























































































































































































































































































































































































































































































































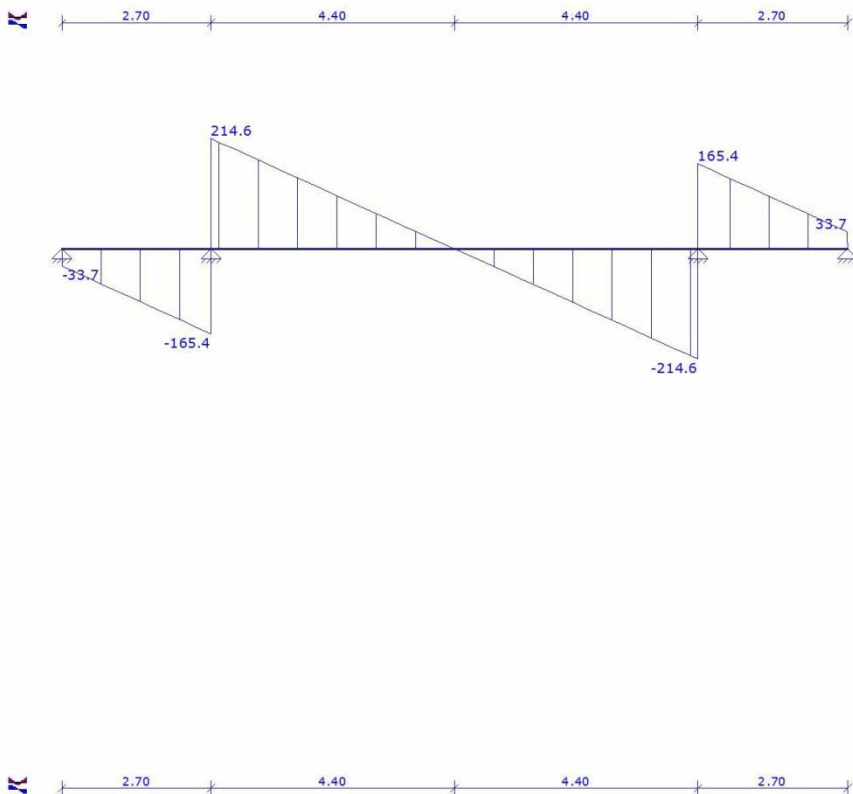






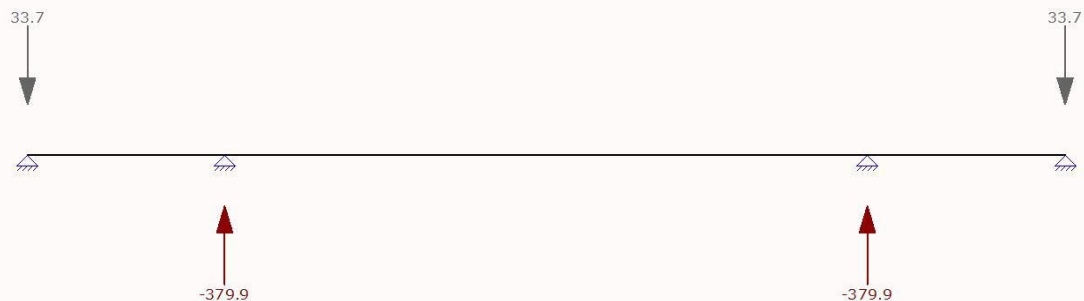






## FU.C. STAAFKRACHTEN

| Veld   | Positie B.G.           | Mb      | Mmax   | xMmax | Me      | x-M0  | x-M0  | Vb     | Vmax    | Vt      |
|--------|------------------------|---------|--------|-------|---------|-------|-------|--------|---------|---------|
| Veld 1 | 0,000 - 2,700 Fu.C.1   | 0.00    |        |       | -268.79 | 0.000 | 0.000 | -33.72 | -165.38 | -165.38 |
|        | 0,000 - 2,700 Fu.C.2   | 0.00    |        |       | -268.79 | 0.000 | 0.000 | -33.72 | -165.38 | -165.38 |
|        | 0,000 - 2,700 Fu.C.3   | 0.00    |        |       | -268.79 | 0.000 | 0.000 | -33.72 | -165.38 | -165.38 |
|        | 0,000 - 2,700 Fu.C.4   | 0.00    |        |       | -268.79 | 0.000 | 0.000 | -33.72 | -165.38 | -165.38 |
|        | 0,000 - 2,700 Fu.C.5   | 0.00    |        |       | -268.79 | 0.000 | 0.000 | -33.72 | -165.38 | -165.38 |
| Veld 2 | 2,700 - 11,500 Fu.C.1  | -268.79 | 203.23 | 7.100 | -268.79 | 4.213 | 9.987 | 214.55 | -214.55 | -214.55 |
|        | 2,700 - 11,500 Fu.C.2  | -268.79 | 203.23 | 7.100 | -268.79 | 4.213 | 9.987 | 214.55 | -214.55 | -214.55 |
|        | 2,700 - 11,500 Fu.C.3  | -268.79 | 203.23 | 7.100 | -268.79 | 4.213 | 9.987 | 214.55 | -214.55 | -214.55 |
|        | 2,700 - 11,500 Fu.C.4  | -268.79 | 203.23 | 7.100 | -268.79 | 4.213 | 9.987 | 214.55 | -214.55 | -214.55 |
|        | 2,700 - 11,500 Fu.C.5  | -268.79 | 203.23 | 7.100 | -268.79 | 4.213 | 9.987 | 214.55 | -214.55 | -214.55 |
| Veld 3 | 11,500 - 14,200 Fu.C.1 | -268.79 |        |       | 0.00    | 0.000 | 0.000 | 165.38 | 165.38  | 33.72   |
|        | 11,500 - 14,200 Fu.C.2 | -268.79 |        |       | 0.00    | 0.000 | 0.000 | 165.38 | 165.38  | 33.72   |
|        | 11,500 - 14,200 Fu.C.3 | -268.79 |        |       | 0.00    | 0.000 | 0.000 | 165.38 | 165.38  | 33.72   |
|        | 11,500 - 14,200 Fu.C.4 | -268.79 |        |       | 0.00    | 0.000 | 0.000 | 165.38 | 165.38  | 33.72   |
|        | 11,500 - 14,200 Fu.C.5 | -268.79 |        |       | 0.00    | 0.000 | 0.000 | 165.38 | 165.38  | 33.72   |
| -      | m -                    | kNm     | kNm    | m     | kNm     | m     | m     | kN     | kN      | kN      |

**FU.C. OPLEGREACTIES**

| B.C.   | Oplegging           | Positie | Z    | Yr     | Z              | My   |
|--------|---------------------|---------|------|--------|----------------|------|
| Fu.C.1 | O1                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
| Fu.C.1 | O2                  | 2.700   | vast | vrij   | -379.93        | 0.00 |
| Fu.C.1 | O3                  | 11.500  | vast | vrij   | -379.93        | 0.00 |
| Fu.C.1 | O4                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-692.42</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>692.42</b>  |      |
| Fu.C.2 | O1                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
| Fu.C.2 | O2                  | 2.700   | vast | vrij   | -379.93        | 0.00 |
| Fu.C.2 | O3                  | 11.500  | vast | vrij   | -379.93        | 0.00 |
| Fu.C.2 | O4                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-692.42</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>692.42</b>  |      |
| Fu.C.3 | O1                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
| Fu.C.3 | O2                  | 2.700   | vast | vrij   | -379.93        | 0.00 |
| Fu.C.3 | O3                  | 11.500  | vast | vrij   | -379.93        | 0.00 |
| Fu.C.3 | O4                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-692.42</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>692.42</b>  |      |
| Fu.C.4 | O1                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
| Fu.C.4 | O2                  | 2.700   | vast | vrij   | -379.93        | 0.00 |
| Fu.C.4 | O3                  | 11.500  | vast | vrij   | -379.93        | 0.00 |
| Fu.C.4 | O4                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-692.42</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>692.42</b>  |      |
| Fu.C.5 | O1                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
| Fu.C.5 | O2                  | 2.700   | vast | vrij   | -379.93        | 0.00 |
| Fu.C.5 | O3                  | 11.500  | vast | vrij   | -379.93        | 0.00 |
| Fu.C.5 | O4                  | 0.000   | vast | vrij   | 33.72          | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-692.42</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>692.42</b>  |      |
| -      | -                   | m       | kN/m | kNmrad | kN             | kNm  |

**B.G. OPLEGREACTIES**

| B.C.    | Oplegging           | Positie | Z    | Yr   | Z              | My   |
|---------|---------------------|---------|------|------|----------------|------|
| B.G.1   | O1                  | 0.000   | vast | vrij | 24.98          | 0.00 |
| B.G.1   | O2                  | 2.700   | vast | vrij | -281.43        | 0.00 |
| B.G.1   | O3                  | 11.500  | vast | vrij | -281.43        | 0.00 |
| B.G.1   | O4                  | 0.000   | vast | vrij | 24.98          | 0.00 |
|         | <b>Som Reacties</b> |         |      |      | <b>-512.90</b> |      |
|         | <b>Som Lasten</b>   |         |      |      | <b>512.90</b>  |      |
| B.G.2.1 | O1                  | 0.000   | vast | vrij | -31.81         | 0.00 |



|             |                     |                |          |           |                |           |
|-------------|---------------------|----------------|----------|-----------|----------------|-----------|
| B.G.2.1     | O2                  | 2.700          | vast     | vrij      | -37.50         | 0.00      |
| B.G.2.1     | O3                  | 11.500         | vast     | vrij      | 1.89           | 0.00      |
| B.G.2.1     | O4                  | 0.000          | vast     | vrij      | -0.90          | 0.00      |
| <b>B.C.</b> | <b>Oplegging</b>    | <b>Positie</b> | <b>Z</b> | <b>Yr</b> | <b>Z</b>       | <b>My</b> |
|             | <b>Som Reacties</b> |                |          |           | <b>-68.31</b>  |           |
|             | <b>Som Lasten</b>   |                |          |           | <b>68.31</b>   |           |
| B.G.2.2     | O1                  | 0.000          | vast     | vrij      | 50.20          | 0.00      |
| B.G.2.2     | O2                  | 2.700          | vast     | vrij      | -161.52        | 0.00      |
| B.G.2.2     | O3                  | 11.500         | vast     | vrij      | -161.52        | 0.00      |
| B.G.2.2     | O4                  | 0.000          | vast     | vrij      | 50.20          | 0.00      |
|             | <b>Som Reacties</b> |                |          |           | <b>-222.64</b> |           |
|             | <b>Som Lasten</b>   |                |          |           | <b>222.64</b>  |           |
| B.G.2.3     | O1                  | 0.000          | vast     | vrij      | -0.90          | 0.00      |
| B.G.2.3     | O2                  | 2.700          | vast     | vrij      | 1.89           | 0.00      |
| B.G.2.3     | O3                  | 11.500         | vast     | vrij      | -37.50         | 0.00      |
| B.G.2.3     | O4                  | 0.000          | vast     | vrij      | -31.81         | 0.00      |
|             | <b>Som Reacties</b> |                |          |           | <b>-68.31</b>  |           |
|             | <b>Som Lasten</b>   |                |          |           | <b>68.31</b>   |           |
| -           | -                   | m              | kN/m     | kNmrad    | kN             | kNm       |

AFB. KA.C. VERPLAATSINGEN OMHULLENDE

Karakteristiek Belastingscombinaties



## KA.C. KNOOPVERPLAATSINGEN

| Knoop | B.C.      | Z      | Yr         |
|-------|-----------|--------|------------|
| K1    | Ka.C.(w1) | 0.0000 | 1.914e-03  |
|       | Ka.C.1    | 0.0000 | 1.914e-03  |
|       | Ka.C.2    | 0.0000 | 1.914e-03  |
|       | Ka.C.3    | 0.0000 | 1.914e-03  |
|       | Ka.C.4    | 0.0000 | 1.914e-03  |
| K2    | Ka.C.(w1) | 0.0000 | -1.914e-03 |
|       | Ka.C.1    | 0.0000 | -1.914e-03 |
|       | Ka.C.2    | 0.0000 | -1.914e-03 |
|       | Ka.C.3    | 0.0000 | -1.914e-03 |
|       | Ka.C.4    | 0.0000 | -1.914e-03 |
| -     | -         | m      | rad        |

## KA.C. DOORBUIGINGEN

| Veld | Positie B.C.             | Veld Begin | Z'afst | Veld Z' | Z' glb dist | Z' glb  | Veld Eind |
|------|--------------------------|------------|--------|---------|-------------|---------|-----------|
| S1   | 0,000 - 2,700 Ka.C.(w1)  | 0,0000     | 1,638  | -0,0022 | 1,638       | -0,0022 | 0,0000    |
| S1   | 0,000 - 2,700 Ka.C.1     | 0,0000     | 1,638  | -0,0022 | 1,638       | -0,0022 | 0,0000    |
| S1   | 0,000 - 2,700 Ka.C.2     | 0,0000     | 1,638  | -0,0022 | 1,638       | -0,0022 | 0,0000    |
| S1   | 0,000 - 2,700 Ka.C.3     | 0,0000     | 1,638  | -0,0022 | 1,638       | -0,0022 | 0,0000    |
| S1   | 0,000 - 2,700 Ka.C.4     | 0,0000     | 1,638  | -0,0022 | 1,638       | -0,0022 | 0,0000    |
| S1   | 2,700 - 11,500 Ka.C.(w1) | 0,0000     | 7,100  | 0,0285  | 7,100       | 0,0285  | 0,0000    |
| S1   | 2,700 - 11,500 Ka.C.1    | 0,0000     | 7,100  | 0,0285  | 7,100       | 0,0285  | 0,0000    |
| S1   | 2,700 - 11,500 Ka.C.2    | 0,0000     | 7,100  | 0,0285  | 7,100       | 0,0285  | 0,0000    |
| S1   | 2,700 - 11,500 Ka.C.3    | 0,0000     | 7,100  | 0,0285  | 7,100       | 0,0285  | 0,0000    |
| S1   | 2,700 - 11,500 Ka.C.4    | 0,0000     | 7,100  | 0,0285  | 7,100       | 0,0285  | 0,0000    |



|    |                           |        |       |        |       |        |        |
|----|---------------------------|--------|-------|--------|-------|--------|--------|
| S1 | 11,500 - 14,200 Ka.C.(w1) | 0,0000 | 0,000 | 0,0000 | 0,000 | 0,0000 | 0,0000 |
| S1 | 11,500 - 14,200 Ka.C.1    | 0,0000 | 0,000 | 0,0000 | 0,000 | 0,0000 | 0,0000 |
| S1 | 11,500 - 14,200 Ka.C.2    | 0,0000 | 0,000 | 0,0000 | 0,000 | 0,0000 | 0,0000 |
| S1 | 11,500 - 14,200 Ka.C.3    | 0,0000 | 0,000 | 0,0000 | 0,000 | 0,0000 | 0,0000 |
| S1 | 11,500 - 14,200 Ka.C.4    | 0,0000 | 0,000 | 0,0000 | 0,000 | 0,0000 | 0,0000 |
| -  | m -                       | m      | m     | m      | m     | m      | m      |

## AFB. STAALCONTROLE



## SAMENSTELLING CONSTRUCTIEDELEN

| Constructiedeel | Staaf/staven |
|-----------------|--------------|
| C1              | S1           |

## DOORBUIGINGGEGEVENS

| Staaf                   | Constructietype | Toetsing | Zeeg Y' | Zeeg Z' | Zeegvorm | Eis U;eind | Eis U;bij |
|-------------------------|-----------------|----------|---------|---------|----------|------------|-----------|
| C1 - V1 (0.000-2.700)   | Vloer           | Algemeen | 0       | 0       | 3-Punt   | L/250      | L/333     |
| C1 - V2 (2.700-11.500)  | Vloer           | Algemeen | 0       | 0       | 3-Punt   | L/250      | L/333     |
| C1 - V3 (11.500-14.200) | Vloer           | Algemeen | 0       | 0       | 3-Punt   | L/250      | L/333     |
| -                       | -               | -        | mm      | mm      | -        | -          | -         |

## STAALTOETS RESULTATEN MET PROFIELGEGEVENS NEN-EN1993-1-1:2009/NB:2011

### Profielgegevens staaf C1-V1 (0.000-2.700)

|              |                               |                                                              |
|--------------|-------------------------------|--------------------------------------------------------------|
| HE260B       | Analyse                       | Staal S355 fyd(toegepast) = 355 N/mm <sup>2</sup>            |
| h = 260,0 mm | A = 11,84e-03 m <sup>2</sup>  | Wy;el = 114.8e-05 m <sup>3</sup> Wy;pl = 128.3e-05           |
| m3           |                               |                                                              |
| b = 260,0 mm | Iy = 149.2e-06 m <sup>4</sup> | Wz;el = 395.0e-06 m <sup>3</sup> Wz;pl = 602.2e-06           |
| m3           |                               |                                                              |
| tf = 17,5 mm | Iz = 513.5e-07 m <sup>4</sup> | Aw;y;el = 9.59e-03 m <sup>2</sup> Aw;y;pl = 9.59e-03         |
| m2           |                               |                                                              |
| tw = 10,0 mm | Massa/m = 93,0 kg/m           | Aw;z;el = 3.76e-03 m <sup>2</sup> Aw;z;pl = 3.76e-03         |
| m2           |                               |                                                              |
| r = 24,0 mm  |                               | It = 123.8e-08 m <sup>4</sup> Iwa = 753.7e-09 m <sup>6</sup> |

### Doorsnedetoetsing C1-V1 (0.000-2.700)

Maatgevende combinatie: Fu.C.1 op 2,700 m

|                   |                    |
|-------------------|--------------------|
| N;Ed = 0,0 kN     | Vy;Ed = 0,0 kN     |
|                   | Vz;Ed = -165,4 kN  |
| N;Rd = 4.204,8 kN | Vy;Rd = 1.966,5 kN |
|                   | Vz;Rd = 770,5 kN   |

|                    |
|--------------------|
| Profielklasse = 1  |
| My;Ed = -268,8 kNm |
| Mz;Ed = 0,0 kNm    |
| MyRd = 455,4 kNm   |
| MzRd = 213,8 kNm   |

NEN-EN1993-1-1(6.12): UC = 0,59 < 1

### Doorbuigingstoetsing Z' C1-V1 (0.000-2.700)

Constructietype : Vloer

|                                          |
|------------------------------------------|
| w;c = 0,0 mm                             |
| w;1 = -2,2 mm (x = 1,638 mm; Fr.C.(w1) ) |
| w;3 = 0,0 mm (x = 1,638 mm; Qu.C.1 )     |
| w;tot; = -2,2 mm                         |
| w;max = -2,2 mm                          |
| Limiet w;max = L/250 = 10,8 mm           |

|                                      |
|--------------------------------------|
| Toets type: Algemeen                 |
| Zeegvorm 3-Punt                      |
| w;2 = 0,0 mm                         |
| w;3 = 0,0 mm (x = 0,000 mm; Fr.C.1 ) |
| Limiet (w;2+w;3) = L/333 = 8,1 mm    |



UC(w;max) = 0,2

NEN-EN|NEN-EN1990/NB A1.4.2: UC = 0,20&lt;1

UC(w;2+w;3) = 0,0

**Profielgegevens staaf C1-V2 (2.700-11.500)**

HE260B

Analyse

Staal S355 fyd(toegepast) = 355 N/mm<sup>2</sup>

h = 260,0 mm

A = 11,84e-03 m<sup>2</sup>Wy;el = 114.8e-05 m<sup>3</sup>

Wy;pl = 128.3e-05

m<sup>3</sup>

b = 260,0 mm

Iy = 149.2e-06 m<sup>4</sup>Wz;el = 395.0e-06 m<sup>3</sup>

Wz;pl = 602.2e-06

m<sup>3</sup>

tf = 17,5 mm

Iz = 513.5e-07 m<sup>4</sup>Aw;y;el = 9.59e-03 m<sup>2</sup>

Aw;y;pl = 9.59e-03

m<sup>2</sup>

tw = 10,0 mm

Massa/m = 93,0 kg/m

Aw;z;el = 3.76e-03 m<sup>2</sup>

Aw;z;pl = 3.76e-03

m<sup>2</sup>

r = 24,0 mm

It = 123.8e-08 m<sup>4</sup>Iwa = 753.7e-09 m<sup>6</sup>**Doorsnedetoetsing C1-V2 (2.700-11.500)**

Maatgevende combinatie: Fu.C.1 op 0,000 m

Profielklasse = 1

Ny;Ed = 0,0 kN

Vy;Ed = 0,0 kN

My;Ed = -268,8 kNm

Vz;Ed = 214,6 kN

Mz;Ed = 0,0 kNm

Ny;Rd = 4.204,8 kN

Vy;Rd = 1.966,5 kN

MyRd = 455,4 kNm

Vz;Rd = 770,5 kN

MzRd = 213,8 kNm

NEN-EN1993-1-1(6.12): UC = 0,59 &lt; 1

**Doorbuigingstoetsing Z' C1-V2 (2.700-11.500)**

Constructietype : Vloer

Toets type: Algemeen

w;c = 0,0 mm

Zeegvorm 3-Punt

w;1 = 28,5 mm (x = 4,400 mm; Fr.C.(w1) )

w;2 = 0,0 mm

w;3 = 0,0 mm (x = 4,400 mm; Qu.C.1 )

w;3 = 0,0 mm (x = 0,000 mm; Fr.C.1 )

w;tot; = 28,5 mm

w;max = 28,5 mm

Limiet w;max = L/250 = 35,2 mm

Limiet (w;2+w;3) = L/333 = 26,4 mm

UC(w;max) = 0,8

UC(w;2+w;3) = 0,0

NEN-EN|NEN-EN1990/NB A1.4.2: UC = 0,81&lt;1

**Profielgegevens staaf C1-V3 (11.500-14.200)**

HE260B

Analyse

Staal S355 fyd(toegepast) = 355 N/mm<sup>2</sup>

h = 260,0 mm

A = 11,84e-03 m<sup>2</sup>Wy;el = 114.8e-05 m<sup>3</sup>

Wy;pl = 128.3e-05

m<sup>3</sup>

b = 260,0 mm

Iy = 149.2e-06 m<sup>4</sup>Wz;el = 395.0e-06 m<sup>3</sup>

Wz;pl = 602.2e-06

m<sup>3</sup>

tf = 17,5 mm

Iz = 513.5e-07 m<sup>4</sup>Aw;y;el = 9.59e-03 m<sup>2</sup>

Aw;y;pl = 9.59e-03

m<sup>2</sup>

tw = 10,0 mm

Massa/m = 93,0 kg/m

Aw;z;el = 3.76e-03 m<sup>2</sup>

Aw;z;pl = 3.76e-03

m<sup>2</sup>

r = 24,0 mm

It = 123.8e-08 m<sup>4</sup>Iwa = 753.7e-09 m<sup>6</sup>**Doorsnedetoetsing C1-V3 (11.500-14.200)**

Maatgevende combinatie: Fu.C.1 op 0,000 m

Profielklasse = 1

Ny;Ed = 0,0 kN

Vy;Ed = 0,0 kN

My;Ed = -268,8 kNm

Vz;Ed = 165,4 kN

Mz;Ed = 0,0 kNm

Ny;Rd = 4.204,8 kN

Vy;Rd = 1.966,5 kN

MyRd = 455,4 kNm

Vz;Rd = 770,5 kN

MzRd = 213,8 kNm

NEN-EN1993-1-1(6.12): UC = 0,59 &lt; 1

**Doorbuigingstoetsing Z' C1-V3 (11.500-14.200)**

Constructietype : Vloer

Toets type: Algemeen



w;c = 0,0 mm  
w;1 = -2,2 mm (x = 0,982 mm; Fr.C.(w1) )  
w;3 = 0,0 mm (x = 0,982 mm; Qu.C.1 )  
w;tot; = -2,2 mm  
w;max = -2,2 mm  
Limiet w;max = L/250 = 10,8 mm  
UC(w;max) = 0,2  
NEN-EN|NEN-EN1990/NB A1.4.2: UC = 0,20<1

Zeegvorm 3-Punt  
w;2 = 0.0 mm  
w;3 = 0,0 mm (x = 0,000 mm; Fr.C.1 )

Limiet (w;2+w;3) = L/333 = 8,1 mm  
UC(w;2+w;3) = 0,0

**UNITY CHECK NEN-EN1993-1-1:2009/NB:2011**

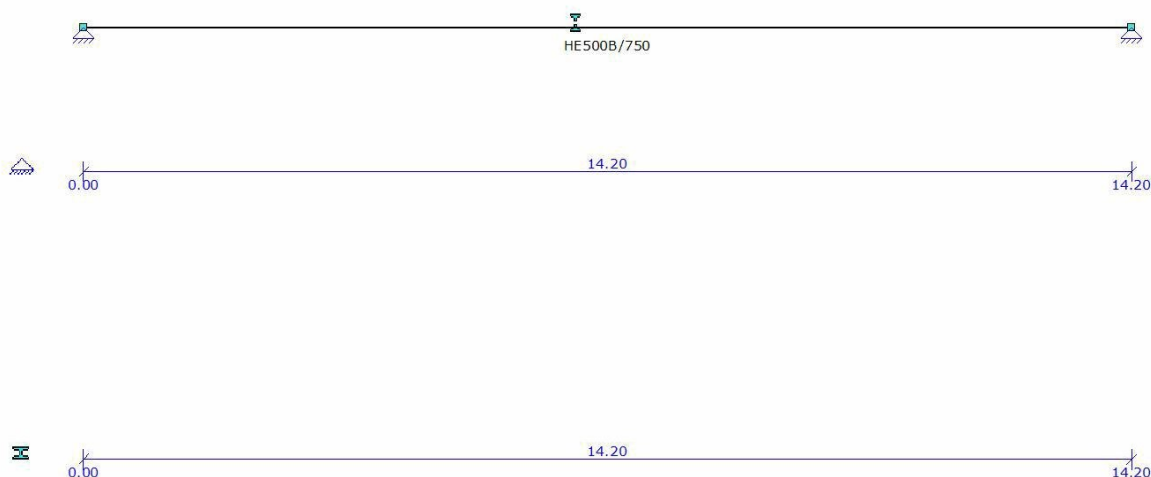
| Veld                  | Toetsing             | Combinatie | Artikel                     | UC max |
|-----------------------|----------------------|------------|-----------------------------|--------|
| C1-V1 (0.000-2.700)   | Doorsnede            | Fu.C.1     | NEN-EN1993-1-1(6.12)        | 0,59   |
| C1-V1 (0.000-2.700)   | Doorbuigingstoetsing | Qu.C.1     | NEN-EN NEN-EN1990/NB A1.4.2 | 0,20   |
| C1-V2 (2.700-11.500)  | Doorsnede            | Fu.C.1     | NEN-EN1993-1-1(6.12)        | 0,59   |
| C1-V2 (2.700-11.500)  | Doorbuigingstoetsing | Qu.C.1     | NEN-EN NEN-EN1990/NB A1.4.2 | 0,81   |
| C1-V3 (11.500-14.200) | Doorsnede            | Fu.C.1     | NEN-EN1993-1-1(6.12)        | 0,59   |
| C1-V3 (11.500-14.200) | Doorbuigingstoetsing | Qu.C.1     | NEN-EN NEN-EN1990/NB A1.4.2 | 0,20   |

**GEWICHT STAALCONSTRUCTIE**

| Staal                 | Profiel       | Lsys               | Massa                  |
|-----------------------|---------------|--------------------|------------------------|
| C1-V1 (0.000-2.700)   | HE260B        | 2,700              | 251,043                |
| C1-V2 (2.700-11.500)  | HE260B        | 8,800              | 818,214                |
| C1-V3 (11.500-14.200) | HE260B        | 2,700              | 251,043                |
| <b>Subtotaal:</b>     | <b>HE260B</b> | <b>14,200</b>      | <b>1.320,300</b>       |
| <b>Totaal:</b>        |               | <b>14,200</b><br>m | <b>1.320,300</b><br>kg |

**13.1.16 ligger as F, tussen 1 en 4, 5.5+**

AFB. GEOMETRIE LIGGER

**BALKGEOMETRIE**

| Positie           | Profielnaam | Hoek | Traagheidsmoment | Materiaal | E-Modulus  | Uitzettingcoëff | Gewicht |
|-------------------|-------------|------|------------------|-----------|------------|-----------------|---------|
| 0,000 - L(14,200) | HE500B/750  | 0    | 2.5161e-03       | S235      | 2.1000e+08 | 12.0000e-06     | 1.59    |
| m -               |             | °    | m4 -             |           | kN/m2      | C°m             | kN/m    |

**OPLEGGINGEN**

| Oplegging | Positie   | Z    | Yr     |
|-----------|-----------|------|--------|
| O1        | 0,000     | vast | vrij   |
| O2        | L(14,200) | vast | vrij   |
| -         | m         | kN/m | kNmrad |

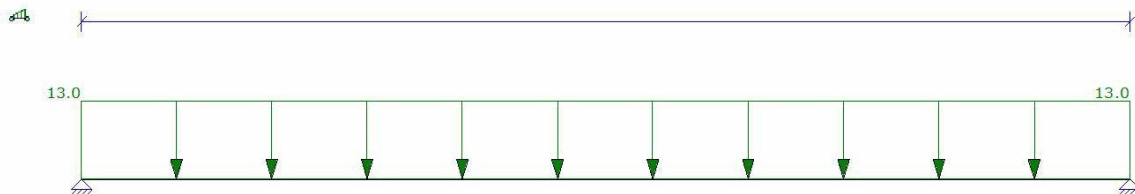
**BELASTINGSGEVALLEN TYPEN**

| Oplegg. | Staven                    | B.G.Type                | Gunstig/Ong. | Element                                  | Niveau | Veld   | Psi0 | Psi1 | Psi2 | Cprob |
|---------|---------------------------|-------------------------|--------------|------------------------------------------|--------|--------|------|------|------|-------|
| B.G.1   | Permanent actions         | Permanent               | -            |                                          | N.v.t. | N.v.t. |      |      |      |       |
| B.G.2   | Imposed loads distributed | Verdeelde               | -            | Cat. I) (Cat. C4 - Fysieke activiteiten) | 1      | 1      | 0.40 | 0.70 | 0.60 | 1,00  |
| B.G.2.1 | Imposed loads distributed | Verdeelde               | -            | Cat. I) (Cat. C4 - Fysieke activiteiten) | 1      | 1      | 0.40 | 0.70 | 0.60 | 1,00  |
|         |                           | veranderlijke belasting |              |                                          |        |        |      |      |      |       |
|         |                           | veranderlijke belasting |              |                                          |        |        |      |      |      |       |

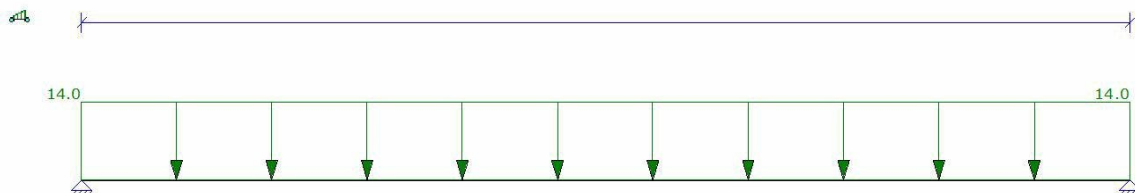
AFB. LASTEN



AFB. LASTEN B.G.1 PERMANENT ACTIONS



AFB. LASTEN B.G.2.1 IMPOSED LOADS DISTRIBUTED

**FUNDAMENTEEL BELASTINGSCOMBINATIES (TABEL)**

| B.G.    | Omschrijving              | Fu.C.1 | Fu.C.2 |
|---------|---------------------------|--------|--------|
| B.G.1   | Permanent actions         | 1.32   | 1.49   |
| B.G.2   | Imposed loads distributed | -      | -      |
| B.G.2.1 | Imposed loads distributed | 1.65   | 0.66   |

**KARAKTERISTIEK BELASTINGSCOMBINATIES (TABEL)**

| B.G.    | Omschrijving              | Ka.C.(w1) | Ka.C.1 | Ka.C.2 |
|---------|---------------------------|-----------|--------|--------|
| B.G.1   | Permanent actions         | 1.00      | 1.00   | 1.00   |
| B.G.2   | Imposed loads distributed | -         | -      | -      |
| B.G.2.1 | Imposed loads distributed | -         | 0.40   | 1.00   |

**FREQUENT BELASTINGSCOMBINATIES (TABEL)**

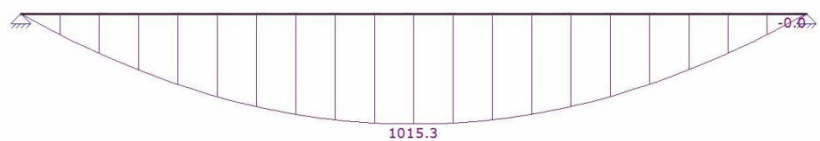
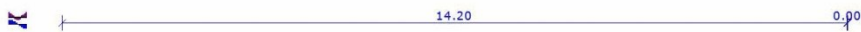
| B.G.    | Omschrijving              | Fr.C.(w1) | Fr.C.1 |
|---------|---------------------------|-----------|--------|
| B.G.1   | Permanent actions         | 1.00      | 1.00   |
| B.G.2   | Imposed loads distributed | -         | -      |
| B.G.2.1 | Imposed loads distributed | -         | 0.70   |

**QUASI-PERMANENT BELASTINGSCOMBINATIES (TABEL)**

| B.G.    | Omschrijving              | Qu.C.1 |
|---------|---------------------------|--------|
| B.G.1   | Permanent actions         | 1.00   |
| B.G.2   | Imposed loads distributed | -      |
| B.G.2.1 | Imposed loads distributed | 0.60   |

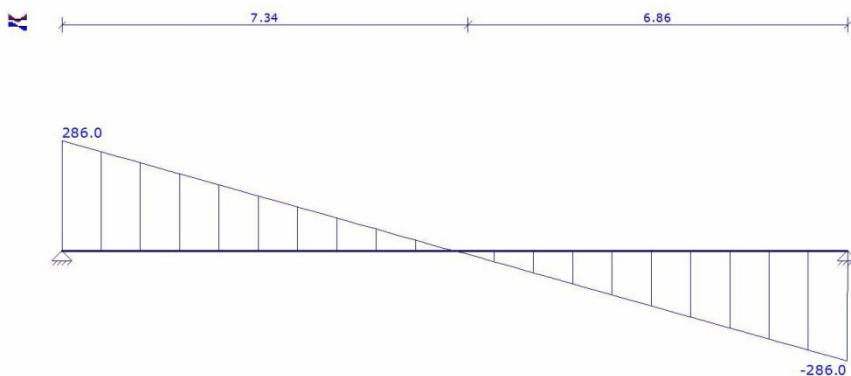
**UITGANGSPUNTEN VAN DE ANALYSE**

Lineaire Elastische Analyse uitgevoerd



AFB. FU.C. DWARSKRACHT (VZ) OMHULLENDE

Fundamenteel Belastingscombinaties

**FU.C. STAAFKRACHTEN**

| Veld   | Positie B.G.          | Mb   | Mmax    | xMmax | Me   | x-M0  | x-M0  | Vb     | Vmax    | Vt      |
|--------|-----------------------|------|---------|-------|------|-------|-------|--------|---------|---------|
| Veld 1 | 0,000 - 14,200 Fu.C.1 | 0.00 | 1015.29 | 7.100 | 0.00 | 0.000 | 0.000 | 286.00 | -286.00 | -286.00 |
| -      | 0,000 - 14,200 Fu.C.2 | 0.00 | 719.48  | 7.100 | 0.00 | 0.000 | 0.000 | 202.67 | 202.67  | -202.67 |
| -      | m -                   | kNm  | kNm     | m     | kNm  | m     | m     | kN     | kN      | kN      |

AFB. FU.C. OPLEGREACTIES OMHULLENDE

Fundamenteel Belastingscombinaties

**FU.C. OPLEGREACTIES**

| B.C.         | Oplegging | Positie | Z    | Yr   | Z       | My   |
|--------------|-----------|---------|------|------|---------|------|
| Fu.C.1       | O1        | 0.000   | vast | vrij | -286.00 | 0.00 |
| Fu.C.1       | O2        | 0.000   | vast | vrij | -286.00 | 0.00 |
| Som Reacties |           |         |      |      | -572.00 |      |
| Som Lasten   |           |         |      |      | 572.00  |      |



|              |    |       |      |      |         |      |
|--------------|----|-------|------|------|---------|------|
| Fu.C.2       | O1 | 0.000 | vast | vrij | -202.67 | 0.00 |
| Fu.C.2       | O2 | 0.000 | vast | vrij | -202.67 | 0.00 |
| Som Reacties |    |       |      |      | -405.34 |      |

|            |           |         |      |        |        |     |
|------------|-----------|---------|------|--------|--------|-----|
| B.C.       | Oplegging | Positie | Z    | Yr     | Z      | My  |
| Som Lasten |           |         |      |        | 405.34 |     |
| -          | -         | m       | kN/m | kNmrad | kN     | kNm |

**B.G. OPLEGREACTIES**

|              |           |         |      |        |         |      |
|--------------|-----------|---------|------|--------|---------|------|
| B.C.         | Oplegging | Positie | Z    | Yr     | Z       | My   |
| B.G.1        | O1        | 0.000   | vast | vrij   | -92.30  | 0.00 |
| B.G.1        | O2        | 0.000   | vast | vrij   | -92.30  | 0.00 |
| Som Reacties |           |         |      |        | -184.60 |      |
| Som Lasten   |           |         |      |        | 184.60  |      |
| B.G.2.1      | O1        | 0.000   | vast | vrij   | -99.40  | 0.00 |
| B.G.2.1      | O2        | 0.000   | vast | vrij   | -99.40  | 0.00 |
| Som Reacties |           |         |      |        | -198.80 |      |
| Som Lasten   |           |         |      |        | 198.80  |      |
| -            | -         | m       | kN/m | kNmrad | kN      | kNm  |

AFB. KA.C. VERPLAATSINGEN OMHULLENDE

Karakteristiek Belastingscombinaties

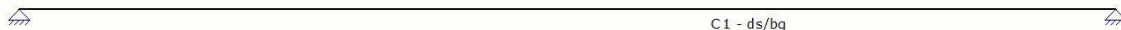
**KA.C. KNOOPVERPLAATSINGEN**

| Knoop | B.C.      | Z      | Yr         |
|-------|-----------|--------|------------|
| K1    | Ka.C.(w1) | 0.0000 | -2.935e-03 |
|       | Ka.C.1    | 0.0000 | -4.200e-03 |
|       | Ka.C.2    | 0.0000 | -6.096e-03 |
| K2    | Ka.C.(w1) | 0.0000 | 2.935e-03  |
|       | Ka.C.1    | 0.0000 | 4.200e-03  |
|       | Ka.C.2    | 0.0000 | 6.096e-03  |
| -     | -         | m      | rad        |

**KA.C. DOORBUIGINGEN**

| Veld | Positie B.C.             | Veld Begin | Z'afst | Veld Z' | Z' glb dist | Z' glb | Veld Eind |
|------|--------------------------|------------|--------|---------|-------------|--------|-----------|
| S1   | 0,000 - 14,200 Ka.C.(w1) | 0,0000     | 7,100  | 0,0130  | 7.100       | 0.0130 | 0,0000    |
| S1   | 0,000 - 14,200 Ka.C.1    | 0,0000     | 7,100  | 0,0186  | 7.100       | 0.0186 | 0,0000    |
| S1   | 0,000 - 14,200 Ka.C.2    | 0,0000     | 7,100  | 0,0271  | 7.100       | 0.0271 | 0,0000    |
| -    | m -                      | m          | m      | m       | m           | m      | m         |

AFB. STAALCONTROLE





## SAMENSTELLING CONSTRUCTIEDELEN

| Constructiedeel | Staal/staven |
|-----------------|--------------|
| C1              | S1           |

## DOORBUIGINGGEGEVENS

| Staal                  | Constructietype | Toetsing | Zeeg Y' | Zeeg Z' | Zeegvorm | Eis U;eind | Eis U;bij |
|------------------------|-----------------|----------|---------|---------|----------|------------|-----------|
| C1 - V1 (0.000-14.200) | Vloer           | Algemeen | 0       | 0       | 3-Punt   | L/250      | L/333     |
| -                      | -               | -        | mm      | mm      | -        | -          | -         |

## STAALTOETS RESULTATEN MET PROFIELGEGEVENS NEN-EN1993-1-1:2009/NB:2011

### Profielgegevens staaf C1-V1 (0.000-14.200)

|                             |                                           |                                               |                                                     |
|-----------------------------|-------------------------------------------|-----------------------------------------------|-----------------------------------------------------|
| HE500B/750                  | Analyse                                   | Staal S235                                    | f <sub>yd</sub> (toegepast) = 235 N/mm <sup>2</sup> |
| htot / h = 750,0 / 500,0 mm | A = 20,24e-03 m <sup>2</sup>              | W <sub>y;el</sub> = 671.0e-05 m <sup>3</sup>  | W <sub>y;pl</sub> = 711.8e-05 m <sup>3</sup>        |
| m3                          |                                           |                                               |                                                     |
| b = 300,0 mm                | I <sub>y</sub> = 251.6e-05 m <sup>4</sup> | W <sub>z;el</sub> = 841.2e-06 m <sup>3</sup>  | W <sub>z;pl</sub> = 127.9e-05 m <sup>3</sup>        |
| m3                          |                                           |                                               |                                                     |
| t <sub>f</sub> = 28,0 mm    | I <sub>z</sub> = 126.2e-06 m <sup>4</sup> | A <sub>w;y;el</sub> = 1.38e-02 m <sup>2</sup> | A <sub>w;y;pl</sub> = 1.38e-02 m <sup>2</sup>       |
| m2                          |                                           |                                               |                                                     |
| t <sub>w</sub> = 14,5 mm    | Massa/m = 187,3 kg/m                      | A <sub>w;z;el</sub> = 6.44e-03 m <sup>2</sup> | A <sub>w;z;pl</sub> = 6.44e-03 m <sup>2</sup>       |
| m2                          |                                           |                                               |                                                     |
| r = 27,0 mm                 |                                           | I <sub>t</sub> = 513.0e-08 m <sup>4</sup>     | I <sub>wa</sub> = 701.8e-08 m <sup>6</sup>          |

### Doorsnedetoetsing C1-V1 (0.000-14.200)

Maatgevende combinatie: Fu.C.1 op 11,928 m

N<sub>x;Ed</sub> = 0,0 kN

V<sub>y;Ed</sub> = 0,0 kN

M<sub>y;Ed</sub> = 545,8 kNm

V<sub>z;Ed</sub> = 194,5 kN

M<sub>z;Ed</sub> = 0,0 kNm

N<sub>x;Ed</sub> = 0,0 kN

N<sub>c;Rd</sub> = 4.756,1 kN

UC =

Toets 1a: Toets op zuivere normaalkracht  
0,00

Toets 1b: Buiging op verzwakt deel  
0,33

M<sub>y;Ed</sub> = 545,8 kNm

M<sub>y;red;Rd</sub> = 1.672,7 kNm

UC =

Toets 2a: Dwarskracht oppervlak vereist/beschikbaar  
0,20

A<sub>w;req</sub> = 7.17e-04 m<sup>2</sup>

A<sub>w;avail</sub> = 3.64e-03 m<sup>2</sup>

UC =

Toets 2b: Reductie oppervlak vereist/beschikbaar  
0,40

A<sub>red\_req</sub> = 4.02e-03 m<sup>2</sup>

A<sub>red\_Avail</sub> = 1.01e-02 m<sup>2</sup>

UC =

**Toets 2c: Dwarskracht op verzwakte deel**  
**0,63**

**M<sub>Ty;s;d</sub> = 14,0 kNm**

**M<sub>Ty;red;N;u;d</sub> = 22,2 kNm**

**UC =**

Toets 3a: Dwarskracht lijf in het midden  
0,42

H<sub>x;s;d</sub> = 239,3 kN

H<sub>x;full;u;d</sub> = 567,9 kN

UC =

Toets 3b: Dwarskracht onderkant lijf  
0,22

H<sub>x;s;d\*0.5Hex</sub> = 59,8 kN

M<sub>v;full;u;d</sub> = 271,4 kN

UC =

Toets 4: flenstoets  
0,42

H<sub>x;s;d</sub> = 239,3 kN

H<sub>x;u;d</sub> = 567,9 kN

UC =

NEN-EN1993-1-1 #6.2.1: UC = 0,63 < 1

### Doorbuigingstoetsing Z' C1-V1 (0.000-14.200)

Constructietype : Vloer

Toets type: Algemeen

w<sub>c</sub> = 0,0 mm

Zeegvorm 3-Punt

w<sub>1</sub> = 13,0 mm (x = 7,100 mm; Fr.C.(w<sub>1</sub>))

w<sub>2</sub> = 0,0 mm

w<sub>3</sub> = 8,4 mm (x = 7,100 mm; Qu.C.1)

w<sub>3</sub> = 9,8 mm (x = 7,100 mm; Fr.C.1)

w<sub>tot</sub> = 21,4 mm

w<sub>max</sub> = 21,4 mm

Limiet w<sub>max</sub> = L/250 = 56,8 mm

Limiet (w<sub>2</sub>+w<sub>3</sub>) = L/333 = 42,6 mm

UC(w<sub>max</sub>) = 0,4

UC(w<sub>2</sub>+w<sub>3</sub>) = 0,2

NEN-EN1990/NB A1.4.2: UC = 0,38 < 1

## UNITY CHECK NEN-EN1993-1-1:2009/NB:2011

| Veld                 | Toetsing  | Combinatie | Artikel                                  | UC max |
|----------------------|-----------|------------|------------------------------------------|--------|
| C1-V1 (0.000-14.200) | Doorsnede | Fu.C.1     | Controle 2c: Dwarskracht om de zwakke as | 0,63   |



C1-V1 (0.000-14.200)

Doorbuigingstoetsing

Qu.C.1

NEN-EN|NEN-EN1990/NB A1.4.2

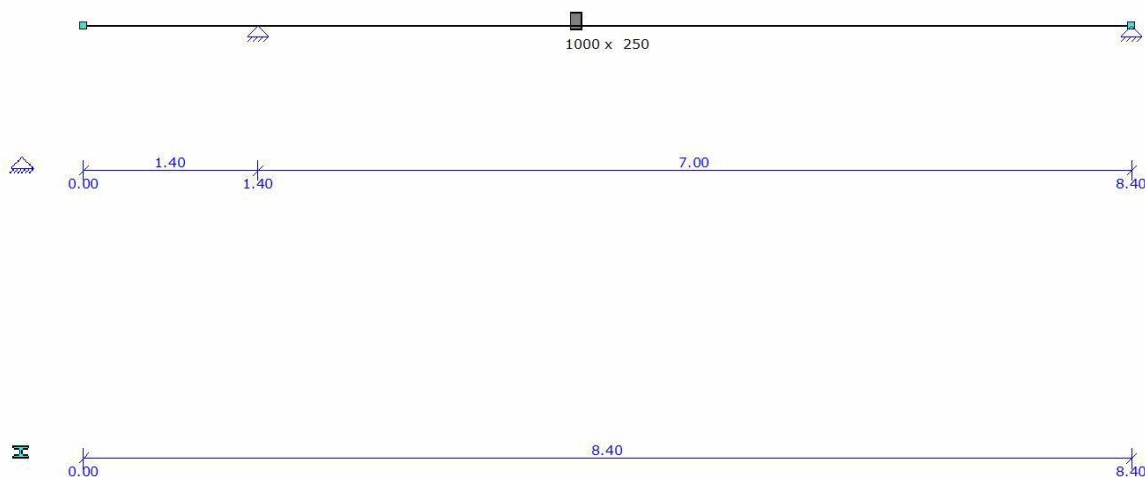
0,38

## GEWICHT STAALCONSTRUCTIE

| Staaf                | Profiel           | Lsys               | Massa                  |
|----------------------|-------------------|--------------------|------------------------|
| C1-V1 (0.000-14.200) | HE500B/750        | 14,200             | 2.660,096              |
| <b>Subtotaal:</b>    | <b>HE500B/750</b> | <b>14,200</b>      | <b>2.660,096</b>       |
| <b>Totaal:</b>       |                   | <b>14,200</b><br>m | <b>2.660,096</b><br>kg |

**13.1.17 Podiumvloer, 1.85+**

AFB. GEOMETRIE LIGGER

**BALKGEOMETRIE**

| Positie          | Profielnaam | Hoek | Traagheidsmoment | Materiaal | E-Modulus  | Uitzettingcoëff | Gewicht |
|------------------|-------------|------|------------------|-----------|------------|-----------------|---------|
| 0,000 - L(8,400) | 1000 x 250  | 0    | 1.3021e-03       | C30/37    | 3.3000e+07 | 10.0000e-06     | 6.25    |
| m -              |             | °    | m4 -             |           | kN/m2      | C°m             | kN/m    |

**OPLEGGINGEN**

| Oplegging | Positie  | Z    | Yr     |
|-----------|----------|------|--------|
| O1        | 1,400    | vast | vrij   |
| O2        | L(8,400) | vast | vrij   |
| -         | m        | kN/m | kNmrad |

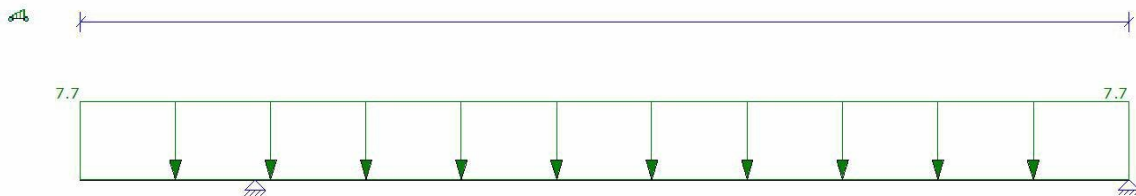
**BELASTINGSGEVALLEN TYPEN**

| Oplegg. | Staven                            | B.G.Type                          | Gunstig/Ong. | Element                       | Niveau | Veld   | Psi0 | Psi1 | Psi2 | Cprob |
|---------|-----------------------------------|-----------------------------------|--------------|-------------------------------|--------|--------|------|------|------|-------|
| B.G.1   | Permanent                         | Permanent                         | -            |                               | N.v.t. | N.v.t. |      |      |      |       |
| B.G.2   | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. C4) Fysieke activiteiten | 1      | 1      | 0.40 | 0.70 | 0.60 | 1,00  |
| B.G.2.1 | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. C4) Fysieke activiteiten | 1      | 1      | 0.40 | 0.70 | 0.60 | 1,00  |
| B.G.2.2 | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. C4) Fysieke activiteiten | 1      | 2      | 0.40 | 0.70 | 0.60 | 1,00  |

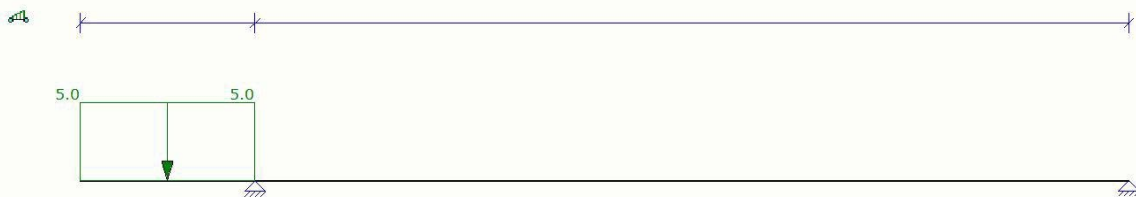
AFB. LASTEN



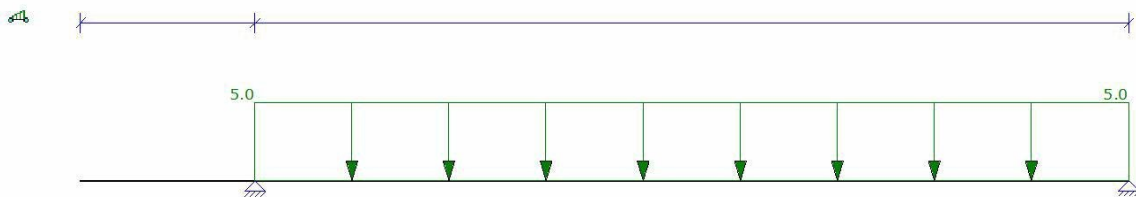
AFB. LASTEN B.G.1 PERMANENT



AFB. LASTEN B.G.2.1 VERDEELDE VERANDERLIJKE BELASTING



AFB. LASTEN B.G.2.2 VERDEELDE VERANDERLIJKE BELASTING



## FUNDAMENTEEL BELASTINGSCOMBINATIES (TABEL)

| B.G.    | Omschrijving                      | Fu.C.1 | Fu.C.2 | Fu.C.3 | Fu.C.4 | Fu.C.5 | Fu.C.6 |
|---------|-----------------------------------|--------|--------|--------|--------|--------|--------|
| B.G.1   | Permanent                         | 1.32   | 1.49   | 1.49   | 1.49   | 1.32   | 1.32   |
| B.G.2   | Verdeelde veranderlijke belasting | -      | -      | -      | -      | -      | -      |
| B.G.2.1 | Verdeelde veranderlijke belasting | 1.65   | 0.66   | 0.66   | -      | 1.65   | -      |
| B.G.2.2 | Verdeelde veranderlijke belasting | 1.65   | 0.66   | -      | 0.66   | -      | 1.65   |

## KARAKTERISTIEK BELASTINGSCOMBINATIES (TABEL)

[illegible]



|         |                                   |   |      |      |      |      |      |      |
|---------|-----------------------------------|---|------|------|------|------|------|------|
| B.G.2   | Verdeelde veranderlijke belasting | - | -    | -    | -    | -    | -    | -    |
| B.G.2.1 | Verdeelde veranderlijke belasting | - | 0.40 | -    | 0.40 | 1.00 | -    | 1.00 |
| B.G.2.2 | Verdeelde veranderlijke belasting | - | -    | 0.40 | 0.40 | -    | 1.00 | 1.00 |

**FREQUENT BELASTINGSCOMBINATIES (TABEL)**

| B.G.    | Omschrijving                      | Fr.C.(w1) | Fr.C.1 | Fr.C.2 | Fr.C.3 |
|---------|-----------------------------------|-----------|--------|--------|--------|
| B.G.1   | Permanent                         | 1.00      | 1.00   | 1.00   | 1.00   |
| B.G.2   | Verdeelde veranderlijke belasting | -         | -      | -      | -      |
| B.G.2.1 | Verdeelde veranderlijke belasting | -         | 0.70   | -      | 0.70   |
| B.G.2.2 | Verdeelde veranderlijke belasting | -         | -      | 0.70   | 0.70   |

**QUASI-PERMANENT BELASTINGSCOMBINATIES (TABEL)**

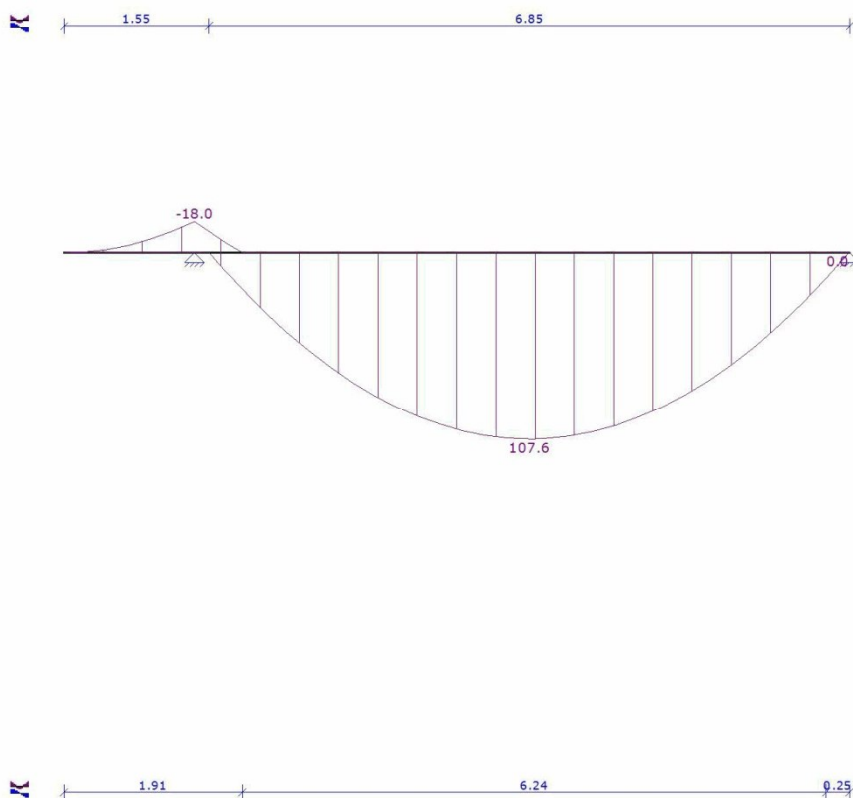
| B.G.    | Omschrijving                      | Qu.C.1 |
|---------|-----------------------------------|--------|
| B.G.1   | Permanent                         | 1.00   |
| B.G.2   | Verdeelde veranderlijke belasting | -      |
| B.G.2.1 | Verdeelde veranderlijke belasting | 0.60   |
| B.G.2.2 | Verdeelde veranderlijke belasting | 0.60   |

**UITGANGSPUNTEN VAN DE ANALYSE**

Lineaire Elastische Analyse uitgevoerd

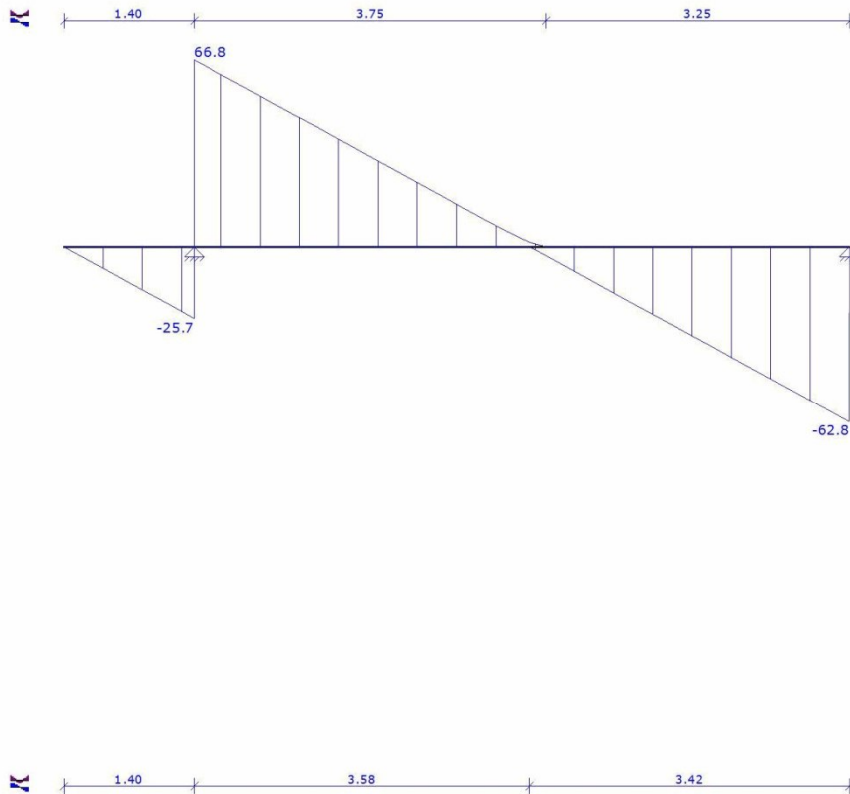
AFB. FU.C. MOMENT (MY) OMHULLENDE

Fundamenteel Belastingscombinaties



AFB. FU.C. DWARSKRACHT (VZ) OMHULLENDE

Fundamenteel Belastingscombinaties

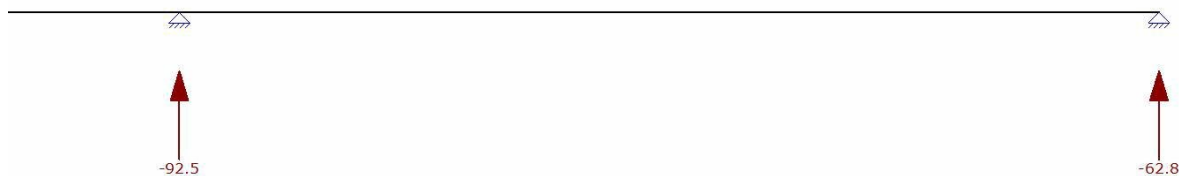


### FU.C. STAAFKRACHTEN

| Veld   | Positie B.G.         | Mb     | Mmax   | xMmax | Me     | x-M0  | x-M0  | Vb    | Vmax   | Vt     |
|--------|----------------------|--------|--------|-------|--------|-------|-------|-------|--------|--------|
| Veld 1 | 0,000 - 1,400 Fu.C.1 | 0.00   |        |       | -17.99 | 0.000 | 0.000 | 0.00  | -25.70 | -25.70 |
|        | 0,000 - 1,400 Fu.C.2 | 0.00   |        |       | -14.37 | 0.000 | 0.000 | 0.00  | -20.52 | -20.52 |
|        | 0,000 - 1,400 Fu.C.3 | 0.00   |        |       | -14.37 | 0.000 | 0.000 | 0.00  | -20.52 | -20.52 |
|        | 0,000 - 1,400 Fu.C.4 | 0.00   |        |       | -11.13 | 0.000 | 0.000 | 0.00  | -15.90 | -15.90 |
|        | 0,000 - 1,400 Fu.C.5 | 0.00   |        |       | -17.99 | 0.000 | 0.000 | 0.00  | -25.70 | -25.70 |
|        | 0,000 - 1,400 Fu.C.6 | 0.00   |        |       | -9.91  | 0.000 | 0.000 | 0.00  | -14.15 | -14.15 |
| Veld 2 | 1,400 - 8,400 Fu.C.1 | -17.99 | 103.64 | 5.040 | 0.00   | 1.680 | 0.000 | 66.83 | 66.83  | -61.68 |
|        | 1,400 - 8,400 Fu.C.2 | -14.37 | 82.75  | 5.040 | 0.00   | 1.680 | 0.000 | 53.36 | 53.36  | -49.28 |
|        | 1,400 - 8,400 Fu.C.3 | -14.37 | 62.58  | 5.081 | 0.00   | 1.761 | 0.000 | 41.81 | 41.81  | -37.71 |
|        | 1,400 - 8,400 Fu.C.4 | -11.13 | 84.31  | 5.008 | 0.00   | 1.617 | 0.000 | 52.90 | 52.90  | -49.72 |
|        | 1,400 - 8,400 Fu.C.5 | -17.99 | 53.26  | 5.154 | 0.00   | 1.908 | 0.000 | 37.96 | 37.96  | -32.82 |
|        | 1,400 - 8,400 Fu.C.6 | -9.91  | 107.56 | 4.977 | 0.00   | 1.554 | 0.000 | 65.68 | 65.68  | -62.82 |
| -      | m -                  | kNm    | kNm    | m     | kNm    | m     | m     | kN    | kN     | kN     |

AFB. FU.C. OPLEGREACTIES OMHULLENDE

Fundamenteel Belastingscombinaties

**FU.C. OPLEGREACTIES**

| B.C.   | Oplegging           | Positie | Z    | Yr     | Z              | My   |
|--------|---------------------|---------|------|--------|----------------|------|
| Fu.C.1 | O1                  | 1.400   | vast | vrij   | -92.54         | 0.00 |
| Fu.C.1 | O2                  | 0.000   | vast | vrij   | -61.69         | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-154.23</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>154.23</b>  |      |
| Fu.C.2 | O1                  | 1.400   | vast | vrij   | -73.89         | 0.00 |
| Fu.C.2 | O2                  | 0.000   | vast | vrij   | -49.26         | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-123.15</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>123.15</b>  |      |
| Fu.C.3 | O1                  | 1.400   | vast | vrij   | -62.34         | 0.00 |
| Fu.C.3 | O2                  | 0.000   | vast | vrij   | -37.71         | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-100.05</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>100.05</b>  |      |
| Fu.C.4 | O1                  | 1.400   | vast | vrij   | -68.81         | 0.00 |
| Fu.C.4 | O2                  | 0.000   | vast | vrij   | -49.72         | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-118.53</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>118.53</b>  |      |
| Fu.C.5 | O1                  | 1.400   | vast | vrij   | -63.66         | 0.00 |
| Fu.C.5 | O2                  | 0.000   | vast | vrij   | -32.82         | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-96.48</b>  |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>96.48</b>   |      |
| Fu.C.6 | O1                  | 1.400   | vast | vrij   | -79.83         | 0.00 |
| Fu.C.6 | O2                  | 0.000   | vast | vrij   | -62.85         | 0.00 |
|        | <b>Som Reacties</b> |         |      |        | <b>-142.68</b> |      |
|        | <b>Som Lasten</b>   |         |      |        | <b>142.68</b>  |      |
| -      | -                   | m       | kN/m | kNmrad | kN             | kNm  |

**B.G. OPLEGREACTIES**

| B.C.    | Oplegging           | Positie | Z    | Yr     | Z             | My   |
|---------|---------------------|---------|------|--------|---------------|------|
| B.G.1   | O1                  | 1.400   | vast | vrij   | -38.56        | 0.00 |
| B.G.1   | O2                  | 0.000   | vast | vrij   | -25.70        | 0.00 |
|         | <b>Som Reacties</b> |         |      |        | <b>-64.26</b> |      |
|         | <b>Som Lasten</b>   |         |      |        | <b>64.26</b>  |      |
| B.G.2.1 | O1                  | 1.400   | vast | vrij   | -7.70         | 0.00 |
| B.G.2.1 | O2                  | 0.000   | vast | vrij   | 0.70          | 0.00 |
|         | <b>Som Reacties</b> |         |      |        | <b>-7.00</b>  |      |
|         | <b>Som Lasten</b>   |         |      |        | <b>7.00</b>   |      |
| B.G.2.2 | O1                  | 1.400   | vast | vrij   | -17.50        | 0.00 |
| B.G.2.2 | O2                  | 0.000   | vast | vrij   | -17.50        | 0.00 |
|         | <b>Som Reacties</b> |         |      |        | <b>-35.00</b> |      |
|         | <b>Som Lasten</b>   |         |      |        | <b>35.00</b>  |      |
| -       | -                   | m       | kN/m | kNmrad | kN            | kNm  |

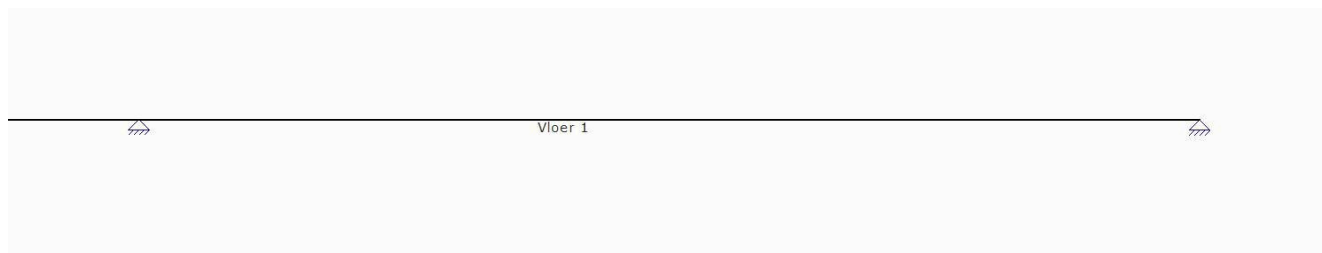
**KA.C. KNOOPVERPLAATSINGEN**

| Knoop | B.C.      | Z       | Yr         |
|-------|-----------|---------|------------|
| K1    | Ka.C.(w1) | -0.0029 | -2.056e-03 |
|       | Ka.C.1    | -0.0027 | -1.928e-03 |
|       | Ka.C.2    | -0.0038 | -2.721e-03 |
|       | Ka.C.3    | -0.0037 | -2.593e-03 |
|       | Ka.C.4    | -0.0025 | -1.737e-03 |
|       | Ka.C.5    | -0.0052 | -3.719e-03 |
|       | Ka.C.6    | -0.0048 | -3.400e-03 |
| K2    | Ka.C.(w1) | 0.0000  | 2.341e-03  |
|       | Ka.C.1    | 0.0000  | 2.288e-03  |
|       | Ka.C.2    | 0.0000  | 3.006e-03  |
|       | Ka.C.3    | 0.0000  | 2.953e-03  |
|       | Ka.C.4    | 0.0000  | 2.208e-03  |
|       | Ka.C.5    | 0.0000  | 4.004e-03  |
|       | Ka.C.6    | 0.0000  | 3.871e-03  |
| -     | -         | m       | rad        |

**KA.C. DOORBUIGINGEN**

| Veld | Positie B.C.            | Veld Begin | Z'afst | Veld Z' | Z' glb dist | Z' glb  | Veld Eind |
|------|-------------------------|------------|--------|---------|-------------|---------|-----------|
| S1   | 0,000 - 1,400 Ka.C.(w1) | -0,0029    | 0,882  | 0,0000  | 0,000       | -0,0029 | 0,0000    |
| S1   | 0,000 - 1,400 Ka.C.1    | -0,0027    | 0,882  | 0,0000  | 0,000       | -0,0027 | 0,0000    |
| S1   | 0,000 - 1,400 Ka.C.2    | -0,0038    | 0,882  | 0,0000  | 0,000       | -0,0038 | 0,0000    |
| S1   | 0,000 - 1,400 Ka.C.3    | -0,0037    | 0,882  | 0,0000  | 0,000       | -0,0037 | 0,0000    |
| S1   | 0,000 - 1,400 Ka.C.4    | -0,0025    | 0,882  | 0,0000  | 0,000       | -0,0025 | 0,0000    |
| S1   | 0,000 - 1,400 Ka.C.5    | -0,0052    | 0,882  | 0,0000  | 0,000       | -0,0052 | 0,0000    |
| S1   | 0,000 - 1,400 Ka.C.6    | -0,0048    | 0,882  | 0,0000  | 0,000       | -0,0048 | 0,0000    |
| S1   | 1,400 - 8,400 Ka.C.(w1) | 0,0000     | 4,951  | 0,0050  | 4,951       | 0,0050  | 0,0000    |
| S1   | 1,400 - 8,400 Ka.C.1    | 0,0000     | 4,965  | 0,0049  | 4,965       | 0,0049  | 0,0000    |
| S1   | 1,400 - 8,400 Ka.C.2    | 0,0000     | 4,939  | 0,0065  | 4,939       | 0,0065  | 0,0000    |
| S1   | 1,400 - 8,400 Ka.C.3    | 0,0000     | 4,951  | 0,0063  | 4,951       | 0,0063  | 0,0000    |
| S1   | 1,400 - 8,400 Ka.C.4    | 0,0000     | 4,989  | 0,0047  | 4,989       | 0,0047  | 0,0000    |
| S1   | 1,400 - 8,400 Ka.C.5    | 0,0000     | 4,930  | 0,0087  | 4,930       | 0,0087  | 0,0000    |
| S1   | 1,400 - 8,400 Ka.C.6    | 0,0000     | 4,951  | 0,0083  | 4,951       | 0,0083  | 0,0000    |
| -    | m -                     | m          | m      | m       | m           | m       | m         |

FIG. BETONDEFINITIE

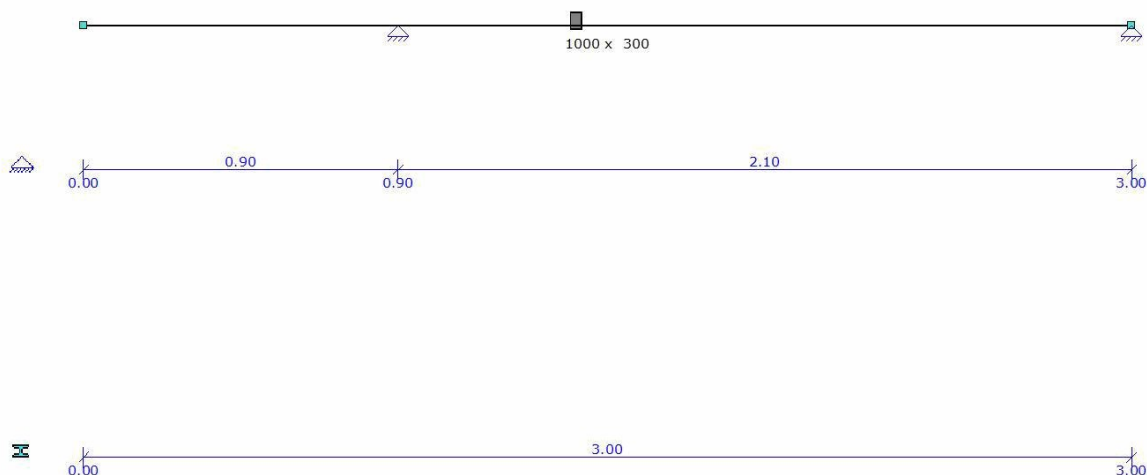


**BETON EIGENSCHAPPEN (NEN-EN1992-1-1+C2:2010/NB:2011)**

| Naam               | Waarde | Eenheden |
|--------------------|--------|----------|
| Hoek drukdiagonaal | 21.80  | °        |

**13.1.18 Begane grondvloer, 0.55+**

AFB. GEOMETRIE LIGGER

**BALKGEOMETRIE**

| Positie          | Profielnaam | Hoek | Traagheidsmoment | Materiaal | E-Modulus  | Uitzettingcoëff | Gewicht |
|------------------|-------------|------|------------------|-----------|------------|-----------------|---------|
| 0,000 - L(3,000) | 1000 x 300  | 0    | 2.2500e-03       | C30/37    | 3.3000e+07 | 10.0000e-06     | 7.50    |
| m -              |             | °    | m4 -             |           | kN/m2      | C°m             | kN/m    |

**OPLEGGINGEN**

| Oplegging | Positie  | Z    | Yr     |
|-----------|----------|------|--------|
| O1        | 0,900    | vast | vrij   |
| O2        | L(3,000) | vast | vrij   |
| -         | m        | kN/m | kNmrad |

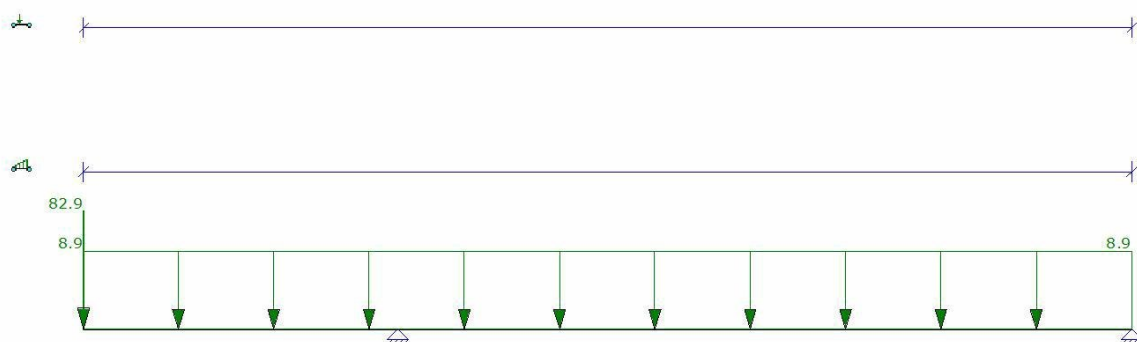
**BELASTINGSGEVALLEN TYPEN**

| Oplegg. | Staven                            | B.G.Type                          | Gunstig/Ong. | Element                       | Niveau | Veld   | Psi0 | Psi1 | Psi2 | Cprob |
|---------|-----------------------------------|-----------------------------------|--------------|-------------------------------|--------|--------|------|------|------|-------|
| B.G.1   | Permanent                         | Permanent                         | -            |                               | N.v.t. | N.v.t. |      |      |      |       |
| B.G.2   | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. H) Ontoegankelijke daken | 1      | 1      |      |      |      | 1,00  |
| B.G.3   | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. B) Kantoorfuncties etc.  | 2      | 1      | 0.50 | 0.50 | 0.30 | 1,00  |
| B.G.4   | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. C4) Fysieke activiteiten | 3      | 1      | 0.40 | 0.70 | 0.60 | 1,00  |
| B.G.5   | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. C4) Fysieke activiteiten | 4      | 1      | 0.40 | 0.70 | 0.60 | 1,00  |
| B.G.2.1 | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. H) Ontoegankelijke daken | 1      | 1      |      |      |      | 1,00  |
| B.G.3.1 | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. B) Kantoorfuncties etc.  | 2      | 1      | 0.50 | 0.50 | 0.30 | 1,00  |
| B.G.4.1 | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. C4) Fysieke activiteiten | 3      | 1      | 0.40 | 0.70 | 0.60 | 1,00  |
| B.G.5.1 | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. C4) Fysieke activiteiten | 4      | 1      | 0.40 | 0.70 | 0.60 | 1,00  |

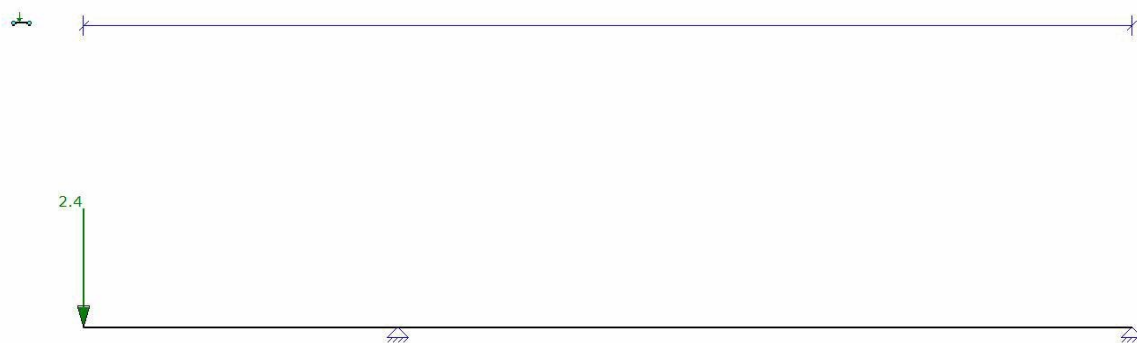


| Oplegg. | Staven                            | B.G.Type                          | Gunstig/Ong. | Element                       | Niveau | Veld | Psi0 | Psi1 | Psi2 | Cprob |
|---------|-----------------------------------|-----------------------------------|--------------|-------------------------------|--------|------|------|------|------|-------|
| B.G.5.2 | Verdeelde veranderlijke belasting | Verdeelde veranderlijke belasting | -            | Cat. C4) Fysieke activiteiten | 4      | 2    | 0.40 | 0.70 | 0.60 | 1,00  |

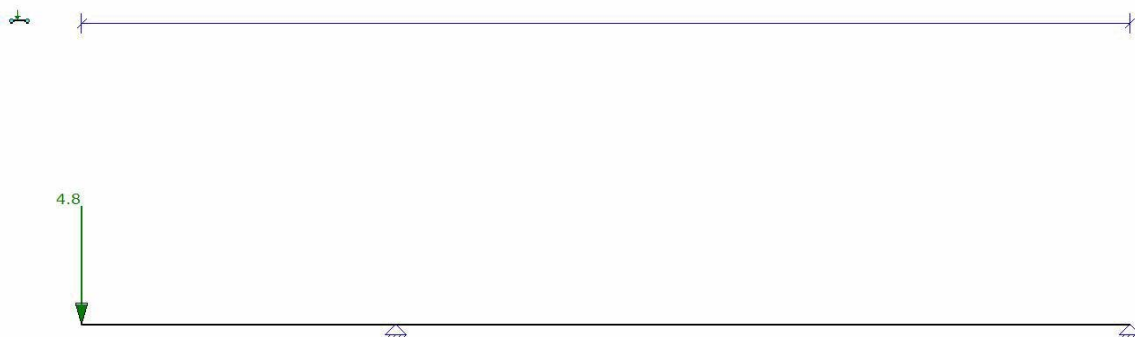
## AFB. LASTEN B.G.1 PERMANENT



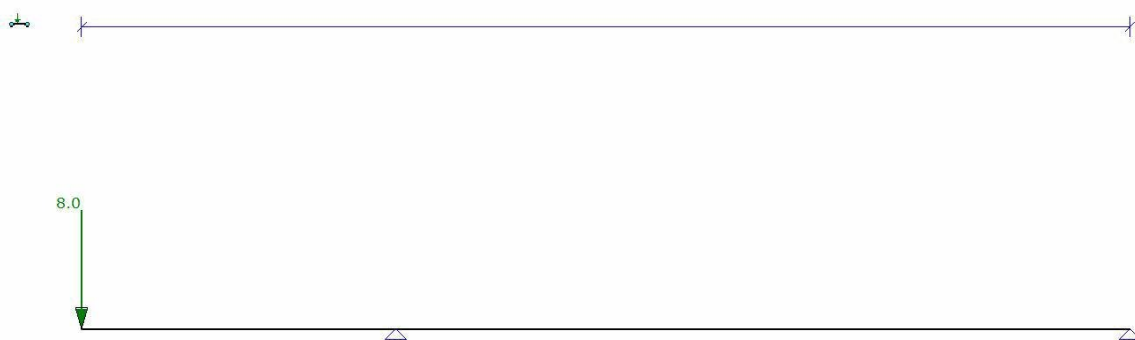
## AFB. LASTEN B.G.2.1 VERDEELDE VERANDERLIJKE BELASTING



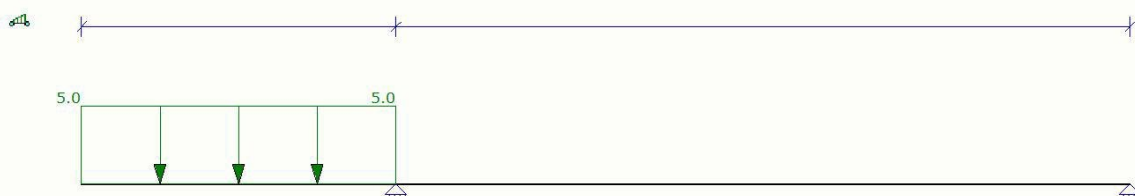
## AFB. LASTEN B.G.3.1 VERDEELDE VERANDERLIJKE BELASTING



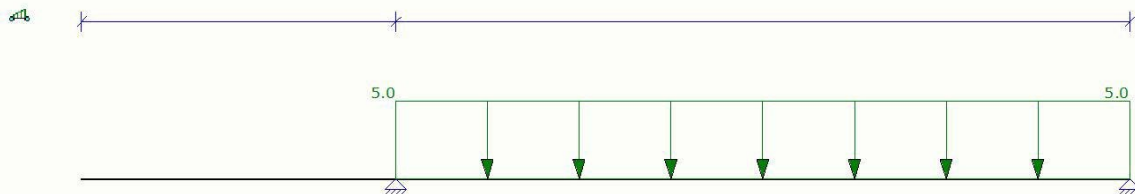
AFB. LASTEN B.G.4.1 VERDEELDE VERANDERLIJKE BELASTING



AFB. LASTEN B.G.5.1 VERDEELDE VERANDERLIJKE BELASTING



AFB. LASTEN B.G.5.2 VERDEELDE VERANDERLIJKE BELASTING



## FUNDAMENTEEL BELASTINGSCOMBINATIES (TABEL)

| B.G.    | Omschrijving                      | Fu.C.1 | Fu.C.2  | Fu.C.3  | Fu.C.4  | Fu.C.5 | Fu.C.6 | Fu.C.7 | Fu.C.8 |
|---------|-----------------------------------|--------|---------|---------|---------|--------|--------|--------|--------|
| B.G.1   | Permanent                         | 1.32   | 1.32    | 1.32    | 1.32    | 1.49   | 1.49   | 1.49   | 1.32   |
| B.G.2   | Verdeelde veranderlijke belasting | -      | -       | -       | -       | -      | -      | -      | -      |
| B.G.3   | Verdeelde veranderlijke belasting | -      | -       | -       | -       | -      | -      | -      | -      |
| B.G.4   | Verdeelde veranderlijke belasting | -      | -       | -       | -       | -      | -      | -      | -      |
| B.G.5   | Verdeelde veranderlijke belasting | -      | -       | -       | -       | -      | -      | -      | -      |
| B.G.2.1 | Verdeelde veranderlijke belasting | 1.65   | -       | -       | -       | -      | -      | -      | -      |
| B.G.3.1 | Verdeelde veranderlijke belasting | 0.82   | 1.65    | 1.65    | 0.82    | 0.82   | 0.82   | 0.82   | 1.65   |
| B.G.4.1 | Verdeelde veranderlijke belasting | 0.66   | 1.65    | 0.66    | 1.65    | 0.66   | 0.66   | 0.66   | 0.66   |
| B.G.5.1 | Verdeelde veranderlijke belasting | 0.66   | 0.66    | 1.65    | 1.65    | 0.66   | 0.66   | -      | 0.66   |
| B.G.5.2 | Verdeelde veranderlijke belasting | 0.66   | 0.66    | 1.65    | 1.65    | 0.66   | -      | 0.66   | 0.66   |
| B.G.    | Omschrijving                      | Fu.C.9 | Fu.C.10 | Fu.C.11 | Fu.C.12 |        |        |        |        |
| B.G.1   | Permanent                         | 1.32   | 1.32    | 1.32    | 1.32    |        |        |        |        |
| B.G.2   | Verdeelde veranderlijke belasting | -      | -       | -       | -       |        |        |        |        |
| B.G.3   | Verdeelde veranderlijke belasting | -      | -       | -       | -       |        |        |        |        |
| B.G.4   | Verdeelde veranderlijke belasting | -      | -       | -       | -       |        |        |        |        |
| B.G.5   | Verdeelde veranderlijke belasting | -      | -       | -       | -       |        |        |        |        |
| B.G.2.1 | Verdeelde veranderlijke belasting | -      | -       | -       | -       |        |        |        |        |
| B.G.3.1 | Verdeelde veranderlijke belasting | 0.82   | 0.82    | 0.82    | 0.82    |        |        |        |        |
| B.G.4.1 | Verdeelde veranderlijke belasting | 1.65   | 0.66    | 0.66    | 0.66    |        |        |        |        |
| B.G.5.1 | Verdeelde veranderlijke belasting | 0.66   | 1.65    | -       | 1.65    |        |        |        |        |
| B.G.5.2 | Verdeelde veranderlijke belasting | 0.66   | -       | 1.65    | 1.65    |        |        |        |        |

## KARAKTERISTIEK BELASTINGSCOMBINATIES (TABEL)

| B.G.    | Omschrijving                      | Ka.C.(w1) | Ka.C.1 | Ka.C.2 | Ka.C.3 | Ka.C.4 | Ka.C.5 | Ka.C.6 | Ka.C.7 |
|---------|-----------------------------------|-----------|--------|--------|--------|--------|--------|--------|--------|
| B.G.1   | Permanent                         | 1.00      | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   |
| B.G.2   | Verdeelde veranderlijke belasting | -         | -      | -      | -      | -      | -      | -      | -      |
| B.G.3   | Verdeelde veranderlijke belasting | -         | -      | -      | -      | -      | -      | -      | -      |
| B.G.4   | Verdeelde veranderlijke belasting | -         | -      | -      | -      | -      | -      | -      | -      |
| B.G.5   | Verdeelde veranderlijke belasting | -         | -      | -      | -      | -      | -      | -      | -      |
| B.G.2.1 | Verdeelde veranderlijke belasting | -         | -      | -      | -      | 1.00   | -      | -      | -      |
| B.G.3.1 | Verdeelde veranderlijke belasting | -         | 0.50   | 0.50   | 0.50   | 0.50   | 1.00   | 0.50   | 0.50   |
| B.G.4.1 | Verdeelde veranderlijke belasting | -         | 0.40   | 0.40   | 0.40   | 0.40   | 0.40   | 1.00   | 0.40   |
| B.G.5.1 | Verdeelde veranderlijke belasting | -         | 0.40   | 0.40   | -      | 0.40   | 0.40   | 0.40   | 1.00   |
| B.G.5.2 | Verdeelde veranderlijke belasting | -         | 0.40   | -      | 0.40   | 0.40   | 0.40   | 0.40   | -      |
| B.G.    | Omschrijving                      | Ka.C.8    | Ka.C.9 |        |        |        |        |        |        |
| B.G.1   | Permanent                         | 1.00      | 1.00   |        |        |        |        |        |        |
| B.G.2   | Verdeelde veranderlijke belasting | -         | -      |        |        |        |        |        |        |
| B.G.3   | Verdeelde veranderlijke belasting | -         | -      |        |        |        |        |        |        |
| B.G.4   | Verdeelde veranderlijke belasting | -         | -      |        |        |        |        |        |        |
| B.G.5   | Verdeelde veranderlijke belasting | -         | -      |        |        |        |        |        |        |
| B.G.2.1 | Verdeelde veranderlijke belasting | -         | -      |        |        |        |        |        |        |
| B.G.3.1 | Verdeelde veranderlijke belasting | 0.50      | 0.50   |        |        |        |        |        |        |
| B.G.4.1 | Verdeelde veranderlijke belasting | 0.40      | 0.40   |        |        |        |        |        |        |
| B.G.5.1 | Verdeelde veranderlijke belasting | -         | 1.00   |        |        |        |        |        |        |
| B.G.5.2 | Verdeelde veranderlijke belasting | 1.00      | 1.00   |        |        |        |        |        |        |

**FREQUENT BELASTINGSCOMBINATIES (TABEL)**

| B.G.    | Omschrijving                      | Fr.C.(w1) | Fr.C.1 | Fr.C.2 | Fr.C.3 | Fr.C.4 | Fr.C.5 | Fr.C.6 |
|---------|-----------------------------------|-----------|--------|--------|--------|--------|--------|--------|
| B.G.1   | Permanent                         | 1.00      | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   |
| B.G.2   | Verdeelde veranderlijke belasting | -         | -      | -      | -      | -      | -      | -      |
| B.G.3   | Verdeelde veranderlijke belasting | -         | -      | -      | -      | -      | -      | -      |
| B.G.4   | Verdeelde veranderlijke belasting | -         | -      | -      | -      | -      | -      | -      |
| B.G.5   | Verdeelde veranderlijke belasting | -         | -      | -      | -      | -      | -      | -      |
| B.G.2.1 | Verdeelde veranderlijke belasting | -         | -      | -      | -      | -      | -      | -      |
| B.G.3.1 | Verdeelde veranderlijke belasting | -         | 0.30   | 0.50   | 0.30   | 0.30   | 0.30   | 0.30   |
| B.G.4.1 | Verdeelde veranderlijke belasting | -         | 0.60   | 0.60   | 0.70   | 0.60   | 0.60   | 0.60   |
| B.G.5.1 | Verdeelde veranderlijke belasting | -         | 0.60   | 0.60   | 0.60   | 0.70   | -      | 0.70   |
| B.G.5.2 | Verdeelde veranderlijke belasting | -         | 0.60   | 0.60   | 0.60   | -      | 0.70   | 0.70   |

**QUASI-PERMANENT BELASTINGSCOMBINATIES (TABEL)**

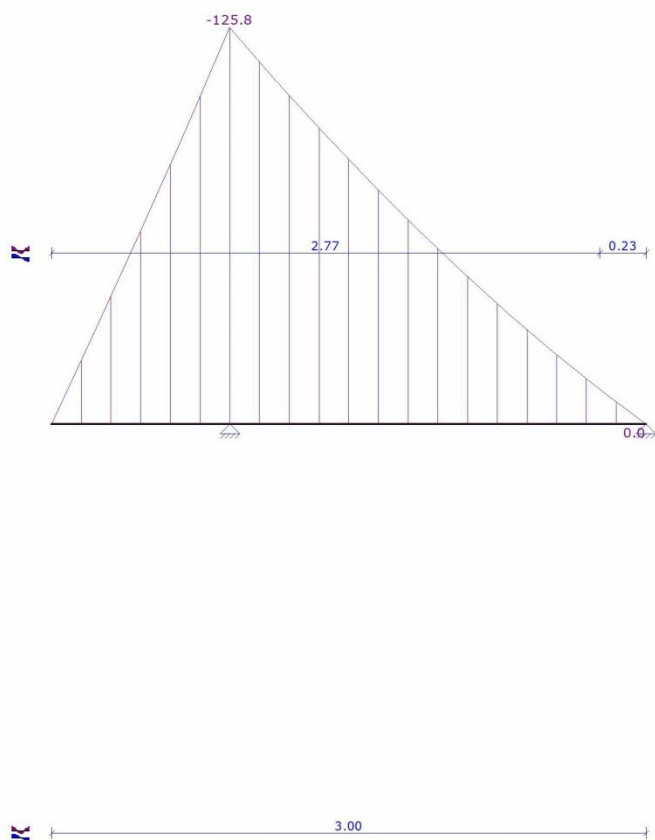
| B.G.    | Omschrijving                      | Qu.C.1 |
|---------|-----------------------------------|--------|
| B.G.1   | Permanent                         | 1.00   |
| B.G.2   | Verdeelde veranderlijke belasting | -      |
| B.G.3   | Verdeelde veranderlijke belasting | -      |
| B.G.4   | Verdeelde veranderlijke belasting | -      |
| B.G.5   | Verdeelde veranderlijke belasting | -      |
| B.G.2.1 | Verdeelde veranderlijke belasting | -      |
| B.G.3.1 | Verdeelde veranderlijke belasting | 0.30   |
| B.G.4.1 | Verdeelde veranderlijke belasting | 0.60   |
| B.G.5.1 | Verdeelde veranderlijke belasting | 0.60   |
| B.G.5.2 | Verdeelde veranderlijke belasting | 0.60   |

**UITGANGSPUNTEN VAN DE ANALYSE**

Lineaire Elastische Analyse uitgevoerd

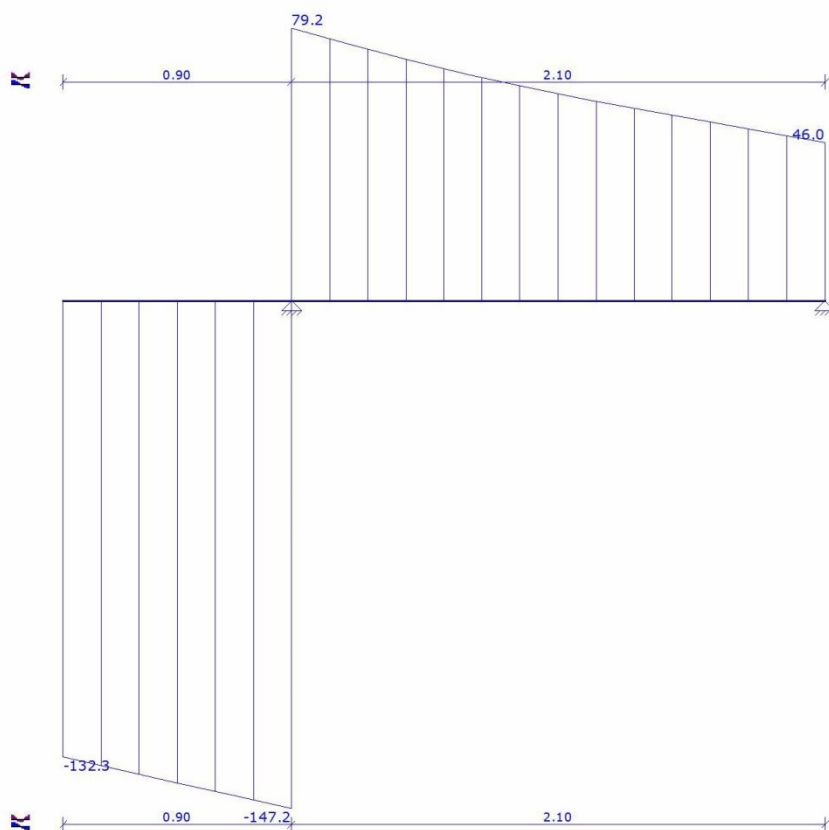
AFB. FU.C. MOMENT (MY) OMHULLENDE

Fundamenteel Belastingscombinaties



AFB. FU.C. DWARSKRACHT (VZ) OMHULLENDE

Fundamenteel Belastingscombinaties

**FU.C. STAAFKRACHTEN**

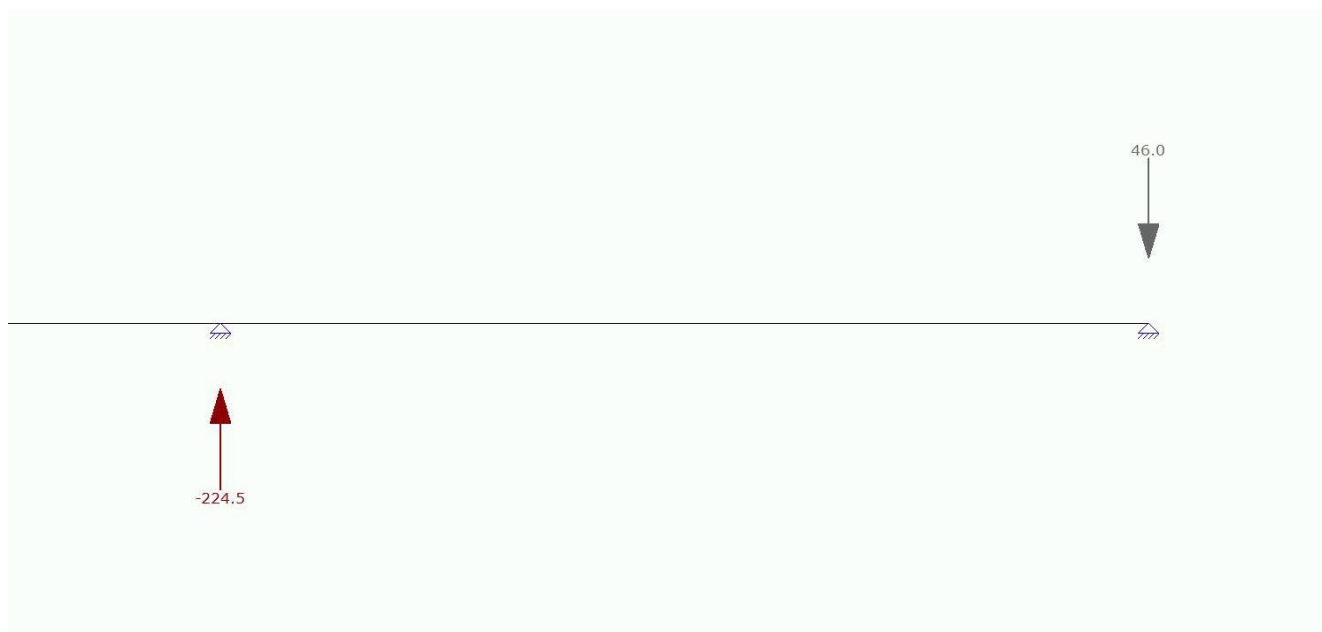
| Veld   | Positie B.G.          | Mb      | Mmax | xMmax | Me      | x-M0  | x-M0  | Vb      | Vmax    | Vi      |
|--------|-----------------------|---------|------|-------|---------|-------|-------|---------|---------|---------|
| Veld 1 | 0,000 - 0,900 Fu.C.1  | 0.00    |      |       | -116.59 | 0.000 | 0.000 | -122.76 | -136.32 | -136.32 |
|        | 0,000 - 0,900 Fu.C.2  | 0.00    |      |       | -123.72 | 0.000 | 0.000 | -130.68 | -144.24 | -144.24 |
|        | 0,000 - 0,900 Fu.C.3  | 0.00    |      |       | -118.59 | 0.000 | 0.000 | -122.76 | -140.78 | -140.78 |
|        | 0,000 - 0,900 Fu.C.4  | 0.00    |      |       | -122.16 | 0.000 | 0.000 | -126.72 | -144.74 | -144.74 |
|        | 0,000 - 0,900 Fu.C.5  | 0.00    |      |       | -125.80 | 0.000 | 0.000 | -132.35 | -147.21 | -147.21 |
|        | 0,000 - 0,900 Fu.C.6  | 0.00    |      |       | -125.80 | 0.000 | 0.000 | -132.35 | -147.21 | -147.21 |
|        | 0,000 - 0,900 Fu.C.7  | 0.00    |      |       | -124.46 | 0.000 | 0.000 | -132.35 | -144.24 | -144.24 |
|        | 0,000 - 0,900 Fu.C.8  | 0.00    |      |       | -116.59 | 0.000 | 0.000 | -122.76 | -136.32 | -136.32 |
|        | 0,000 - 0,900 Fu.C.9  | 0.00    |      |       | -120.15 | 0.000 | 0.000 | -126.72 | -140.28 | -140.28 |
|        | 0,000 - 0,900 Fu.C.10 | 0.00    |      |       | -115.03 | 0.000 | 0.000 | -118.80 | -136.82 | -136.82 |
|        | 0,000 - 0,900 Fu.C.11 | 0.00    |      |       | -111.69 | 0.000 | 0.000 | -118.80 | -129.39 | -129.39 |
|        | 0,000 - 0,900 Fu.C.12 | 0.00    |      |       | -115.03 | 0.000 | 0.000 | -118.80 | -136.82 | -136.82 |
| Veld 2 | 0,900 - 3,000 Fu.C.1  | -116.59 |      |       | 0.00    | 0.000 | 0.000 | 71.33   | 71.33   | 39.70   |
|        | 0,900 - 3,000 Fu.C.2  | -123.72 |      |       | 0.00    | 0.000 | 0.000 | 74.73   | 74.73   | 43.10   |
|        | 0,900 - 3,000 Fu.C.3  | -118.59 |      |       | 0.00    | 0.000 | 0.000 | 77.49   | 77.49   | 35.40   |
|        | 0,900 - 3,000 Fu.C.4  | -122.16 |      |       | 0.00    | 0.000 | 0.000 | 79.18   | 79.18   | 37.10   |
|        | 0,900 - 3,000 Fu.C.5  | -125.80 |      |       | 0.00    | 0.000 | 0.000 | 77.25   | 77.25   | 42.50   |
|        | 0,900 - 3,000 Fu.C.6  | -125.80 |      |       | 0.00    | 0.000 | 0.000 | 73.78   | 73.78   | 46.00   |
|        | 0,900 - 3,000 Fu.C.7  | -124.46 |      |       | 0.00    | 0.000 | 0.000 | 76.61   | 76.61   | 41.90   |
|        | 0,900 - 3,000 Fu.C.8  | -116.59 |      |       | 0.00    | 0.000 | 0.000 | 71.33   | 71.33   | 39.70   |
|        | 0,900 - 3,000 Fu.C.9  | -120.15 |      |       | 0.00    | 0.000 | 0.000 | 73.03   | 73.03   | 41.40   |
|        | 0,900 - 3,000 Fu.C.10 | -115.03 |      |       | 0.00    | 0.000 | 0.000 | 67.13   | 67.13   | 42.40   |
|        | 0,900 - 3,000 Fu.C.11 | -111.69 |      |       | 0.00    | 0.000 | 0.000 | 74.20   | 74.20   | 32.10   |



|   |                       |         |     |      |       |       |       |       |       |
|---|-----------------------|---------|-----|------|-------|-------|-------|-------|-------|
| - | 0,900 - 3,000 Fu.C.12 | -115.03 |     | 0.00 | 0.000 | 0.000 | 75.79 | 75.79 | 33.76 |
|   | m -                   | kNm     | kNm | m    | kNm   | m     | kN    | kN    | kN    |

AFB. FU.C. OPLEGREACTIES OMHULLENDE

Fundamenteel Belastingscombinaties

**FU.C. OPLEGREACTIES**

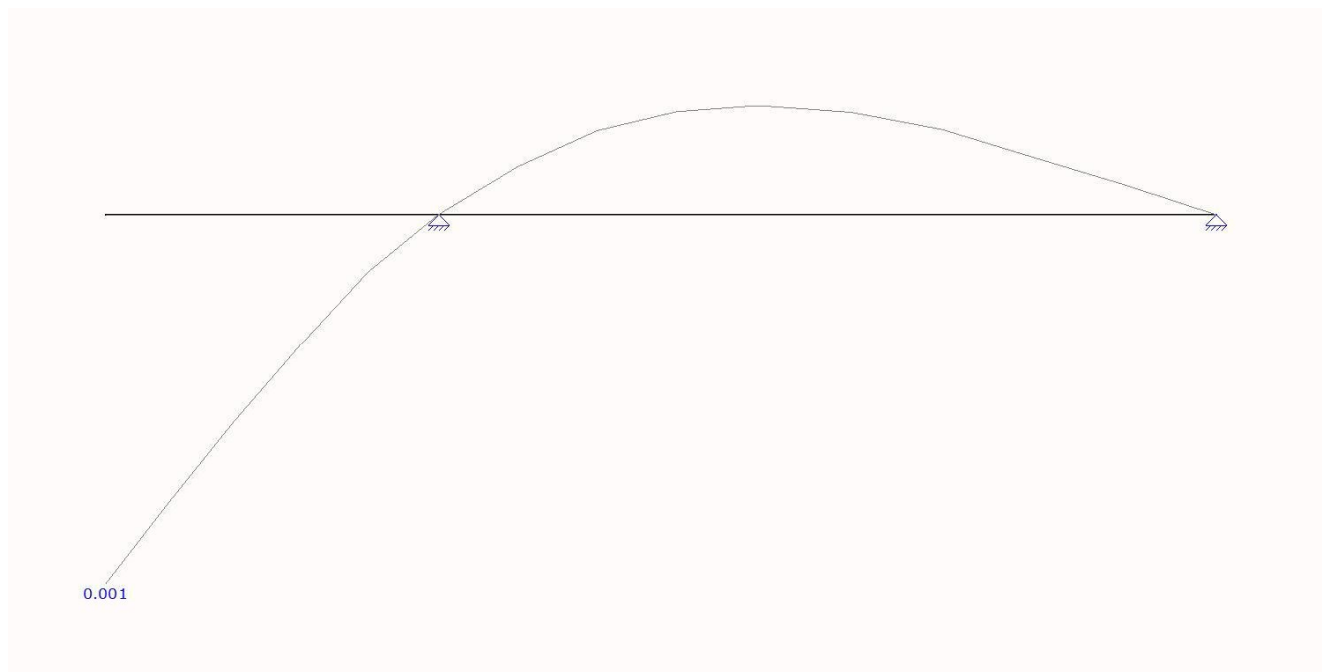
| B.C.   | Oplegging           | Positie | Z    | Yr   | Z              | My   |
|--------|---------------------|---------|------|------|----------------|------|
| Fu.C.1 | O1                  | 0.900   | vast | vrij | -207.66        | 0.00 |
| Fu.C.1 | O2                  | 0.000   | vast | vrij | 39.70          | 0.00 |
|        | <b>Som Reacties</b> |         |      |      | <b>-167.95</b> |      |
|        | <b>Som Lasten</b>   |         |      |      | <b>167.95</b>  |      |
| Fu.C.2 | O1                  | 0.900   | vast | vrij | -218.97        | 0.00 |
| Fu.C.2 | O2                  | 0.000   | vast | vrij | 43.10          | 0.00 |
|        | <b>Som Reacties</b> |         |      |      | <b>-175.87</b> |      |
|        | <b>Som Lasten</b>   |         |      |      | <b>175.87</b>  |      |
| Fu.C.3 | O1                  | 0.900   | vast | vrij | -218.26        | 0.00 |
| Fu.C.3 | O2                  | 0.000   | vast | vrij | 35.46          | 0.00 |
|        | <b>Som Reacties</b> |         |      |      | <b>-182.80</b> |      |
|        | <b>Som Lasten</b>   |         |      |      | <b>182.80</b>  |      |
| Fu.C.4 | O1                  | 0.900   | vast | vrij | -223.92        | 0.00 |
| Fu.C.4 | O2                  | 0.000   | vast | vrij | 37.16          | 0.00 |
|        | <b>Som Reacties</b> |         |      |      | <b>-186.76</b> |      |
|        | <b>Som Lasten</b>   |         |      |      | <b>186.76</b>  |      |
| Fu.C.5 | O1                  | 0.900   | vast | vrij | -224.46        | 0.00 |
| Fu.C.5 | O2                  | 0.000   | vast | vrij | 42.56          | 0.00 |
|        | <b>Som Reacties</b> |         |      |      | <b>-181.90</b> |      |
|        | <b>Som Lasten</b>   |         |      |      | <b>181.90</b>  |      |
| Fu.C.6 | O1                  | 0.900   | vast | vrij | -220.99        | 0.00 |
| Fu.C.6 | O2                  | 0.000   | vast | vrij | 46.03          | 0.00 |
|        | <b>Som Reacties</b> |         |      |      | <b>-174.97</b> |      |
|        | <b>Som Lasten</b>   |         |      |      | <b>174.97</b>  |      |
| Fu.C.7 | O1                  | 0.900   | vast | vrij | -220.85        | 0.00 |
| Fu.C.7 | O2                  | 0.000   | vast | vrij | 41.93          | 0.00 |
|        | <b>Som Reacties</b> |         |      |      | <b>-178.93</b> |      |
|        | <b>Som Lasten</b>   |         |      |      | <b>178.93</b>  |      |
| Fu.C.8 | O1                  | 0.900   | vast | vrij | -207.66        | 0.00 |
| Fu.C.8 | O2                  | 0.000   | vast | vrij | 39.70          | 0.00 |



|                     |                  |                |             |               |                |            |
|---------------------|------------------|----------------|-------------|---------------|----------------|------------|
| <b>Som Reacties</b> |                  |                |             |               | <b>-167.95</b> |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>167.95</b>  |            |
| Fu.C.9              | O1               | 0.900          | vast        | vrij          | -213.31        | 0.00       |
| Fu.C.9              | O2               | 0.000          | vast        | vrij          | 41.40          | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-171.91</b> |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>171.91</b>  |            |
| Fu.C.10             | O1               | 0.900          | vast        | vrij          | -203.94        | 0.00       |
| Fu.C.10             | O2               | 0.000          | vast        | vrij          | 42.43          | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-161.52</b> |            |
| <b>B.C.</b>         | <b>Oplegging</b> | <b>Positie</b> | <b>Z</b>    | <b>Yr</b>     | <b>Z</b>       | <b>My</b>  |
| <b>Som Lasten</b>   |                  |                |             |               | <b>161.52</b>  |            |
| Fu.C.11             | O1               | 0.900          | vast        | vrij          | -203.59        | 0.00       |
| Fu.C.11             | O2               | 0.000          | vast        | vrij          | 32.17          | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-171.42</b> |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>171.42</b>  |            |
| Fu.C.12             | O1               | 0.900          | vast        | vrij          | -212.61        | 0.00       |
| Fu.C.12             | O2               | 0.000          | vast        | vrij          | 33.76          | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-178.84</b> |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>178.84</b>  |            |
| -                   | -                | <b>m</b>       | <b>kN/m</b> | <b>kNmrad</b> | <b>kN</b>      | <b>kNm</b> |

**B.G. OPLEGREACTIES**

|                     |                  |                |             |               |                |            |
|---------------------|------------------|----------------|-------------|---------------|----------------|------------|
| <b>B.C.</b>         | <b>Oplegging</b> | <b>Positie</b> | <b>Z</b>    | <b>Yr</b>     | <b>Z</b>       | <b>My</b>  |
| B.G.1               | O1               | 0.900          | vast        | vrij          | -137.50        | 0.00       |
| B.G.1               | O2               | 0.000          | vast        | vrij          | 27.90          | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-109.60</b> |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>109.60</b>  |            |
| B.G.2.1             | O1               | 0.900          | vast        | vrij          | -3.43          | 0.00       |
| B.G.2.1             | O2               | 0.000          | vast        | vrij          | 1.03           | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-2.40</b>   |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>2.40</b>    |            |
| B.G.3.1             | O1               | 0.900          | vast        | vrij          | -6.86          | 0.00       |
| B.G.3.1             | O2               | 0.000          | vast        | vrij          | 2.06           | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-4.80</b>   |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>4.80</b>    |            |
| B.G.4.1             | O1               | 0.900          | vast        | vrij          | -11.43         | 0.00       |
| B.G.4.1             | O2               | 0.000          | vast        | vrij          | 3.43           | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-8.00</b>   |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>8.00</b>    |            |
| B.G.5.1             | O1               | 0.900          | vast        | vrij          | -5.46          | 0.00       |
| B.G.5.1             | O2               | 0.000          | vast        | vrij          | 0.96           | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-4.50</b>   |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>4.50</b>    |            |
| B.G.5.2             | O1               | 0.900          | vast        | vrij          | -5.25          | 0.00       |
| B.G.5.2             | O2               | 0.000          | vast        | vrij          | -5.25          | 0.00       |
| <b>Som Reacties</b> |                  |                |             |               | <b>-10.50</b>  |            |
| <b>Som Lasten</b>   |                  |                |             |               | <b>10.50</b>   |            |
| -                   | -                | <b>m</b>       | <b>kN/m</b> | <b>kNmrad</b> | <b>kN</b>      | <b>kNm</b> |

**KA.C. KNOOPVERPLAATSINGEN**

| Knoop | B.C.      | Z      | Yr         |
|-------|-----------|--------|------------|
| K1    | Ka.C.(w1) | 0.0009 | 1.158e-03  |
|       | Ka.C.1    | 0.0010 | 1.236e-03  |
|       | Ka.C.2    | 0.0010 | 1.247e-03  |
|       | Ka.C.3    | 0.0010 | 1.226e-03  |
|       | Ka.C.4    | 0.0010 | 1.270e-03  |
|       | Ka.C.5    | 0.0010 | 1.270e-03  |
|       | Ka.C.6    | 0.0010 | 1.303e-03  |
|       | Ka.C.7    | 0.0010 | 1.263e-03  |
|       | Ka.C.8    | 0.0009 | 1.210e-03  |
| K2    | Ka.C.(w1) | 0.0000 | -0.322e-03 |
|       | Ka.C.1    | 0.0000 | -0.340e-03 |
|       | Ka.C.2    | 0.0000 | -0.350e-03 |
|       | Ka.C.3    | 0.0000 | -0.336e-03 |
|       | Ka.C.4    | 0.0000 | -0.350e-03 |
|       | Ka.C.5    | 0.0000 | -0.350e-03 |
|       | Ka.C.6    | 0.0000 | -0.360e-03 |
|       | Ka.C.7    | 0.0000 | -0.356e-03 |
|       | Ka.C.8    | 0.0000 | -0.320e-03 |
|       | Ka.C.9    | 0.0000 | -0.330e-03 |
| -     | -         | m      | rad        |

**KA.C. DOORBUIGINGEN**

| Veld | Positie B.C.            | Veld Begin | Z'afst | Veld Z' | Z' glb dist | Z' glb | Veld Eind |
|------|-------------------------|------------|--------|---------|-------------|--------|-----------|
| S1   | 0,000 - 0,900 Ka.C.(w1) | 0,0009     | 0,521  | -0,0001 | 0,000       | 0,0009 | 0,0000    |
| S1   | 0,000 - 0,900 Ka.C.1    | 0,0010     | 0,521  | -0,0001 | 0,000       | 0,0010 | 0,0000    |
| S1   | 0,000 - 0,900 Ka.C.2    | 0,0010     | 0,521  | -0,0001 | 0,000       | 0,0010 | 0,0000    |
| S1   | 0,000 - 0,900 Ka.C.3    | 0,0010     | 0,521  | -0,0001 | 0,000       | 0,0010 | 0,0000    |
| S1   | 0,000 - 0,900 Ka.C.4    | 0,0010     | 0,521  | -0,0001 | 0,000       | 0,0010 | 0,0000    |
| S1   | 0,000 - 0,900 Ka.C.5    | 0,0010     | 0,521  | -0,0001 | 0,000       | 0,0010 | 0,0000    |
| S1   | 0,000 - 0,900 Ka.C.6    | 0,0010     | 0,521  | -0,0001 | 0,000       | 0,0010 | 0,0000    |
| S1   | 0,000 - 0,900 Ka.C.7    | 0,0010     | 0,522  | -0,0001 | 0,000       | 0,0010 | 0,0000    |
| S1   | 0,000 - 0,900 Ka.C.8    | 0,0009     | 0,521  | -0,0001 | 0,000       | 0,0009 | 0,0000    |



|    |                         |          |          |          |          |          |          |
|----|-------------------------|----------|----------|----------|----------|----------|----------|
| S1 | 0,000 - 0,900 Ka.C.9    | 0,0010   | 0,522    | -0,0001  | 0,000    | 0,0010   | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.(w1) | 0,0000   | 1,768    | -0,0003  | 1,768    | -0,0003  | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.1    | 0,0000   | 1,765    | -0,0003  | 1,765    | -0,0003  | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.2    | 0,0000   | 1,770    | -0,0003  | 1,770    | -0,0003  | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.3    | 0,0000   | 1,765    | -0,0003  | 1,765    | -0,0003  | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.4    | 0,0000   | 1,766    | -0,0003  | 1,766    | -0,0003  | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.5    | 0,0000   | 1,766    | -0,0003  | 1,766    | -0,0003  | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.6    | 0,0000   | 1,766    | -0,0003  | 1,766    | -0,0003  | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.7    | 0,0000   | 1,770    | -0,0003  | 1,770    | -0,0003  | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.8    | 0,0000   | 1,758    | -0,0003  | 1,758    | -0,0003  | 0,0000   |
| S1 | 0,900 - 3,000 Ka.C.9    | 0,0000   | 1,758    | -0,0003  | 1,758    | -0,0003  | 0,0000   |
| -  | <b>m -</b>              | <b>m</b> | <b>m</b> | <b>m</b> | <b>m</b> | <b>m</b> | <b>m</b> |

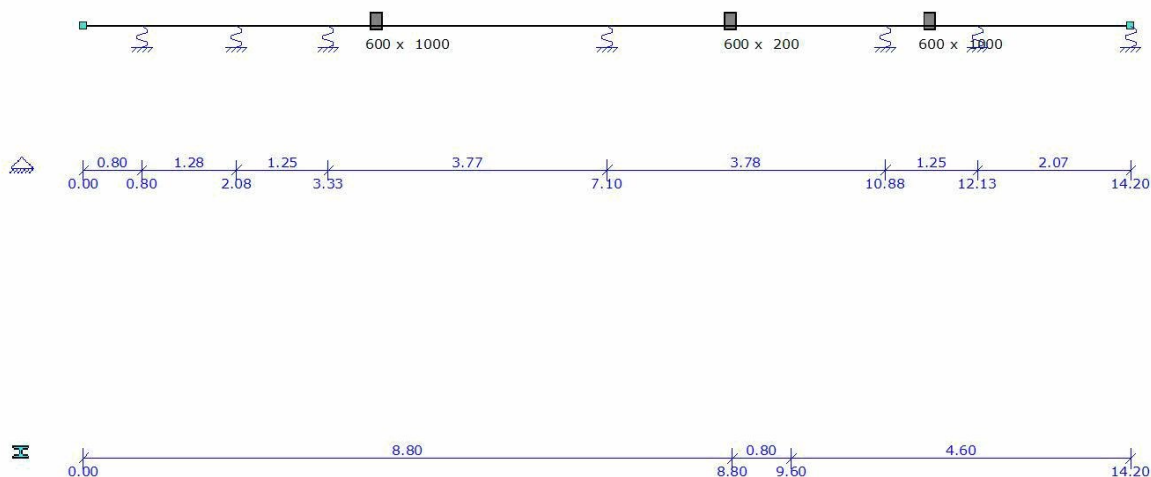
FIG. BETONDEFINITIE

**BETON EIGENSCHAPPEN (NEN-EN1992-1-1+C2:2010/NB:2011)**

| Naam               | Waarde | Eenheden |
|--------------------|--------|----------|
| Hoek drukdiagonaal | 21.80  | °        |

**13.1.19 Funderingsbalk as E, tussen 1 en 4**

AFB. GEOMETRIE LIGGER

**BALKGEOMETRIE**

| Positie           | Profielnaam | Hoek | Traagheidsmoment | Materiaal | E-Modulus  | Uitzettingcoëff | Gewicht |
|-------------------|-------------|------|------------------|-----------|------------|-----------------|---------|
| 0,000 - 8,800     | 600 x 1000  | 0    | 5.0000e-02       | C30/37    | 3.3000e+07 | 10.0000e-06     | 15.00   |
| 8,800 - 9,600     | 600 x 200   | 0    | 4.0000e-04       | C30/37    | 3.3000e+07 | 10.0000e-06     | 3.00    |
| 9,600 - L(14,200) | 600 x 1000  | 0    | 5.0000e-02       | C30/37    | 3.3000e+07 | 10.0000e-06     | 15.00   |
| m -               |             | °    | m4 -             |           | kN/m2      | C°m             | kN/m    |

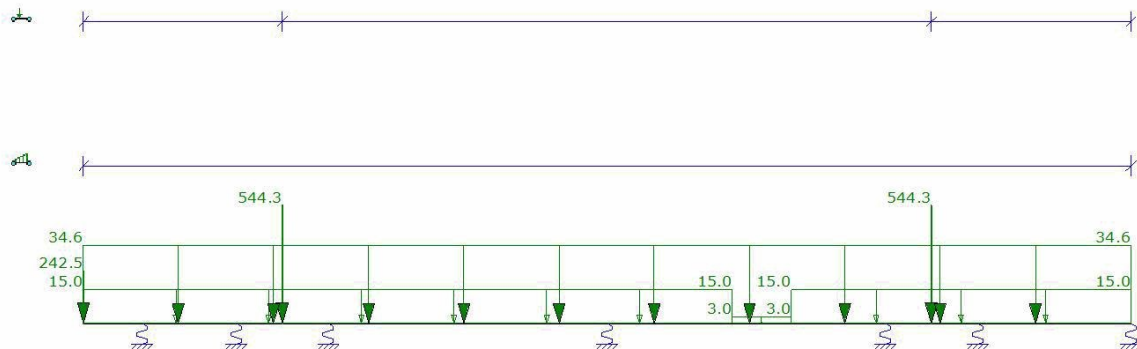
**OPLEGGINGEN**

| Oplegging | Positie   | Z     | Yr     |
|-----------|-----------|-------|--------|
| O1        | 0,800     | 40000 | vrij   |
| O2        | 2,075     | 90000 | vrij   |
| O3        | 3,325     | 90000 | vrij   |
| O4        | 7,100     | 90000 | vrij   |
| O5        | 10,875    | 90000 | vrij   |
| O6        | 12,125    | 90000 | vrij   |
| O7        | L(14,200) | 90000 | vrij   |
| -         | m         | kN/m  | kNmrad |

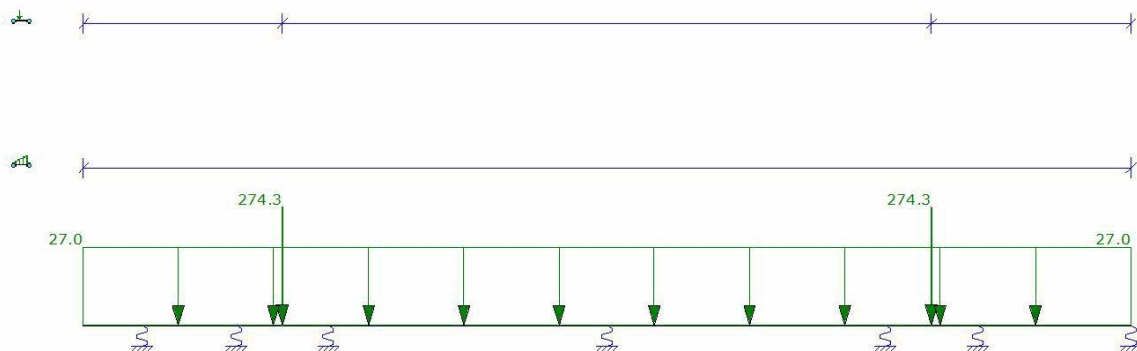
**BELASTINGSGEVALLEN TYPEN**

| Oplegg. | Staven                                     | B.G.Type                                      | Gunstig/Ong. | Element                | Niveau | Veld   | Psi0 | Psi1 | Psi2 |
|---------|--------------------------------------------|-----------------------------------------------|--------------|------------------------|--------|--------|------|------|------|
| B.G.1   | Permanent                                  | Permanent                                     | -            |                        | N.v.t. | N.v.t. |      |      |      |
| B.G.2   | Geconcentreerde<br>veranderlijke belasting | Geconcentreerde<br>veranderlijke<br>belasting | -            | Cat. C5) Grote menigte | N.v.t. | N.v.t. | 0.70 | 0.70 | 0.60 |

AFB. LASTEN B.G.1 PERMANENT



AFB. LASTEN B.G.2 GECONCENTREERDE VERANDERLIJKE BELASTING



#### FUNDAMENTEEL BELASTINGSCOMBINATIES (TABEL)

| B.G.  | Omschrijving                            | Fu.C.1 | Fu.C.2 | Fu.C.3 |
|-------|-----------------------------------------|--------|--------|--------|
| B.G.1 | Permanent                               | 1.49   | 1.49   | 1.26   |
| B.G.2 | Geconcentreerde veranderlijke belasting | 1.65   | 1.15   | 1.65   |

#### KARAKTERISTIEK BELASTINGSCOMBINATIES (TABEL)

| B.G.  | Omschrijving                            | Ka.C.(w1) | Ka.C.1 |
|-------|-----------------------------------------|-----------|--------|
| B.G.1 | Permanent                               | 1.00      | 1.00   |
| B.G.2 | Geconcentreerde veranderlijke belasting | -         | -      |

#### FREQUENT BELASTINGSCOMBINATIES (TABEL)

| B.G.  | Omschrijving                            | Fr.C.(w1) | Fr.C.1 |
|-------|-----------------------------------------|-----------|--------|
| B.G.1 | Permanent                               | 1.00      | 1.00   |
| B.G.2 | Geconcentreerde veranderlijke belasting | -         | -      |

#### QUASI-PERMANENT BELASTINGSCOMBINATIES (TABEL)

| B.G.  | Omschrijving                            | Qu.C.1 |
|-------|-----------------------------------------|--------|
| B.G.1 | Permanent                               | 1.00   |
| B.G.2 | Geconcentreerde veranderlijke belasting | -      |

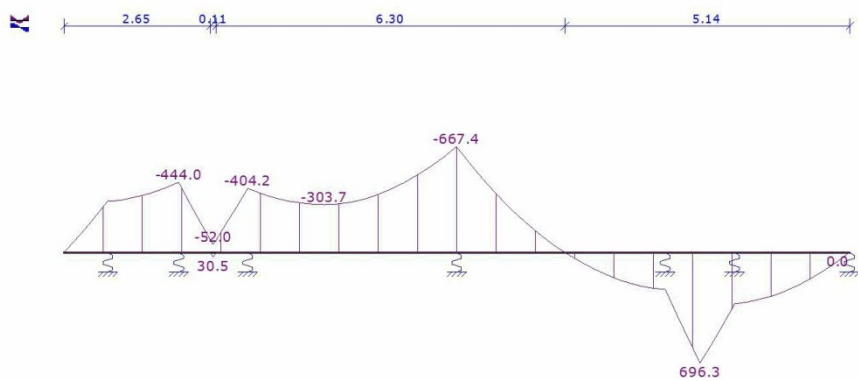


## UITGANGSPUNTEN VAN DE ANALYSE

Lineaire Elastische Analyse uitgevoerd

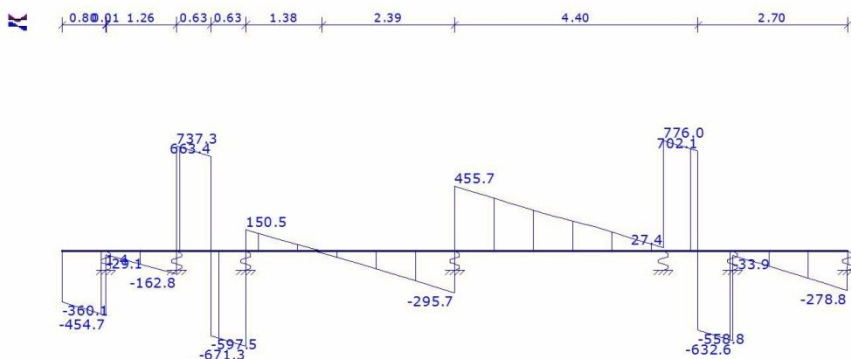
AFB. FU.C. MOMENT (MY) OMHULLENDE

Fundamenteel Belastingscombinaties



AFB. FU.C. DWARSKRACHT (VZ) OMHULLENDE

Fundamenteel Belastingscombinaties

**FU.C. STAAFKRACHTEN**

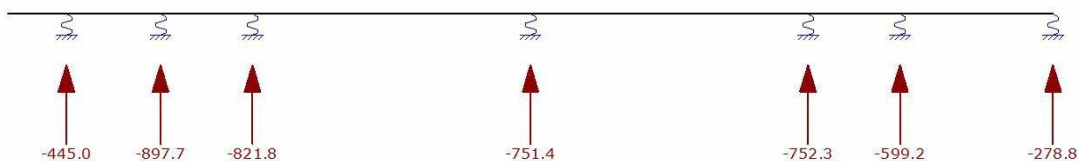
| Veld   | Positie B.G.           | Mb      | Mmax    | xMmax  | Me      | x-M0  | x-M0  | Vb      | Vmax    | Vi      |
|--------|------------------------|---------|---------|--------|---------|-------|-------|---------|---------|---------|
| Veld 1 | 0,000 - 0,800 Fu.C.1   | 0.00    |         |        | -325.92 | 0.000 | 0.000 | -360.11 | -454.68 | -454.68 |
|        | 0,000 - 0,800 Fu.C.2   | 0.00    |         |        | -321.64 | 0.000 | 0.000 | -360.11 | -443.99 | -443.99 |
|        | 0,000 - 0,800 Fu.C.3   | 0.00    |         |        | -279.17 | 0.000 | 0.000 | -306.10 | -391.82 | -391.82 |
| Veld 2 | 0,800 - 2,075 Fu.C.1   | -325.92 |         |        | -434.39 | 0.000 | 0.000 | -9.72   | -160.44 | -160.44 |
|        | 0,800 - 2,075 Fu.C.2   | -321.64 |         |        | -444.00 | 0.000 | 0.000 | -29.13  | -162.80 | -162.80 |
|        | 0,800 - 2,075 Fu.C.3   | -279.17 | -279.16 | 0.813  | -364.43 | 0.000 | 0.000 | 1.44    | -135.19 | -135.19 |
| Veld 3 | 2,075 - 3,325 Fu.C.1   | -434.39 | 3.32    | 2.700  | -393.18 | 2.695 | 2.706 | 737.29  | 737.29  | -671.38 |
|        | 2,075 - 3,325 Fu.C.2   | -444.00 | -52.02  | 2.700  | -404.19 | 0.000 | 0.000 | 659.92  | 659.92  | -596.21 |
|        | 2,075 - 3,325 Fu.C.3   | -364.43 | 30.50   | 2.700  | -328.70 | 2.649 | 2.756 | 665.38  | 665.38  | -608.21 |
| Veld 4 | 3,325 - 7,100 Fu.C.1   | -393.18 | -297.40 | 4.598  | -667.38 | 0.000 | 0.000 | 150.48  | -295.75 | -295.75 |
|        | 3,325 - 7,100 Fu.C.2   | -404.19 | -303.70 | 4.710  | -603.24 | 0.000 | 0.000 | 145.16  | -250.62 | -250.62 |
|        | 3,325 - 7,100 Fu.C.3   | -328.70 | -249.16 | 4.543  | -599.34 | 0.000 | 0.000 | 130.57  | -273.95 | -273.95 |
| Veld 5 | 7,100 - 8,800 Fu.C.1   | -667.38 |         |        | -63.55  | 0.000 | 0.000 | 455.67  | 455.67  | 254.72  |
|        | 7,100 - 8,800 Fu.C.2   | -603.24 |         |        | -59.49  | 0.000 | 0.000 | 408.97  | 408.97  | 230.74  |
|        | 7,100 - 8,800 Fu.C.3   | -599.34 |         |        | -56.05  | 0.000 | 0.000 | 410.67  | 410.67  | 228.50  |
| Veld 6 | 8,800 - 9,600 Fu.C.1   | -63.55  |         |        | 108.10  | 9.063 | 0.000 | 254.72  | 0.00    | 174.41  |
|        | 8,800 - 9,600 Fu.C.2   | -59.49  |         |        | 97.26   | 9.072 | 0.000 | 230.74  | 0.00    | 161.12  |
|        | 8,800 - 9,600 Fu.C.3   | -56.05  |         |        | 97.30   | 9.059 | 0.000 | 228.50  | 0.00    | 154.88  |
| Veld 7 | 9,600 - 10,875 Fu.C.1  | 108.10  |         |        | 234.39  | 0.000 | 0.000 | 174.41  | 23.70   | 23.70   |
|        | 9,600 - 10,875 Fu.C.2  | 97.26   |         |        | 217.47  | 0.000 | 0.000 | 161.12  | 27.45   | 27.45   |
|        | 9,600 - 10,875 Fu.C.3  | 97.30   |         |        | 207.69  | 0.000 | 0.000 | 154.89  | 18.26   | 18.26   |
| Veld 8 | 10,875 - 12,125 Fu.C.1 | 234.39  | 696.29  | 11.500 | 323.97  | 0.000 | 0.000 | 775.99  | 775.99  | -632.61 |
|        | 10,875 - 12,125 Fu.C.2 | 217.47  | 628.87  | 11.500 | 296.12  | 0.000 | 0.000 | 690.99  | 690.99  | -565.16 |
|        | 10,875 - 12,125 Fu.C.3 | 207.69  | 625.56  | 11.500 | 289.31  | 0.000 | 0.000 | 702.09  | 702.09  | -571.50 |



|             |                        |           |             |              |           |             |             |           |             |           |
|-------------|------------------------|-----------|-------------|--------------|-----------|-------------|-------------|-----------|-------------|-----------|
| Veld 9      | 12,125 - 14,200 Fu.C.1 | 323.97    |             |              | 0.00      | 0.000       | 0.000       | -33.49    | -278.77     | -278.77   |
|             | 12,125 - 14,200 Fu.C.2 | 296.12    |             |              | 0.00      | 0.000       | 0.000       | -33.93    | -251.48     | -251.48   |
| <b>Veld</b> | <b>Positie B.G.</b>    | <b>Mb</b> | <b>Mmax</b> | <b>xMmax</b> | <b>Me</b> | <b>x-M0</b> | <b>x-M0</b> | <b>Vb</b> | <b>Vmax</b> | <b>Vt</b> |
| Veld 9      | 12,125 - 14,200 Fu.C.3 | 289.31    |             |              | 0.00      | 0.000       | 0.000       | -28.25    | -250.60     | -250.60   |
| -           | m -                    | kNm       | kNm         | m            | kNm       | m           | m           | kN        | kN          | kN        |

AFB. FU.C. OPLEGREACTIES OMHULLENDE

Fundamenteel Belastingscombinaties

**FU.C. OPLEGREACTIES**

| B.C.                | Oplegging | Positie | Z     | Yr     | Z               | My   |
|---------------------|-----------|---------|-------|--------|-----------------|------|
| Fu.C.1              | O1        | 0.800   | 40000 | vrij   | -444.95         | 0.00 |
| Fu.C.1              | O2        | 2.075   | 90000 | vrij   | -897.73         | 0.00 |
| Fu.C.1              | O3        | 3.325   | 90000 | vrij   | -821.83         | 0.00 |
| Fu.C.1              | O4        | 7.100   | 90000 | vrij   | -751.42         | 0.00 |
| Fu.C.1              | O5        | 10.875  | 90000 | vrij   | -752.29         | 0.00 |
| Fu.C.1              | O6        | 12.125  | 90000 | vrij   | -599.15         | 0.00 |
| Fu.C.1              | O7        | 0.000   | 90000 | vrij   | -278.77         | 0.00 |
| <b>Som Reacties</b> |           |         |       |        | <b>-4546.14</b> |      |
| <b>Som Lasten</b>   |           |         |       |        | <b>4546.14</b>  |      |
| Fu.C.2              | O1        | 0.800   | 40000 | vrij   | -414.85         | 0.00 |
| Fu.C.2              | O2        | 2.075   | 90000 | vrij   | -822.73         | 0.00 |
| Fu.C.2              | O3        | 3.325   | 90000 | vrij   | -741.39         | 0.00 |
| Fu.C.2              | O4        | 7.100   | 90000 | vrij   | -659.58         | 0.00 |
| Fu.C.2              | O5        | 10.875  | 90000 | vrij   | -663.55         | 0.00 |
| Fu.C.2              | O6        | 12.125  | 90000 | vrij   | -531.22         | 0.00 |
| Fu.C.2              | O7        | 0.000   | 90000 | vrij   | -251.48         | 0.00 |
| <b>Som Reacties</b> |           |         |       |        | <b>-4084.80</b> |      |
| <b>Som Lasten</b>   |           |         |       |        | <b>4084.80</b>  |      |
| Fu.C.3              | O1        | 0.800   | 40000 | vrij   | -393.26         | 0.00 |
| Fu.C.3              | O2        | 2.075   | 90000 | vrij   | -800.57         | 0.00 |
| Fu.C.3              | O3        | 3.325   | 90000 | vrij   | -738.77         | 0.00 |
| Fu.C.3              | O4        | 7.100   | 90000 | vrij   | -684.62         | 0.00 |
| Fu.C.3              | O5        | 10.875  | 90000 | vrij   | -683.82         | 0.00 |
| Fu.C.3              | O6        | 12.125  | 90000 | vrij   | -543.25         | 0.00 |
| Fu.C.3              | O7        | 0.000   | 90000 | vrij   | -250.60         | 0.00 |
| <b>Som Reacties</b> |           |         |       |        | <b>-4094.89</b> |      |
| <b>Som Lasten</b>   |           |         |       |        | <b>4094.89</b>  |      |
| -                   | -         | m       | kN/m  | kNmrad | kN              | kNm  |

**B.G. OPLEGREACTIES**

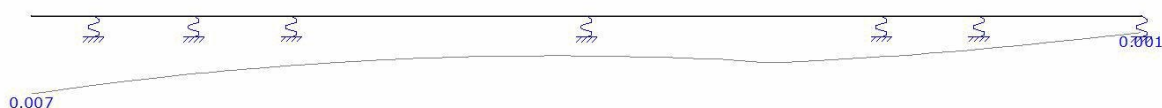
| B.C.  | Oplegging | Positie | Z     | Yr   | Z       | My   |
|-------|-----------|---------|-------|------|---------|------|
| B.G.1 | O1        | 0.800   | 40000 | vrij | -232.07 | 0.00 |
| B.G.1 | O2        | 2.075   | 90000 | vrij | -436.18 | 0.00 |
| B.G.1 | O3        | 3.325   | 90000 | vrij | -372.86 | 0.00 |
| B.G.1 | O4        | 7.100   | 90000 | vrij | -299.87 | 0.00 |
| B.G.1 | O5        | 10.875  | 90000 | vrij | -307.38 | 0.00 |
| B.G.1 | O6        | 12.125  | 90000 | vrij | -250.99 | 0.00 |



|                     |                  |                |          |           |                 |           |
|---------------------|------------------|----------------|----------|-----------|-----------------|-----------|
| B.G.1               | O7               | 0.000          | 90000    | vrij      | -126.46         | 0.00      |
| <b>Som Reacties</b> |                  |                |          |           | <b>-2025.82</b> |           |
| <b>Som Lasten</b>   |                  |                |          |           | <b>2025.82</b>  |           |
| B.G.2               | O1               | 0.800          | 40000    | vrij      | -60.80          | 0.00      |
| B.G.2               | O2               | 2.075          | 90000    | vrij      | -151.52         | 0.00      |
| B.G.2               | O3               | 3.325          | 90000    | vrij      | -162.50         | 0.00      |
| B.G.2               | O4               | 7.100          | 90000    | vrij      | -185.52         | 0.00      |
| B.G.2               | O5               | 10.875         | 90000    | vrij      | -179.29         | 0.00      |
| <b>B.C.</b>         | <b>Oplegging</b> | <b>Positie</b> | <b>Z</b> | <b>Yr</b> | <b>Z</b>        | <b>My</b> |
| B.G.2               | O6               | 12.125         | 90000    | vrij      | -137.23         | 0.00      |
| B.G.2               | O7               | 0.000          | 90000    | vrij      | -55.13          | 0.00      |
| <b>Som Reacties</b> |                  |                |          |           | <b>-932.00</b>  |           |
| <b>Som Lasten</b>   |                  |                |          |           | <b>932.00</b>   |           |
| -                   | -                | m              | kN/m     | kNmrad    | kN              | kNm       |

AFB. KA.C. VERPLAATSINGEN OMHULLENDE

Karakteristiek Belastingscombinaties

**KA.C. KNOOPVERPLAATSINGEN**

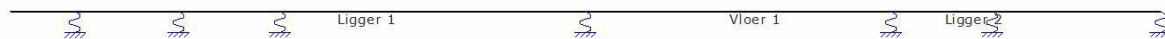
| Knoop | B.C.      | Z      | Yr        |
|-------|-----------|--------|-----------|
| K1    | Ka.C.(w1) | 0.0065 | 0.891e-03 |
|       | Ka.C.1    | 0.0065 | 0.891e-03 |
| K2    | Ka.C.(w1) | 0.0014 | 0.711e-03 |
|       | Ka.C.1    | 0.0014 | 0.711e-03 |
| -     | -         | m      | rad       |

**KA.C. DOORBUIGINGEN**

| Veld | Positie B.C.              | Veld Begin | Z'afst | Veld Z' | Z' glb dist | Z' glb | Veld Eind |
|------|---------------------------|------------|--------|---------|-------------|--------|-----------|
| S1   | 0,000 - 0,800 Ka.C.(w1)   | 0,0065     | 0,464  | 0,0000  | 0,000       | 0,0065 | 0,0058    |
| S1   | 0,000 - 0,800 Ka.C.1      | 0,0065     | 0,464  | 0,0000  | 0,000       | 0,0065 | 0,0058    |
| S1   | 0,800 - 2,075 Ka.C.(w1)   | 0,0058     | 1,459  | 0,0000  | 0,000       | 0,0000 | 0,0048    |
| S1   | 0,800 - 2,075 Ka.C.1      | 0,0058     | 1,459  | 0,0000  | 0,000       | 0,0000 | 0,0048    |
| S1   | 2,075 - 3,325 Ka.C.(w1)   | 0,0048     | 2,690  | 0,0000  | 0,000       | 0,0000 | 0,0041    |
| S1   | 2,075 - 3,325 Ka.C.1      | 0,0048     | 2,690  | 0,0000  | 0,000       | 0,0000 | 0,0041    |
| S1   | 3,325 - 7,100 Ka.C.(w1)   | 0,0041     | 5,224  | -0,0002 | 6,752       | 0,0033 | 0,0033    |
| S1   | 3,325 - 7,100 Ka.C.1      | 0,0041     | 5,224  | -0,0002 | 6,752       | 0,0033 | 0,0033    |
| S1   | 7,100 - 8,800 Ka.C.(w1)   | 0,0033     | 0,000  | 0,0000  | 0,000       | 0,0000 | 0,0036    |
| S1   | 7,100 - 8,800 Ka.C.1      | 0,0033     | 0,000  | 0,0000  | 0,000       | 0,0000 | 0,0036    |
| S1   | 8,800 - 9,600 Ka.C.(w1)   | 0,0036     | 9,488  | 0,0005  | 9,496       | 0,0039 | 0,0039    |
| S1   | 8,800 - 9,600 Ka.C.1      | 0,0036     | 9,488  | 0,0005  | 9,496       | 0,0039 | 0,0039    |
| S1   | 9,600 - 10,875 Ka.C.(w1)  | 0,0039     | 0,000  | 0,0000  | 0,000       | 0,0000 | 0,0034    |
| S1   | 9,600 - 10,875 Ka.C.1     | 0,0039     | 0,000  | 0,0000  | 0,000       | 0,0000 | 0,0034    |
| S1   | 10,875 - 12,125 Ka.C.(w1) | 0,0034     | 11,506 | 0,0000  | 0,000       | 0,0000 | 0,0028    |
| S1   | 10,875 - 12,125 Ka.C.1    | 0,0034     | 11,506 | 0,0000  | 0,000       | 0,0000 | 0,0028    |
| S1   | 12,125 - 14,200 Ka.C.(w1) | 0,0028     | 13,039 | 0,0000  | 14,200      | 0,0014 | 0,0014    |
| S1   | 12,125 - 14,200 Ka.C.1    | 0,0028     | 13,039 | 0,0000  | 14,200      | 0,0014 | 0,0014    |
| -    | m -                       | m          | m      | m       | m           | m      | m         |



FIG. BETONDEFINITIE

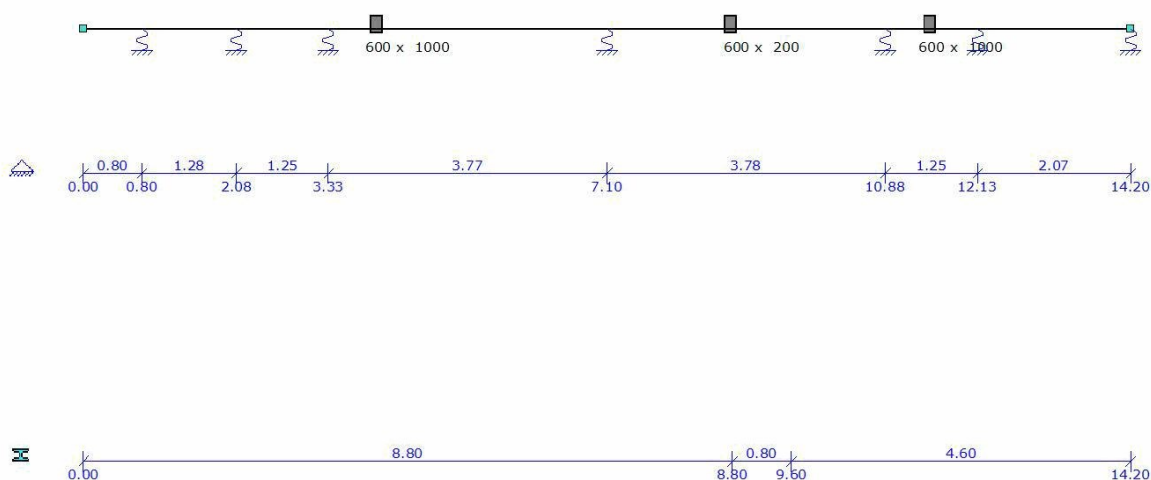


**BETON EIGENSCHAPPEN (EN1992-1-1:2010)**

| Naam               | Waarde | Eenheden |
|--------------------|--------|----------|
| Hoek drukdiagonaal | 21.80  | °        |

**13.1.20 Funderingsbalk as G, tussen 1 en 4**

AFB. GEOMETRIE LIGGER

**BALKGEOMETRIE**

| Positie           | Profielnaam | Hoek | Traagheidsmoment | Materiaal | E-Modulus  | Uitzettingcoëff | Gewicht |
|-------------------|-------------|------|------------------|-----------|------------|-----------------|---------|
| 0,000 - 8,800     | 600 x 1000  | 0    | 5.0000e-02       | C30/37    | 3.3000e+07 | 10.0000e-06     | 15.00   |
| 8,800 - 9,600     | 600 x 200   | 0    | 4.0000e-04       | C30/37    | 3.3000e+07 | 10.0000e-06     | 3.00    |
| 9,600 - L(14,200) | 600 x 1000  | 0    | 5.0000e-02       | C30/37    | 3.3000e+07 | 10.0000e-06     | 15.00   |
| m -               |             | °    | m4 -             |           | kN/m2      | C°m             | kN/m    |

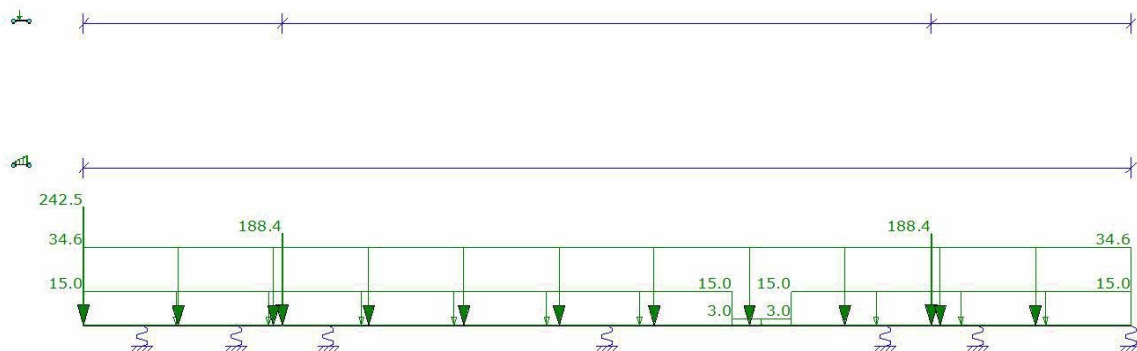
**OPLEGGINGEN**

| Oplegging | Positie   | Z     | Yr     |
|-----------|-----------|-------|--------|
| O1        | 0,800     | 40000 | vrij   |
| O2        | 2,075     | 90000 | vrij   |
| O3        | 3,325     | 90000 | vrij   |
| O4        | 7,100     | 90000 | vrij   |
| O5        | 10,875    | 90000 | vrij   |
| O6        | 12,125    | 90000 | vrij   |
| O7        | L(14,200) | 90000 | vrij   |
| -         | m         | kN/m  | kNmrad |

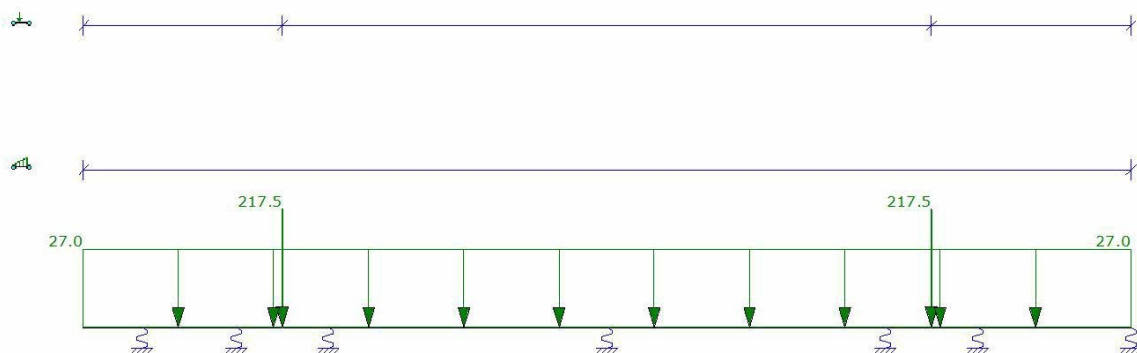
**BELASTINGSGEVALLEN TYPEN**

| Oplegg. | Staven                                     | B.G.Type                                      | Gunstig/Ong. | Element                | Niveau | Veld   | Psi0 | Psi1 | Psi2 |
|---------|--------------------------------------------|-----------------------------------------------|--------------|------------------------|--------|--------|------|------|------|
| B.G.1   | Permanent                                  | Permanent                                     | -            |                        | N.v.t. | N.v.t. |      |      |      |
| B.G.2   | Geconcentreerde<br>veranderlijke belasting | Geconcentreerde<br>veranderlijke<br>belasting | -            | Cat. C5) Grote menigte | N.v.t. | N.v.t. | 0.70 | 0.70 | 0.60 |

AFB. LASTEN B.G.1 PERMANENT



AFB. LASTEN B.G.2 GECONCENTREERDE VERANDERLIJKE BELASTING

**FUNDAMENTEEL BELASTINGSCOMBINATIES (TABEL)**

| B.G.  | Omschrijving                            | Fu.C.1 | Fu.C.2 | Fu.C.3 |
|-------|-----------------------------------------|--------|--------|--------|
| B.G.1 | Permanent                               | 1.49   | 1.49   | 1.26   |
| B.G.2 | Geconcentreerde veranderlijke belasting | 1.65   | 1.15   | 1.65   |

**KARAKTERISTIEK BELASTINGSCOMBINATIES (TABEL)**

| B.G.  | Omschrijving                            | Ka.C.(w1) | Ka.C.1 |
|-------|-----------------------------------------|-----------|--------|
| B.G.1 | Permanent                               | 1.00      | 1.00   |
| B.G.2 | Geconcentreerde veranderlijke belasting | -         | -      |

**FREQUENT BELASTINGSCOMBINATIES (TABEL)**

| B.G.  | Omschrijving                            | Fr.C.(w1) | Fr.C.1 |
|-------|-----------------------------------------|-----------|--------|
| B.G.1 | Permanent                               | 1.00      | 1.00   |
| B.G.2 | Geconcentreerde veranderlijke belasting | -         | -      |

**QUASI-PERMANENT BELASTINGSCOMBINATIES (TABEL)**

| B.G.  | Omschrijving                            | Qu.C.1 |
|-------|-----------------------------------------|--------|
| B.G.1 | Permanent                               | 1.00   |
| B.G.2 | Geconcentreerde veranderlijke belasting | -      |

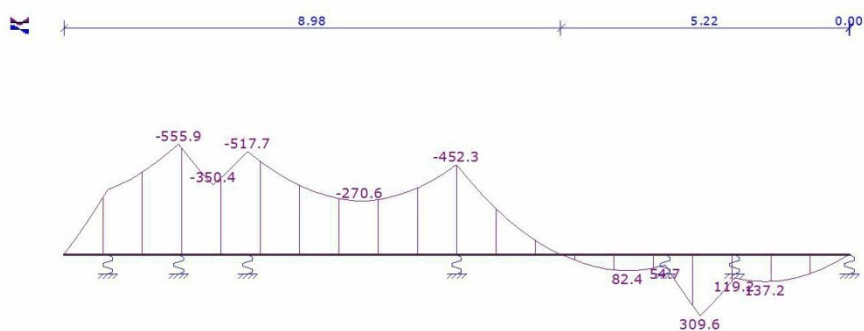


## UITGANGSPUNTEN VAN DE ANALYSE

Lineaire Elastische Analyse uitgevoerd

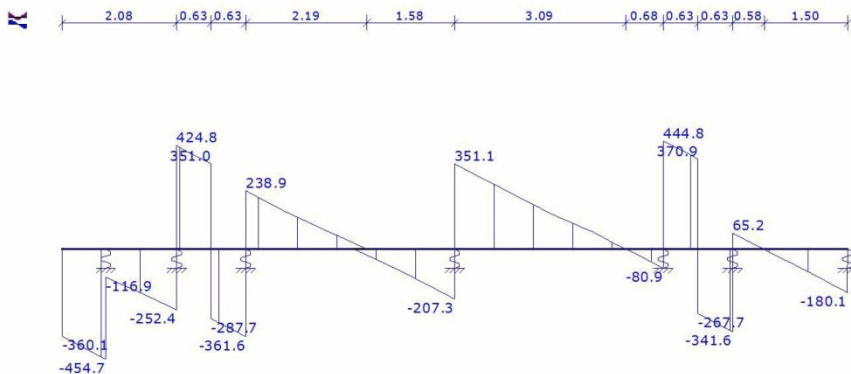
AFB. FU.C. MOMENT (MY) OMHULLENDE

Fundamenteel Belastingscombinaties



AFB. FU.C. DWARSKRACHT (VZ) OMHULLENDE

Fundamenteel Belastingscombinaties

**FU.C. STAAFKRACHTEN**

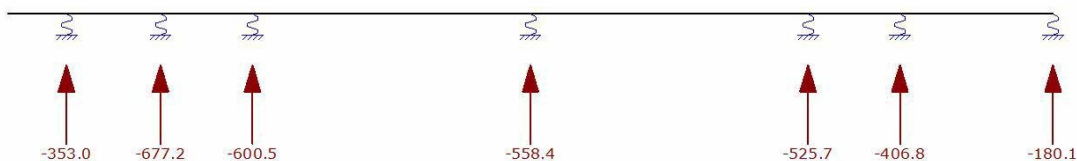
| Veld   | Positie B.G.           | Mb      | Mmax    | xMmax  | Me      | x-M0  | x-M0  | Vb      | Vmax    | Vi      |
|--------|------------------------|---------|---------|--------|---------|-------|-------|---------|---------|---------|
| Veld 1 | 0,000 - 0,800 Fu.C.1   | 0.00    |         |        | -325.92 | 0.000 | 0.000 | -360.11 | -454.68 | -454.68 |
|        | 0,000 - 0,800 Fu.C.2   | 0.00    |         |        | -321.64 | 0.000 | 0.000 | -360.11 | -443.99 | -443.99 |
|        | 0,000 - 0,800 Fu.C.3   | 0.00    |         |        | -279.17 | 0.000 | 0.000 | -306.10 | -391.82 | -391.82 |
| Veld 2 | 0,800 - 2,075 Fu.C.1   | -325.92 |         |        | -551.63 | 0.000 | 0.000 | -101.67 | -252.38 | -252.38 |
|        | 0,800 - 2,075 Fu.C.2   | -321.64 |         |        | -555.93 | 0.000 | 0.000 | -116.92 | -250.60 | -250.60 |
|        | 0,800 - 2,075 Fu.C.3   | -279.17 |         |        | -466.73 | 0.000 | 0.000 | -78.80  | -215.42 | -215.42 |
| Veld 3 | 2,075 - 3,325 Fu.C.1   | -551.63 | -309.19 | 2.700  | -512.09 | 0.000 | 0.000 | 424.83  | 424.83  | -361.51 |
|        | 2,075 - 3,325 Fu.C.2   | -555.93 | -350.42 | 2.700  | -517.72 | 0.000 | 0.000 | 361.59  | 361.59  | -300.41 |
|        | 2,075 - 3,325 Fu.C.3   | -466.73 | -242.20 | 2.700  | -432.46 | 0.000 | 0.000 | 392.73  | 392.73  | -337.90 |
| Veld 4 | 3,325 - 7,100 Fu.C.1   | -512.09 | -270.58 | 5.346  | -452.33 | 0.000 | 0.000 | 238.95  | 238.95  | -207.21 |
|        | 3,325 - 7,100 Fu.C.2   | -517.72 | -266.25 | 5.515  | -397.90 | 0.000 | 0.000 | 229.63  | 229.63  | -166.11 |
|        | 3,325 - 7,100 Fu.C.3   | -432.46 | -231.05 | 5.264  | -411.69 | 0.000 | 0.000 | 207.76  | 207.76  | -196.71 |
| Veld 5 | 7,100 - 8,800 Fu.C.1   | -452.33 |         |        | -26.26  | 0.000 | 0.000 | 351.10  | 351.10  | 150.11  |
|        | 7,100 - 8,800 Fu.C.2   | -397.90 |         |        | -23.88  | 0.000 | 0.000 | 309.13  | 309.13  | 130.91  |
|        | 7,100 - 8,800 Fu.C.3   | -411.69 |         |        | -23.51  | 0.000 | 0.000 | 319.42  | 319.42  | 137.21  |
| Veld 6 | 8,800 - 9,600 Fu.C.1   | -26.26  |         |        | 61.74   | 8.987 | 0.000 | 150.15  | 0.00    | 69.81   |
|        | 8,800 - 9,600 Fu.C.2   | -23.88  |         |        | 53.00   | 8.995 | 0.000 | 130.90  | 0.00    | 61.21   |
|        | 8,800 - 9,600 Fu.C.3   | -23.51  |         |        | 56.85   | 8.982 | 0.000 | 137.26  | 0.00    | 63.61   |
| Veld 7 | 9,600 - 10,875 Fu.C.1  | 61.74   | 82.37   | 10.191 | 54.71   | 0.000 | 0.000 | 69.84   | -80.87  | -80.87  |
|        | 9,600 - 10,875 Fu.C.2  | 53.00   | 70.91   | 10.185 | 45.91   | 0.000 | 0.000 | 61.28   | -72.39  | -72.39  |
|        | 9,600 - 10,875 Fu.C.3  | 56.85   | 75.75   | 10.194 | 50.90   | 0.000 | 0.000 | 63.65   | -72.98  | -72.98  |
| Veld 8 | 10,875 - 12,125 Fu.C.1 | 54.71   | 309.62  | 11.500 | 119.21  | 0.000 | 0.000 | 444.80  | 444.80  | -341.61 |
|        | 10,875 - 12,125 Fu.C.2 | 45.91   | 259.67  | 11.500 | 100.60  | 0.000 | 0.000 | 374.77  | 374.77  | -287.21 |
|        | 10,875 - 12,125 Fu.C.3 | 50.90   | 288.16  | 11.500 | 110.63  | 0.000 | 0.000 | 413.10  | 413.10  | -317.51 |



|             |                        |           |             |              |           |             |             |           |             |           |
|-------------|------------------------|-----------|-------------|--------------|-----------|-------------|-------------|-----------|-------------|-----------|
| Veld 9      | 12,125 - 14,200 Fu.C.1 | 119.21    | 137.18      | 12.676       | 0.00      | 0.000       | 0.000       | 65.19     | -180.09     | -180.09   |
|             | 12,125 - 14,200 Fu.C.2 | 100.60    | 117.94      | 12.700       | 0.00      | 0.000       | 0.000       | 60.29     | -157.26     | -157.26   |
| <b>Veld</b> | <b>Positie B.G.</b>    | <b>Mb</b> | <b>Mmax</b> | <b>xMmax</b> | <b>Me</b> | <b>x-M0</b> | <b>x-M0</b> | <b>Vb</b> | <b>Vmax</b> | <b>Vt</b> |
| Veld 9      | 12,125 - 14,200 Fu.C.3 | 110.63    | 126.25      | 12.665       | 0.00      | 0.000       | 0.000       | 57.86     | -164.49     | -164.49   |
| -           | m -                    | kNm       | kNm         | m            | kNm       | m           | m           | kN        | kN          | kN        |

AFB. FU.C. OPLEGREACTIES OMHULLENDE

Fundamenteel Belastingscombinaties

**FU.C. OPLEGREACTIES**

| B.C.                | Oplegging | Positie | Z     | Yr     | Z               | My   |
|---------------------|-----------|---------|-------|--------|-----------------|------|
| Fu.C.1              | O1        | 0.800   | 40000 | vrij   | -353.01         | 0.00 |
| Fu.C.1              | O2        | 2.075   | 90000 | vrij   | -677.22         | 0.00 |
| Fu.C.1              | O3        | 3.325   | 90000 | vrij   | -600.52         | 0.00 |
| Fu.C.1              | O4        | 7.100   | 90000 | vrij   | -558.38         | 0.00 |
| Fu.C.1              | O5        | 10.875  | 90000 | vrij   | -525.67         | 0.00 |
| Fu.C.1              | O6        | 12.125  | 90000 | vrij   | -406.79         | 0.00 |
| Fu.C.1              | O7        | 0.000   | 90000 | vrij   | -180.09         | 0.00 |
| <b>Som Reacties</b> |           |         |       |        | <b>-3301.68</b> |      |
| <b>Som Lasten</b>   |           |         |       |        | <b>3301.68</b>  |      |
| Fu.C.2              | O1        | 0.800   | 40000 | vrij   | -327.06         | 0.00 |
| Fu.C.2              | O2        | 2.075   | 90000 | vrij   | -612.18         | 0.00 |
| Fu.C.2              | O3        | 3.325   | 90000 | vrij   | -530.08         | 0.00 |
| Fu.C.2              | O4        | 7.100   | 90000 | vrij   | -475.27         | 0.00 |
| Fu.C.2              | O5        | 10.875  | 90000 | vrij   | -447.16         | 0.00 |
| Fu.C.2              | O6        | 12.125  | 90000 | vrij   | -347.56         | 0.00 |
| Fu.C.2              | O7        | 0.000   | 90000 | vrij   | -157.26         | 0.00 |
| <b>Som Reacties</b> |           |         |       |        | <b>-2896.57</b> |      |
| <b>Som Lasten</b>   |           |         |       |        | <b>2896.57</b>  |      |
| Fu.C.3              | O1        | 0.800   | 40000 | vrij   | -313.03         | 0.00 |
| Fu.C.3              | O2        | 2.075   | 90000 | vrij   | -608.15         | 0.00 |
| Fu.C.3              | O3        | 3.325   | 90000 | vrij   | -545.66         | 0.00 |
| Fu.C.3              | O4        | 7.100   | 90000 | vrij   | -516.18         | 0.00 |
| Fu.C.3              | O5        | 10.875  | 90000 | vrij   | -486.07         | 0.00 |
| Fu.C.3              | O6        | 12.125  | 90000 | vrij   | -375.39         | 0.00 |
| Fu.C.3              | O7        | 0.000   | 90000 | vrij   | -164.49         | 0.00 |
| <b>Som Reacties</b> |           |         |       |        | <b>-3008.98</b> |      |
| <b>Som Lasten</b>   |           |         |       |        | <b>3008.98</b>  |      |
| -                   | -         | m       | kN/m  | kNmrad | kN              | kNm  |

**B.G. OPLEGREACTIES**

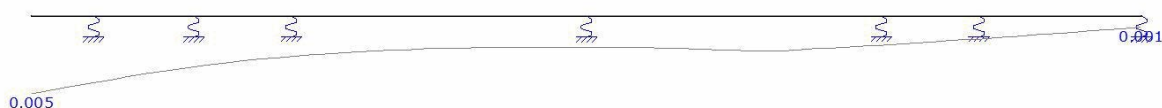
| B.C.  | Oplegging | Positie | Z     | Yr   | Z       | My   |
|-------|-----------|---------|-------|------|---------|------|
| B.G.1 | O1        | 0.800   | 40000 | vrij | -179.48 | 0.00 |
| B.G.1 | O2        | 2.075   | 90000 | vrij | -310.05 | 0.00 |
| B.G.1 | O3        | 3.325   | 90000 | vrij | -246.28 | 0.00 |
| B.G.1 | O4        | 7.100   | 90000 | vrij | -189.46 | 0.00 |
| B.G.1 | O5        | 10.875  | 90000 | vrij | -177.76 | 0.00 |
| B.G.1 | O6        | 12.125  | 90000 | vrij | -140.97 | 0.00 |



|                     |                  |                |          |           |                 |           |
|---------------------|------------------|----------------|----------|-----------|-----------------|-----------|
| B.G.1               | O7               | 0.000          | 90000    | vrij      | -70.02          | 0.00      |
| <b>Som Reacties</b> |                  |                |          |           | <b>-1314.02</b> |           |
| <b>Som Lasten</b>   |                  |                |          |           | <b>1314.02</b>  |           |
| B.G.2               | O1               | 0.800          | 40000    | vrij      | -52.41          | 0.00      |
| B.G.2               | O2               | 2.075          | 90000    | vrij      | -131.39         | 0.00      |
| B.G.2               | O3               | 3.325          | 90000    | vrij      | -142.30         | 0.00      |
| B.G.2               | O4               | 7.100          | 90000    | vrij      | -167.90         | 0.00      |
| B.G.2               | O5               | 10.875         | 90000    | vrij      | -158.60         | 0.00      |
| <b>B.C.</b>         | <b>Oplegging</b> | <b>Positie</b> | <b>Z</b> | <b>Yr</b> | <b>Z</b>        | <b>My</b> |
| B.G.2               | O6               | 12.125         | 90000    | vrij      | -119.67         | 0.00      |
| B.G.2               | O7               | 0.000          | 90000    | vrij      | -46.13          | 0.00      |
| <b>Som Reacties</b> |                  |                |          |           | <b>-818.40</b>  |           |
| <b>Som Lasten</b>   |                  |                |          |           | <b>818.40</b>   |           |
| -                   | -                | m              | kN/m     | kNmrad    | kN              | kNm       |

AFB. KA.C. VERPLAATSINGEN OMHULLENDE

Karakteristiek Belastingscombinaties

**KA.C. KNOOPVERPLAATSINGEN**

| Knoop | B.C.      | Z      | Yr        |
|-------|-----------|--------|-----------|
| K1    | Ka.C.(w1) | 0.0052 | 0.967e-03 |
|       | Ka.C.1    | 0.0052 | 0.967e-03 |
| K2    | Ka.C.(w1) | 0.0008 | 0.399e-03 |
|       | Ka.C.1    | 0.0008 | 0.399e-03 |
| -     | -         | m      | rad       |

**KA.C. DOORBUIGINGEN**

| Veld | Positie B.C.              | Veld Begin | Z'afst | Veld Z' | Z' glb dist | Z' glb | Veld Eind |
|------|---------------------------|------------|--------|---------|-------------|--------|-----------|
| S1   | 0,000 - 0,800 Ka.C.(w1)   | 0,0052     | 0,464  | 0,0000  | 0,000       | 0,0052 | 0,0045    |
| S1   | 0,000 - 0,800 Ka.C.1      | 0,0052     | 0,464  | 0,0000  | 0,000       | 0,0052 | 0,0045    |
| S1   | 0,800 - 2,075 Ka.C.(w1)   | 0,0045     | 1,469  | 0,0000  | 0,000       | 0,0000 | 0,0034    |
| S1   | 0,800 - 2,075 Ka.C.1      | 0,0045     | 1,469  | 0,0000  | 0,000       | 0,0000 | 0,0034    |
| S1   | 2,075 - 3,325 Ka.C.(w1)   | 0,0034     | 2,696  | 0,0000  | 0,000       | 0,0000 | 0,0027    |
| S1   | 2,075 - 3,325 Ka.C.1      | 0,0034     | 2,696  | 0,0000  | 0,000       | 0,0000 | 0,0027    |
| S1   | 3,325 - 7,100 Ka.C.(w1)   | 0,0027     | 5,064  | -0,0002 | 6,714       | 0,0021 | 0,0021    |
| S1   | 3,325 - 7,100 Ka.C.1      | 0,0027     | 5,064  | -0,0002 | 6,714       | 0,0021 | 0,0021    |
| S1   | 7,100 - 8,800 Ka.C.(w1)   | 0,0021     | 0,000  | 0,0000  | 0,000       | 0,0000 | 0,0023    |
| S1   | 7,100 - 8,800 Ka.C.1      | 0,0021     | 0,000  | 0,0000  | 0,000       | 0,0000 | 0,0023    |
| S1   | 8,800 - 9,600 Ka.C.(w1)   | 0,0023     | 9,430  | 0,0004  | 9,402       | 0,0024 | 0,0024    |
| S1   | 8,800 - 9,600 Ka.C.1      | 0,0023     | 9,430  | 0,0004  | 9,402       | 0,0024 | 0,0024    |
| S1   | 9,600 - 10,875 Ka.C.(w1)  | 0,0024     | 0,000  | 0,0000  | 0,000       | 0,0000 | 0,0020    |
| S1   | 9,600 - 10,875 Ka.C.1     | 0,0024     | 0,000  | 0,0000  | 0,000       | 0,0000 | 0,0020    |
| S1   | 10,875 - 12,125 Ka.C.(w1) | 0,0020     | 11,512 | 0,0000  | 0,000       | 0,0000 | 0,0016    |
| S1   | 10,875 - 12,125 Ka.C.1    | 0,0020     | 11,512 | 0,0000  | 0,000       | 0,0000 | 0,0016    |
| S1   | 12,125 - 14,200 Ka.C.(w1) | 0,0016     | 13,091 | 0,0000  | 14,200      | 0,0008 | 0,0008    |
| S1   | 12,125 - 14,200 Ka.C.1    | 0,0016     | 13,091 | 0,0000  | 14,200      | 0,0008 | 0,0008    |
| -    | m -                       | m          | m      | m       | m           | m      | m         |



FIG. BETONDEFINITIE



**BETON EIGENSCHAPPEN (EN1992-1-1:2010)**

| Naam               | Waarde | Eenheden |
|--------------------|--------|----------|
| Hoek drukdiagonaal | 21.80  | °        |



**13.1.21**