

Project : 2022204
Nieuwbouw brouwerij
Steenfabriek
te Losser
Onderwerp : Hoofdberekening



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te Losser
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Opdrachtgever : SOM=
Architect : CONCEPT
Constructeur : R. Vlemminx

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Versie : 2

Versies

| Versie | Datum | Constructeur | Omschrijving |
|--------|-------------|--------------|--|
| 1 | 06-01-2023 | RV | Eerste uitgave. |
| 2 | 26-05-20223 | RV | Berekening aangepast n.a.v. wijziging ontwerp. |

Inhoud

| | | |
|-------|------------------------------------|----|
| 1 | Inleiding | 1 |
| 2 | Berekeningen | 2 |
| 2.1 | Algemeen | 2 |
| 2.2 | Uitgangspunten | 3 |
| 2.3 | Belastingen..... | 4 |
| 2.4 | Constructie brouwerij..... | 6 |
| 2.4.1 | Gording H1-01..... | 7 |
| 2.4.2 | Platte gording H1-02 | 8 |
| 2.4.3 | Regel H1-03 | 9 |
| 2.4.4 | Spant S0-01..... | 10 |
| 2.4.5 | Spant S0-02..... | 11 |
| 2.4.6 | Spant S0-03..... | 12 |
| 2.4.7 | Windverband S0-04..... | 13 |
| 2.4.8 | Raveling S0-05..... | 14 |
| 2.4.9 | Raveling S0-06..... | 15 |
| 2.5 | Fundering en beganegrondvloer..... | 16 |
| 2.6 | Stabiliteit | 16 |

Bijlagen

- Bijlage A Technosoft uitvoer
- Bijlage B Belastingen brouwerijvloer
- Bijlage C Constructieschetsen

1 Inleiding

Op het terrein van de voormalige Steenfabriek De Werklust te Losser wordt een brouwerij gerealiseerd. Het voorliggende document betreft de hoofdberekening van de constructie.

2 Berekeningen

2.1 Algemeen

Van toepassing zijnde normen:

- NEN-EN 1990 Grondslagen van het constructief ontwerp
 - NEN-EN 1991 Belastingen op constructies
 - NEN-EN 1992 Ontwerp en berekening van betonconstructies
 - NEN-EN 1993 Ontwerp en berekening van staalconstructies
 - NEN-EN 1994 Ontwerp en berekening van staal-betonconstructies
 - NEN-EN 1995 Ontwerp en berekening van houtconstructies
 - NEN-EN 1996 Ontwerp en berekening van constructies in metselwerk
 - NEN-EN 1997 Geotechnisch ontwerp en berekening
 - NEN-EN 1998 Ontwerp en berekening van aardbevingsbestendige constructies
 - NEN-EN 1999 Ontwerp en berekening van aluminiumconstructies
-
- NEN 8700:2011 Beoordeling van de constructieve veiligheid van een bestaand bouwwerk bij verbouw en afkeuren - Grondslagen
 - NEN 8701:2011 Beoordeling van de constructieve veiligheid van een bestaand bouwwerk bij verbouwen en afkeuren - Belastingen

Toegepaste Software

Technosoft V6

2.2 Uitgangspunten

Gebouwfunctie : Industrie
Gevolgklasse : CC1 nieuwbouwniveau
Referentieperiode : 50 jaar

Betonconstructie

Betonkwaliteit : C25/30
Wapeningsstaal : B500B

Staalconstructie

Staalkwaliteit : S235
Kokerprofielen : S275
Boutkwaliteit : 8.8
Ankerkwaliteit : 4.6

Houtconstructie

Houtkwaliteit : C24
Klimaatklasse : II

Windbelastingen

Windgebied : III
Omgeving : Onbebouwd

2.3 Belastingen

In onderstaand overzicht zijn de van toepassing zijnde belastingen weergegeven.

Stuwdruk, $h = 6,20 \text{ m}^1$

Windbelasting

Windgebied III; Onbebouwd; hoogte 6,200 boven maaiveld, stuwdruk = 0,59 kN/m²

Momentaanfactor $\psi_0 = 0,00$ $\psi_1 = 0,20$ $\psi_2 = 0,00$

Reductiefactor C_{prob}^2 1,00

Dak 30° (grondvlak)

Sneeuwbelasting

Zonnepanelen 0,15 / cos30 = 0,17

Dakpannen 0,45 / cos30 = 0,52

Sandwichpaneel 0,15 / cos30 = 0,17

Gordingen 0,10 / cos30 = 0,12

+ -----

Totaal blijvende belasting 0,98 kN/m²

Opgelegde belasting 0,56 = 0,56 kN/m²

Geconcentreerde opgelegde belasting 0,00 kN

Momentaanfactor $\psi_0 = 0,00$ $\psi_1 = 0,20$ $\psi_2 = 0,00$

Reductiefactor 1,00

Dak 30° (dakvlak)

Permanent

Zonnepanelen 0,15 = 0,15

Dakpannen 0,45 = 0,45

Sandwichpaneel 0,15 = 0,15

Gordingen 0,10 = 0,10

+ -----

Totaal blijvende belasting 0,85 kN/m²

Dak 30° minimaal (grondvlak) Sneeuwbelasting

Sandwichpaneel 0,15 / cos30 = 0,17

Gordingen 0,10 / cos30 = 0,12

+ -----

Totaal blijvende belasting 0,29 kN/m²

Opgelegde belasting 0,56 = 0,56 kN/m²

Geconcentreerde opgelegde belasting 0,00 kN

Momentaanfactor $\psi_0 = 0,00$ $\psi_1 = 0,20$ $\psi_2 = 0,00$

Reductiefactor 1,00

Betonvloer 200

Categorie E: Opslag- of industriefunctie

| | | | |
|-------------------------------------|-----------------|----------------------------|-------------------|
| Eigengewicht | | $0,20 \times 25,00 = 5,00$ | |
| | | | +----- |
| Totaal blijvende belasting | | 5,00 | kN/m ² |
| Opgelegde belasting | | 25,00 = 25,00 | kN/m ² |
| Geconcentreerde opgelegde belasting | | 26,00 | kN |
| Momentaanfactor | $\psi_0 = 1,00$ | $\psi_1 = 0,90$ | $\psi_2 = 0,80$ |
| Reductiefactor | | 1,00 | |

Vorkheftruckklasse FL 1

Categorie F: Verkeersfunctie, met voertuiggewicht ≤ 30 kN

Nettogewicht 21 kN

Hijslast 10 kN

Massieve banden $\varphi = 2$

| | | | |
|-------------------------------------|-----------------|-----------------|-----------------|
| Opgelegde belasting aslast | | 52,00 = 52,00 | kN |
| Geconcentreerde opgelegde belasting | | 26,00 | kN |
| Momentaanfactor | $\psi_0 = 0,70$ | $\psi_1 = 0,70$ | $\psi_2 = 0,60$ |
| Reductiefactor | | 1,00 | |

Gevel

Permanent

| | | | |
|----------------------------|--|-------------|-------------------|
| Rabbatdelen | | 0,08 = 0,08 | |
| Sandwichpaneel | | 0,20 = 0,20 | |
| Gordingen | | 0,05 = 0,05 | |
| Extra | | 0,10 = 0,10 | |
| | | | +----- |
| Totaal blijvende belasting | | 0,44 | kN/m ² |

Gevel minimaal

Permanent

| | | | |
|----------------------------|--|-------------|-------------------|
| Sandwichpaneel | | 0,15 = 0,15 | |
| Gordingen | | 0,05 = 0,05 | |
| | | | +----- |
| Totaal blijvende belasting | | 0,20 | kN/m ² |

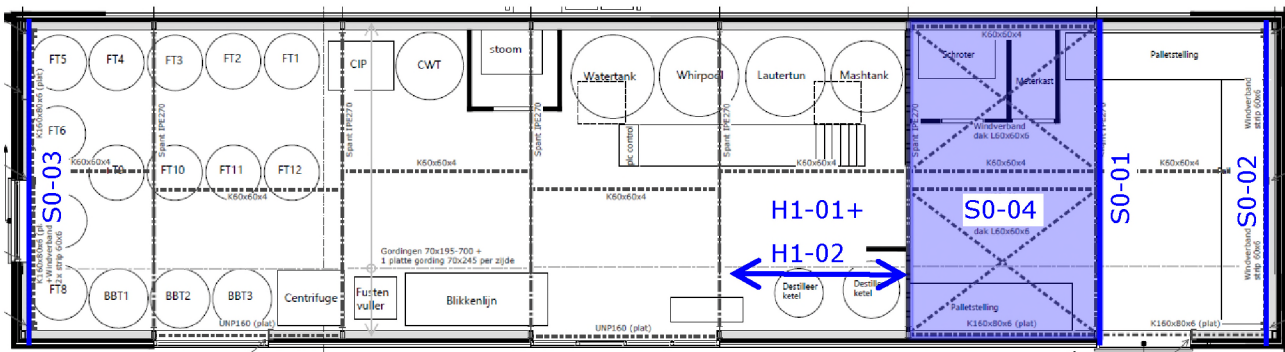
Gevel metselwerk

Permanent

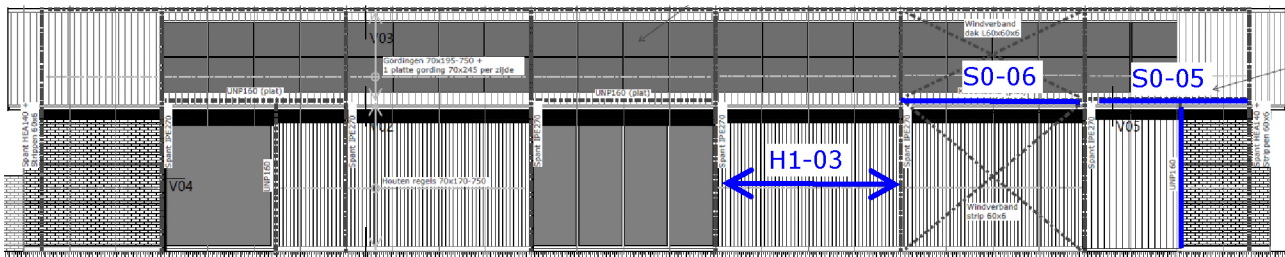
| | | | |
|----------------------------|--|-------------|-------------------|
| Metselwerk | | 2,00 = 2,00 | |
| Sandwichpaneel | | 0,20 = 0,20 | |
| Gordingen | | 0,05 = 0,05 | |
| Extra | | 0,10 = 0,10 | |
| | | | +----- |
| Totaal blijvende belasting | | 2,35 | kN/m ² |

2.4 Constructie brouwerij

Onderstaande afbeeldingen tonen een overzicht van de constructie en de diverse ge-
toetste onderdelen.

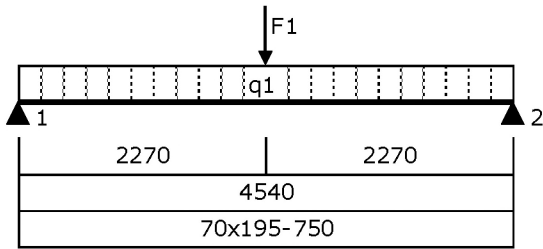


Afbeelding 2.1: plattegrond



Afbeelding 2.2: langsgevel

2.4.1 Gording H1-01



q1

Dak 30° (dakvlak)

(

$$G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep} \quad pb \quad vb$$

$$0,75) \times (0,85 + 0,00 \times 0,00) = 0,64 + 0,00$$

$$+ \text{-----} + \text{-----}$$

$$\text{Totaal} \quad 0,64 + 0,00 \text{ kN/m}$$

F1

Puntlast

(

$$G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep} \quad pb \quad vb$$

$$1,00) \times (0,00 + 1,00 \times 2,00) = 0,00 + 2,00$$

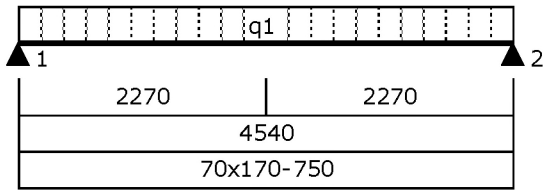
$$+ \text{-----} + \text{-----}$$

$$\text{Totaal} \quad 0,00 + 2,00 \text{ kN}$$

Wind- en sneeuwbelastingen worden automatisch gegenereerd

Voor de berekeningsresultaten wordt verwezen naar Bijlage A, blad 1 e.v.

2.4.3 Regel H1-03



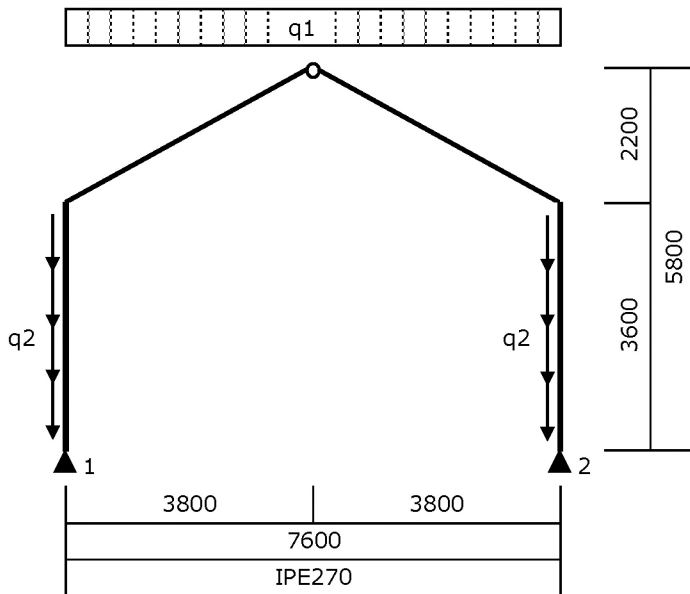
q1

Stuwdruk, $h = 6,20 \text{ m}^1$

$$\begin{array}{rcl}
 G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep} & pb & vb \\
 (1,10 + 0,30 \times 0,75) \times (0,00 + 1,00 \times 0,59) & = & 0,00 + 0,62 \text{ extr} \\
 \swarrow & & + \text{-----} + \text{-----} \\
 \text{zone B } C_{pe,1} & & \text{Totaal} \quad 0,00 + 0,62 \text{ kN/m}
 \end{array}$$

Voor de berekeningsresultaten wordt verwezen naar Bijlage A, blad 6 e.v.

2.4.4 Spant S0-01



q1

| | | | | |
|---------------------|---|--|---------|-----------|
| Dak 30° (grondvlak) | (| $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | pb | vb |
| | | $4,64) \times (0,98 + 1,00 \times 0,56) =$ | 4,56 + | 2,60 extr |
| | | | + ----- | +----- |
| | | Totaal | 4,56 + | 2,60 kN/m |

q1 minimaal

| | | | | |
|------------------------------|---|--|---------|-----------|
| Dak 30° minimaal (grondvlak) | (| $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | pb | vb |
| | | $4,64) \times (0,29 + 1,00 \times 0,56) =$ | 1,35 + | 2,60 extr |
| | | | + ----- | +----- |
| | | Totaal | 1,35 + | 2,60 kN/m |

q2

| | | | | |
|------------|---|--|---------|-----------|
| Gevel hout | (| $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | pb | vb |
| | | $4,64) \times (0,44 + 0,00 \times 0,00) =$ | 2,03 + | 0,00 |
| | | | + ----- | +----- |
| | | Totaal | 2,03 + | 0,00 kN/m |

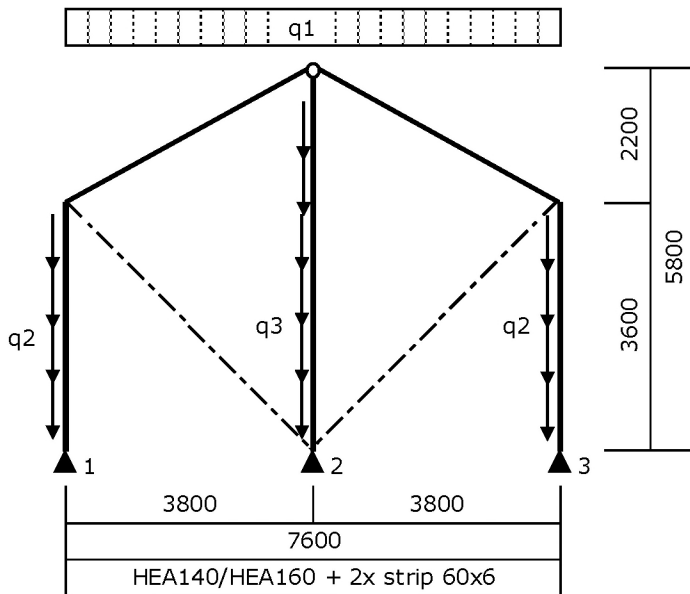
q2 minimaal

| | | | | |
|----------------|---|--|---------|-----------|
| Gevel minimaal | (| $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | pb | vb |
| | | $4,64) \times (0,20 + 0,00 \times 0,00) =$ | 0,95 + | 0,00 |
| | | | + ----- | +----- |
| | | Totaal | 0,95 + | 0,00 kN/m |

Wind- en sneeuwbelastingen worden automatisch gegenereerd

Voor de berekeningsresultaten wordt verwezen naar Bijlage A, blad 8 e.v.

2.4.5 Spant S0-02



q1

| | | | | |
|---------------------|---|--|----------|------------------|
| | | $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | pb | vb |
| Dak 30° (grondvlak) | (| $2,80) \times (0,98 + 1,00 \times 0,56)$ | = 2,75 + | 1,57 extr |
| | | | + ----- | +----- |
| | | | Totaal | 2,75 + 1,57 kN/m |

q1 minimaal

| | | | | |
|------------------------------|---|--|----------|------------------|
| | | $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | pb | vb |
| Dak 30° minimaal (grondvlak) | (| $2,80) \times (0,29 + 1,00 \times 0,56)$ | = 0,81 + | 1,57 extr |
| | | | + ----- | +----- |
| | | | Totaal | 0,81 + 1,57 kN/m |

q2

| | | | | |
|----------------|---|---|----------|------------------|
| | | $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | pb | vb |
| Gevel minimaal | (| $2,10 + 2,42) \times (0,20 + 0,00 \times 0,00)$ | = 0,93 + | 0,00 |
| | | | + ----- | +----- |
| | | | Totaal | 0,93 + 0,00 kN/m |

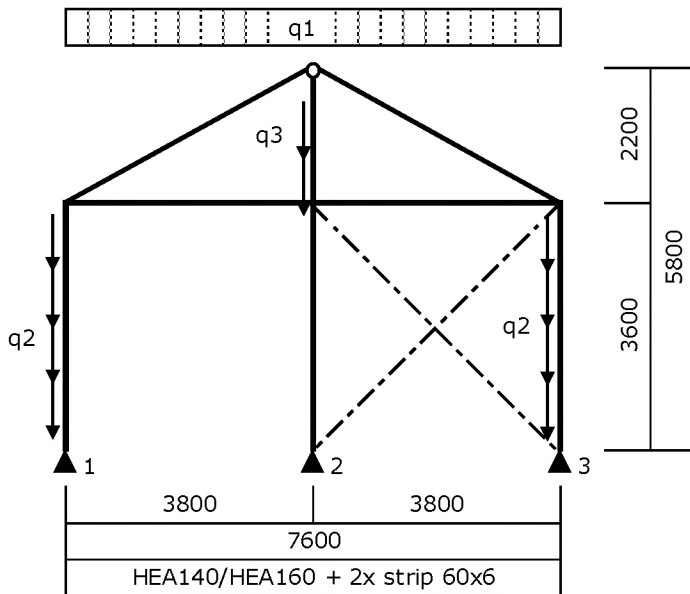
q3

| | | | | |
|----------------|---|--|----------|------------------|
| | | $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | pb | vb |
| Gevel minimaal | (| $4,20) \times (0,20 + 0,00 \times 0,00)$ | = 0,86 + | 0,00 |
| | | | + ----- | +----- |
| | | | Totaal | 0,86 + 0,00 kN/m |

Wind- en sneeuwbelastingen worden automatisch gegenereerd

Voor de berekeningsresultaten wordt verwezen naar Bijlage A, blad 50 e.v.

2.4.6 Spant S0-03



q1

| | | | | | |
|---------------------|---|--|---|---------|------------------|
| Dak 30° (grondvlak) | (| $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | | pb | vb |
| | | $2,25) \times (0,98 + 1,00 \times 0,56)$ | = | 2,21 + | 1,26 extr |
| | | | | + ----- | +----- |
| | | | | Totaal | 2,21 + 1,26 kN/m |

q1 minimaal

| | | | | | |
|------------------------------|---|--|---|---------|------------------|
| Dak 30° minimaal (grondvlak) | (| $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | | pb | vb |
| | | $2,25) \times (0,29 + 1,00 \times 0,56)$ | = | 0,65 + | 1,26 extr |
| | | | | + ----- | +----- |
| | | | | Totaal | 0,65 + 1,26 kN/m |

q2

| | | | | | |
|----------------|---|---|---|---------|------------------|
| Gevel minimaal | (| $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | | pb | vb |
| | | $1,14 + 1,87) \times (0,20 + 0,00 \times 0,00)$ | = | 0,62 + | 0,00 |
| | | | | + ----- | +----- |
| | | | | Totaal | 0,62 + 0,00 kN/m |

q3

| | | | | | |
|------------|---|--|---|---------|------------------|
| Gevel hout | (| $G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep}$ | | pb | vb |
| | | $2,10) \times (0,44 + 0,00 \times 0,00)$ | = | 0,92 + | 0,00 |
| | | | | + ----- | +----- |
| | | | | Totaal | 0,92 + 0,00 kN/m |

Wind- en sneeuwbelastingen worden automatisch gegenereerd

Voor de berekeningsresultaten wordt verwezen naar Bijlage A, blad 98 e.v.

2.4.7 Windverband S0-04

F1 horizontaal

$$\begin{array}{rcc} & G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep} & \begin{array}{cc} pb & vb \\ 0,00 & 6,64 \text{ extr} \\ + \text{-----} & + \text{-----} \\ \text{Totaal} & 0,00 + 6,64 \text{ kN} \end{array} \\ \text{Stuwdruk, } h=6,20 \text{ m}^1 & (1,11 \times 4,10 \times 2,49) \times (0,00 + 1,00 \times 0,59) = & \end{array}$$

Veranderlijke belastingen: Frequent = 1,33 kN Quasi blijvend = 0,00 kN Karakteristiek = 0,00 kN

Belasting uiterste grenstoestand

Horizontaal l = 4640 mm

$$\begin{aligned} F_{Ed} &= 1,22 \times 0,00 + 1,35 \times 0,00 = 0,00 \text{ kN (NEN-EN 1990: vergelijking 6.10a)} \\ &= 1,08 \times 0,00 + 1,35 \times 6,64 = 8,96 \text{ kN (NEN-EN 1990: vergelijking 6.10b)} \quad \text{--> praktisch: K60x60x4} \end{aligned}$$

Verticaal l = 3600 mm

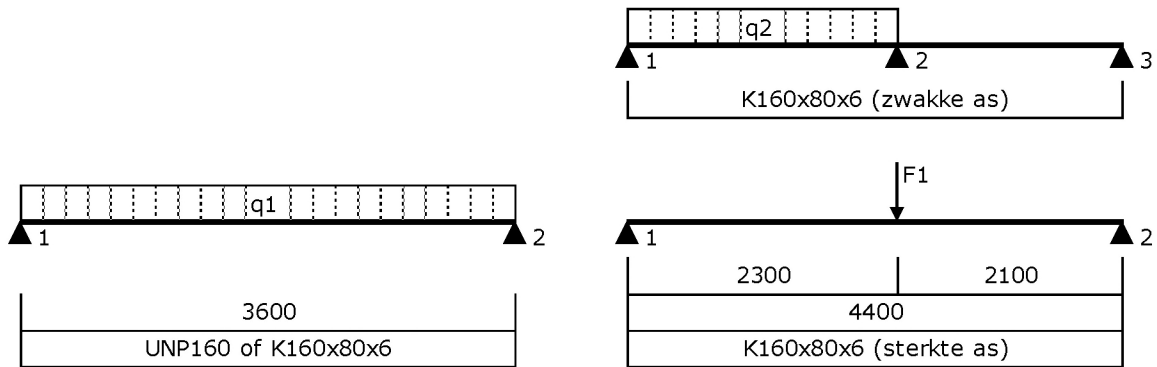
$$F_{Ed} = (3600 / 4640) \times 8,96 = 6,95 \text{ kN} \quad < 0,9 \times 11,16 = 10,04 \quad \text{--> geen trek}$$

Diagonaal l = 5873 mm

$$F_{Ed} = (5873 / 4640) \times 8,96 = 11,35 \text{ kN} \quad \text{--> praktisch: strip 60x6 + 2M12 8.8 in gevel} \\ \text{L60x60x6 + 2M12 8.8 in dakvlak}$$

Voor de berekeningsresultaten wordt verwezen naar Bijlage A, blad 148 e.v.

2.4.8 Raveling S0-05



q1

Stuwdruk, $h = 6,20 \text{ m}^1$

$$\begin{array}{rcl}
 & G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep} & pb \quad vb \\
 (\underset{\substack{\nearrow \\ \text{zone A } c_{pe,10}}}{1,40 + 0,30 \times 2,20}) \times (0,00 + 1,00 \times 0,59) = & 0,00 + & 2,20 \text{ extr} \\
 & + \text{-----} + \text{-----} & \\
 \text{Totaal} & 0,00 + & 2,20 \text{ kN/m}
 \end{array}$$

q2

Schuifdeur

$$\begin{array}{rcl}
 & G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep} & pb \quad vb \\
 (3,60) \times (0,30 + 0,00 \times 0,00) = & 1,08 + & 0,00 \\
 & + \text{-----} + \text{-----} & \\
 \text{Totaal} & 1,08 + & 0,00 \text{ kN/m}
 \end{array}$$

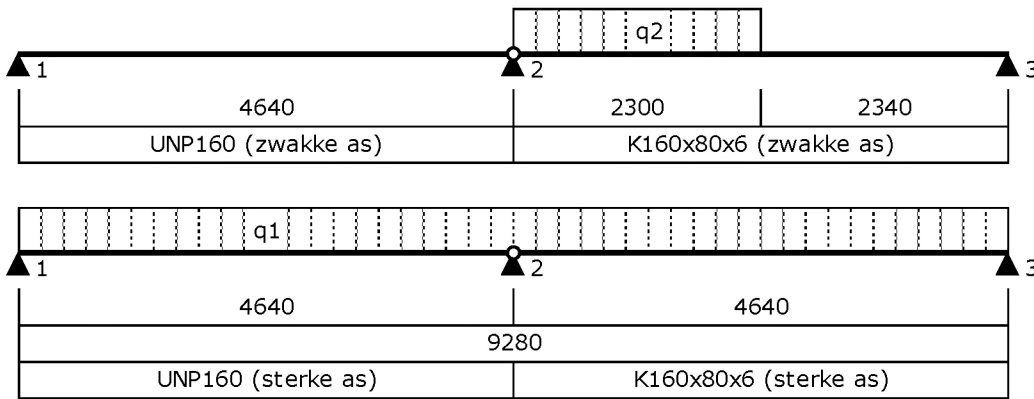
F1

Stuwdruk, $h = 6,20 \text{ m}^1$

$$\begin{array}{rcl}
 & G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep} & pb \quad vb \\
 (1,70 \times 1,80 \times 2,20) \times (0,00 + 1,00 \times 0,59) = & 0,00 + & 3,97 \text{ extr} \\
 & + \text{-----} + \text{-----} & \\
 \text{Totaal} & 0,00 + & 3,97 \text{ kN}
 \end{array}$$

Voor de berekeningsresultaten wordt verwezen naar Bijlage A, blad 149 e.v.

2.4.9 Raveling S0-06



q1

Stuwdruk, $h = 6,20 \text{ m}^1$

$$\left(\underset{\substack{\nearrow \\ \text{zone D } c_{pe,10}}}{0,80 + 0,30 \times 1,80} \right) \times \left(G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep} \right) = \begin{matrix} pb & vb \\ 0,00 & + & 1,17 \text{ extr} \\ + & \text{-----} & + \text{-----} \\ \text{Totaal} & 0,00 & + & 1,17 \text{ kN/m} \end{matrix}$$

q2

Schuifdeur

$$(3,60) \times \left(G_{rep} + \psi_0 \times \psi_t \cdot Q_{rep} \right) = \begin{matrix} pb & vb \\ 1,08 & + & 0,00 \\ + & \text{-----} & + \text{-----} \\ \text{Totaal} & 1,08 & + & 0,00 \text{ kN/m} \end{matrix}$$

Voor de berekeningsresultaten wordt verwezen naar Bijlage A, blad 149 e.v.

2.5 Fundering en beganegrondvloer

Er moet nog gesondeerd worden. De hal wordt gefundeerd op staal middels een monoliete betonvloer met vorstrand. In het midden van de vloer komt een lijngoot. De minimale vloerdikte bedraagt 200mm. De vloer dient vloeistofdicht te zijn en geschikt voor milieuklassen XC3 en XA2.

De vloer wordt berekend op 25 kN/m² en op een vorkheftruckklasse FL 1.

2.6 Stabiliteit

De stabiliteit van de hal in dwarsrichting wordt verzorgd door ongeschoorde stalen spanten en geschoorde kopgevels. In langsrichting is de hal geschoord middels windverbanden in het dakvlak en de gevels.

Bijlage A

Technosoft uitvoer

A.1 Gording H1-01

Technosoft Construct release

26 mei 2023

Project : 2022204
Datum : 16/09/2022
Eenheden : kN/m/rad
Bestand : K:\Werk\2022204\Berekeningen\Technosoft\diverse.cnw

Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|-------------|----------------------|-----------------|-------------|
| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-3:2003 | C1:2009 | NB:2011(nl) |
| | NEN-EN 1991-1-4:2005 | C2:2011 | NB:2011(nl) |
| Hout | NEN-EN 1995-1-1:2005 | A1:2011,C1:2006 | NB:2013(nl) |
| | NEN-EN 14080:2013 | | |

Gording H1-01

zadeldak enkele buiging

Algemene gegevens

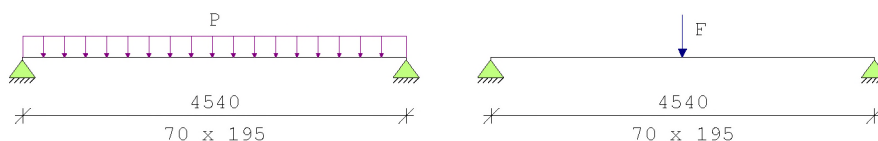
| | | | |
|-----------------------|---------------------------|--|-------------|
| B x H | [mm] : 70 x 195 | Sterkteklasse | : C24 |
| Overspanning | [mm] : 4540 | Klimaatklasse | : II |
| Aantal zijdl. steunen | : - | Referentie periode [j] | : 50 |
| Opleglengte | [mm] : 100 | | |
| Hoh in het dakvlak | [mm] : 750 | | |
| Helling | : 30.00 | | |
| Beschot sterkteklasse | : C24 | | |
| Dikte beschot | [mm] : 18 | $E_{0,mean} \times I$ [Nm ² /m] | : 5346.0 |
| Windgebied | : 3 | Terrein | : Onbebouwd |
| Gebouw L x B x H | [m] : 31.30 x 8.20 x 6.20 | | |

Permanente belastingen G_{rep}

| | |
|-----------------------------|---------|
| EG balklaag | : 0.85 |
| Isolatie | : 0.00+ |
| Extra gewicht | : 0.00+ |
| Totaal [kN/m ²] | : 0.85 |

Veranderlijke belastingen

| | |
|---------------------------|---|
| Q_k | [kN] : 2.00 |
| Q_k oppervlak | [m ²] : 0.50 x 0.50 |
| Reductiefactor | : 0.86 |
| Wind $Q_{p,prob}$ | [kN/m ²] : 0.59 (= $C_{prob}^2 * Q_p = 1.00^2 * 0.59$) |
| Sneeuw vormfactor μ_s | : 0.80 |



Belastingfactoren (NEN-EN 1990 - Bijlage A1.3)

| | | |
|-------------------|----------------------|-------------------|
| Formule 6.10a: | γ_G : 1.22 | γ_Q : 1.35 |
| Formule 6.10b: | $\xi\gamma_G$: 1.08 | γ_Q : 1.35 |
| Perm.bel. gunstig | : 0.90 | |

Partiële factor (Tabel 2.3 NEN-EN 1995-1-1)

γ_M [-]: 1.30

Stabiliteit

1.Toetsing kipstabiliteit m.b.t. montagefase volgens par.6.3.3. is n.v.t.:
- u hebt het belastingsgeval 'Uitvoering' niet toegepast.

2.Factoren t.b.v. toetsing kipstabiliteit m.b.t. gebruiksfase volgens par.6.3.3:
Belastingcombinatie wind omhoog (opbuigend moment):

$K_{crit,y}$ [-] : 0.95 frm(6.34)

Resultaten (maatgevende combinaties)

Factoren t.b.v. toetsing ULS:

k_m [-] : 0.70 par(6.1.6)

| | | | eis | u.c. |
|---|-----------|---|---------------------------------------|------|
| Geconc. belasting | frm(6.13) | $\tau_{v,d}$ | $= 0.35 < 2.46$ [N/mm ²] | 0.14 |
| Geconc. belasting | frm(6.3) | $\sigma_{c,90,q,d} / (k_{c,90,q} * f_{c,90,d}) +$ $\sigma_{c,90,F,d} / (k_{c,90,F} * f_{c,90,d}) < 1.00$ | $= 0.19 / 1.54 + 0.33 / 2.31 = 0.27$ | 0.27 |
| Geconc. belasting | frm(6.11) | $\sigma_{m,y,d}$ | $= 8.63 < 14.77$ [N/mm ²] | 0.58 |
| Let op: bij 1 of meerdere belastingcombinaties wind treedt een opwaartse oplegreactie op. Houdt hiermee rekening in het ontwerp van de oplegverbinding. | | | | |
| Geconc. belasting | | u_{bij} | $= 11.26 < 18.16$ [mm] | 0.62 |
| Geconc. belasting | | $u_{net,fin}$ | $= 17.68 < 18.16$ [mm] | 0.97 |

Resultaten (maatgevende combinaties)

Factoren t.b.v. toetsing ULS:

k_m [-] : 0.70 par(6.1.6)

| | | | eis | u.c. |
|---|-----------|---|-------------------------------------|------|
| Geconc. belasting | frm(6.13) | $\tau_{v,d}$ | = 0.30 < 2.00 [N/mm ²] | 0.15 |
| Geconc. belasting | frm(6.3) | $\sigma_{c,90,q,d} / (k_{c,90,q} * f_{c,90,d}) +$ $\sigma_{c,90,F,d} / (k_{c,90,F} * f_{c,90,d}) < 1.00$ | = 0.11 / 1.25 + 0.33 / 1.88 = | 0.27 |
| Geconc. belasting | frm(6.11) | $\sigma_{m,y,d}$ | = 6.98 < 12.00 [N/mm ²] | 0.58 |
| Let op: bij 1 of meerdere belastingcombinaties wind treedt een opwaartse oplegreactie op. Houdt hiermee rekening in het ontwerp van de oplegverbinding. | | | | |
| Geconc. belasting | | u_{bij} | = 13.45 < 18.16 [mm] | 0.74 |
| Geconc. belasting | | $u_{net,fin}$ | = 17.26 < 18.16 [mm] | 0.95 |

A.2 Platte gording H1-02

Technosoft Construct release

26 mei 2023

Project : 2022204
Datum : 16/09/2022
Eenheden : kN/m/rad
Bestand : K:\Werk\2022204\Berekeningen\Technosoft\diverse.cnw

Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|-------------|----------------------|-----------------|-------------|
| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| Hout | NEN-EN 1995-1-1:2005 | A1:2011,C1:2006 | NB:2013(nl) |
| | NEN-EN 14080:2013 | | |

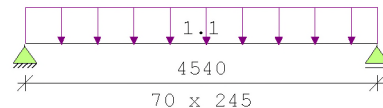
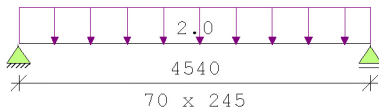
Plattegording H1-02

Algemene gegevens

| | | | |
|------------------|-----------------|-------------------------|-------|
| B x H | [mm] : 70 x 245 | Referentie periode [j]: | 50 |
| l_{sys} | [mm] : 4540 | Toelaatbare doorbuiging | |
| $l_{buc,y}$ | [mm] : 4540 | Bijkomend [* 1] : | 0.004 |
| $l_{buc,z}$ | [mm] : 4540 | Eind [* 1] : | 0.004 |
| Plaats kipsteun | : Bovenkant | Klimaatklasse | : II |
| Steunpunt links | : Scharnier | | |
| Steunpunt rechts | : Rol | | |
| Sterkteklasse | : C24 | | |

Belastingen

| | Permanent | Veranderlijk |
|----------------|----------------|--------------|
| q_z | [kN/m] : -2.01 | -1.15 |
| Ψ_0 | [-] : | 0.00 |
| Ψ_2 | [-] : | 0.00 |
| F_z | [kN] : | 0.00 |
| Vanaf links | [mm] : | 0 |
| N_x | [kN] : | 0.00 |
| $M_{y,links}$ | [kNm] : | 0.00 |
| $M_{y,rechts}$ | [kNm] : | 0.00 |



Belastingfactoren (NEN-EN 1990)

Formule 6.10a: $\gamma_G : 1.22$ $\gamma_Q : 1.35$
 Formule 6.10b: $\xi\gamma_G : 1.08$ $\gamma_Q : 1.35$
 Permanent: $\gamma_G : 1.22$

Partiële factor (Tabel 2.3 NEN-EN 1995-1-1)

$\gamma_M [-] : 1.30$

Stabiliteit

1.Toetsing knikstabiliteit volgens par. 6.3.2. is n.v.t.:
 - geen axiale druk aangebracht op de staaf.

2.Factoren t.b.v. toetsing kipstabiliteit volgens par. 6.3.3.:

Fundamentele combinatie (6.10a):

$K_{crit,y} [-] : 0.83$ frm(6.34)

Fundamentele combinatie (6.10b):

$K_{crit,y} [-] : 0.83$ frm(6.34)

Fundamentele combinatie (6.10a)

| | | frm(6.33) | u.c. | 0.98 |
|----------------------------------|------|---------------------------------------|------|-----------------------------|
| Normaalkracht [kN] | 0.0 | $\sigma_{c,o,d}$ [N/mm ²] | 0.00 | |
| Dwarskracht [kN] | 5.6 | $\tau_{v,d}$ [N/mm ²] | 0.49 | |
| Moment [kNm] | -6.3 | $\sigma_{m,y,d}$ [N/mm ²] | 9.02 | |
| $f_{m,y,d}$ [N/mm ²] | 11.1 | $f_{c,o,d}$ [N/mm ²] | 9.69 | b_{ef} 70[mm] frm(6.13a) |
| $f_{t,o,d}$ [N/mm ²] | 6.7 | $f_{v,d}$ [N/mm ²] | 1.85 | k_{mod} 0.60 [-] tab(3.1) |

| Fundamentele combinatie (6.10b) | | | frm(6.33) | u.c. | 1.00 |
|----------------------------------|------|------------------|----------------------|-------|------------------------------|
| Normaalkracht [kN] | 0.0 | $\sigma_{c,0,d}$ | [N/mm ²] | 0.00 | |
| Dwarskracht [kN] | 8.5 | $\tau_{v,d}$ | [N/mm ²] | 0.74 | |
| Moment [kNm] | -9.6 | $\sigma_{m,y,d}$ | [N/mm ²] | 13.70 | |
| $f_{m,y,d}$ [N/mm ²] | 16.6 | $f_{c,0,d}$ | [N/mm ²] | 14.54 | b_{ef} 70 [mm] frm(6.13a) |
| $f_{t,0,d}$ [N/mm ²] | 10.0 | $f_{v,d}$ | [N/mm ²] | 2.77 | k_{mod} 0.90 [-] tab(3.1) |
| Permanente combinatie (6.10a) | | | frm(6.33) | u.c. | 0.98 |
| Normaalkracht [kN] | 0.0 | $\sigma_{c,0,d}$ | [N/mm ²] | 0.00 | |
| Dwarskracht [kN] | 5.6 | $\tau_{v,d}$ | [N/mm ²] | 0.49 | |
| Moment [kNm] | -6.3 | $\sigma_{m,y,d}$ | [N/mm ²] | 9.02 | |
| $f_{m,y,d}$ [N/mm ²] | 11.1 | $f_{c,0,d}$ | [N/mm ²] | 9.69 | b_{ef} 70 [mm] frm(6.13a) |
| $f_{t,0,d}$ [N/mm ²] | 6.7 | $f_{v,d}$ | [N/mm ²] | 1.85 | k_{mod} 0.60 [-] tab(3.1) |

A.3 Regel H1-03

Technosoft Construct release

26 mei 2023

Project : 2022204
Datum : 16/09/2022
Eenheden : kN/m/rad
Bestand : K:\Werk\2022204\Berekeningen\Technosoft\diverse.cnw

Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|-------------|----------------------|-----------------|-------------|
| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| Hout | NEN-EN 1995-1-1:2005 | A1:2011,C1:2006 | NB:2013(nl) |
| | NEN-EN 14080:2013 | | |

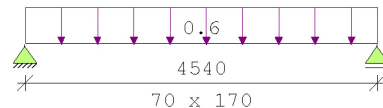
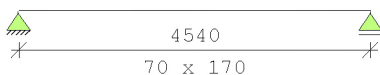
Regel H1-03

Algemene gegevens

| | | | |
|--------------------|-----------------|--------------------------|-------|
| B x H | [mm] : 70 x 170 | Referentie periode [j] : | 50 |
| l _{sys} | [mm] : 4540 | Toelaatbare doorbuiging | |
| l _{buc,y} | [mm] : 4540 | Bijkomend [* 1] : | 0.004 |
| l _{buc,z} | [mm] : 4540 | Eind [* 1] : | 0.004 |
| Plaats kipsteun | : Bovenkant | Klimaatklasse : | II |
| Steunpunt links | : Scharnier | | |
| Steunpunt rechts | : Rol | | |
| Sterkteklasse | : C24 | | |

Belastingen

| | Permanent | Veranderlijk |
|-------------------------------|-----------|--------------|
| q _z [kN/m] : | 0.00 | -0.62 |
| Ψ ₀ [-] : | | 0.00 |
| Ψ ₂ [-] : | | 0.00 |
| F _z [kN] : | 0.00 | 0.00 |
| Vanaf links [mm] : | 0 | |
| N _x [kN] : | 0.00 | 0.00 |
| M _{y,links} [kNm] : | 0.00 | 0.00 |
| M _{y,rechts} [kNm] : | 0.00 | 0.00 |



Belastingfactoren (NEN-EN 1990)

Formule 6.10a: $\gamma_G : 1.22$ $\gamma_Q : 1.35$
Formule 6.10b: $\xi\gamma_G : 1.08$ $\gamma_Q : 1.35$

Partiële factor (Tabel 2.3 NEN-EN 1995-1-1)
 $\gamma_M [-] : 1.30$

Stabiliteit

1.Toetsing knikstabiliteit volgens par. 6.3.2. is n.v.t.:
- geen axiale druk aangebracht op de staaf.

2.Factoren t.b.v. toetsing kipstabiliteit volgens par. 6.3.3.:
Fundamentele combinatie (6.10b):

$k_{crit,y} [-] : 0.96$ frm(6.34)

Fundamentele combinatie (6.10a)

u.c. 0.00

| | | | | | |
|----------------------------------|------|---------------------------------------|------|--------------------|------------|
| Normaalkracht [kN] | 0.0 | $\sigma_{c,0,d}$ [N/mm ²] | 0.00 | | |
| Dwarskracht [kN] | 0.0 | $\tau_{v,d}$ [N/mm ²] | 0.00 | | |
| Moment [kNm] | 0.0 | $\sigma_{m,y,d}$ [N/mm ²] | 0.00 | | |
| $f_{m,y,d}$ [N/mm ²] | 11.1 | $f_{c,0,d}$ [N/mm ²] | 9.69 | b_{ef} 70 [mm] | frm(6.13a) |
| $f_{t,0,d}$ [N/mm ²] | 6.7 | $f_{v,d}$ [N/mm ²] | 1.85 | k_{mod} 0.60 [-] | tab(3.1) |

| Fundamentele combinatie (6.10b) | | | frm(6.33) | | u.c. 0.40 | | |
|----------------------------------|---------|------------------|----------------------|-------|--------------------|------------|--|
| Normaalkracht [kN] | 0.0 | $\sigma_{c,0,d}$ | [N/mm ²] | 0.00 | | | |
| Dwarskracht [kN] | 1.9 | $\tau_{v,d}$ | [N/mm ²] | 0.24 | | | |
| Moment [kNm] | -2.2 | $\sigma_{m,y,d}$ | [N/mm ²] | 6.40 | | | |
| $f_{m,y,d}$ [N/mm ²] | 16.6 | $f_{c,0,d}$ | [N/mm ²] | 14.54 | b_{ef} 70 [mm] | frm(6.13a) | |
| $f_{t,0,d}$ [N/mm ²] | 10.0 | $f_{v,d}$ | [N/mm ²] | 2.77 | k_{mod} 0.90 [-] | tab(3.1) | |
| Doorbuiging | | | | u.c. | | | |
| u_{bij} | = 10.88 | < 18.16 | [mm] | 0.60 | | | |
| $u_{net,fin}$ | = 10.88 | < 18.16 | [mm] | 0.60 | | | |

A.4 Spant S0-01

Technosoft Raamwerken release 6.77

26 mei 2023

Project.....: 2022204
Dimensies....: kN;m;rad (tenzij anders aangegeven)
Datum.....: 16/09/2022
Bestand.....: K:\Werk\2022204\Berekeningen\Technosoft\spant s0-01.rww

Belastingbreedte.: 4.640
Rekenmodel.....: 1e-orde-elastisch.
Theorie voor de bepaling van de krachtsverdeling:
Geometrisch lineair.
Fysisch lineair.

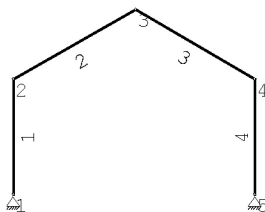
Gunstige werking van de permanente belasting wordt automatisch verwerkt.

Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|-------------|----------------------|-----------------|-------------|
| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-3:2003 | C1:2009 | NB:2011(nl) |
| | NEN-EN 1991-1-4:2005 | C2:2011 | NB:2011(nl) |
| Staal | NEN-EN 1993-1-1:2006 | C2:2011,A1:2016 | NB:2016(nl) |



GEOMETRIE



MATERIALEN

| Mt | Kwaliteit | E-modulus[N/mm ²] | S.G. | Pois. | Uitz. coëff |
|----|-----------|-------------------------------|------|-------|-------------|
| 1 | S235 | 210000 | 78.5 | 0.30 | 1.2000e-05 |

PROFIELEN [mm]

| Prof. | Omschrijving | Materiaal | Oppervlak | Traagheid | Vormf. |
|-------|--------------|-----------|------------|------------|--------|
| 1 | IPE270 | 1:S235 | 4.5900e+03 | 5.7900e+07 | 0.00 |

PROFIELEN vervolg [mm]

| Prof. | Staaftype | Breedte | Hoogte | e | Type | b1 | h1 | b2 | h2 |
|-------|-----------|---------|--------|-------|------|----|----|----|----|
| 1 | 0:Normaal | 135 | 270 | 135.0 | | | | | |

PROFIELVORMEN [mm]

1 IPE270



KNOPEN

| Knoop | X | Z |
|-------|-------|-------|
| 1 | 0.000 | 0.400 |
| 2 | 0.000 | 4.000 |
| 3 | 3.850 | 6.200 |
| 4 | 7.600 | 4.000 |
| 5 | 7.600 | 0.400 |

STAVEN

| St. | ki | kj | Profiel | Aansl.i | Aansl.j | Lengte | Opm. |
|-----|----|----|----------|---------|---------|--------|------|
| 1 | 1 | 2 | 1:IPE270 | NDM | NDM | 3.600 | |
| 2 | 2 | 3 | 1:IPE270 | NDM | NDM | 4.434 | |
| 3 | 3 | 4 | 1:IPE270 | NDM | NDM | 4.348 | |
| 4 | 4 | 5 | 1:IPE270 | NDM | NDM | 3.600 | |

VASTE STEUNPUNTEN

| Nr. | knoop | Kode | XZR | l=vast | 0=vrij | Hoek |
|-----|-------|------|-----|--------|--------|------|
| 1 | 1 | 110 | | | | 0.00 |
| 2 | 5 | 110 | | | | 0.00 |

BELASTINGENERATIE ALGEMEEN.

| | | | |
|-----------------------------|-------|-------------------------|------|
| Betrouwbaarheidsklasse..... | 1 | Referentieperiode..... | 50 |
| Gebouwdiepte..... | 31.30 | Gebouwhoogte..... | 6.20 |
| Niveau aansl.terrein..... | 0.00 | E.g. scheid.w. [kN/m2]: | 1.20 |

WIND

| | | | |
|---------------------------------|-----------|------------------------|--------|
| Terrein categorie ...[4.3.2]... | Onbebouwd | | |
| Windgebied | 3 | Vb,0 ..[4.2]..... | 24.500 |
| Positie spant in het gebouw.... | 4.640 | Kr[4.3.2]..... | 0.209 |
| z0 | 0.200 | Zmin ..[4.3.2]..... | 4.000 |
| Co wind van links ..[4.3.3]... | 1.000 | Co wind van rechts.... | 1.000 |
| Co wind loodrecht ..[4.3.3]... | 1.000 | | |
| Cpi wind van links ..[7.2.9]... | 0.200 | -0.300 | |
| Cpi windloodrecht ...[7.2.9]... | 0.200 | -0.300 | |
| Cpi wind van rechts .[7.2.9]... | 0.200 | -0.300 | |
| Cfr windwrijving[7.5]..... | 0.040 | | |

SNEEUW

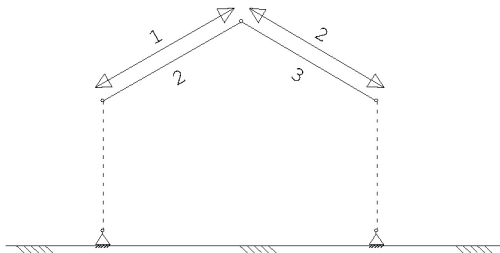
| | |
|--------------------------------|------|
| Sneeuwbelasting (sk) 50 jaar : | 0.70 |
| Sneeuwbelasting (sn) n jaar : | 0.70 |

STAAFTYPEN

| Type | staven |
|------------------|--------|
| 5:Linker gevel. | : 1 |
| 6:Rechter gevel. | : 4 |
| 7:Dak. | : 2,3 |

LASTVELDEN

Veranderlijke belastingen door personen

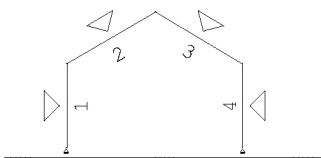


LASTVELDEN

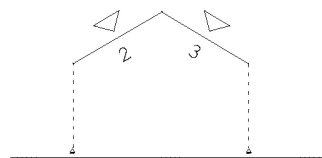
| Nr | Staaftabel | Tabel | Klasse-Gebruiksfunctie | Verd. | q _k | Q _k | F _t / F _{t0} |
|----|------------|-------|--------------------------|-------|----------------|----------------|----------------------------------|
| 1 | 2-2 | 6.10 | H-Dak (onder dakbeschot) | 1 | 0.00 | -2.00 | 1.00 |
| 2 | 3-3 | 6.10 | H-Dak (onder dakbeschot) | 2 | 0.00 | -2.00 | 1.00 |

LASTVELDEN

Wind staven



Sneeuw staven



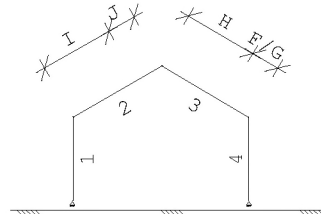
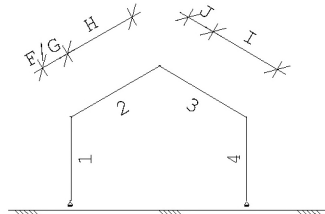
WIND DAKTYPES

| Nr. | Staaft Type | reductie bij wind van links | reductie bij wind van rechts | Cpe volgens art: |
|-----|-------------|--------------------------------|---------------------------------|------------------|
| 1 | 1 Gevel | 1.000 | 1.000 | 7.2.2 |
| 2 | 2 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 3 | 3 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 4 | 4 Gevel | 1.000 | 1.000 | 7.2.2 |

WIND ZONES

Wind van links

Wind van rechts



WIND VAN LINKS ZONES

WIND VAN RECHTS ZONES

| Nr. | Staaft | Positie | Lengte | Zone | Nr. | Staaft | Positie | Lengte | Zone |
|-----|--------|---------|--------|------|-----|--------|---------|--------|------|
| 1 | 1 | 0.000 | 3.600 | D | 1 | 4 | 0.000 | 3.600 | D |
| 2 | 2 | 0.000 | 1.240 | F/G | 2 | 3 | 0.000 | 1.240 | F/G |
| 3 | 2 | 1.240 | 3.206 | H | 3 | 3 | 1.240 | 3.206 | H |
| 4 | 3 | 0.000 | 1.240 | J | 4 | 2 | 0.000 | 1.240 | J |
| 5 | 3 | 1.240 | 3.206 | I | 5 | 2 | 1.240 | 3.206 | I |
| 6 | 4 | 0.000 | 3.600 | E | 6 | 1 | 0.000 | 3.600 | E |

Wind indexen

| Index | CsCd | Cpe/Cpi | qp | breedte | reductie | Qw | Zone | Hoek(en) |
|-------|------|---------|-------|---------|----------|--------|------|----------|
| Qw1 | | 0.300 | 0.587 | 4.640 | | -0.817 | -i | |
| Qw2 | 1.00 | 0.800 | 0.587 | 4.640 | | -2.180 | D | |
| Qw3 | 1.00 | 0.700 | 0.587 | 0.780 | | -0.321 | F | 30.0 |
| Qw4 | 1.00 | 0.700 | 0.587 | 3.860 | | -1.586 | G | 30.0 |
| Qw5 | 1.00 | 0.400 | 0.587 | 4.640 | | -1.090 | H | 30.0 |
| Qw6 | 1.00 | -0.500 | 0.587 | 4.640 | | 1.362 | J | 30.0 |
| Qw7 | 1.00 | -0.400 | 0.587 | 4.640 | | 1.090 | I | 30.0 |
| Qw8 | 1.00 | -0.500 | 0.587 | 4.640 | | 1.362 | E | |
| Qw9 | | -0.200 | 0.587 | 4.640 | | 0.545 | +i | |
| Qw10 | 1.00 | -0.500 | 0.587 | 0.780 | | 0.229 | F | 30.0 |
| Qw11 | 1.00 | -0.500 | 0.587 | 3.860 | | 1.133 | G | 30.0 |
| Qw12 | 1.00 | -0.200 | 0.587 | 4.640 | | 0.545 | H | 30.0 |
| Qw13 | 1.00 | -0.800 | 0.587 | 4.640 | | 2.180 | B | |
| Qw14 | 1.00 | -0.800 | 0.587 | 1.530 | | 0.719 | H | 30.0 |
| Qw15 | 1.00 | -0.500 | 0.587 | 3.110 | | 0.913 | I | 30.0 |
| Qw16 | 1.00 | -0.500 | 0.587 | 4.640 | | 1.362 | C | |
| Qw17 | 1.00 | -0.500 | 0.587 | 4.640 | | 1.362 | I | 30.0 |

SNEEUW DAKTYPEN

| Staaft | artikel |
|--------|----------------|
| 2-2 | 5.3.3 Zadeldak |
| 3-3 | 5.3.3 Zadeldak |

Sneeuw indexen

| Index | art | μ | s_k | red. posfac | breedte | Q_s | hoek |
|-------|-------|-------|-------|-------------|---------|-------|------|
| Qs1 | 5.3.3 | 0.800 | 0.70 | 1.00 | 4.640 | 2.598 | 29.7 |
| Qs2 | 5.3.3 | 0.789 | 0.70 | 1.00 | 4.640 | 2.564 | 30.4 |
| Qs3 | 5.3.3 | 0.400 | 0.70 | 1.00 | 4.640 | 1.299 | 29.7 |
| Qs4 | 5.3.3 | 0.395 | 0.70 | 1.00 | 4.640 | 1.282 | 30.4 |

BELASTINGGEVALLEN

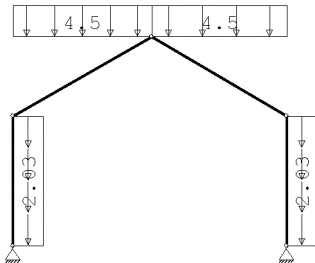
| B.G. | Omschrijving | EGZ | Type |
|------|---------------------------------|-----------|------------|
| | 1 Permanente belasting | EGZ=-1.00 | 1 |
| g | 2 Ver. bel. pers. ed. (q_k) | | 2 |
| g | 3 Ver. bel. pers. ed. (Q_k) | | 3 |
| g | 4 Wind van links onderdruk A | | 7 |
| g | 5 Wind van links overdruk A | | 8 |
| g | 6 Wind van links onderdruk B | | 9 |
| g | 7 Wind van links overdruk B | | 10 |
| g | 8 Wind van links onderdruk C | | 37 |
| g | 9 Wind van links overdruk C | | 38 |
| g | 10 Wind van links onderdruk D | | 39 |
| g | 11 Wind van links overdruk D | | 40 |
| g | 12 Wind van rechts onderdruk A | | 11 |
| g | 13 Wind van rechts overdruk A | | 12 |
| g | 14 Wind van rechts onderdruk B | | 13 |
| g | 15 Wind van rechts overdruk B | | 14 |
| g | 16 Wind van rechts onderdruk C | | 41 |
| g | 17 Wind van rechts overdruk C | | 42 |
| g | 18 Wind van rechts onderdruk D | | 43 |
| g | 19 Wind van rechts overdruk D | | 44 |
| g | 20 Wind loodrecht onderdruk A | | 15 |
| g | 21 Wind loodrecht overdruk A | | 16 |
| g | 22 Wind loodrecht onderdruk B | | 45 |
| g | 23 Wind loodrecht overdruk B | | 46 |
| g | 24 Sneeuw A | | 22 |
| g | 25 Sneeuw B | | 23 |
| g | 26 Sneeuw C | | 33 |
| | 27 Knik | | 0 Onbekend |

g = gegeneerd belastinggeval

BELASTINGEN

B.G:1 Permanente belasting

Eigen gewicht van alle staven is meegenomen in berekening. Richting:↓



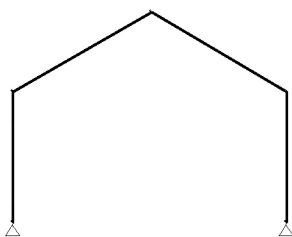
STAAFBELASTINGEN

B.G:1 Permanente belasting

| Staat | Type | $q_1/p/m$ | q_2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-----------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | -4.50 | -4.50 | 0.000 | 0.000 | | | |
| 3 | 3:QZgeProj. | -4.50 | -4.50 | 0.000 | 0.000 | | | |
| 1 | 2:QXLokaal | -2.03 | -2.03 | 0.000 | 0.000 | | | |
| 4 | 2:QXLokaal | 2.03 | 2.03 | 0.000 | 0.000 | | | |

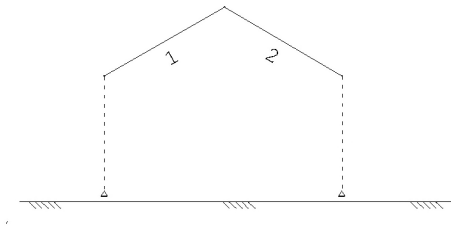
BELASTINGEN

B.G:2 Ver. bel. pers. ed. (q_k)



SITUATIES BELAST/ONBELAST

B.G:2 Ver. bel. pers. ed. (q_k)



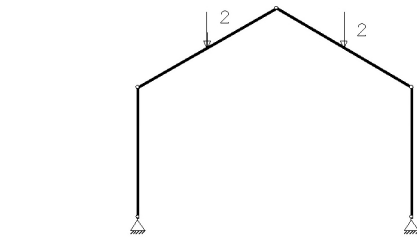
SITUATIES BELAST/ONBELAST

Belastingtype: q_k

| Nr Lastvelden belast | Lastvelden onbelast |
|----------------------|---------------------|
| 1 1,2 | |

BELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)



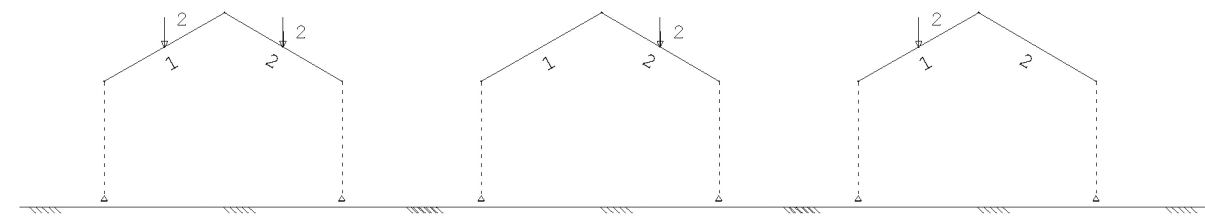
STAAFBELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)

| StAAF Type | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------------|--------|----|-------|---|----------|----------|----------|
| 2 10:PZGepro.j. | -2.00 | | 2.217 | | 0.00 | 0.00 | 0.00 |
| 3 10:PZGepro.j. | -2.00 | | 2.174 | | 0.00 | 0.00 | 0.00 |

SITUATIES BELAST/ONBELAST

B.G:3 Ver. bel. pers. ed. (Q_k)



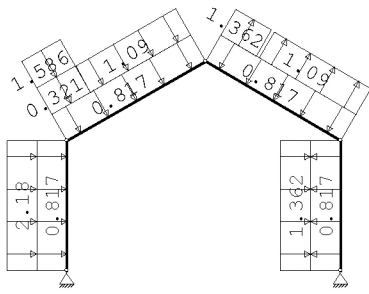
SITUATIES BELAST/ONBELAST

Belastingtype: Q_k

| Nr Lastvelden belast | Lastvelden onbelast |
|----------------------|---------------------|
| 1 1,2 | |
| 2 2 | 1 |
| 3 1 | 2 |

BELASTINGEN

B.G:4 Wind van links onderdruk A



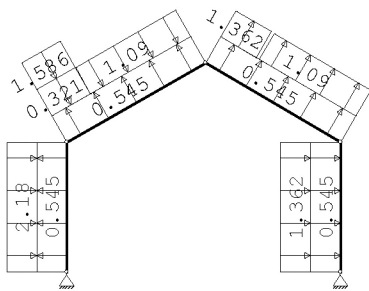
STAAFBELASTINGEN

B.G:4 Wind van links onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:5 Wind van links overdruk A



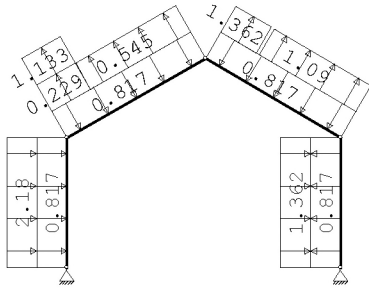
STAAFBELASTINGEN

B.G:5 Wind van links overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:6 Wind van links onderdruk B



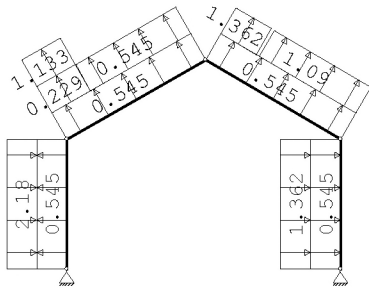
STAAFBELASTINGEN

B.G:6 Wind van links onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:7 Wind van links overdruk B



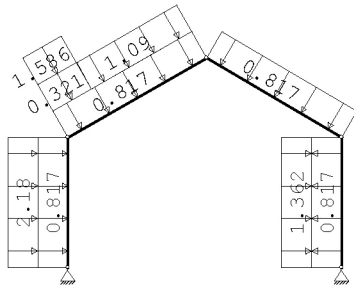
STAAFBELASTINGEN

B.G:7 Wind van links overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:8 Wind van links onderdruk C



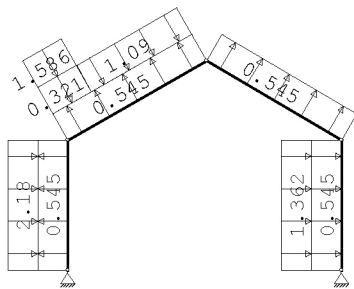
STAAFBELASTINGEN

B.G:8 Wind van links onderdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:9 Wind van links overdruk C



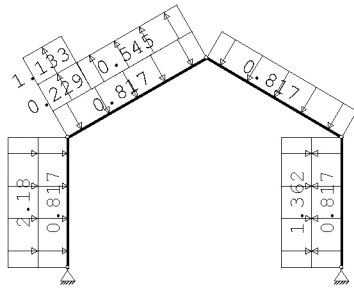
STAAFBELASTINGEN

B.G:9 Wind van links overdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:10 Wind van links onderdruk D



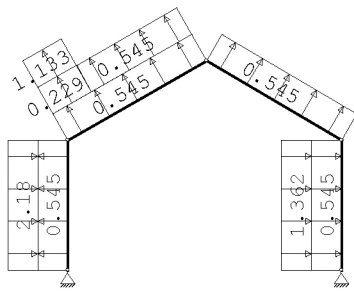
STAAFBELASTINGEN

B.G:10 Wind van links onderdruk D

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:11 Wind van links overdruk D



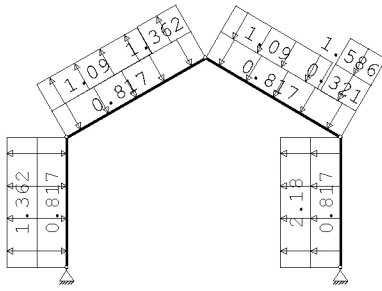
STAAFBELASTINGEN

B.G:11 Wind van links overdruk D

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:12 Wind van rechts onderdruk A



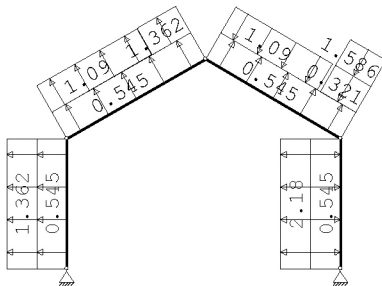
STAAFBELASTINGEN

B.G:12 Wind van rechts onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:13 Wind van rechts overdruk A



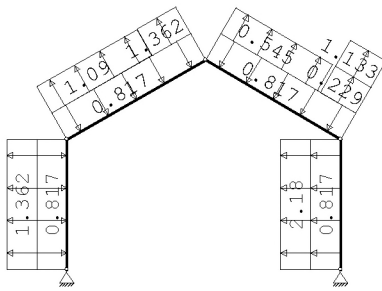
STAAFBELASTINGEN

B.G:13 Wind van rechts overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:14 Wind van rechts onderdruk B



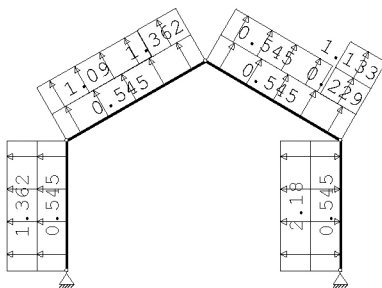
STAAFBELASTINGEN

B.G:14 Wind van rechts onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:15 Wind van rechts overdruk B



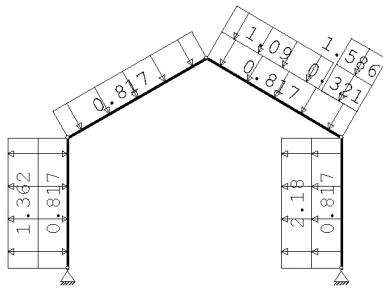
STAAFBELASTINGEN

B.G:15 Wind van rechts overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:16 Wind van rechts onderdruk C



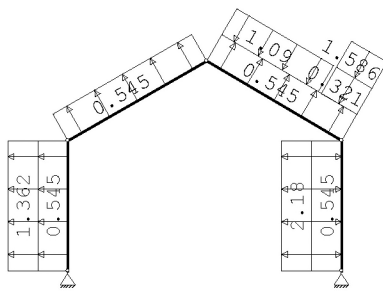
STAAFBELASTINGEN

B.G:16 Wind van rechts onderdruk C

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:17 Wind van rechts overdruk C



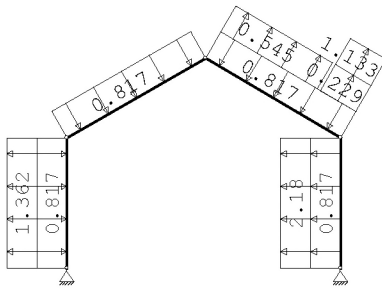
STAAFBELASTINGEN

B.G:17 Wind van rechts overdruk C

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:18 Wind van rechts onderdruk D



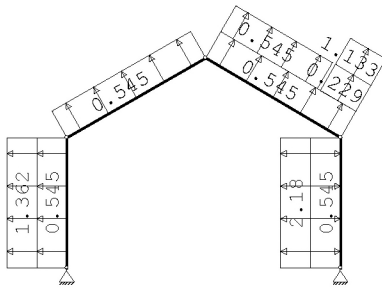
STAAFBELASTINGEN

B.G:18 Wind van rechts onderdruk D

| StAAF Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|--------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw10 | 0.23 | 0.23 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw11 | 1.13 | 1.13 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw12 | 0.54 | 0.54 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:19 Wind van rechts overdruk D



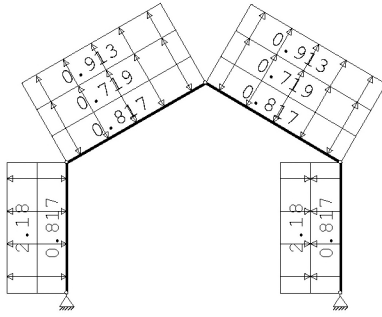
STAAFBELASTINGEN

B.G:19 Wind van rechts overdruk D

| StAAF Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|--------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw10 | 0.23 | 0.23 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw11 | 1.13 | 1.13 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw12 | 0.54 | 0.54 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:20 Wind loodrecht onderdruk A



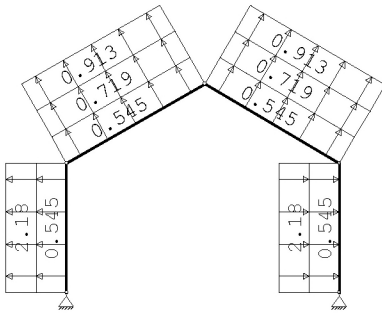
STAAFBELASTINGEN

B.G:20 Wind loodrecht onderdruk A

| Staal | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw13 | 2.18 | 2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw13 | 2.18 | 2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.72 | 0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.91 | 0.91 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.72 | 0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.91 | 0.91 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:21 Wind loodrecht overdruk A



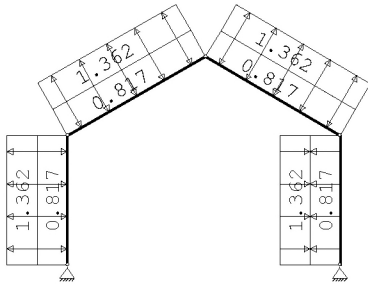
STAAFBELASTINGEN

B.G:21 Wind loodrecht overdruk A

| Staal | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw13 | 2.18 | 2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw13 | 2.18 | 2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.72 | 0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.91 | 0.91 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.72 | 0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.91 | 0.91 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:22 Wind loodrecht onderdruk B



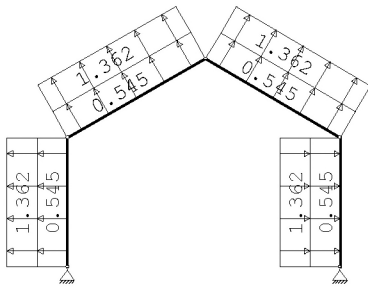
STAAFBELASTINGEN

B.G:22 Wind loodrecht onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw16 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw16 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw17 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw17 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:23 Wind loodrecht overdruk B



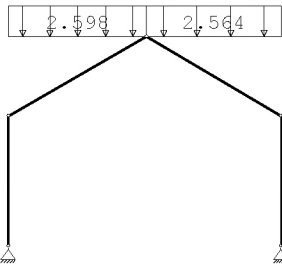
STAAFBELASTINGEN

B.G:23 Wind loodrecht overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw16 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw16 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw17 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw17 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:24 Sneeuw A



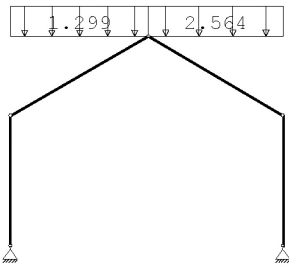
STAAFBELASTINGEN

B.G:24 Sneeuw A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -2.60 | -2.60 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs2 | -2.56 | -2.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:25 Sneeuw B



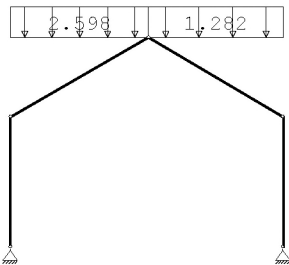
STAAFBELASTINGEN

B.G:25 Sneeuw B

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs3 | -1.30 | -1.30 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs2 | -2.56 | -2.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:26 Sneeuw C



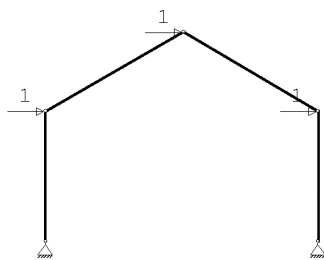
STAAFBELASTINGEN

B.G:26 Sneeuw C

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -2.60 | -2.60 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs4 | -1.28 | -1.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:27 Knik



KNOOPBELASTINGEN

B.G:27 Knik

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 2 | X | 1.000 | | | |
| 2 | 3 | X | 1.000 | | | |
| 3 | 4 | X | 1.000 | | | |

REACTIES

| Kn. | B.G. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|------|--------|-------|-------|-------|-------|-------|
| 1 | 1 | 4.52 | | 27.28 | | | |
| 1 | 2 | 0.00 | | 0.00 | | | |
| 1 | 3 | 0.27 | 0.54 | 0.49 | 1.99 | | |
| 1 | 4 | -11.09 | | -0.37 | | | |
| 1 | 5 | -9.22 | | -5.54 | | | |
| 1 | 6 | -9.42 | | -3.94 | | | |
| 1 | 7 | -7.55 | | -9.12 | | | |
| 1 | 8 | -9.40 | | 2.29 | | | |
| 1 | 9 | -7.53 | | -2.89 | | | |
| 1 | 10 | -7.73 | | -1.29 | | | |
| 1 | 11 | -5.86 | | -6.47 | | | |
| 1 | 12 | 7.01 | | 7.18 | | | |

| | | | | |
|---|----|-------|-------|-------|
| 1 | 13 | 8.87 | | 2.00 |
| 1 | 14 | 4.19 | | 2.92 |
| 1 | 15 | 6.05 | | -2.26 |
| 1 | 16 | 6.20 | | 8.87 |
| 1 | 17 | 8.06 | | 3.69 |
| 1 | 18 | 3.38 | | 4.61 |
| 1 | 19 | 5.24 | | -0.57 |
| 1 | 20 | 2.28 | | -3.09 |
| 1 | 21 | 4.14 | | -8.27 |
| 1 | 22 | 0.75 | | -2.07 |
| 1 | 23 | 2.61 | | -7.25 |
| 1 | 24 | 2.37 | | 9.84 |
| 1 | 25 | 1.76 | | 6.11 |
| 1 | 26 | 1.79 | | 8.66 |
| 1 | 27 | -1.50 | | -1.71 |
| 5 | 1 | -4.52 | | 27.29 |
| 5 | 2 | 0.00 | | 0.00 |
| 5 | 3 | -0.54 | -0.27 | 0.51 |
| 5 | 4 | -7.05 | | 7.37 |
| 5 | 5 | -8.92 | | 2.19 |
| 5 | 6 | -4.14 | | 2.93 |
| 5 | 7 | -6.01 | | -2.25 |
| 5 | 8 | -6.24 | | 8.98 |
| 5 | 9 | -8.11 | | 3.81 |
| 5 | 10 | -3.33 | | 4.54 |
| 5 | 11 | -5.19 | | -0.64 |
| 5 | 12 | 11.11 | | -0.64 |
| 5 | 13 | 9.25 | | -5.82 |
| 5 | 14 | 9.48 | | -3.98 |
| 5 | 15 | 7.61 | | -9.16 |
| 5 | 16 | 9.37 | | 2.14 |
| 5 | 17 | 7.50 | | -3.03 |
| 5 | 18 | 7.73 | | -1.20 |
| 5 | 19 | 5.87 | | -6.37 |
| 5 | 20 | -2.28 | | -3.09 |
| 5 | 21 | -4.14 | | -8.27 |
| 5 | 22 | -0.75 | | -2.07 |
| 5 | 23 | -2.61 | | -7.25 |
| 5 | 24 | -2.37 | | 9.78 |
| 5 | 25 | -1.76 | | 8.51 |
| 5 | 26 | -1.79 | | 6.16 |
| 5 | 27 | -1.50 | | 1.71 |

BELASTINGCOMBINATIES

BC Type

| | | | | | |
|----|-------|------|-----------|--------|------------|
| 1 | Fund. | 1.22 | $G_{k,1}$ | | |
| 2 | Fund. | 0.90 | $G_{k,1}$ | | |
| 3 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,3}$ |
| 4 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,4}$ |
| 5 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,5}$ |
| 6 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,6}$ |
| 7 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,7}$ |
| 8 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,8}$ |
| 9 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,9}$ |
| 10 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,10}$ |
| 11 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,11}$ |
| 12 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,12}$ |
| 13 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,13}$ |
| 14 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,14}$ |
| 15 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,15}$ |
| 16 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,16}$ |
| 17 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,17}$ |
| 18 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,18}$ |
| 19 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,19}$ |
| 20 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,20}$ |
| 21 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,21}$ |
| 22 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,22}$ |
| 23 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,23}$ |
| 24 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,24}$ |
| 25 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,25}$ |
| 26 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,26}$ |
| 27 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,3}$ |

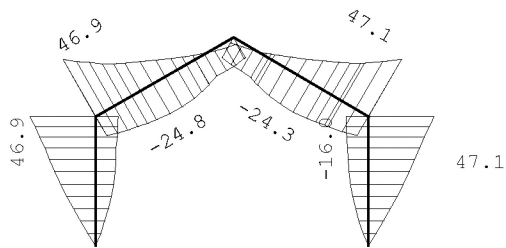
| | | | | | |
|----------|------|------------------|---|------|----------------------------------|
| 28 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,4} |
| 29 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,5} |
| 30 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,6} |
| 31 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,7} |
| 32 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,8} |
| 33 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,9} |
| 34 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,10} |
| 35 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,11} |
| 36 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,12} |
| 37 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,13} |
| 38 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,14} |
| 39 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,15} |
| 40 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,16} |
| 41 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,17} |
| 42 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,18} |
| 43 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,19} |
| 44 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,20} |
| 45 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,21} |
| 46 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,22} |
| 47 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,23} |
| 48 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,24} |
| 49 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,25} |
| 50 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,26} |
| 51 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,3} |
| 52 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,4} |
| 53 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,5} |
| 54 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,6} |
| 55 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,7} |
| 56 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,8} |
| 57 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,9} |
| 58 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,10} |
| 59 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,11} |
| 60 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,12} |
| 61 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,13} |
| 62 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,14} |
| 63 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,15} |
| 64 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,16} |
| 65 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,17} |
| 66 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,18} |
| 67 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,19} |
| 68 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,20} |
| 69 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,21} |
| 70 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,22} |
| 71 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,23} |
| 72 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,24} |
| 73 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,25} |
| 74 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,26} |
| 75 Quas. | 1.00 | G _{k,1} | | | |
| 76 Freq. | 1.00 | G _{k,1} | | | |
| 77 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,4} |
| 78 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,5} |
| 79 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,6} |
| 80 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,7} |
| 81 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,8} |
| 82 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,9} |
| 83 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,10} |
| 84 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,11} |
| 85 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,12} |
| 86 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,13} |
| 87 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,14} |
| 88 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,15} |
| 89 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,16} |
| 90 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,17} |

| | | | | | | |
|-----------|------|-----------|---|------|----------|------------|
| 91 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,18}$ |
| 92 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,19}$ |
| 93 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,20}$ |
| 94 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,21}$ |
| 95 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,22}$ |
| 96 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,23}$ |
| 97 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,24}$ |
| 98 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,25}$ |
| 99 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,26}$ |
| 100 Blij. | 1.00 | $G_{k,1}$ | | | | |

OMHULLENDE VAN DE FUNDAMENTELE COMBINATIES

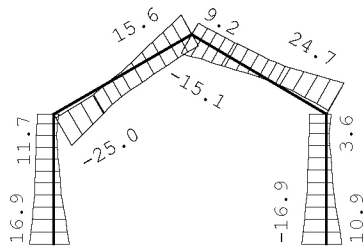
MOMENTEN

Fundamentele combinatie



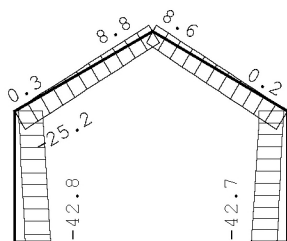
DWARSKRACHTEN

Fundamentele combinatie



NORMAALKRACHTEN

Fundamentele combinatie



STAAFKRACHTEN

Fundamentele combinatie

| St. | Kn. | Pos. | NXi/NXj | | | | DZi/DZj | | | | MYi/MYj | | | |
|-----|-----|------|---------|----|--------|----|---------|----|-------|----|---------|----|-------|----|
| | | | Min | BC | Max | BC | Min | BC | Max | BC | Min | BC | Max | BC |
| 1 | 1 | | -42.75 | 24 | -12.25 | 31 | -10.90 | 28 | 16.86 | 13 | 0.00 | 28 | 0.00 | 13 |
| 1 | 2 | 694 | -35.80 | 24 | -6.45 | 31 | -2.44 | 29 | 12.36 | 12 | -14.68 | 28 | 36.07 | 13 |
| 1 | 2 | 737 | -35.69 | 24 | -6.36 | 31 | -2.34 | 29 | 12.33 | 12 | -14.68 | 28 | 36.50 | 13 |
| 1 | 2 | 066 | -34.84 | 24 | -5.65 | 31 | -1.62 | 29 | 12.09 | 12 | -15.33 | 29 | 40.51 | 12 |
| 1 | 2 | | -33.46 | 24 | -4.50 | 31 | -3.58 | 45 | 11.69 | 12 | -15.88 | 29 | 46.86 | 12 |
| 2 | 2 | | -25.15 | 16 | 0.31 | 45 | -25.04 | 24 | -3.01 | 31 | -15.88 | 29 | 46.86 | 12 |
| 2 | 2 | 057 | -20.45 | 16 | 4.23 | 45 | -12.65 | 12 | 1.39 | 29 | -24.82 | 4 | 15.53 | 37 |
| 2 | 2 | 516 | -17.11 | 16 | 7.01 | 45 | -9.88 | 13 | 9.76 | 28 | -17.87 | 5 | 0.34 | 36 |
| 2 | 2 | 563 | -17.00 | 16 | 7.10 | 45 | -9.81 | 13 | 10.04 | 28 | -17.94 | 24 | -0.00 | 36 |
| 2 | 2 | 768 | -16.53 | 16 | 7.49 | 45 | -9.52 | 13 | 11.26 | 28 | -18.08 | 24 | -1.41 | 36 |
| 2 | 2 | 400 | -15.09 | 16 | 8.69 | 45 | -9.04 | 37 | 15.41 | 4 | -16.75 | 24 | -5.08 | 36 |
| 2 | 3 | | -15.01 | 16 | 8.76 | 45 | -9.01 | 37 | 15.63 | 4 | -16.61 | 24 | -4.57 | 28 |
| 3 | 3 | | -15.46 | 8 | 8.63 | 45 | -15.08 | 12 | 9.15 | 29 | -16.61 | 24 | -4.57 | 28 |
| 3 | 3 | 0563 | -16.77 | 8 | 7.54 | 45 | -11.40 | 12 | 9.56 | 29 | -17.64 | 24 | -1.29 | 28 |
| 3 | 3 | 753 | -17.21 | 8 | 7.17 | 45 | -10.29 | 36 | 9.82 | 5 | -17.52 | 24 | -0.00 | 28 |
| 3 | 3 | 0818 | -17.36 | 8 | 7.05 | 45 | -9.90 | 36 | 9.91 | 5 | -17.43 | 24 | 0.46 | 28 |
| 3 | 3 | 2310 | -20.82 | 8 | 4.17 | 45 | -1.35 | 37 | 12.74 | 4 | -24.33 | 12 | 15.85 | 29 |
| 3 | 4 | | -25.54 | 8 | 0.23 | 45 | 2.96 | 39 | 24.70 | 24 | -16.02 | 37 | 47.08 | 4 |
| 4 | 4 | | -33.38 | 24 | -4.45 | 39 | -11.75 | 4 | 3.58 | 45 | -16.02 | 37 | 47.08 | 4 |
| 4 | 4 | 0527 | -34.74 | 24 | -5.59 | 39 | -12.14 | 4 | 1.64 | 45 | -15.46 | 37 | 40.78 | 4 |
| 4 | 4 | 0863 | -35.60 | 24 | -6.31 | 39 | -12.39 | 4 | 2.38 | 37 | -14.79 | 37 | 36.67 | 4 |
| 4 | 4 | 0896 | -35.69 | 24 | -6.38 | 39 | -12.41 | 4 | 2.46 | 37 | -14.79 | 36 | 36.34 | 5 |
| 4 | 5 | | -42.67 | 24 | -12.20 | 39 | -16.92 | 5 | 10.94 | 36 | 0.00 | 36 | 0.00 | 5 |

REACTIES

Fundamentele combinatie

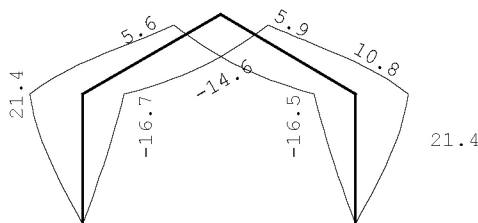
| Kn. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|--------|-------|-------|-------|-------|-------|
| 1 | -10.90 | 16.86 | 12.25 | 42.75 | | |
| 5 | -16.92 | 10.94 | 12.20 | 42.67 | | |

OMHULLENDE VAN DE KARAKTERISTIEKE COMBINATIES

VERPLAATSINGEN

[mm]

Karakteristieke combinatie

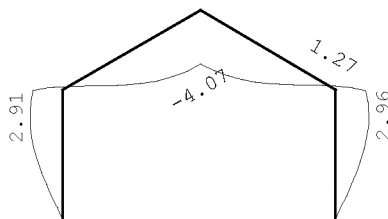


OMHULLENDE VAN DE BLIJVENDE COMBINATIES

VERPLAATSINGEN

[mm]

Blijvende combinatie



STAALPROFIELEN - ALGEMENE GEGEVENS

| | |
|---|-------------|
| Stabiliteit: Classificatie gehele constructie: | Ongeschoord |
| Belastinggeval m.b.t. bepaling kniklengte: | 27=Knik |
| Aanpassing inkl. parameter C : | Steunpunten |
| Tweede-orde-effect: | |
| Aan te houden verhouding n/(n-1) voor steunmomenten en verplaatsingen: | 1.00 |
| Doorbuiging en verplaatsing: | |
| Aantal bouwlagen: | 1 |
| Gebouwtype: | Industrieel |
| Toel. horiz. verplaatsing gehele gebouw: | h/150 |
| Kleinste gevelhoogte [m]: | 0.0 |

PROFIEL/MATERIAAL

| P/M nr. | Profielnaam | Vloeisp. [N/mm ²] | Productie methode | Min. drsn. klasse |
|---------|-------------|-------------------------------|-------------------|-------------------|
| 1 | IPE270 | 235 | Gewalst | 1 |

Partiële veiligheidsfactoren:
Gamma M;0 : 1.00 Gamma M;1 : 1.00

KNIKSTABILITEIT

| Staafl | l _{sys} [m] | Classif. y sterke as | l _{knik,y} [m] | Extra | | Extra | |
|--------|----------------------|----------------------|-------------------------|--------------|----------------------|-------------------------|--------------|
| | | | | aanp. y [kN] | Classif. z zwakke as | l _{knik,z} [m] | aanp. z [kN] |
| 1 | 3.600 | Ongeschoord | 9.007 | 0.0 | Geschoord | 3.600 | 0.0 |
| 2 | 4.434 | Ongeschoord | 11.244 | 0.0 | Geschoord | 4.434 | 0.0 |
| 3 | 4.348 | Ongeschoord | 11.084 | 0.0 | Geschoord | 4.348 | 0.0 |
| 4 | 3.600 | Ongeschoord | 9.012 | 0.0 | Geschoord | 3.600 | 0.0 |

KIPSTABILITEIT

| Staafl | Plts. aangr. | l gaffel [m] | Kipsteunafstanden [m] | |
|--------|--------------|--------------|-----------------------|------------|
| | | | boven: | onder: |
| 1 | 1.0*h | | boven: | 3.60 3.600 |
| | | | onder: | 3.60 3.600 |
| 2 | 1.0*h | | boven: | 4.43 4,434 |
| | | | onder: | 4.43 4,434 |
| 3 | 1.0*h | | boven: | 4.35 4,348 |
| | | | onder: | 4.35 4,348 |
| 4 | 1.0*h | | boven: | 3.60 3.600 |
| | | | onder: | 3.60 3.600 |

TOETSING SPANNINGEN

| Staafl | P/M nr. | BC | Sit | Kl | Plaats | Norm | Artikel | Formule | Hoogste toetsing U.C. [N/mm ²] | Opm. |
|--------|---------|----|-----|----|--------|---------|---------|---------|--|-------|
| 1 | 1 | 13 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | {6.62} | 0.512 120 | 47 |
| 2 | 1 | 12 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | {6.62} | 0.539 127 | 46,47 |
| 3 | 1 | 4 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | {6.62} | 0.538 126 | 46,47 |
| 4 | 1 | 5 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | {6.62} | 0.515 121 | 47 |

Opmerkingen:

[46] T.b.v. kip is een equivalente Q-last berekend.

[47] Bij verlopende normaalkracht wordt de grootste drukkracht genomen.

TOETSING DOORBUIGING

| Staafl | Soort | Mtg | Lengte [m] | Overst I | Zeeg J | u _{tot} [mm] | BC | Sit | u [mm] | Toelaatbaar [mm] | *1 |
|--------|-------|-----|------------|----------|--------|-----------------------|------|-----------|--------|------------------|---------|
| 2 | Dak | ss | 4.43 | N | N | 0.0 | -8.1 | 72 1 Eind | -8.1 | -35.5 | 2*0.004 |
| | | | | | | | | 52 1 Bijk | -2.6 | -35.5 | 2*0.004 |
| 3 | Dak | ss | 4.35 | N | N | 0.0 | -8.1 | 72 1 Eind | -8.1 | -34.8 | 2*0.004 |
| | | | | | | | | 60 1 Bijk | -3.1 | -34.8 | 2*0.004 |

TOETSING HOR. VERPLAATSING GLOBAAL

Er is een maximale horizontale verplaatsing van 0.0214 [m] gevonden bij knoop 4 en combinatie 53; belastingsituatie 1 (combinatietype 2).
Bij een hoogte van 3.600 [m] levert dit h / 168 (toel.: h / 150).

DOORBUIGINGEN

Karakteristieke combinatie

| Nr. | staven | Zijde | positie [m] | l _{rep} [mm] | w ₁ [mm] | w ₂ [mm] | W _{bij} [mm] | W _{tot} [mm] | w _c [mm] | W _{max} [mm] |
|-----|--------|-------|-------------|-----------------------|---------------------|---------------------|-----------------------|-----------------------|---------------------|-----------------------|
| 2 | 2 | Neg. | / | 8868 | -5.3 | -2.8 | 3197 | -8.1 | -8.1 | 1101 |
| 2 | 2 | Pos. | 1.971 | 4434 | -0.7 | 1.9 | 2308 | 1.2 | 1.2 | 3692 |
| 3 | 3 | Neg. | 2.174 | 4348 | -0.7 | -0.4 | 11840 | -1.1 | -1.1 | 4039 |
| 3 | 3 | Pos. | 2.416 | 4348 | -0.6 | 1.9 | 2297 | 1.3 | 1.3 | 3412 |

Technosoft Raamwerken release 6.77

26 mei 2023

Project.....: 2022204
Dimensies.....: kN;m;rad (tenzij anders aangegeven)
Datum.....: 16/09/2022
Bestand.....: K:\Werk\2022204\Berekeningen\Technosoft\spant s0-01
 minimaal.rww

Belastingbreedte.: 4.640
Rekenmodel.....: 1e-orde-elastisch.
Theorie voor de bepaling van de krachtsverdeling:
 Geometrisch lineair.
 Fysisch lineair.

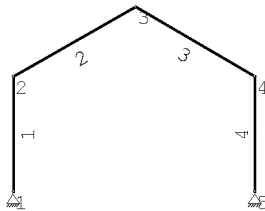
Gunstige werking van de permanente belasting wordt automatisch verwerkt.

Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|-------------|----------------------|-----------------|-------------|
| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-3:2003 | C1:2009 | NB:2011(nl) |
| | NEN-EN 1991-1-4:2005 | C2:2011 | NB:2011(nl) |
| Staal | NEN-EN 1993-1-1:2006 | C2:2011,A1:2016 | NB:2016(nl) |



GEOMETRIE



MATERIALEN

| Mt | Kwaliteit | E-modulus[N/mm2] | S.G. | Pois. | Uitz. coëff |
|----|-----------|------------------|------|-------|-------------|
| 1 | S235 | 210000 | 78.5 | 0.30 | 1.2000e-05 |

PROFIELEN [mm]

| Prof. | Omschrijving | Materiaal | Oppervlak | Traagheid | Vormf. |
|-------|--------------|-----------|------------|------------|--------|
| 1 | IPE270 | 1:S235 | 4.5900e+03 | 5.7900e+07 | 0.00 |

PROFIELEN vervolg [mm]

| Prof. | Staaftype | Breedte | Hoogte | e | Type | b1 | h1 | b2 | h2 |
|-------|-----------|---------|--------|-------|------|----|----|----|----|
| 1 | 0:Normaal | 135 | 270 | 135.0 | | | | | |

PROFIELVORMEN [mm]

1 IPE270



KNOPEN

| Knoop | X | Z |
|-------|-------|-------|
| 1 | 0.000 | 0.400 |
| 2 | 0.000 | 4.000 |
| 3 | 3.850 | 6.200 |
| 4 | 7.600 | 4.000 |
| 5 | 7.600 | 0.400 |

STAVEN

| St. | ki | kj | Profiel | Aansl.i | Aansl.j | Lengte | Opm. |
|-----|----|----|----------|---------|---------|--------|------|
| 1 | 1 | 2 | 1:IPE270 | NDM | NDM | 3.600 | |
| 2 | 2 | 3 | 1:IPE270 | NDM | NDM | 4.434 | |
| 3 | 3 | 4 | 1:IPE270 | NDM | NDM | 4.348 | |
| 4 | 4 | 5 | 1:IPE270 | NDM | NDM | 3.600 | |

VASTE STEUNPUNTEN

| Nr. | knoop | Kode | XZR | 1=vast | 0=vrij | Hoek |
|-----|-------|------|-----|--------|--------|------|
| 1 | 1 | 110 | | | | 0.00 |
| 2 | 5 | 110 | | | | 0.00 |

BELASTINGENERATIE ALGEMEEN.

| | | | |
|-----------------------------|-------|-------------------------|------|
| Betrouwbaarheidsklasse..... | 1 | Referentieperiode..... | 50 |
| Gebouwdiepte..... | 31.30 | Gebouwhoogte..... | 6.20 |
| Niveau aansl.terrein..... | 0.00 | E.g. scheid.w. [kN/m2]: | 1.20 |

WIND

| | | | |
|----------------------------------|-----------|------------------------|--------|
| Terrein categorie ...[4.3.2]... | Onbebouwd | | |
| Windgebied | 3 | Vb,0 ..[4.2]..... | 24.500 |
| Positie spant in het gebouw.... | 4.640 | Kr[4.3.2]..... | 0.209 |
| z0 | 0.200 | Zmin ..[4.3.2]..... | 4.000 |
| Co wind van links ..[4.3.3]... | 1.000 | Co wind van rechts.... | 1.000 |
| Co wind loodrecht ..[4.3.3]... | 1.000 | | |
| Cpi wind van links ..[7.2.9]... | 0.200 | -0.300 | |
| Cpi windloodrecht ...[7.2.9]... | 0.200 | -0.300 | |
| Cpi wind van rechts ..[7.2.9]... | 0.200 | -0.300 | |
| Cfr windwrijving[7.5]..... | 0.040 | | |

SNEEUW

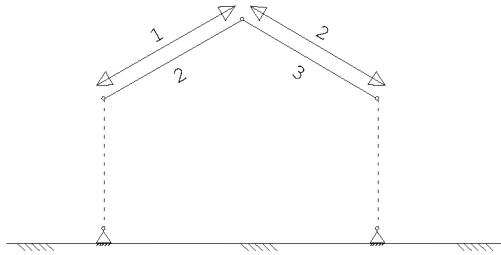
| | |
|--------------------------------|------|
| Sneeuwbelasting (sk) 50 jaar : | 0.70 |
| Sneeuwbelasting (sn) n jaar : | 0.70 |

STAFTYPEN

| Type | staven |
|------------------|--------|
| 5:Linker gevel. | : 1 |
| 6:Rechter gevel. | : 4 |
| 7:Dak. | : 2,3 |

LASTVELDEN

Veranderlijke belastingen door personen

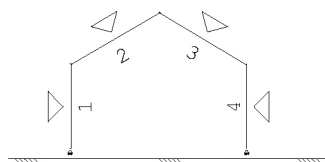


LASTVELDEN

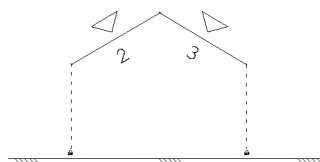
| Nr | StAAF | Tabel | Klasse-Gebruiksfunctie | Verd. | q _k | Q _k | F _t /F _{t0} |
|----|-------|-------|--------------------------|-------|----------------|----------------|---------------------------------|
| 1 | 2-2 | 6.10 | H-Dak (onder dakbeschet) | 1 | 0.00 | -2.00 | 1.00 |
| 2 | 3-3 | 6.10 | H-Dak (onder dakbeschet) | 2 | 0.00 | -2.00 | 1.00 |

LASTVELDEN

Wind staven



Sneeuw staven

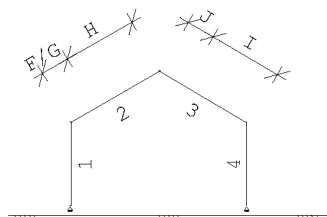


WIND DAKTYPES

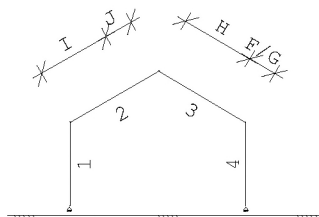
| Nr. | StAAF | Type | reductie bij wind van links | reductie bij wind van rechts | C _{pe} volgens art: |
|-----|-------|----------|-----------------------------|------------------------------|------------------------------|
| 1 | 1 | Gevel | 1.000 | 1.000 | 7.2.2 |
| 2 | 2 | Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 3 | 3 | Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 4 | 4 | Gevel | 1.000 | 1.000 | 7.2.2 |

WIND ZONES

Wind van links



Wind van rechts



WIND VAN LINKS ZONES

| Nr. | Staafl | Positie | Lengte | Zone |
|-----|--------|---------|--------|------|
| 1 | 1 | 0.000 | 3.600 | D |
| 2 | 2 | 0.000 | 1.240 | F/G |
| 3 | 2 | 1.240 | 3.206 | H |
| 4 | 3 | 0.000 | 1.240 | J |
| 5 | 3 | 1.240 | 3.206 | I |
| 6 | 4 | 0.000 | 3.600 | E |

WIND VAN RECHTS ZONES

| Nr. | Staafl | Positie | Lengte | Zone |
|-----|--------|---------|--------|------|
| 1 | 4 | 0.000 | 3.600 | D |
| 2 | 3 | 0.000 | 1.240 | F/G |
| 3 | 3 | 1.240 | 3.206 | H |
| 4 | 2 | 0.000 | 1.240 | J |
| 5 | 2 | 1.240 | 3.206 | I |
| 6 | 1 | 0.000 | 3.600 | E |

Wind indexen

| Index | CsCd | Cpe/Cpi | qp | breedte | reductie | Qw | Zone | Hoek(en) |
|-------|------|---------|-------|---------|----------|--------|------|----------|
| Qw1 | | 0.300 | 0.587 | 4.640 | | -0.817 | -i | |
| Qw2 | 1.00 | 0.800 | 0.587 | 4.640 | | -2.180 | D | |
| Qw3 | 1.00 | 0.700 | 0.587 | 0.780 | | -0.321 | F | 30.0 |
| Qw4 | 1.00 | 0.700 | 0.587 | 3.860 | | -1.586 | G | 30.0 |
| Qw5 | 1.00 | 0.400 | 0.587 | 4.640 | | -1.090 | H | 30.0 |
| Qw6 | 1.00 | -0.500 | 0.587 | 4.640 | | 1.362 | J | 30.0 |
| Qw7 | 1.00 | -0.400 | 0.587 | 4.640 | | 1.090 | I | 30.0 |
| Qw8 | 1.00 | -0.500 | 0.587 | 4.640 | | 1.362 | E | |
| Qw9 | | -0.200 | 0.587 | 4.640 | | 0.545 | +i | |
| Qw10 | 1.00 | -0.500 | 0.587 | 0.780 | | 0.229 | F | 30.0 |
| Qw11 | 1.00 | -0.500 | 0.587 | 3.860 | | 1.133 | G | 30.0 |
| Qw12 | 1.00 | -0.200 | 0.587 | 4.640 | | 0.545 | H | 30.0 |
| Qw13 | 1.00 | -0.800 | 0.587 | 4.640 | | 2.180 | B | |
| Qw14 | 1.00 | -0.800 | 0.587 | 1.530 | | 0.719 | H | 30.0 |
| Qw15 | 1.00 | -0.500 | 0.587 | 3.110 | | 0.913 | I | 30.0 |
| Qw16 | 1.00 | -0.500 | 0.587 | 4.640 | | 1.362 | C | |
| Qw17 | 1.00 | -0.500 | 0.587 | 4.640 | | 1.362 | I | 30.0 |

SNEEUW DAKTYPEN

| Staafl | artikel |
|--------|----------------|
| 2-2 | 5.3.3 Zadeldak |
| 3-3 | 5.3.3 Zadeldak |

Sneeuw indexen

| Index | art | μ | s_k | red. | posfac | breedte | Q_s | hoek |
|-------|-------|-------|-------|------|--------|---------|-------|------|
| Qs1 | 5.3.3 | 0.800 | 0.70 | 1.00 | | 4.640 | 2.598 | 29.7 |
| Qs2 | 5.3.3 | 0.789 | 0.70 | 1.00 | | 4.640 | 2.564 | 30.4 |
| Qs3 | 5.3.3 | 0.400 | 0.70 | 1.00 | | 4.640 | 1.299 | 29.7 |
| Qs4 | 5.3.3 | 0.395 | 0.70 | 1.00 | | 4.640 | 1.282 | 30.4 |

BELASTINGGEVALLEN

| B.G. | Omschrijving | Type |
|------|----------------------------------|------|
| | 1 Permanente belasting EGZ=-1.00 | 1 |
| g | 2 Ver. bel. pers. ed. $\{q_k\}$ | 2 |
| g | 3 Ver. bel. pers. ed. $\{Q_k\}$ | 3 |
| g | 4 Wind van links onderdruk A | 7 |
| g | 5 Wind van links overdruk A | 8 |
| g | 6 Wind van links onderdruk B | 9 |
| g | 7 Wind van links overdruk B | 10 |
| g | 8 Wind van links onderdruk C | 37 |
| g | 9 Wind van links overdruk C | 38 |
| g | 10 Wind van links onderdruk D | 39 |
| g | 11 Wind van links overdruk D | 40 |

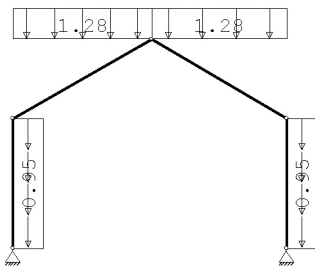
| | | | |
|---|----|-----------------------------|------------|
| g | 12 | Wind van rechts onderdruk A | 11 |
| g | 13 | Wind van rechts overdruk A | 12 |
| g | 14 | Wind van rechts onderdruk B | 13 |
| g | 15 | Wind van rechts overdruk B | 14 |
| | | | |
| g | 16 | Wind van rechts onderdruk C | 41 |
| g | 17 | Wind van rechts overdruk C | 42 |
| g | 18 | Wind van rechts onderdruk D | 43 |
| g | 19 | Wind van rechts overdruk D | 44 |
| g | 20 | Wind loodrecht onderdruk A | 15 |
| | | | |
| g | 21 | Wind loodrecht overdruk A | 16 |
| g | 22 | Wind loodrecht onderdruk B | 45 |
| g | 23 | Wind loodrecht overdruk B | 46 |
| g | 24 | Sneeuw A | 22 |
| g | 25 | Sneeuw B | 23 |
| | | | |
| g | 26 | Sneeuw C | 33 |
| | 27 | Knik | 0 Onbekend |

g = gegeneerd belastinggeval

BELASTINGEN

B.G:1 Permanente belasting

Eigen gewicht van alle staven is meegenomen in berekening. Richting:↓



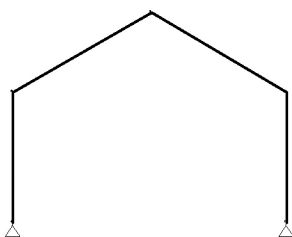
STAAFBELASTINGEN

B.G:1 Permanente belasting

| Staat | Type | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | -1.28 | -1.28 | 0.000 | 0.000 | | | |
| 3 | 3:QZgeProj. | -1.28 | -1.28 | 0.000 | 0.000 | | | |
| 1 | 2:QXLokaal | -0.95 | -0.95 | 0.000 | 0.000 | | | |
| 4 | 2:QXLokaal | 0.95 | 0.95 | 0.000 | 0.000 | | | |

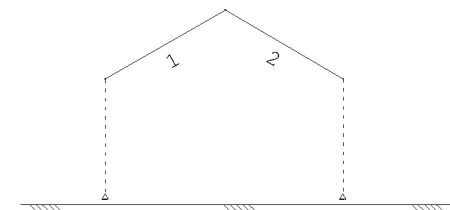
BELASTINGEN

B.G:2 Ver. bel. pers. ed. (q_k)



SITUATIES BELAST/ONBELAST

B.G:2 Ver. bel. pers. ed. (q_k)



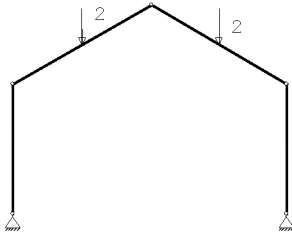
SITUATIES BELAST/ONBELAST

Belastingtype: q_k

| Nr Lastvelden belast | Lastvelden onbelast |
|----------------------|---------------------|
| 1 1,2 | |

BELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)



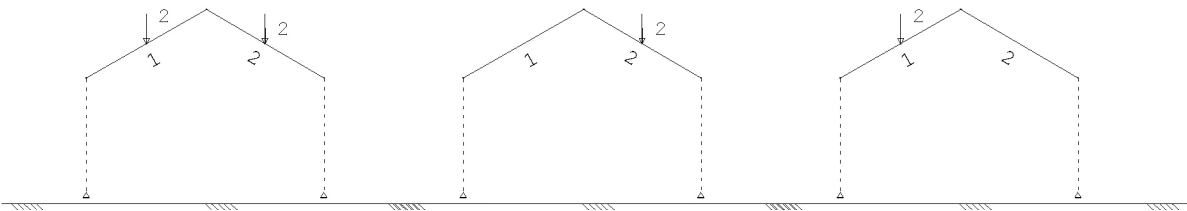
STAAFBELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)

| StAAF Type | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------------|--------|----|-------|---|----------|----------|----------|
| 2 10:PZGepro.j. | -2.00 | | 2.217 | | 0.00 | 0.00 | 0.00 |
| 3 10:PZGepro.j. | -2.00 | | 2.174 | | 0.00 | 0.00 | 0.00 |

SITUATIES BELAST/ONBELAST

B.G:3 Ver. bel. pers. ed. (Q_k)



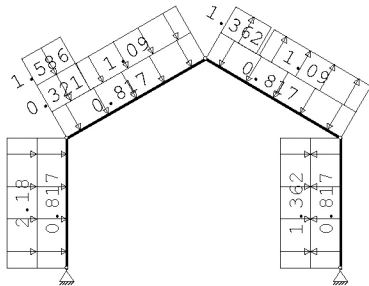
SITUATIES BELAST/ONBELAST

Belastingtype: Q_k

| Nr Lastvelden belast | Lastvelden onbelast |
|----------------------|---------------------|
| 1 1,2 | |
| 2 2 | 1 |
| 3 1 | 2 |

BELASTINGEN

B.G:4 Wind van links onderdruk A



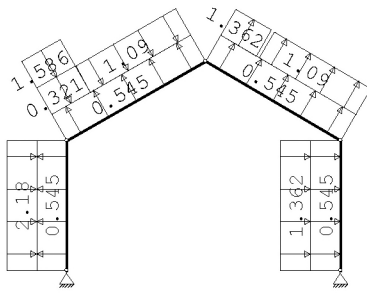
STAAFBELASTINGEN

B.G:4 Wind van links onderdruk A

| StAAF Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|--------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw3 | -0.32 | -0.32 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw4 | -1.59 | -1.59 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw5 | -1.09 | -1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw6 | 1.36 | 1.36 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw7 | 1.09 | 1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:5 Wind van links overdruk A



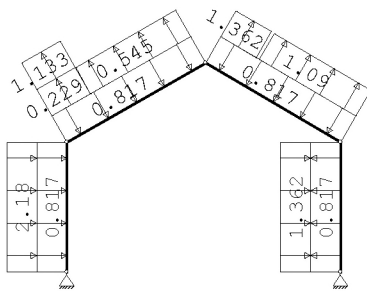
STAAFBELASTINGEN

B.G:5 Wind van links overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:6 Wind van links onderdruk B



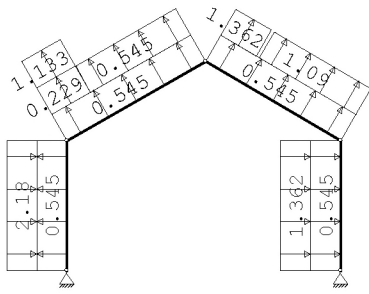
STAAFBELASTINGEN

B.G:6 Wind van links onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:7 Wind van links overdruk B



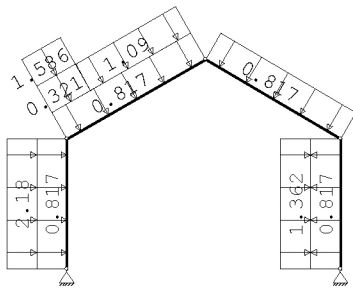
STAAFBELASTINGEN

B.G:7 Wind van links overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:8 Wind van links onderdruk C



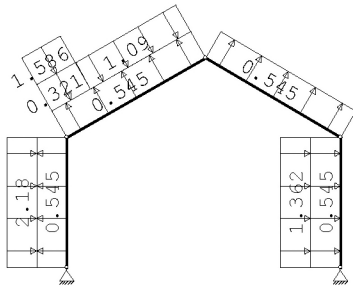
STAAFBELASTINGEN

B.G:8 Wind van links onderdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:9 Wind van links overdruk C



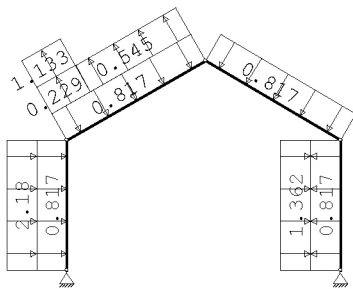
STAAFBELASTINGEN

B.G:9 Wind van links overdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:10 Wind van links onderdruk D



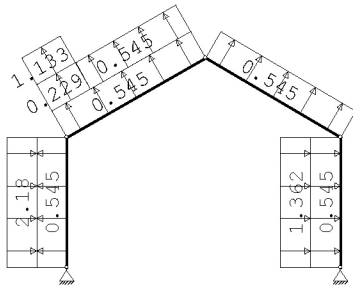
STAAFBELASTINGEN

B.G:10 Wind van links onderdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:11 Wind van links overdruk D



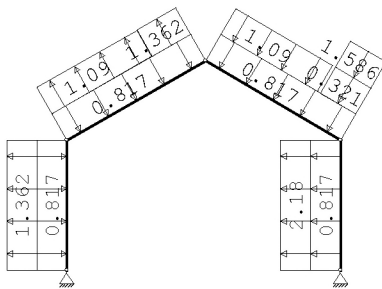
STAAFBELASTINGEN

B.G:11 Wind van links overdruk D

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 0.000 | 3.206 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:12 Wind van rechts onderdruk A



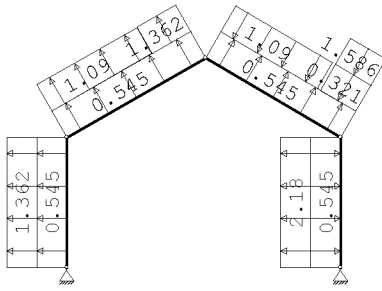
STAAFBELASTINGEN

B.G:12 Wind van rechts onderdruk A

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:13 Wind van rechts overdruk A



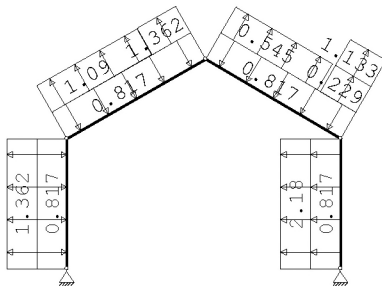
STAAFBELASTINGEN

B.G:13 Wind van rechts overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:14 Wind van rechts onderdruk B



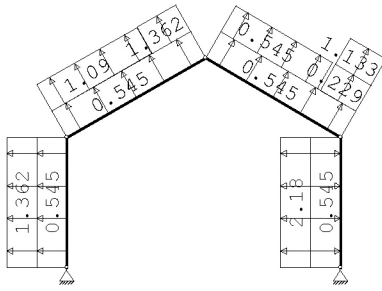
STAAFBELASTINGEN

B.G:14 Wind van rechts onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:15 Wind van rechts overdruk B



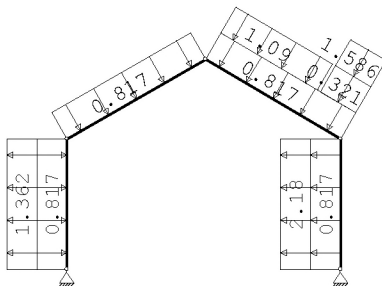
STAAFBELASTINGEN

B.G:15 Wind van rechts overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | 1.36 | 1.36 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 1.09 | 1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:16 Wind van rechts onderdruk C



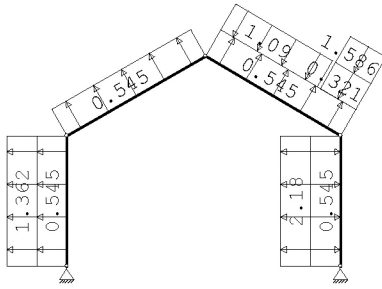
STAAFBELASTINGEN

B.G:16 Wind van rechts onderdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw3 | -0.32 | -0.32 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw4 | -1.59 | -1.59 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.09 | -1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:17 Wind van rechts overdruk C



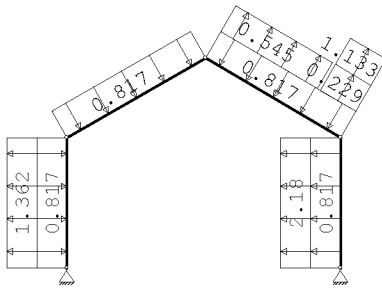
STAAFBELASTINGEN

B.G:17 Wind van rechts overdruk C

| StAAF Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|--------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw3 | -0.32 | -0.32 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw4 | -1.59 | -1.59 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw5 | -1.09 | -1.09 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:18 Wind van rechts onderdruk D



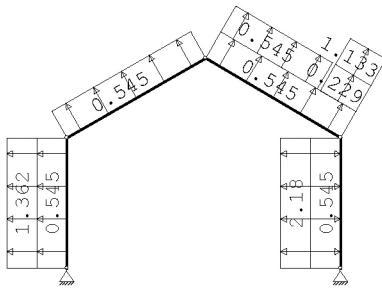
STAAFBELASTINGEN

B.G:18 Wind van rechts onderdruk D

| StAAF Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|--------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw10 | 0.23 | 0.23 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw11 | 1.13 | 1.13 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw12 | 0.54 | 0.54 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:19 Wind van rechts overdruk D



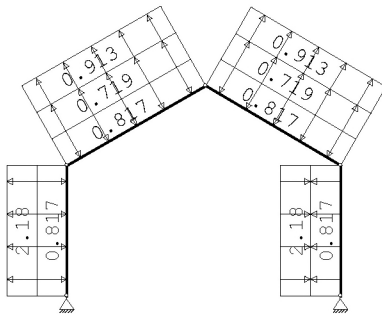
STAAFBELASTINGEN

B.G:19 Wind van rechts overdruk D

| Staal | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw2 | -2.18 | -2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw10 | 0.23 | 0.23 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw11 | 1.13 | 1.13 | 3.206 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.54 | 0.54 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw8 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:20 Wind loodrecht onderdruk A



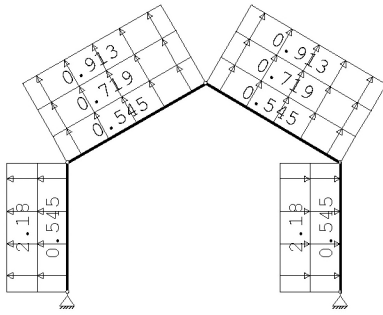
STAAFBELASTINGEN

B.G:20 Wind loodrecht onderdruk A

| Staal | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw13 | 2.18 | 2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw13 | 2.18 | 2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.72 | 0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.91 | 0.91 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.72 | 0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.91 | 0.91 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:21 Wind loodrecht overdruk A



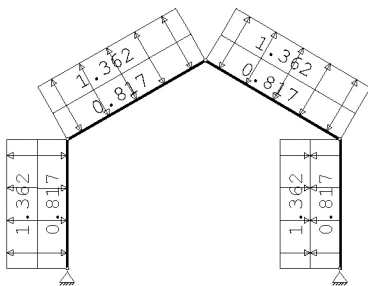
STAAFBELASTINGEN

B.G:21 Wind loodrecht overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw13 | 2.18 | 2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw13 | 2.18 | 2.18 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.72 | 0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.91 | 0.91 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.72 | 0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.91 | 0.91 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:22 Wind loodrecht onderdruk B



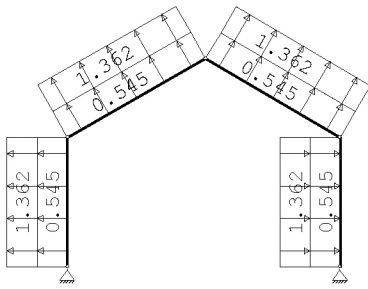
STAAFBELASTINGEN

B.G:22 Wind loodrecht onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.82 | -0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw16 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw16 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw17 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw17 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:23 Wind loodrecht overdruk B



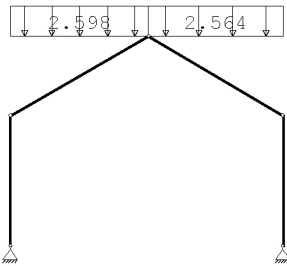
STAAFBELASTINGEN

B.G:23 Wind loodrecht overdruk B

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw16 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw16 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw17 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw17 | 1.36 | 1.36 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:24 Sneeuw A



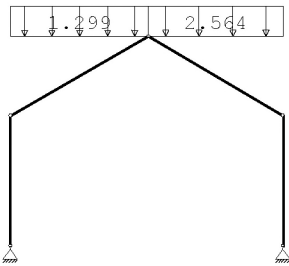
STAAFBELASTINGEN

B.G:24 Sneeuw A

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -2.60 | -2.60 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs2 | -2.56 | -2.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:25 Sneeuw B



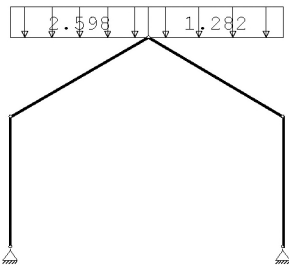
STAAFBELASTINGEN

B.G:25 Sneeuw B

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs3 | -1.30 | -1.30 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs2 | -2.56 | -2.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:26 Sneeuw C



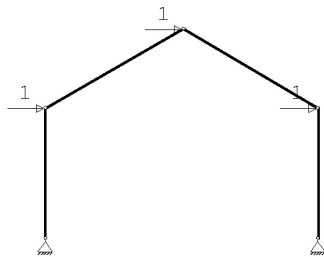
STAAFBELASTINGEN

B.G:26 Sneeuw C

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -2.60 | -2.60 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs4 | -1.28 | -1.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:27 Knik



KNOOPBELASTINGEN

B.G:27 Knik

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 2 | X | 1.000 | | | |
| 2 | 3 | X | 1.000 | | | |
| 3 | 4 | X | 1.000 | | | |

REACTIES

| Kn. | B.G. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|------|--------|-------|-------|-------|-------|-------|
| 1 | 1 | 1.56 | | 11.16 | | | |
| 1 | 2 | 0.00 | | 0.00 | | | |
| 1 | 3 | 0.27 | 0.54 | 0.49 | 1.99 | | |
| 1 | 4 | -11.09 | | -0.37 | | | |
| 1 | 5 | -9.22 | | -5.54 | | | |
| 1 | 6 | -9.42 | | -3.94 | | | |
| 1 | 7 | -7.55 | | -9.12 | | | |
| 1 | 8 | -9.40 | | 2.29 | | | |
| 1 | 9 | -7.53 | | -2.89 | | | |
| 1 | 10 | -7.73 | | -1.29 | | | |
| 1 | 11 | -5.86 | | -6.47 | | | |
| 1 | 12 | 7.01 | | 7.18 | | | |

| | | | | |
|---|----|-------|-------|-------|
| 1 | 13 | 8.87 | | 2.00 |
| 1 | 14 | 4.19 | | 2.92 |
| 1 | 15 | 6.05 | | -2.26 |
| 1 | 16 | 6.20 | | 8.87 |
| 1 | 17 | 8.06 | | 3.69 |
| 1 | 18 | 3.38 | | 4.61 |
| 1 | 19 | 5.24 | | -0.57 |
| 1 | 20 | 2.28 | | -3.09 |
| 1 | 21 | 4.14 | | -8.27 |
| 1 | 22 | 0.75 | | -2.07 |
| 1 | 23 | 2.61 | | -7.25 |
| 1 | 24 | 2.37 | | 9.84 |
| 1 | 25 | 1.76 | | 6.11 |
| 1 | 26 | 1.79 | | 8.66 |
| 1 | 27 | -1.50 | | -1.71 |
| 5 | 1 | -1.56 | | 11.17 |
| 5 | 2 | 0.00 | | 0.00 |
| 5 | 3 | -0.54 | -0.27 | 0.51 |
| 5 | 4 | -7.05 | | 7.37 |
| 5 | 5 | -8.92 | | 2.19 |
| 5 | 6 | -4.14 | | 2.93 |
| 5 | 7 | -6.01 | | -2.25 |
| 5 | 8 | -6.24 | | 8.98 |
| 5 | 9 | -8.11 | | 3.81 |
| 5 | 10 | -3.33 | | 4.54 |
| 5 | 11 | -5.19 | | -0.64 |
| 5 | 12 | 11.11 | | -0.64 |
| 5 | 13 | 9.25 | | -5.82 |
| 5 | 14 | 9.48 | | -3.98 |
| 5 | 15 | 7.61 | | -9.16 |
| 5 | 16 | 9.37 | | 2.14 |
| 5 | 17 | 7.50 | | -3.03 |
| 5 | 18 | 7.73 | | -1.20 |
| 5 | 19 | 5.87 | | -6.37 |
| 5 | 20 | -2.28 | | -3.09 |
| 5 | 21 | -4.14 | | -8.27 |
| 5 | 22 | -0.75 | | -2.07 |
| 5 | 23 | -2.61 | | -7.25 |
| 5 | 24 | -2.37 | | 9.78 |
| 5 | 25 | -1.76 | | 8.51 |
| 5 | 26 | -1.79 | | 6.16 |
| 5 | 27 | -1.50 | | 1.71 |

BELASTINGCOMBINATIES

BC Type

| | | | | | |
|----|-------|------|-----------|--------|------------|
| 1 | Fund. | 1.22 | $G_{k,1}$ | | |
| 2 | Fund. | 0.90 | $G_{k,1}$ | | |
| 3 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,3}$ |
| 4 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,4}$ |
| 5 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,5}$ |
| 6 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,6}$ |
| 7 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,7}$ |
| 8 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,8}$ |
| 9 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,9}$ |
| 10 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,10}$ |
| 11 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,11}$ |
| 12 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,12}$ |
| 13 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,13}$ |
| 14 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,14}$ |
| 15 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,15}$ |
| 16 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,16}$ |
| 17 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,17}$ |
| 18 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,18}$ |
| 19 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,19}$ |
| 20 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,20}$ |
| 21 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,21}$ |
| 22 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,22}$ |
| 23 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,23}$ |
| 24 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,24}$ |
| 25 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,25}$ |
| 26 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,26}$ |
| 27 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,3}$ |

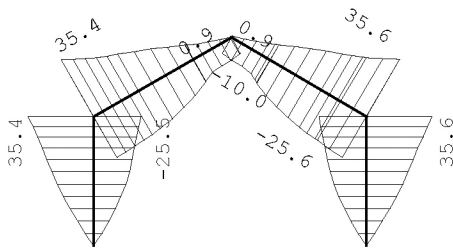
| | | | | | |
|----------|------|------------------|---|------|----------------------------------|
| 28 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,4} |
| 29 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,5} |
| 30 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,6} |
| 31 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,7} |
| 32 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,8} |
| 33 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,9} |
| 34 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,10} |
| 35 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,11} |
| 36 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,12} |
| 37 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,13} |
| 38 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,14} |
| 39 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,15} |
| 40 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,16} |
| 41 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,17} |
| 42 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,18} |
| 43 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,19} |
| 44 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,20} |
| 45 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,21} |
| 46 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,22} |
| 47 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,23} |
| 48 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,24} |
| 49 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,25} |
| 50 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,26} |
| 51 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,3} |
| 52 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,4} |
| 53 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,5} |
| 54 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,6} |
| 55 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,7} |
| 56 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,8} |
| 57 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,9} |
| 58 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,10} |
| 59 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,11} |
| 60 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,12} |
| 61 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,13} |
| 62 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,14} |
| 63 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,15} |
| 64 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,16} |
| 65 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,17} |
| 66 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,18} |
| 67 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,19} |
| 68 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,20} |
| 69 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,21} |
| 70 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,22} |
| 71 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,23} |
| 72 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,24} |
| 73 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,25} |
| 74 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,26} |
| 75 Quas. | 1.00 | G _{k,1} | | | |
| 76 Freq. | 1.00 | G _{k,1} | | | |
| 77 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,4} |
| 78 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,5} |
| 79 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,6} |
| 80 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,7} |
| 81 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,8} |
| 82 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,9} |
| 83 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,10} |
| 84 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,11} |
| 85 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,12} |
| 86 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,13} |
| 87 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,14} |
| 88 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,15} |
| 89 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,16} |
| 90 Freq. | 1.00 | G _{k,1} | + | 1.00 | ψ ₁ Q _{k,17} |

| | | | | | | |
|-----------|------|-----------|---|------|----------|------------|
| 91 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,18}$ |
| 92 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,19}$ |
| 93 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,20}$ |
| 94 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,21}$ |
| 95 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,22}$ |
| 96 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,23}$ |
| 97 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,24}$ |
| 98 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,25}$ |
| 99 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | Ψ_1 | $Q_{k,26}$ |
| 100 Blij. | 1.00 | $G_{k,1}$ | | | | |

OMHULLENDE VAN DE FUNDAMENTELE COMBINATIES

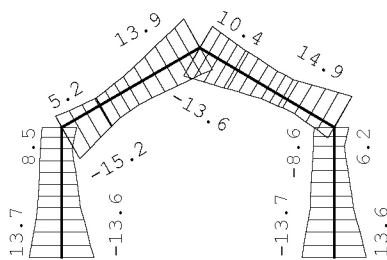
MOMENTEN

Fundamentele combinatie



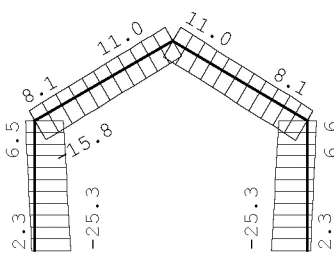
DWARSKRACHTEN

Fundamentele combinatie



NORMAALKRACHTEN

Fundamentele combinatie



STAAFKRACHTEN

Fundamentele combinatie

| St. | Kn. | Pos. | NXi/NXj | | | | DZi/DZj | | | | MYi/MYj | | | |
|-----|-------|------|---------|----|-------|----|---------|----|-------|----|---------|----|-------|----|
| | | | Min | BC | Max | BC | Min | BC | Max | BC | Min | BC | Max | BC |
| 1 | 1 | | -25.34 | 24 | 2.26 | 31 | -13.56 | 28 | 13.66 | 13 | 0.00 | 28 | 0.00 | 13 |
| 1 | 3.066 | | -21.00 | 24 | 5.88 | 31 | -4.28 | 29 | 8.89 | 12 | -23.50 | 29 | 30.71 | 12 |
| 1 | 2 | | -20.25 | 24 | 6.51 | 31 | -6.24 | 45 | 8.50 | 12 | -25.47 | 29 | 35.36 | 12 |
| 2 | 2 | | -15.82 | 16 | 8.08 | 45 | -15.15 | 24 | 5.23 | 31 | -25.47 | 29 | 35.36 | 12 |
| 2 | 0.026 | | -15.80 | 16 | 8.10 | 45 | -15.05 | 24 | 5.19 | 31 | -25.47 | 29 | 35.09 | 12 |
| 2 | 1.203 | | -14.87 | 16 | 8.88 | 45 | -10.31 | 24 | 3.52 | 31 | -24.06 | 28 | 24.43 | 13 |
| 2 | 2.192 | | -14.09 | 16 | 9.53 | 45 | -8.02 | 12 | 5.39 | 29 | -20.89 | 4 | 17.25 | 37 |
| 2 | 3.194 | | -13.30 | 16 | 10.18 | 45 | -8.85 | 13 | 9.13 | 28 | -13.86 | 4 | 9.05 | 37 |
| 2 | 3.206 | | -13.29 | 16 | 10.19 | 45 | -8.84 | 13 | 9.17 | 28 | -13.76 | 4 | 8.94 | 37 |
| 2 | 3.516 | | -13.05 | 16 | 10.39 | 45 | -9.21 | 13 | 10.32 | 28 | -10.81 | 5 | 6.22 | 36 |
| 2 | 3.766 | | -12.85 | 16 | 10.56 | 45 | -9.51 | 13 | 11.25 | 28 | -10.94 | 24 | 4.56 | 36 |
| 2 | 4.400 | | -12.35 | 16 | 10.98 | 45 | -10.41 | 37 | 13.76 | 4 | -10.13 | 24 | 0.44 | 36 |
| 2 | 3 | | -12.32 | 16 | 11.00 | 45 | -10.46 | 37 | 13.90 | 4 | -10.04 | 24 | 0.91 | 28 |
| 3 | 3 | | -12.62 | 8 | 11.00 | 45 | -13.61 | 12 | 10.38 | 29 | -10.04 | 24 | 0.90 | 28 |
| 3 | 0.560 | | -13.07 | 8 | 10.63 | 45 | -11.40 | 12 | 9.57 | 29 | -10.66 | 24 | 4.51 | 28 |
| 3 | 0.818 | | -13.27 | 8 | 10.45 | 45 | -10.44 | 36 | 9.26 | 5 | -10.53 | 24 | 6.22 | 28 |
| 3 | 1.142 | | -13.53 | 8 | 10.24 | 45 | -9.24 | 36 | 8.86 | 5 | -13.32 | 12 | 8.76 | 29 |
| 3 | 1.240 | | -13.61 | 8 | 10.17 | 45 | -8.88 | 36 | 8.93 | 5 | -14.20 | 12 | 9.61 | 29 |
| 3 | 2.199 | | -14.38 | 8 | 9.53 | 45 | -5.32 | 36 | 8.12 | 5 | -20.75 | 12 | 17.54 | 29 |
| 3 | 3.213 | | -15.19 | 8 | 8.86 | 45 | -3.56 | 37 | 10.45 | 24 | -23.93 | 36 | 25.02 | 5 |
| 3 | 4 | | -16.10 | 8 | 8.10 | 45 | -5.19 | 39 | 14.92 | 24 | -25.61 | 37 | 35.58 | 4 |
| 4 | 4 | | -20.16 | 24 | 6.56 | 39 | -8.56 | 4 | 6.24 | 45 | -25.61 | 37 | 35.58 | 4 |
| 4 | 0.527 | | -20.91 | 24 | 5.94 | 39 | -8.95 | 4 | 4.30 | 45 | -23.64 | 37 | 30.96 | 4 |
| 4 | 5 | | -25.26 | 24 | 2.31 | 39 | -13.72 | 5 | 13.60 | 36 | 0.00 | 36 | 0.00 | 5 |

REACTIES

Fundamentele combinatie

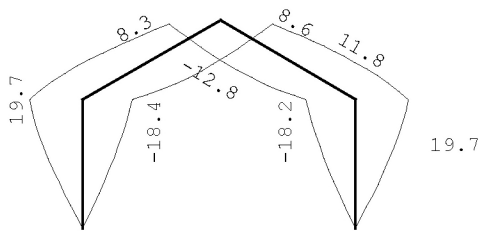
| Kn. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|--------|-------|-------|-------|-------|-------|
| 1 | -13.56 | 13.66 | -2.26 | 25.34 | | |
| 5 | -13.72 | 13.60 | -2.31 | 25.26 | | |

OMHULLENDE VAN DE KARAKTERISTIEKE COMBINATIES

VERPLAATSINGEN

[mm]

Karakteristieke combinatie

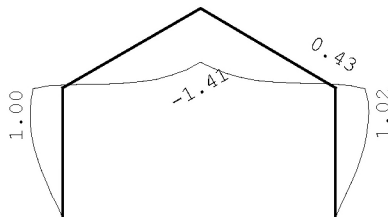


OMHULLENDE VAN DE BLIJVENDE COMBINATIES

VERPLAATSINGEN

[mm]

Blijvende combinatie



STAALPROFIELEN - ALGEMENE GEGEVENS

| | |
|---|-------------|
| Stabiliteit: Classificatie gehele constructie: | Ongeschoord |
| Belastinggeval m.b.t. bepaling kniklengte: | 27=Knik |
| Aanpassing inkl. parameter C : | Steunpunten |
| Tweede-orde-effect: | |
| Aan te houden verhouding n/(n-1) voor steunmomenten en verplaatsingen: | 1.00 |
| Doorbuiging en verplaatsing: | |
| Aantal bouwlagen: | 1 |
| Gebouwtype: | Industrieel |
| Toel. horiz. verplaatsing gehele gebouw: | h/150 |
| Kleinste gevelhoogte [m]: | 0.0 |

PROFIEL/MATERIAAL

| P/M nr. | Profielnaam | Vloeisp. [N/mm ²] | Productie methode | Min. drsn. klasse |
|---------|-------------|-------------------------------|-------------------|-------------------|
| 1 | IPE270 | 235 | Gewalst | 1 |

Partiële veiligheidsfactoren:
Gamma M;0 : 1.00 Gamma M;1 : 1.00

KNIKSTABILITEIT

| Staafl | l _{sys} [m] | Classif. y sterke as | l _{knik,y} [m] | Extra | | Extra | |
|--------|----------------------|----------------------|-------------------------|--------------|----------------------|-------------------------|--------------|
| | | | | aanp. y [kN] | Classif. z zwakke as | l _{knik,z} [m] | aanp. z [kN] |
| 1 | 3.600 | Ongeschoord | 9.007 | 0.0 | Geschoord | 3.600 | 0.0 |
| 2 | 4.434 | Ongeschoord | 11.244 | 0.0 | Geschoord | 4.434 | 0.0 |
| 3 | 4.348 | Ongeschoord | 11.084 | 0.0 | Geschoord | 4.348 | 0.0 |
| 4 | 3.600 | Ongeschoord | 9.012 | 0.0 | Geschoord | 3.600 | 0.0 |

KIPSTABILITEIT

| Staafl | Plts. aangr. | l gaffel [m] | Kipsteunafstanden [m] |
|--------|--------------|--------------|-----------------------|
| 1 | 1.0*h | boven: | 3.60 3.600 |
| | | onder: | 3.60 3.600 |
| 2 | 1.0*h | boven: | 4.43 4,434 |
| | | onder: | 4.43 4,434 |
| 3 | 1.0*h | boven: | 4.35 4,348 |
| | | onder: | 4.35 4,348 |
| 4 | 1.0*h | boven: | 3.60 3.600 |
| | | onder: | 3.60 3.600 |

TOETSING SPANNINGEN

| Staafl | P/M nr. | BC | Sit | Kl | Plaats | Norm | Artikel | Formule | Hoogste toetsing U.C. [N/mm ²] | Opm. |
|--------|---------|----|-----|----|--------|---------|---------|---------|--|-------|
| 1 | 1 | 12 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.353 83 | 47 |
| 2 | 1 | 12 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.415 98 | 46,47 |
| 3 | 1 | 4 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.416 98 | 46,47 |
| 4 | 1 | 4 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.355 83 | 47 |

Opmerkingen:

[46] T.b.v. kip is een equivalente Q-last berekend.

[47] Bij verlopende normaalkracht wordt de grootste drukkracht genomen.

TOETSING DOORBUIGING

| Staafl | Soort | Mtg | Lengte [m] | Overst I | Zeeg J | u _{tot} [mm] | BC | Sit | u [mm] | Toelaatbaar [mm] |
|--------|-------|-----|------------|----------|--------|-----------------------|-----|-----|--------|-------------------|
| 2 | Dak | ss | 4.43 | N | N | 0.0 | 2.4 | 61 | 1 Eind | 2.4 -35.5 2*0.004 |
| | | | | | | | | 72 | 1 Eind | -4.6 |
| | | | | | | | | 52 | 1 Bijk | -2.6 -17.7 0.004 |
| 3 | Dak | ss | 4.35 | N | N | 0.0 | 2.4 | 53 | 1 Eind | 2.4 -34.8 2*0.004 |
| | | | | | | | | 72 | 1 Eind | -4.6 |
| | | | | | | | | 60 | 1 Bijk | -2.6 -17.4 0.004 |

TOETSING HOR. VERPLAATSING GLOBAAL

Er is een maximale horizontale verplaatsing van 0.0197 [m] gevonden bij knoop 4 en combinatie 53; belastingsituatie 1 (combinatietype 2).
Bij een hoogte van 3.600 [m] levert dit h / 183 (toel.: h / 150).

DOORBUIGINGEN

Karakteristieke combinatie

| Nr. | staven | Zijde | positie [m] | l _{rep} [mm] | w ₁ [mm] | w ₂ [mm] | l _{rep} [mm] | w _{bij} [mm] | l _{rep} [mm] | w _{tot} [mm] | w _c [mm] | w _{max} [mm] | l _{rep} [mm] |
|-----|--------|-------|-------------|-----------------------|---------------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|
| 2 | 2 | Neg. | 1.696 | 4434 | -0.2 | -2.7 | 1666 | -2.9 | -2.9 | 1552 | | | |
| 2 | 2 | Pos. | 1.971 | 4434 | -0.2 | 2.7 | 1648 | 2.4 | 2.4 | 1815 | | | |
| 3 | 3 | Neg. | 2.664 | 4348 | -0.2 | -2.6 | 1691 | -2.7 | -2.7 | 1586 | | | |
| 3 | 3 | Pos. | 2.128 | 4348 | -0.3 | 2.6 | 1683 | 2.3 | 2.3 | 1864 | | | |

A.5 Spant S0-02

Technosoft Raamwerken release 6.77

26 mei 2023

Project.....: 2022204
Dimensies....: kN;m;rad (tenzij anders aangegeven)
Datum.....: 16/09/2022
Bestand.....: K:\Werk\2022204\Berekeningen\Technosoft\spant s0-02.rww

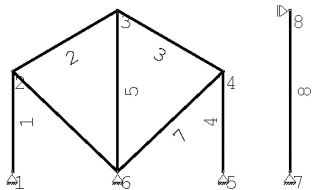
Belastingbreedte.: 2.420
Rekenmodel.....: 1e-orde-elastisch.
Theorie voor de bepaling van de krachtsverdeling:
Geometrisch lineair.
Fysisch lineair.

Gunstige werking van de permanente belasting wordt automatisch verwerkt.

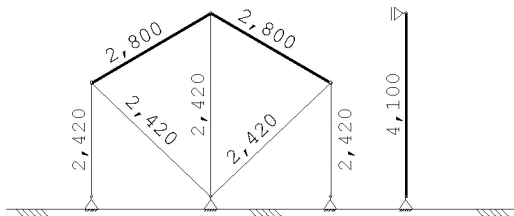
Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|-------------|----------------------|-----------------|-------------|
| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-3:2003 | C1:2009 | NB:2011(nl) |
| | NEN-EN 1991-1-4:2005 | C2:2011 | NB:2011(nl) |
| Staal | NEN-EN 1993-1-1:2006 | C2:2011,A1:2016 | NB:2016(nl) |

GEOMETRIE



BELASTINGBREEDTEN



MATERIALEN

| Mt | Kwaliteit | E-modulus[N/mm ²] | S.G. | Pois. | Uitz. coëff |
|----|-----------|-------------------------------|------|-------|-------------|
| 1 | S235 | 210000 | 78.5 | 0.30 | 1.2000e-05 |
| 2 | S235 | 210000 | 0.0 | 0.30 | 1.2000e-05 |

PROFIELEN [mm]

| Prof. | Omschrijving | Materiaal | Oppervlak | Traagheid | Vormf. |
|-------|--------------|-----------|------------|------------|--------|
| 1 | HEA140 | 1:S235 | 3.1420e+03 | 1.0330e+07 | 0.00 |
| 2 | HEA160(90) | 1:S235 | 3.8800e+03 | 6.1600e+06 | 0.00 |
| 3 | HEA160 | 1:S235 | 3.8800e+03 | 1.6730e+07 | 0.00 |
| 4 | STRIP6*60 | 2:S235 | 3.6000e+02 | 1.0800e+05 | 0.00 |

PROFIELEN vervolg [mm]

| Prof. | Staaftype | Breedte | Hoogte | e | Type | b1 | h1 | b2 | h2 |
|-------|-----------|---------|--------|------|------|----|----|----|----|
| 1 | 0:Normaal | 140 | 133 | 66.5 | | | | | |
| 2 | 0:Normaal | 160 | 152 | 80.0 | | | | | |
| 3 | 0:Normaal | 160 | 152 | 76.0 | | | | | |
| 4 | 1:Trek | 6 | 60 | 30.0 | | | | | |

PROFIELVORMEN [mm]

1 HEA140



2 HEA160(90)



3 HEA160



4 STRIP6*60



KNOPEN

| Knoop | X | Z | Knoop | X | Z |
|-------|-------|-------|-------|--------|-------|
| 1 | 0.000 | 0.400 | 6 | 3.800 | 0.400 |
| 2 | 0.000 | 4.000 | 7 | 10.000 | 0.400 |
| 3 | 3.800 | 6.200 | 8 | 10.000 | 6.200 |
| 4 | 7.600 | 4.000 | | | |
| 5 | 7.600 | 0.400 | | | |

STAVEN

| St. | ki | kj | Profiel | Aansl.i | Aansl.j | Lengte | Opm. |
|-----|----|----|--------------|---------|---------|--------|------|
| 1 | 1 | 2 | 1:HEA140 | NDM | NDM | 3.600 | |
| 2 | 2 | 3 | 1:HEA140 | NDM | ND | 4.391 | |
| 3 | 3 | 4 | 1:HEA140 | NDM | NDM | 4.391 | |
| 4 | 4 | 5 | 1:HEA140 | NDM | NDM | 3.600 | |
| 5 | 6 | 3 | 2:HEA160(90) | NDM | ND | 5.800 | |
| 6 | 2 | 6 | 4:STRIP6*60 | ND | ND | 5.235 | |
| 7 | 6 | 4 | 4:STRIP6*60 | ND | ND | 5.235 | |
| 8 | 7 | 8 | 3:HEA160 | NDM | NDM | 5.800 | |

VASTE STEUNPUNTEN

| Nr. | knoop | Kode | XZR | 1=vast | 0=vrij | Hoek |
|-----|-------|------|-----|--------|--------|------|
| 1 | 1 | 110 | | | | 0.00 |
| 2 | 5 | 110 | | | | 0.00 |
| 3 | 6 | 110 | | | | 0.00 |
| 4 | 7 | 110 | | | | 0.00 |
| 5 | 8 | 100 | | | | 0.00 |

BELASTINGBREEDTEN

| StAAF | Breedte-i | Breedte-j | StAAF | Breedte-i | Breedte-j |
|-------|-----------|-----------|-------|-----------|-----------|
| 1 | 2.420 | 2.420 | 6 | 2.420 | 2.420 |
| 2 | 2.800 | 2.800 | 7 | 2.420 | 2.420 |
| 3 | 2.800 | 2.800 | 8 | 4.100 | 4.100 |
| 4 | 2.420 | 2.420 | | | |
| 5 | 2.420 | 2.420 | | | |

BELASTINGGENERATIE ALGEMEEN.

| | | | |
|-----------------------------|-------|-------------------------|------|
| Betrouwbaarheidsklasse..... | 1 | Referentieperiode..... | 50 |
| Gebouwdiepte..... | 31.30 | Gebouwhoogte..... | 6.20 |
| Niveau aansl.terrein..... | 0.00 | E.g. scheid.w. [kN/m2]: | 1.20 |

WIND

| | |
|---------------------------------|--|
| Terrein categorie ...[4.3.2]... | Onbebouwd |
| Windgebied | 3 Vb,0 ..[4.2].....: 24.500 |
| Positie spant in het gebouw.... | 4.400 Kr[4.3.2].....: 0.209 |
| z0 | [4.3.2]...: 0.200 Zmin ..[4.3.2].....: 4.000 |
| Co wind van links ..[4.3.3]... | 1.000 Co wind van rechts.....: 1.000 |
| Co wind loodrecht ..[4.3.3]... | 1.000 |
| Cpi wind van links ..[7.2.9]... | 0.200 -0.300 |
| Cpi windloodrecht ...[7.2.9]... | 0.200 -0.300 |
| Cpi wind van rechts .[7.2.9]... | 0.200 -0.300 |
| Cfr windwrijving[7.5]..... | 0.040 |

SNEEUW

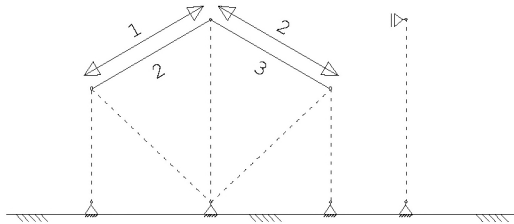
Sneeuwbelasting (sk) 50 jaar : 0.70
Sneeuwbelasting (sn) n jaar : 0.70

STAAFTYPEN

| Type | staven |
|------------------|--------|
| 5:Linker gevel. | : 1,8 |
| 6:Rechter gevel. | : 4 |
| 7:Dak. | : 2,3 |
| 9:Open. | : 5-7 |

LASTVELDEN

Veranderlijke belastingen door personen

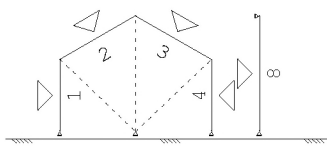


LASTVELDEN

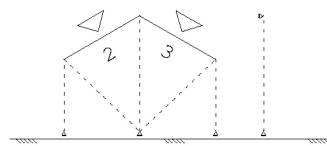
| Nr | Staaftabel | Klasse-Gebruiksfunctie | Verd. | q _k | Q _k | F _t /F _{t0} |
|----|------------|--------------------------|-------|----------------|----------------|---------------------------------|
| 1 | 2-2 6.10 | H-Dak (onder dakbeschet) | 1 | 0.00 | -2.00 | 1.00 |
| 2 | 3-3 6.10 | H-Dak (onder dakbeschet) | 2 | 0.00 | -2.00 | 1.00 |

LASTVELDEN

Wind staven



Sneeuw staven

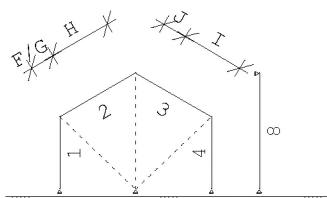


WIND DAKTYPES

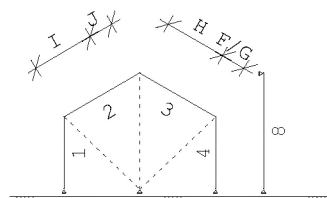
| Nr. | Staaftype | reductie bij | | C _{pe} volgens art: |
|-----|------------|----------------|-----------------|------------------------------|
| | | wind van links | wind van rechts | |
| 1 | 1 Gevel | 1.000 | 1.000 | 7.2.2 |
| 2 | 2 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 3 | 3 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 4 | 4 Gevel | 1.000 | 1.000 | 7.2.2 |
| 5 | 8 Gevel | 1.000 | 1.000 | 7.2.2 |

WIND ZONES

Wind van links



Wind van rechts



WIND VAN LINKS ZONES

| Nr. | Staaftype | Positie | Lengte | Zone |
|-----|-----------|---------|--------|------|
| 1 | 1 | 0.000 | 3.600 | D |
| 2 | 2 | 0.000 | 1.240 | F/G |
| 3 | 2 | 1.240 | 3.151 | H |
| 4 | 3 | 0.000 | 1.240 | J |
| 5 | 3 | 1.240 | 3.151 | I |
| 6 | 4 | 0.000 | 3.600 | E |
| 7 | 8 | 0.000 | 5.800 | D |

WIND VAN RECHTS ZONES

| Nr. | Staaftype | Positie | Lengte | Zone |
|-----|-----------|---------|--------|------|
| 1 | 8 | 0.000 | 5.800 | E |
| 2 | 4 | 0.000 | 3.600 | D |
| 3 | 3 | 0.000 | 1.240 | F/G |
| 4 | 3 | 1.240 | 3.151 | H |
| 5 | 2 | 0.000 | 1.240 | J |
| 6 | 2 | 1.240 | 3.151 | I |
| 7 | 1 | 0.000 | 3.600 | E |

Wind indexen

| Index | CsCd | Cpe/Cpi | qp | breedte | reductie | Qw | Zone | Hoek(en) |
|-------|------|---------|-------|---------|----------|--------|------|----------|
| Qw1 | | 0.300 | 0.587 | 2.420 | | -0.426 | -i | |
| Qw2 | | 0.300 | 0.587 | 2.800 | | -0.493 | -i | |
| Qw3 | | 0.300 | 0.587 | 4.100 | | -0.722 | -i | |
| Qw4 | 1.00 | 0.800 | 0.587 | 2.420 | | -1.137 | D | |
| Qw5 | 1.00 | 0.700 | 0.587 | 2.800 | | -1.151 | G | 30.1 |
| Qw6 | 1.00 | 0.401 | 0.587 | 2.800 | | -0.660 | H | 30.1 |
| Qw7 | 1.00 | -0.499 | 0.587 | 2.800 | | 0.820 | J | 30.1 |
| Qw8 | 1.00 | -0.399 | 0.587 | 2.800 | | 0.655 | I | 30.1 |
| Qw9 | 1.00 | -0.500 | 0.587 | 2.420 | | 0.710 | E | |
| Qw10 | 1.00 | 0.800 | 0.587 | 4.100 | | -1.926 | D | |
| Qw11 | | -0.200 | 0.587 | 2.420 | | 0.284 | +i | |
| Qw12 | | -0.200 | 0.587 | 2.800 | | 0.329 | +i | |
| Qw13 | | -0.200 | 0.587 | 4.100 | | 0.481 | +i | |
| Qw14 | 1.00 | -0.497 | 0.587 | 2.800 | | 0.817 | G | 30.1 |
| Qw15 | 1.00 | -0.199 | 0.587 | 2.800 | | 0.327 | H | 30.1 |
| Qw16 | 1.00 | -0.500 | 0.587 | 4.100 | | 1.204 | E | |
| Qw17 | 1.00 | -0.800 | 0.587 | 2.420 | | 1.137 | B | |
| Qw18 | 1.00 | -0.800 | 0.587 | 4.100 | | 1.926 | B | |
| Qw19 | 1.00 | -0.801 | 0.587 | 0.706 | | 0.332 | H | 30.1 |
| Qw20 | 1.00 | -0.500 | 0.587 | 2.094 | | 0.615 | I | 30.1 |
| Qw21 | 1.00 | -0.500 | 0.587 | 2.420 | | 0.710 | C | |
| Qw22 | 1.00 | -0.500 | 0.587 | 4.100 | | 1.204 | C | |
| Qw23 | 1.00 | -0.500 | 0.587 | 2.800 | | 0.822 | I | 30.1 |

SNEEUW DAKTYPEN

| Staaft | artikel |
|--------|----------------|
| 2-2 | 5.3.3 Zadeldak |
| 3-3 | 5.3.3 Zadeldak |

Sneeuw indexen

| Index | art | μ | s_k | red. | posfac | breedte | Q_s | hoek |
|-------|-------|-------|-------|------|--------|---------|-------|------|
| Qs1 | 5.3.3 | 0.798 | 0.70 | 1.00 | | 2.800 | 1.564 | 30.1 |
| Qs2 | 5.3.3 | 0.399 | 0.70 | 1.00 | | 2.800 | 0.782 | 30.1 |

BELASTINGGEVALLEN

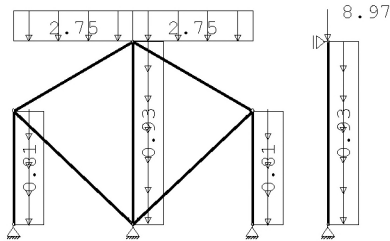
| B.G. | Omschrijving | Type |
|------|----------------------------------|------------|
| | 1 Permanente belasting EGZ=-1.00 | 1 |
| g | 2 Ver. bel. pers. ed. (q_k) | 2 |
| g | 3 Ver. bel. pers. ed. (Q_k) | 3 |
| g | 4 Wind van links onderdruk A | 7 |
| g | 5 Wind van links overdruk A | 8 |
| g | 6 Wind van links onderdruk B | 9 |
| g | 7 Wind van links overdruk B | 10 |
| g | 8 Wind van links onderdruk C | 37 |
| g | 9 Wind van links overdruk C | 38 |
| g | 10 Wind van links onderdruk D | 39 |
| g | 11 Wind van links overdruk D | 40 |
| g | 12 Wind van rechts onderdruk A | 11 |
| g | 13 Wind van rechts overdruk A | 12 |
| g | 14 Wind van rechts onderdruk B | 13 |
| g | 15 Wind van rechts overdruk B | 14 |
| g | 16 Wind van rechts onderdruk C | 41 |
| g | 17 Wind van rechts overdruk C | 42 |
| g | 18 Wind van rechts onderdruk D | 43 |
| g | 19 Wind van rechts overdruk D | 44 |
| g | 20 Wind loodrecht onderdruk A | 15 |
| g | 21 Wind loodrecht overdruk A | 16 |
| g | 22 Wind loodrecht onderdruk B | 45 |
| g | 23 Wind loodrecht overdruk B | 46 |
| g* | 24 Sneeuw A | 22 |
| g | 25 Sneeuw B | 23 |
| g | 26 Sneeuw C | 33 |
| | 27 Knik | 0 Onbekend |

g = gegeneerd belastinggeval
* = belastinggeval bevat 1 of meer handmatig toegevoegde en/of gewijzigde lasten

BELASTINGEN

B.G:1 Permanente belasting

Eigen gewicht van alle staven is meegenomen in berekening. Richting:↓



KNOOPBELASTINGEN

B.G:1 Permanente belasting

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 8 | Z | -8.970 | | | |

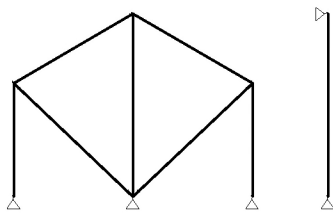
STAAFBELASTINGEN

B.G:1 Permanente belasting

| StAAF | Type | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | -2.75 | -2.75 | 0.000 | 0.000 | | | |
| 3 | 3:QZgeProj. | -2.75 | -2.75 | 0.000 | 0.000 | | | |
| 1 | 2:QXLokaal | -0.81 | -0.81 | 0.000 | 0.000 | | | |
| 4 | 2:QXLokaal | 0.81 | 0.81 | 0.000 | 0.000 | | | |
| 5 | 2:QXLokaal | -0.93 | -0.93 | 0.000 | 0.000 | | | |
| 8 | 2:QXLokaal | -0.93 | -0.93 | 0.000 | 0.000 | | | |

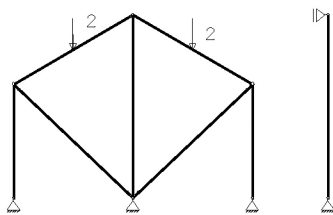
BELASTINGEN

B.G:2 Ver. bel. pers. ed. (q_k)



BELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)



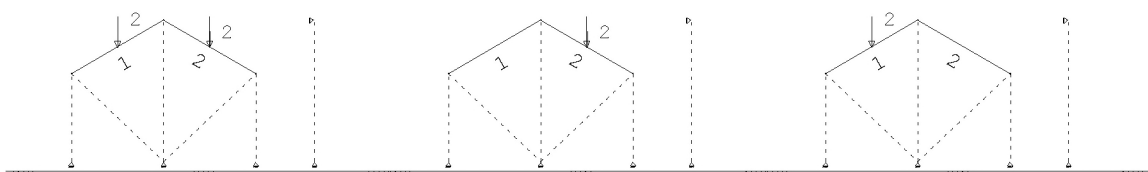
STAAFBELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)

| StAAF | Type | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|---------------|--------|----|-------|---|----------|----------|----------|
| 2 | 10:PZGepro.j. | -2.00 | | 2.195 | | 0.00 | 0.00 | 0.00 |
| 3 | 10:PZGepro.j. | -2.00 | | 2.195 | | 0.00 | 0.00 | 0.00 |

SITUATIES BELAST/ONBELAST

B.G:3 Ver. bel. pers. ed. (Q_k)



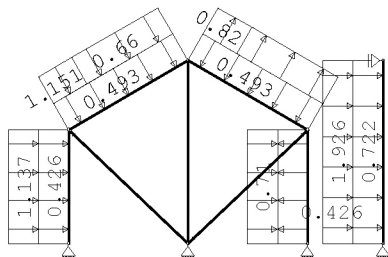
SITUATIES BELAST/ONBELAST

Belastingtype: Q_k

| Nr Lastvelden belast | Lastvelden onbelast |
|----------------------|---------------------|
| 1 1,2 | |
| 2 2 | 1 |
| 3 1 | 2 |

BELASTINGEN

B.G:4 Wind van links onderdruk A



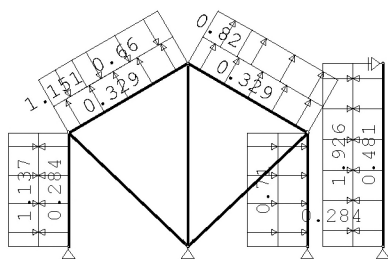
STAAFBELASTINGEN

B.G:4 Wind van links onderdruk A

| Staaftype | Index | q1/p/m | q2 | A | B | ψ ₀ | ψ ₁ | ψ ₂ |
|--------------|-------|--------|-------|-------|-------|----------------|----------------|----------------|
| 1 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw5 | -1.15 | -1.15 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw6 | -0.66 | -0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw7 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw8 | 0.66 | 0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:5 Wind van links overdruk A



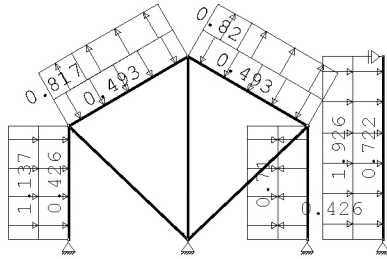
STAAFBELASTINGEN

B.G:5 Wind van links overdruk A

| Staaftype | Index | q1/p/m | q2 | A | B | ψ ₀ | ψ ₁ | ψ ₂ |
|--------------|-------|--------|-------|-------|-------|----------------|----------------|----------------|
| 1 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw5 | -1.15 | -1.15 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw6 | -0.66 | -0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw7 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw8 | 0.66 | 0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:6 Wind van links onderdruk B



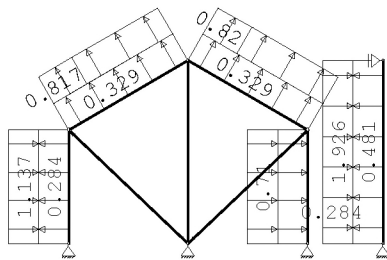
STAAFBELASTINGEN

B.G:6 Wind van links onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:7 Wind van links overdruk B



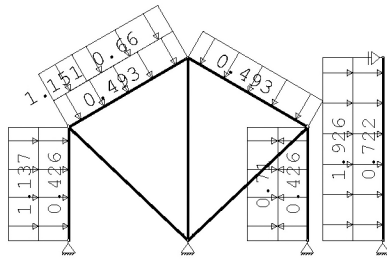
STAAFBELASTINGEN

B.G:7 Wind van links overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:8 Wind van links onderdruk C



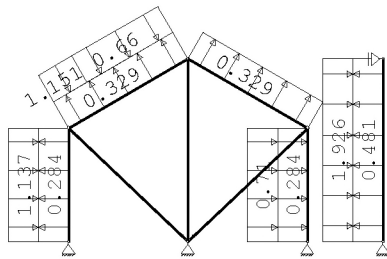
STAAFBELASTINGEN

B.G:8 Wind van links onderdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:9 Wind van links overdruk C



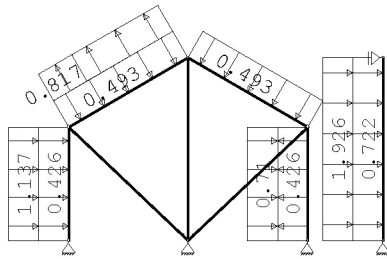
STAAFBELASTINGEN

B.G:9 Wind van links overdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:10 Wind van links onderdruk D



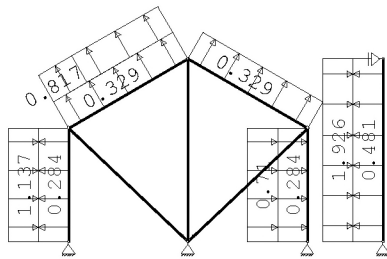
STAAFBELASTINGEN

B.G:10 Wind van links onderdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:11 Wind van links overdruk D



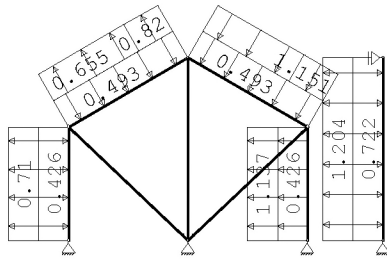
STAAFBELASTINGEN

B.G:11 Wind van links overdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:12 Wind van rechts onderdruk A



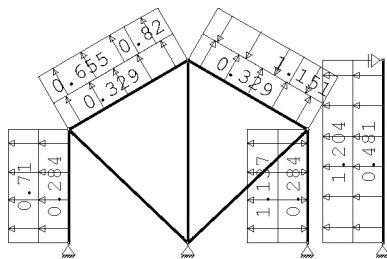
STAAFBELASTINGEN

B.G:12 Wind van rechts onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:13 Wind van rechts overdruk A



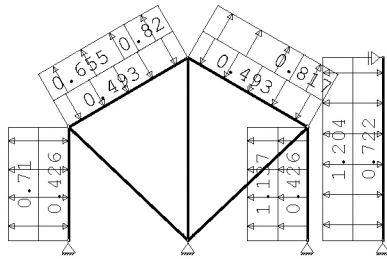
STAAFBELASTINGEN

B.G:13 Wind van rechts overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:14 Wind van rechts onderdruk B



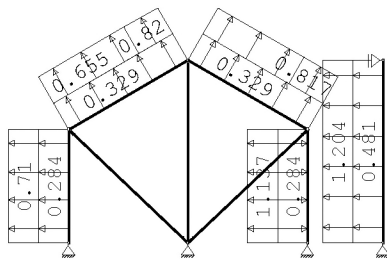
STAAFBELASTINGEN

B.G:14 Wind van rechts onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:15 Wind van rechts overdruk B



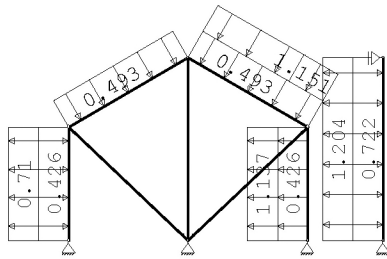
STAAFBELASTINGEN

B.G:15 Wind van rechts overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:16 Wind van rechts onderdruk C



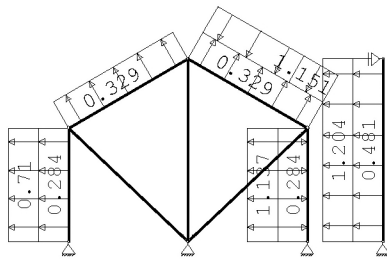
STAAFBELASTINGEN

B.G:16 Wind van rechts onderdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:17 Wind van rechts overdruk C



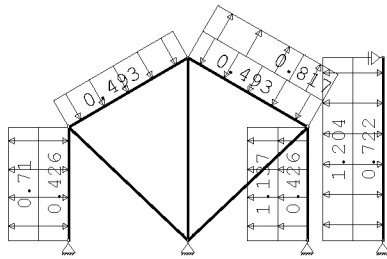
STAAFBELASTINGEN

B.G:17 Wind van rechts overdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:18 Wind van rechts onderdruk D



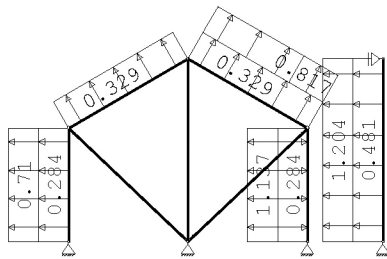
STAAFBELASTINGEN

B.G:18 Wind van rechts onderdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:19 Wind van rechts overdruk D



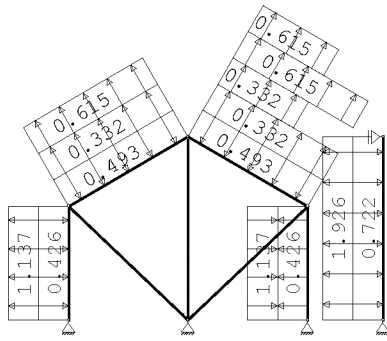
STAAFBELASTINGEN

B.G:19 Wind van rechts overdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:20 Wind loodrecht onderdruk A



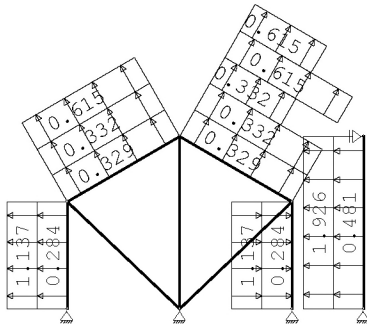
STAAFBELASTINGEN

B.G:20 Wind loodrecht onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw17 | 1.14 | 1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw17 | 1.14 | 1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw18 | 1.93 | 1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:21 Wind loodrecht overdruk A



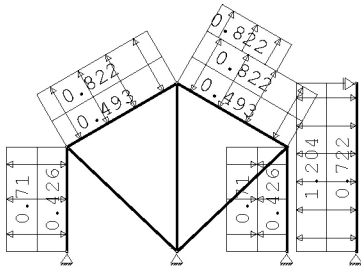
STAAFBELASTINGEN

B.G:21 Wind loodrecht overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw17 | 1.14 | 1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw17 | 1.14 | 1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw18 | 1.93 | 1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:22 Wind loodrecht onderdruk B



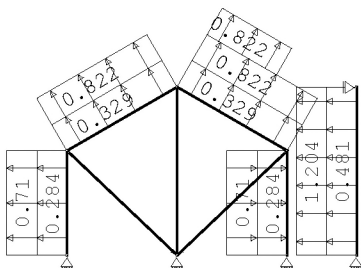
STAAFBELASTINGEN

B.G:22 Wind loodrecht onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw21 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw21 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw22 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:23 Wind loodrecht overdruk B



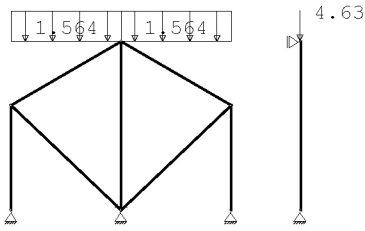
STAAFBELASTINGEN

B.G:23 Wind loodrecht overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw21 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw21 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw22 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:24 Sneeuw A



KNOOPBELASTINGEN

B.G:24 Sneeuw A

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 | Opm. |
|------|-------|----------|--------|----------|----------|----------|------|
| 1 | 8 | Z | -4.630 | 0.00 | 0.20 | 0.00 | * |

Opmerkingen

[*] Deze belasting is handmatig toegevoegd of gewijzigd.

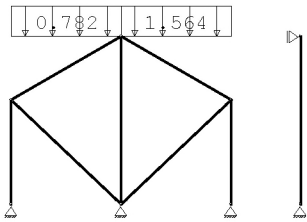
STAAFBELASTINGEN

B.G:24 Sneeuw A

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -1.56 | -1.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs1 | -1.56 | -1.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:25 Sneeuw B



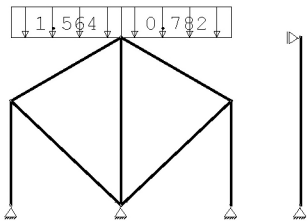
STAAFBELASTINGEN

B.G:25 Sneeuw B

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs2 | -0.78 | -0.78 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs1 | -1.56 | -1.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:26 Sneeuw C



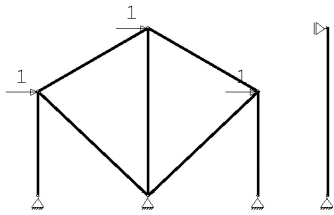
STAAFBELASTINGEN

B.G:26 Sneeuw C

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -1.56 | -1.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs2 | -0.78 | -0.78 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:27 Knik



KNOOPBELASTINGEN

B.G:27 Knik

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 2 | X | 1.000 | | | |
| 2 | 3 | X | 1.000 | | | |
| 3 | 4 | X | 1.000 | | | |

REACTIES

| Kn. | B.G. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|------|-------|-------|-------|-------|-------|-------|
| 1 | 1 | 0.84 | | 10.85 | | | |
| 1 | 2 | 0.00 | | 0.00 | | | |
| 1 | 3 | 0.00 | 0.22 | 0.33 | 1.33 | | |
| 1 | 4 | -2.11 | | 6.23 | | | |
| 1 | 5 | -1.27 | | 2.73 | | | |
| 1 | 6 | -2.52 | | 1.89 | | | |
| 1 | 7 | -1.68 | | -1.61 | | | |
| 1 | 8 | -2.10 | | 6.25 | | | |
| 1 | 9 | -1.26 | | 2.76 | | | |
| 1 | 10 | -2.51 | | 1.91 | | | |
| 1 | 11 | -1.67 | | -1.58 | | | |
| 1 | 12 | 0.44 | | 10.44 | | | |
| 1 | 13 | 1.28 | | 6.95 | | | |
| 1 | 14 | 0.42 | | 5.57 | | | |
| 1 | 15 | 1.25 | | 2.08 | | | |
| 1 | 16 | 0.68 | | 9.81 | | | |
| 1 | 17 | 1.51 | | 6.31 | | | |
| 1 | 18 | 0.65 | | 4.93 | | | |
| 1 | 19 | 1.49 | | 1.44 | | | |
| 1 | 20 | 0.96 | | -2.38 | | | |
| 1 | 21 | 1.80 | | -5.87 | | | |
| 1 | 22 | 0.32 | | -1.42 | | | |
| 1 | 23 | 1.16 | | -4.91 | | | |
| 1 | 24 | 0.43 | | 3.63 | | | |
| 1 | 25 | 0.22 | | 2.14 | | | |
| 1 | 26 | 0.43 | | 3.63 | | | |
| 1 | 27 | -0.03 | | 0.53 | | | |
| 5 | 1 | -0.84 | | 10.85 | | | |
| 5 | 2 | 0.00 | | 0.00 | | | |
| 5 | 3 | -0.22 | -0.00 | 0.33 | 1.33 | | |
| 5 | 4 | -0.44 | | 10.44 | | | |
| 5 | 5 | -1.28 | | 6.95 | | | |
| 5 | 6 | -0.42 | | 5.57 | | | |
| 5 | 7 | -1.25 | | 2.08 | | | |
| 5 | 8 | -0.68 | | 9.81 | | | |
| 5 | 9 | -1.51 | | 6.31 | | | |
| 5 | 10 | -0.65 | | 4.93 | | | |
| 5 | 11 | -1.49 | | 1.44 | | | |
| 5 | 12 | 2.11 | | 6.23 | | | |
| 5 | 13 | 1.27 | | 2.73 | | | |
| 5 | 14 | 2.52 | | 1.89 | | | |
| 5 | 15 | 1.68 | | -1.61 | | | |
| 5 | 16 | 2.10 | | 6.25 | | | |
| 5 | 17 | 1.26 | | 2.76 | | | |
| 5 | 18 | 2.51 | | 1.91 | | | |
| 5 | 19 | 1.67 | | -1.58 | | | |
| 5 | 20 | -0.76 | | -1.33 | | | |
| 5 | 21 | -1.59 | | -4.82 | | | |
| 5 | 22 | -0.15 | | -0.51 | | | |
| 5 | 23 | -0.98 | | -4.00 | | | |
| 5 | 24 | -0.43 | | 3.63 | | | |
| 5 | 25 | -0.43 | | 3.63 | | | |
| 5 | 26 | -0.22 | | 2.14 | | | |
| 5 | 27 | -0.02 | | 3.95 | | | |

| | | | | | |
|---|----|-------|------|--------|------|
| 6 | 1 | 0.00 | | 16.13 | |
| 6 | 2 | 0.00 | | 0.00 | |
| 6 | 3 | -0.21 | 0.21 | 0.34 | 1.34 |
| 6 | 4 | -7.40 | | -12.55 | |
| 6 | 5 | -7.40 | | -11.81 | |
| 6 | 6 | -4.23 | | -8.14 | |
| 6 | 7 | -4.24 | | -7.40 | |
| 6 | 8 | -5.63 | | -9.28 | |
| 6 | 9 | -5.64 | | -8.53 | |
| 6 | 10 | -2.46 | | -4.87 | |
| 6 | 11 | -2.47 | | -4.13 | |
| 6 | 12 | 7.40 | | -12.55 | |
| 6 | 13 | 7.40 | | -11.81 | |
| 6 | 14 | 4.23 | | -8.14 | |
| 6 | 15 | 4.24 | | -7.40 | |
| 6 | 16 | 5.63 | | -9.28 | |
| 6 | 17 | 5.64 | | -8.53 | |
| 6 | 18 | 2.46 | | -4.87 | |
| 6 | 19 | 2.47 | | -4.13 | |
| 6 | 20 | -1.52 | | -2.01 | |
| 6 | 21 | -1.52 | | -1.27 | |
| 6 | 22 | -1.31 | | -2.55 | |
| 6 | 23 | -1.32 | | -1.81 | |
| 6 | 24 | 0.00 | | 4.63 | |
| 6 | 25 | 0.21 | | 3.15 | |
| 6 | 26 | -0.21 | | 3.15 | |
| 6 | 27 | -2.95 | | -4.49 | |
| | | | | | |
| 7 | 1 | 0.00 | | 16.13 | |
| 7 | 2 | 0.00 | | 0.00 | |
| 7 | 3 | 0.00 | | 0.00 | |
| 7 | 4 | -7.68 | | 0.00 | |
| 7 | 5 | -4.19 | | 0.00 | |
| 7 | 6 | -7.68 | | 0.00 | |
| 7 | 7 | -4.19 | | 0.00 | |
| 7 | 8 | -7.68 | | 0.00 | |
| 7 | 9 | -4.19 | | 0.00 | |
| 7 | 10 | -7.68 | | 0.00 | |
| 7 | 11 | -4.19 | | 0.00 | |
| 7 | 12 | 1.40 | | 0.00 | |
| 7 | 13 | 4.89 | | 0.00 | |
| 7 | 14 | 1.40 | | 0.00 | |
| 7 | 15 | 4.89 | | 0.00 | |
| 7 | 16 | 1.40 | | 0.00 | |
| 7 | 17 | 4.89 | | 0.00 | |
| 7 | 18 | 1.40 | | 0.00 | |
| 7 | 19 | 4.89 | | 0.00 | |
| 7 | 20 | 3.49 | | 0.00 | |
| 7 | 21 | 6.98 | | 0.00 | |
| 7 | 22 | 1.40 | | 0.00 | |
| 7 | 23 | 4.89 | | 0.00 | |
| 7 | 24 | 0.00 | | 4.63 | |
| 7 | 25 | 0.00 | | 0.00 | |
| 7 | 26 | 0.00 | | 0.00 | |
| 7 | 27 | 0.00 | | 0.00 | |
| | | | | | |
| 8 | 1 | 0.00 | | | |
| 8 | 2 | 0.00 | | | |
| 8 | 3 | 0.00 | | | |
| 8 | 4 | -7.68 | | | |
| 8 | 5 | -4.19 | | | |
| 8 | 6 | -7.68 | | | |
| 8 | 7 | -4.19 | | | |
| 8 | 8 | -7.68 | | | |
| 8 | 9 | -4.19 | | | |
| 8 | 10 | -7.68 | | | |
| 8 | 11 | -4.19 | | | |
| 8 | 12 | 1.40 | | | |
| 8 | 13 | 4.89 | | | |
| 8 | 14 | 1.40 | | | |
| 8 | 15 | 4.89 | | | |
| 8 | 16 | 1.40 | | | |
| 8 | 17 | 4.89 | | | |
| 8 | 18 | 1.40 | | | |
| 8 | 19 | 4.89 | | | |
| 8 | 20 | 3.49 | | | |
| 8 | 21 | 6.98 | | | |
| 8 | 22 | 1.40 | | | |

| | | |
|---|----|------|
| 8 | 23 | 4.89 |
| 8 | 24 | 0.00 |
| 8 | 25 | 0.00 |
| 8 | 26 | 0.00 |
| 8 | 27 | 0.00 |

BELASTINGCOMBINATIES

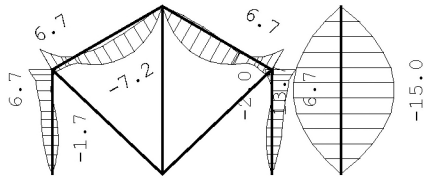
| BC | Type | | | | |
|----|-------|------|-----------|--------|------------|
| 1 | Fund. | 1.22 | $G_{k,1}$ | | |
| 2 | Fund. | 0.90 | $G_{k,1}$ | | |
| 3 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,3}$ |
| 4 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,4}$ |
| 5 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,5}$ |
| 6 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,6}$ |
| 7 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,7}$ |
| 8 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,8}$ |
| 9 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,9}$ |
| 10 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,10}$ |
| 11 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,11}$ |
| 12 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,12}$ |
| 13 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,13}$ |
| 14 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,14}$ |
| 15 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,15}$ |
| 16 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,16}$ |
| 17 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,17}$ |
| 18 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,18}$ |
| 19 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,19}$ |
| 20 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,20}$ |
| 21 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,21}$ |
| 22 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,22}$ |
| 23 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,23}$ |
| 24 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,24}$ |
| 25 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,25}$ |
| 26 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,26}$ |
| 27 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,3}$ |
| 28 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,4}$ |
| 29 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,5}$ |
| 30 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,6}$ |
| 31 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,7}$ |
| 32 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,8}$ |
| 33 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,9}$ |
| 34 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,10}$ |
| 35 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,11}$ |
| 36 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,12}$ |
| 37 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,13}$ |
| 38 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,14}$ |
| 39 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,15}$ |
| 40 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,16}$ |
| 41 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,17}$ |
| 42 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,18}$ |
| 43 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,19}$ |
| 44 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,20}$ |
| 45 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,21}$ |
| 46 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,22}$ |
| 47 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,23}$ |
| 48 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,24}$ |
| 49 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,25}$ |
| 50 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,26}$ |
| 51 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,3}$ |
| 52 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,4}$ |
| 53 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,5}$ |
| 54 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,6}$ |
| 55 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,7}$ |
| 56 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,8}$ |
| 57 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,9}$ |
| 58 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,10}$ |
| 59 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,11}$ |

| | | | | | |
|-----------|------|----------|---|------|------------------|
| 60 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 12$ |
| 61 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 13$ |
| 62 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 14$ |
| 63 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 15$ |
| 64 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 16$ |
| 65 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 17$ |
| 66 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 18$ |
| 67 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 19$ |
| 68 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 20$ |
| 69 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 21$ |
| 70 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 22$ |
| 71 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 23$ |
| 72 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 24$ |
| 73 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 25$ |
| 74 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 26$ |
| 75 Quas. | 1.00 | $G_k, 1$ | | | |
| 76 Freq. | 1.00 | $G_k, 1$ | | | |
| 77 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 4$ |
| 78 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 5$ |
| 79 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 6$ |
| 80 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 7$ |
| 81 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 8$ |
| 82 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 9$ |
| 83 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 10$ |
| 84 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 11$ |
| 85 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 12$ |
| 86 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 13$ |
| 87 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 14$ |
| 88 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 15$ |
| 89 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 16$ |
| 90 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 17$ |
| 91 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 18$ |
| 92 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 19$ |
| 93 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 20$ |
| 94 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 21$ |
| 95 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 22$ |
| 96 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 23$ |
| 97 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 24$ |
| 98 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 25$ |
| 99 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 26$ |
| 100 Blij. | 1.00 | $G_k, 1$ | | | |

OMHULLENDE VAN DE FUNDAMENTELE COMBINATIES

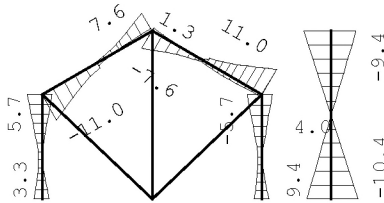
MOMENTEN

Fundamentele combinatie



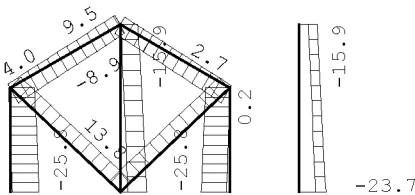
DWARSKRACHTEN

Fundamentele combinatie



NORMAALKRACHTEN

Fundamentele combinatie



STAAFKRACHTEN

Fundamentele combinatie

| St. | Kn. | Pos. | NXi/NXj | | DZi/DZj | | | | MYi/MYj | | | | | |
|-----|-----|-------|---------|----|---------|----|--------|----|---------|----|-------|----|-------|----|
| | | | Min | BC | Max | BC | Min | BC | Max | BC | Min | BC | Max | BC |
| 1 | 1 | | -25.81 | 12 | -1.83 | 45 | -2.66 | 30 | 3.33 | 21 | 0.00 | 30 | 0.00 | 21 |
| 1 | 1 | 1.088 | -24.57 | 12 | -0.80 | 45 | -0.36 | 30 | 1.49 | 17 | -1.64 | 30 | 2.49 | 21 |
| 1 | 1 | 1.258 | -24.38 | 12 | -0.64 | 45 | -0.07 | 31 | 1.49 | 24 | -1.67 | 30 | 2.68 | 21 |
| 1 | 1 | 1.533 | -24.06 | 12 | -0.38 | 45 | 0.24 | 31 | 1.49 | 24 | -1.59 | 30 | 2.94 | 17 |
| 1 | 1 | 1.618 | -23.96 | 12 | -0.30 | 45 | 0.08 | 45 | 1.49 | 24 | -1.53 | 30 | 3.02 | 17 |
| 1 | 1 | 2.642 | -22.80 | 12 | 0.68 | 45 | -1.88 | 45 | 3.65 | 8 | -0.00 | 31 | 3.93 | 24 |
| 1 | 1 | 3.065 | -22.31 | 12 | 1.08 | 45 | -2.70 | 45 | 4.54 | 8 | 0.75 | 31 | 4.56 | 24 |
| 1 | 1 | 3.319 | -22.02 | 12 | 1.32 | 45 | -3.18 | 45 | 5.08 | 8 | 0.00 | 45 | 5.23 | 8 |
| 1 | 2 | | -21.70 | 12 | 1.59 | 45 | -3.72 | 45 | 5.67 | 8 | -0.97 | 45 | 6.74 | 8 |
| 2 | 2 | | -14.88 | 12 | 4.02 | 45 | -11.05 | 8 | -0.49 | 45 | -0.97 | 45 | 6.74 | 8 |
| 2 | 2 | 1.000 | -13.46 | 12 | 5.20 | 45 | -6.37 | 8 | -0.17 | 45 | -2.72 | 26 | -0.00 | 35 |
| 2 | 2 | 1.929 | -12.14 | 12 | 6.30 | 45 | -2.81 | 3 | 0.13 | 45 | -6.59 | 26 | -1.31 | 35 |
| 2 | 2 | 2.497 | -11.33 | 12 | 6.97 | 45 | -0.39 | 10 | 0.93 | 27 | -7.24 | 26 | -1.18 | 45 |
| 2 | 3 | | -8.91 | 36 | 9.49 | 21 | 0.93 | 45 | 7.65 | 26 | -0.00 | 26 | 0.00 | 45 |
| 3 | 3 | | -8.91 | 28 | 8.22 | 21 | -7.65 | 25 | 1.27 | 45 | 0.00 | 25 | 0.00 | 45 |
| 3 | 3 | 1.326 | -10.53 | 4 | 6.38 | 45 | -2.32 | 3 | 0.00 | 45 | -6.59 | 25 | 0.84 | 45 |
| 3 | 3 | 1.526 | -10.81 | 4 | 6.14 | 45 | -1.83 | 3 | -0.19 | 47 | -6.97 | 25 | 0.82 | 45 |
| 3 | 3 | 1.894 | -11.33 | 4 | 5.70 | 45 | -0.93 | 3 | 0.39 | 42 | -7.24 | 25 | 0.68 | 45 |
| 3 | 3 | 2.023 | -11.52 | 4 | 5.55 | 45 | -0.67 | 27 | 0.73 | 18 | -7.21 | 25 | 0.61 | 45 |
| 3 | 3 | 2.652 | -12.41 | 4 | 4.80 | 45 | -1.27 | 45 | 3.27 | 3 | -6.08 | 25 | 0.00 | 45 |
| 3 | 3 | 2.773 | -12.58 | 4 | 4.66 | 45 | -1.38 | 45 | 3.74 | 16 | -5.68 | 25 | -0.16 | 45 |
| 3 | 3 | 3.072 | -13.01 | 4 | 4.31 | 45 | -1.28 | 45 | 4.93 | 16 | -4.44 | 25 | -0.55 | 47 |
| 3 | 3 | 3.390 | -13.46 | 4 | 3.93 | 45 | -1.18 | 45 | 6.37 | 16 | -2.72 | 25 | -0.00 | 43 |
| 3 | 3 | 3.617 | -13.78 | 4 | 3.66 | 45 | -1.11 | 45 | 7.43 | 16 | -1.33 | 11 | 0.63 | 42 |
| 3 | 4 | | -14.88 | 4 | 2.75 | 45 | -0.86 | 45 | 11.05 | 16 | -1.97 | 45 | 6.74 | 16 |

| | | | | | | | | | | | | | |
|---|-------|--------|----|--------|----|--------|----|-------|----|--------|----|-------|----|
| 4 | 4 | -21.70 | 4 | 0.17 | 45 | -5.67 | 16 | 4.00 | 45 | -1.97 | 45 | 6.74 | 16 |
| 4 | 0.570 | -22.35 | 4 | -0.37 | 45 | -4.47 | 16 | 2.91 | 45 | 0.00 | 45 | 4.51 | 24 |
| 4 | 0.716 | -22.52 | 4 | -0.51 | 45 | -4.16 | 16 | 2.63 | 45 | 0.40 | 45 | 4.30 | 24 |
| 4 | 0.958 | -22.80 | 4 | -0.74 | 45 | -3.65 | 16 | 2.16 | 45 | -0.00 | 39 | 3.93 | 24 |
| 4 | 1.982 | -23.96 | 4 | -1.71 | 45 | -1.49 | 16 | 0.20 | 45 | -1.53 | 38 | 3.02 | 9 |
| 4 | 2.158 | -24.17 | 4 | -1.88 | 45 | -1.49 | 24 | -0.14 | 45 | -1.63 | 38 | 2.86 | 9 |
| 4 | 2.342 | -24.38 | 4 | -2.06 | 45 | -1.49 | 24 | 0.07 | 39 | -1.67 | 38 | 2.65 | 9 |
| 4 | 2.512 | -24.57 | 4 | -2.22 | 45 | -1.49 | 24 | 0.36 | 38 | -1.64 | 38 | 2.41 | 9 |
| 4 | 5 | -25.81 | 4 | -3.25 | 45 | -3.06 | 21 | 2.66 | 38 | 0.00 | 38 | 0.00 | 21 |
| 5 | 6 | -23.67 | 24 | -7.03 | 36 | 0.00 | 6 | 0.00 | 4 | 0.00 | 5 | 0.00 | 6 |
| 5 | 3 | -15.94 | 24 | -0.59 | 36 | 0.00 | 6 | 0.00 | 4 | 0.00 | 5 | 0.00 | 6 |
| 6 | 2 | 0.00 | 1 | 13.76 | 37 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 |
| 6 | 6 | 0.00 | 1 | 13.76 | 37 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 |
| 7 | 6 | 0.00 | 1 | 13.76 | 29 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 |
| 7 | 4 | 0.00 | 1 | 13.76 | 29 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 |
| 8 | 7 | -23.67 | 24 | -14.52 | 2 | -10.37 | 4 | 9.42 | 21 | 0.00 | 4 | 0.00 | 21 |
| 8 | 2.900 | -19.80 | 24 | -11.30 | 2 | 0.00 | 4 | 0.00 | 21 | -15.03 | 4 | 13.67 | 21 |
| 8 | 8 | -15.94 | 24 | -8.07 | 2 | -9.42 | 21 | 10.37 | 4 | 0.00 | 4 | 0.00 | 21 |

REACTIES

Fundamentele combinatie

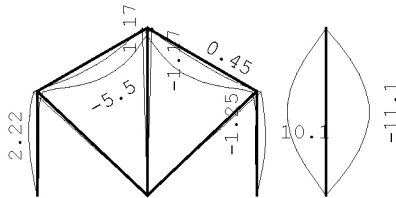
| Kn. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|--------|-------|-------|-------|-------|-------|
| 1 | -2.66 | 3.33 | 1.83 | 25.81 | | |
| 5 | -3.06 | 2.66 | 3.25 | 25.81 | | |
| 6 | -9.99 | 9.99 | -2.42 | 23.67 | | |
| 7 | -10.37 | 9.42 | 14.52 | 23.67 | | |
| 8 | -10.37 | 9.42 | | | | |

OMHULLENDE VAN DE KARAKTERISTIEKE COMBINATIES

VERPLAATSINGEN

[mm]

Karakteristieke combinatie

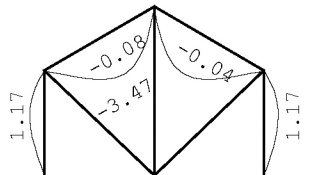


OMHULLENDE VAN DE BLIJVENDE COMBINATIES

VERPLAATSINGEN

[mm]

Blijvende combinatie



STAALPROFIELEN - ALGEMENE GEGEVENS

| | | |
|------------------------------|--|-------------|
| Stabiliteit: | Classificatie gehele constructie: | Ongeschoord |
| | Belastinggeval m.b.t. bepaling kniklengte: | 27=Knik |
| | Aanpassing inkl. parameter C : | Steunpunten |
| Tweede-orde-effect: | | |
| | Aan te houden verhouding n/(n-1) | |
| | voor steunmomenten en verplaatsingen: | 1.00 |
| Doorbuiging en verplaatsing: | | |
| | Aantal bouwlagen: | 1 |
| | Gebouwtype: | Overig |
| | Toel. horiz. verplaatsing gehele gebouw: | h/150 |
| | Kleinste gevelhoogte [m]: | 0.0 |

PROFIEL/MATERIAAL

| P/M nr. | Profielnaam | Vloeisp. [N/mm ²] | Productie methode | Min. drsn. klasse |
|---------|-------------|-------------------------------|-------------------|-------------------|
| 1 | HEA140 | 235 | Gewalst | 1 |
| 2 | HEA160(90) | 235 | Gewalst | 1 |
| 3 | HEA160 | 235 | Gewalst | 1 |
| 4 | STRIP6*60 | 235 | Gewalst | 1 |

Partiële veiligheidsfactoren:

Gamma M;0 : 1.00 Gamma M;1 : 1.00

KNIKSTABILITEIT

| Staaflnr. | l _{sys} [m] | Classif. y sterke as | l _{knik,y} [m] | Extra | | Extra | |
|-----------|----------------------|----------------------|-------------------------|--------------|----------------------|-------------------------|--------------|
| | | | | aanp. y [kN] | Classif. z zwakke as | l _{knik,z} [m] | aanp. z [kN] |
| 1 | 3.600 | Ongeschoord | 8.866 | 0.0 | Geschoord | 3.600 | 0.0 |
| 2 | 4.391 | Ongeschoord | 11.333 | 0.0 | Geschoord | 4.391 | 0.0 |
| 3 | 4.391 | Ongeschoord | 11.991 | 0.0 | Geschoord | 4.391 | 0.0 |
| 4 | 3.600 | Ongeschoord | 9.379 | 0.0 | Geschoord | 3.600 | 0.0 |
| 5 | 5.800 | Geschoord | 5.800 | 0.0 | Geschoord | 5.800 | 0.0 |
| 6 | 5.235 | Geschoord | 5.235 | 0.0 | Geschoord | 5.235 | 0.0 |
| 7 | 5.235 | Geschoord | 5.235 | 0.0 | Geschoord | 5.235 | 0.0 |
| 8 | 5.800 | Geschoord | 5.800 | 0.0 | Geschoord | 5.800 | 0.0 |

KIPSTABILITEIT

| Staaflnr. | Plts. aangr. | l gaffel [m] | Kipsteunafstanden [m] |
|-----------|--------------|--------------|-----------------------|
| 1 | 1.0*h | boven: | 3.60 3,6 |
| | | onder: | 3.60 3,6 |
| 2 | 1.0*h | boven: | 4.39 4,391 |
| | | onder: | 4.39 4,391 |
| 3 | 1.0*h | boven: | 4.39 4,391 |
| | | onder: | 4.39 4,391 |
| 4 | 1.0*h | boven: | 3.60 3,6 |
| | | onder: | 3.60 3,6 |
| 5 | 1.0*h | boven: | 5.80 5,8 |
| | | onder: | 5.80 5,8 |
| 6 | 1.0*h | boven: | 5.23 5,235 |
| | | onder: | 5.23 5,235 |
| 7 | 1.0*h | boven: | 5.23 5,235 |
| | | onder: | 5.23 5,235 |
| 8 | 1.0*h | boven: | 5.80 5,8 |
| | | onder: | 5.80 5,8 |

TOETSING SPANNINGEN

| Staaflnr. | P/M | BC | Sit | Kl | Plaats | Norm | Artikel | Formule | Hoogste toetsing U.C. [N/mm ²] | Opm. |
|-----------|-----|----|-----|----|--------|---------|---------|---------|--|-------|
| 1 | 1 | 8 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.253 59 | 47 |
| 2 | 1 | 4 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.254 60 | 46,47 |
| 3 | 1 | 12 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.265 62 | 46,47 |
| 4 | 1 | 16 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.263 62 | 47 |
| 5 | 2 | 24 | 1 | 1 | Staafl | EN3-1-1 | 6.3.1.1 | (6.46z) | 0.087 20 | 47 |
| 6 | 4 | 37 | 1 | 1 | Begin | EN3-1-1 | 6.2.3 | (6.5) | 0.163 38 | |
| 7 | 4 | 29 | 1 | 1 | Begin | EN3-1-1 | 6.2.3 | (6.5) | 0.163 38 | |
| 8 | 3 | 4 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.412 97 | 47 |

Opmerkingen:

[46] T.b.v. kip is een equivalente Q-last berekend.

[47] Bij verlopende normaalkracht wordt de grootste drukkracht genomen.

TOETSING DOORBUIGING

| Staaft | Soort | Mtg | Lengte [m] | Overst I J | Zeeg [mm] | u_{tot} [mm] | BC | Sit | u [mm] | Toelaatbaar [mm] | *1 |
|--------|-------|-----|---------------|---------------|--------------|-------------------|----|--------|-----------|---------------------|-------|
| 2 | Dak | db | 4.39 | N N | 0.0 | -5.2 | 74 | 1 Eind | -5.2 | -17.6 | 0.004 |
| | | 74 | | | | | | 1 Bijk | -1.8 | -17.6 | 0.004 |
| 3 | Dak | db | 4.39 | N N | 0.0 | -5.2 | 73 | 1 Eind | -5.2 | -17.6 | 0.004 |
| | | 73 | | | | | | 1 Bijk | -1.8 | -17.6 | 0.004 |
| 8 | Dak | db | 5.80 | N N | 0.0 | -11.1 | 52 | 1 Eind | -11.1 | -23.2 | 0.004 |
| | | 52 | | | | | | 1 Bijk | -11.1 | -23.2 | 0.004 |

TOETSING HOR. VERPLAATSING GLOBAAL

Er is een maximale horizontale verplaatsing van 0.0012 [m] gevonden bij knoop 2 en combinatie 52; belastingsituatie 1 (combinatietype 2).
Bij een hoogte van 3.600 [m] levert dit $h/2881$ (toel.: $h/150$).

DOORBUIGINGEN

Karakteristieke combinatie

| Nr. | staven | Zijde | positie [m] | l_{rep} [mm] | w_1 [mm] | w_2 [mm] | -- w_{bij} -- [mm] [lrep/] | w_{tot} [mm] | w_c [mm] | -- w_{max} -- [mm] [lrep/] |
|-----|--------|-------|----------------|-------------------|---------------|---------------|---------------------------------|-------------------|---------------|---------------------------------|
| 2 | 2 | Neg. | 2.439 | 4391 | -3.4 | -1.8 | 2489 | -5.2 | -5.2 | 850 |
| 2 | 2 | Pos. | 2.439 | 4391 | -3.4 | 1.4 | 3137 | -2.0 | -2.0 | 2194 |
| 3 | 3 | Neg. | 1.952 | 4391 | -3.4 | -1.8 | 2489 | -5.2 | -5.2 | 850 |
| 3 | 3 | Pos. | 1.952 | 4391 | -3.4 | 2.5 | 1785 | -0.9 | -0.9 | 4666 |

Velden met een w_{bij} en $w_{max} < l_{rep}/9999$ zijn niet afgedrukt

Technosoft Raamwerken release 6.77

26 mei 2023

Project.....: 2022204
 Dimensies....: kN;m;rad (tenzij anders aangegeven)
 Datum.....: 16/09/2022
 Bestand.....: K:\Werk\2022204\Berekeningen\Technosoft\spant s0-02
 minimaal.rww

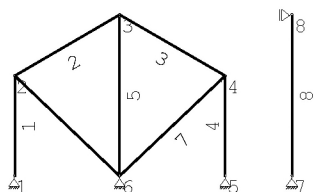
Belastingbreedte.: 2.420
 Rekenmodel.....: 1e-orde-elastisch.
 Theorie voor de bepaling van de krachtsverdeling:
 Geometrisch lineair.
 Fysisch lineair.

Gunstige werking van de permanente belasting wordt automatisch verwerkt.

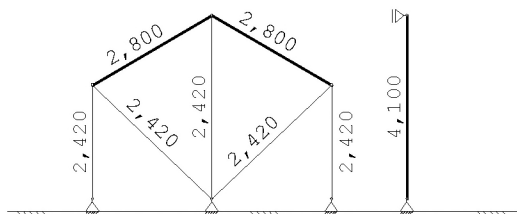
Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|-------------|----------------------|-----------------|-------------|
| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-3:2003 | C1:2009 | NB:2011(nl) |
| | NEN-EN 1991-1-4:2005 | C2:2011 | NB:2011(nl) |
| Staal | NEN-EN 1993-1-1:2006 | C2:2011,A1:2016 | NB:2016(nl) |

GEOMETRIE



BELASTINGBREEDTEN



MATERIALEN

| Mt | Kwaliteit | E-modulus [N/mm ²] | S.G. | Pois. | Uitz. coëff |
|----|-----------|--------------------------------|------|-------|-------------|
| 1 | S235 | 210000 | 78.5 | 0.30 | 1.2000e-05 |
| 2 | S235 | 210000 | 0.0 | 0.30 | 1.2000e-05 |

PROFIELEN [mm]

| Prof. | Omschrijving | Materiaal | Oppervlak | Traagheid | Vormf. |
|-------|--------------|-----------|------------|------------|--------|
| 1 | HEA140 | 1:S235 | 3.1420e+03 | 1.0330e+07 | 0.00 |
| 2 | HEA160(90) | 1:S235 | 3.8800e+03 | 6.1600e+06 | 0.00 |
| 3 | HEA160 | 1:S235 | 3.8800e+03 | 1.6730e+07 | 0.00 |
| 4 | STRIP6*60 | 2:S235 | 3.6000e+02 | 1.0800e+05 | 0.00 |

PROFIELEN vervolg [mm]

| Prof. | Staaftype | Breedte | Hoogte | e | Type | b1 | h1 | b2 | h2 |
|-------|-----------|---------|--------|------|------|----|----|----|----|
| 1 | 0:Normaal | 140 | 133 | 66.5 | | | | | |
| 2 | 0:Normaal | 160 | 152 | 80.0 | | | | | |
| 3 | 0:Normaal | 160 | 152 | 76.0 | | | | | |
| 4 | 1:Trek | 6 | 60 | 30.0 | | | | | |

PROFIELVORMEN [mm]

1 HEA140



2 HEA160(90)



3 HEA160



4 STRIP6*60



KNOPEN

| Knoop | X | Z | Knoop | X | Z |
|-------|-------|-------|-------|--------|-------|
| 1 | 0.000 | 0.400 | 6 | 3.800 | 0.400 |
| 2 | 0.000 | 4.000 | 7 | 10.000 | 0.400 |
| 3 | 3.800 | 6.200 | 8 | 10.000 | 6.200 |
| 4 | 7.600 | 4.000 | | | |
| 5 | 7.600 | 0.400 | | | |

STAVEN

| St. | ki | kj | Profiel | Aansl.i | Aansl.j | Lengte | Opm. |
|-----|----|----|--------------|---------|---------|--------|------|
| 1 | 1 | 2 | 1:HEA140 | NDM | NDM | 3.600 | |
| 2 | 2 | 3 | 1:HEA140 | NDM | ND | 4.391 | |
| 3 | 3 | 4 | 1:HEA140 | NDM | NDM | 4.391 | |
| 4 | 4 | 5 | 1:HEA140 | NDM | NDM | 3.600 | |
| 5 | 6 | 3 | 2:HEA160(90) | NDM | ND | 5.800 | |
| 6 | 2 | 6 | 4:STRIP6*60 | ND | ND | 5.235 | |
| 7 | 6 | 4 | 4:STRIP6*60 | ND | ND | 5.235 | |
| 8 | 7 | 8 | 3:HEA160 | NDM | NDM | 5.800 | |

VASTE STEUNPUNTEN

| Nr. | knoop | Kode | XZR | l=vast | 0=vrij | Hoek |
|-----|-------|------|-----|--------|--------|------|
| 1 | 1 | 110 | | | | 0.00 |
| 2 | 5 | 110 | | | | 0.00 |
| 3 | 6 | 110 | | | | 0.00 |
| 4 | 7 | 110 | | | | 0.00 |
| 5 | 8 | 100 | | | | 0.00 |

BELASTINGBREEDTEN

| StAAF | Breedte-i | Breedte-j | StAAF | Breedte-i | Breedte-j |
|-------|-----------|-----------|-------|-----------|-----------|
| 1 | 2.420 | 2.420 | 6 | 2.420 | 2.420 |
| 2 | 2.800 | 2.800 | 7 | 2.420 | 2.420 |
| 3 | 2.800 | 2.800 | 8 | 4.100 | 4.100 |
| 4 | 2.420 | 2.420 | | | |
| 5 | 2.420 | 2.420 | | | |

BELASTINGGENERATIE ALGEMEEN.

| | | | |
|-----------------------------|-------|-------------------------|------|
| Betrouwbaarheidsklasse..... | 1 | Referentieperiode..... | 50 |
| Gebouwdiepte..... | 31.30 | Gebouwhoogte..... | 6.20 |
| Niveau aansl.terrein..... | 0.00 | E.g. scheid.w. [kN/m2]: | 1.20 |

WIND

| | |
|---------------------------------|--|
| Terrein categorie ...[4.3.2]... | Onbebouwd |
| Windgebied | 3 Vb,0 ..[4.2].....: 24.500 |
| Positie spant in het gebouw.... | 4.400 Kr[4.3.2].....: 0.209 |
| z0 | [4.3.2]...: 0.200 Zmin ..[4.3.2].....: 4.000 |
| Co wind van links ..[4.3.3]... | 1.000 Co wind van rechts.....: 1.000 |
| Co wind loodrecht ..[4.3.3]... | 1.000 |
| Cpi wind van links ..[7.2.9]... | 0.200 -0.300 |
| Cpi windloodrecht ...[7.2.9]... | 0.200 -0.300 |
| Cpi wind van rechts .[7.2.9]... | 0.200 -0.300 |
| Cfr windwrijving[7.5]..... | 0.040 |

SNEEUW

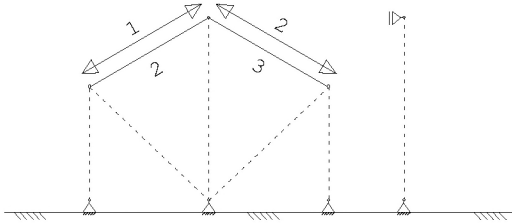
Sneeuwbelasting (sk) 50 jaar : 0.70
Sneeuwbelasting (sn) n jaar : 0.70

STAAFTYPEN

| Type | staven |
|------------------|--------|
| 5:Linker gevel. | : 1,8 |
| 6:Rechter gevel. | : 4 |
| 7:Dak. | : 2,3 |
| 9:Open. | : 5-7 |

LASTVELDEN

Veranderlijke belastingen door personen

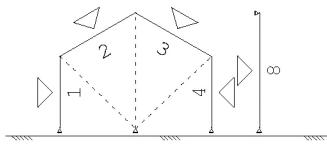


LASTVELDEN

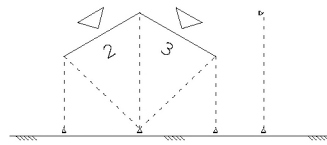
| Nr | Staaftabel | Klasse-Gebruiksfunctie | Verd. | q _k | Q _k | F _t /F _{t0} |
|----|------------|--------------------------|-------|----------------|----------------|---------------------------------|
| 1 | 2-2 6.10 | H-Dak (onder dakbeschet) | 1 | 0.00 | -2.00 | 1.00 |
| 2 | 3-3 6.10 | H-Dak (onder dakbeschet) | 2 | 0.00 | -2.00 | 1.00 |

LASTVELDEN

Wind staven



Sneeuw staven

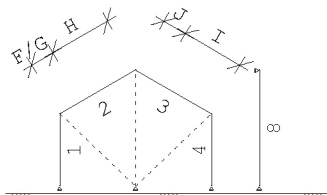


WIND DAKTYPES

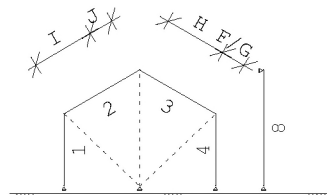
| Nr. | Staaftype | reductie bij wind van links | reductie bij wind van rechts | C _{pe} volgens art: |
|-----|------------|-----------------------------|------------------------------|------------------------------|
| 1 | 1 Gevel | 1.000 | 1.000 | 7.2.2 |
| 2 | 2 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 3 | 3 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 4 | 4 Gevel | 1.000 | 1.000 | 7.2.2 |
| 5 | 8 Gevel | 1.000 | 1.000 | 7.2.2 |

WIND ZONES

Wind van links



Wind van rechts



WIND VAN LINKS ZONES

| Nr. | Staaftype | Positie | Lengte | Zone |
|-----|-----------|---------|--------|------|
| 1 | 1 | 0.000 | 3.600 | D |
| 2 | 2 | 0.000 | 1.240 | F/G |
| 3 | 2 | 1.240 | 3.151 | H |
| 4 | 3 | 0.000 | 1.240 | J |
| 5 | 3 | 1.240 | 3.151 | I |
| 6 | 4 | 0.000 | 3.600 | E |
| 7 | 8 | 0.000 | 5.800 | D |

WIND VAN RECHTS ZONES

| Nr. | Staaftype | Positie | Lengte | Zone |
|-----|-----------|---------|--------|------|
| 1 | 8 | 0.000 | 5.800 | E |
| 2 | 4 | 0.000 | 3.600 | D |
| 3 | 3 | 0.000 | 1.240 | F/G |
| 4 | 3 | 1.240 | 3.151 | H |
| 5 | 2 | 0.000 | 1.240 | J |
| 6 | 2 | 1.240 | 3.151 | I |
| 7 | 1 | 0.000 | 3.600 | E |

Wind indexen

| Index | CsCd | Cpe/Cpi | qp | breedte | reductie | Qw | Zone | Hoek(en) |
|-------|------|---------|-------|---------|----------|--------|------|----------|
| Qw1 | | 0.300 | 0.587 | 2.420 | | -0.426 | -i | |
| Qw2 | | 0.300 | 0.587 | 2.800 | | -0.493 | -i | |
| Qw3 | | 0.300 | 0.587 | 4.100 | | -0.722 | -i | |
| Qw4 | 1.00 | 0.800 | 0.587 | 2.420 | | -1.137 | D | |
| Qw5 | 1.00 | 0.700 | 0.587 | 2.800 | | -1.151 | G | 30.1 |
| Qw6 | 1.00 | 0.401 | 0.587 | 2.800 | | -0.660 | H | 30.1 |
| Qw7 | 1.00 | -0.499 | 0.587 | 2.800 | | 0.820 | J | 30.1 |
| Qw8 | 1.00 | -0.399 | 0.587 | 2.800 | | 0.655 | I | 30.1 |
| Qw9 | 1.00 | -0.500 | 0.587 | 2.420 | | 0.710 | E | |
| Qw10 | 1.00 | 0.800 | 0.587 | 4.100 | | -1.926 | D | |
| Qw11 | | -0.200 | 0.587 | 2.420 | | 0.284 | +i | |
| Qw12 | | -0.200 | 0.587 | 2.800 | | 0.329 | +i | |
| Qw13 | | -0.200 | 0.587 | 4.100 | | 0.481 | +i | |
| Qw14 | 1.00 | -0.497 | 0.587 | 2.800 | | 0.817 | G | 30.1 |
| Qw15 | 1.00 | -0.199 | 0.587 | 2.800 | | 0.327 | H | 30.1 |
| Qw16 | 1.00 | -0.500 | 0.587 | 4.100 | | 1.204 | E | |
| Qw17 | 1.00 | -0.800 | 0.587 | 2.420 | | 1.137 | B | |
| Qw18 | 1.00 | -0.800 | 0.587 | 4.100 | | 1.926 | B | |
| Qw19 | 1.00 | -0.801 | 0.587 | 0.706 | | 0.332 | H | 30.1 |
| Qw20 | 1.00 | -0.500 | 0.587 | 2.094 | | 0.615 | I | 30.1 |
| Qw21 | 1.00 | -0.500 | 0.587 | 2.420 | | 0.710 | C | |
| Qw22 | 1.00 | -0.500 | 0.587 | 4.100 | | 1.204 | C | |
| Qw23 | 1.00 | -0.500 | 0.587 | 2.800 | | 0.822 | I | 30.1 |

SNEEUW DAKTYPEN

| Staafl | artikel |
|--------|----------------|
| 2-2 | 5.3.3 Zadeldak |
| 3-3 | 5.3.3 Zadeldak |

Sneeuw indexen

| Index | art | μ | s_k | red. posfac | breedte | Q_s | hoek |
|-------|-------|-------|-------|-------------|---------|-------|------|
| Qs1 | 5.3.3 | 0.798 | 0.70 | 1.00 | 2.800 | 1.564 | 30.1 |
| Qs2 | 5.3.3 | 0.399 | 0.70 | 1.00 | 2.800 | 0.782 | 30.1 |

BELASTINGGEVALLEN

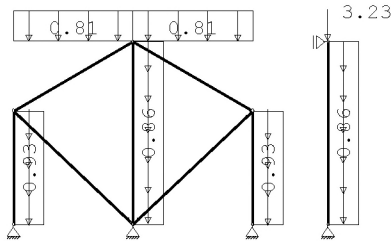
| B.G. | Omschrijving | Type |
|------|----------------------------------|------------|
| | 1 Permanente belasting EGZ=-1.00 | 1 |
| g | 2 Ver. bel. pers. ed. (q_k) | 2 |
| g | 3 Ver. bel. pers. ed. (Q_k) | 3 |
| g | 4 Wind van links onderdruk A | 7 |
| g | 5 Wind van links overdruk A | 8 |
| g | 6 Wind van links onderdruk B | 9 |
| g | 7 Wind van links overdruk B | 10 |
| g | 8 Wind van links onderdruk C | 37 |
| g | 9 Wind van links overdruk C | 38 |
| g | 10 Wind van links onderdruk D | 39 |
| g | 11 Wind van links overdruk D | 40 |
| g | 12 Wind van rechts onderdruk A | 11 |
| g | 13 Wind van rechts overdruk A | 12 |
| g | 14 Wind van rechts onderdruk B | 13 |
| g | 15 Wind van rechts overdruk B | 14 |
| g | 16 Wind van rechts onderdruk C | 41 |
| g | 17 Wind van rechts overdruk C | 42 |
| g | 18 Wind van rechts onderdruk D | 43 |
| g | 19 Wind van rechts overdruk D | 44 |
| g | 20 Wind loodrecht onderdruk A | 15 |
| g | 21 Wind loodrecht overdruk A | 16 |
| g | 22 Wind loodrecht onderdruk B | 45 |
| g | 23 Wind loodrecht overdruk B | 46 |
| g* | 24 Sneeuw A | 22 |
| g | 25 Sneeuw B | 23 |
| g | 26 Sneeuw C | 33 |
| | 27 Knik | 0 Onbekend |

g = gegeneerd belastinggeval
* = belastinggeval bevat 1 of meer handmatig toegevoegde en/of gewijzigde lasten

BELASTINGEN

B.G:1 Permanente belasting

Eigen gewicht van alle staven is meegenomen in berekening. Richting:↓



KNOOPBELASTINGEN

B.G:1 Permanente belasting

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 8 | Z | -3.230 | | | |

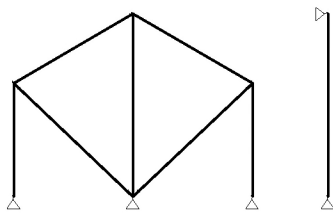
STAAFBELASTINGEN

B.G:1 Permanente belasting

| Staaft | Type | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|--------|-------------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | -0.81 | -0.81 | 0.000 | 0.000 | | | |
| 3 | 3:QZgeProj. | -0.81 | -0.81 | 0.000 | 0.000 | | | |
| 1 | 2:QXLokaal | -0.93 | -0.93 | 0.000 | 0.000 | | | |
| 4 | 2:QXLokaal | 0.93 | 0.93 | 0.000 | 0.000 | | | |
| 5 | 2:QXLokaal | -0.86 | -0.86 | 0.000 | 0.000 | | | |
| 8 | 2:QXLokaal | -0.86 | -0.86 | 0.000 | 0.000 | | | |

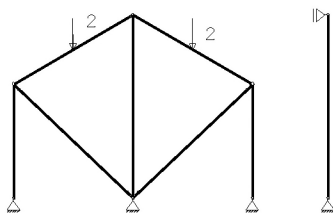
BELASTINGEN

B.G:2 Ver. bel. pers. ed. (q_k)



BELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)



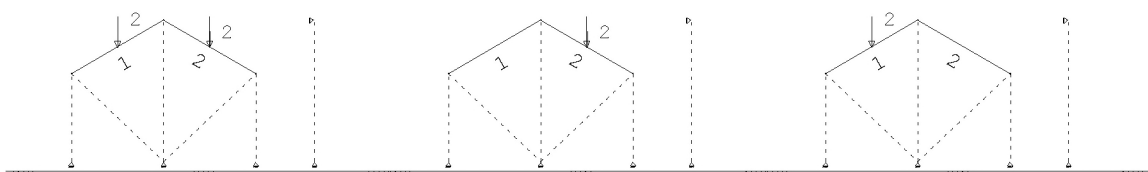
STAAFBELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)

| Staaft | Type | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|--------|---------------|--------|----|-------|---|----------|----------|----------|
| 2 | 10:PZGeprojd. | -2.00 | | 2.195 | | 0.00 | 0.00 | 0.00 |
| 3 | 10:PZGeprojd. | -2.00 | | 2.195 | | 0.00 | 0.00 | 0.00 |

SITUATIES BELAST/ONBELAST

B.G:3 Ver. bel. pers. ed. (Q_k)



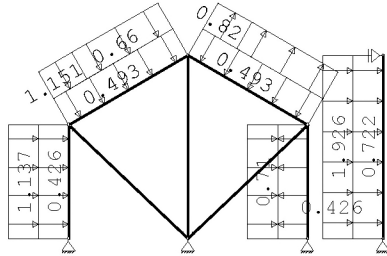
SITUATIES BELAST/ONBELAST

Belastingtype: Q_k

| Nr Lastvelden belast | Lastvelden onbelast |
|----------------------|---------------------|
| 1 1,2 | |
| 2 2 | 1 |
| 3 1 | 2 |

BELASTINGEN

B.G:4 Wind van links onderdruk A



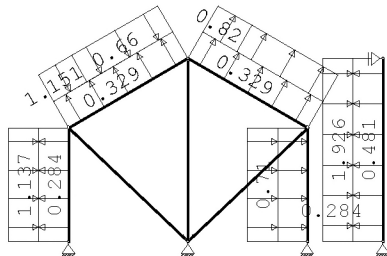
STAAFBELASTINGEN

B.G:4 Wind van links onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ ₀ | ψ ₁ | ψ ₂ |
|-----------|------------|-------|--------|-------|-------|-------|----------------|----------------|----------------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:5 Wind van links overdruk A



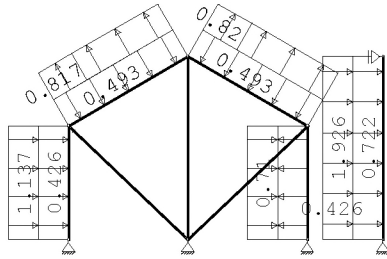
STAAFBELASTINGEN

B.G:5 Wind van links overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ ₀ | ψ ₁ | ψ ₂ |
|-----------|------------|-------|--------|-------|-------|-------|----------------|----------------|----------------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:6 Wind van links onderdruk B



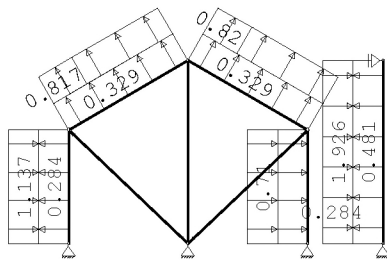
STAAFBELASTINGEN

B.G:6 Wind van links onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:7 Wind van links overdruk B



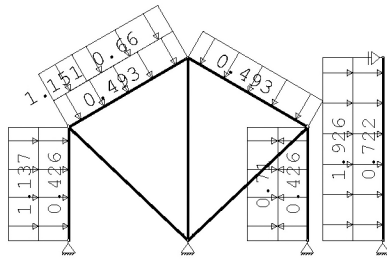
STAAFBELASTINGEN

B.G:7 Wind van links overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:8 Wind van links onderdruk C



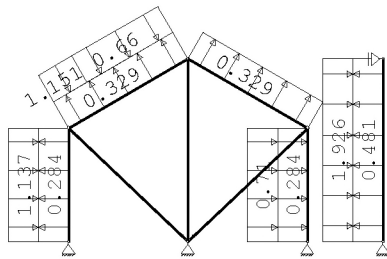
STAAFBELASTINGEN

B.G:8 Wind van links onderdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:9 Wind van links overdruk C



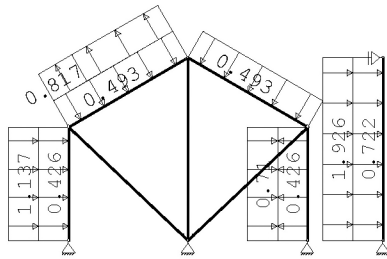
STAAFBELASTINGEN

B.G:9 Wind van links overdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:10 Wind van links onderdruk D



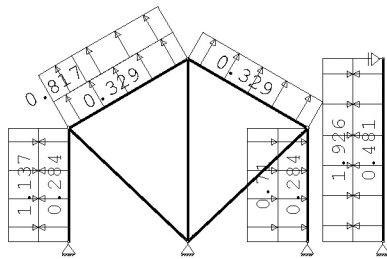
STAAFBELASTINGEN

B.G:10 Wind van links onderdruk D

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:11 Wind van links overdruk D



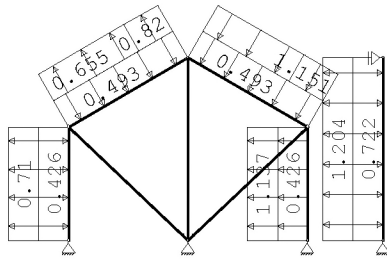
STAAFBELASTINGEN

B.G:11 Wind van links overdruk D

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:12 Wind van rechts onderdruk A



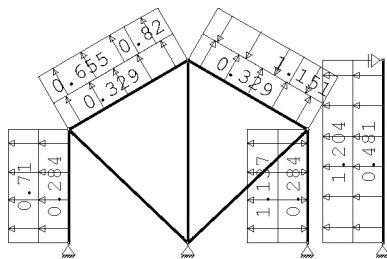
STAAFBELASTINGEN

B.G:12 Wind van rechts onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:13 Wind van rechts overdruk A



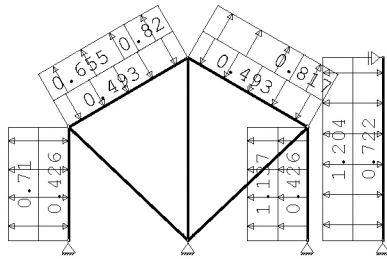
STAAFBELASTINGEN

B.G:13 Wind van rechts overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:14 Wind van rechts onderdruk B



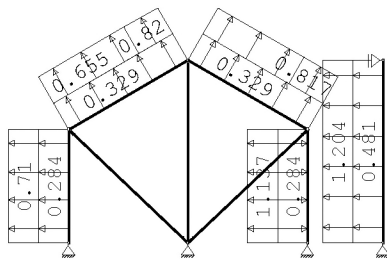
STAAFBELASTINGEN

B.G:14 Wind van rechts onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:15 Wind van rechts overdruk B



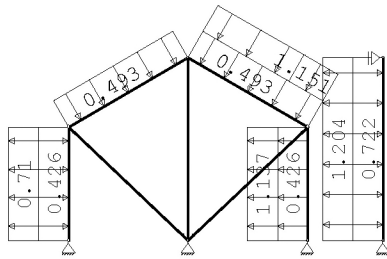
STAAFBELASTINGEN

B.G:15 Wind van rechts overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.33 | 0.33 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.66 | 0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:16 Wind van rechts onderdruk C



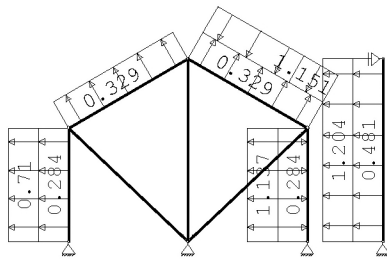
STAAFBELASTINGEN

B.G:16 Wind van rechts onderdruk C

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:17 Wind van rechts overdruk C



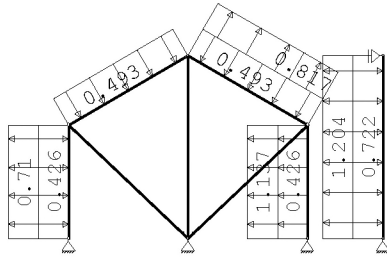
STAAFBELASTINGEN

B.G:17 Wind van rechts overdruk C

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -1.15 | -1.15 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.66 | -0.66 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:18 Wind van rechts onderdruk D



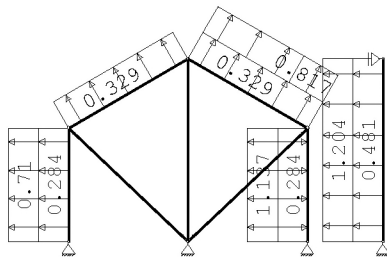
STAAFBELASTINGEN

B.G:18 Wind van rechts onderdruk D

| Staaftype | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|--------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw14 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw15 | 0.33 | 0.33 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:19 Wind van rechts overdruk D



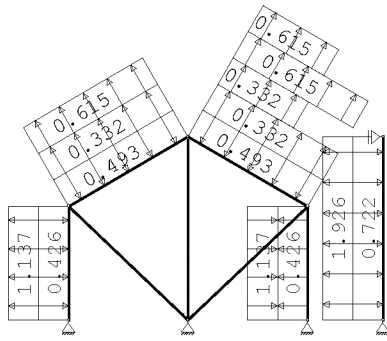
STAAFBELASTINGEN

B.G:19 Wind van rechts overdruk D

| Staaftype | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|--------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 1:QZLokaal | Qw4 | -1.14 | -1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw14 | 0.82 | 0.82 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 1:QZLokaal | Qw15 | 0.33 | 0.33 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 1:QZLokaal | Qw9 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:20 Wind loodrecht onderdruk A



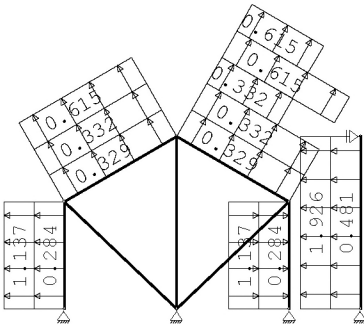
STAAFBELASTINGEN

B.G:20 Wind loodrecht onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw17 | 1.14 | 1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw17 | 1.14 | 1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw18 | 1.93 | 1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:21 Wind loodrecht overdruk A



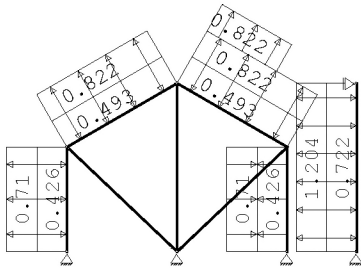
STAAFBELASTINGEN

B.G:21 Wind loodrecht overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw17 | 1.14 | 1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw17 | 1.14 | 1.14 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw18 | 1.93 | 1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.33 | 0.33 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.61 | 0.61 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:22 Wind loodrecht onderdruk B



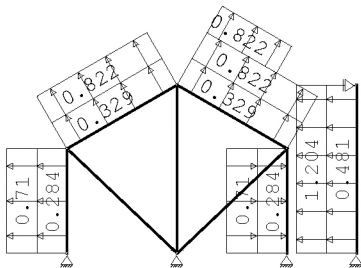
STAAFBELASTINGEN

B.G:22 Wind loodrecht onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.49 | -0.49 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.43 | -0.43 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw21 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw21 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw22 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:23 Wind loodrecht overdruk B



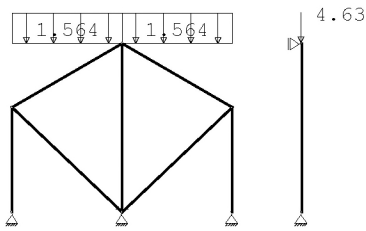
STAAFBELASTINGEN

B.G:23 Wind loodrecht overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.33 | 0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.28 | 0.28 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw21 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw21 | 0.71 | 0.71 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 8 | 1:QZLokaal | Qw22 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.82 | 0.82 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:24 Sneeuw A



KNOOPBELASTINGEN

B.G:24 Sneeuw A

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 | Opm. |
|------|-------|----------|--------|----------|----------|----------|------|
| 1 | 8 | Z | -4.630 | 0.00 | 0.20 | 0.00 | * |

Opmerkingen

[*] Deze belasting is handmatig toegevoegd of gewijzigd.

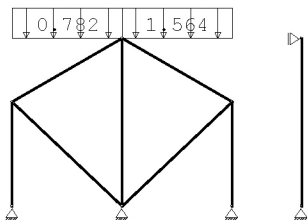
STAAFBELASTINGEN

B.G:24 Sneeuw A

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -1.56 | -1.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs1 | -1.56 | -1.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:25 Sneeuw B



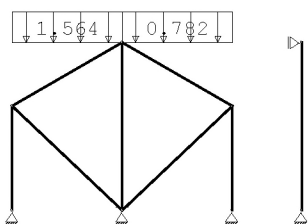
STAAFBELASTINGEN

B.G:25 Sneeuw B

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs2 | -0.78 | -0.78 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs1 | -1.56 | -1.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:26 Sneeuw C



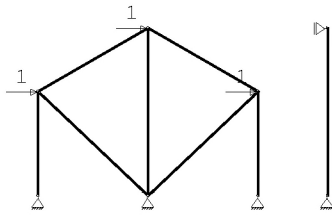
STAAFBELASTINGEN

B.G:26 Sneeuw C

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -1.56 | -1.56 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs2 | -0.78 | -0.78 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:27 Knik



KNOOPBELASTINGEN

B.G:27 Knik

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 2 | X | 1.000 | | | |
| 2 | 3 | X | 1.000 | | | |
| 3 | 4 | X | 1.000 | | | |

REACTIES

| Kn. | B.G. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|------|-------|-------|-------|-------|-------|-------|
| 1 | 1 | 0.30 | | 6.78 | | | |
| 1 | 2 | 0.00 | | 0.00 | | | |
| 1 | 3 | 0.00 | 0.22 | 0.33 | 1.33 | | |
| 1 | 4 | -2.11 | | 6.23 | | | |
| 1 | 5 | -1.27 | | 2.73 | | | |
| 1 | 6 | -2.52 | | 1.89 | | | |
| 1 | 7 | -1.68 | | -1.61 | | | |
| 1 | 8 | -2.10 | | 6.25 | | | |
| 1 | 9 | -1.26 | | 2.76 | | | |
| 1 | 10 | -2.51 | | 1.91 | | | |
| 1 | 11 | -1.67 | | -1.58 | | | |
| 1 | 12 | 0.44 | | 10.44 | | | |
| 1 | 13 | 1.28 | | 6.95 | | | |
| 1 | 14 | 0.42 | | 5.57 | | | |
| 1 | 15 | 1.25 | | 2.08 | | | |
| 1 | 16 | 0.68 | | 9.81 | | | |
| 1 | 17 | 1.51 | | 6.31 | | | |
| 1 | 18 | 0.65 | | 4.93 | | | |
| 1 | 19 | 1.49 | | 1.44 | | | |
| 1 | 20 | 0.96 | | -2.38 | | | |
| 1 | 21 | 1.80 | | -5.87 | | | |
| 1 | 22 | 0.32 | | -1.42 | | | |
| 1 | 23 | 1.16 | | -4.91 | | | |
| 1 | 24 | 0.43 | | 3.63 | | | |
| 1 | 25 | 0.22 | | 2.14 | | | |
| 1 | 26 | 0.43 | | 3.63 | | | |
| 1 | 27 | -0.03 | | 0.53 | | | |
| 5 | 1 | -0.30 | | 6.78 | | | |
| 5 | 2 | 0.00 | | 0.00 | | | |
| 5 | 3 | -0.22 | -0.00 | 0.33 | 1.33 | | |
| 5 | 4 | -0.44 | | 10.44 | | | |
| 5 | 5 | -1.28 | | 6.95 | | | |
| 5 | 6 | -0.42 | | 5.57 | | | |
| 5 | 7 | -1.25 | | 2.08 | | | |
| 5 | 8 | -0.68 | | 9.81 | | | |
| 5 | 9 | -1.51 | | 6.31 | | | |
| 5 | 10 | -0.65 | | 4.93 | | | |
| 5 | 11 | -1.49 | | 1.44 | | | |
| 5 | 12 | 2.11 | | 6.23 | | | |
| 5 | 13 | 1.27 | | 2.73 | | | |
| 5 | 14 | 2.52 | | 1.89 | | | |
| 5 | 15 | 1.68 | | -1.61 | | | |
| 5 | 16 | 2.10 | | 6.25 | | | |
| 5 | 17 | 1.26 | | 2.76 | | | |
| 5 | 18 | 2.51 | | 1.91 | | | |
| 5 | 19 | 1.67 | | -1.58 | | | |
| 5 | 20 | -0.76 | | -1.33 | | | |
| 5 | 21 | -1.59 | | -4.82 | | | |
| 5 | 22 | -0.15 | | -0.51 | | | |
| 5 | 23 | -0.98 | | -4.00 | | | |
| 5 | 24 | -0.43 | | 3.63 | | | |
| 5 | 25 | -0.43 | | 3.63 | | | |
| 5 | 26 | -0.22 | | 2.14 | | | |
| 5 | 27 | -0.02 | | 3.95 | | | |

| | | | | | |
|---|----|-------|------|--------|------|
| 6 | 1 | 0.00 | | 9.99 | |
| 6 | 2 | 0.00 | | 0.00 | |
| 6 | 3 | -0.21 | 0.21 | 0.34 | 1.34 |
| 6 | 4 | -7.40 | | -12.55 | |
| 6 | 5 | -7.40 | | -11.81 | |
| 6 | 6 | -4.23 | | -8.14 | |
| 6 | 7 | -4.24 | | -7.40 | |
| 6 | 8 | -5.63 | | -9.28 | |
| 6 | 9 | -5.64 | | -8.53 | |
| 6 | 10 | -2.46 | | -4.87 | |
| 6 | 11 | -2.47 | | -4.13 | |
| 6 | 12 | 7.40 | | -12.55 | |
| 6 | 13 | 7.40 | | -11.81 | |
| 6 | 14 | 4.23 | | -8.14 | |
| 6 | 15 | 4.24 | | -7.40 | |
| 6 | 16 | 5.63 | | -9.28 | |
| 6 | 17 | 5.64 | | -8.53 | |
| 6 | 18 | 2.46 | | -4.87 | |
| 6 | 19 | 2.47 | | -4.13 | |
| 6 | 20 | -1.52 | | -2.01 | |
| 6 | 21 | -1.52 | | -1.27 | |
| 6 | 22 | -1.31 | | -2.55 | |
| 6 | 23 | -1.32 | | -1.81 | |
| 6 | 24 | 0.00 | | 4.63 | |
| 6 | 25 | 0.21 | | 3.15 | |
| 6 | 26 | -0.21 | | 3.15 | |
| 6 | 27 | -2.95 | | -4.49 | |
| 7 | 1 | 0.00 | | 9.98 | |
| 7 | 2 | 0.00 | | 0.00 | |
| 7 | 3 | 0.00 | | 0.00 | |
| 7 | 4 | -7.68 | | 0.00 | |
| 7 | 5 | -4.19 | | 0.00 | |
| 7 | 6 | -7.68 | | 0.00 | |
| 7 | 7 | -4.19 | | 0.00 | |
| 7 | 8 | -7.68 | | 0.00 | |
| 7 | 9 | -4.19 | | 0.00 | |
| 7 | 10 | -7.68 | | 0.00 | |
| 7 | 11 | -4.19 | | 0.00 | |
| 7 | 12 | 1.40 | | 0.00 | |
| 7 | 13 | 4.89 | | 0.00 | |
| 7 | 14 | 1.40 | | 0.00 | |
| 7 | 15 | 4.89 | | 0.00 | |
| 7 | 16 | 1.40 | | 0.00 | |
| 7 | 17 | 4.89 | | 0.00 | |
| 7 | 18 | 1.40 | | 0.00 | |
| 7 | 19 | 4.89 | | 0.00 | |
| 7 | 20 | 3.49 | | 0.00 | |
| 7 | 21 | 6.98 | | 0.00 | |
| 7 | 22 | 1.40 | | 0.00 | |
| 7 | 23 | 4.89 | | 0.00 | |
| 7 | 24 | 0.00 | | 4.63 | |
| 7 | 25 | 0.00 | | 0.00 | |
| 7 | 26 | 0.00 | | 0.00 | |
| 7 | 27 | 0.00 | | 0.00 | |
| 8 | 1 | 0.00 | | | |
| 8 | 2 | 0.00 | | | |
| 8 | 3 | 0.00 | | | |
| 8 | 4 | -7.68 | | | |
| 8 | 5 | -4.19 | | | |
| 8 | 6 | -7.68 | | | |
| 8 | 7 | -4.19 | | | |
| 8 | 8 | -7.68 | | | |
| 8 | 9 | -4.19 | | | |
| 8 | 10 | -7.68 | | | |
| 8 | 11 | -4.19 | | | |
| 8 | 12 | 1.40 | | | |
| 8 | 13 | 4.89 | | | |
| 8 | 14 | 1.40 | | | |
| 8 | 15 | 4.89 | | | |
| 8 | 16 | 1.40 | | | |
| 8 | 17 | 4.89 | | | |
| 8 | 18 | 1.40 | | | |
| 8 | 19 | 4.89 | | | |
| 8 | 20 | 3.49 | | | |
| 8 | 21 | 6.98 | | | |
| 8 | 22 | 1.40 | | | |

| | | |
|---|----|------|
| 8 | 23 | 4.89 |
| 8 | 24 | 0.00 |
| 8 | 25 | 0.00 |
| 8 | 26 | 0.00 |
| 8 | 27 | 0.00 |

BELASTINGCOMBINATIES

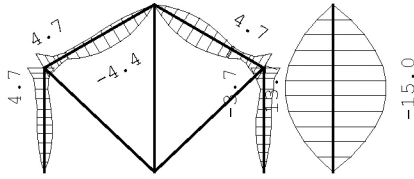
| BC | Type | | | | |
|----|-------|------|-----------|--------|------------|
| 1 | Fund. | 1.22 | $G_{k,1}$ | | |
| 2 | Fund. | 0.90 | $G_{k,1}$ | | |
| 3 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,3}$ |
| 4 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,4}$ |
| 5 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,5}$ |
| 6 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,6}$ |
| 7 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,7}$ |
| 8 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,8}$ |
| 9 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,9}$ |
| 10 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,10}$ |
| 11 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,11}$ |
| 12 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,12}$ |
| 13 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,13}$ |
| 14 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,14}$ |
| 15 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,15}$ |
| 16 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,16}$ |
| 17 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,17}$ |
| 18 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,18}$ |
| 19 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,19}$ |
| 20 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,20}$ |
| 21 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,21}$ |
| 22 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,22}$ |
| 23 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,23}$ |
| 24 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,24}$ |
| 25 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,25}$ |
| 26 | Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,26}$ |
| 27 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,3}$ |
| 28 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,4}$ |
| 29 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,5}$ |
| 30 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,6}$ |
| 31 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,7}$ |
| 32 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,8}$ |
| 33 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,9}$ |
| 34 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,10}$ |
| 35 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,11}$ |
| 36 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,12}$ |
| 37 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,13}$ |
| 38 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,14}$ |
| 39 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,15}$ |
| 40 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,16}$ |
| 41 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,17}$ |
| 42 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,18}$ |
| 43 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,19}$ |
| 44 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,20}$ |
| 45 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,21}$ |
| 46 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,22}$ |
| 47 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,23}$ |
| 48 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,24}$ |
| 49 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,25}$ |
| 50 | Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,26}$ |
| 51 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,3}$ |
| 52 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,4}$ |
| 53 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,5}$ |
| 54 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,6}$ |
| 55 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,7}$ |
| 56 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,8}$ |
| 57 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,9}$ |
| 58 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,10}$ |
| 59 | Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,11}$ |

| | | | | | |
|-----------|------|----------|---|------|------------------|
| 60 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 12$ |
| 61 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 13$ |
| 62 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 14$ |
| 63 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 15$ |
| 64 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 16$ |
| 65 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 17$ |
| 66 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 18$ |
| 67 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 19$ |
| 68 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 20$ |
| 69 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 21$ |
| 70 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 22$ |
| 71 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 23$ |
| 72 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 24$ |
| 73 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 25$ |
| 74 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 26$ |
| 75 Quas. | 1.00 | $G_k, 1$ | | | |
| 76 Freq. | 1.00 | $G_k, 1$ | | | |
| 77 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 4$ |
| 78 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 5$ |
| 79 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 6$ |
| 80 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 7$ |
| 81 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 8$ |
| 82 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 9$ |
| 83 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 10$ |
| 84 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 11$ |
| 85 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 12$ |
| 86 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 13$ |
| 87 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 14$ |
| 88 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 15$ |
| 89 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 16$ |
| 90 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 17$ |
| 91 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 18$ |
| 92 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 19$ |
| 93 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 20$ |
| 94 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 21$ |
| 95 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 22$ |
| 96 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 23$ |
| 97 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 24$ |
| 98 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 25$ |
| 99 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 26$ |
| 100 Blij. | 1.00 | $G_k, 1$ | | | |

OMHULLENDE VAN DE FUNDAMENTELE COMBINATIES

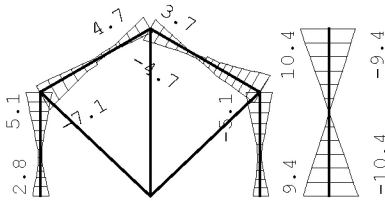
MOMENTEN

Fundamentele combinatie



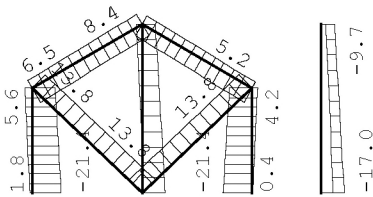
DWARSKRACHTEN

Fundamentele combinatie



NORMAALKRACHTEN

Fundamentele combinatie



STAAFKRACHTEN

Fundamentele combinatie

| St. | Kn. | Pos. | NXi/NXj | | DZi/DZj | | | | MYi/MYj | | | | | |
|-----|-----|-------|---------|----|---------|----|-------|----|---------|----|-------|----|------|----|
| | | | Min | BC | Max | BC | Min | BC | Max | BC | Min | BC | Max | BC |
| 1 | 1 | | -21.42 | 12 | 1.83 | 45 | -3.14 | 30 | 2.76 | 21 | 0.00 | 30 | 0.00 | 21 |
| 1 | 1 | 1.087 | -20.03 | 12 | 2.98 | 45 | -0.84 | 30 | 0.91 | 17 | -2.16 | 30 | 1.86 | 21 |
| 1 | 1 | 1.486 | -19.53 | 12 | 3.40 | 45 | -0.29 | 31 | 0.91 | 24 | -2.33 | 30 | 2.04 | 17 |
| 1 | 1 | 1.533 | -19.47 | 12 | 3.45 | 45 | -0.24 | 31 | 0.91 | 24 | -2.33 | 30 | 2.06 | 17 |
| 1 | 1 | 1.618 | -19.36 | 12 | 3.54 | 45 | -0.40 | 45 | 0.91 | 24 | -2.31 | 30 | 2.08 | 17 |
| 1 | 1 | 1.765 | -19.17 | 12 | 3.70 | 45 | -0.68 | 45 | 1.22 | 8 | -2.25 | 30 | 2.09 | 17 |
| 1 | 1 | 2.174 | -18.65 | 12 | 4.13 | 45 | -1.47 | 45 | 2.08 | 8 | -1.83 | 30 | 1.98 | 17 |
| 1 | 1 | 3.065 | -17.52 | 12 | 5.07 | 45 | -3.18 | 45 | 3.96 | 8 | -0.73 | 31 | 2.79 | 24 |
| 1 | 2 | | -16.84 | 12 | 5.64 | 45 | -4.20 | 45 | 5.09 | 8 | -2.70 | 45 | 4.66 | 8 |
| 2 | 2 | | -11.94 | 12 | 6.46 | 45 | -7.13 | 8 | 2.78 | 45 | -2.70 | 45 | 4.66 | 8 |
| 2 | 2 | 0.790 | -11.54 | 12 | 6.80 | 45 | -4.68 | 8 | 2.00 | 45 | -0.87 | 21 | 1.00 | 34 |
| 2 | 2 | 0.874 | -11.50 | 12 | 6.84 | 45 | -4.41 | 8 | 1.92 | 45 | -1.18 | 26 | 0.86 | 34 |
| 2 | 2 | 1.176 | -11.34 | 12 | 6.97 | 45 | -3.48 | 8 | 1.62 | 45 | -2.28 | 26 | 0.89 | 35 |
| 2 | 2 | 1.929 | -10.96 | 12 | 7.29 | 45 | -1.91 | 3 | 0.88 | 45 | -4.03 | 26 | 0.82 | 35 |
| 2 | 2 | 2.195 | -10.82 | 12 | 7.40 | 45 | -1.68 | 3 | 0.62 | 45 | -4.32 | 26 | 1.02 | 45 |
| 2 | 2 | 2.195 | -10.82 | 12 | 7.40 | 45 | -0.95 | 3 | 0.71 | 45 | -4.32 | 26 | 1.02 | 45 |
| 2 | 2 | 2.496 | -10.66 | 12 | 7.53 | 45 | -0.39 | 10 | 0.93 | 27 | -4.43 | 26 | 1.16 | 45 |
| 2 | 2 | 2.633 | -10.59 | 12 | 7.59 | 45 | -0.26 | 34 | 1.05 | 3 | -4.41 | 26 | 1.19 | 45 |
| 2 | 2 | 2.821 | -10.50 | 12 | 7.67 | 45 | -0.28 | 35 | 1.22 | 3 | -4.30 | 26 | 1.21 | 45 |
| 2 | 3 | | -9.79 | 36 | 8.44 | 21 | -1.54 | 45 | 4.67 | 26 | -0.00 | 26 | 0.00 | 45 |
| 3 | 3 | | -9.79 | 28 | 7.17 | 21 | -4.67 | 25 | 3.74 | 45 | 0.00 | 25 | 0.00 | 45 |
| 3 | 3 | 1.654 | -10.54 | 4 | 6.36 | 45 | -1.14 | 3 | 0.27 | 43 | -4.36 | 25 | 3.09 | 45 |
| 3 | 3 | 1.758 | -10.59 | 4 | 6.32 | 45 | -1.05 | 3 | 0.26 | 43 | -4.41 | 25 | 3.08 | 45 |
| 3 | 3 | 1.895 | -10.66 | 4 | 6.26 | 45 | -0.93 | 27 | 0.39 | 18 | -4.43 | 25 | 3.03 | 45 |
| 3 | 3 | 2.023 | -10.73 | 4 | 6.20 | 45 | -0.83 | 27 | 0.53 | 18 | -4.41 | 25 | 2.94 | 45 |
| 3 | 3 | 3.070 | -11.27 | 4 | 5.76 | 45 | -2.82 | 45 | 3.08 | 16 | -2.73 | 25 | 0.89 | 47 |
| 3 | 3 | 3.215 | -11.34 | 4 | 5.70 | 45 | -2.97 | 45 | 3.48 | 16 | -2.28 | 25 | 0.89 | 43 |
| 3 | 3 | 3.517 | -11.50 | 4 | 5.57 | 45 | -3.26 | 45 | 4.41 | 16 | -1.18 | 25 | 0.86 | 43 |
| 3 | 3 | 3.617 | -11.55 | 4 | 5.52 | 45 | -3.36 | 45 | 4.73 | 16 | -0.86 | 11 | 1.03 | 42 |
| 3 | 4 | | -11.94 | 4 | 5.19 | 45 | -4.12 | 45 | 7.13 | 16 | -3.71 | 45 | 4.66 | 16 |

| | | | | | | | | | | | | | | |
|---|---|--------|--------|-------|-------|--------|-------|-------|------|-------|--------|------|-------|----|
| 4 | 4 | -16.84 | 4 | 4.22 | 45 | -5.09 | 16 | 4.48 | 45 | -3.71 | 45 | 4.66 | 16 | |
| 4 | | 0.717 | -17.75 | 4 | 3.46 | 45 | -3.58 | 16 | 3.11 | 45 | -0.99 | 45 | 2.63 | 24 |
| 4 | | 1.426 | -18.65 | 4 | 2.71 | 45 | -2.08 | 16 | 1.75 | 45 | -1.83 | 38 | 1.98 | 24 |
| 4 | | 1.835 | -19.17 | 4 | 2.28 | 45 | -1.22 | 16 | 0.96 | 45 | -2.25 | 38 | 2.09 | 9 |
| 4 | | 1.982 | -19.36 | 4 | 2.12 | 45 | -0.91 | 16 | 0.68 | 45 | -2.31 | 38 | 2.08 | 9 |
| 4 | | 2.114 | -19.53 | 4 | 1.98 | 45 | -0.91 | 24 | 0.43 | 45 | -2.33 | 38 | 2.04 | 9 |
| 4 | | 2.159 | -19.58 | 4 | 1.94 | 45 | -0.91 | 24 | 0.34 | 45 | -2.33 | 38 | 2.02 | 9 |
| 4 | | 2.513 | -20.03 | 4 | 1.56 | 45 | -0.91 | 24 | 0.84 | 38 | -2.16 | 38 | 1.78 | 9 |
| 4 | 5 | -21.42 | 4 | 0.41 | 45 | -2.48 | 21 | 3.14 | 38 | 0.00 | 38 | 0.00 | 21 | |
| 5 | 6 | -17.03 | 24 | -1.50 | 36 | 0.00 | 6 | 0.00 | 16 | 0.00 | 9 | 0.00 | 17 | |
| 5 | 3 | -9.74 | 24 | 4.58 | 36 | 0.00 | 6 | 0.00 | 16 | 0.00 | 9 | 0.00 | 17 | |
| 6 | 2 | 0.00 | 1 | 13.76 | 37 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | |
| 6 | 6 | 0.00 | 1 | 13.76 | 37 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | |
| 7 | 6 | 0.00 | 1 | 13.76 | 29 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | |
| 7 | 4 | 0.00 | 1 | 13.76 | 29 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | |
| 8 | 7 | -17.03 | 24 | -8.99 | 2 | -10.37 | 4 | 9.42 | 21 | 0.00 | 4 | 0.00 | 21 | |
| 8 | | 2.900 | -13.39 | 24 | -5.95 | 2 | 0.00 | 4 | 0.00 | 21 | -15.03 | 4 | 13.67 | 21 |
| 8 | 8 | -9.74 | 24 | -2.91 | 2 | -9.42 | 21 | 10.37 | 4 | 0.00 | 4 | 0.00 | 21 | |

REACTIES

Fundamentele combinatie

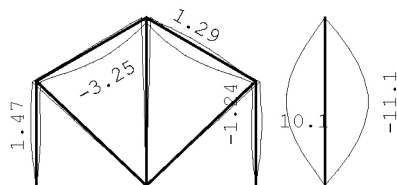
| Kn. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|--------|-------|-------|-------|-------|-------|
| 1 | -3.14 | 2.76 | -1.83 | 21.42 | | |
| 5 | -2.48 | 3.14 | -0.41 | 21.42 | | |
| 6 | -9.99 | 9.99 | -7.95 | 17.03 | | |
| 7 | -10.37 | 9.42 | 8.99 | 17.03 | | |
| 8 | -10.37 | 9.42 | | | | |

OMHULLENDE VAN DE KARAKTERISTIEKE COMBINATIES

VERPLAATSINGEN

[mm]

Karakteristieke combinatie

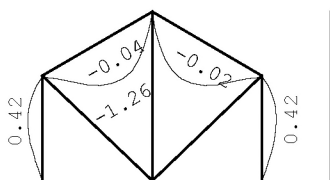


OMHULLENDE VAN DE BLIJVENDE COMBINATIES

VERPLAATSINGEN

[mm]

Blijvende combinatie



STAALPROFIELEN - ALGEMENE GEGEVENS

| | | |
|------------------------------|--|-------------|
| Stabiliteit: | Classificatie gehele constructie: | Ongeschoord |
| | Belastinggeval m.b.t. bepaling kniklengte: | 27=Knik |
| | Aanpassing inkl. parameter C : | Steunpunten |
| Tweede-orde-effect: | | |
| | Aan te houden verhouding n/(n-1) | |
| | voor steunmomenten en verplaatsingen: | 1.00 |
| Doorbuiging en verplaatsing: | | |
| | Aantal bouwlagen: | 1 |
| | Gebouwtype: | Overig |
| | Toel. horiz. verplaatsing gehele gebouw: | h/150 |
| | Kleinste gevelhoogte [m]: | 0.0 |

PROFIEL/MATERIAAL

| P/M nr. | Profielnaam | Vloeisp. [N/mm ²] | Productie methode | Min. drsn. klasse |
|---------|-------------|-------------------------------|-------------------|-------------------|
| 1 | HEA140 | 235 | Gewalst | 1 |
| 2 | HEA160(90) | 235 | Gewalst | 1 |
| 3 | HEA160 | 235 | Gewalst | 1 |
| 4 | STRIP6*60 | 235 | Gewalst | 1 |

Partiële veiligheidsfactoren:

Gamma M;0 : 1.00 Gamma M;1 : 1.00

KNIKSTABILITEIT

| Staaflnr. | l _{sys} [m] | Classif. y sterke as | l _{knik,y} [m] | Extra | | Extra | |
|-----------|----------------------|----------------------|-------------------------|--------------|----------------------|-------------------------|--------------|
| | | | | aanp. y [kN] | Classif. z zwakke as | l _{knik,z} [m] | aanp. z [kN] |
| 1 | 3.600 | Ongeschoord | 8.866 | 0.0 | Geschoord | 3.600 | 0.0 |
| 2 | 4.391 | Ongeschoord | 11.333 | 0.0 | Geschoord | 4.391 | 0.0 |
| 3 | 4.391 | Ongeschoord | 11.991 | 0.0 | Geschoord | 4.391 | 0.0 |
| 4 | 3.600 | Ongeschoord | 9.379 | 0.0 | Geschoord | 3.600 | 0.0 |
| 5 | 5.800 | Geschoord | 5.800 | 0.0 | Geschoord | 5.800 | 0.0 |
| 6 | 5.235 | Geschoord | 5.235 | 0.0 | Geschoord | 5.235 | 0.0 |
| 7 | 5.235 | Geschoord | 5.235 | 0.0 | Geschoord | 5.235 | 0.0 |
| 8 | 5.800 | Geschoord | 5.800 | 0.0 | Geschoord | 5.800 | 0.0 |

KIPSTABILITEIT

| Staaflnr. | Plts. aangr. | l gaffel [m] | Kipsteunafstanden [m] | |
|-----------|--------------|--------------|-----------------------|------------|
| | | | boven: | onder: |
| 1 | 1.0*h | | boven: | 3.60 3,6 |
| | | | onder: | 3.60 3,6 |
| 2 | 1.0*h | | boven: | 4.39 4,391 |
| | | | onder: | 4.39 4,391 |
| 3 | 1.0*h | | boven: | 4.39 4,391 |
| | | | onder: | 4.39 4,391 |
| 4 | 1.0*h | | boven: | 3.60 3,6 |
| | | | onder: | 3.60 3,6 |
| 5 | 1.0*h | | boven: | 5.80 5,8 |
| | | | onder: | 5.80 5,8 |
| 6 | 1.0*h | | boven: | 5.23 5,235 |
| | | | onder: | 5.23 5,235 |
| 7 | 1.0*h | | boven: | 5.23 5,235 |
| | | | onder: | 5.23 5,235 |
| 8 | 1.0*h | | boven: | 5.80 5,8 |
| | | | onder: | 5.80 5,8 |

TOETSING SPANNINGEN

| Staaflnr. | P/M | BC | Sit | Kl | Plaats | Norm | Artikel | Formule | Hoogste toetsing U.C. [N/mm ²] | Opm. |
|-----------|-----|----|-----|----|--------|---------|---------|---------|--|-------|
| 1 | 1 | 8 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.182 43 | 47 |
| 2 | 1 | 8 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.180 42 | 46,47 |
| 3 | 1 | 16 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.188 44 | 46,47 |
| 4 | 1 | 16 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.190 45 | 47 |
| 5 | 2 | 24 | 1 | 1 | Staafl | EN3-1-1 | 6.3.1.1 | (6.46z) | 0.063 15 | 47 |
| 6 | 4 | 37 | 1 | 1 | Begin | EN3-1-1 | 6.2.3 | (6.5) | 0.163 38 | |
| 7 | 4 | 29 | 1 | 1 | Begin | EN3-1-1 | 6.2.3 | (6.5) | 0.163 38 | |
| 8 | 3 | 4 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.389 91 | 47 |

Opmerkingen:

[46] T.b.v. kip is een equivalente Q-last berekend.

[47] Bij verlopende normaalkracht wordt de grootste drukkracht genomen.

TOETSING DOORBUIGING

| Staaft | Soort | Mtg | Lengte [m] | Overst I J | Zeeg [mm] | u_{tot} [mm] | BC | Sit | u [mm] | Toelaatbaar [mm] | *1 |
|--------|-------|-----|---------------|---------------|--------------|-------------------|----|--------|-----------|---------------------|-------|
| 2 | Dak | db | 4.39 | N N | 0.0 | -3.0 | 74 | 1 Eind | -3.0 | -17.6 | 0.004 |
| | | 74 | | | | | | 1 Bijk | -1.8 | -17.6 | 0.004 |
| 3 | Dak | db | 4.39 | N N | 0.0 | -3.0 | 73 | 1 Eind | -3.0 | -17.6 | 0.004 |
| | | 73 | | | | | | 1 Bijk | -1.8 | -17.6 | 0.004 |
| 8 | Dak | db | 5.80 | N N | 0.0 | -11.1 | 52 | 1 Eind | -11.1 | -23.2 | 0.004 |
| | | 52 | | | | | | 1 Bijk | -11.1 | -23.2 | 0.004 |

TOETSING HOR. VERPLAATSING GLOBAAL

Er is een maximale horizontale verplaatsing van 0.0012 [m] gevonden bij knoop 2 en combinatie 52; belastingsituatie 1 (combinatietype 2). Bij een hoogte van 3.600 [m] levert dit $h/2912$ (toel.: $h/150$).

DOORBUIGINGEN

Karakteristieke combinatie

| Nr. | staven | Zijde | positie [m] | l_{rep} [mm] | w_1 [mm] | w_2 [mm] | -- w_{bij} -- [mm] [lrep/] | w_{tot} [mm] | w_c [mm] | -- w_{max} -- [mm] [lrep/] |
|-----|--------|-------|----------------|-------------------|---------------|---------------|---------------------------------|-------------------|---------------|---------------------------------|
| 2 | 2 | Neg. | 2.439 | 4391 | -1.2 | -1.8 | 2492 | -3.0 | -3.0 | 1470 |
| 2 | 2 | Pos. | 2.439 | 4391 | -1.2 | 1.4 | 3194 | 0.1 | 0.1 | 29474 |
| 3 | 3 | Neg. | 1.952 | 4391 | -1.2 | -1.8 | 2492 | -3.0 | -3.0 | 1470 |
| 3 | 3 | Pos. | 1.952 | 4391 | -1.2 | 2.4 | 1803 | 1.2 | 1.2 | 3629 |

Velden met een w_{bij} en $w_{max} < l_{rep}/9999$ zijn niet afgedrukt

A.6 Spant S0-03

Technosoft Raamwerken release 6.77

26 mei 2023

Project.....: 2022204
Dimensies....: kN;m;rad (tenzij anders aangegeven)
Datum.....: 16/09/2022
Bestand.....: K:\Werk\2022204\Berekeningen\Technosoft\spant s0-03.rww

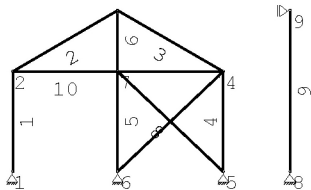
Belastingbreedte.: 1.870
Rekenmodel.....: 1e-orde-elastisch.
Theorie voor de bepaling van de krachtsverdeling:
Geometrisch lineair.
Fysisch lineair.

Gunstige werking van de permanente belasting wordt automatisch verwerkt.

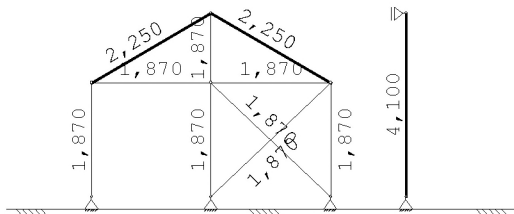
Toegepaste normen volgens Eurocode met Nederlandse NB

| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
|-------------|----------------------|-----------------|-------------|
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-3:2003 | C1:2009 | NB:2011(nl) |
| | NEN-EN 1991-1-4:2005 | C2:2011 | NB:2011(nl) |
| Staal | NEN-EN 1993-1-1:2006 | C2:2011,A1:2016 | NB:2016(nl) |

GEOMETRIE



BELASTINGBREEDTEN



MATERIALEN

| Mt | Kwaliteit | E-modulus[N/mm ²] | S.G. | Pois. | Uitz. coëff |
|----|-----------|-------------------------------|------|-------|-------------|
| 1 | S235 | 210000 | 78.5 | 0.30 | 1.2000e-05 |
| 2 | S235 | 210000 | 0.0 | 0.30 | 1.2000e-05 |

PROFIELEN [mm]

| Prof. | Omschrijving | Materiaal | Oppervlak | Traagheid | Vormf. |
|-------|-----------------|-----------|------------|------------|--------|
| 1 | HEA140 | 1:S235 | 3.1420e+03 | 1.0330e+07 | 0.00 |
| 2 | HEA160(90) | 1:S235 | 3.8800e+03 | 6.1600e+06 | 0.00 |
| 3 | HEA160 | 1:S235 | 3.8800e+03 | 1.6730e+07 | 0.00 |
| 4 | K160/80/6CF(90) | 1:S235 | 2.6433e+03 | 2.8089e+06 | 0.00 |
| 5 | STRIP6*60 | 2:S235 | 3.6000e+02 | 1.0800e+05 | 0.00 |

PROFIELEN vervolg [mm]

| Prof. | Staaftype | Breedte | Hoogte | e | Type | b1 | h1 | b2 | h2 |
|-------|-----------|---------|--------|------|------|----|----|----|----|
| 1 | 0:Normaal | 140 | 133 | 66.5 | | | | | |
| 2 | 0:Normaal | 160 | 152 | 80.0 | | | | | |
| 3 | 0:Normaal | 160 | 152 | 76.0 | | | | | |
| 4 | 0:Normaal | 80 | 160 | 40.0 | | | | | |
| 5 | 1:Trek | 6 | 60 | 30.0 | | | | | |

PROFIELVORMEN [mm]

1 HEA140



2 HEA160(90)



3 HEA160



4 K160/80/6CF(90)



5 STRIP6*60



KNOPEN

| Knoop | X | Z | Knoop | X | Z |
|-------|-------|-------|-------|--------|-------|
| 1 | 0.000 | 0.400 | 6 | 3.800 | 0.400 |
| 2 | 0.000 | 4.000 | 7 | 3.800 | 4.000 |
| 3 | 3.800 | 6.200 | 8 | 10.000 | 0.400 |
| 4 | 7.600 | 4.000 | 9 | 10.000 | 6.200 |
| 5 | 7.600 | 0.400 | | | |

STAVEN

| St. | ki | kj | Profiel | Aansl.i | Aansl.j | Lengte | Opm. |
|-----|----|----|-------------------|---------|---------|--------|------|
| 1 | 1 | 2 | 1:HEA140 | NDM | NDM | 3.600 | |
| 2 | 2 | 3 | 1:HEA140 | NDM | ND | 4.391 | |
| 3 | 3 | 4 | 1:HEA140 | NDM | NDM | 4.391 | |
| 4 | 4 | 5 | 1:HEA140 | NDM | NDM | 3.600 | |
| 5 | 6 | 7 | 2:HEA160(90) | NDM | NDM | 3.600 | |
| 6 | 7 | 3 | 2:HEA160(90) | NDM | ND | 2.200 | |
| 7 | 4 | 6 | 5:STRIP6*60 | ND | ND | 5.235 | |
| 8 | 7 | 5 | 5:STRIP6*60 | ND | ND | 5.235 | |
| 9 | 8 | 9 | 3:HEA160 | NDM | NDM | 5.800 | |
| 10 | 2 | 7 | 4:K160/80/6CF(90) | ND | ND | 3.800 | |
| 11 | 7 | 4 | 4:K160/80/6CF(90) | ND | ND | 3.800 | |

VASTE STEUNPUNTEN

| Nr. | knoop | Kode | XZR | 1=vast | 0=vrij | Hoek |
|-----|-------|------|-----|--------|--------|------|
| 1 | 1 | 110 | | | | 0.00 |
| 2 | 5 | 110 | | | | 0.00 |
| 3 | 6 | 110 | | | | 0.00 |
| 4 | 8 | 110 | | | | 0.00 |
| 5 | 9 | 100 | | | | 0.00 |

BELASTINGBREEDTEN

| St. Staaf | Breedte-i | Breedte-j | St. Staaf | Breedte-i | Breedte-j |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 1 | 1.870 | 1.870 | 6 | 1.870 | 1.870 |
| 2 | 2.250 | 2.250 | 7 | 1.870 | 1.870 |
| 3 | 2.250 | 2.250 | 8 | 1.870 | 1.870 |
| 4 | 1.870 | 1.870 | 9 | 4.100 | 4.100 |
| 5 | 1.870 | 1.870 | 10 | 1.870 | 1.870 |
| 11 | 1.870 | 1.870 | | | |

BELASTINGGENERATIE ALGEMEEN.

| | | | |
|------------------------------|-------|-------------------------|------|
| Betrouwbaarheidsklasse.....: | 1 | Referentieperiode.....: | 50 |
| Gebouwdiepte.....: | 31.30 | Gebouwhoogte.....: | 6.20 |
| Niveau aansl.terrein.....: | 0.00 | E.g. scheid.w. [kN/m2]: | 1.20 |

WIND

| | | | |
|----------------------------------|------------|------------------------|--------|
| Terrein categorie ...[4.3.2]... | Onbebouwd | | |
| Windgebied | 3 | Vb,0 ..[4.2]..... | 24.500 |
| Positie spant in het gebouw.... | 4.400 | Kr[4.3.2]..... | 0.209 |
| z0 | [4.3.2]... | Zmin ..[4.3.2]..... | 4.000 |
| Co wind van links ..[4.3.3]... | 1.000 | Co wind van rechts.... | 1.000 |
| Co wind loodrecht ..[4.3.3]... | 1.000 | | |
| Cpi wind van links ..[7.2.9]... | 0.200 | -0.300 | |
| Cpi windloodrecht ...[7.2.9]... | 0.200 | -0.300 | |
| Cpi wind van rechts ..[7.2.9]... | 0.200 | -0.300 | |
| Cfr windwrijving[7.5]..... | 0.040 | | |

SNEEUW

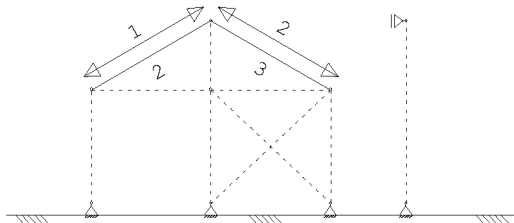
| | |
|--------------------------------|------|
| Sneeuwbelasting (sk) 50 jaar : | 0.70 |
| Sneeuwbelasting (sn) n jaar : | 0.70 |

STAAFTYPEN

| Type | staven |
|------------------|-------------|
| 5:Linker gevel. | : 1,9 |
| 6:Rechter gevel. | : 4 |
| 7:Dak. | : 2,3 |
| 9:Open. | : 5-8,10,11 |

LASTVELDEN

Veranderlijke belastingen door personen

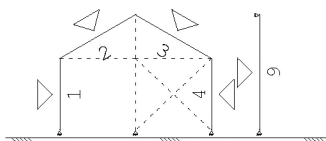


LASTVELDEN

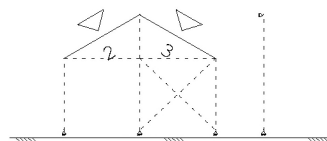
| Nr | Staaftabel | Klasse-Gebruiksfunctie | Verd. | q _k | Q _k | F _t /F _{t0} |
|----|------------|--------------------------|-------|----------------|----------------|---------------------------------|
| 1 | 2-2 6.10 | H-Dak (onder dakbeschot) | 1 | 0.00 | -2.00 | 1.00 |
| 2 | 3-3 6.10 | H-Dak (onder dakbeschot) | 2 | 0.00 | -2.00 | 1.00 |

LASTVELDEN

Wind staven



Sneeuw staven



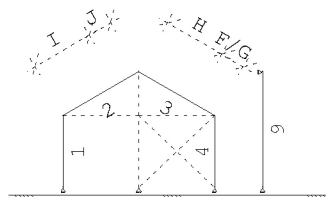
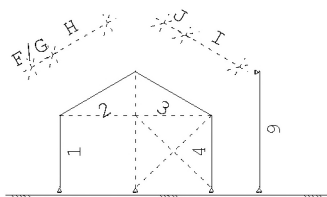
WIND DAKTYPES

| Nr. | Staaftype | reductie bij wind van links | reductie bij wind van rechts | Cpe volgens art: |
|-----|------------|-----------------------------|------------------------------|------------------|
| 1 | 1 Gevel | 1.000 | 1.000 | 7.2.2 |
| 2 | 2 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 3 | 3 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 4 | 4 Gevel | 1.000 | 1.000 | 7.2.2 |
| 5 | 9 Gevel | 1.000 | 1.000 | 7.2.2 |

WIND ZONES

Wind van links

Wind van rechts



WIND VAN LINKS ZONES

| Nr. | Staafl | Positie | Lengte | Zone |
|-----|--------|---------|--------|------|
| 1 | 1 | 0.000 | 3.600 | D |
| 2 | 2 | 0.000 | 1.240 | F/G |
| 3 | 2 | 1.240 | 3.151 | H |
| 4 | 3 | 0.000 | 1.240 | J |
| 5 | 3 | 1.240 | 3.151 | I |
| 6 | 4 | 0.000 | 3.600 | E |
| 7 | 9 | 0.000 | 5.800 | D |

WIND VAN RECHTS ZONES

| Nr. | Staafl | Positie | Lengte | Zone |
|-----|--------|---------|--------|------|
| 1 | 9 | 0.000 | 5.800 | E |
| 2 | 4 | 0.000 | 3.600 | D |
| 3 | 3 | 0.000 | 1.240 | F/G |
| 4 | 3 | 1.240 | 3.151 | H |
| 5 | 2 | 0.000 | 1.240 | J |
| 6 | 2 | 1.240 | 3.151 | I |
| 7 | 1 | 0.000 | 3.600 | E |

Wind indexen

| Index | CsCd | Cpe/Cpi | qp | breedte | reductie | Qw | Zone | Hoek(en) |
|-------|------|---------|-------|---------|----------|--------|------|----------|
| Qw1 | | 0.300 | 0.587 | 1.870 | | -0.329 | -i | |
| Qw2 | | 0.300 | 0.587 | 2.250 | | -0.396 | -i | |
| Qw3 | | 0.300 | 0.587 | 4.100 | | -0.722 | -i | |
| Qw4 | 1.00 | 0.800 | 0.587 | 1.870 | | -0.878 | D | |
| Qw5 | 1.00 | 0.700 | 0.587 | 2.250 | | -0.925 | G | 30.1 |
| Qw6 | 1.00 | 0.401 | 0.587 | 2.250 | | -0.530 | H | 30.1 |
| Qw7 | 1.00 | -0.499 | 0.587 | 2.250 | | 0.659 | J | 30.1 |
| Qw8 | 1.00 | -0.399 | 0.587 | 2.250 | | 0.527 | I | 30.1 |
| Qw9 | 1.00 | -0.500 | 0.587 | 1.870 | | 0.549 | E | |
| Qw10 | 1.00 | 0.800 | 0.587 | 4.100 | | -1.926 | D | |
| Qw11 | | -0.200 | 0.587 | 1.870 | | 0.220 | +i | |
| Qw12 | | -0.200 | 0.587 | 2.250 | | 0.264 | +i | |
| Qw13 | | -0.200 | 0.587 | 4.100 | | 0.481 | +i | |
| Qw14 | 1.00 | -0.497 | 0.587 | 2.250 | | 0.656 | G | 30.1 |
| Qw15 | 1.00 | -0.199 | 0.587 | 2.250 | | 0.262 | H | 30.1 |
| Qw16 | 1.00 | -0.500 | 0.587 | 4.100 | | 1.204 | E | |
| Qw17 | 1.00 | -0.800 | 0.587 | 1.870 | | 0.878 | B | |
| Qw18 | 1.00 | -0.800 | 0.587 | 4.100 | | 1.926 | B | |
| Qw19 | 1.00 | -0.801 | 0.587 | 0.403 | | 0.189 | H | 30.1 |
| Qw20 | 1.00 | -0.500 | 0.587 | 1.847 | | 0.542 | I | 30.1 |
| Qw21 | 1.00 | -0.500 | 0.587 | 1.870 | | 0.549 | C | |
| Qw22 | 1.00 | -0.500 | 0.587 | 4.100 | | 1.204 | C | |
| Qw23 | 1.00 | -0.500 | 0.587 | 2.250 | | 0.661 | I | 30.1 |

SNEEUW DAKTYPEN

| Staafl | artikel |
|--------|----------------|
| 2-2 | 5.3.3 Zadeldak |
| 3-3 | 5.3.3 Zadeldak |

Sneeuw indexen

| Index | art | μ | s_k | red. | posfac | breedte | Qs | hoek |
|-------|-------|-------|-------|------|--------|---------|-------|------|
| Qs1 | 5.3.3 | 0.798 | 0.70 | 1.00 | | 2.250 | 1.257 | 30.1 |
| Qs2 | 5.3.3 | 0.399 | 0.70 | 1.00 | | 2.250 | 0.629 | 30.1 |

BELASTINGGEVALLEN

| B.G. | Omschrijving | Type |
|------|----------------------------------|------------|
| | 1 Permanente belasting EGZ=-1.00 | 1 |
| g | 2 Ver. bel. pers. ed. (q_k) | 2 |
| g | 3 Ver. bel. pers. ed. (Q_k) | 3 |
| g | 4 Wind van links onderdruk A | 7 |
| g | 5 Wind van links overdruk A | 8 |
| g | 6 Wind van links onderdruk B | 9 |
| g | 7 Wind van links overdruk B | 10 |
| g | 8 Wind van links onderdruk C | 37 |
| g | 9 Wind van links overdruk C | 38 |
| g | 10 Wind van links onderdruk D | 39 |
| g | 11 Wind van links overdruk D | 40 |
| g | 12 Wind van rechts onderdruk A | 11 |
| g | 13 Wind van rechts overdruk A | 12 |
| g | 14 Wind van rechts onderdruk B | 13 |
| g | 15 Wind van rechts overdruk B | 14 |
| g | 16 Wind van rechts onderdruk C | 41 |
| g | 17 Wind van rechts overdruk C | 42 |
| g | 18 Wind van rechts onderdruk D | 43 |
| g | 19 Wind van rechts overdruk D | 44 |
| g | 20 Wind loodrecht onderdruk A | 15 |
| g | 21 Wind loodrecht overdruk A | 16 |
| g | 22 Wind loodrecht onderdruk B | 45 |
| g | 23 Wind loodrecht overdruk B | 46 |
| g* | 24 Sneeuw A | 22 |
| g | 25 Sneeuw B | 23 |
| g | 26 Sneeuw C | 33 |
| | 27 Knik | 0 Onbekend |

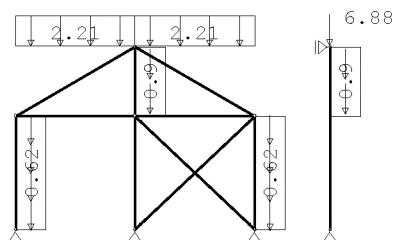
g = gegenereerd belastinggeval

* = belastinggeval bevat 1 of meer handmatig toegevoegde en/of gewijzigde lasten

BELASTINGEN

B.G:1 Permanente belasting

Eigen gewicht van alle staven is meegenomen in berekening. Richting:↓



KNOOPBELASTINGEN

B.G:1 Permanente belasting

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 9 | Z | -6.880 | | | |

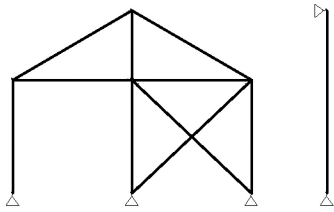
STAAFBELASTINGEN

B.G:1 Permanente belasting

| Staat | Type | $q_1/p/m$ | q_2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-----------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | -2.21 | -2.21 | 0.000 | 0.000 | | | |
| 3 | 3:QZgeProj. | -2.21 | -2.21 | 0.000 | 0.000 | | | |
| 1 | 2:QXLokaal | -0.62 | -0.62 | 0.000 | 0.000 | | | |
| 4 | 2:QXLokaal | 0.62 | 0.62 | 0.000 | 0.000 | | | |
| 6 | 2:QXLokaal | -0.90 | -0.90 | 0.000 | 0.000 | | | |
| 9 | 2:QXLokaal | -0.90 | -0.90 | 3.600 | 0.000 | | | |

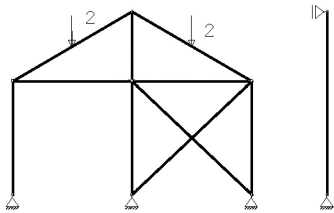
BELASTINGEN

B.G:2 Ver. bel. pers. ed. (q_k)



BELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)



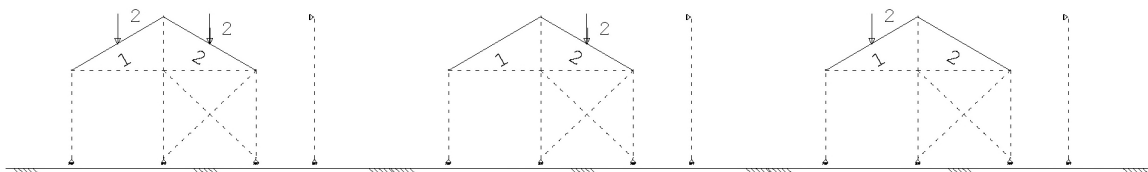
STAAFBELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)

| StAAF | Type | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|---------------|--------|----|-------|---|----------|----------|----------|
| 2 | 10:PZGepro.j. | -2.00 | | 2.195 | | 0.00 | 0.00 | 0.00 |
| 3 | 10:PZGepro.j. | -2.00 | | 2.195 | | 0.00 | 0.00 | 0.00 |

SITUATIES BELAST/ONBELAST

B.G:3 Ver. bel. pers. ed. (Q_k)



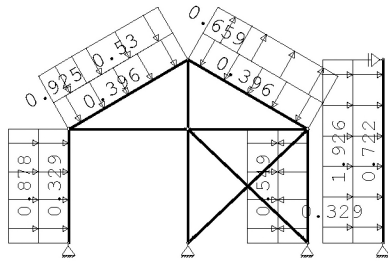
SITUATIES BELAST/ONBELAST

Belastingtype: Q_k

| Nr | Lastvelden belast | Lastvelden onbelast |
|----|-------------------|---------------------|
| 1 | 1,2 | |
| 2 | 2 | 1 |
| 3 | 1 | 2 |

BELASTINGEN

B.G:4 Wind van links onderdruk A



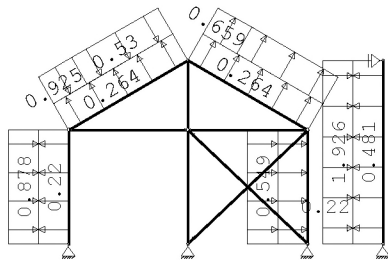
STAAFBELASTINGEN

B.G:4 Wind van links onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:5 Wind van links overdruk A



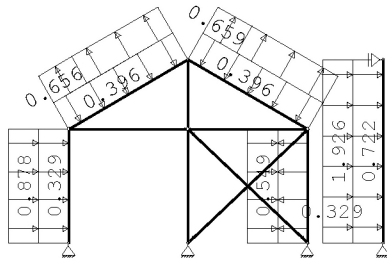
STAAFBELASTINGEN

B.G:5 Wind van links overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:6 Wind van links onderdruk B



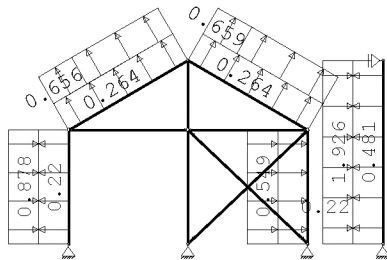
STAAFBELASTINGEN

B.G:6 Wind van links onderdruk B

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:7 Wind van links overdruk B



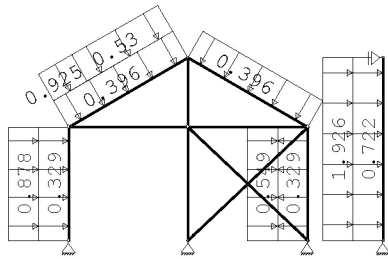
STAAFBELASTINGEN

B.G:7 Wind van links overdruk B

| StAAF | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:8 Wind van links onderdruk C



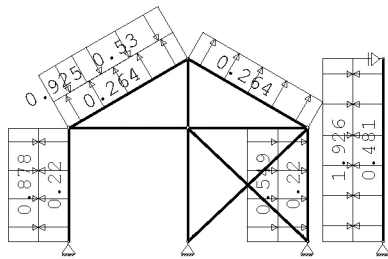
STAAFBELASTINGEN

B.G:8 Wind van links onderdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:9 Wind van links overdruk C



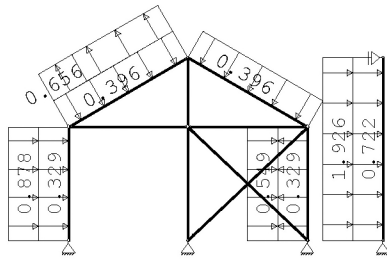
STAAFBELASTINGEN

B.G:9 Wind van links overdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:10 Wind van links onderdruk D



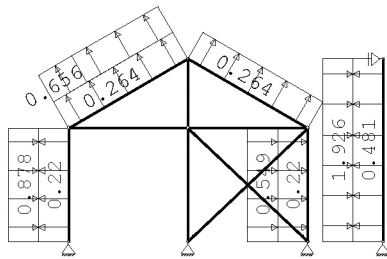
STAAFBELASTINGEN

B.G:10 Wind van links onderdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:11 Wind van links overdruk D



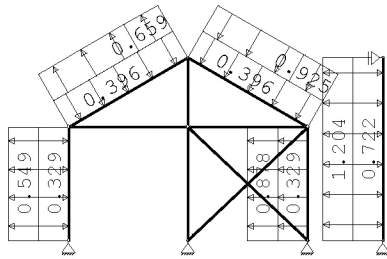
STAAFBELASTINGEN

B.G:11 Wind van links overdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:12 Wind van rechts onderdruk A



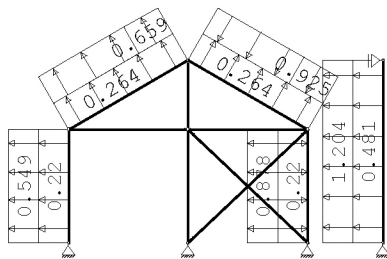
STAAFBELASTINGEN

B.G:12 Wind van rechts onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:13 Wind van rechts overdruk A



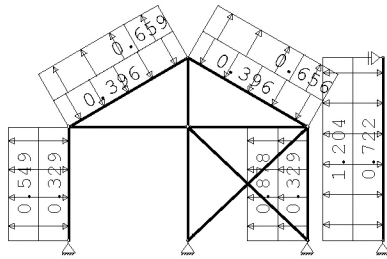
STAAFBELASTINGEN

B.G:13 Wind van rechts overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:14 Wind van rechts onderdruk B



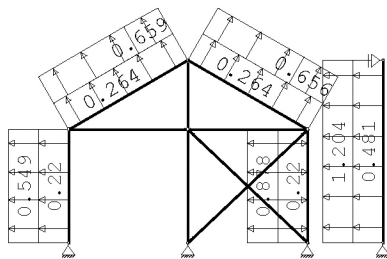
STAAFBELASTINGEN

B.G:14 Wind van rechts onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:15 Wind van rechts overdruk B



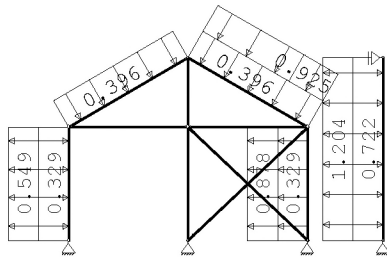
STAAFBELASTINGEN

B.G:15 Wind van rechts overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:16 Wind van rechts onderdruk C



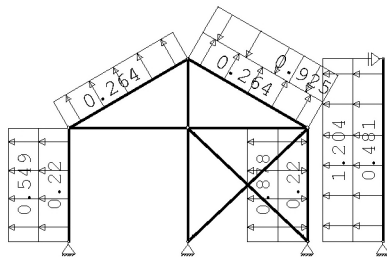
STAAFBELASTINGEN

B.G:16 Wind van rechts onderdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:17 Wind van rechts overdruk C



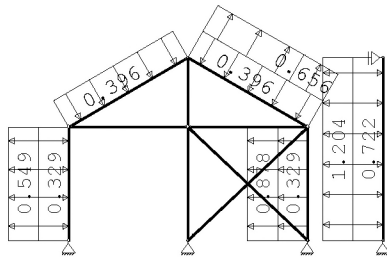
STAAFBELASTINGEN

B.G:17 Wind van rechts overdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:18 Wind van rechts onderdruk D



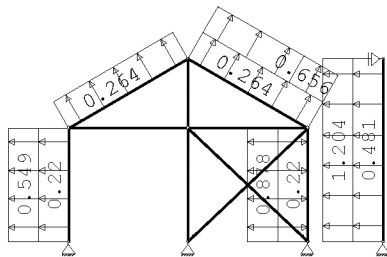
STAAFBELASTINGEN

B.G:18 Wind van rechts onderdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:19 Wind van rechts overdruk D



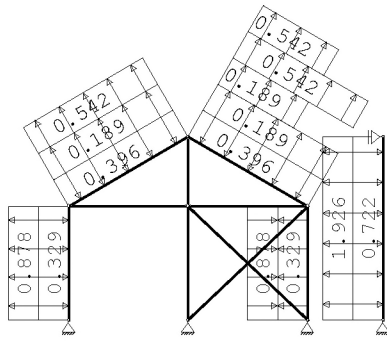
STAAFBELASTINGEN

B.G:19 Wind van rechts overdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:20 Wind loodrecht onderdruk A



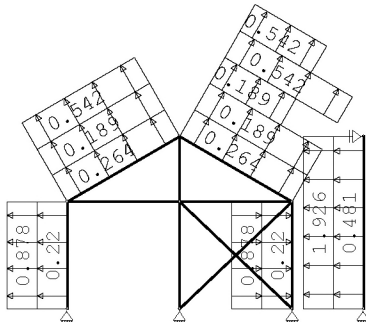
STAAFBELASTINGEN

B.G:20 Wind loodrecht onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw17 | 0.88 | 0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw17 | 0.88 | 0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw18 | 1.93 | 1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:21 Wind loodrecht overdruk A



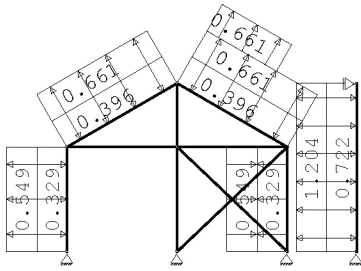
STAAFBELASTINGEN

B.G:21 Wind loodrecht overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw17 | 0.88 | 0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw17 | 0.88 | 0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw18 | 1.93 | 1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:22 Wind loodrecht onderdruk B



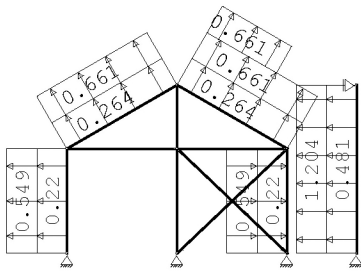
STAAFBELASTINGEN

B.G:22 Wind loodrecht onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw21 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw21 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw22 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:23 Wind loodrecht overdruk B



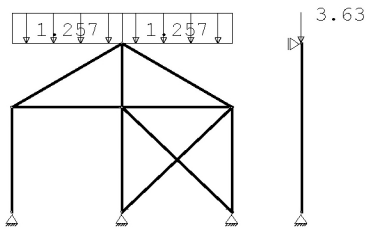
STAAFBELASTINGEN

B.G:23 Wind loodrecht overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw21 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw21 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw22 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:24 Sneeuw A



KNOOPBELASTINGEN

B.G:24 Sneeuw A

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 | Opm. |
|------|-------|----------|--------|----------|----------|----------|------|
| 1 | 9 | Z | -3.630 | 0.00 | 0.20 | 0.00 | * |

Opmerkingen

[*] Deze belasting is handmatig toegevoegd of gewijzigd.

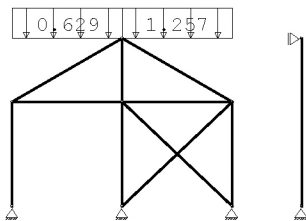
STAAFBELASTINGEN

B.G:24 Sneeuw A

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -1.26 | -1.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs1 | -1.26 | -1.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:25 Sneeuw B



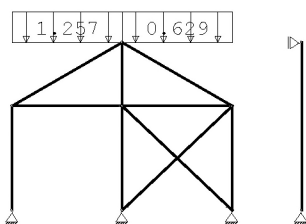
STAAFBELASTINGEN

B.G:25 Sneeuw B

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs2 | -0.63 | -0.63 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs1 | -1.26 | -1.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:26 Sneeuw C



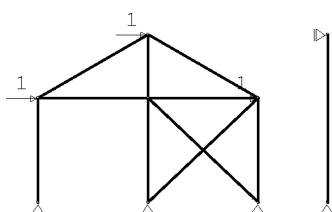
STAAFBELASTINGEN

B.G:26 Sneeuw C

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -1.26 | -1.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs2 | -0.63 | -0.63 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:27 Knik



KNOOPBELASTINGEN

B.G.:27 Knik

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 2 | X | 1.000 | | | |
| 2 | 3 | X | 1.000 | | | |
| 3 | 4 | X | 1.000 | | | |

REACTIES

| Kn. | B.G. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|------|-------|-------|-------|-------|-------|-------|
| 1 | 1 | 0.69 | | 9.55 | | | |
| 1 | 2 | 0.00 | | 0.00 | | | |
| 1 | 3 | 0.00 | 0.22 | 0.06 | 1.30 | | |
| 1 | 4 | -1.61 | | 2.84 | | | |
| 1 | 5 | -0.97 | | 0.86 | | | |
| 1 | 6 | -1.94 | | 0.29 | | | |
| 1 | 7 | -1.31 | | -1.70 | | | |
| 1 | 8 | -1.60 | | 3.09 | | | |
| 1 | 9 | -0.96 | | 1.10 | | | |
| 1 | 10 | -1.93 | | 0.53 | | | |
| 1 | 11 | -1.30 | | -1.46 | | | |
| 1 | 12 | 0.35 | | 0.72 | | | |
| 1 | 13 | 0.98 | | -1.27 | | | |
| 1 | 14 | 0.32 | | 0.09 | | | |
| 1 | 15 | 0.96 | | -1.90 | | | |
| 1 | 16 | 0.54 | | 1.75 | | | |
| 1 | 17 | 1.17 | | -0.24 | | | |
| 1 | 18 | 0.51 | | 1.12 | | | |
| 1 | 19 | 1.15 | | -0.87 | | | |
| 1 | 20 | 0.74 | | -1.41 | | | |
| 1 | 21 | 1.38 | | -3.40 | | | |
| 1 | 22 | 0.25 | | -1.04 | | | |
| 1 | 23 | 0.88 | | -3.03 | | | |
| 1 | 24 | 0.35 | | 2.96 | | | |
| 1 | 25 | 0.18 | | 1.56 | | | |
| 1 | 26 | 0.34 | | 2.91 | | | |
| 1 | 27 | -0.03 | | -0.18 | | | |
| 5 | 1 | -0.69 | | 9.55 | | | |
| 5 | 2 | 0.00 | | 0.00 | | | |
| 5 | 3 | -0.22 | -0.00 | 0.26 | 1.30 | | |
| 5 | 4 | -0.34 | | 6.13 | | | |
| 5 | 5 | -0.98 | | 4.15 | | | |
| 5 | 6 | -0.32 | | 3.15 | | | |
| 5 | 7 | -0.96 | | 1.16 | | | |
| 5 | 8 | -0.53 | | 5.85 | | | |
| 5 | 9 | -1.17 | | 3.86 | | | |
| 5 | 10 | -0.51 | | 2.86 | | | |
| 5 | 11 | -1.15 | | 0.87 | | | |
| 5 | 12 | 7.41 | | -2.57 | | | |
| 5 | 13 | 6.77 | | -4.56 | | | |
| 5 | 14 | 5.21 | | -2.77 | | | |
| 5 | 15 | 4.58 | | -4.76 | | | |
| 5 | 16 | 5.99 | | -1.01 | | | |
| 5 | 17 | 5.35 | | -3.00 | | | |
| 5 | 18 | 3.79 | | -1.21 | | | |
| 5 | 19 | 3.16 | | -3.20 | | | |
| 5 | 20 | -0.59 | | -0.60 | | | |
| 5 | 21 | -1.22 | | -2.59 | | | |
| 5 | 22 | -0.11 | | -0.31 | | | |
| 5 | 23 | -0.74 | | -2.30 | | | |
| 5 | 24 | -0.35 | | 2.96 | | | |
| 5 | 25 | -0.18 | | 2.75 | | | |
| 5 | 26 | -0.18 | | 1.71 | | | |
| 5 | 27 | -0.02 | | 3.24 | | | |
| 6 | 1 | 0.00 | | 11.42 | | | |
| 6 | 2 | 0.00 | | 0.00 | | | |
| 6 | 3 | -0.21 | 0.00 | 0.48 | 1.41 | | |
| 6 | 4 | -5.84 | | -5.67 | | | |
| 6 | 5 | -5.84 | | -6.72 | | | |
| 6 | 6 | -3.29 | | -3.98 | | | |
| 6 | 7 | -3.29 | | -5.03 | | | |
| 6 | 8 | -4.42 | | -3.49 | | | |
| 6 | 9 | -4.42 | | -4.53 | | | |
| 6 | 10 | -1.87 | | -1.80 | | | |
| 6 | 11 | -1.88 | | -2.84 | | | |
| 6 | 12 | 0.04 | | 5.16 | | | |
| 6 | 13 | 0.04 | | 4.12 | | | |

| | | | |
|---|----|-------|-------|
| 6 | 14 | 0.02 | 2.12 |
| 6 | 15 | 0.02 | 1.08 |
| 6 | 16 | 0.03 | 4.72 |
| 6 | 17 | 0.03 | 3.68 |
| 6 | 18 | 0.01 | 1.67 |
| 6 | 19 | 0.01 | 0.63 |
| 6 | 20 | -1.17 | -2.30 |
| 6 | 21 | -1.17 | -3.34 |
| 6 | 22 | -1.06 | -2.24 |
| 6 | 23 | -1.06 | -3.28 |
| 6 | 24 | 0.00 | 3.63 |
| 6 | 25 | 0.00 | 2.86 |
| 6 | 26 | -0.17 | 2.55 |
| 6 | 27 | -2.95 | -3.07 |

| | | | |
|---|----|-------|-------|
| 8 | 1 | 0.00 | 10.63 |
| 8 | 2 | 0.00 | 0.00 |
| 8 | 3 | 0.00 | 0.00 |
| 8 | 4 | -7.68 | 0.00 |
| 8 | 5 | -4.19 | 0.00 |
| 8 | 6 | -7.68 | 0.00 |
| 8 | 7 | -4.19 | 0.00 |
| 8 | 8 | -7.68 | 0.00 |
| 8 | 9 | -4.19 | 0.00 |
| 8 | 10 | -7.68 | 0.00 |
| 8 | 11 | -4.19 | 0.00 |
| 8 | 12 | 1.40 | 0.00 |
| 8 | 13 | 4.89 | 0.00 |
| 8 | 14 | 1.40 | 0.00 |
| 8 | 15 | 4.89 | 0.00 |
| 8 | 16 | 1.40 | 0.00 |
| 8 | 17 | 4.89 | 0.00 |
| 8 | 18 | 1.40 | 0.00 |
| 8 | 19 | 4.89 | 0.00 |
| 8 | 20 | 3.49 | 0.00 |
| 8 | 21 | 6.98 | 0.00 |
| 8 | 22 | 1.40 | 0.00 |
| 8 | 23 | 4.89 | 0.00 |
| 8 | 24 | 0.00 | 3.63 |
| 8 | 25 | 0.00 | 0.00 |
| 8 | 26 | 0.00 | 0.00 |
| 8 | 27 | 0.00 | 0.00 |

| | | |
|---|----|-------|
| 9 | 1 | 0.00 |
| 9 | 2 | 0.00 |
| 9 | 3 | 0.00 |
| 9 | 4 | -7.68 |
| 9 | 5 | -4.19 |
| 9 | 6 | -7.68 |
| 9 | 7 | -4.19 |
| 9 | 8 | -7.68 |
| 9 | 9 | -4.19 |
| 9 | 10 | -7.68 |
| 9 | 11 | -4.19 |
| 9 | 12 | 1.40 |
| 9 | 13 | 4.89 |
| 9 | 14 | 1.40 |
| 9 | 15 | 4.89 |
| 9 | 16 | 1.40 |
| 9 | 17 | 4.89 |
| 9 | 18 | 1.40 |
| 9 | 19 | 4.89 |
| 9 | 20 | 3.49 |
| 9 | 21 | 6.98 |
| 9 | 22 | 1.40 |
| 9 | 23 | 4.89 |
| 9 | 24 | 0.00 |
| 9 | 25 | 0.00 |
| 9 | 26 | 0.00 |
| 9 | 27 | 0.00 |

BELASTINGCOMBINATIES

BC Type

| | | | | |
|---------|------|-----------|--------|-----------|
| 1 Fund. | 1.22 | $G_{k,1}$ | | |
| 2 Fund. | 0.90 | $G_{k,1}$ | | |
| 3 Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,3}$ |
| 4 Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,4}$ |
| 5 Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,5}$ |

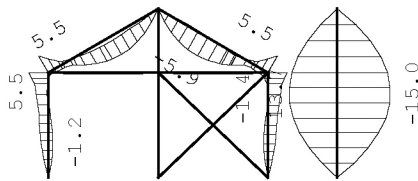
| | | | | | |
|----------|------|------------------|---|------|-------------------|
| 6 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,6} |
| 7 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,7} |
| 8 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,8} |
| 9 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,9} |
| 10 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,10} |
| 11 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,11} |
| 12 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,12} |
| 13 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,13} |
| 14 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,14} |
| 15 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,15} |
| 16 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,16} |
| 17 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,17} |
| 18 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,18} |
| 19 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,19} |
| 20 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,20} |
| 21 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,21} |
| 22 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,22} |
| 23 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,23} |
| 24 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,24} |
| 25 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,25} |
| 26 Fund. | 1.08 | G _{k,1} | + | 1.35 | Q _{k,26} |
| 27 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,27} |
| 28 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,28} |
| 29 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,29} |
| 30 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,30} |
| 31 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,31} |
| 32 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,32} |
| 33 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,33} |
| 34 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,34} |
| 35 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,35} |
| 36 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,36} |
| 37 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,37} |
| 38 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,38} |
| 39 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,39} |
| 40 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,40} |
| 41 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,41} |
| 42 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,42} |
| 43 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,43} |
| 44 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,44} |
| 45 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,45} |
| 46 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,46} |
| 47 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,47} |
| 48 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,48} |
| 49 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,49} |
| 50 Fund. | 0.90 | G _{k,1} | + | 1.35 | Q _{k,50} |
| 51 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,51} |
| 52 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,52} |
| 53 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,53} |
| 54 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,54} |
| 55 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,55} |
| 56 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,56} |
| 57 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,57} |
| 58 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,58} |
| 59 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,59} |
| 60 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,60} |
| 61 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,61} |
| 62 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,62} |
| 63 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,63} |
| 64 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,64} |
| 65 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,65} |
| 66 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,66} |
| 67 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,67} |
| 68 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,68} |
| 69 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,69} |
| 70 Kar. | 1.00 | G _{k,1} | + | 1.00 | Q _{k,70} |

| | | | | | |
|-----------|------|-----------|---|------|-------------------|
| 71 Kar. | 1.00 | $G_{k,1}$ | + | 1.00 | $Q_{k,23}$ |
| 72 Kar. | 1.00 | $G_{k,1}$ | + | 1.00 | $Q_{k,24}$ |
| 73 Kar. | 1.00 | $G_{k,1}$ | + | 1.00 | $Q_{k,25}$ |
| 74 Kar. | 1.00 | $G_{k,1}$ | + | 1.00 | $Q_{k,26}$ |
| 75 Quas. | 1.00 | $G_{k,1}$ | | | |
| 76 Freq. | 1.00 | $G_{k,1}$ | | | |
| 77 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,4}$ |
| 78 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,5}$ |
| 79 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,6}$ |
| 80 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,7}$ |
| 81 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,8}$ |
| 82 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,9}$ |
| 83 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,10}$ |
| 84 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,11}$ |
| 85 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,12}$ |
| 86 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,13}$ |
| 87 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,14}$ |
| 88 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,15}$ |
| 89 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,16}$ |
| 90 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,17}$ |
| 91 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,18}$ |
| 92 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,19}$ |
| 93 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,20}$ |
| 94 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,21}$ |
| 95 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,22}$ |
| 96 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,23}$ |
| 97 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,24}$ |
| 98 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,25}$ |
| 99 Freq. | 1.00 | $G_{k,1}$ | + | 1.00 | $\psi_1 Q_{k,26}$ |
| 100 Blij. | 1.00 | $G_{k,1}$ | | | |

OMHULLENDE VAN DE FUNDAMENTELE COMBINATIES

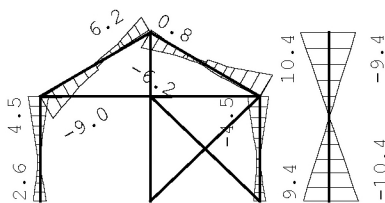
MOMENTEN

Fundamentele combinatie



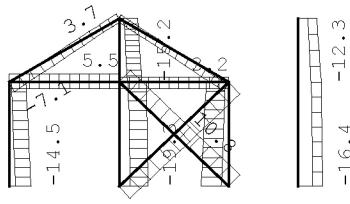
DWARSKRACHTEN

Fundamentele combinatie



NORMAALKRACHTEN

Fundamentele combinatie



STAAFKRACHTEN

Fundamentele combinatie

| St. | Kn. | Pos. | NXi/NXj | | Dzi/DZj | | | | MYi/MYj | | | | | |
|-----|-------|------|---------|----|---------|----|--------|----|---------|----|--------|----|-------|----|
| | | | Min | BC | Max | BC | Min | BC | Max | BC | Min | BC | Max | BC |
| 1 | 1 | | -14.49 | 8 | -4.01 | 45 | -2.01 | 30 | 2.61 | 21 | 0.00 | 30 | 0.00 | 21 |
| 1 | 1.073 | | -13.48 | 8 | -3.17 | 45 | -0.26 | 30 | 1.21 | 17 | -1.21 | 30 | 1.94 | 21 |
| 1 | 1.231 | | -13.33 | 8 | -3.05 | 45 | -0.05 | 31 | 1.21 | 24 | -1.24 | 30 | 2.08 | 21 |
| 1 | 1.531 | | -13.05 | 8 | -2.81 | 45 | 0.21 | 31 | 1.21 | 24 | -1.16 | 30 | 2.34 | 17 |
| 1 | 1.610 | | -12.98 | 8 | -2.75 | 45 | 0.10 | 45 | 1.21 | 24 | -1.12 | 30 | 2.40 | 17 |
| 1 | 2.582 | | -12.07 | 8 | -1.99 | 45 | -1.35 | 45 | 2.80 | 8 | -0.00 | 31 | 3.13 | 24 |
| 1 | 3.061 | | -11.62 | 8 | -1.62 | 45 | -2.06 | 45 | 3.58 | 8 | 0.65 | 31 | 3.71 | 24 |
| 1 | 3.349 | | -11.35 | 8 | -1.40 | 45 | -2.48 | 45 | 4.05 | 8 | 0.00 | 45 | 4.41 | 8 |
| 1 | 2 | | -11.12 | 8 | -1.20 | 45 | -2.85 | 45 | 4.46 | 8 | -0.67 | 45 | 5.48 | 8 |
| 2 | 2 | | -7.06 | 12 | -0.67 | 45 | -8.99 | 8 | -0.59 | 45 | -0.67 | 45 | 5.48 | 8 |
| 2 | 0.973 | | -5.92 | 12 | 0.28 | 45 | -5.29 | 8 | -0.26 | 45 | -2.09 | 26 | -0.00 | 35 |
| 2 | 2.082 | | -4.63 | 12 | 1.36 | 45 | -2.25 | 3 | 0.11 | 45 | -5.62 | 26 | -1.16 | 47 |
| 2 | 2.496 | | -4.14 | 12 | 1.76 | 45 | -0.31 | 10 | 0.93 | 27 | -5.90 | 26 | -1.09 | 45 |
| 2 | 3 | | -2.07 | 36 | 3.74 | 21 | 0.89 | 45 | 6.23 | 26 | 0.00 | 26 | 0.00 | 45 |
| 3 | 3 | | -1.87 | 28 | 2.73 | 21 | -6.23 | 25 | 0.81 | 45 | 0.00 | 25 | 0.00 | 45 |
| 3 | 1.248 | | -3.19 | 4 | 1.38 | 45 | -2.24 | 3 | 0.00 | 45 | -5.22 | 25 | 0.51 | 45 |
| 3 | 1.534 | | -3.52 | 4 | 1.10 | 45 | -1.66 | 3 | -0.16 | 47 | -5.69 | 25 | 0.48 | 45 |
| 3 | 1.895 | | -3.95 | 4 | 0.75 | 45 | -0.93 | 3 | 0.31 | 42 | -5.91 | 25 | 0.37 | 45 |
| 3 | 2.113 | | -4.20 | 4 | 0.54 | 45 | -0.56 | 27 | 0.89 | 16 | -5.83 | 25 | 0.26 | 45 |
| 3 | 2.495 | | -4.65 | 4 | 0.17 | 45 | -0.81 | 45 | 2.62 | 3 | -5.31 | 25 | 0.00 | 45 |
| 3 | 2.773 | | -4.97 | 4 | -0.10 | 45 | -0.99 | 45 | 3.18 | 3 | -4.64 | 25 | -0.25 | 45 |
| 3 | 3.087 | | -5.34 | 4 | -0.41 | 45 | -0.89 | 45 | 4.07 | 16 | -3.57 | 25 | -0.48 | 47 |
| 3 | 3.417 | | -5.72 | 4 | -0.73 | 45 | -0.77 | 45 | 5.29 | 16 | -2.09 | 25 | -0.00 | 43 |
| 3 | 3.615 | | -5.96 | 4 | -0.92 | 45 | -0.71 | 45 | 6.05 | 16 | -1.07 | 11 | 0.47 | 42 |
| 3 | 4 | | -6.86 | 4 | -1.68 | 45 | -0.45 | 45 | 8.99 | 16 | -1.41 | 45 | 5.49 | 16 |
| 4 | 4 | | -15.23 | 4 | -2.30 | 45 | -4.46 | 16 | 3.06 | 45 | -1.41 | 45 | 5.49 | 16 |
| 4 | 0.530 | | -15.72 | 4 | -2.71 | 45 | -3.60 | 16 | 2.28 | 45 | 0.00 | 45 | 3.72 | 24 |
| 4 | 0.727 | | -15.91 | 4 | -2.86 | 45 | -3.28 | 16 | 1.98 | 45 | 0.38 | 47 | 3.48 | 24 |
| 4 | 1.021 | | -16.18 | 4 | -3.09 | 45 | -2.80 | 16 | 1.55 | 45 | -0.00 | 39 | 3.13 | 24 |
| 4 | 1.992 | | -17.09 | 4 | -3.85 | 45 | -1.21 | 16 | 0.11 | 45 | -1.12 | 38 | 2.39 | 9 |
| 4 | 2.163 | | -17.25 | 4 | -3.98 | 45 | -1.21 | 24 | -0.13 | 47 | -1.20 | 38 | 2.26 | 9 |
| 4 | 2.371 | | -17.44 | 4 | -4.14 | 45 | -1.21 | 24 | 0.05 | 39 | -1.23 | 38 | 2.07 | 9 |
| 4 | 2.531 | | -17.59 | 4 | -4.27 | 45 | -1.21 | 24 | 0.26 | 38 | -1.21 | 38 | 1.89 | 9 |
| 4 | 5 | | -18.60 | 4 | -5.10 | 45 | -2.40 | 21 | 2.00 | 38 | 0.00 | 38 | 0.00 | 21 |
| 5 | 6 | | -19.29 | 12 | -7.19 | 47 | -0.06 | 4 | 0.05 | 12 | 0.00 | 4 | 0.00 | 12 |
| 5 | 7 | | -18.11 | 12 | -6.20 | 47 | -0.06 | 4 | 0.05 | 12 | -0.21 | 4 | 0.20 | 12 |
| 6 | 7 | | -15.19 | 24 | -5.49 | 47 | -0.09 | 12 | 0.09 | 4 | -0.21 | 4 | 0.20 | 12 |
| 6 | 3 | | -12.33 | 24 | -3.11 | 47 | -0.09 | 12 | 0.09 | 4 | 0.00 | 4 | 0.00 | 12 |
| 7 | 4 | | 0.00 | 1 | 10.78 | 29 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 |
| 7 | 6 | | 0.00 | 1 | 10.78 | 29 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 |
| 8 | 7 | | 0.00 | 1 | 10.78 | 37 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 |
| 8 | 5 | | 0.00 | 1 | 10.78 | 37 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 |
| 9 | 8 | | -16.38 | 24 | -9.56 | 2 | -10.37 | 4 | 9.42 | 21 | 0.00 | 4 | 0.00 | 21 |
| 9 | 2.900 | | -15.42 | 24 | -8.77 | 2 | 0.00 | 4 | 0.00 | 21 | -15.03 | 4 | 13.67 | 21 |
| 9 | 9 | | -12.33 | 24 | -6.19 | 2 | -9.42 | 21 | 10.37 | 4 | 0.00 | 4 | 0.00 | 21 |
| 10 | 2 | | -4.54 | 28 | 5.53 | 13 | -0.48 | 1 | -0.35 | 2 | 0.00 | 1 | 0.00 | 2 |
| 10 | 1.900 | | -4.54 | 28 | 5.53 | 13 | 0.00 | 1 | 0.00 | 2 | -0.46 | 1 | -0.34 | 2 |
| 10 | 7 | | -4.54 | 28 | 5.53 | 13 | 0.35 | 2 | 0.48 | 1 | 0.00 | 1 | 0.00 | 2 |
| 11 | 7 | | -4.39 | 28 | 3.25 | 21 | -0.48 | 1 | -0.35 | 2 | 0.00 | 1 | 0.00 | 2 |
| 11 | 1.900 | | -4.39 | 28 | 3.25 | 21 | 0.00 | 1 | 0.00 | 2 | -0.46 | 1 | -0.34 | 2 |
| 11 | 4 | | -4.39 | 28 | 3.25 | 21 | 0.35 | 2 | 0.48 | 1 | 0.00 | 1 | 0.00 | 2 |

REACTIES

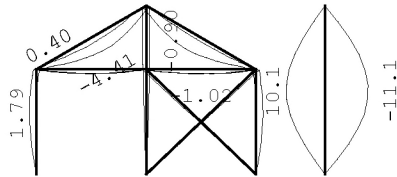
| Kn. | | | | | | Fundamentele combinatie | |
|-----|--------|-------|-------|-------|-------|-------------------------|--|
| | X-min | X-max | Z-min | Z-max | M-min | M-max | |
| 1 | -2.01 | 2.61 | 4.01 | 14.49 | | | |
| 5 | -2.40 | 9.37 | 2.18 | 18.60 | | | |
| 6 | -7.88 | 0.05 | 1.22 | 19.29 | | | |
| 8 | -10.37 | 9.42 | 9.56 | 16.38 | | | |
| 9 | -10.37 | 9.42 | | | | | |

OMHULLENDE VAN DE KARAKTERISTIEKE COMBINATIES

VERPLAATSINGEN

[mm]

Karakteristieke combinatie

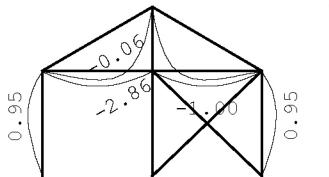


OMHULLENDE VAN DE BLIJVENDE COMBINATIES

VERPLAATSINGEN

[mm]

Blijvende combinatie



STAALPROFIELEN - ALGEMENE GEGEVENS

| | | |
|------------------------------|--|-------------|
| Stabiliteit: | Classificatie gehele constructie: | Ongeschoord |
| | Belastinggeval m.b.t. bepaling kniklengte: | 27=Knik |
| | Aanpassing inkl. parameter C : | Steunpunten |
| Tweede-orde-effect: | Aan te houden verhouding $n/(n-1)$ voor steunmomenten en verplaatsingen: | 1.00 |
| Doorbuiging en verplaatsing: | Aantal bouwlagen: | 1 |
| | Gebouwtype: | Overig |
| | Toel. horiz. verplaatsing gehele gebouw: | $h/150$ |
| | Kleinste gevelhoogte [m]: | 0.0 |

PROFIEL/MATERIAAL

| P/M nr. | Profielnaam | Vloeispr. [N/mm ²] | Productie methode | Min. drsn. klasse |
|---------|-----------------|--------------------------------|-------------------|-------------------|
| 1 | HEA140 | 235 | Gewalst | 1 |
| 2 | HEA160(90) | 235 | Gewalst | 1 |
| 3 | HEA160 | 235 | Gewalst | 1 |
| 4 | K160/80/6CF(90) | 235 | Koudgevormd | 1 |
| 5 | STRIP6*60 | 235 | Gewalst | 1 |

Partiële veiligheidsfactoren:

Gamma M;0 : 1.00 Gamma M;1 : 1.00

KNIKSTABILITEIT

| Staafl | l _{sys} [m] | Classif. y sterke as | l _{knik,y} [m] | Extra | | Extra | |
|--------|-------------------------|-------------------------|----------------------------|-----------------|-------------------------|----------------------------|-----------------|
| | | | | aanp. y [kN] | Classif. z zwakke as | l _{knik,z} [m] | aanp. z [kN] |
| 1 | 3.600 | Ongeschoord | 9.001 | 0.0 | Geschoord | 3.600 | 0.0 |
| 2 | 4.391 | Ongeschoord | 11.505 | 0.0 | Geschoord | 4.391 | 0.0 |
| 3 | 4.391 | Ongeschoord | 11.767 | 0.0 | Geschoord | 4.391 | 0.0 |
| 4 | 3.600 | Ongeschoord | 9.206 | 0.0 | Geschoord | 3.600 | 0.0 |
| 5-6 | 5.800 | Geschoord | 5.800 | 0.0 | Geschoord | 5.800 | 0.0 |
| 7 | 5.235 | Geschoord | 5.235 | 0.0 | Geschoord | 5.235 | 0.0 |
| 8 | 5.235 | Geschoord | 5.235 | 0.0 | Geschoord | 5.235 | 0.0 |
| 9 | 5.800 | Geschoord | 5.800 | 0.0 | Geschoord | 5.800 | 0.0 |
| 10 | 3.800 | Geschoord | 3.800 | 0.0 | Geschoord | 3.800 | 0.0 |
| 11 | 3.800 | Geschoord | 3.800 | 0.0 | Geschoord | 3.800 | 0.0 |

KIPSTABILITEIT

| Staafl | Plts. aangr. | l gaffel | Kipsteunafstanden | |
|--------|-----------------|----------|-------------------|-------|
| | | | [m] | [m] |
| 1 | 1.0*h | boven: | 3.60 | 3,6 |
| | | onder: | 3.60 | 3,6 |
| 2 | 1.0*h | boven: | 4.39 | 4,391 |
| | | onder: | 4.39 | 4,391 |
| 3 | 1.0*h | boven: | 4.39 | 4,391 |
| | | onder: | 4.39 | 4,391 |
| 4 | 1.0*h | boven: | 3.60 | 3,6 |
| | | onder: | 3.60 | 3,6 |
| 5-6 | 1.0*h | boven: | 5.80 | 5,8 |
| | | onder: | 5.80 | 5,8 |
| 7 | 1.0*h | boven: | 5.23 | 5,235 |
| | | onder: | 5.23 | 5,235 |
| 8 | 1.0*h | boven: | 5.23 | 5,235 |
| | | onder: | 5.23 | 5,235 |
| 9 | 1.0*h | boven: | 5.80 | 5,8 |
| | | onder: | 5.80 | 5,8 |
| 10 | 1.0*h | boven: | 3.80 | 3,800 |
| | | onder: | 3.80 | 3,800 |
| 11 | 1.0*h | boven: | 3.80 | 3,800 |
| | | onder: | 3.80 | 3,800 |

TOETSING SPANNINGEN

| Staafl | P/M | BC | Sit | Kl | Plaats | Norm | Artikel | Formule | Hoogste toetsing | | Opm. |
|--------|-----|----|-----|----|--------|---------|---------|---------|------------------|----------------------|-------|
| | | | | | | | | | U.C. | [N/mm ²] | |
| 1 | 1 | 8 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.196 | 46 | 47 |
| 2 | 1 | 24 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.185 | 43 | 47 |
| 3 | 1 | 24 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.187 | 44 | 47 |
| 4 | 1 | 16 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.61) | 0.200 | 47 | 47 |
| 5-6 | 2 | 12 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.078 | 18 | 42,47 |
| 7 | 5 | 29 | 1 | 1 | Begin | EN3-1-1 | 6.2.3 | (6.5) | 0.127 | 30 | |
| 8 | 5 | 37 | 1 | 1 | Begin | EN3-1-1 | 6.2.3 | (6.5) | 0.127 | 30 | |
| 9 | 3 | 4 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.391 | 92 | 47 |
| 10 | 4 | 4 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.038 | 9 | |
| 11 | 4 | 4 | 1 | 1 | Staafl | EN3-1-1 | 6.3.3 | (6.62) | 0.037 | 9 | |

Opmerkingen:

[42] Waarschuwing: Er sluiten tussentijds staven en/of opleggingen aan.

[47] Bij verlopende normaalkracht wordt de grootste drukkracht genomen.

TOETSING DOORBUIGING

| Staaft | Soort | Mtg | Lengte [m] | Overst I J | Zeeg [mm] | u_{tot} [mm] | BC | Sit | u [mm] | Toelaatbaar [mm] | *1 |
|--------|-------|-----|---------------|---------------|--------------|-------------------|----|--------|-----------|---------------------|---------|
| 2 | Dak | db | 4.39 | N N | 0.0 | -4.2 | 74 | 1 Eind | -4.2 | -17.6 | 0.004 |
| | | 74 | | | | | | 1 Bijk | -1.4 | -17.6 | 0.004 |
| 3 | Dak | db | 4.39 | N N | 0.0 | -4.2 | 73 | 1 Eind | -4.2 | -17.6 | 0.004 |
| | | 73 | | | | | | 1 Bijk | -1.4 | -17.6 | 0.004 |
| 9 | Dak | db | 5.80 | N N | 0.0 | -11.1 | 52 | 1 Eind | -11.1 | -23.2 | 0.004 |
| | | 52 | | | | | | 1 Bijk | -11.1 | -23.2 | 0.004 |
| 10 | Vloer | db | 3.80 | N N | 0.0 | -1.0 | 61 | 1 Eind | -1.0 | ±15.2 | 0.004 |
| | | 61 | | | | | | 1 Bijk | -0.0 | ±22.8 | 2*0.003 |
| 11 | Vloer | db | 3.80 | N N | 0.0 | -1.0 | 53 | 1 Eind | -1.0 | ±15.2 | 0.004 |
| | | 52 | | | | | | 1 Bijk | -0.0 | ±22.8 | 2*0.003 |

TOETSING HOR. VERPLAATSING GLOBAAL

Er is een maximale horizontale verplaatsing van 0.0009 [m] gevonden bij knoop 2 en combinatie 52; belastingsituatie 1 (combinatietype 2). Bij een hoogte van 3.600 [m] levert dit h / 4104 (toel.: h / 150).

DOORBUIGINGEN

Karakteristieke combinatie

| Nr. | staven | Zijde | positie [m] | l_{rep} [mm] | w_1 [mm] | w_2 [mm] | -- w_{bij} -- [mm] | -- w_{tot} [mm] | w_c [mm] | -- w_{max} -- [mm] | -- [lrep/] |
|-----|--------|-------|----------------|-------------------|---------------|---------------|-------------------------|----------------------|---------------|-------------------------|---------------|
| 2 | 2 | Neg. | 2.439 | 4391 | -2.8 | -1.4 | 3094 | -4.2 | -4.2 | 1041 | |
| 2 | 2 | Pos. | 2.439 | 4391 | -2.8 | 1.1 | 3928 | -1.7 | -1.7 | 2614 | |
| 3 | 3 | Neg. | 1.952 | 4391 | -2.8 | -1.4 | 3092 | -4.2 | -4.2 | 1041 | |
| 3 | 3 | Pos. | 1.952 | 4391 | -2.8 | 1.9 | 2291 | -0.9 | -0.9 | 4984 | |
| 9 | 10 | Neg. | 1.900 | 3800 | -1.0 | | | -1.0 | -1.0 | 3979 | |
| 10 | 11 | Neg. | 1.900 | 3800 | -1.0 | | | -1.0 | -1.0 | 3979 | |

Velden met een w_{bij} en $w_{max} < l_{rep}/9999$ zijn niet afgedrukt

Technosoft Raamwerken release 6.77

26 mei 2023

Project.....: 2022204
 Dimensies....: kN;m;rad (tenzij anders aangegeven)
 Datum.....: 16/09/2022
 Bestand.....: K:\Werk\2022204\Berekeningen\Technosoft\spant s0-03
 minimaal.rww

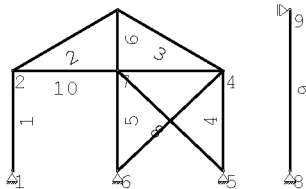
Belastingbreedte.: 1.870
 Rekenmodel.....: 1e-orde-elastisch.
 Theorie voor de bepaling van de krachtsverdeling:
 Geometrisch lineair.
 Fysisch lineair.

Gunstige werking van de permanente belasting wordt automatisch verwerkt.

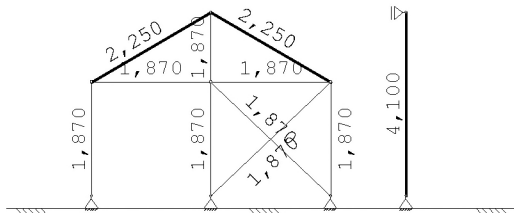
Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|-------------|----------------------|-----------------|-------------|
| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-3:2003 | C1:2009 | NB:2011(nl) |
| | NEN-EN 1991-1-4:2005 | C2:2011 | NB:2011(nl) |
| Staal | NEN-EN 1993-1-1:2006 | C2:2011,A1:2016 | NB:2016(nl) |

GEOMETRIE



BELASTINGBREEDTEN



MATERIALEN

| Mt | Kwaliteit | E-modulus [N/mm ²] | S.G. | Pois. | Uitz. coëff |
|----|-----------|--------------------------------|------|-------|-------------|
| 1 | S235 | 210000 | 78.5 | 0.30 | 1.2000e-05 |
| 2 | S235 | 210000 | 0.0 | 0.30 | 1.2000e-05 |

PROFIELEN [mm]

| Prof. | Omschrijving | Materiaal | Oppervlak | Traagheid | Vormf. |
|-------|-----------------|-----------|------------|------------|--------|
| 1 | HEA140 | 1:S235 | 3.1420e+03 | 1.0330e+07 | 0.00 |
| 2 | HEA160(90) | 1:S235 | 3.8800e+03 | 6.1600e+06 | 0.00 |
| 3 | HEA160 | 1:S235 | 3.8800e+03 | 1.6730e+07 | 0.00 |
| 4 | K160/80/6CF(90) | 1:S235 | 2.6433e+03 | 2.8089e+06 | 0.00 |
| 5 | STRIP6*60 | 2:S235 | 3.6000e+02 | 1.0800e+05 | 0.00 |

PROFIELEN vervolg [mm]

| Prof. | Staaftype | Breedte | Hoogte | e | Type | b1 | h1 | b2 | h2 |
|-------|-----------|---------|--------|------|------|----|----|----|----|
| 1 | 0:Normaal | 140 | 133 | 66.5 | | | | | |
| 2 | 0:Normaal | 160 | 152 | 80.0 | | | | | |
| 3 | 0:Normaal | 160 | 152 | 76.0 | | | | | |
| 4 | 0:Normaal | 80 | 160 | 40.0 | | | | | |
| 5 | 1:Trek | 6 | 60 | 30.0 | | | | | |

PROFIELVORMEN [mm]

1 HEA140



2 HEA160(90)



3 HEA160



4 K160/80/6CF(90)



5 STRIP6*60



KNOPEN

| Knoop | X | Z | Knoop | X | Z |
|-------|-------|-------|-------|--------|-------|
| 1 | 0.000 | 0.400 | 6 | 3.800 | 0.400 |
| 2 | 0.000 | 4.000 | 7 | 3.800 | 4.000 |
| 3 | 3.800 | 6.200 | 8 | 10.000 | 0.400 |
| 4 | 7.600 | 4.000 | 9 | 10.000 | 6.200 |
| 5 | 7.600 | 0.400 | | | |

STAVEN

| St. | ki | kj | Profiel | Aansl.i | Aansl.j | Lengte | Opm. |
|-----|----|----|-------------------|---------|---------|--------|------|
| 1 | 1 | 2 | 1:HEA140 | NDM | NDM | 3.600 | |
| 2 | 2 | 3 | 1:HEA140 | NDM | ND | 4.391 | |
| 3 | 3 | 4 | 1:HEA140 | NDM | NDM | 4.391 | |
| 4 | 4 | 5 | 1:HEA140 | NDM | NDM | 3.600 | |
| 5 | 6 | 7 | 2:HEA160(90) | NDM | NDM | 3.600 | |
| 6 | 7 | 3 | 2:HEA160(90) | NDM | ND | 2.200 | |
| 7 | 4 | 6 | 5:STRIP6*60 | ND | ND | 5.235 | |
| 8 | 7 | 5 | 5:STRIP6*60 | ND | ND | 5.235 | |
| 9 | 8 | 9 | 3:HEA160 | NDM | NDM | 5.800 | |
| 10 | 2 | 7 | 4:K160/80/6CF(90) | ND | ND | 3.800 | |
| 11 | 7 | 4 | 4:K160/80/6CF(90) | ND | ND | 3.800 | |

VASTE STEUNPUNTEN

| Nr. | knoop | Kode | XZR | 1=vast | 0=vrij | Hoek |
|-----|-------|------|-----|--------|--------|------|
| 1 | 1 | 110 | | | | 0.00 |
| 2 | 5 | 110 | | | | 0.00 |
| 3 | 6 | 110 | | | | 0.00 |
| 4 | 8 | 110 | | | | 0.00 |
| 5 | 9 | 100 | | | | 0.00 |

BELASTINGBREEDTEN

| Staaf | Breedte-i | Breedte-j | Staaf | Breedte-i | Breedte-j |
|-------|-----------|-----------|-------|-----------|-----------|
| 1 | 1.870 | 1.870 | 6 | 1.870 | 1.870 |
| 2 | 2.250 | 2.250 | 7 | 1.870 | 1.870 |
| 3 | 2.250 | 2.250 | 8 | 1.870 | 1.870 |
| 4 | 1.870 | 1.870 | 9 | 4.100 | 4.100 |
| 5 | 1.870 | 1.870 | 10 | 1.870 | 1.870 |
| 11 | 1.870 | 1.870 | | | |

BELASTINGGENERATIE ALGEMEEN.

| | | | |
|------------------------------|-------|-------------------------|------|
| Betrouwbaarheidsklasse.....: | 1 | Referentieperiode.....: | 50 |
| Gebouwdiepte.....: | 31.30 | Gebouwhoogte.....: | 6.20 |
| Niveau aansl.terrein.....: | 0.00 | E.g. scheid.w. [kN/m2]: | 1.20 |

WIND

Terrein categorie ...[4.3.2]...: Onbebouwd
 Windgebied: 3 Vb,0 ..[4.2].....: 24.500
 Positie spant in het gebouw....: 4.400 Kr[4.3.2].....: 0.209
 z0[4.3.2]...: 0.200 Zmin ..[4.3.2].....: 4.000
 Co wind van links ..[4.3.3]...: 1.000 Co wind van rechts....: 1.000
 Co wind loodrecht ..[4.3.3]...: 1.000
 Cpi wind van links ..[7.2.9]...: 0.200 -0.300
 Cpi windloodrecht ...[7.2.9]...: 0.200 -0.300
 Cpi wind van rechts ..[7.2.9]...: 0.200 -0.300
 Cfr windwrijving[7.5].....: 0.040

SNEEUW

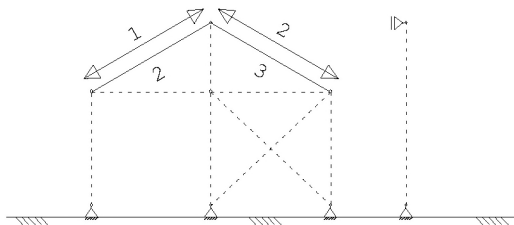
Sneeuwbelasting (sk) 50 jaar : 0.70
 Sneeuwbelasting (sn) n jaar : 0.70

STAAFTYPEN

| Type | staven |
|------------------|-------------|
| 5:Linker gevel. | : 1,9 |
| 6:Rechter gevel. | : 4 |
| 7:Dak. | : 2,3 |
| 9:Open. | : 5-8,10,11 |

LASTVELDEN

Veranderlijke belastingen door personen



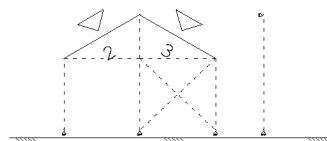
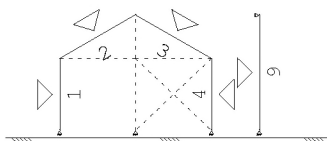
LASTVELDEN

| Nr | Staaftabel | Klasse-Gebruiksfunctie | Verd. | q _k | Q _k | F _t /F _{t0} |
|----|------------|--------------------------|-------|----------------|----------------|---------------------------------|
| 1 | 2-2 6.10 | H-Dak (onder dakbeschet) | 1 | 0.00 | -2.00 | 1.00 |
| 2 | 3-3 6.10 | H-Dak (onder dakbeschet) | 2 | 0.00 | -2.00 | 1.00 |

LASTVELDEN

Wind staven

Sneeuw staven



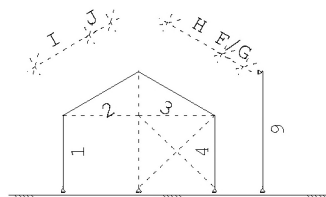
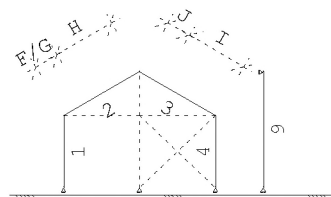
WIND DAKTYPES

| Nr. | Staaftype | reductie bij wind van links | reductie bij wind van rechts | Cpe volgens art: |
|-----|------------|-----------------------------|------------------------------|------------------|
| 1 | 1 Gevel | 1.000 | 1.000 | 7.2.2 |
| 2 | 2 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 3 | 3 Zadeldak | 1.000 | 1.000 | 7.2.5 |
| 4 | 4 Gevel | 1.000 | 1.000 | 7.2.2 |
| 5 | 9 Gevel | 1.000 | 1.000 | 7.2.2 |

WIND ZONES

Wind van links

Wind van rechts



WIND VAN LINKS ZONES

| Nr. | Staafl | Positie | Lengte | Zone |
|-----|--------|---------|--------|------|
| 1 | 1 | 0.000 | 3.600 | D |
| 2 | 2 | 0.000 | 1.240 | F/G |
| 3 | 2 | 1.240 | 3.151 | H |
| 4 | 3 | 0.000 | 1.240 | J |
| 5 | 3 | 1.240 | 3.151 | I |
| 6 | 4 | 0.000 | 3.600 | E |
| 7 | 9 | 0.000 | 5.800 | D |

WIND VAN RECHTS ZONES

| Nr. | Staafl | Positie | Lengte | Zone |
|-----|--------|---------|--------|------|
| 1 | 9 | 0.000 | 5.800 | E |
| 2 | 4 | 0.000 | 3.600 | D |
| 3 | 3 | 0.000 | 1.240 | F/G |
| 4 | 3 | 1.240 | 3.151 | H |
| 5 | 2 | 0.000 | 1.240 | J |
| 6 | 2 | 1.240 | 3.151 | I |
| 7 | 1 | 0.000 | 3.600 | E |

Wind indexen

| Index | CsCd | Cpe/Cpi | qp | breedte | reductie | Qw | Zone | Hoek(en) |
|-------|------|---------|-------|---------|----------|--------|------|----------|
| Qw1 | | 0.300 | 0.587 | 1.870 | | -0.329 | -i | |
| Qw2 | | 0.300 | 0.587 | 2.250 | | -0.396 | -i | |
| Qw3 | | 0.300 | 0.587 | 4.100 | | -0.722 | -i | |
| Qw4 | 1.00 | 0.800 | 0.587 | 1.870 | | -0.878 | D | |
| Qw5 | 1.00 | 0.700 | 0.587 | 2.250 | | -0.925 | G | 30.1 |
| Qw6 | 1.00 | 0.401 | 0.587 | 2.250 | | -0.530 | H | 30.1 |
| Qw7 | 1.00 | -0.499 | 0.587 | 2.250 | | 0.659 | J | 30.1 |
| Qw8 | 1.00 | -0.399 | 0.587 | 2.250 | | 0.527 | I | 30.1 |
| Qw9 | 1.00 | -0.500 | 0.587 | 1.870 | | 0.549 | E | |
| Qw10 | 1.00 | 0.800 | 0.587 | 4.100 | | -1.926 | D | |
| Qw11 | | -0.200 | 0.587 | 1.870 | | 0.220 | +i | |
| Qw12 | | -0.200 | 0.587 | 2.250 | | 0.264 | +i | |
| Qw13 | | -0.200 | 0.587 | 4.100 | | 0.481 | +i | |
| Qw14 | 1.00 | -0.497 | 0.587 | 2.250 | | 0.656 | G | 30.1 |
| Qw15 | 1.00 | -0.199 | 0.587 | 2.250 | | 0.262 | H | 30.1 |
| Qw16 | 1.00 | -0.500 | 0.587 | 4.100 | | 1.204 | E | |
| Qw17 | 1.00 | -0.800 | 0.587 | 1.870 | | 0.878 | B | |
| Qw18 | 1.00 | -0.800 | 0.587 | 4.100 | | 1.926 | B | |
| Qw19 | 1.00 | -0.801 | 0.587 | 0.403 | | 0.189 | H | 30.1 |
| Qw20 | 1.00 | -0.500 | 0.587 | 1.847 | | 0.542 | I | 30.1 |
| Qw21 | 1.00 | -0.500 | 0.587 | 1.870 | | 0.549 | C | |
| Qw22 | 1.00 | -0.500 | 0.587 | 4.100 | | 1.204 | C | |
| Qw23 | 1.00 | -0.500 | 0.587 | 2.250 | | 0.661 | I | 30.1 |

SNEEUW DAKTYPEN

| Staafl | artikel |
|--------|----------------|
| 2-2 | 5.3.3 Zadeldak |
| 3-3 | 5.3.3 Zadeldak |

Sneeuw indexen

| Index | art | μ | s_k | red. | posfac | breedte | Qs | hoek |
|-------|-------|-------|-------|------|--------|---------|-------|------|
| Qs1 | 5.3.3 | 0.798 | 0.70 | 1.00 | | 2.250 | 1.257 | 30.1 |
| Qs2 | 5.3.3 | 0.399 | 0.70 | 1.00 | | 2.250 | 0.629 | 30.1 |

BELASTINGGEVALLEN

| B.G. | Omschrijving | Type |
|------|----------------------------------|------------|
| | 1 Permanente belasting EGZ=-1.00 | 1 |
| g | 2 Ver. bel. pers. ed. (q_k) | 2 |
| g | 3 Ver. bel. pers. ed. (Q_k) | 3 |
| g | 4 Wind van links onderdruk A | 7 |
| g | 5 Wind van links overdruk A | 8 |
| g | 6 Wind van links onderdruk B | 9 |
| g | 7 Wind van links overdruk B | 10 |
| g | 8 Wind van links onderdruk C | 37 |
| g | 9 Wind van links overdruk C | 38 |
| g | 10 Wind van links onderdruk D | 39 |
| g | 11 Wind van links overdruk D | 40 |
| g | 12 Wind van rechts onderdruk A | 11 |
| g | 13 Wind van rechts overdruk A | 12 |
| g | 14 Wind van rechts onderdruk B | 13 |
| g | 15 Wind van rechts overdruk B | 14 |
| g | 16 Wind van rechts onderdruk C | 41 |
| g | 17 Wind van rechts overdruk C | 42 |
| g | 18 Wind van rechts onderdruk D | 43 |
| g | 19 Wind van rechts overdruk D | 44 |
| g | 20 Wind loodrecht onderdruk A | 15 |
| g | 21 Wind loodrecht overdruk A | 16 |
| g | 22 Wind loodrecht onderdruk B | 45 |
| g | 23 Wind loodrecht overdruk B | 46 |
| g* | 24 Sneeuw A | 22 |
| g | 25 Sneeuw B | 23 |
| g | 26 Sneeuw C | 33 |
| | 27 Knik | 0 Onbekend |

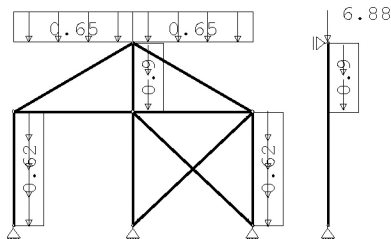
g = gegeneerd belastinggeval

* = belastinggeval bevat 1 of meer handmatig toegevoegde en/of gewijzigde lasten

BELASTINGEN

B.G:1 Permanente belasting

Eigen gewicht van alle staven is meegenomen in berekening. Richting:↓



KNOOPBELASTINGEN

B.G:1 Permanente belasting

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 9 | Z | -6.880 | | | |

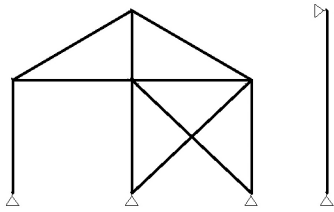
STAAFBELASTINGEN

B.G:1 Permanente belasting

| Staat | Type | $q_1/p/m$ | q_2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-----------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | -0.65 | -0.65 | 0.000 | 0.000 | | | |
| 3 | 3:QZgeProj. | -0.65 | -0.65 | 0.000 | 0.000 | | | |
| 1 | 2:QXLokaal | -0.62 | -0.62 | 0.000 | 0.000 | | | |
| 4 | 2:QXLokaal | 0.62 | 0.62 | 0.000 | 0.000 | | | |
| 6 | 2:QXLokaal | -0.90 | -0.90 | 0.000 | 0.000 | | | |
| 9 | 2:QXLokaal | -0.90 | -0.90 | 3.600 | 0.000 | | | |

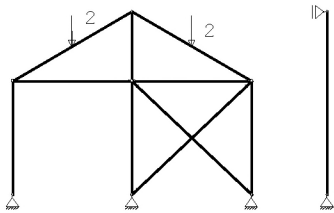
BELASTINGEN

B.G:2 Ver. bel. pers. ed. (q_k)



BELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)



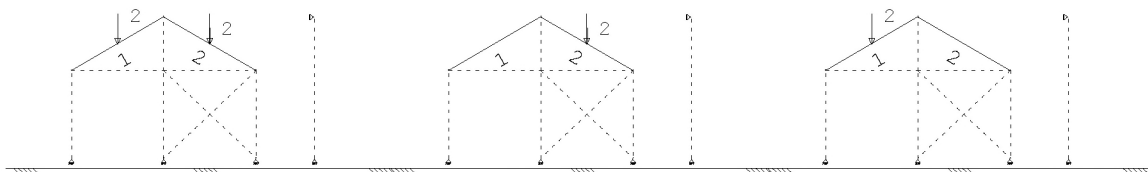
STAAFBELASTINGEN

B.G:3 Ver. bel. pers. ed. (Q_k)

| StAAF | Type | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|---------------|--------|----|-------|---|----------|----------|----------|
| 2 | 10:PZGepro.j. | -2.00 | | 2.195 | | 0.00 | 0.00 | 0.00 |
| 3 | 10:PZGepro.j. | -2.00 | | 2.195 | | 0.00 | 0.00 | 0.00 |

SITUATIES BELAST/ONBELAST

B.G:3 Ver. bel. pers. ed. (Q_k)



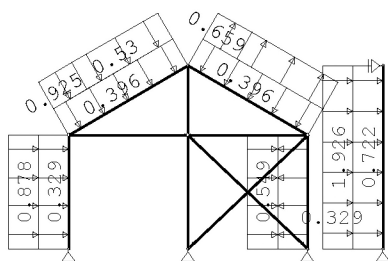
SITUATIES BELAST/ONBELAST

Belastingtype: Q_k

| Nr | Lastvelden belast | Lastvelden onbelast |
|----|-------------------|---------------------|
| 1 | 1,2 | |
| 2 | 2 | 1 |
| 3 | 1 | 2 |

BELASTINGEN

B.G:4 Wind van links onderdruk A



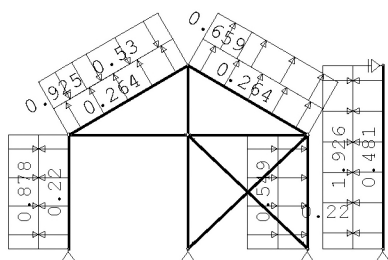
STAAFBELASTINGEN

B.G:4 Wind van links onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:5 Wind van links overdruk A



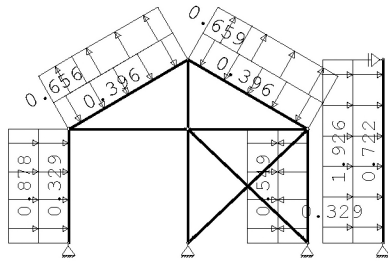
STAAFBELASTINGEN

B.G:5 Wind van links overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:6 Wind van links onderdruk B



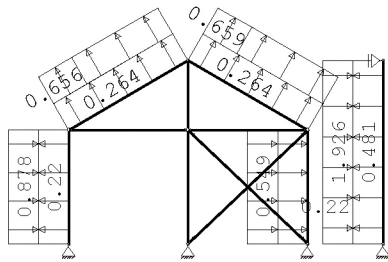
STAAFBELASTINGEN

B.G:6 Wind van links onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:7 Wind van links overdruk B



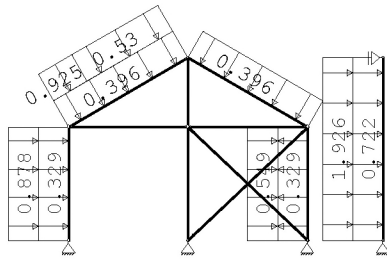
STAAFBELASTINGEN

B.G:7 Wind van links overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:8 Wind van links onderdruk C



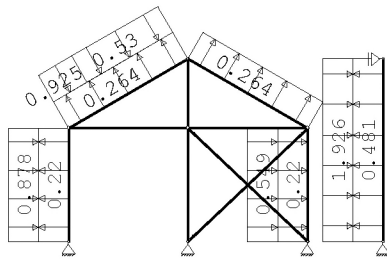
STAAFBELASTINGEN

B.G:8 Wind van links onderdruk C

| StAAF | Type | Index | q1/p/m | q2 | A | B | Ψ_0 | Ψ_1 | Ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:9 Wind van links overdruk C



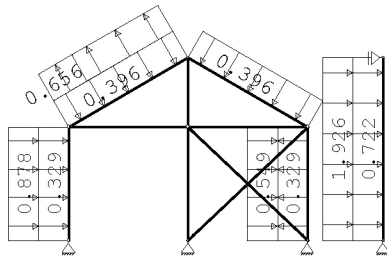
STAAFBELASTINGEN

B.G:9 Wind van links overdruk C

| StAAF | Type | Index | q1/p/m | q2 | A | B | Ψ_0 | Ψ_1 | Ψ_2 |
|-------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:10 Wind van links onderdruk D



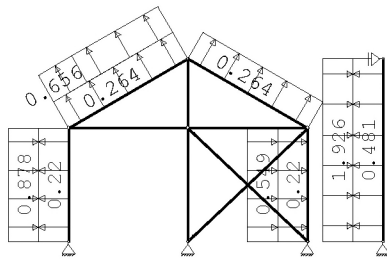
STAAFBELASTINGEN

B.G:10 Wind van links onderdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:11 Wind van links overdruk D



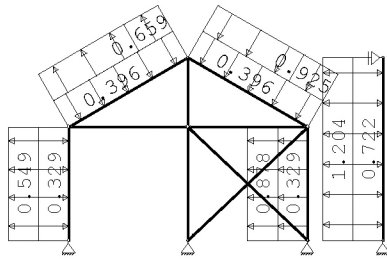
STAAFBELASTINGEN

B.G:11 Wind van links overdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 0.000 | 3.151 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 1.240 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw10 | -1.93 | -1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:12 Wind van rechts onderdruk A



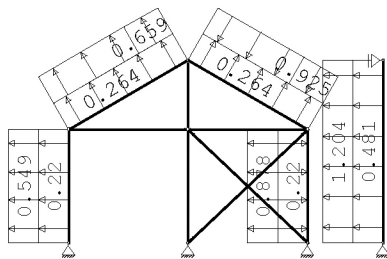
STAAFBELASTINGEN

B.G:12 Wind van rechts onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:13 Wind van rechts overdruk A



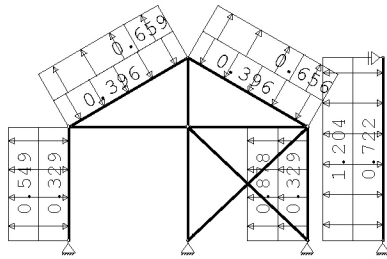
STAAFBELASTINGEN

B.G:13 Wind van rechts overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:14 Wind van rechts onderdruk B



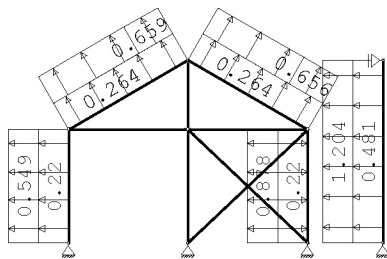
STAAFBELASTINGEN

B.G:14 Wind van rechts onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:15 Wind van rechts overdruk B



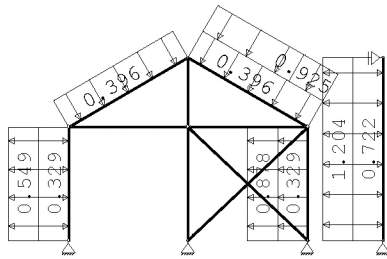
STAAFBELASTINGEN

B.G:15 Wind van rechts overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw7 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw8 | 0.53 | 0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:16 Wind van rechts onderdruk C



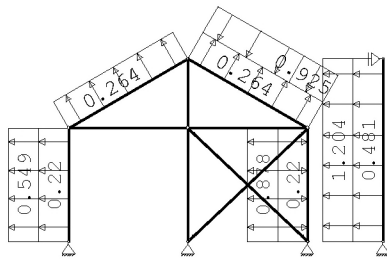
STAAFBELASTINGEN

B.G:16 Wind van rechts onderdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:17 Wind van rechts overdruk C



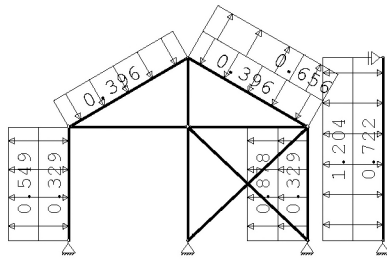
STAAFBELASTINGEN

B.G:17 Wind van rechts overdruk C

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw5 | -0.92 | -0.92 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw6 | -0.53 | -0.53 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:18 Wind van rechts onderdruk D



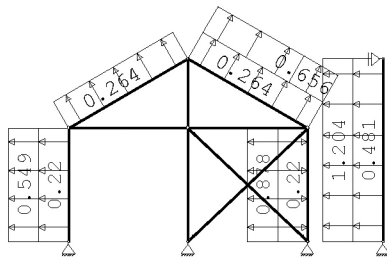
STAAFBELASTINGEN

B.G:18 Wind van rechts onderdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:19 Wind van rechts overdruk D



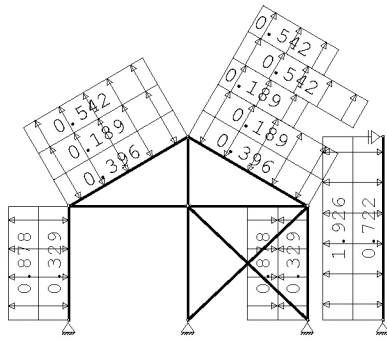
STAAFBELASTINGEN

B.G:19 Wind van rechts overdruk D

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw16 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw4 | -0.88 | -0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw14 | 0.66 | 0.66 | 3.151 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw15 | 0.26 | 0.26 | 0.000 | 1.240 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw9 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:20 Wind loodrecht onderdruk A



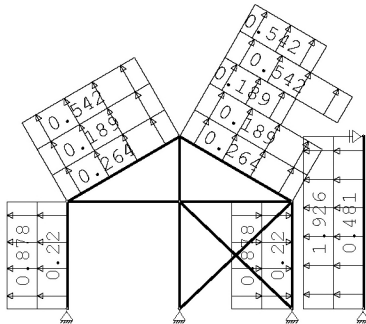
STAAFBELASTINGEN

B.G:20 Wind loodrecht onderdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw17 | 0.88 | 0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw17 | 0.88 | 0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw18 | 1.93 | 1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:21 Wind loodrecht overdruk A



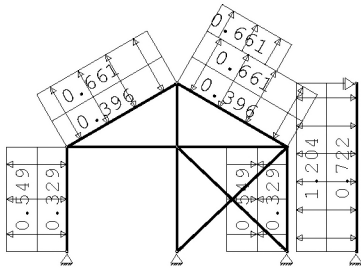
STAAFBELASTINGEN

B.G:21 Wind loodrecht overdruk A

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw17 | 0.88 | 0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw17 | 0.88 | 0.88 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw18 | 1.93 | 1.93 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw19 | 0.19 | 0.19 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw20 | 0.54 | 0.54 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:22 Wind loodrecht onderdruk B



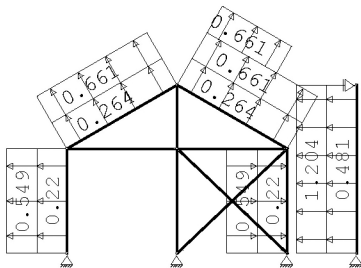
STAAFBELASTINGEN

B.G:22 Wind loodrecht onderdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw2 | -0.40 | -0.40 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw1 | -0.33 | -0.33 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw3 | -0.72 | -0.72 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw21 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw21 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw22 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:23 Wind loodrecht overdruk B



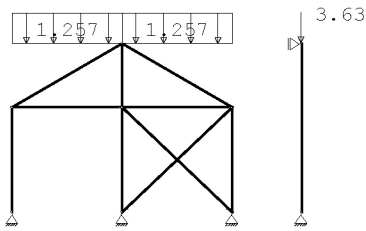
STAAFBELASTINGEN

B.G:23 Wind loodrecht overdruk B

| Staaftype | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-----------|------------|-------|--------|------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw12 | 0.26 | 0.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw11 | 0.22 | 0.22 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw13 | 0.48 | 0.48 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 1 | 1:QZLokaal | Qw21 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 4 | 1:QZLokaal | Qw21 | 0.55 | 0.55 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 9 | 1:QZLokaal | Qw22 | 1.20 | 1.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 1:QZLokaal | Qw23 | 0.66 | 0.66 | 0.000 | 1.618 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:24 Sneeuw A



KNOOPBELASTINGEN

B.G:24 Sneeuw A

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 | Opm. |
|------|-------|----------|--------|----------|----------|----------|------|
| 1 | 9 | Z | -3.630 | 0.00 | 0.20 | 0.00 | * |

Opmerkingen

[*] Deze belasting is handmatig toegevoegd of gewijzigd.

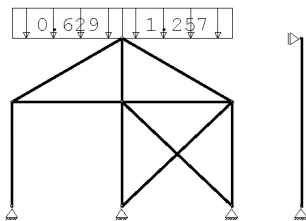
STAAFBELASTINGEN

B.G:24 Sneeuw A

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -1.26 | -1.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs1 | -1.26 | -1.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:25 Sneeuw B



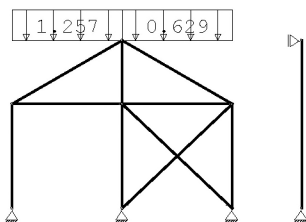
STAAFBELASTINGEN

B.G:25 Sneeuw B

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs2 | -0.63 | -0.63 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs1 | -1.26 | -1.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:26 Sneeuw C



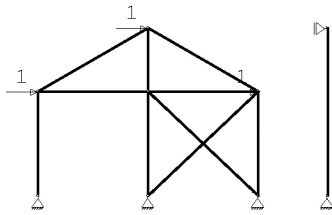
STAAFBELASTINGEN

B.G:26 Sneeuw C

| Staat | Type | Index | q1/p/m | q2 | A | B | ψ_0 | ψ_1 | ψ_2 |
|-------|-------------|-------|--------|-------|-------|-------|----------|----------|----------|
| 2 | 3:QZgeProj. | Qs1 | -1.26 | -1.26 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 3 | 3:QZgeProj. | Qs2 | -0.63 | -0.63 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

BELASTINGEN

B.G:27 Knik



KNOOPBELASTINGEN

B.G:27 Knik

| Last | Knoop | Richting | waarde | ψ_0 | ψ_1 | ψ_2 |
|------|-------|----------|--------|----------|----------|----------|
| 1 | 2 | X | 1.000 | | | |
| 2 | 3 | X | 1.000 | | | |
| 3 | 4 | X | 1.000 | | | |

REACTIES

| Kn. | B.G. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|------|-------|-------|-------|-------|-------|-------|
| 1 | 1 | 0.26 | | 5.88 | | | |
| 1 | 2 | 0.00 | | 0.00 | | | |
| 1 | 3 | 0.00 | 0.22 | 0.06 | 1.30 | | |
| 1 | 4 | -1.61 | | 2.84 | | | |
| 1 | 5 | -0.97 | | 0.86 | | | |
| 1 | 6 | -1.94 | | 0.29 | | | |
| 1 | 7 | -1.31 | | -1.70 | | | |
| 1 | 8 | -1.60 | | 3.09 | | | |
| 1 | 9 | -0.96 | | 1.10 | | | |
| 1 | 10 | -1.93 | | 0.53 | | | |
| 1 | 11 | -1.30 | | -1.46 | | | |
| 1 | 12 | 0.35 | | 0.72 | | | |
| 1 | 13 | 0.98 | | -1.27 | | | |
| 1 | 14 | 0.32 | | 0.09 | | | |
| 1 | 15 | 0.96 | | -1.90 | | | |
| 1 | 16 | 0.54 | | 1.75 | | | |
| 1 | 17 | 1.17 | | -0.24 | | | |
| 1 | 18 | 0.51 | | 1.12 | | | |
| 1 | 19 | 1.15 | | -0.87 | | | |
| 1 | 20 | 0.74 | | -1.41 | | | |
| 1 | 21 | 1.38 | | -3.40 | | | |
| 1 | 22 | 0.25 | | -1.04 | | | |
| 1 | 23 | 0.88 | | -3.03 | | | |
| 1 | 24 | 0.35 | | 2.96 | | | |
| 1 | 25 | 0.18 | | 1.56 | | | |
| 1 | 26 | 0.34 | | 2.91 | | | |
| 1 | 27 | -0.03 | | -0.18 | | | |
| 5 | 1 | -0.26 | | 5.88 | | | |
| 5 | 2 | 0.00 | | 0.00 | | | |
| 5 | 3 | -0.22 | -0.00 | 0.26 | 1.30 | | |
| 5 | 4 | -0.34 | | 6.13 | | | |
| 5 | 5 | -0.98 | | 4.15 | | | |
| 5 | 6 | -0.32 | | 3.15 | | | |
| 5 | 7 | -0.96 | | 1.16 | | | |
| 5 | 8 | -0.53 | | 5.85 | | | |
| 5 | 9 | -1.17 | | 3.86 | | | |
| 5 | 10 | -0.51 | | 2.86 | | | |
| 5 | 11 | -1.15 | | 0.87 | | | |
| 5 | 12 | 7.41 | | -2.57 | | | |
| 5 | 13 | 6.77 | | -4.56 | | | |
| 5 | 14 | 5.21 | | -2.77 | | | |
| 5 | 15 | 4.58 | | -4.76 | | | |
| 5 | 16 | 5.99 | | -1.01 | | | |
| 5 | 17 | 5.35 | | -3.00 | | | |
| 5 | 18 | 3.79 | | -1.21 | | | |
| 5 | 19 | 3.16 | | -3.20 | | | |
| 5 | 20 | -0.59 | | -0.60 | | | |
| 5 | 21 | -1.22 | | -2.59 | | | |
| 5 | 22 | -0.11 | | -0.31 | | | |
| 5 | 23 | -0.74 | | -2.30 | | | |
| 5 | 24 | -0.35 | | 2.96 | | | |
| 5 | 25 | -0.18 | | 2.75 | | | |
| 5 | 26 | -0.18 | | 1.71 | | | |
| 5 | 27 | -0.02 | | 3.24 | | | |

| | | | | | |
|---|----|-------|------|-------|------|
| 6 | 1 | 0.00 | | 6.92 | |
| 6 | 2 | 0.00 | | 0.00 | |
| 6 | 3 | -0.21 | 0.00 | 0.48 | 1.41 |
| 6 | 4 | -5.84 | | -5.67 | |
| 6 | 5 | -5.84 | | -6.72 | |
| 6 | 6 | -3.29 | | -3.98 | |
| 6 | 7 | -3.29 | | -5.03 | |
| 6 | 8 | -4.42 | | -3.49 | |
| 6 | 9 | -4.42 | | -4.53 | |
| 6 | 10 | -1.87 | | -1.80 | |
| 6 | 11 | -1.88 | | -2.84 | |
| 6 | 12 | 0.04 | | 5.16 | |
| 6 | 13 | 0.04 | | 4.12 | |
| 6 | 14 | 0.02 | | 2.12 | |
| 6 | 15 | 0.02 | | 1.08 | |
| 6 | 16 | 0.03 | | 4.72 | |
| 6 | 17 | 0.03 | | 3.68 | |
| 6 | 18 | 0.01 | | 1.67 | |
| 6 | 19 | 0.01 | | 0.63 | |
| 6 | 20 | -1.17 | | -2.30 | |
| 6 | 21 | -1.17 | | -3.34 | |
| 6 | 22 | -1.06 | | -2.24 | |
| 6 | 23 | -1.06 | | -3.28 | |
| 6 | 24 | 0.00 | | 3.63 | |
| 6 | 25 | 0.00 | | 2.86 | |
| 6 | 26 | -0.17 | | 2.55 | |
| 6 | 27 | -2.95 | | -3.07 | |
| 8 | 1 | 0.00 | | 10.63 | |
| 8 | 2 | 0.00 | | 0.00 | |
| 8 | 3 | 0.00 | | 0.00 | |
| 8 | 4 | -7.68 | | 0.00 | |
| 8 | 5 | -4.19 | | 0.00 | |
| 8 | 6 | -7.68 | | 0.00 | |
| 8 | 7 | -4.19 | | 0.00 | |
| 8 | 8 | -7.68 | | 0.00 | |
| 8 | 9 | -4.19 | | 0.00 | |
| 8 | 10 | -7.68 | | 0.00 | |
| 8 | 11 | -4.19 | | 0.00 | |
| 8 | 12 | 1.40 | | 0.00 | |
| 8 | 13 | 4.89 | | 0.00 | |
| 8 | 14 | 1.40 | | 0.00 | |
| 8 | 15 | 4.89 | | 0.00 | |
| 8 | 16 | 1.40 | | 0.00 | |
| 8 | 17 | 4.89 | | 0.00 | |
| 8 | 18 | 1.40 | | 0.00 | |
| 8 | 19 | 4.89 | | 0.00 | |
| 8 | 20 | 3.49 | | 0.00 | |
| 8 | 21 | 6.98 | | 0.00 | |
| 8 | 22 | 1.40 | | 0.00 | |
| 8 | 23 | 4.89 | | 0.00 | |
| 8 | 24 | 0.00 | | 3.63 | |
| 8 | 25 | 0.00 | | 0.00 | |
| 8 | 26 | 0.00 | | 0.00 | |
| 8 | 27 | 0.00 | | 0.00 | |
| 9 | 1 | 0.00 | | | |
| 9 | 2 | 0.00 | | | |
| 9 | 3 | 0.00 | | | |
| 9 | 4 | -7.68 | | | |
| 9 | 5 | -4.19 | | | |
| 9 | 6 | -7.68 | | | |
| 9 | 7 | -4.19 | | | |
| 9 | 8 | -7.68 | | | |
| 9 | 9 | -4.19 | | | |
| 9 | 10 | -7.68 | | | |
| 9 | 11 | -4.19 | | | |
| 9 | 12 | 1.40 | | | |
| 9 | 13 | 4.89 | | | |
| 9 | 14 | 1.40 | | | |
| 9 | 15 | 4.89 | | | |
| 9 | 16 | 1.40 | | | |
| 9 | 17 | 4.89 | | | |
| 9 | 18 | 1.40 | | | |
| 9 | 19 | 4.89 | | | |
| 9 | 20 | 3.49 | | | |
| 9 | 21 | 6.98 | | | |
| 9 | 22 | 1.40 | | | |

| | | |
|---|----|------|
| 9 | 23 | 4.89 |
| 9 | 24 | 0.00 |
| 9 | 25 | 0.00 |
| 9 | 26 | 0.00 |
| 9 | 27 | 0.00 |

BELASTINGCOMBINATIES

| BC | Type | | | | |
|----|-------|------|-------------------|--------|--------------------|
| 1 | Fund. | 1.22 | G _{k, 1} | | |
| 2 | Fund. | 0.90 | G _{k, 1} | | |
| 3 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 3} |
| 4 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 4} |
| 5 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 5} |
| 6 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 6} |
| 7 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 7} |
| 8 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 8} |
| 9 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 9} |
| 10 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 10} |
| 11 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 11} |
| 12 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 12} |
| 13 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 13} |
| 14 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 14} |
| 15 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 15} |
| 16 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 16} |
| 17 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 17} |
| 18 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 18} |
| 19 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 19} |
| 20 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 20} |
| 21 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 21} |
| 22 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 22} |
| 23 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 23} |
| 24 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 24} |
| 25 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 25} |
| 26 | Fund. | 1.08 | G _{k, 1} | + 1.35 | Q _{k, 26} |
| 27 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 3} |
| 28 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 4} |
| 29 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 5} |
| 30 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 6} |
| 31 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 7} |
| 32 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 8} |
| 33 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 9} |
| 34 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 10} |
| 35 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 11} |
| 36 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 12} |
| 37 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 13} |
| 38 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 14} |
| 39 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 15} |
| 40 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 16} |
| 41 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 17} |
| 42 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 18} |
| 43 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 19} |
| 44 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 20} |
| 45 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 21} |
| 46 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 22} |
| 47 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 23} |
| 48 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 24} |
| 49 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 25} |
| 50 | Fund. | 0.90 | G _{k, 1} | + 1.35 | Q _{k, 26} |
| 51 | Kar. | 1.00 | G _{k, 1} | + 1.00 | Q _{k, 3} |
| 52 | Kar. | 1.00 | G _{k, 1} | + 1.00 | Q _{k, 4} |
| 53 | Kar. | 1.00 | G _{k, 1} | + 1.00 | Q _{k, 5} |
| 54 | Kar. | 1.00 | G _{k, 1} | + 1.00 | Q _{k, 6} |
| 55 | Kar. | 1.00 | G _{k, 1} | + 1.00 | Q _{k, 7} |
| 56 | Kar. | 1.00 | G _{k, 1} | + 1.00 | Q _{k, 8} |
| 57 | Kar. | 1.00 | G _{k, 1} | + 1.00 | Q _{k, 9} |
| 58 | Kar. | 1.00 | G _{k, 1} | + 1.00 | Q _{k, 10} |
| 59 | Kar. | 1.00 | G _{k, 1} | + 1.00 | Q _{k, 11} |

| | | | | | |
|-----------|------|----------|---|------|------------------|
| 60 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 12$ |
| 61 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 13$ |
| 62 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 14$ |
| 63 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 15$ |
| 64 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 16$ |
| 65 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 17$ |
| 66 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 18$ |
| 67 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 19$ |
| 68 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 20$ |
| 69 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 21$ |
| 70 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 22$ |
| 71 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 23$ |
| 72 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 24$ |
| 73 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 25$ |
| 74 Kar. | 1.00 | $G_k, 1$ | + | 1.00 | $Q_k, 26$ |
| 75 Quas. | 1.00 | $G_k, 1$ | | | |
| 76 Freq. | 1.00 | $G_k, 1$ | | | |
| 77 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 4$ |
| 78 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 5$ |
| 79 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 6$ |
| 80 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 7$ |
| 81 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 8$ |
| 82 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 9$ |
| 83 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 10$ |
| 84 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 11$ |
| 85 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 12$ |
| 86 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 13$ |
| 87 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 14$ |
| 88 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 15$ |
| 89 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 16$ |
| 90 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 17$ |
| 91 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 18$ |
| 92 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 19$ |
| 93 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 20$ |
| 94 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 21$ |
| 95 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 22$ |
| 96 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 23$ |
| 97 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 24$ |
| 98 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 25$ |
| 99 Freq. | 1.00 | $G_k, 1$ | + | 1.00 | $\Psi_1 Q_k, 26$ |
| 100 Blij. | 1.00 | $G_k, 1$ | | | |

| | | | | | | | | | | | | | | |
|----|---|--------|--------|-------|-------|--------|-------|-------|------|-------|--------|------|-------|----|
| 4 | 4 | -11.26 | 4 | 1.01 | 45 | -4.00 | 16 | 3.45 | 45 | -2.81 | 45 | 3.82 | 16 | |
| 4 | | 0.729 | -11.94 | 4 | 0.44 | 45 | -2.81 | 16 | 2.37 | 45 | -0.74 | 47 | 2.15 | 24 |
| 4 | | 1.465 | -12.63 | 4 | -0.13 | 45 | -1.61 | 16 | 1.28 | 45 | -1.39 | 38 | 1.60 | 24 |
| 4 | | 1.812 | -12.95 | 4 | -0.40 | 45 | -1.04 | 16 | 0.76 | 45 | -1.67 | 38 | 1.66 | 9 |
| 4 | | 1.993 | -13.12 | 4 | -0.54 | 45 | -0.75 | 16 | 0.50 | 45 | -1.74 | 38 | 1.64 | 9 |
| 4 | | 2.134 | -13.25 | 4 | -0.65 | 45 | -0.75 | 24 | 0.29 | 47 | -1.75 | 38 | 1.60 | 9 |
| 4 | | 2.164 | -13.28 | 4 | -0.68 | 45 | -0.75 | 24 | 0.26 | 47 | -1.75 | 38 | 1.59 | 9 |
| 4 | | 2.532 | -13.63 | 4 | -0.96 | 45 | -0.75 | 24 | 0.65 | 38 | -1.62 | 38 | 1.39 | 9 |
| 4 | 5 | -14.63 | 4 | -1.80 | 45 | -1.93 | 21 | 2.39 | 38 | 0.00 | 38 | 0.00 | 21 | |
| | | | | | | | | | | | | | | |
| 5 | 6 | -14.44 | 12 | -3.14 | 47 | -0.06 | 4 | 0.05 | 12 | 0.00 | 4 | 0.00 | 12 | |
| 5 | 7 | -13.25 | 12 | -2.15 | 47 | -0.06 | 4 | 0.05 | 12 | -0.20 | 4 | 0.19 | 12 | |
| | | | | | | | | | | | | | | |
| 6 | 7 | -10.33 | 24 | -1.44 | 47 | -0.09 | 12 | 0.09 | 4 | -0.20 | 4 | 0.19 | 12 | |
| 6 | 3 | -7.47 | 24 | 0.94 | 47 | -0.09 | 12 | 0.09 | 4 | 0.00 | 4 | 0.00 | 12 | |
| | | | | | | | | | | | | | | |
| 7 | 4 | 0.00 | 1 | 10.79 | 29 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | |
| 7 | 6 | 0.00 | 1 | 10.79 | 29 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | |
| | | | | | | | | | | | | | | |
| 8 | 7 | 0.00 | 1 | 10.78 | 37 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | |
| 8 | 5 | 0.00 | 1 | 10.78 | 37 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | 0.00 | 1 | |
| | | | | | | | | | | | | | | |
| 9 | 8 | -16.38 | 24 | -9.56 | 2 | -10.37 | 4 | 9.42 | 21 | 0.00 | 4 | 0.00 | 21 | |
| 9 | | 2.900 | -15.42 | 24 | -8.77 | 2 | 0.00 | 4 | 0.00 | 21 | -15.03 | 4 | 13.67 | 21 |
| 9 | 9 | -12.33 | 24 | -6.19 | 2 | -9.42 | 21 | 10.37 | 4 | 0.00 | 4 | 0.00 | 21 | |
| | | | | | | | | | | | | | | |
| 10 | 2 | -4.63 | 28 | 5.43 | 13 | -0.48 | 1 | -0.35 | 2 | 0.00 | 1 | 0.00 | 2 | |
| 10 | | 1.900 | -4.63 | 28 | 5.43 | 13 | 0.00 | 1 | 0.00 | 2 | -0.46 | 1 | -0.34 | 2 |
| 10 | 7 | -4.63 | 28 | 5.43 | 13 | 0.35 | 2 | 0.48 | 1 | 0.00 | 1 | 0.00 | 2 | |
| | | | | | | | | | | | | | | |
| 11 | 7 | -4.48 | 28 | 3.14 | 21 | -0.48 | 1 | -0.35 | 2 | 0.00 | 1 | 0.00 | 2 | |
| 11 | | 1.900 | -4.48 | 28 | 3.14 | 21 | 0.00 | 1 | 0.00 | 2 | -0.46 | 1 | -0.34 | 2 |
| 11 | 4 | -4.48 | 28 | 3.14 | 21 | 0.35 | 2 | 0.48 | 1 | 0.00 | 1 | 0.00 | 2 | |

REACTIES

Fundamentele combinatie

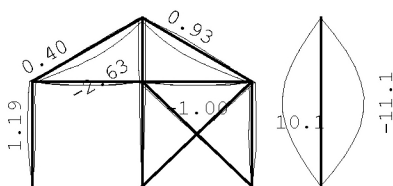
| Kn. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|--------|-------|-------|-------|-------|-------|
| 1 | -2.39 | 2.14 | 0.70 | 10.52 | | |
| 5 | -1.93 | 9.76 | -1.13 | 14.63 | | |
| 6 | -7.88 | 0.05 | -2.84 | 14.44 | | |
| 8 | -10.37 | 9.42 | 9.56 | 16.38 | | |
| 9 | -10.37 | 9.42 | | | | |

OMHULLENDE VAN DE KARAKTERISTIEKE COMBINATIES

VERPLAATSINGEN

[mm]

Karakteristieke combinatie

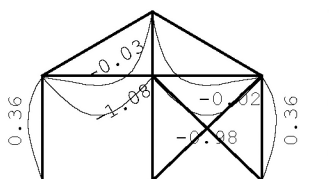


OMHULLENDE VAN DE BLIJVENDE COMBINATIES

VERPLAATSINGEN

[mm]

Blijvende combinatie



STAALPROFIELEN - ALGEMENE GEGEVENS

| | | |
|------------------------------|--|-------------|
| Stabiliteit: | Classificatie gehele constructie: | Ongeschoord |
| | Belastinggeval m.b.t. bepaling kniklengte: | 27=Knik |
| | Aanpassing inkl. parameter C : | Steunpunten |
| Tweede-orde-effect: | | |
| | Aan te houden verhouding $n/(n-1)$ | |
| | voor steunmomenten en verplaatsingen: | 1.00 |
| Doorbuiging en verplaatsing: | | |
| | Aantal bouwlagen: | 1 |
| | Gebouwtype: | Overig |
| | Toel. horiz. verplaatsing gehele gebouw: | $h/150$ |
| | Kleinste gevelhoogte [m]: | 0.0 |

PROFIEL/MATERIAAL

| P/M nr. | Profielnaam | Vloeisp. [N/mm ²] | Productie methode | Min. drsn. klasse |
|---------|-----------------|-------------------------------|-------------------|-------------------|
| 1 | HEA140 | 235 | Gewalst | 1 |
| 2 | HEA160(90) | 235 | Gewalst | 1 |
| 3 | HEA160 | 235 | Gewalst | 1 |
| 4 | K160/80/6CF(90) | 235 | Koudgevormd | 1 |
| 5 | STRIP6*60 | 235 | Gewalst | 1 |

Partiële veiligheidsfactoren:

Gamma M;0 : 1.00 Gamma M;1 : 1.00

KNIKSTABILITEIT

| Staafl | l_{sys} [m] | Classif. y sterke as | $l_{knik,y}$ [m] | Extra | | Extra | |
|--------|---------------|----------------------|------------------|--------------|--------------------|------------------|--------------|
| | | | | aanp. y [kN] | Classif. zwakke as | $l_{knik,z}$ [m] | aanp. z [kN] |
| 1 | 3.600 | Ongeschoord | 9.001 | 0.0 | Geschoord | 3.600 | 0.0 |
| 2 | 4.391 | Ongeschoord | 11.505 | 0.0 | Geschoord | 4.391 | 0.0 |
| 3 | 4.391 | Ongeschoord | 11.767 | 0.0 | Geschoord | 4.391 | 0.0 |
| 4 | 3.600 | Ongeschoord | 9.206 | 0.0 | Geschoord | 3.600 | 0.0 |
| 5-6 | 5.800 | Geschoord | 5.800 | 0.0 | Geschoord | 5.800 | 0.0 |
| 7 | 5.235 | Geschoord | 5.235 | 0.0 | Geschoord | 5.235 | 0.0 |
| 8 | 5.235 | Geschoord | 5.235 | 0.0 | Geschoord | 5.235 | 0.0 |
| 9 | 5.800 | Geschoord | 5.800 | 0.0 | Geschoord | 5.800 | 0.0 |
| 10 | 3.800 | Geschoord | 3.800 | 0.0 | Geschoord | 3.800 | 0.0 |
| 11 | 3.800 | Geschoord | 3.800 | 0.0 | Geschoord | 3.800 | 0.0 |

KIPSTABILITEIT

| Staafl | Plts. aangr. | l gaffel [m] | Kipsteunafstanden [m] | |
|--------|--------------|--------------|-----------------------|--------|
| | | | boven: | onder: |
| 1 | 1.0*h | 3.60 | 3,6 | 3,6 |
| | | | 3.60 | 3,6 |
| 2 | 1.0*h | 4.39 | 4,391 | 4,391 |
| | | | 4.39 | 4,391 |
| 3 | 1.0*h | 4.39 | 4,391 | 4,391 |
| | | | 4.39 | 4,391 |
| 4 | 1.0*h | 3.60 | 3,6 | 3,6 |
| | | | 3.60 | 3,6 |
| 5-6 | 1.0*h | 5.80 | 5,8 | 5,8 |
| | | | 5.80 | 5,8 |
| 7 | 1.0*h | 5.23 | 5,235 | 5,235 |
| | | | 5.23 | 5,235 |
| 8 | 1.0*h | 5.23 | 5,235 | 5,235 |
| | | | 5.23 | 5,235 |
| 9 | 1.0*h | 5.80 | 5,8 | 5,8 |
| | | | 5.80 | 5,8 |
| 10 | 1.0*h | 3.80 | 3.800 | 3.800 |
| | | | 3.80 | 3.800 |
| 11 | 1.0*h | 3.80 | 3.800 | 3.800 |
| | | | 3.80 | 3.800 |

TOETSING SPANNINGEN

| Staaf nr. | P/M | BC | Sit | Kl | Plaats | Norm | Artikel | Formule | Hoogste toetsing U.C. [N/mm ²] | Opm. | |
|-----------|-----|----|-----|----|--------|---------|---------|---------|--|------|-------|
| 1 | 1 | 8 | 1 | 1 | Staaf | EN3-1-1 | 6.3.3 | (6.61) | 0.137 | 32 | 47 |
| 2 | 1 | 24 | 1 | 1 | Staaf | EN3-1-1 | 6.3.3 | (6.61) | 0.114 | 27 | 47 |
| 3 | 1 | 24 | 1 | 1 | Staaf | EN3-1-1 | 6.3.3 | (6.61) | 0.115 | 27 | 47 |
| 4 | 1 | 16 | 1 | 1 | Staaf | EN3-1-1 | 6.3.3 | (6.61) | 0.140 | 33 | 47 |
| 5-6 | 2 | 12 | 1 | 1 | Staaf | EN3-1-1 | 6.3.3 | (6.62) | 0.060 | 14 | 42,47 |
| 7 | 5 | 29 | 1 | 1 | Begin | EN3-1-1 | 6.2.3 | (6.5) | 0.127 | 30 | |
| 8 | 5 | 37 | 1 | 1 | Begin | EN3-1-1 | 6.2.3 | (6.5) | 0.127 | 30 | |
| 9 | 3 | 4 | 1 | 1 | Staaf | EN3-1-1 | 6.3.3 | (6.62) | 0.391 | 92 | 47 |
| 10 | 4 | 4 | 1 | 1 | Staaf | EN3-1-1 | 6.3.3 | (6.62) | 0.038 | 9 | |
| 11 | 4 | 4 | 1 | 1 | Staaf | EN3-1-1 | 6.3.3 | (6.62) | 0.038 | 9 | |

Opmerkingen:

- [42] Waarschuwing: Er sluiten tussentijds staven en/of opleggingen aan.
[47] Bij verlopende normaalkracht wordt de grootste drukkracht genomen.

TOETSING DOORBUIGING

| Staaf | Soort | Mtg | Lengte [m] | Overst I | Zeeg J | u _{tot} [mm] | BC | Sit | u [mm] | Toelaatbaar [mm] | *1 | |
|-------|-------|-----|------------|----------|--------|-----------------------|-------|-----|--------|------------------|-------|---------|
| 2 | Dak | db | 4.39 | N | N | 0.0 | -2.5 | 74 | 1 Eind | -2.5 | -17.6 | 0.004 |
| | | | | | | | | 74 | 1 Bijk | -1.4 | -17.6 | 0.004 |
| 3 | Dak | db | 4.39 | N | N | 0.0 | -2.5 | 73 | 1 Eind | -2.5 | -17.6 | 0.004 |
| | | | | | | | | 73 | 1 Bijk | -1.4 | -17.6 | 0.004 |
| 9 | Dak | db | 5.80 | N | N | 0.0 | -11.1 | 52 | 1 Eind | -11.1 | -23.2 | 0.004 |
| | | | | | | | | 52 | 1 Bijk | -11.1 | -23.2 | 0.004 |
| 10 | Vloer | db | 3.80 | N | N | 0.0 | -1.0 | 51 | 1 Eind | -1.0 | ±15.2 | 0.004 |
| | | | | | | | | 61 | 1 Bijk | -0.0 | ±22.8 | 2*0.003 |
| 11 | Vloer | db | 3.80 | N | N | 0.0 | -1.0 | 51 | 2 Eind | -1.0 | ±15.2 | 0.004 |
| | | | | | | | | 52 | 1 Bijk | -0.0 | ±22.8 | 2*0.003 |

TOETSING HOR. VERPLAATSING GLOBAAL

Er is een maximale horizontale verplaatsing van 0.0009 [m] gevonden bij knoop 2 en combinatie 52; belastingsituatie 1 (combinatietype 2). Bij een hoogte van 3.600 [m] levert dit h /4186 (toel.: h / 150).

DOORBUIGINGEN

Karakteristieke combinatie

| Nr. | staven | Zijde | positie [m] | l _{rep} [mm] | w ₁ [mm] | w ₂ [mm] | W _{bij} [mm] | l _{rep} [mm] | W _{tot} [mm] | w _c [mm] | W _{max} [mm] | l _{rep} [mm] |
|-----|--------|-------|-------------|-----------------------|---------------------|---------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|
| 2 | 2 | Neg. | 2.439 | 4391 | -1.0 | -1.4 | 3099 | -2.5 | -2.5 | 1782 | | |
| 2 | 2 | Pos. | 2.439 | 4391 | -1.0 | 1.1 | 3998 | 0.1 | 0.1 | 86948 | | |
| 3 | 3 | Neg. | 1.952 | 4391 | -1.0 | -1.4 | 3097 | -2.5 | -2.5 | 1781 | | |
| 3 | 3 | Pos. | 1.952 | 4391 | -1.0 | 1.9 | 2315 | 0.8 | 0.8 | 5172 | | |
| 9 | 10 | Neg. | 1.900 | 3800 | -1.0 | | | -1.0 | -1.0 | 3979 | | |
| 10 | 11 | Neg. | 1.900 | 3800 | -1.0 | | | -1.0 | -1.0 | 3979 | | |

Velden met een w_{bij} en W_{max} < l_{rep}/9999 zijn niet afgedrukt

A.8 Raveling S0-05 en S0-06

Technosoft Raamwerken release 6.77

26 mei 2023

Project.....: 2022204
Dimensies.....: kN;m;rad (tenzij anders aangegeven)
Datum.....: 03/01/2023
Bestand.....: K:\Werk\2022204\Berekeningen\Technosoft\raveling s0-05 en
s0-06.rww

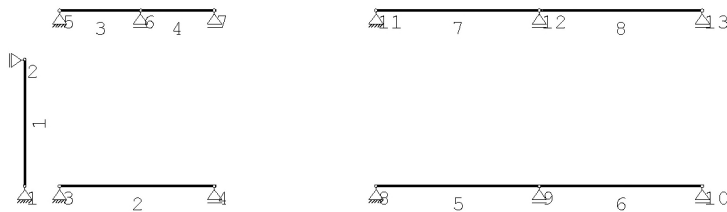
Belastingbreedte.: 1.000
Rekenmodel.....: 1e-orde-elastisch.
Theorie voor de bepaling van de krachtsverdeling:
Geometrisch lineair.
Fysisch lineair.

Gunstige werking van de permanente belasting wordt automatisch verwerkt.

Toegepaste normen volgens Eurocode met Nederlandse NB

| | | | |
|-------------|----------------------|-----------------|-------------|
| Belastingen | NEN-EN 1990:2002 | C2:2010,A1:2019 | NB:2019(nl) |
| | NEN-EN 1991-1-1:2002 | C1/C11:2019 | NB:2019(nl) |
| Staal | NEN-EN 1993-1-1:2006 | C2:2011,A1:2016 | NB:2016(nl) |

GEOMETRIE



MATERIALEN

| Mt | Kwaliteit | E-modulus[N/mm ²] | S.G. | Pois. | Uitz. coëff |
|----|-----------|-------------------------------|------|-------|-------------|
| 1 | S235 | 210000 | 78.5 | 0.30 | 1.2000e-05 |
| 2 | S235 | 210000 | 0.0 | 0.30 | 1.2000e-05 |

PROFIELEN [mm]

| Prof. | Omschrijving | Materiaal | Oppervlak | Traagheid | Vormf. |
|-------|-----------------|-----------|------------|------------|--------|
| 1 | UNP160 | 1:S235 | 2.4010e+03 | 9.2500e+06 | 0.00 |
| 2 | K160/80/6CF | 2:S235 | 2.6433e+03 | 8.3601e+06 | 0.00 |
| 3 | K160/80/6CF(90) | 1:S235 | 2.6433e+03 | 2.8089e+06 | 0.00 |
| 4 | UNP160 | 2:S235 | 2.4010e+03 | 9.2500e+06 | 0.00 |
| 5 | K160/80/6CF | 2:S235 | 2.6433e+03 | 8.3601e+06 | 0.00 |
| 6 | UNP160(90) | 1:S235 | 2.4010e+03 | 8.5100e+05 | 0.00 |
| 7 | K160/80/6CF(90) | 1:S235 | 2.6433e+03 | 2.8089e+06 | 0.00 |

PROFIELEN vervolg [mm]

| Prof. | Staaftype | Breedte | Hoogte | e | Type | b1 | h1 | b2 | h2 |
|-------|-----------|---------|--------|------|------|----|----|----|----|
| 1 | 0:Normaal | 65 | 160 | 80.0 | | | | | |
| 2 | 0:Normaal | 80 | 160 | 80.0 | | | | | |
| 3 | 0:Normaal | 80 | 160 | 40.0 | | | | | |
| 4 | 0:Normaal | 65 | 160 | 80.0 | | | | | |
| 5 | 0:Normaal | 80 | 160 | 80.0 | | | | | |
| 6 | 0:Normaal | 65 | 160 | 18.4 | | | | | |
| 7 | 0:Normaal | 80 | 160 | 40.0 | | | | | |

PROFIELVORMEN [mm]

1 UNP160



2 K160/80/6CF



3 K160/80/6CF(90)



4 UNP160



5 K160/80/6CF



6 UNP160(90)



7 K160/80/6CF(90)



KNOPEN

| Knoop | X | Z | Knoop | X | Z |
|-------|--------|-------|-------|--------|-------|
| 1 | 0.000 | 0.000 | 6 | 3.300 | 5.000 |
| 2 | 0.000 | 3.600 | 7 | 5.400 | 5.000 |
| 3 | 1.000 | 0.000 | 8 | 10.000 | 0.000 |
| 4 | 5.400 | 0.000 | 9 | 14.640 | 0.000 |
| 5 | 1.000 | 5.000 | 10 | 19.280 | 0.000 |
| 11 | 10.000 | 5.000 | | | |
| 12 | 14.640 | 5.000 | | | |
| 13 | 19.280 | 5.000 | | | |

STAVEN

| St. | ki | kj | Profiel | Aansl.i | Aansl.j | Lengte | Opm. |
|-----|----|----|-------------------|---------|---------|--------|------|
| 1 | 1 | 2 | 1:UNP160 | NDM | NDM | 3.600 | |
| 2 | 3 | 4 | 2:K160/80/6CF | NDM | NDM | 4.400 | |
| 3 | 5 | 6 | 3:K160/80/6CF(90) | NDM | NDM | 2.300 | |
| 4 | 6 | 7 | 3:K160/80/6CF(90) | NDM | NDM | 2.100 | |
| 5 | 8 | 9 | 4:UNP160 | NDM | NDM | 4.640 | |
| 6 | 9 | 10 | 5:K160/80/6CF | ND | NDM | 4.640 | |
| 7 | 11 | 12 | 6:UNP160(90) | NDM | NDM | 4.640 | |
| 8 | 12 | 13 | 7:K160/80/6CF(90) | ND | NDM | 4.640 | |

VASTE STEUNPUNTEN

| Nr. | knoop | Kode | XZR | 1=vast | 0=vrij | Hoek |
|-----|-------|------|-----|--------|--------|------|
| 1 | 1 | 110 | | | | 0.00 |
| 2 | 2 | 100 | | | | 0.00 |
| 3 | 3 | 110 | | | | 0.00 |
| 4 | 4 | 010 | | | | 0.00 |
| 5 | 5 | 110 | | | | 0.00 |
| 6 | 6 | 010 | | | | 0.00 |
| 7 | 7 | 010 | | | | 0.00 |
| 8 | 8 | 110 | | | | 0.00 |
| 9 | 9 | 010 | | | | 0.00 |
| 10 | 10 | 010 | | | | 0.00 |
| 11 | 11 | 110 | | | | 0.00 |
| 12 | 12 | 010 | | | | 0.00 |
| 13 | 13 | 010 | | | | 0.00 |

BELASTINGGENERATIE ALGEMEEN.

| | | | |
|------------------------------|------|-------------------------|------|
| Betrouwbaarheidsklasse.....: | 1 | Referentieperiode.....: | 50 |
| Gebouwdiepte.....: | 0.00 | Gebouwhoogte.....: | 5.00 |
| Niveau aansl.terrein.....: | 0.00 | E.g. scheid.w. [kN/m2]: | 1.20 |

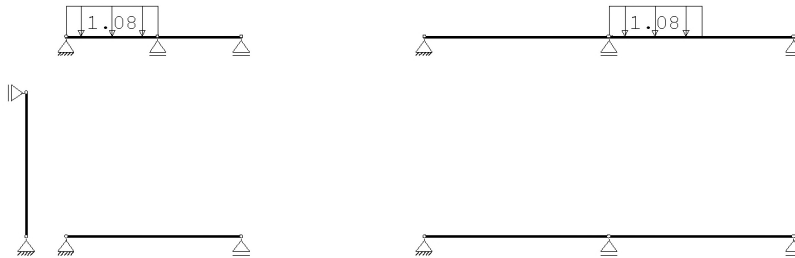
BELASTINGGEVALLEN

| B.G. | Omschrijving | EGZ=-1.00 | Type |
|------|-------------------------|-----------|----------------------------|
| 1 | Permanente belasting | 1 | |
| 2 | Veranderlijke belasting | 7 | Wind van links onderdruk A |

BELASTINGEN

B.G:1 Permanente belasting

Eigen gewicht van alle staven is meegenomen in berekening. Richting:↓



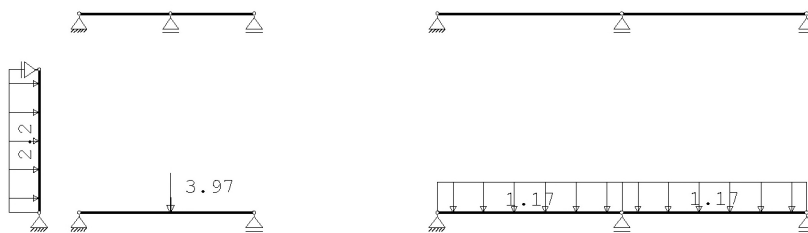
STAAFBELASTINGEN

B.G:1 Permanente belasting

| Staat | Type | q1/p/m | q2 | A | B | Ψ_0 | Ψ_1 | Ψ_2 |
|-------|-------------|--------|-------|-------|-------|----------|----------|----------|
| 3 | 3:QZgeProj. | -1.08 | -1.08 | 0.000 | 0.000 | | | |
| 8 | 3:QZgeProj. | -1.08 | -1.08 | 0.000 | 2.320 | | | |

BELASTINGEN

B.G:2 Veranderlijke belasting



STAAFBELASTINGEN

B.G:2 Veranderlijke belasting

| Staat | Type | q1/p/m | q2 | A | B | Ψ_0 | Ψ_1 | Ψ_2 |
|-------|-------------|--------|-------|-------|-------|----------|----------|----------|
| 1 | 1:QZLokaal | -2.20 | -2.20 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 2 | 8:PZLokaal | -3.97 | | 2.300 | | 0.00 | 0.20 | 0.00 |
| 5 | 1:QZLokaal | -1.17 | -1.17 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |
| 6 | 3:QZgeProj. | -1.17 | -1.17 | 0.000 | 0.000 | 0.00 | 0.20 | 0.00 |

REACTIES

| Kn. | B.G. | X | Z | M |
|-----|------|-------|-------|---|
| 1 | 1 | 0.00 | 0.68 | |
| 1 | 2 | -3.96 | 0.00 | |
| 2 | 1 | 0.00 | | |
| 2 | 2 | -3.96 | | |
| 3 | 1 | 0.00 | 0.00 | |
| 3 | 2 | 0.00 | 1.89 | |
| 4 | 1 | | 0.00 | |
| 4 | 2 | | 2.08 | |
| 5 | 1 | 0.00 | 1.26 | |
| 5 | 2 | 0.00 | 0.00 | |
| 6 | 1 | | 2.15 | |
| 6 | 2 | | 0.00 | |
| 7 | 1 | | -0.02 | |
| 7 | 2 | | 0.00 | |

| | | | |
|----|---|------|------|
| 8 | 1 | 0.00 | 0.00 |
| 8 | 2 | 0.00 | 2.71 |
| 9 | 1 | | 0.00 |
| 9 | 2 | | 5.43 |
| 10 | 1 | | 0.00 |
| 10 | 2 | | 2.71 |
| 11 | 1 | 0.00 | 0.44 |
| 11 | 2 | 0.00 | 0.00 |
| 12 | 1 | | 2.80 |
| 12 | 2 | | 0.00 |
| 13 | 1 | | 1.11 |
| 13 | 2 | | 0.00 |

BELASTINGCOMBINATIES

BC Type

| | | | | |
|---------|------|-----------|--------|------------------|
| 1 Fund. | 1.22 | $G_{k,1}$ | | |
| 2 Fund. | 0.90 | $G_{k,1}$ | | |
| 3 Fund. | 1.08 | $G_{k,1}$ | + 1.35 | $Q_{k,2}$ |
| 4 Fund. | 0.90 | $G_{k,1}$ | + 1.35 | $Q_{k,2}$ |
| 5 Kar. | 1.00 | $G_{k,1}$ | + 1.00 | $Q_{k,2}$ |
| 6 Quas. | 1.00 | $G_{k,1}$ | | |
| 7 Freq. | 1.00 | $G_{k,1}$ | | |
| 8 Freq. | 1.00 | $G_{k,1}$ | + 1.00 | $\psi_1 Q_{k,2}$ |
| 9 Blij. | 1.00 | $G_{k,1}$ | | |

GUNSTIGE WERKING PERMANENTE BELASTINGEN

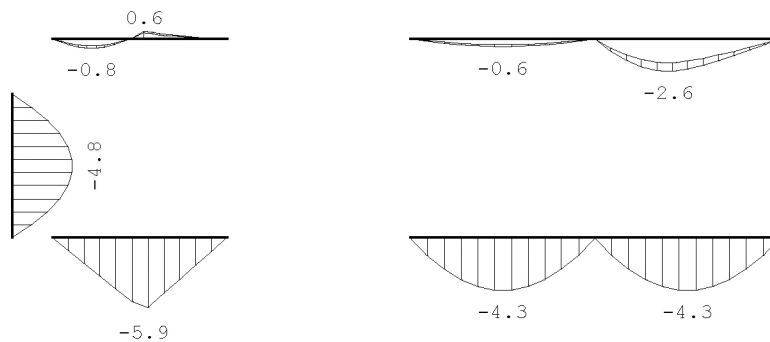
BC Staven met gunstige werking

- 1 Geen
- 2 Alle staven de factor:0.90
- 3 Geen
- 4 Alle staven de factor:0.90

OMHULLENDE VAN DE FUNDAMENTELE COMBINATIES

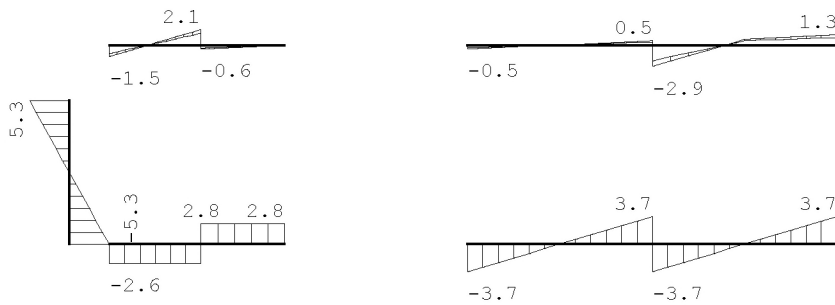
MOMENTEN

Fundamentele combinatie



DWARSKRACHTEN

Fundamentele combinatie



NORMAALKRACHTEN

Fundamentele combinatie



REACTIES

Fundamentele combinatie

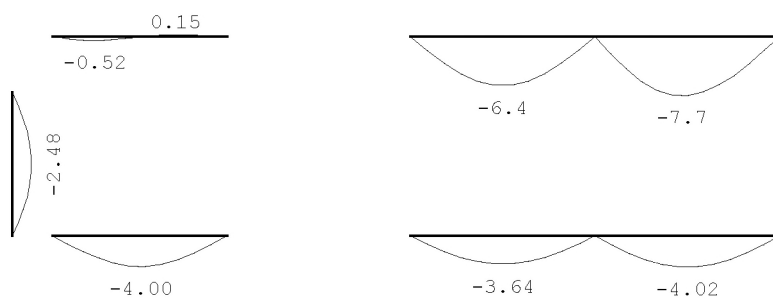
| Kn. | X-min | X-max | Z-min | Z-max | M-min | M-max |
|-----|-------|-------|-------|-------|-------|-------|
| 1 | -5.35 | 0.00 | 0.61 | 0.82 | | |
| 2 | -5.35 | 0.00 | | | | |
| 3 | 0.00 | 0.00 | 0.00 | 2.56 | | |
| 4 | | | 0.00 | 2.80 | | |
| 5 | 0.00 | 0.00 | 1.14 | 1.54 | | |
| 6 | | | 1.94 | 2.62 | | |
| 7 | | | -0.02 | -0.02 | | |
| 8 | 0.00 | 0.00 | 0.00 | 3.66 | | |
| 9 | | | 0.00 | 7.33 | | |
| 10 | | | 0.00 | 3.66 | | |
| 11 | 0.00 | 0.00 | 0.39 | 0.53 | | |
| 12 | | | 2.52 | 3.40 | | |
| 13 | | | 1.00 | 1.35 | | |

OMHULLENDE VAN DE KARAKTERISTIEKE COMBINATIES

VERPLAATSINGEN

[mm]

Karakteristieke combinatie

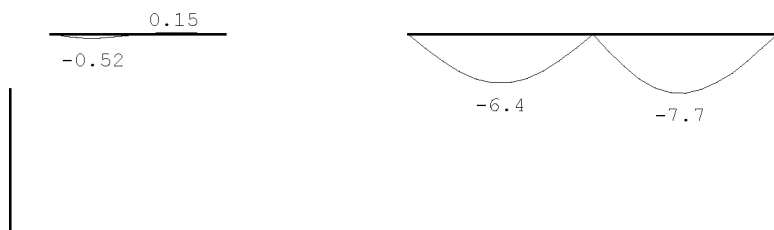


OMHULLENDE VAN DE BLIJVENDE COMBINATIES

VERPLAATSINGEN

[mm]

Blijvende combinatie



STAALPROFIELEN - ALGEMENE GEGEVENS

| | | |
|------------------------------|--|-----------|
| Stabiliteit: | Classificatie gehele constructie: | Geschoord |
| Doorbuiging en verplaatsing: | Aantal bouwlagen: | 1 |
| | Gebouwtype: | Overig |
| | Toel. horiz. verplaatsing gehele gebouw: | h/300 |
| | Kleinste gevelhoogte [m]: | 0.0 |

PROFIEL/MATERIAAL

| E/M nr. | Profielnaam | Vloeisp. [N/mm ²] | Productie methode | Min. drsn. klasse |
|---------|-----------------|-------------------------------|-------------------|-------------------|
| 1 | UNP160 | 235 | Gewalst | 1 |
| 2 | K160/80/6CF | 235 | Koudgevormd | 1 |
| 3 | K160/80/6CF(90) | 235 | Koudgevormd | 1 |
| 4 | UNP160 | 235 | Gewalst | 1 |
| 5 | K160/80/6CF | 235 | Koudgevormd | 1 |
| 6 | UNP160(90) | 235 | Gewalst | 1 |
| 7 | K160/80/6CF(90) | 235 | Koudgevormd | 1 |

Partiële veiligheidsfactoren:

Gamma M;0 : 1.00 Gamma M;1 : 1.00

KNIKSTABILITEIT

| Staal | l _{sys} [m] | Classif. y sterke as | l _{knik,y} [m] | Extra | | Extra | |
|-------|----------------------|----------------------|-------------------------|--------------|----------------------|-------------------------|--------------|
| | | | | aanp. y [kN] | Classif. z zwakke as | l _{knik,z} [m] | aanp. z [kN] |
| 1 | 3.600 | Geschoord | 3.600 | 0.0 | Geschoord | 3.600 | 0.0 |
| 2 | 4.400 | Geschoord | 4.400 | 0.0 | Geschoord | 4.400 | 0.0 |
| 3 | 2.300 | Geschoord | 2.300 | 0.0 | Geschoord | 2.300 | 0.0 |
| 4 | 2.100 | Geschoord | 2.100 | 0.0 | Geschoord | 2.100 | 0.0 |
| 5 | 4.640 | Geschoord | 4.640 | 0.0 | Geschoord | 4.640 | 0.0 |
| 6 | 4.640 | Geschoord | 4.640 | 0.0 | Geschoord | 4.640 | 0.0 |
| 7 | 4.640 | Geschoord | 4.640 | 0.0 | Geschoord | 4.640 | 0.0 |
| 8 | 4.640 | Geschoord | 4.640 | 0.0 | Geschoord | 4.640 | 0.0 |

KIPSTABILITEIT

| Staal | Plts. aangr. | l gaffel Kipsteunafstanden | |
|-------|--------------|----------------------------|-----------|
| | | [m] | [m] |
| 1 | 1.0*h | boven: | 3.60 3,6 |
| | | onder: | 3.60 3,6 |
| 2 | 1.0*h | boven: | 4.40 4,4 |
| | | onder: | 4.40 4,4 |
| 3 | 1.0*h | boven: | 2.30 2,3 |
| | | onder: | 2.30 2,3 |
| 4 | 1.0*h | boven: | 2.10 2,1 |
| | | onder: | 2.10 2,1 |
| 5 | 1.0*h | boven: | 4.64 4,64 |
| | | onder: | 4.64 4,64 |
| 6 | 1.0*h | boven: | 4.64 4,64 |
| | | onder: | 4.64 4,64 |
| 7 | 1.0*h | boven: | 4.64 4,64 |
| | | onder: | 4.64 4,64 |
| 8 | 1.0*h | boven: | 4.64 4,64 |
| | | onder: | 4.64 4,64 |

KRACHTEN UIT HET VLAK

| Staaft | Mbegin [kNm] | Mmidden [kNm] | Meinde [kNm] | Vbegin [kN] | Vtpv [kN] | Mmax [kN] | Veinde [kN] | Mx [kNm] |
|--------|-----------------|------------------|-----------------|----------------|--------------|--------------|----------------|-------------|
| 2 | 0.0 | 0.6 | 0.0 | -1.5 | 2.0 | 0.0 | 0.0 | 0.8 |
| 3 | 0.0 | -3.0 | -5.9 | -2.6 | -2.6 | -2.6 | -2.6 | 0.8 |
| 4 | -5.9 | -3.0 | 0.0 | 2.8 | 2.8 | 2.8 | 2.8 | 0.0 |
| 6 | 0.0 | -2.6 | 0.0 | -2.9 | 0.0 | 1.3 | 1.3 | 0.8 |
| 8 | 0.0 | -4.3 | 0.0 | -3.7 | 0.0 | 3.7 | 3.7 | 0.8 |

TOETSING SPANNINGEN

| Staaft | P/M | BC | Sit | Kl | Plaats | Norm | Artikel | Formule | Hoogste toetsing U.C. [N/mm ²] | Opm. |
|--------|-----|----|-----|----|--------|---------|---------|--------------|---|----------------|
| 1 | 1 | 3 | 1 | 1 | My-max | EN3-1-1 | 6.2.1 | (6.2) | 0.149 | 35 47,76,18,40 |
| 2 | 2 | 3 | 1 | 1 | Staaft | EN3-1-1 | 6.3.3 | (6.61) | 0.198 | 46 3,19 |
| 3 | 3 | 1 | 1 | 1 | Einde | EN3-1-1 | 6.2.8 | (6.29+6.12y) | 0.190 | 45 3,19 |
| 4 | 3 | 1 | 1 | 1 | Begin | EN3-1-1 | 6.2.8 | (6.29+6.12y) | 0.190 | 45 |
| 5 | 4 | 3 | 1 | 1 | My-max | EN3-1-1 | 6.2.5 | (6.12y) | 0.131 | 31 76 |
| 6 | 5 | 3 | 1 | 1 | Staaft | EN3-1-1 | 6.3.3 | (6.61) | 0.207 | 49 3,19 |
| 7 | 6 | 1 | 1 | 1 | Mz-max | EN3-1-1 | 6.2.5 | (6.12z) | 0.075 | 18 76,66 |
| 8 | 7 | 1 | 1 | 1 | Staaft | EN3-1-1 | 6.3.3 | (6.61) | 0.210 | 49 3,19 |

Opmerkingen:

- [3] Als ongest. lengte voor wringing is de syst.lengte-Y aangehouden.
- [18] Eulerse torsiekracht N cr;T is onbekend. De toetsing op torsie volgens EC3 1.1/NB 6.3.1.4 (2) is niet uitgevoerd.
- [19] Toetsing volgens vloeikriterium geschiedt als ware het een klasse 3 profiel.
- [40] Eulerse torsieknikkracht N cr;TF is onbekend. De toetsing op torsieknik volgens EC3 1.1/NB 6.3.1.4 (2) is niet uitgevoerd.
- [47] Bij verlopende normaalkracht wordt de grootste drukkracht genomen.
- [66] Er zijn 1 of meer elastische profielgrootheden gebruikt.
- [76] Toetsing van kipstabiliteit voor dit profieltype is niet voorzien.

TOETSING DOORBUIGING

| Staaft | Soort | Mtg | Lengte [m] | Overst I J | Zeeg [mm] | u _{tot} [mm] | BC | Sit | u [mm] | Toelaatbaar [mm] | *1 |
|--------|-------|-----|---------------|---------------|--------------|--------------------------|----|--------|-----------|---------------------|-------|
| 1 | Vlr+w | db | 3.60 | N N | 0.0 | -2.5 | 5 | 1 Eind | -2.5 | ±14.4 | 0.004 |
| | | db | | | | | 5 | 1 Bijk | -2.5 | ±7.2 | 0.002 |
| 2 | Vlr+w | db | 4.40 | N N | 0.0 | -4.0 | 5 | 1 Eind | -4.0 | ±17.6 | 0.004 |
| | | db | | | | | 5 | 1 Bijk | -4.0 | ±8.8 | 0.002 |
| 3 | Vlr+w | db | 2.30 | N N | 0.0 | -0.5 | 5 | 1 Eind | -0.5 | ±9.2 | 0.004 |
| 4 | Vlr+w | db | 2.10 | N N | 0.0 | 0.2 | 5 | 1 Eind | 0.2 | ±8.4 | 0.004 |
| 5 | Vlr+w | db | 4.64 | N N | 0.0 | -3.6 | 5 | 1 Eind | -3.6 | ±18.6 | 0.004 |
| | | db | | | | | 5 | 1 Bijk | -3.6 | ±9.3 | 0.002 |
| 6 | Vlr+w | db | 4.64 | N N | 0.0 | -4.0 | 5 | 1 Eind | -4.0 | ±18.6 | 0.004 |
| | | db | | | | | 5 | 1 Bijk | -4.0 | ±9.3 | 0.002 |
| 7 | Vlr+w | db | 4.64 | N N | 0.0 | -6.4 | 5 | 1 Eind | -6.4 | ±18.6 | 0.004 |
| 8 | Dak | db | 4.64 | N N | 0.0 | -7.7 | 5 | 1 Eind | -7.7 | -18.6 | 0.004 |

DOORBUIGINGEN

Karakteristieke combinatie

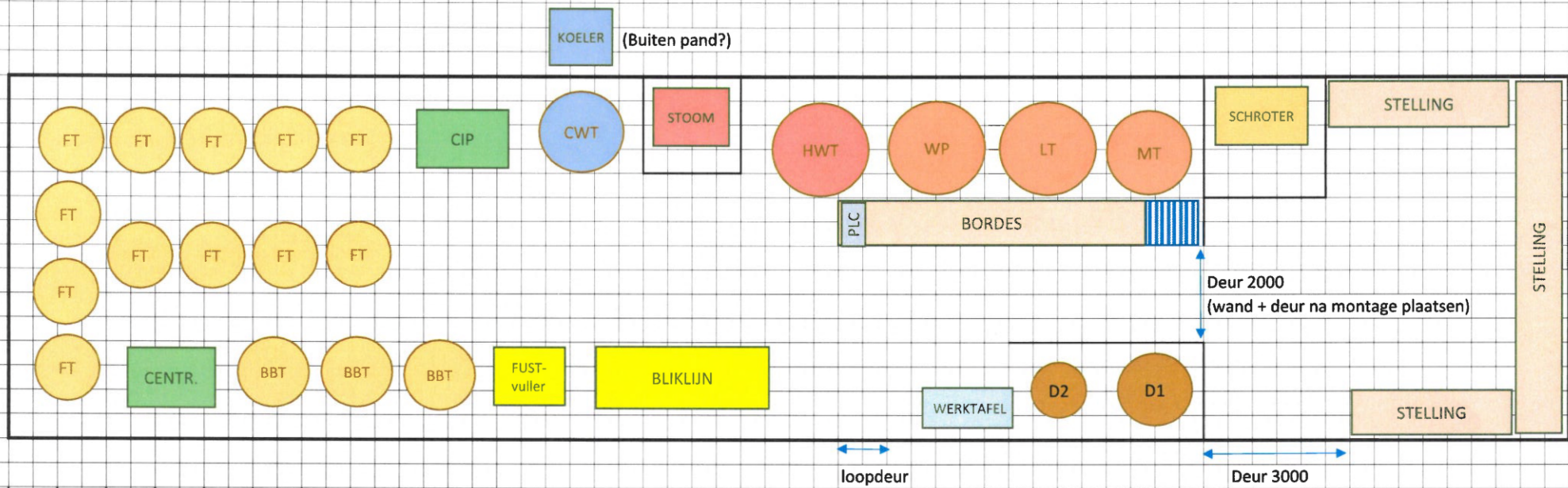
| Nr. | staven | Zijde | positie | l _{rep} [mm] | W ₁ [mm] | W ₂ [mm] | W _{bij} [mm] | l _{rep} / | W _{tot} [mm] | W _c [mm] | W _{max} [mm] | l _{rep} / |
|-----|--------|-------|---------|--------------------------|------------------------|------------------------|--------------------------|--------------------|--------------------------|------------------------|--------------------------|--------------------|
| 2 | 2 | Neg. | 2.300 | 4400 | | | -4.0 | 1101 | -4.0 | | -4.0 | 1101 |
| 3 | 3 | Neg. | 0.920 | 2300 | -0.5 | | | | -0.5 | | -0.5 | 4541 |
| 5 | 5 | Neg. | 2.320 | 4640 | | | -3.6 | 1276 | -3.6 | | -3.6 | 1276 |
| 6 | 6 | Neg. | 2.320 | 4640 | | | -4.0 | 1154 | -4.0 | | -4.0 | 1154 |
| 7 | 7 | Neg. | 2.320 | 4640 | -6.4 | | | | -6.4 | | -6.4 | 729 |
| 8 | 8 | Neg. | 2.320 | 4640 | -7.6 | | | | -7.6 | | -7.6 | 607 |

Velden met een w_{bij} en W_{max} < l_{rep}/9999 zijn niet afgedrukt

Bijlage B

Belastingen brouwerijvloer

Plattegrond brouwerij & stokerij de Smokkelaar op 32 x 7,5 m. netto.



0 1 2 3 4 5 6 7 8 9 10 m.

| | | | |
|----------------------------------|-----------------------------------|-------------------------|--|
| MT = \varnothing 1760 x H 2600 | HWT = \varnothing 2050 x H 2400 | Fustv. = 1250 x 1500 | D1 = \varnothing 1400 x H 2500 (schatting) |
| LT = \varnothing 1960 x H 2600 | CWT = \varnothing 1660 x H 2550 | Bliklijn = 1300 x 3500 | D2 = \varnothing 1200 x H 2500 (schatting) |
| WP = \varnothing 1960 H 2600 | BBT = \varnothing 1460 x H 2600 | Centr. = 1350 x 1650 | |
| FT = \varnothing 360 x H 3350 | CIP = 1250 x 2000 | Koeler = ca 1200 x 1200 | |

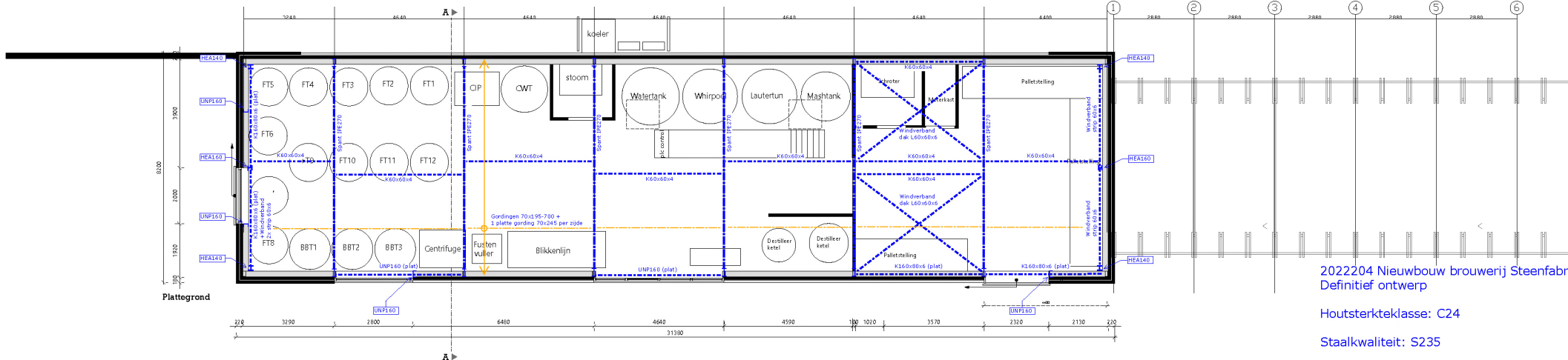
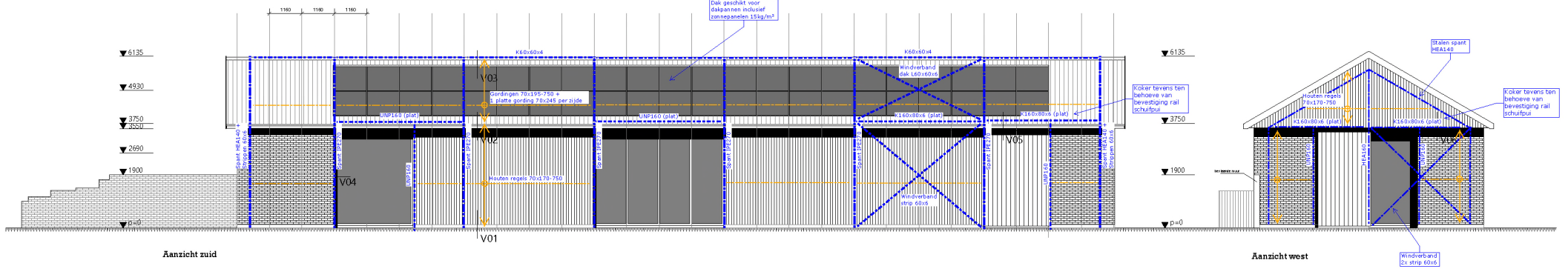
\varnothing 1360

- Mash tun 2000 liter : 600kg
- Lauter tun 2000 liter : 600kg
- KWT 2000 liter: 620Kg
- HWT 4000 liter: 770kg
- 2000 liter FV: 630kg
- 2000 liter BBT: 520kg
- 3000 liter GWT: 610kg
- FV en BBT bruto 2600 liter

NM
25-8-2022

Bijlage C

Constructieschetsen



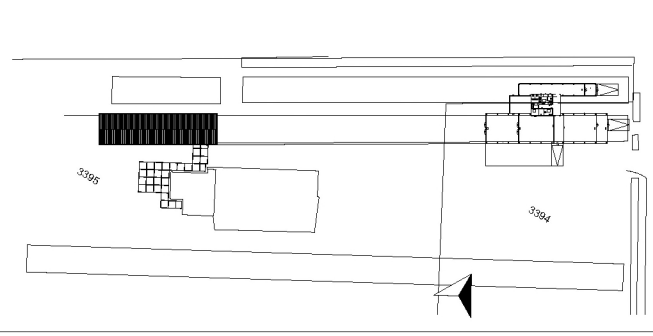
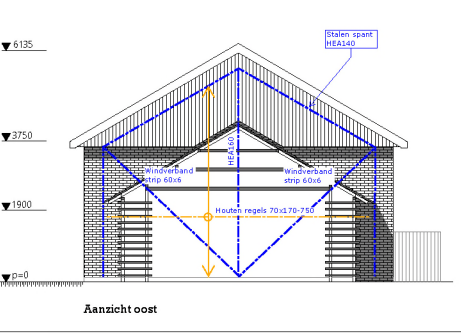
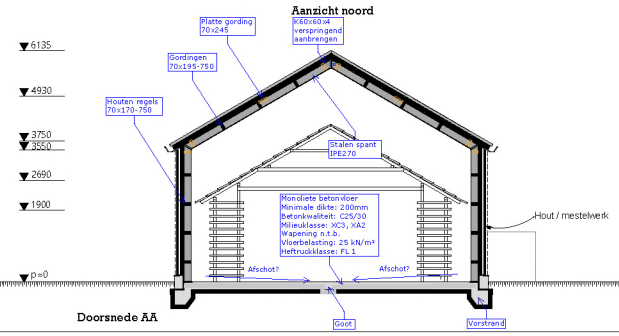
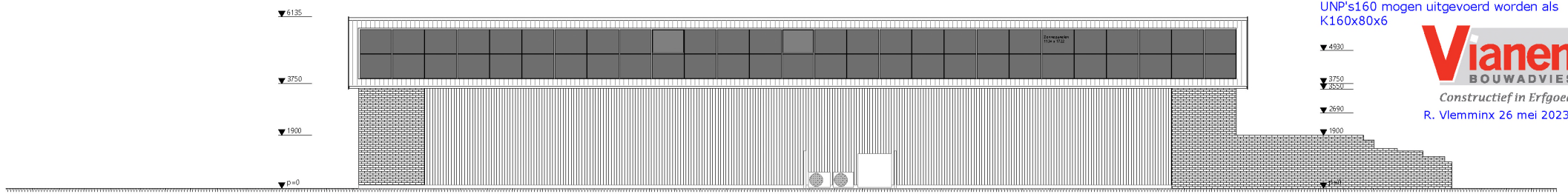
202204 Nieuwbouw brouwerij Steenfabriek
Definitief ontwerp

Houtsterkteklasse: C24

Staaikwaliteit: S235

Betonkwaliteit: C25/30
Milieuklasse: XC3 en XA2

UNP's160 mogen uitgevoerd worden als
K160x80x6



| | |
|---|-------------------------|
| C | Brouwerij De Smokkeleer |
| C | Gedwongen ontwerp |
| C | Losser |
| C | AD |
| C | CB |
| C | 06.04.2023 |
| C | 1:50 |
| C | Ontwerptekening |

