13 | |
| | Qk.N_B1 | PGr | 185.16 | -30.61 |
| | Qk.N_C1 | PGr | 2.30 | -17.09 |
| | Qk.N_C5 | PGr | 16.14 | -3.76 |
| | Qk.N_E1 | PGr | 2.41 | -3.41 |
| | Qk.N_DA | PGr | 150.77 | -36.91 |
| | Qk.N_T2 | PGr | 103.39 | -1.27 |
| W-0.28 | Gk | PGr | 924.64 | |
| | Ö← | PGr | 358.03 | |
| | Qk.N_B1 | PGr | 148.53 | -17.86 |
| | Qk.N_C1 | PGr | 0.95 | -0.49 |
| | Qk.N_C5 | PGr | 0.31 | -0.33 |
| | Qk.N_E1 | PGr | 3.48 | -4.49 |
| | Qk.N_DA | PGr | 58.23 | -5.09 |
| | Qk.N_T2 | PGr | 1.24 | -3.12 |
| W-0.29 | Gk | PGr | 613.72 | |
| | Ö← | PGr | 250.91 | |
| | Qk.N_B1 | PGr | 83.69 | -9.30 |
| | Qk.N_C1 | PGr | 84.68 | -13.82 |
| | Qk.N_C5 | PGr | 4.96 | -0.79 |
| | Qk.N_E1 | PGr | 37.60 | -1.74 |
| | Qk.N_DA | PGr | 64.99 | -12.91 |
| | Qk.N_T2 | PGr | 0.08 | 0.00 |
| W-0.30 | Gk | PGr | 540.89 | |
| | Ö← | PGr | 213.76 | |
| | Qk.N_B1 | PGr | 102.80 | -0.12 |
| | Qk.N_C1 | PGr | 45.31 | 0.00 |
| | Qk.N_C5 | PGr | 4.74 | -0.27 |
| | Qk.N_E1 | PGr | 0.09 | -0.29 |
| | Qk.N_DA | PGr | 87.05 | -1.26 |

POSITION

BP-LP4

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&ä\⇔{ [kN] |
|----------|---------|-----|-----------------|-----------------|
| | Qk.N_T2 | PGr | 0.00 | -0.18 |
| W-0.31 | Gk | PGr | 221.90 | |
| | Ö← | PGr | 94.25 | |
| | Qk.N_B1 | PGr | 18.38 | -0.01 |
| | Qk.N_C1 | PGr | 79.29 | 0.00 |
| | Qk.N_C5 | PGr | 0.40 | -0.15 |
| | Qk.N_E1 | PGr | 0.17 | -0.15 |
| | Qk.N_DA | PGr | 11.14 | -0.12 |
| | Qk.N_T2 | PGr | 0.00 | -0.51 |
| W-0.32_1 | Gk | PGr | 76.92 | |
| | Ö← | PGr | 5.04 | |
| | Qk.N_B1 | PGr | 0.57 | -0.08 |
| | Qk.N_C1 | PGr | 0.52 | -6.06 |
| | Qk.N_C5 | PGr | 10.80 | -0.43 |
| | Qk.N_E1 | PGr | 1.21 | -2.36 |
| | Qk.N_DA | PGr | 3.85 | -0.27 |
| | Qk.N_T2 | PGr | 0.22 | -0.05 |
| W-0.32_2 | Gk | PGr | 7.54 | |
| | Ö← | PGr | 0.13 | |
| | Qk.N_B1 | PGr | 0.01 | -0.03 |
| | Qk.N_C1 | PGr | 0.00 | -2.54 |
| | Qk.N_C5 | PGr | 2.66 | -0.02 |
| | Qk.N_E1 | PGr | 0.00 | -0.40 |
| | Qk.N_DA | PGr | 0.00 | -0.03 |
| | Qk.N_T2 | PGr | 0.04 | 0.00 |
| W-0.32_3 | Gk | PGr | 80.63 | |
| | Ö← | PGr | 3.14 | |
| | Qk.N_B1 | PGr | 1.32 | -0.07 |
| | Qk.N_C1 | PGr | 0.00 | -25.29 |
| | Qk.N_C5 | PGr | 24.68 | -0.50 |
| | Qk.N_E1 | PGr | 0.00 | -1.23 |
| | Qk.N_DA | PGr | 0.59 | -0.06 |
| | Qk.N_T2 | PGr | 1.98 | -0.01 |
| W-0.32_4 | Gk | PGr | 6.34 | |
| | Ö← | PGr | 0.36 | |
| | Qk.N_B1 | PGr | 0.00 | -1.02 |
| | Qk.N_C1 | PGr | 0.00 | -0.56 |
| | Qk.N_C5 | PGr | 1.82 | -0.06 |
| | Qk.N_E1 | PGr | 0.00 | -0.01 |
| | Qk.N_DA | PGr | 0.06 | -0.11 |
| | Qk.N_T2 | PGr | 0.26 | 0.00 |
| W-0.33 | Gk | PGr | 571.10 | |
| | Ö← | PGr | 229.39 | |
| | Qk.N_B1 | PGr | 104.44 | 0.00 |
| | Qk.N_C1 | PGr | 69.52 | 0.00 |
| | Qk.N_C5 | PGr | 0.56 | -0.09 |
| | Qk.N_E1 | PGr | 0.20 | -0.13 |
| | Qk.N_DA | PGr | 77.80 | -0.50 |
| | Qk.N_T2 | PGr | 0.00 | -1.07 |
| W-0.34 | Gk | PGr | 457.94 | |
| | Ö← | PGr | 118.46 | |
| | Qk.N_B1 | PGr | 54.93 | -4.35 |
| | Qk.N_C1 | PGr | 59.79 | -17.67 |
| | Qk.N_C5 | PGr | 62.52 | -2.93 |
| | Qk.N_E1 | PGr | 36.67 | -8.74 |
| | Qk.N_DA | PGr | 69.02 | -25.03 |
| | Qk.N_T2 | PGr | 0.01 | 0.00 |
| W-0.35 | Gk | PGr | 994.79 | |
| | Ö← | PGr | 271.30 | |
| | Qk.N_B1 | PGr | 76.78 | -1.26 |
| | Qk.N_C1 | PGr | 264.74 | -1.26 |
| | Qk.N_C5 | PGr | 86.47 | -1.48 |
| | Qk.N_E1 | PGr | 9.25 | -7.18 |
| | Qk.N_DA | PGr | 103.10 | -3.92 |
| | Qk.N_T2 | PGr | 0.11 | -1.13 |
| W-0.36 | Gk | PGr | 1780.27 | |

| | | POSITION | | BP-LP4 |
|----------|---------|----------|-----------------|-----------------|
| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&â\⇔{ [kN] |
| | Ö← | PGr | 416.18 | |
| | Qk.N_B1 | PGr | 218.81 | -24.03 |
| | Qk.N_C1 | PGr | 263.81 | -25.93 |
| | Qk.N_C5 | PGr | 44.48 | -5.88 |
| | Qk.N_E1 | PGr | 1.36 | -9.18 |
| | Qk.N_DA | PGr | 284.29 | -35.87 |
| | Qk.N_T2 | PGr | 95.28 | -0.98 |
| W-0.37 | Gk | PGr | 243.86 | |
| | Ö← | PGr | 10.58 | |
| | Qk.N_B1 | PGr | 3.01 | -1.30 |
| | Qk.N_C1 | PGr | 2.51 | -14.19 |
| | Qk.N_C5 | PGr | 15.58 | -4.98 |
| | Qk.N_E1 | PGr | 29.36 | -7.06 |
| | Qk.N_DA | PGr | 18.13 | -14.53 |
| | Qk.N_T2 | PGr | 0.01 | -0.02 |
| W-0.38 | Gk | PGr | 1330.61 | |
| | Ö← | PGr | 145.55 | |
| | Qk.N_B1 | PGr | 8.28 | -1.42 |
| | Qk.N_C1 | PGr | 20.25 | -24.30 |
| | Qk.N_C5 | PGr | 35.71 | -12.30 |
| | Qk.N_E1 | PGr | 133.62 | -10.20 |
| | Qk.N_DA | PGr | 161.26 | -8.64 |
| | Qk.N_T2 | PGr | 0.97 | -0.52 |
| W-0.39_1 | Gk | PGr | 155.92 | |
| | Ö← | PGr | -10.50 | |
| | Qk.N_B1 | PGr | 15.66 | -17.51 |
| | Qk.N_C1 | PGr | 1.69 | -85.01 |
| | Qk.N_C5 | PGr | 41.73 | -14.38 |
| | Qk.N_E1 | PGr | 68.40 | -2.78 |
| | Qk.N_DA | PGr | 12.97 | -27.78 |
| | Qk.N_T2 | PGr | 0.06 | -0.59 |
| W-0.39_2 | Gk | PGr | 54.36 | |
| | Ö← | PGr | 7.33 | |
| | Qk.N_B1 | PGr | 1.55 | -0.16 |
| | Qk.N_C1 | PGr | 0.01 | -11.99 |
| | Qk.N_C5 | PGr | 6.33 | 0.00 |
| | Qk.N_E1 | PGr | 17.28 | -0.51 |
| | Qk.N_DA | PGr | 4.84 | -2.54 |
| | Qk.N_T2 | PGr | 0.01 | 0.00 |
| W-0.39_3 | Gk | PGr | 50.99 | |
| | Ö← | PGr | 4.79 | |
| | Qk.N_B1 | PGr | 0.03 | -1.64 |
| | Qk.N_C1 | PGr | 0.09 | -11.61 |
| | Qk.N_C5 | PGr | 5.95 | -0.57 |
| | Qk.N_E1 | PGr | 19.39 | -1.99 |
| | Qk.N_DA | PGr | 4.50 | -4.04 |
| | Qk.N_T2 | PGr | 0.00 | 0.00 |
| W-0.39_4 | Gk | PGr | 11.26 | |
| | Ö← | PGr | -1.12 | |
| | Qk.N_B1 | PGr | 0.50 | 0.00 |
| | Qk.N_C1 | PGr | 0.03 | -9.45 |
| | Qk.N_C5 | PGr | 4.85 | -0.01 |
| | Qk.N_E1 | PGr | 2.08 | -1.38 |
| | Qk.N_DA | PGr | 1.12 | -0.56 |
| W-0.40 | Gk | PGr | 1115.37 | |
| | Ö← | PGr | 191.37 | |
| | Qk.N_B1 | PGr | 97.56 | -56.56 |
| | Qk.N_C1 | PGr | 55.05 | -52.97 |
| | Qk.N_C5 | PGr | 30.94 | -18.76 |
| | Qk.N_E1 | PGr | 98.11 | -0.94 |
| | Qk.N_DA | PGr | 180.15 | -56.66 |
| | Qk.N_T2 | PGr | 103.27 | -1.32 |
| W-0.41 | Gk | PGr | 525.41 | |
| | Ö← | PGr | 74.49 | |
| | Qk.N_B1 | PGr | 7.62 | -36.81 |
| | Qk.N_C1 | PGr | 1.74 | -5.59 |

POSITION

BP-LP4

| Position | EW | Art | *~b⇌\⇌{ [kN] | ^æ&â\⇌{ [kN] |
|----------|---------|-----|-----------------|-----------------|
| | Qk.N_C5 | PGr | 110.21 | -13.11 |
| | Qk.N_E1 | PGr | 0.35 | -8.99 |
| | Qk.N_DA | PGr | 90.06 | -18.88 |
| | Qk.N_T2 | PGr | 0.43 | -0.05 |
| W-0.42 | Gk | PGr | 938.31 | |
| | Ö← | PGr | 375.39 | |
| | Qk.N_B1 | PGr | 76.24 | -29.91 |
| | Qk.N_C1 | PGr | 96.33 | -21.26 |
| | Qk.N_C5 | PGr | 18.31 | -2.57 |
| | Qk.N_E1 | PGr | 0.19 | -7.09 |
| | Qk.N_DA | PGr | 71.52 | -8.88 |
| | Qk.N_T2 | PGr | 0.01 | 0.00 |
| W-0.43 | Gk | PGr | 386.53 | |
| | Ö← | PGr | 154.85 | |
| | Qk.N_B1 | PGr | 97.85 | -7.64 |
| | Qk.N_C1 | PGr | 0.00 | -11.46 |
| | Qk.N_C5 | PGr | 0.04 | -6.19 |
| | Qk.N_E1 | PGr | 20.37 | -0.02 |
| | Qk.N_DA | PGr | 34.95 | -9.23 |
| | Qk.N_T2 | PGr | 0.01 | 0.00 |
| W-0.44_1 | Gk | PGr | 437.70 | |
| | Ö← | PGr | 93.02 | |
| | Qk.N_B1 | PGr | 68.32 | -26.04 |
| | Qk.N_C1 | PGr | 56.22 | -58.37 |
| | Qk.N_C5 | PGr | 82.71 | -5.52 |
| | Qk.N_E1 | PGr | 29.49 | -0.44 |
| | Qk.N_DA | PGr | 51.55 | -17.14 |
| | Qk.N_T2 | PGr | 0.23 | -0.03 |
| W-0.44_2 | Gk | PGr | 459.23 | |
| | Ö← | PGr | 105.05 | |
| | Qk.N_B1 | PGr | 104.01 | -0.62 |
| | Qk.N_C1 | PGr | 0.00 | -1.08 |
| | Qk.N_C5 | PGr | 40.20 | -3.73 |
| | Qk.N_E1 | PGr | 62.66 | -0.03 |
| | Qk.N_DA | PGr | 23.81 | -2.69 |
| | Qk.N_T2 | PGr | 0.00 | -0.05 |
| W-0.44_3 | Gk | PGr | 36.91 | |
| | Ö← | PGr | 9.01 | |
| | Qk.N_B1 | PGr | 10.28 | -0.01 |
| | Qk.N_C1 | PGr | 0.03 | 0.00 |
| | Qk.N_C5 | PGr | 3.89 | -0.20 |
| | Qk.N_E1 | PGr | 3.26 | -0.06 |
| | Qk.N_DA | PGr | 1.30 | -0.24 |
| W-0.44_4 | Gk | PGr | 401.64 | |
| | Ö← | PGr | 77.43 | |
| | Qk.N_B1 | PGr | 38.06 | -4.97 |
| | Qk.N_C1 | PGr | 0.50 | -1.33 |
| | Qk.N_C5 | PGr | 66.70 | -0.79 |
| | Qk.N_E1 | PGr | 32.12 | -2.29 |
| | Qk.N_DA | PGr | 25.44 | -1.64 |
| | Qk.N_T2 | PGr | 0.00 | -0.91 |
| W-0.45 | Gk | PGr | 143.94 | |
| | Ö← | PGr | 58.46 | |
| | Qk.N_B1 | PGr | 22.92 | -2.05 |
| | Qk.N_C1 | PGr | 0.04 | -0.08 |
| | Qk.N_C5 | PGr | 0.39 | -0.17 |
| | Qk.N_E1 | PGr | 4.48 | -0.65 |
| | Qk.N_DA | PGr | 8.24 | -0.67 |
| | Qk.N_T2 | PGr | 0.07 | -0.06 |
| W-0.46 | Gk | PGr | 317.02 | |
| | Ö← | PGr | 130.70 | |
| | Qk.N_B1 | PGr | 95.21 | -0.67 |
| | Qk.N_C1 | PGr | 1.40 | 0.00 |
| | Qk.N_C5 | PGr | 0.30 | -2.37 |
| | Qk.N_E1 | PGr | 9.49 | -1.17 |
| | Qk.N_DA | PGr | 17.77 | -0.19 |

POSITION

BP-LP4

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&ä\⇔{ [kN] |
|-------------------------|---------|-----|-----------------|-----------------|
| | Qk.N_T2 | PGr | 0.00 | -0.11 |
| W-0.47 | Gk | PGr | 312.79 | |
| | Ö← | PGr | 125.76 | |
| | Qk.N_B1 | PGr | 41.79 | -1.16 |
| | Qk.N_C1 | PGr | 51.85 | -0.02 |
| | Qk.N_C5 | PGr | 2.43 | -0.37 |
| | Qk.N_E1 | PGr | 0.25 | -0.09 |
| | Qk.N_DA | PGr | 43.52 | -0.59 |
| | Qk.N_T2 | PGr | 0.04 | -0.01 |
| W-0.48 | Gk | PGr | 2.27 | |
| | Ö← | PGr | 2.21 | |
| | Qk.N_B1 | PGr | 0.09 | -5.96 |
| | Qk.N_C1 | PGr | 0.11 | 0.00 |
| | Qk.N_C5 | PGr | 9.14 | -0.34 |
| | Qk.N_E1 | PGr | 0.08 | -0.07 |
| | Qk.N_DA | PGr | 0.11 | -0.41 |
| | Qk.N_T2 | PGr | 0.00 | 0.00 |
| W-0.49 | Gk | PGr | 358.57 | |
| | Ö← | PGr | 37.80 | |
| | Qk.N_B1 | PGr | 4.58 | -83.37 |
| | Qk.N_C1 | PGr | 3.16 | -11.75 |
| | Qk.N_C5 | PGr | 129.59 | -20.03 |
| | Qk.N_E1 | PGr | 0.59 | -19.94 |
| | Qk.N_DA | PGr | 92.54 | -48.05 |
| | Qk.N_T2 | PGr | 1.60 | -0.21 |
| W-0.50 | Gk | PGr | 517.08 | |
| | Ö← | PGr | 115.02 | |
| | Qk.N_B1 | PGr | 3.29 | -1.33 |
| | Qk.N_C1 | PGr | 251.53 | -42.99 |
| | Qk.N_C5 | PGr | 3.36 | -2.64 |
| | Qk.N_E1 | PGr | 9.70 | -14.65 |
| | Qk.N_DA | PGr | 16.17 | -2.30 |
| | Qk.N_T2 | PGr | 0.22 | -0.02 |
| WS-0.11_BR | Gk | PGr | 0.00 | |
| WS-0.11_SA_W- 0.11_1 | Gk | PGr | 41.82 | |
| | Ö← | PGr | 8.45 | |
| | Qk.N_B1 | PGr | 1.67 | -2.14 |
| | Qk.N_C1 | PGr | 0.49 | -0.05 |
| | Qk.N_C5 | PGr | 5.28 | 0.00 |
| | Qk.N_E1 | PGr | 3.55 | -0.12 |
| | Qk.N_DA | PGr | 4.60 | -0.40 |
| | Qk.N_T2 | PGr | 1.16 | -0.02 |
| WS-0.11_SE_W- 0.11_2 | Gk | PGr | 38.82 | |
| | Ö← | PGr | 7.98 | |
| | Qk.N_B1 | PGr | 4.63 | -1.69 |
| | Qk.N_C1 | PGr | 0.79 | -0.08 |
| | Qk.N_C5 | PGr | 2.85 | -0.19 |
| | Qk.N_E1 | PGr | 3.63 | -0.13 |
| | Qk.N_DA | PGr | 4.33 | -0.21 |
| | Qk.N_T2 | PGr | 0.47 | -0.82 |
| WS-0.17_BR | Gk | PGr | 0.00 | |
| WS-0.17_SA_W- 0.17_1 | Gk | PGr | 34.00 | |
| | Ö← | PGr | 8.12 | |
| | Qk.N_B1 | PGr | 0.00 | -1.02 |
| | Qk.N_C1 | PGr | 3.96 | 0.00 |
| | Qk.N_C5 | PGr | 7.81 | -0.45 |
| | Qk.N_E1 | PGr | 6.09 | -0.13 |
| | Qk.N_DA | PGr | 3.01 | -1.74 |
| | Qk.N_T2 | PGr | 0.07 | -1.69 |
| WS-0.17_SE_W- 0.17_2 | Gk | PGr | 41.04 | |
| | Ö← | PGr | 10.73 | |
| | Qk.N_B1 | PGr | 1.20 | -0.25 |

POSITION

BP-LP4

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&ä\⇔{ [kN] |
|---------------------------|---------|-----|-----------------|-----------------|
| | Qk.N_C1 | PGr | 4.40 | 0.00 |
| | Qk.N_C5 | PGr | 8.08 | -0.32 |
| | Qk.N_E1 | PGr | 6.89 | -0.11 |
| | Qk.N_DA | PGr | 3.82 | -0.93 |
| | Qk.N_T2 | PGr | 0.00 | -1.66 |
| WS-0.32_2_BR | Gk | PGr | 0.00 | |
| WS-0.32_2_SA_W- 0.32_2 | Gk | PGr | 2.39 | |
| | Ö← | PGr | 0.17 | |
| | Qk.N_B1 | PGr | 0.01 | -0.06 |
| | Qk.N_C1 | PGr | 0.00 | -3.73 |
| | Qk.N_C5 | PGr | 3.83 | -0.05 |
| | Qk.N_E1 | PGr | 0.00 | -0.47 |
| | Qk.N_DA | PGr | 0.00 | -0.06 |
| | Qk.N_T2 | PGr | 0.05 | 0.00 |
| WS-0.32_2_SE_W- 0.32_3 | Gk | PGr | 2.41 | |
| | Ö← | PGr | 0.18 | |
| | Qk.N_B1 | PGr | 0.02 | -0.07 |
| | Qk.N_C1 | PGr | 0.00 | -3.74 |
| | Qk.N_C5 | PGr | 3.84 | -0.05 |
| | Qk.N_E1 | PGr | 0.00 | -0.42 |
| | Qk.N_DA | PGr | 0.00 | -0.06 |
| | Qk.N_T2 | PGr | 0.04 | 0.00 |
| WS-0.39_1_BR | Gk | PGr | 0.00 | |
| WS-0.39_1_SA_W- 0.39_1 | Gk | PGr | 18.20 | |
| | Ö← | PGr | 2.09 | |
| | Qk.N_B1 | PGr | 1.19 | -1.18 |
| | Qk.N_C1 | PGr | 0.05 | -9.97 |
| | Qk.N_C5 | PGr | 4.48 | -0.66 |
| | Qk.N_E1 | PGr | 11.74 | -0.25 |
| | Qk.N_DA | PGr | 1.66 | -2.11 |
| | Qk.N_T2 | PGr | 0.01 | 0.00 |
| WS-0.39_1_SE_W- 0.39_2 | Gk | PGr | 20.79 | |
| | Ö← | PGr | 3.17 | |
| | Qk.N_B1 | PGr | 0.56 | -0.08 |
| | Qk.N_C1 | PGr | 0.02 | -9.84 |
| | Qk.N_C5 | PGr | 4.51 | -0.10 |
| | Qk.N_E1 | PGr | 11.24 | -0.25 |
| | Qk.N_DA | PGr | 1.87 | -1.37 |
| | Qk.N_T2 | PGr | 0.01 | 0.00 |
| WS-0.39_2_BR | Gk | PGr | 0.00 | |
| WS-0.39_2_SA_W- 0.39_2 | Gk | PGr | 21.42 | |
| | Ö← | PGr | 3.51 | |
| | Qk.N_B1 | PGr | 0.23 | -0.15 |
| | Qk.N_C1 | PGr | 0.02 | -7.03 |
| | Qk.N_C5 | PGr | 3.56 | 0.00 |
| | Qk.N_E1 | PGr | 10.14 | -0.59 |
| | Qk.N_DA | PGr | 2.19 | -1.34 |
| | Qk.N_T2 | PGr | 0.00 | 0.00 |
| WS-0.39_2_SE_W- 0.39_3 | Gk | PGr | 21.00 | |
| | Ö← | PGr | 3.26 | |
| | Qk.N_B1 | PGr | 0.05 | -0.30 |
| | Qk.N_C1 | PGr | 0.03 | -6.94 |
| | Qk.N_C5 | PGr | 3.47 | -0.06 |
| | Qk.N_E1 | PGr | 10.40 | -0.73 |
| | Qk.N_DA | PGr | 2.22 | -1.57 |
| | Qk.N_T2 | PGr | 0.00 | 0.00 |
| WS-0.39_3_BR | Gk | PGr | 0.00 | |
| WS-0.39_3_SA_W- 0.39_3 | Gk | PGr | 15.45 | |
| | Ö← | PGr | 0.87 | |

POSITION

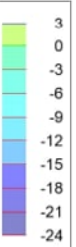
BP-LP4

| Position | EW | Art | *~b⇔\⇔{ [kN] | ^æ&ä\⇔{ [kN] |
|---------------------------|---------|-----|-----------------|-----------------|
| | Qk.N_B1 | PGr | 0.01 | -0.22 |
| | Qk.N_C1 | PGr | 0.03 | -9.55 |
| | Qk.N_C5 | PGr | 4.75 | -0.02 |
| | Qk.N_E1 | PGr | 7.20 | -1.05 |
| | Qk.N_DA | PGr | 1.72 | -1.36 |
| | Qk.N_T2 | PGr | 0.00 | 0.00 |
| WS-0.39_3_SE_W- 0.39_4 | Gk | PGr | 13.24 | |
| | Ö← | PGr | -0.09 | |
| | Qk.N_B1 | PGr | 0.22 | -0.03 |
| | Qk.N_C1 | PGr | 0.03 | -11.40 |
| | Qk.N_C5 | PGr | 5.74 | 0.00 |
| | Qk.N_E1 | PGr | 5.56 | -1.33 |
| | Qk.N_DA | PGr | 1.47 | -0.94 |
| | Qk.N_T2 | PGr | 0.00 | 0.00 |
| WS-0.44_3_BR | Gk | PGr | 0.00 | |
| WS-0.44_3_SA_W- 0.44_3 | Gk | PGr | 47.88 | |
| | Ö← | PGr | 14.31 | |
| | Qk.N_B1 | PGr | 17.41 | -0.03 |
| | Qk.N_C1 | PGr | 0.15 | -0.02 |
| | Qk.N_C5 | PGr | 6.77 | -0.62 |
| | Qk.N_E1 | PGr | 4.00 | -0.25 |
| | Qk.N_DA | PGr | 1.62 | -0.38 |
| | Qk.N_T2 | PGr | 0.00 | -0.01 |
| WS-0.44_3_SE_W- 0.44_4 | Gk | PGr | 51.48 | |
| | Ö← | PGr | 14.52 | |
| | Qk.N_B1 | PGr | 17.27 | -0.07 |
| | Qk.N_C1 | PGr | 0.21 | -0.03 |
| | Qk.N_C5 | PGr | 7.14 | -0.84 |
| | Qk.N_E1 | PGr | 4.50 | -0.38 |
| | Qk.N_DA | PGr | 1.94 | -0.36 |
| | Qk.N_T2 | PGr | 0.00 | -0.03 |

PGr: Gravitationslast; positive Lasten wirken senkrecht nach unten

5 i ZU Yf f} ZH

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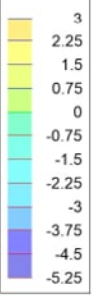


æ•Á à^|æ^|} •Á à^|SSp
Minimum
Max = 0.1 (Kn. 547), Min = -22.6 (Kn. 30), Step = 3

| | |
|-------------|-------------------------------------|
| Modell | BP-LP4 Bodenplatte |
| Bauvorhaben | Schulcampus EWK Schwesternschule |

KREBS+KIEFER Ingenieure GmbH

T 28 • 2008年11月

MicroFe 2025.00%

Bemessung (GZT+GZG)

| | | | | | |
|----------------------------|---|----------------|-----|------------------------------|---------------|
| <u>Bemessungsparameter</u> | Biegebemessung der Platten (Stahlbeton) nach DIN EN 1992-1-1 | | | | |
| <u>Biegung</u> | | | | | |
| <u>Mat./Querschnitt</u> | Position | Winkel YflY | Art | Material Q+^&b Quer | Dicke [cm] |
| | BP | 0.0 | iso | C 30/37 Q B 500SA B 500SA | 40.0 |
| | Winkel: Bewehrungsrichtung r iso: isotropes Material Q: Öäb\æ↔^b←=ä^ ^&ÄT ää~↔\ | | | | |

| | | | | |
|--------------------------|--------------------------------|-----------|-----------|--|
| <u>Expositionsklasse</u> | &æ†‡ßÄØSÁÓSÁFïïGËFËFËÁÚääÈÄHÈF | | | |
| | Position | Seite | Kl | Kommentar |
| | BP | umlaufend | XC2 WF | nass, selten trocken Ö† ä↔&Ä~ääÄ→†^&æääÄ Zeit feuchter Beton |

Bewehrung

| | | | | |
|---------------------------|-----------------------|------------|------------|--------------------------|
| <u>Bewehrungsrichtung</u> | Orthogonale Bewehrung | | | |
| | Position | ro YflY | so YflY | ru YflY su YflY |
| | BP | 0.00 | 90.00 | 0.00 90.00 |

| | | | | | | | |
|---------------------|----------|--------------------------|--------------------------|--------------------------|------------------------|-------------------------|-------------------------|
| <u>Betondeckung</u> | Position | C _{min} [mm] | # _{def} [mm] | C _{nom} [mm] | C _v [mm] | d' _r [mm] | d' _s [mm] |
| | BP | o 20 | 15 | 35 | 35 | 56 | 42 |
| | | u 20 | 15 | 35 | 35 | 56 | 42 |

| | | | | | | |
|-----------------------|----------|-----------------------------|-------------------------|---|-------------------------|---|
| <u>Grundbewehrung</u> | Position | Rä\\æÉÁU\†âæ ~Y††YËbY'†Y | d' _r [mm] | a _{sg,r} [cm ² /m] | d' _s [mm] | a _{sg,s} [cm ² /m] |
| | BP | u r | 56 | 15.39 | | |
| | | u s | | | 42 | 15.39 |
| | | o r | 56 | 15.39 | | |
| | | o s | | | 42 | 15.39 |

| | | | | | | |
|------------------------|----------|-----------------------------|-------------------------|---|-------------------------|---|
| <u>Zulagebewehrung</u> | Position | Rä\\æÉÁU\†âæ ~Y††YËbY'†Y | d' _r [mm] | a _{sz,r} [cm ² /m] | d' _s [mm] | a _{sz,s} [cm ² /m] |
| | BP | ZULAGE-1 u | 35 | 16.03 | 35 | 16.03 |
| | | ZULAGE-1 o | 35 | 4.72 | 35 | 4.72 |

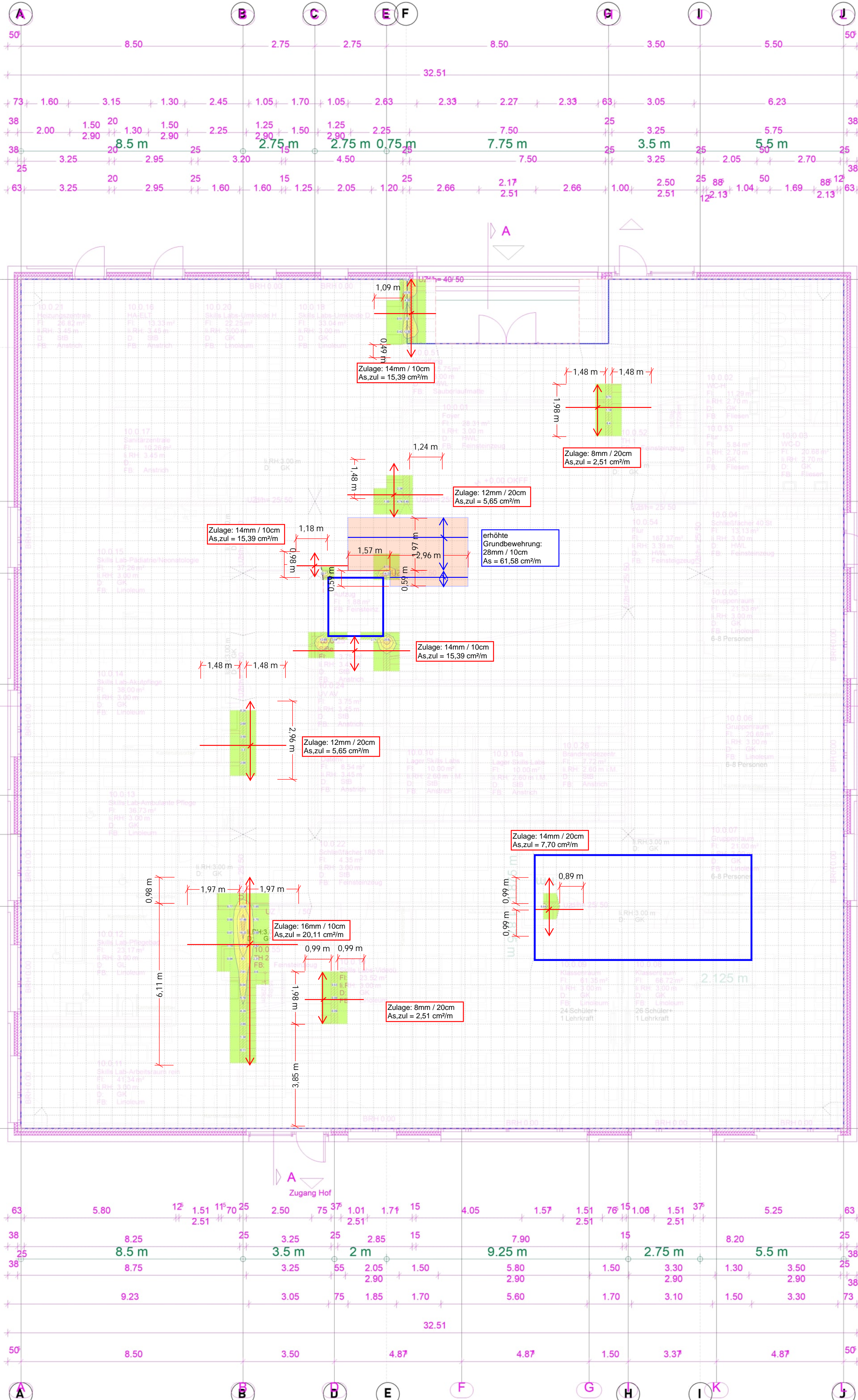
Bemessungsparameter

| | | |
|----------------|---|------------------|
| <u>Biegung</u> | Position | Mindestbewehrung |
| | BP | ja |
| | Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | |

Bemessungsparameter

| | |
|----------------------------|---|
| <u>Querkraft</u> | Ö→†'âæ^@ æä←äää\âæ†æbb ^&Ä^á'âÄØSÁÓSÁFïïGËFËF |
| <u>Bemessungsparameter</u> | âfiäÄää^ÄÖää^~ b\á^ääääÄÜää&à†â↔&←æ↔\Ä^á'âÄØSÁÓSÁ |
| | 1992-1-1 |

| | | | |
|------------------|---|---------------------|------------------|
| <u>Querkraft</u> | Position | Druckstrebenneigung | Mindestbewehrung |
| | BP | automatisch | nein |
| | Mindestbewehrung nach Abs. 9.2.1.1 bzw. 9.2.2 | | |



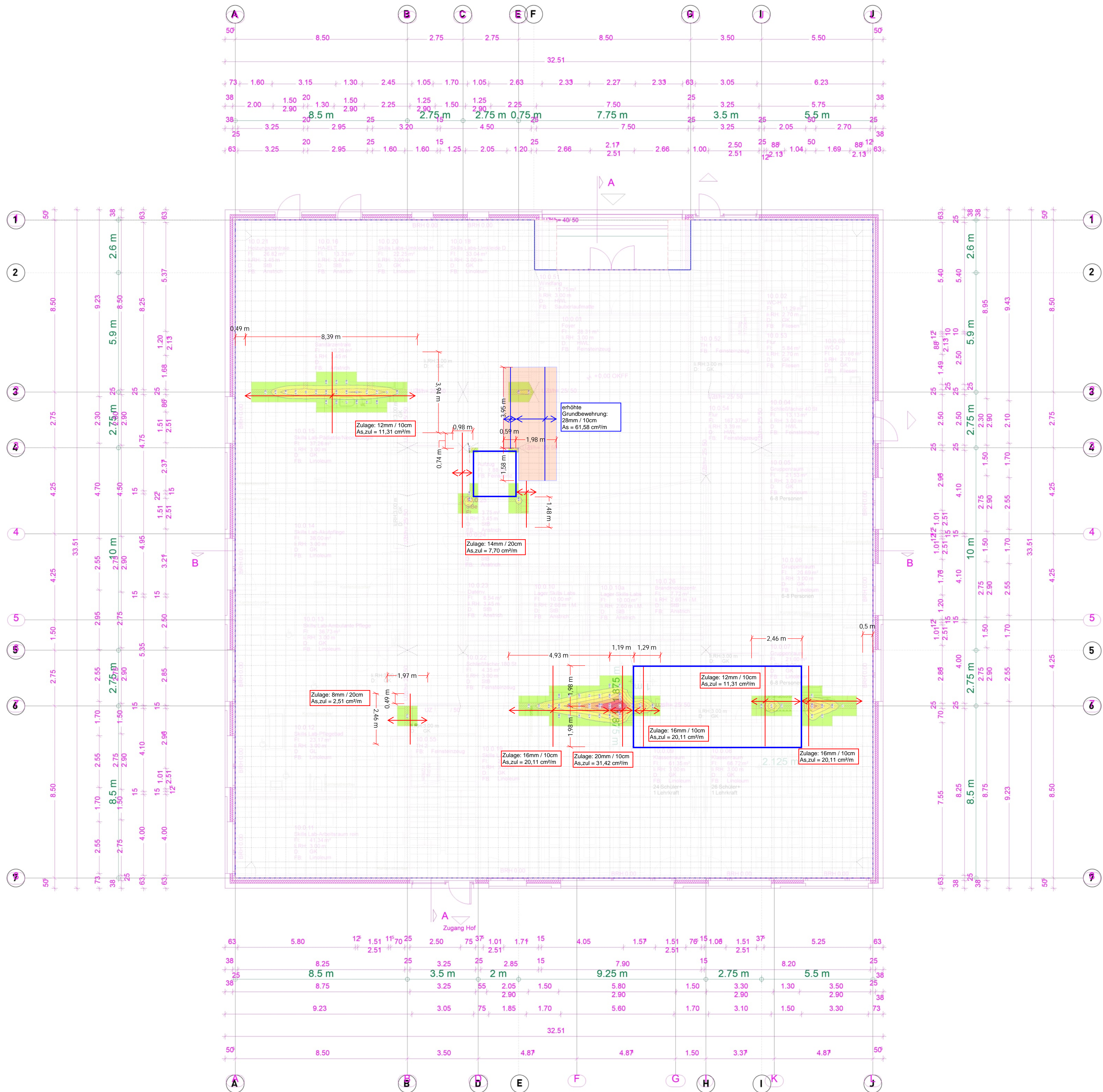
| Index | Datum | Änderung |
|-------|------------|------------|
| 1 | 10.10.2023 | Erstellung |
| 2 | 10.10.2023 | Änderung |
| 3 | 10.10.2023 | Änderung |
| 4 | 10.10.2023 | Änderung |
| 5 | 10.10.2023 | Änderung |
| 6 | 10.10.2023 | Änderung |
| 7 | 10.10.2023 | Änderung |

Pläne sind grundsätzlich nur zusammen mit den Statikplänen gültig. Alle Arbeiten an Tragwerk bis zum tragfähigen Grund zu führen. Die Bemessung der Tür- und Brüstungshöhen (BRH) bzw. sind Rohbaumaßnahmen in Wänden, Decken und Fundamenten für HLS- und Elektrik. Alle Maße sind am Bau zu prüfen.

| | | |
|------------------------------|--------------------|-------|
| Modell | BP-LP4 Bodenplatte | Tafel |
| Bauvorhaben | Schulcampus EWK | |
| | Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | |

WbVYa Yggi b[
Erforderliche Bewehrung as,erf (Differenzbew.)
Vorhandene Bew. as,vorh = 15,39...31,42 (Grund+Zulagen)
Bew.-Abstand d = 56 mm
Beton C 30/37
Bauteildicke h = 30,00...40,00 cm
aus allen Nachweisen
Erforderliche Bewehrung as,erf (Differenzbew.)
Max = 32,17 (Kn, 4268), Min = 0 (Kn, 1), Step = 5

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| Index | Datum | Änderung |
|-------|-------|----------|
|-------|-------|----------|

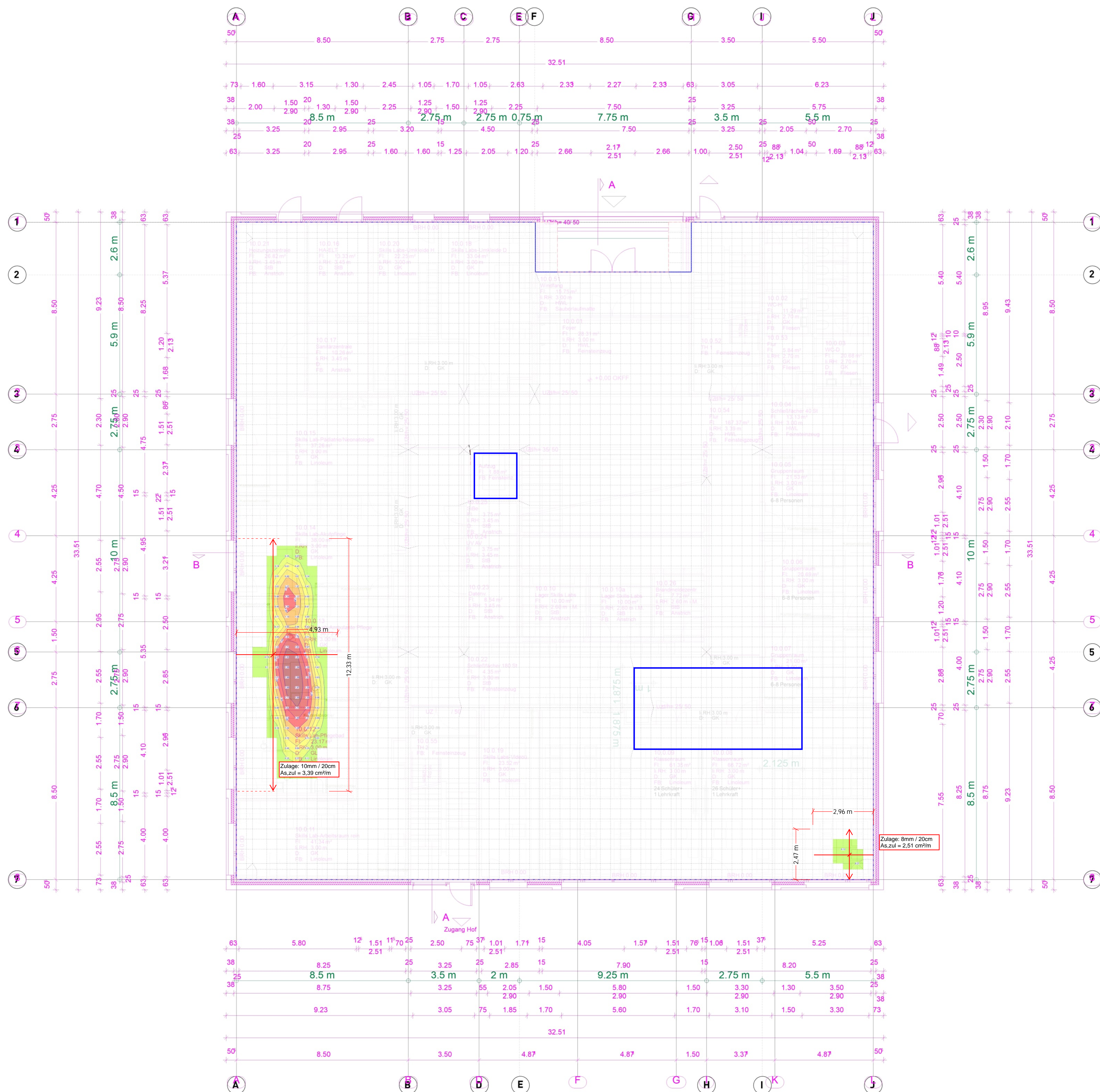
Pläne sind grundsätzlich nur zusammen mit den Statikplänen gültig. Alle Arbeiten an Tragwerk bis zum tragfähigen Grund zu führen. Die Bemessung der Tür- und Brüstungshöhen (BRH) bzw. sind Rohbaumaßnahmen in Wänden, Decken und Fundamenten für HLS- und Elektrik. Alle Maße sind am Bau zu prüfen.

WbVYa Yggi b
Vorhandene Bew. as,vorh = 15,39...31,42 (Grund+Zulagen)
Bew.-Abstand d = 42 mm
Beton C 30/37
Bauteildicke h = 30,00...40,00 cm

KREBS+KIEFER

Modell BP-LP4 Bodenplatte
Bauvorhaben Schulcampus EWK
Schulwesterschule
KREBS+KIEFER Ingenieure GmbH

T 2025



| Index | Datum | Änderung |
|-------|-------|----------|
|-------|-------|----------|

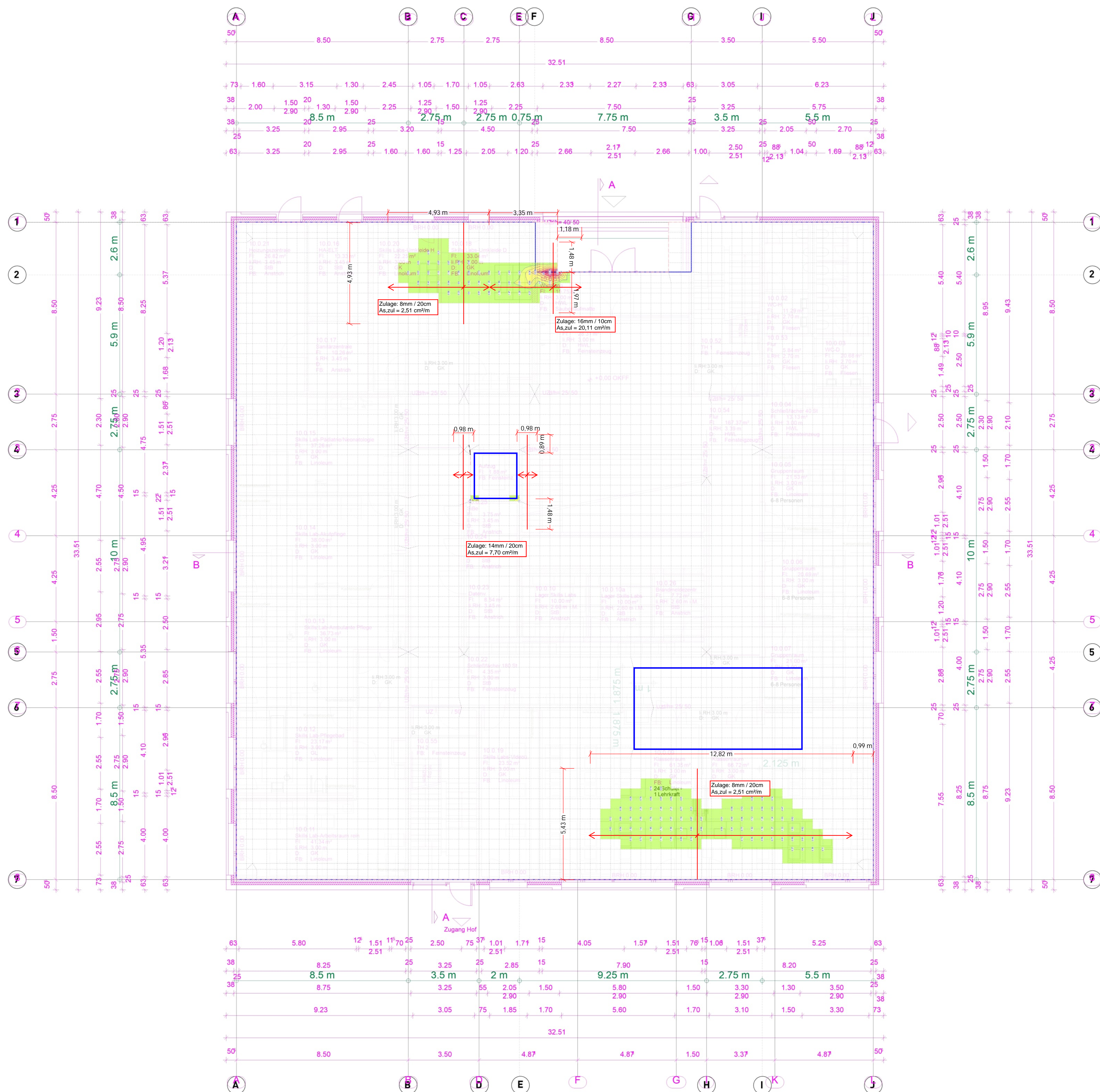
Pläne sind grundsätzlich nur zusammen mit den Statikplänen gültig. Alle Arbeiten an Tragkonstruktionen sind mit dem Statiker abzustimmen. Die Bemessung der Tür- und Brüstungshöhen (BRH) bezogen auf die statische Beanspruchung ist in der Regel im Statikplan festzulegen. Bei statischen Ausprägungen in Wänden, Decken und Fundamenten für HL-S- und Elektroanlagen sind diese im Statikplan anzugeben. Die Zeichnungen unterliegen nicht dem Änderungsdienst! Mit Erhalt der Pläne sind am Bau zu prüfen!

| | |
|---|--|
| : ') Wb VbYa Yggi b[Vorhandene Bew. as,vorh = 15.39...20.11 (Grund+Zulagen) Bew.-Abstand d' = 56 mm Beton C 30/37 Bauteildicke h = 30.00...40.00 cm | Erforderliche Bewehrung as,erf (Differenzbew.) aus allen Nachweisen (Erforderliche Bewehrung) Max = 1.99 (Kn. 1326), Min = 0 (Kn. 1), Step = 0.25 |
|---|--|



| | | |
|------------------------------|-------------|--------------------|
| ER | Modell | BP-LP4 Bodenplatte |
| | Bauvorhaben | Schulcampus EWK |
| | | Schwesternschule |
| KREBS+KIEFER Ingenieure GmbH | | |


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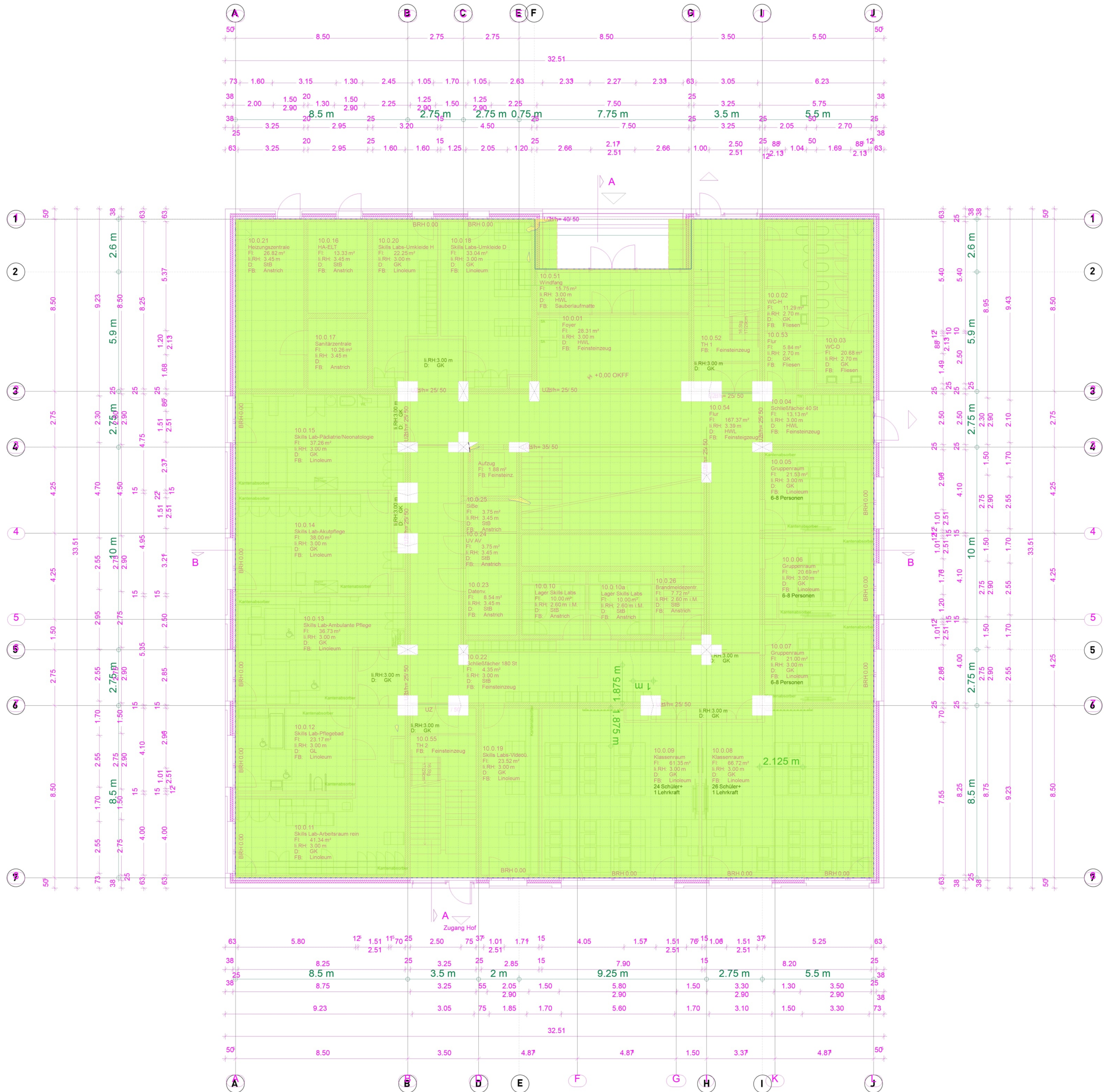
| Index | Datum | Änderung |
|-------|-------|----------|
|-------|-------|----------|

Pläne sind grundsätzlich nur zusammen mit den Statikplänen gültig. Alle Arbeiten an Tragkonstruktionen sind auf tragfähigen Grund zu führen. Die Bemessung der Tür- und Brüstungshöhen (BRH) bezogen auf Rohbaumaße Ausparungen in Wänden, Decken und Fundamenten für HLS- und Elektroarbeiten sind in den Zeichnungen zu vermerken. Die Zeichnungen unterliegen nicht dem Änderungsdienst! Mit Erhalt der Maße sind am Bau zu prüfen!

| | |
|--|--|
| :) W YbVYA Yggi b[| Erforderliche Bewehrung as, erf (Differenzbew.) |
| Vorhandene Bew. as, vorh = 15.39...20.11 (Grund+Zulagen) | |
| Bew.-Abstand d' = 42 mm | aus allen Nachweisen |
| Beton C 30/37 | $\sigma_{ctk} = \frac{M_{ed}}{W_{pl,y}} + \sigma_{cp}$ |
| Bauteildicke h = 30.00...40.00 cm | Max = 22.29 (Kn. 3900), Min = 0 (Kn. 1), Step = 3 |

| | | |
|---|--|---------------------|
|  | Modell BP-LP4 Bodenplatte Bauvorhaben Schulcampus EWK Schwesternschule | Tab. 10.10 10.10 |
| KREBS+KIEFER Ingenieure GmbH | | |

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| Index | Datum | Änderung |
|-------|------------|-----------|
| 1 | 2025-01-15 | Grundriss |
| 2 | 2025-01-15 | Grundriss |
| 3 | 2025-01-15 | Grundriss |
| 4 | 2025-01-15 | Grundriss |
| 5 | 2025-01-15 | Grundriss |
| 6 | 2025-01-15 | Grundriss |
| 7 | 2025-01-15 | Grundriss |

Pläne sind grundsätzlich nur zusammen mit den Statikplänen gültig. Alle Arbeiten an Tragwerk bis zum tragfähigen Grund zu führen. Die Bemessung der Tür- und Brüstungshöhen (BRH) bzw. sind Rohbaumaßel Ausparungen in Wänden, Decken und Fundamenten für HLS- und Elektrik. Alle Maße sind am Bau zu prüfen.

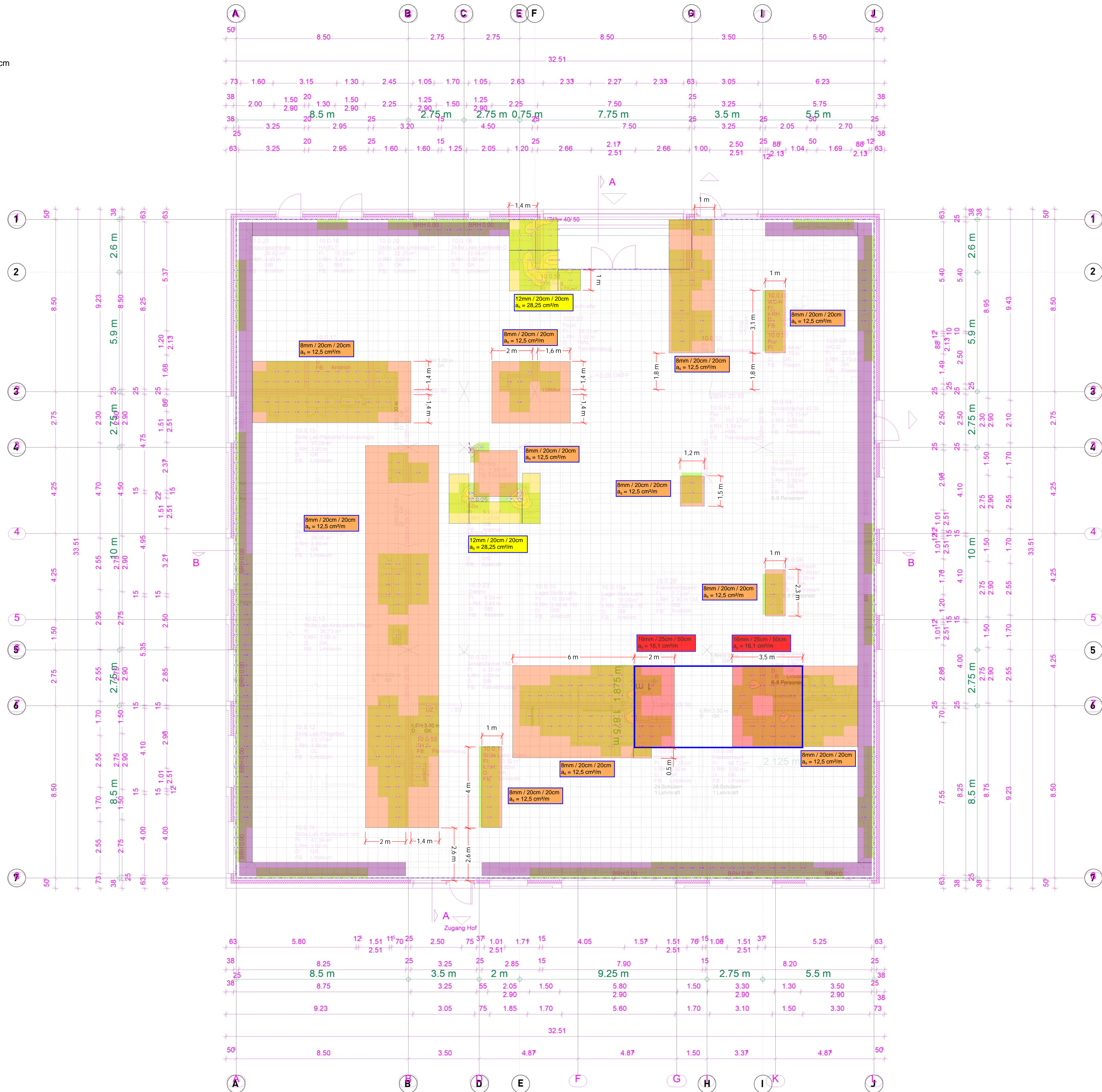
| | | | |
|--------------------|------------------------------|--------------------|-------|
| Querkraftbemessung | Modell | BP-LP4 Bodenplatte | Tafel |
| Bauvorhaben | Schulcampus EWK | Schwesternschule | |
| Max = 0,4, Min = 0 | KREBS+KIEFER Ingenieure GmbH | | |

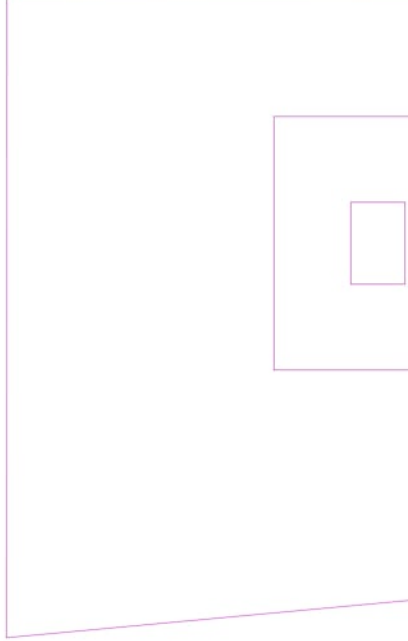
Querkraftbewehrung im Randstreifen
d=8mm; Abstand in Wandlängsrichtung: 20cm
 $a_s = 12,5 \text{ cm}^2/\text{m}$

Diagram of a rectangular plate with dimensions: 0,25 m, 0,15 m, 0,2 m, and 0,2 m.

12mm / 20cm / 20cm
 $a_s = 28,25 \text{ cm}^2/\text{m}$

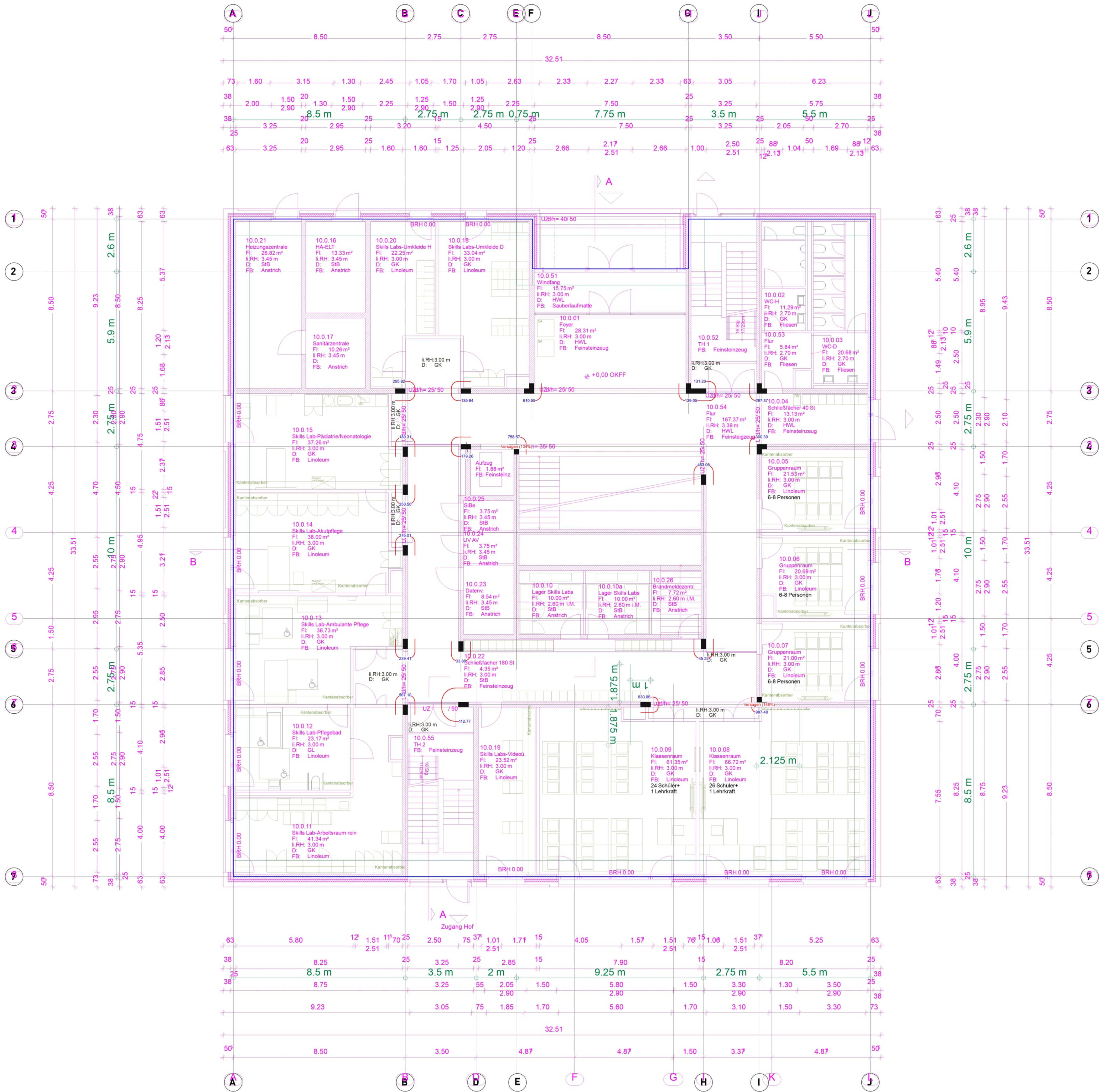
8mm / 20cm / 20cm
 $a_s = 12,5 \text{ cm}^2/\text{m}$



| Index | Datum | Änderung |
|--|-------|----------|
|  | | |
| <p>Pläne sind grundsätzlich nur zusammen mit den Statikplänen gültig. Alle Arbeiten an Tragkor bis zum tragfähigen Grund zu führen. Die Bemalung der Tür- und Brüstungshöhen (BRH) bezieh sind Rohbaumaßel Ausparungen in Wänden, Decken und Fundamenten für HLS- und Elektrik. <u>Alle, mit diesen abweichenden Zeichnungen</u> unterliegen nicht dem Änderungsdienst! Mit Erhalt</p> | | |

Pläne sind grundsätzlich nur zusammen mit den Statikerplänen gültig. Alle Arbeiten an Tragkor bis zum tragfähigen Grund zu führen. Die Bemaßung der Tür- und Brüstungshöhen (BRH) bezi sind Rohbaumaßel Aussparungen in Wänden, Decken und Fundamenten für HLS- und Elektr

| | | | |
|---|--|--|------------------|
| Querkraftbemessung $U = \frac{1}{\gamma_{\text{Red}}} \left(\frac{1}{\gamma_{\text{G}}} \cdot G + \frac{1}{\gamma_{\text{Q}}} \cdot Q \right) \cdot \gamma_{\text{Ver}} \cdot \gamma_{\text{Exp}} \cdot \gamma_{\text{Dir}} \cdot \gamma_{\text{L}}$ | <div>  KREBS + KIEFER </div> | Modell BP-LP4 Bodenplatte Bauvorhaben Schulcampus EWK Schwesternschule | Tisch + 2 Stühle |
| Max = 66.12, Min = 0, Step = 10 | KREBS+KIEFER Ingenieure GmbH | | |



| Index | Datum | Änderung |
|-------|-------|----------|
|-------|-------|----------|

Pläne sind grundsätzlich nur zusammen mit den Statikplänen gültig. Alle Arbeiten an Tragkonstruktion w
bis zum tragfähigen Grund zu führen. Die Bemessung der Tür- und Brüstungshöhen (BRH) bezieht sich im
sind Rohbaumaße! Aussparungen in Wänden, Decken und Fundamenten für HLS- und Elektroinstallati
Plan, nicht für Baubehörde, Baugewerkleistungen unterliegen nicht dem Änderungsdienst! Mit Erhalt dieser Zeic
Alle Maße sind aus Plan zu entnehmen

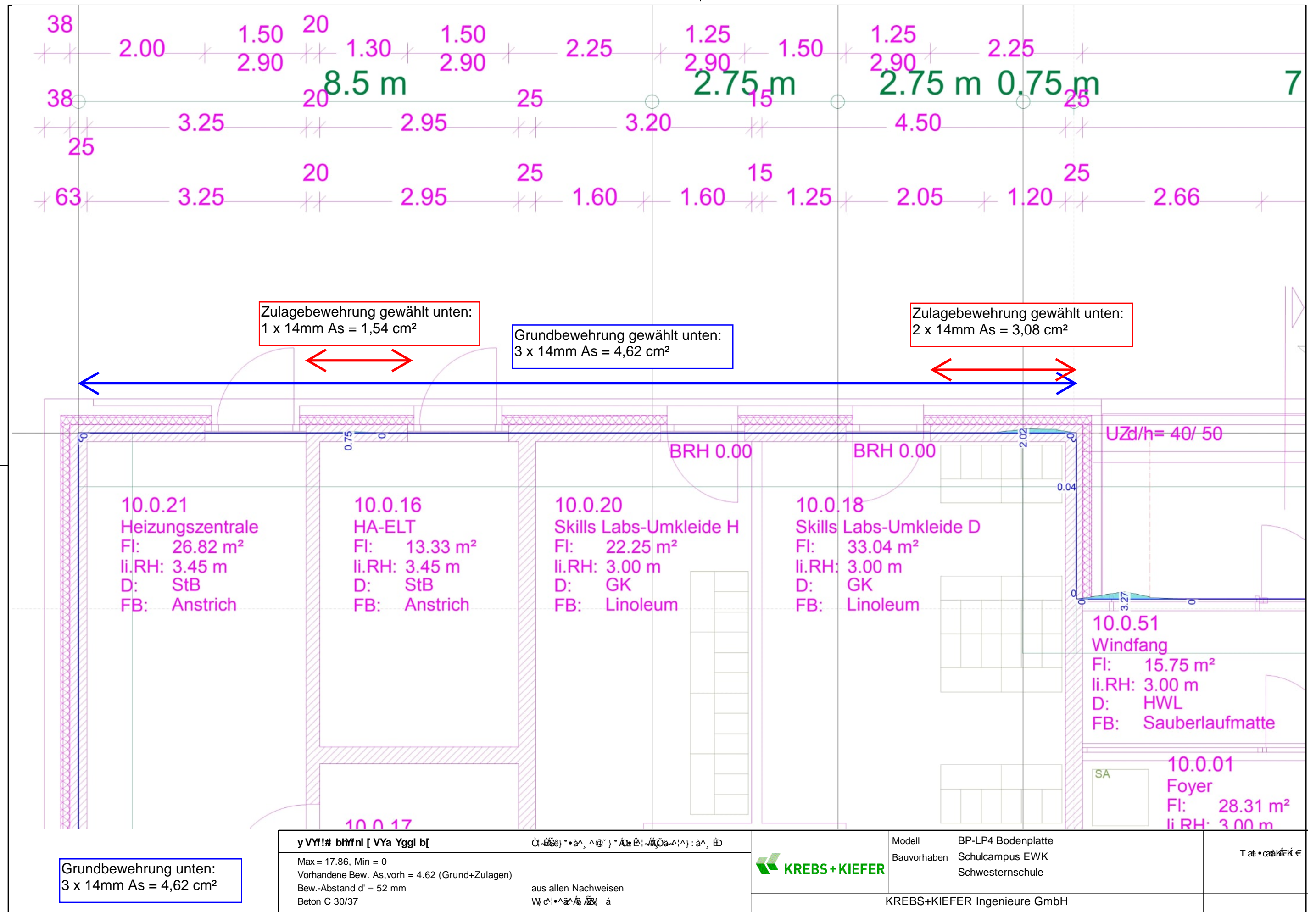
Nachweis der Durchstanzstellen T ab "a" a" A" i & @ q : \ i a o k X C a u a A B a

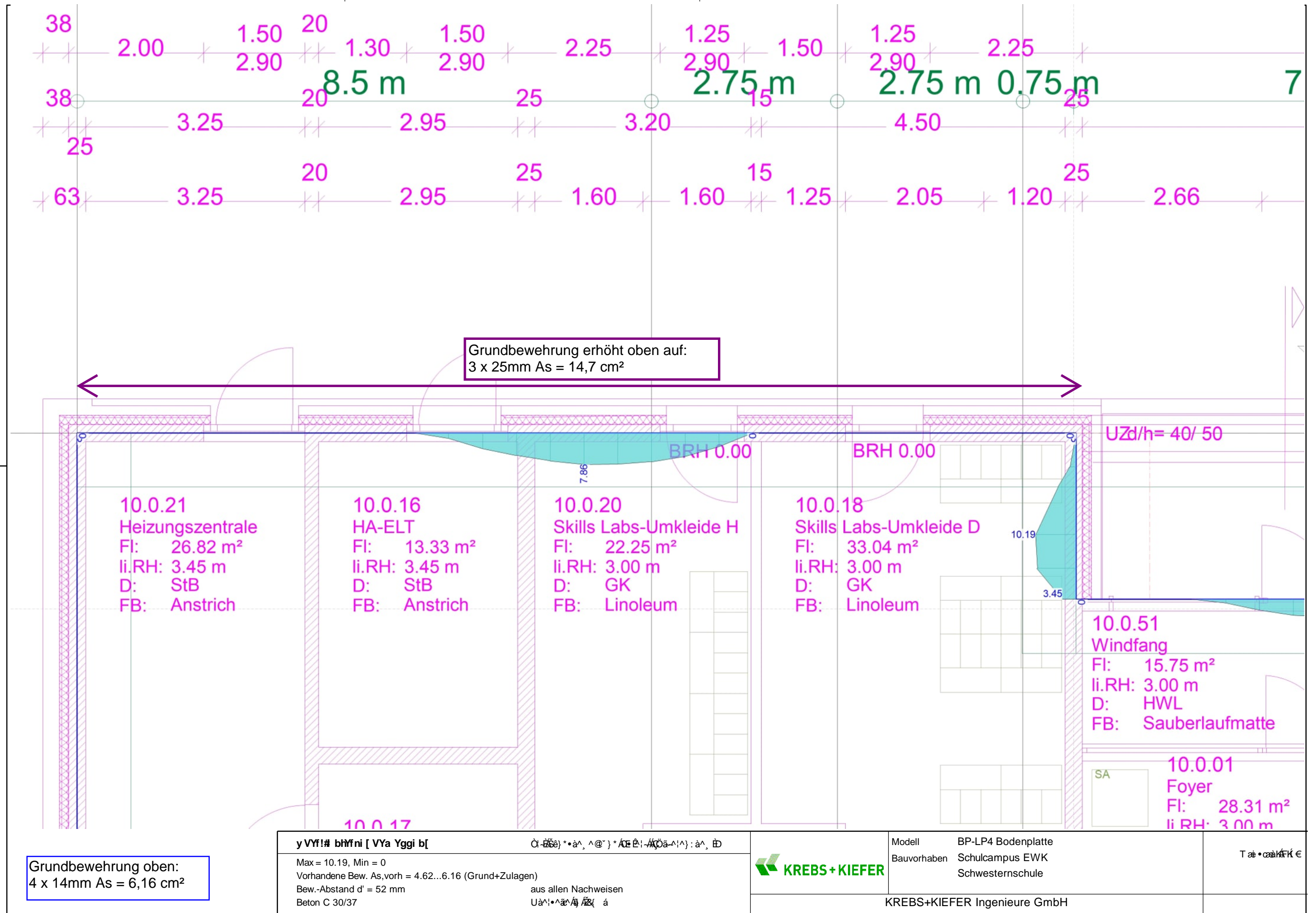


Modell BP-LP4 Bodenplatte
Bauvorhaben Schulcampus EWK
Schwesterschule
KREBS+KIEFER Ingenieure GmbH

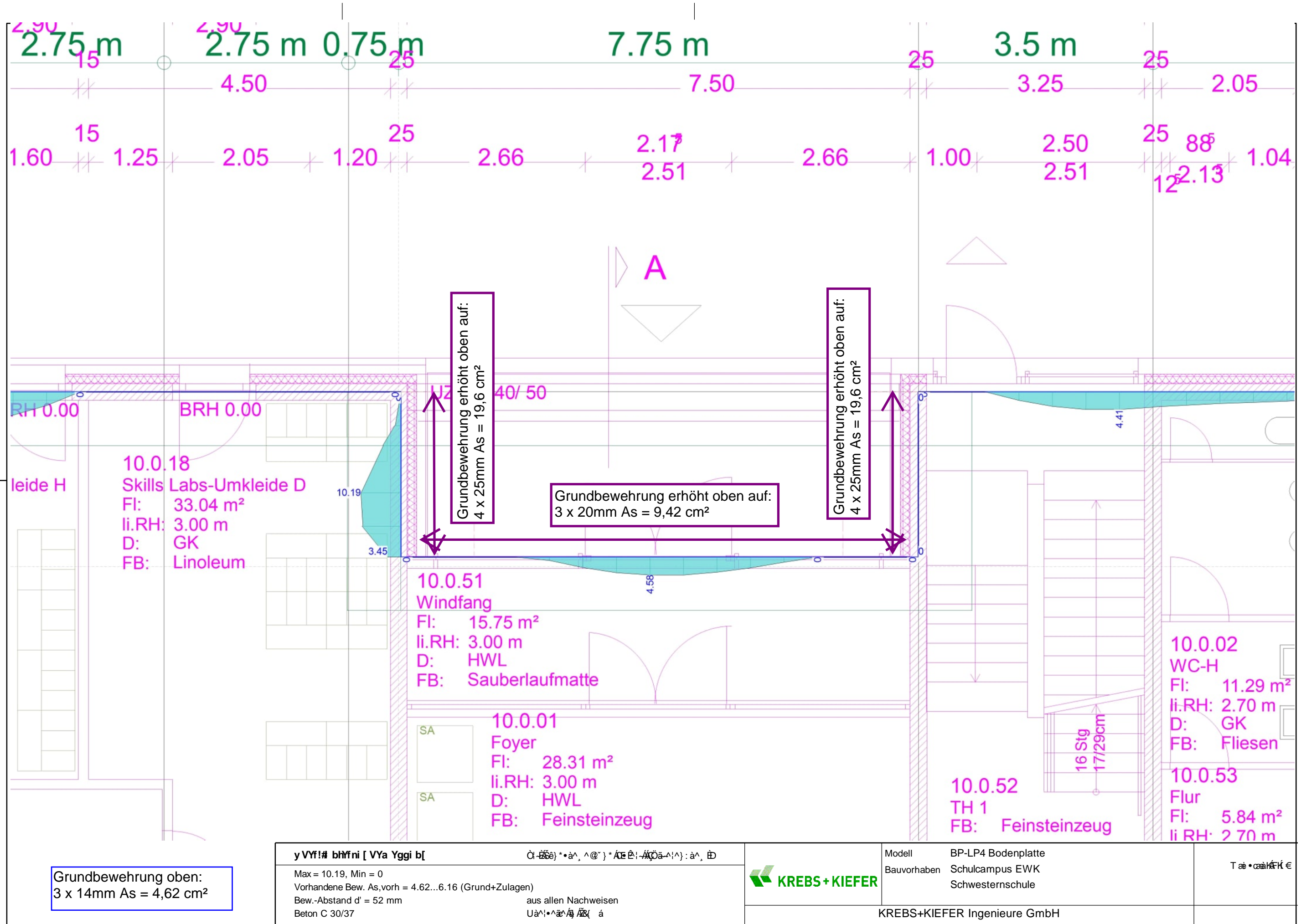
T ab "a" a" A" i & @ q : \ i a o k X C a u a A B a

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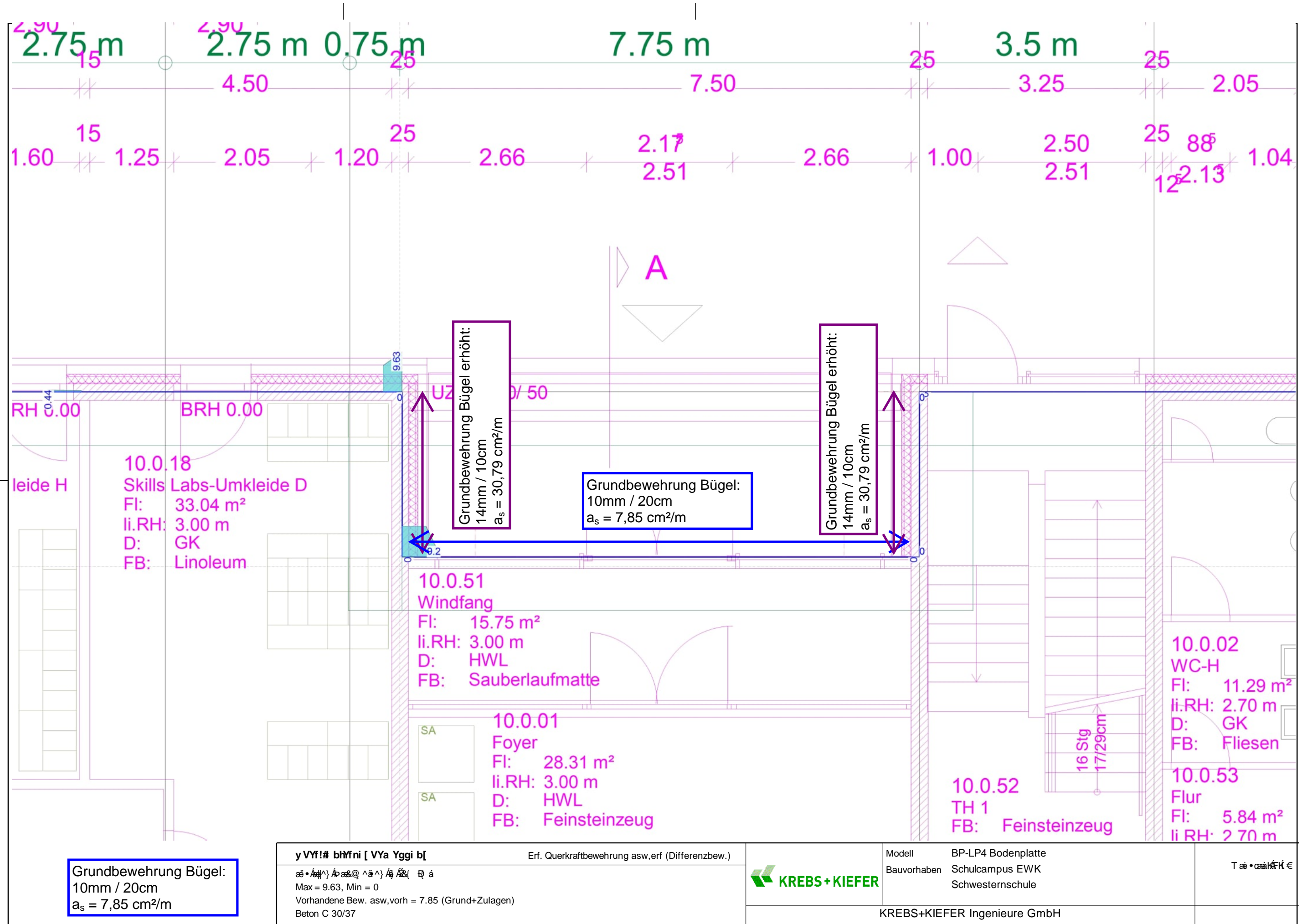


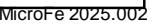


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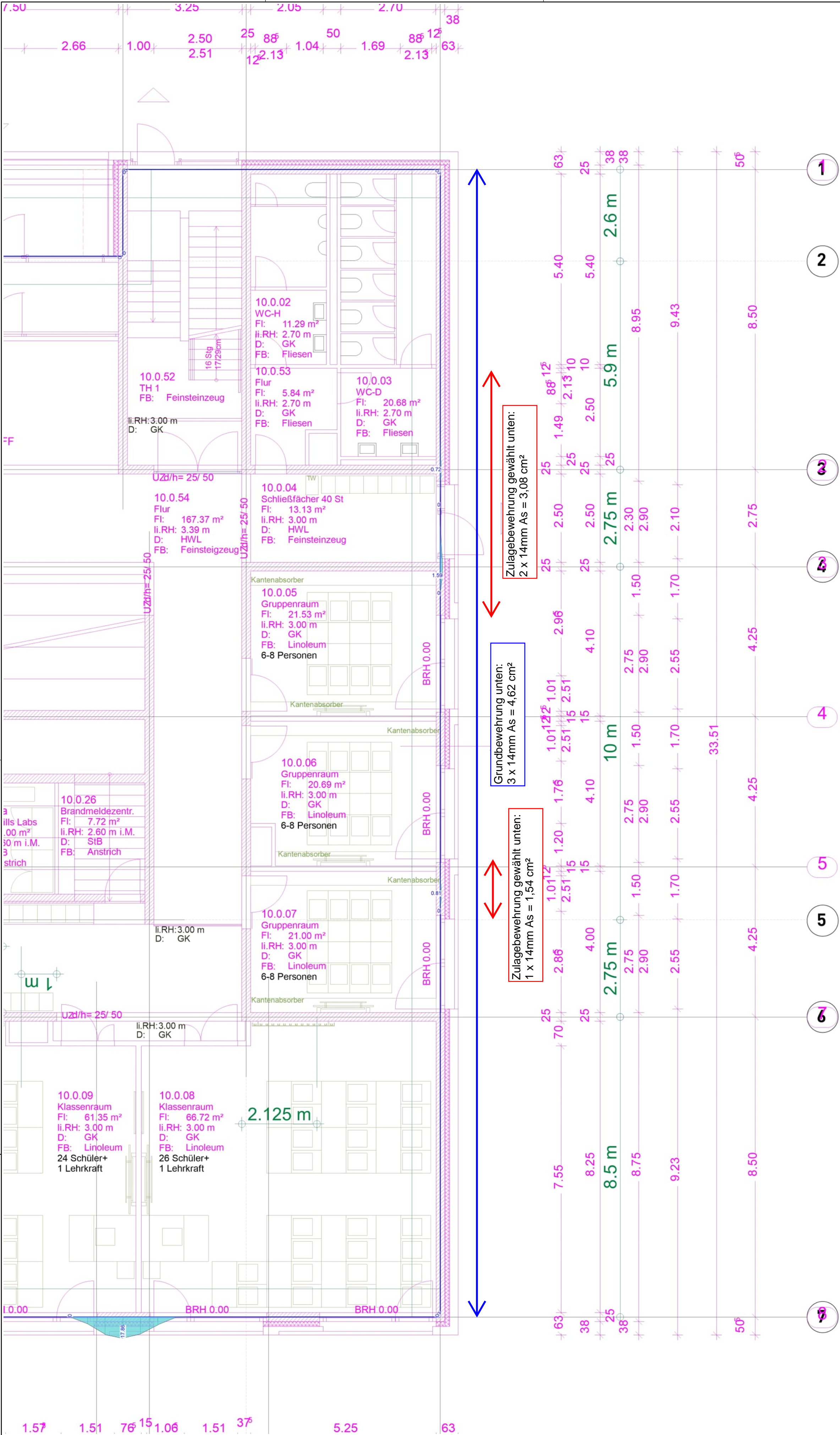


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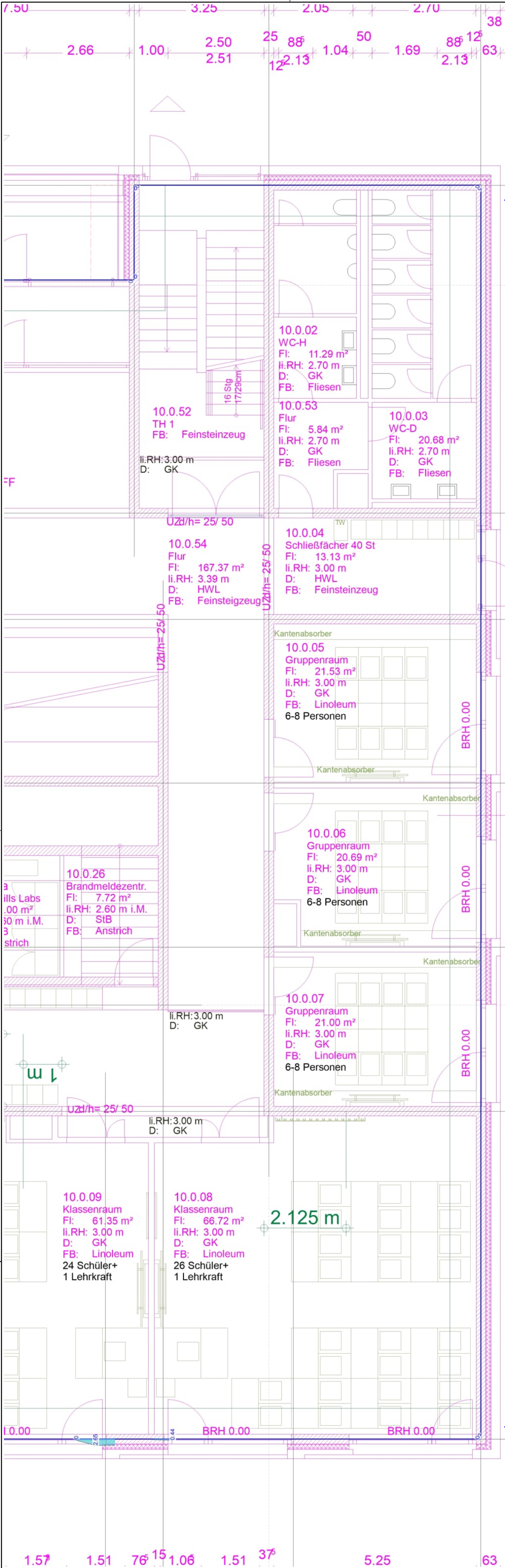
Grundbewehrung unten:
3 x 14mm As = 4,62 cm²

| | |
|---|---|
| y VYI# bhfni [VVa Yggi b[Max = 17.86, Min = 0 Vorhandene Bew. As,vorh = 4.62 (Grund+Zulagen) Bew.-Abstand d' = 52 mm Beton C 30/37 | Ö-Bew. As, As' [As, As'] aus allen Nachweisen Wärmeleitfähigkeit λ |
|---|---|

| | | |
|------------------------------|---|----------------|
| | Modell BP-LP4 Bodenplatte | Tab. 254 |
| | Bauvorhaben Schulcampus EWK Schwesternschule | |
| KREBS+KIEFER Ingenieure GmbH | | Datum 02.10.25 |
| | | Seite 254 |

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Grundbewehrung Bügel:
10mm / 20cm
a_s = 7,85 cm²/m

y VYf!# bhfni [VVa Yggi b[

Erf. Querkraftbewehrung asw,erf (Differenzbew.)

æ•A#^)/Aæ@ ^ã^)/Aæ/ Q á

Max = 9.63, Min = 0

Vorhandene Bew. asw,vorh = 7.85 (Grund+Zulagen)

Beton C 30/37



Modell BP-LP4 Bodenplatte
Bauvorhaben Schulcampus EWK
Schwesternschule

KREBS+KIEFER Ingenieure GmbH

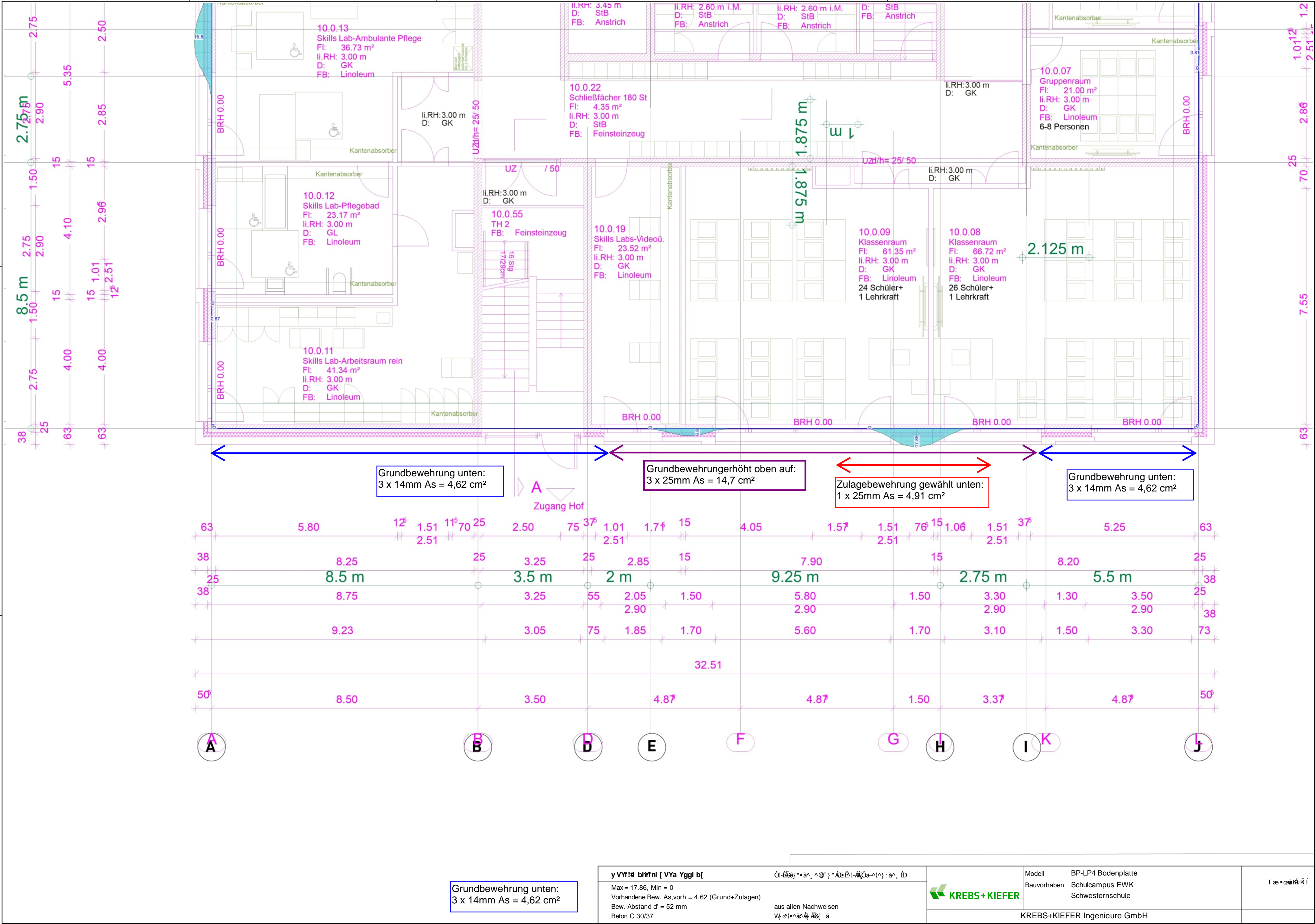
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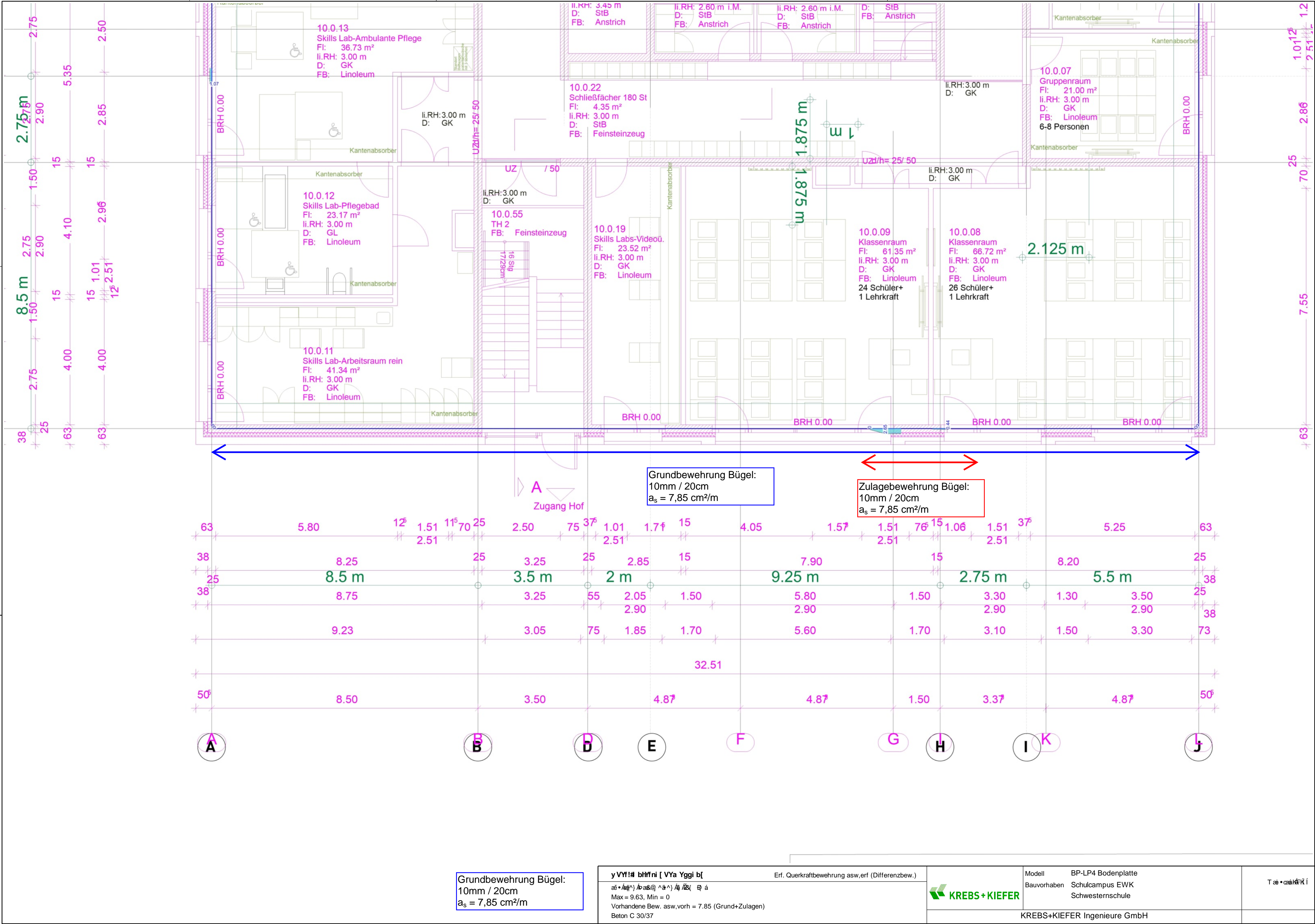
T ab • ca h f i

Datum 02.10.25

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Grundbewehrung Bügel:
10mm / 20cm
 $a_s = 7,85 \text{ cm}^2/\text{m}$

y VYf!# bHfni [VYa Yggi b]

æ•/æ•\)/æ•æ•@ ^æ•\)/æ•æ•æ• æ• á

Max = 9.63, Min = 0

Vorhandene Bew. asw,vorh = 7.85 (Grund+Zulagen)

Beton C 30/37

Erf. Querkraftbewehrung asw,erf (Differenzbew.)



Modell BP-LP4 Bodenplatte
Bauvorhaben Schulcampus EWK
Schwesternschule

KREBS+KIEFER Ingenieure GmbH

T ab • ca b f i

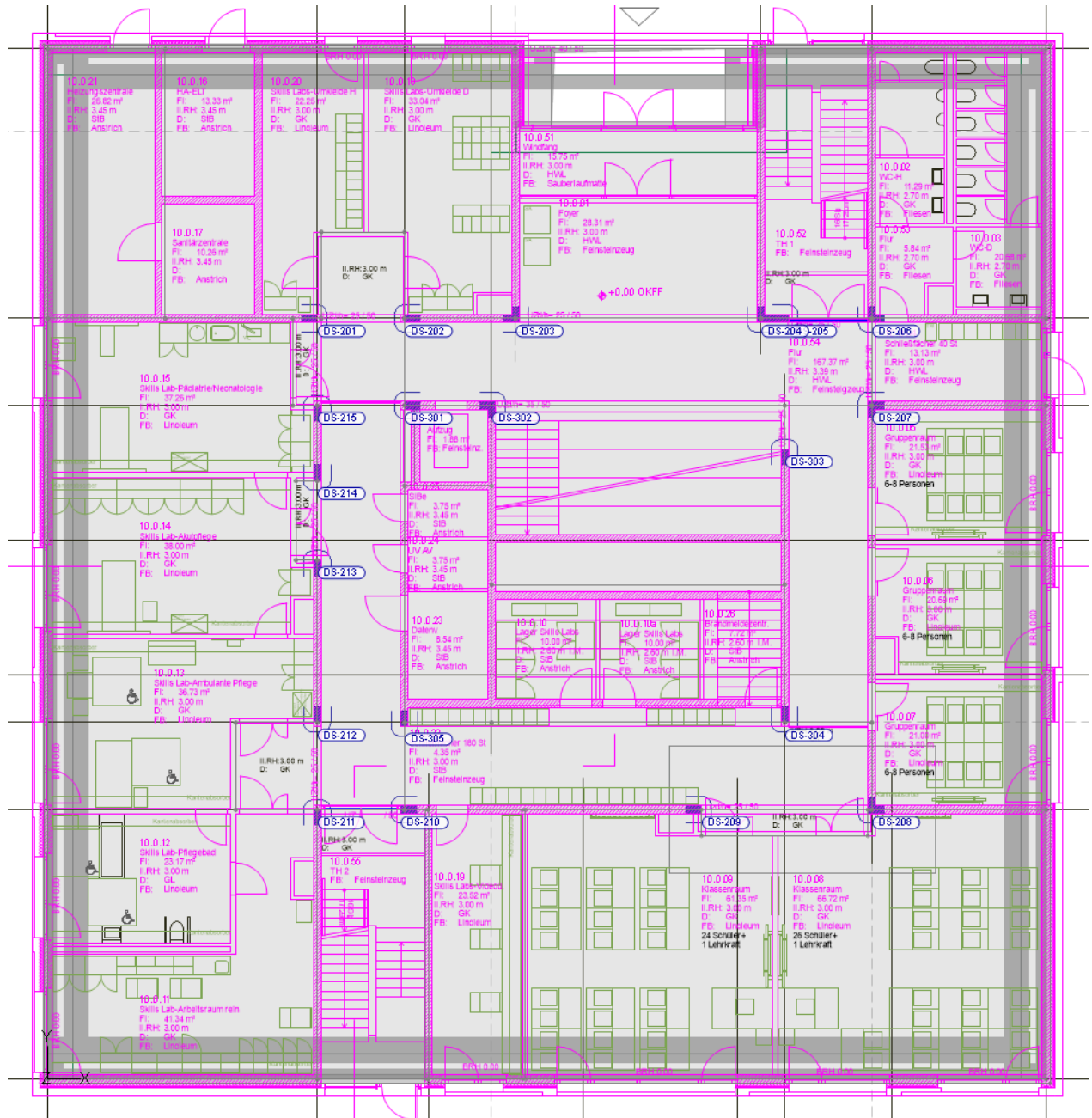
Datum 02.10.25

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4 Durchstanznachweise

Positionsplan Durchstanznachweise Bodenplatte:



AZ: 20206208

Neubau Schulcampus für Gesundheits- und Pflegeberufe
Genehmigungsplanung Tragwerksplanung

Übersicht Durchstanznachweise:

| Pos. | | h | $V_{E,d}$ | β | | $V_{R,d}$ | Grundbew. | Zulage | $A_{S,ges}$ |
|--------|------|------|-----------|---------|----------------|-----------|-----------|-----------|----------------------|
| | | [cm] | [kN] | [1] | | [kN] | | gewählt | [cm ² /m] |
| DS-201 | Ende | 40 | 295,82 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-202 | Ende | 40 | 135,84 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-203 | Ecke | 40 | 610,55 | 1,2 | DS-203 | 620 | 14mm/10cm | 14mm/10cm | 30,78 |
| DS-204 | Ecke | 40 | 139,05 | 1,2 | DS-Ecke-o | 350 | 14mm/10cm | - | 15,39 |
| DS-205 | Ende | 40 | 131,2 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-206 | Ecke | 40 | 287,37 | 1,2 | DS-Ecke-o | 350 | 14mm/10cm | - | 15,39 |
| DS-207 | Ecke | 40 | 300,39 | 1,2 | DS-Ecke-o | 350 | 14mm/10cm | - | 15,39 |
| DS-208 | Ecke | 60 | 987,48 | 1,2 | DS-208 | 1000 | 20mm/10cm | - | 31,42 |
| DS-209 | Ende | 60 | 830,06 | 1,35 | DS-209 | 835 | 20mm/10cm | - | 31,42 |
| DS-210 | Ende | 40 | 112,77 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-211 | Ende | 40 | 567,1 | 1,35 | DS-211 und 303 | 575 | 14mm/10cm | - | 15,39 |
| DS-212 | Ende | 40 | 239,41 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-213 | Ende | 40 | 275,01 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-214 | Ende | 40 | 250,5 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-215 | Ende | 40 | 180,31 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-301 | Ende | 40 | 179,26 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-302 | Ecke | 40 | 758,57 | 1,2 | DS-Ecke-o | 760 | 28mm/10cm | - | 61,58 |
| DS-303 | Ende | 40 | 463,05 | 1,35 | DS-211 und 303 | 575 | 14mm/10cm | - | 15,39 |
| DS-304 | Ende | 40 | 45,22 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |
| DS-305 | Ende | 40 | 33,88 | 1,35 | DS-Ende-o | 400 | 14mm/10cm | - | 15,39 |

Durchstanznachweise mit Halfen HDB Durchstanzbewehrung

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Bemerkung: DS-201; DS-202; DS-205; DS-210; DS-212; DS-213; DS-214; DS-215; DS-301; DS-304; DS-305

Durchstanznachweis für Wandende (**Bodenplatte**)

| | | |
|--|-------------------------|--|
| Bemessungswert Durchstanzlast | V_{Ed} | = 400,0 kN |
| Lasterhöhungsfaktor | β | = 1,35 |
| Bodenpressung | σ_{gd} | = 50,0 kN/m ² |
| Plattendicke | h | = 40 cm |
| statische Nutzhöhe | d | = 35 cm |
| Einflussbreite | a | = 25 cm |
| Wanddicke | b | = 25 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = 3,5 cm / 3,5 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = C30/37 / B500 / B500 |
| Anzahl x Durchmesser in X-Richtung | | = 10 $\varnothing 14$ ($\rho_x = 0,44 \%$) |
| Anzahl x Durchmesser in Y-Richtung | | = 10 $\varnothing 14$ ($\rho_y = 0,44 \%$) |
| Längsbewehrungsgrad | ρ_l | = 0,44 % < 1,95 % |

am kritischen Rundschnitt u

Rundschnittführung analog Innenstütze

Abstand zum kritischen Rundschnitt a_{crit} = 64 cm (iterativ)

Fläche innerhalb des kritischen Rundschnitts A_{crit} = 1,1853 m²

u (64 cm) = 276 cm

$k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ = 1,76

Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c}$ = 0,10

$v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3} \cdot 2d/a_{crit}$ = 454,05 kN/m²

$v_{Rd,c,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2} \cdot 2d/a_{crit}$ = 488,04 kN/m²

$V_{Rd,c} + \beta \cdot \Delta V_{Ed} = \max \{ v_{Rd,c,1}; v_{Rd,c,2} \} \cdot u \cdot d + \beta \cdot A_{crit} \cdot \sigma_{gd} = 551,4 \text{ kN} > 540,0 \text{ kN} = V_{Ed} \cdot \beta$

Keine Durchstanzbewehrung erforderlich

Halfen HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

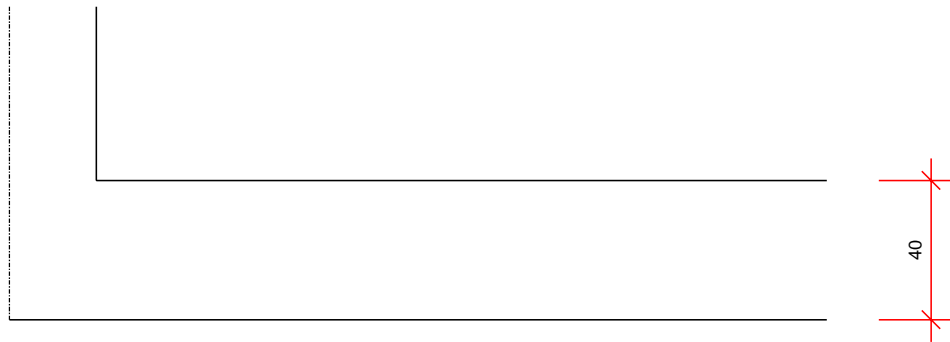
Halfen Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halfen-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

Schnitt

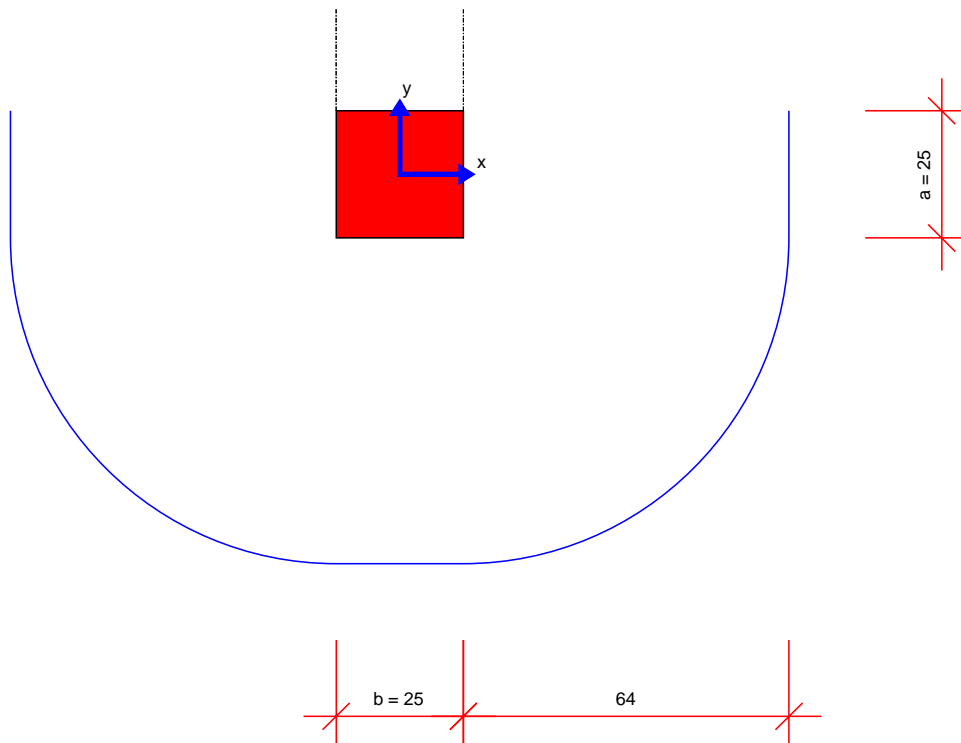
M 1:20



[cm]

Grundriss

M 1:14



Mindeststablängen: $l_{\text{bar,min,x}} = 235 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 130 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

In y-Richtung sind die Stäbe vom Anschnitt der Wand beginnend $105 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Bemerkung: DS-204; DS-206; DS-207; 302

Durchstanznachweis für Innenecke (**Bodenplatte**)

| | | | |
|--|-------------------------|---|--|
| Bemessungswert Durchstanzlast | V_{Ed} | = | 350,0 kN |
| Lasterhöhungsfaktor | β | = | 1,20 |
| Bodenpressung | σ_{gd} | = | 60,0 kN/m ² |
| Plattendicke | h | = | 40 cm |
| statische Nutzhöhe | d | = | 35 cm |
| Wanddicke | b | = | 25 cm |
| Einflussbreite | a | = | 52,5 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = | 3,5 cm / 3,5 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = | C30/37 / B500 / B500 |
| Anzahl x Durchmesser in X-Richtung | | = | 10 $\varnothing 14$ ($\rho_x = 0,44 \%$) |
| Anzahl x Durchmesser in Y-Richtung | | = | 10 $\varnothing 14$ ($\rho_y = 0,44 \%$) |
| Längsbewehrungsgrad | ρ_l | = | 0,44 % < 1,95 % |

am kritischen Rundschnitt u

Rundschnittführung analog Innenstütze

Abstand zum kritischen Rundschnitt a_{crit} = 70 cm (iterativ)

Fläche innerhalb des kritischen Rundschnitts A_{crit} = 1,3955 m²

u (70 cm) = 215 cm

$k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ = 1,76

Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c}$ = 0,10

$v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{tk})^{1/3} \cdot 2d/a_{crit}$ = 414,98 kN/m²

$v_{Rd,c,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2} \cdot 2d/a_{crit}$ = 446,06 kN/m²

$v_{Rd,c} + \beta \cdot \Delta V_{Ed} = \max \{ v_{Rd,c,1}; v_{Rd,c,2} \} \cdot u \cdot d + \beta \cdot A_{crit} \cdot \sigma_{gd} = 436,1 \text{ kN} > 420,0 \text{ kN} = V_{Ed} \cdot \beta$

Keine Durchstanzbewehrung erforderlich

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

Schnitt

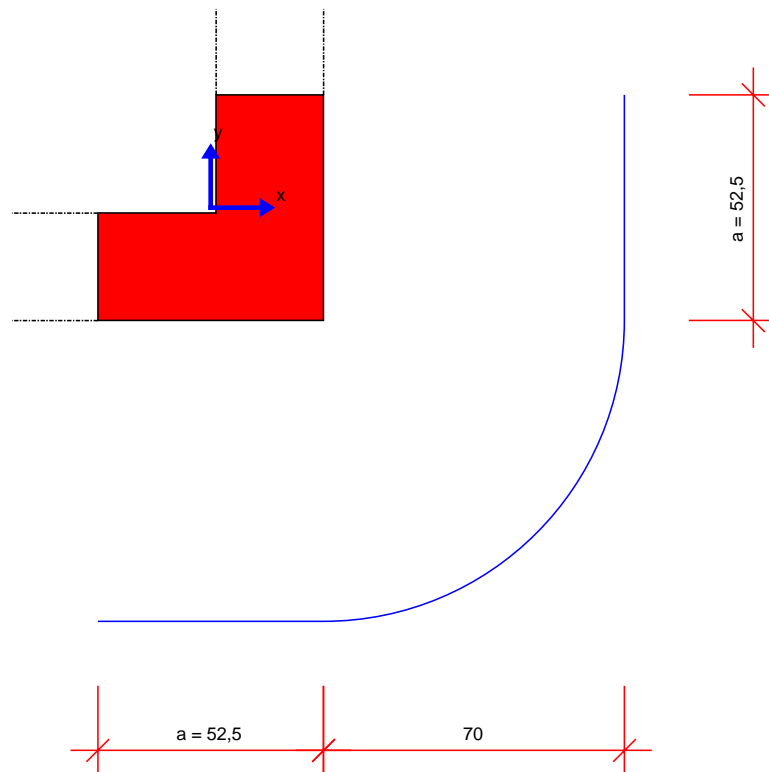
M 1:22



[cm]

Grundriss

M 1:17



Mindeststablängen: $l_{\text{bar,min,x}} = 157,5 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 157,5 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

Die Stäbe sind beginnend vom Anschnitt der Wand mindestens $105 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Innenecke (**Bodenplatte**)

| | | |
|--|-------------------------|--|
| Bemessungswert Durchstanzlast | V_{Ed} | = 620,0 kN |
| Lasterhöhungsfaktor | β | = 1,20 |
| Bodenpressung | σ_{gd} | = 60,0 kN/m ² |
| Plattendicke | h | = 40 cm |
| statische Nutzhöhe | d | = 34,5 cm |
| Wanddicke | b | = 25 cm |
| Einflussbreite | a | = 51,7 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = 3,5 cm / 3,5 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = C30/37 / B500 / B500 |
| Flächenbewehrung | a_{sx} | = 30,8 cm ² /m ($\rho_x = 0,89 \%$) |
| Flächenbewehrung | a_{sy} | = 30,8 cm ² /m ($\rho_y = 0,89 \%$) |
| Längsbewehrungsgrad | ρ_l | = 0,89 % < 1,95 % |

am kritischen Rundschnitt u

Rundschnittführung analog Innenstütze

Abstand zum kritischen Rundschnitt a_{crit} = 69 cm (iterativ)

Fläche innerhalb des kritischen Rundschnitts A_{crit} = 1,3547 m²

u (69 cm) = 211,8 cm

$k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ = 1,76

Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c}$ = 0,10

$v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3} \cdot 2d/a_{crit}$ = 527,04 kN/m²

$v_{Rd,c,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2} \cdot 2d/a_{crit}$ = 448,14 kN/m²

$V_{Rd,c} + \beta \cdot \Delta V_{Ed} = \max \{ v_{Rd,c,1}; v_{Rd,c,2} \} \cdot u \cdot d + \beta \cdot A_{crit} \cdot \sigma_{gd} = 482,6 \text{ kN} < 744,0 \text{ kN} = V_{Ed} \cdot \beta$

Vorfaktor für $V_{Rd,max}$ nach TR 060 $C_{Rd,c}$ = 0,12

$V_{Rd,max} + \beta \cdot \Delta V_{Ed} = 1,5 \cdot V_{Rd,c} + \beta \cdot A_{crit} \cdot \sigma_{gd} = 790,7 \text{ kN} > 744,0 \text{ kN} = V_{Ed} \cdot \beta$

am äußeren Rundschnitt u_{out}

$u_{out, req} = 318,4 \text{ cm} < 350 \text{ cm} = u_{out, prov}$: Rundschnittführung analog Innenstütze

$l_{s, req} = 85,1 \text{ cm} < 105,2 \text{ cm} = l_{s, prov}$

Fläche des durchstanzbewehrten Bereichs A_{sw} = 2,2249 m²

$\beta_{red} = \max \{ \beta / (1,2 + \beta \cdot l_{s, prov} / (40 \cdot d)) ; 1,1 \}$ = 1,10

Vorfaktor für $v_{Rd,c,out,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c,out}$ = 0,10

$v_{Rd,c,out,1} = C_{Rd,c,out} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ = 527,04 kN/m²

$v_{Rd,c,out,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2}$ = 448,14 kN/m²

$V_{Rd,c,out} + \Delta V_{Ed, out} = \max \{ v_{Rd,c,out,1}; v_{Rd,c,out,2} \} \cdot u_{out, prov} \cdot d + A_{sw} \cdot \sigma_{gd} = 769,9 \text{ kN} > 682,0 \text{ kN} = V_{Ed} \cdot \beta_{red}$

| | | | | | |
|--------------------------|-------|-------|-------|-------|-------|
| Ankerdurchmesser d_A : | 12 mm | 14 mm | 16 mm | 20 mm | 25 mm |
| Bereich C : | 14 | 10 | 8 | 5 | 4 |

Gewählt: HDB-14/335-5/1128 (104/172/3x259/75)

Anzahl der Kombinationen pro Stütze $m_c = 6$ Anzahl der Stützen = 1

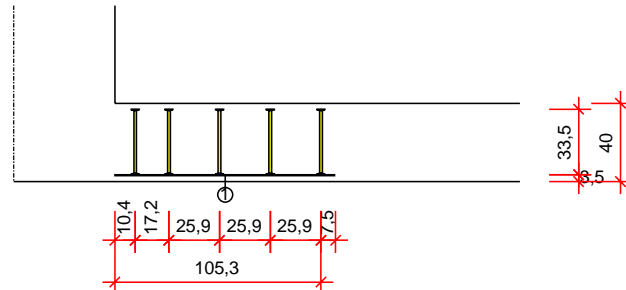
$V_{Rd,sy} + \beta \cdot \Delta V_{Ed} = m_c \cdot n_c \cdot d_A^2 / 4 \cdot \pi \cdot f_{yd} + \beta \cdot A_{crit} \cdot \sigma_{gd} = 900,7 \text{ kN} > 744,0 \text{ kN} = V_{Ed} \cdot \beta$

Elementabstand innen / außen = 27 cm / 67,1 cm

Verlegebereich

Schnitt

M 1:36

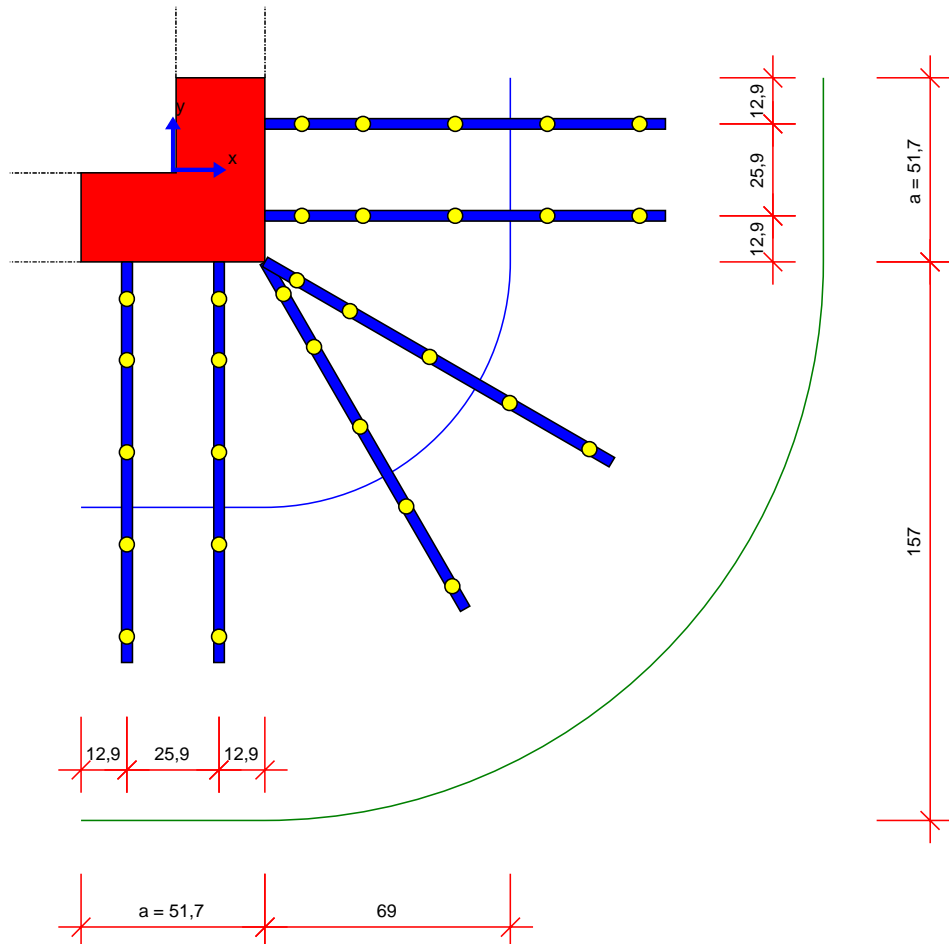


① 6x 1x HDB-14/335-5/1128 (104/172/3x259/75), Montageleiste unten

[cm]

Grundriss

M 1:20



Mindeststablängen: $l_{\text{bar,min,x}} = 243,2 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 243,2 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

Die Stäbe sind beginnend vom Anschnitt der Wand mindestens $191,5 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Innenecke (**Bodenplatte**)

| | | |
|--|-------------------------|---|
| Bemessungswert Durchstanzlast | V_{Ed} | = 1000,0 kN |
| Lasterhöhungsfaktor | β | = 1,20 |
| Bodenpressung | σ_{gd} | = 70,0 kN/m ² |
| Plattendicke | h | = 70 cm |
| statische Nutzhöhe | d | = 64,5 cm |
| Wanddicke | b | = 25 cm |
| Einflussbreite | a | = 96,7 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = 3,5 cm / 3,5 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = C30/37 / B500 / B500 |
| Flächenbewehrung | a_{sx} | = 31,42 cm ² /m ($\rho_x = 0,49 \%$) |
| Flächenbewehrung | a_{sy} | = 31,42 cm ² /m ($\rho_y = 0,49 \%$) |
| Längsbewehrungsgrad | ρ_l | = 0,49 % < 1,95 % |

am kritischen Rundschnitt u

Rundschnittführung analog Innenstütze

Abstand zum kritischen Rundschnitt a_{crit} = 129 cm (iterativ)

Fläche innerhalb des kritischen Rundschnitts A_{crit} = 4,7369 m²

u (129 cm) = 396 cm

$k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ = 1,56

Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c}$ = 0,10

$v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3} \cdot 2d/a_{crit}$ = 380,59 kN/m²

$v_{Rd,c,2} = v_{min} = 0,0491/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2} \cdot 2d/a_{crit}$ = 348,45 kN/m²

$V_{Rd,c} + \beta \cdot \Delta V_{Ed} = \max \{ v_{Rd,c,1}; v_{Rd,c,2} \} \cdot u \cdot d + \beta \cdot A_{crit} \cdot \sigma_{gd} = 1370,1 \text{ kN} > 1200,0 \text{ kN} = V_{Ed} \cdot \beta$

Keine Durchstanzbewehrung erforderlich

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

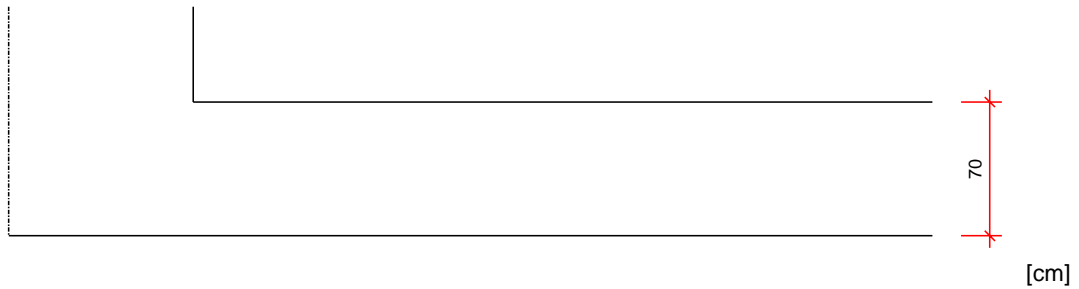
Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

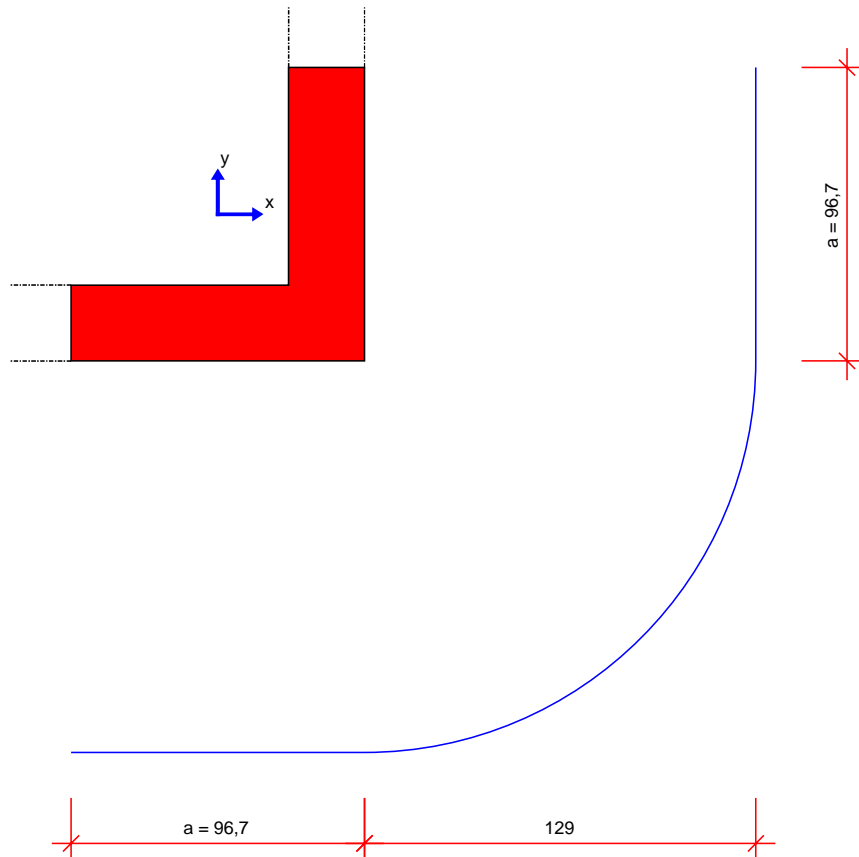
Schnitt

M 1:36



Grundriss

M 1:24



Mindeststablängen: $l_{bar,min,x} = 290,2 \text{ cm} + 2 \cdot l_{bd}$; $l_{bar,min,y} = 290,2 \text{ cm} + 2 \cdot l_{bd}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

Die Stäbe sind beginnend vom Anschnitt der Wand mindestens $193,5 \text{ cm} + l_{bd}$ in die Platte zu führen.

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Wandende (Bodenplatte)

| | | |
|--|-------------------------|---------------------------------|
| Bemessungswert Durchstanzlast | V_{Ed} | = 575,0 kN |
| Lasterhöhungsfaktor | β | = 1,35 |
| Bodenpressung | σ_{gd} | = 60,0 kN/m ² |
| Plattendicke | h | = 40 cm |
| statische Nutzhöhe | d | = 35 cm |
| Einflussbreite | a | = 25 cm |
| Wanddicke | b | = 25 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = 3,5 cm / 3,5 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = C30/37 / B500 / B500 |
| Anzahl x Durchmesser in X-Richtung | | = 10 Ø14 ($\rho_x = 0,44 \%$) |
| Anzahl x Durchmesser in Y-Richtung | | = 10 Ø14 ($\rho_y = 0,44 \%$) |
| Längsbewehrungsgrad | ρ_l | = 0,44 % < 1,95 % |

am kritischen Rundschnitt u

Rundschnittführung analog Innenstütze

Abstand zum kritischen Rundschnitt a_{crit} = 59,8 cm (iterativ)

Fläche innerhalb des kritischen Rundschnitts A_{crit} = 1,0736 m²

u (59,8 cm) = 263 cm

$k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ = 1,76

Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c}$ = 0,10

$v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3} \cdot 2d/a_{crit}$ = 485,51 kN/m²

$v_{Rd,c,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2} \cdot 2d/a_{crit}$ = 521,86 kN/m²

$V_{Rd,c} + \beta \cdot \Delta V_{Ed} = \max \{ v_{Rd,c,1}; v_{Rd,c,2} \} \cdot u \cdot d + \beta \cdot A_{crit} \cdot \sigma_{gd} = 567,3 \text{ kN} < 776,3 \text{ kN} = V_{Ed} \cdot \beta$

Vorfaktor für $V_{Rd,max}$ nach TR 060 $C_{Rd,c}$ = 0,12

$V_{Rd,max} + \beta \cdot \Delta V_{Ed} = 1,5 \cdot V_{Rd,c} + \beta \cdot A_{crit} \cdot \sigma_{gd} = 891,3 \text{ kN} > 776,3 \text{ kN} = V_{Ed} \cdot \beta$

am äußeren Rundschnitt u_{out}

$u_{out, req} = 378,3 \text{ cm} < 410,4 \text{ cm} = u_{out, prov}$: Rundschnittführung analog Innenstütze

$l_{s, req} = 44,1 \text{ cm} < 54,3 \text{ cm} = l_{s, prov}$

Fläche des durchstanzbewehrten Bereichs A_{sw} = 0,9317 m²

$\beta_{red} = \max \{ \beta / (1,2 + \beta \cdot l_{s, prov} / (40 \cdot d)) ; 1,1 \}$ = 1,10

Vorfaktor für $v_{Rd,c,out,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c,out}$ = 0,10

$v_{Rd,c,out,1} = C_{Rd,c,out} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ = 414,98 kN/m²

$v_{Rd,c,out,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2}$ = 446,06 kN/m²

$V_{Rd,c,out} + \Delta V_{Ed,out} = \max \{ v_{Rd,c,out,1}; v_{Rd,c,out,2} \} \cdot u_{out, prov} \cdot d + A_{sw} \cdot \sigma_{gd} = 696,6 \text{ kN} > 632,5 \text{ kN} = V_{Ed} \cdot \beta_{red}$

| | | | | | |
|--------------------------|-------|-------|-------|-------|-------|
| Ankerdurchmesser d_A : | 12 mm | 14 mm | 16 mm | 20 mm | 25 mm |
| Bereich C : | 15 | 11 | 8 | 6 | 4 |

Gewählt: HDB-16/335-3/617 (105/175/262/75)

Anzahl der Kombinationen pro Stütze $m_c = 5$ Anzahl der Stützen = 1

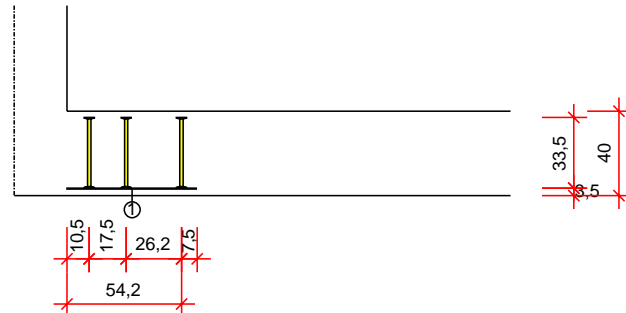
$V_{Rd,sy} + \beta \cdot \Delta V_{Ed} = m_c \cdot n_c \cdot d_A^2 / 4 \cdot \pi \cdot f_{yd} + \beta \cdot A_{crit} \cdot \sigma_{gd} = 961,1 \text{ kN} > 776,3 \text{ kN} = V_{Ed} \cdot \beta$

Elementabstand innen / außen = 33,3 cm / 53,2 cm

Verlegebereich

Schnitt

M 1:33

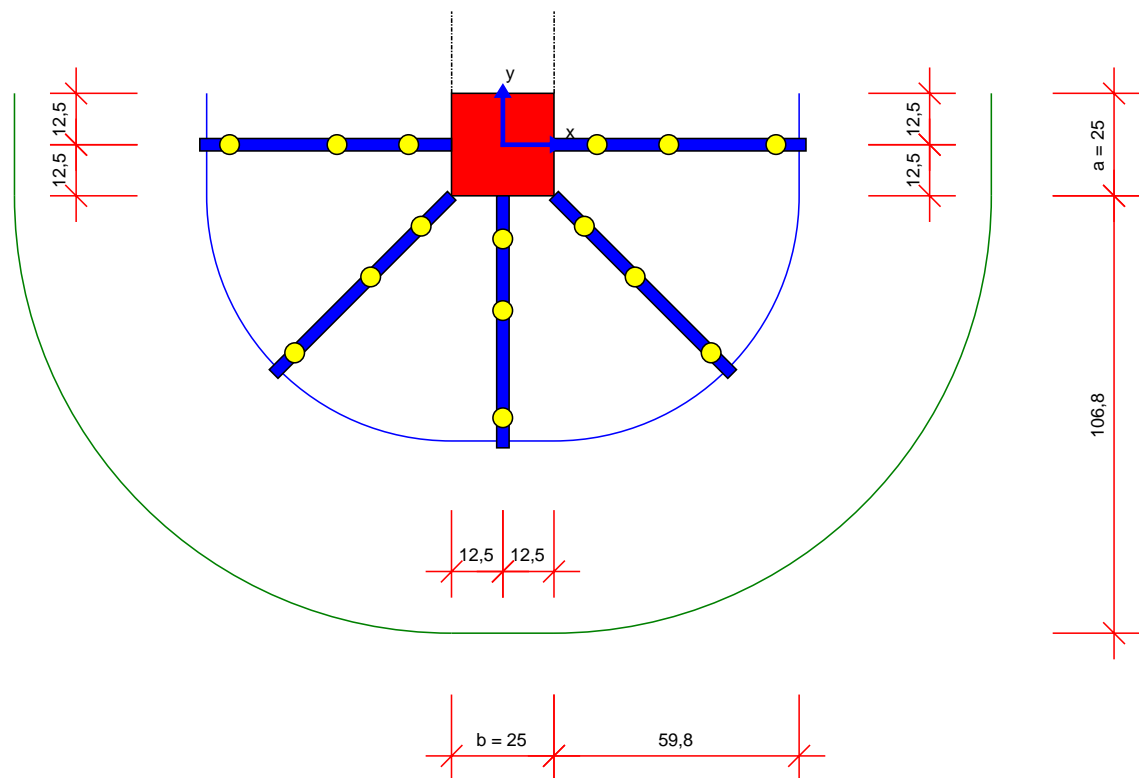


① 5x 1x HDB-16/335-3/617 (105/175/262/75), Montageleiste unten

[cm]

Grundriss

M 1:18



Mindeststablängen: $l_{\text{bar,min,x}} = 308,5 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 166,8 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge

Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

In y-Richtung sind die Stäbe vom Anschnitt der Wand beginnend $141,8 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

Halften HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

Halften Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halften-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Bemerkung: Zulage 25mm/10cm in 3. und 4. Lage

Durchstanznachweis für Wandende (**Bodenplatte**)

| | | | |
|--|-------------------------|---|---|
| Bemessungswert Durchstanzlast | V_{Ed} | = | 835,0 kN |
| Lasterhöhungsfaktor | β | = | 1,35 |
| Bodenpressung | σ_{gd} | = | 70,0 kN/m ² |
| Plattendicke | h | = | 70 cm |
| statische Nutzhöhe | d | = | 65 cm |
| Einflussbreite | a | = | 25 cm |
| Wanddicke | b | = | 25 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = | 3,5 cm / 3,5 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = | C30/37 / B500 / B500 |
| Flächenbewehrung | a_{sx} | = | 31,42 cm ² /m ($\rho_x = 0,48 \%$) |
| Flächenbewehrung | a_{sy} | = | 31,42 cm ² /m ($\rho_y = 0,48 \%$) |
| Längsbewehrungsgrad | ρ_l | = | 0,48 % < 1,95 % |

am kritischen Rundschnitt u

Rundschnittführung analog Innenstütze

Abstand zum kritischen Rundschnitt a_{crit} = 85,9 cm (iterativ)

Fläche innerhalb des kritischen Rundschnitts A_{crit} = 1,8646 m²

u (85,9 cm) = 344,8 cm

$k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ = 1,55

Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c}$ = 0,10

$v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{tk})^{1/3} \cdot 2d/a_{crit}$ = 573,84 kN/m²

$v_{Rd,c,2} = v_{min} = 0,0488/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2} \cdot 2d/a_{crit}$ = 522,44 kN/m²

$v_{Rd,c} + \beta \cdot \Delta v_{Ed} = \max \{ v_{Rd,c,1}; v_{Rd,c,2} \} \cdot u \cdot d + \beta \cdot A_{crit} \cdot \sigma_{gd} = 1462,1 \text{ kN} > 1127,3 \text{ kN} = V_{Ed} \cdot \beta$

Keine Durchstanzbewehrung erforderlich

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

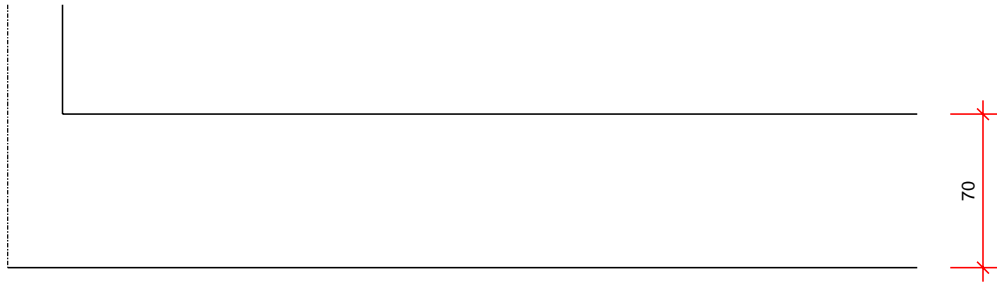
Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Verlegebereich

Schnitt

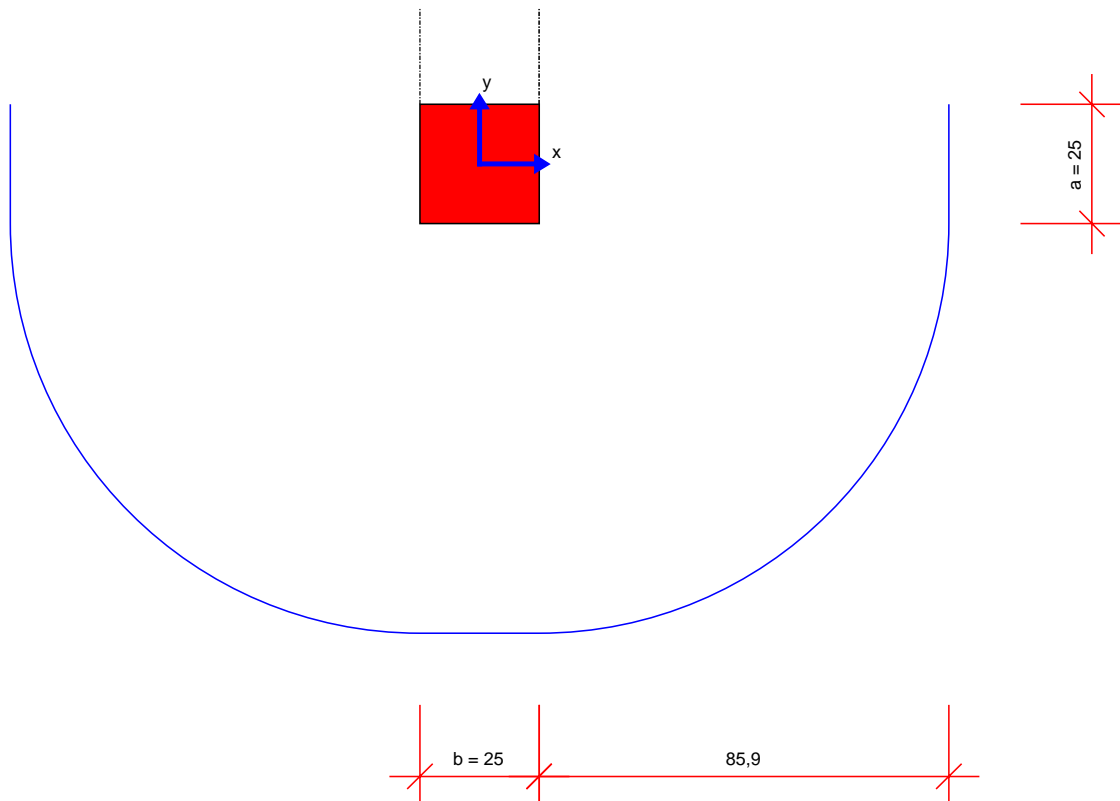
M 1:32



[cm]

Grundriss

M 1:15



Mindeststablängen: $l_{\text{bar,min},x} = 415 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min},y} = 220 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge
Mindeststablänge wurde nach Heft 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

In y-Richtung sind die Stäbe vom Anschnitt der Wand beginnend $195 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.

Halben HDB Durchstanzbewehrung gemäß Europäisch technischer Bewertung ETA-12/0454 und Leviat Leistungserklärung H-09-12/0454-1/1.

Halben Bemessungsprogramm HDB, Version 13.80 – Bemessungsgrundlagen: Eurocode 2 sowie ergänzende Regelungen des EOTA TR 060. (Deutschland: DIN EN 1992-1-1/NA:2013-04+A1:2015-12)

Die Bemessung - einschließlich der statischen Werte - gilt ausschließlich für das ausgewiesene Halben-Produkt. Tragfähigkeiten von scheinbar baugleichen Fremdprodukten können abweichen. Für alternative Produkte kann der Anbieter der Software keine Gewährleistung übernehmen.

Durchstanznachweis für Innenecke (**Bodenplatte**)

| | | |
|--|-------------------------|---|
| Bemessungswert Durchstanzlast | V_{Ed} | = 760,0 kN |
| Lasterhöhungsfaktor | β | = 1,20 |
| Bodenpressung | σ_{gd} | = 60,0 kN/m ² |
| Plattendicke | h | = 40 cm |
| statische Nutzhöhe | d | = 33,7 cm |
| Wanddicke | b | = 25 cm |
| Einflussbreite | a | = 50,5 cm |
| Betondeckung oben / unten | $c_{nom,o} / c_{nom,u}$ | = 3,5 cm / 3,5 cm |
| Beton / Stahlsorte Biegezugbewehrung / HDB | | = C30/37 / B500 / B500 |
| Flächenbewehrung | a_{sx} | = 61,58 cm ² /m ($\rho_x = 1,83 \%$) |
| Flächenbewehrung | a_{sy} | = 61,58 cm ² /m ($\rho_y = 1,83 \%$) |
| Längsbewehrungsgrad | ρ_l | = 1,83 % < 1,95 % |

am kritischen Rundschnitt u

Rundschnittführung analog Innenstütze

Abstand zum kritischen Rundschnitt a_{crit} = 67,4 cm (iterativ)

Fläche innerhalb des kritischen Rundschnitts A_{crit} = 1,2926 m²

u (67,4 cm) = 206,9 cm

$k = \min \{ 1 + \sqrt{200/d[\text{mm}]} ; 2 \}$ = 1,77

Vorfaktor für $v_{Rd,c,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c}$ = 0,10

$v_{Rd,c,1} = C_{Rd,c} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3} \cdot 2d/a_{crit}$ = 672,49 kN/m²

$v_{Rd,c,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2} \cdot 2d/a_{crit}$ = 451,57 kN/m²

$V_{Rd,c} + \beta \cdot \Delta V_{Ed} = \max \{ v_{Rd,c,1}; v_{Rd,c,2} \} \cdot u \cdot d + \beta \cdot A_{crit} \cdot \sigma_{gd} = 561,9 \text{ kN} < 912,0 \text{ kN} = V_{Ed} \cdot \beta$

Vorfaktor für $V_{Rd,max}$ nach TR 060 $C_{Rd,c}$ = 0,12

$V_{Rd,max} + \beta \cdot \Delta V_{Ed} = 1,5 \cdot V_{Rd,c} + \beta \cdot A_{crit} \cdot \sigma_{gd} = 937,0 \text{ kN} > 912,0 \text{ kN} = V_{Ed} \cdot \beta$

am äußeren Rundschnitt u_{out}

$u_{out, req} = 321,4 \text{ cm} < 341,9 \text{ cm} = u_{out, prov}$: Rundschnittführung analog Innenstütze

$l_{s, req} = 89,8 \text{ cm} < 102,8 \text{ cm} = l_{s, prov}$

Fläche des durchstanzbewehrten Bereichs A_{sw} = 2,1229 m²

$\beta_{red} = \max \{ \beta / (1,2 + \beta \cdot l_{s, prov} / (40 \cdot d)) ; 1,1 \}$ = 1,10

Vorfaktor für $v_{Rd,c,out,1}$ nach DIN EN 1992-1-1/NA:2013-04 $C_{Rd,c,out}$ = 0,10

$v_{Rd,c,out,1} = C_{Rd,c,out} \cdot k \cdot (100 \cdot \rho_l \cdot f_{ck})^{1/3}$ = 672,49 kN/m²

$v_{Rd,c,out,2} = v_{min} = 0,0525/\gamma_c \cdot k^{3/2} \cdot f_{ck}^{1/2}$ = 451,57 kN/m²

$V_{Rd,c,out} + \Delta V_{Ed,out} = \max \{ v_{Rd,c,out,1}; v_{Rd,c,out,2} \} \cdot u_{out, prov} \cdot d + A_{sw} \cdot \sigma_{gd} = 902,1 \text{ kN} > 836,0 \text{ kN} = V_{Ed} \cdot \beta_{red}$

| | | | | | |
|--------------------------|-------|-------|-------|-------|-------|
| Ankerdurchmesser d_A : | 12 mm | 14 mm | 16 mm | 20 mm | 25 mm |
| Bereich C : | 17 | 13 | 10 | 6 | 4 |

Gewählt: HDB-16/335-5/1104 (101/168/3x253/75)

Anzahl der Kombinationen pro Stütze $m_c = 6$ Anzahl der Stützen = 1

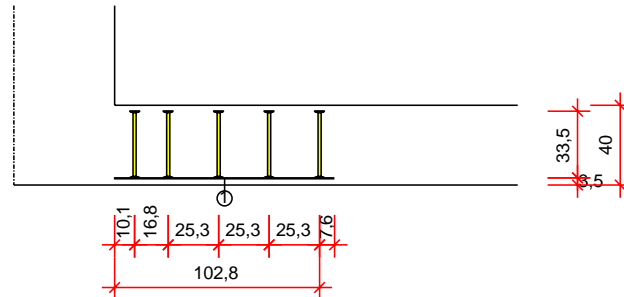
$V_{Rd,sy} + \beta \cdot \Delta V_{Ed} = m_c \cdot n_c \cdot d_A^2 / 4 \cdot \pi \cdot f_{yd} + \beta \cdot A_{crit} \cdot \sigma_{gd} = 1142,1 \text{ kN} > 912,0 \text{ kN} = V_{Ed} \cdot \beta$

Elementabstand innen / außen = 26,4 cm / 65,5 cm

Verlegebereich

Schnitt

M 1:35

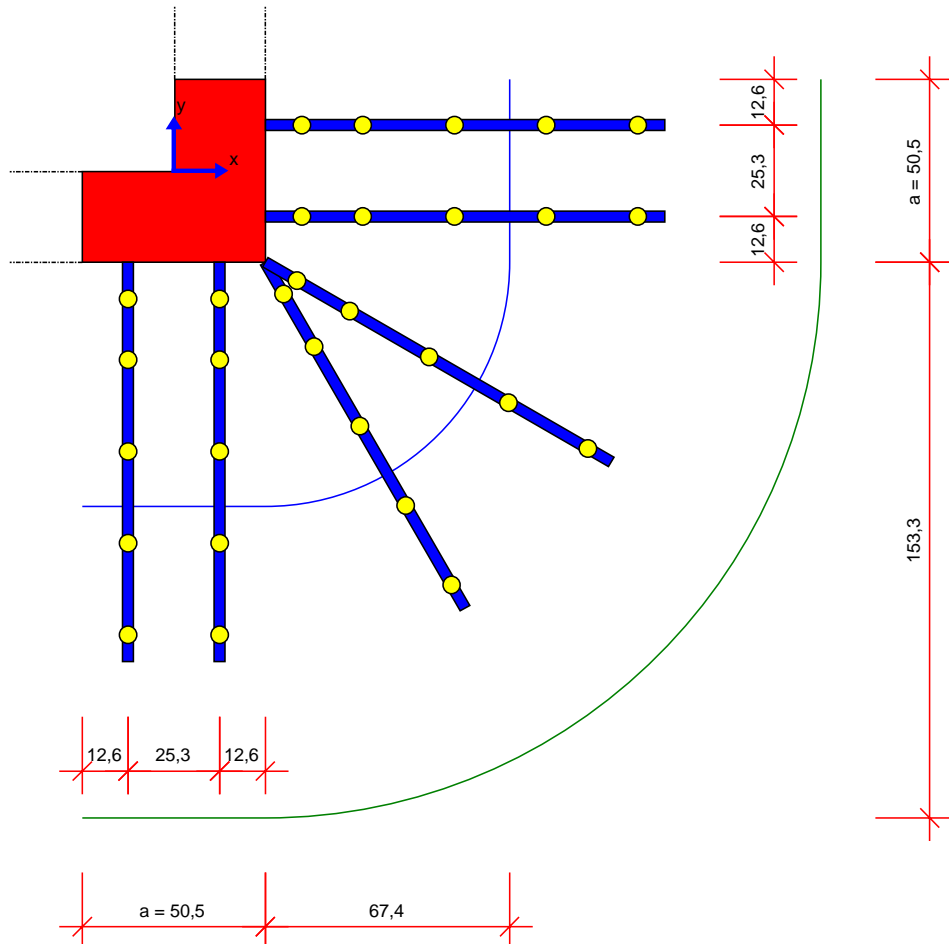


① 6x 1x HDB-16/335-5/1104 (101/168/3x253/75), Montageleiste unten

[cm]

Grundriss

M 1:20



Mindeststablängen: $l_{\text{bar,min,x}} = 237,5 \text{ cm} + 2 \cdot l_{\text{bd}}$; $l_{\text{bar,min,y}} = 237,5 \text{ cm} + 2 \cdot l_{\text{bd}}$; l_{bd} Bemessungswert Verankerungslänge

Mindeststablänge wurde nach Hef 600 (2. Auflage 2020) ermittelt.

Hinweis: Aus anderen Nachweisen können sich größere erforderliche Mindeststablängen ergeben.

Die Stäbe sind beginnend vom Anschnitt der Wand mindestens $187 \text{ cm} + l_{\text{bd}}$ in die Platte zu führen.