

SJ  
Materials

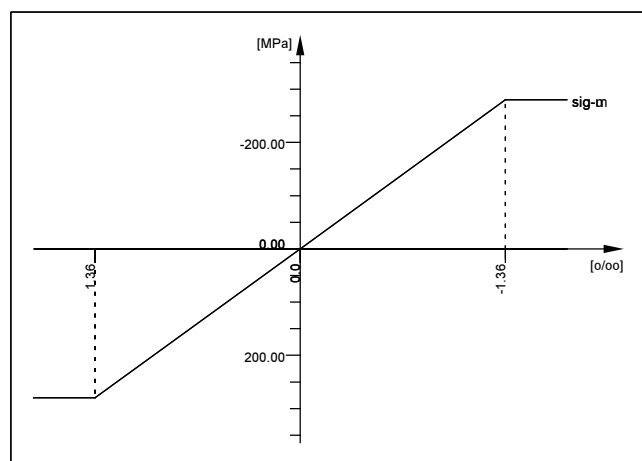
Default design code is SNIP 52.101-2003 (2004) (Russia) V 27.0

Wind zone : II cat. B

Snow load zone : II

### No. 3 C 355 (SNIP II-23-81)

|                                  |     |          |         |                      |            |              |
|----------------------------------|-----|----------|---------|----------------------|------------|--------------|
| Youngs-modulus                   | E   | 206000   | [MPa]   | Safetyfactor         | 1.02       | [-]          |
| Poisson-Ratio                    | mu  | 0.30     | [-]     | Yield stress         | fy         | 280.00 [MPa] |
| Shear-modulus                    | G   | 79231    | [MPa]   | Compr.yield val.     | fyc        | 280.00 [MPa] |
| Compression modulus              |     | 171667   | [MPa]   | Tens. strength       | ft         | 440.00 [MPa] |
| Weight                           |     | 78.5     | [kN/m3] | Compr. strength      | fc         | 440.00 [MPa] |
| Density                          | rho | 7850     | [kg/m3] | Ultim. plast. strain |            | 0.00 [o/oo]  |
| Temp.elongat.coeff.              |     | 1.20E-05 | [1/°K]  | relative bond coeff. |            | 0.00 [-]     |
| max. thickness                   |     | 80.00    | [mm]    | EC2 bondcoeff. K1    |            | 0.00 [-]     |
|                                  |     |          |         | Hardening modulus    |            | 0.00 [MPa]   |
|                                  |     |          |         | Proportional limit   |            | 280.00 [MPa] |
|                                  |     |          |         | Dynamic stress range |            | 0.00 [MPa]   |
| Stress-Strain for serviceability |     |          |         | eps[o/oo]            | sig-m[MPa] | E-t[MPa]     |
| Is also extended beyond the      |     |          |         | 1000.000             | 280.00     | 0            |
| defined stress range             |     |          |         | 1.359                | 280.00     | 0            |
|                                  |     |          |         | 0.000                | 0.00       | 206000       |
|                                  |     |          |         | -1.359               | -280.00    | 0            |
|                                  |     |          |         | -1000.000            | -280.00    | 0            |
|                                  |     |          |         | Safetyfactor         | 1.02       |              |
| Stress-Strain for ultimate load  |     |          |         | eps[o/oo]            | sig-u[MPa] | E-t[MPa]     |
| Is also extended beyond the      |     |          |         | 1000.000             | 280.00     | 0            |
| defined stress range             |     |          |         | 1.359                | 280.00     | 0            |
|                                  |     |          |         | 0.000                | 0.00       | 206000       |
|                                  |     |          |         | -1.359               | -280.00    | 0            |
|                                  |     |          |         | -1000.000            | -280.00    | 0            |
|                                  |     |          |         | Safetyfactor         | 1.02       |              |



C 355 (SNIP II-23-81)

### Thermal material constants

| No. | TEMP | S[J/Km3] | Kxx[W/Km] | Kyy[W/Km] | Kzz[W/Km] |
|-----|------|----------|-----------|-----------|-----------|
| 3   |      | 3.45E+06 | 5.333E+01 | 0.000E+00 | 0.000E+00 |

C 355 (SNIP II-23-81)

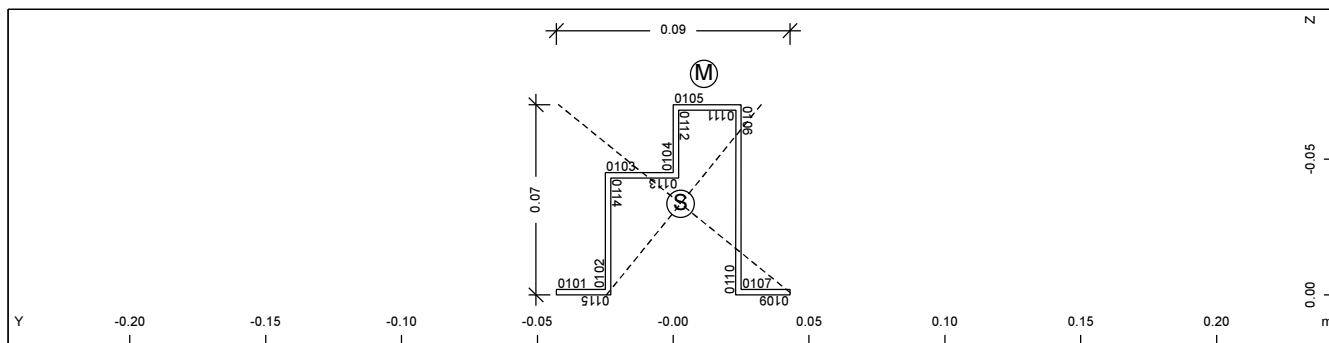
SJ  
Sections

Default design code is SNIP 52.101-2003 (2004) (Russia) V 27.0

Wind zone : II cat. B

Snow load zone : II

Cross section No. 1 - Omega v

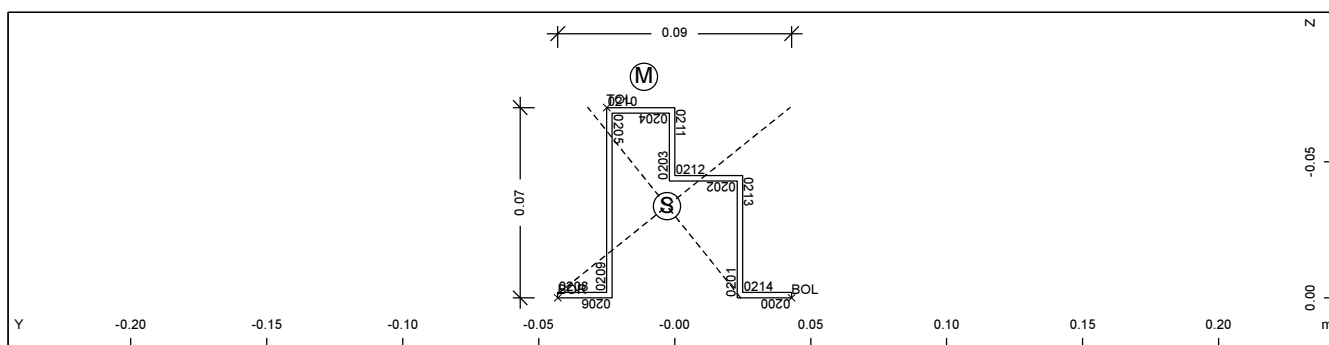


Cross section No. 1 - Omega v

Static properties of cross section

| No. | Mat | A[m2]      | Ay/Az/Ayz | Iy/Iz/Iyz  | ys/zs  | y/z-sc | modules | gam    |
|-----|-----|------------|-----------|------------|--------|--------|---------|--------|
|     | NoR | It[m4]     | [m2]      | [m4]       | [m]    | [m]    | [MPa]   | [kN/m] |
| 1   | =   | Omega v    |           |            |        |        |         |        |
| 3   |     | 4.4083E-04 | 4.741E-05 | 2.474E-07  | 0.003  | 0.011  | 206000  | 0.03   |
|     |     | 6.834E-10  | 1.938E-04 | 2.297E-07  | -0.034 | -0.081 | 79231   |        |
|     |     |            |           | -4.218E-08 |        |        |         |        |

Cross section No. 2 - Omega vv

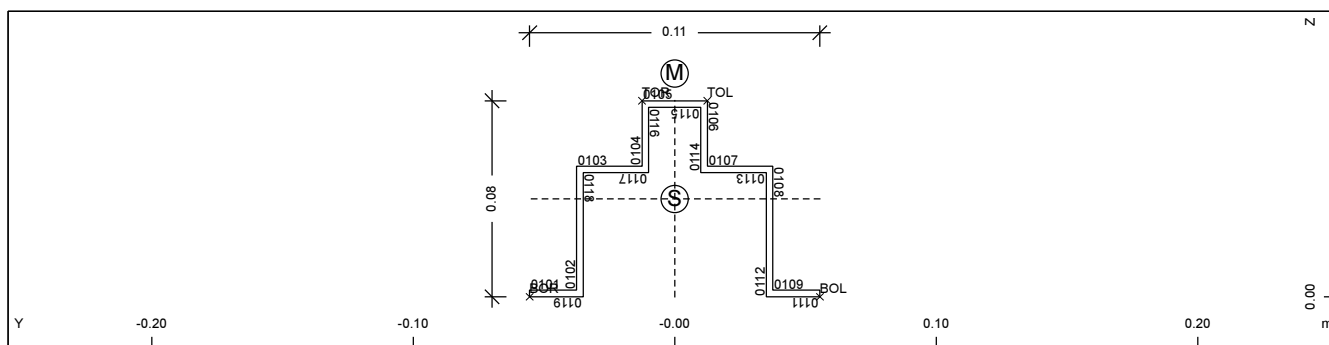


Cross section No. 2 - Omega vv

Static properties of cross section

| No. | Mat | A[m2]      | Ay/Az/Ayz | Iy/Iz/Iyz | ys/zs  | y/z-sc | modules | gam    |
|-----|-----|------------|-----------|-----------|--------|--------|---------|--------|
|     | NoR | It[m4]     | [m2]      | [m4]      | [m]    | [m]    | [MPa]   | [kN/m] |
| 2   | =   | Omega vv   |           |           |        |        |         |        |
| 3   |     | 4.4400E-04 | 4.803E-05 | 2.495E-07 | -0.003 | -0.011 | 206000  | 0.03   |
|     |     | 6.876E-10  | 1.959E-04 | 2.305E-07 | -0.034 | -0.081 | 79231   |        |
|     |     |            |           | 4.285E-08 |        |        |         |        |

Cross section No. 3 - Omega mid



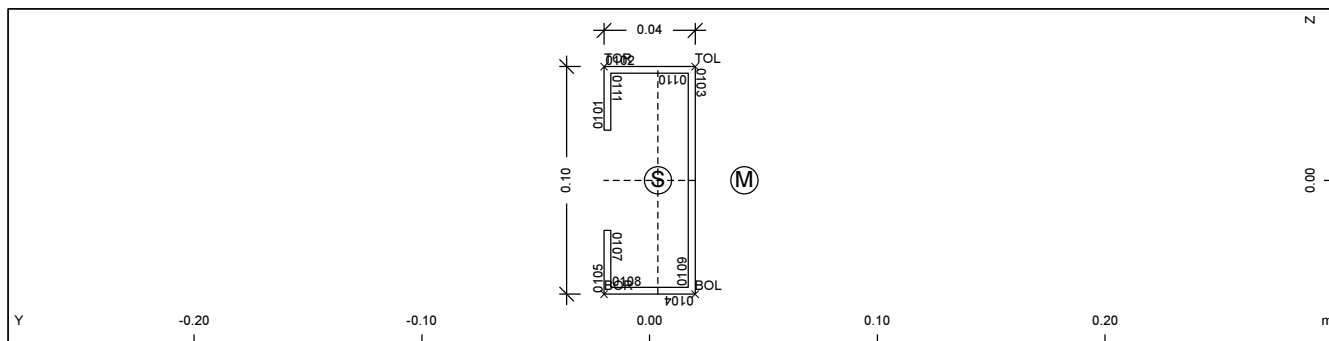
Cross section No. 3 - Omega mid

SJ  
Sections

Static properties of cross section

| No. | Mat | A[m2]      | Ay/Az/Ayz | Iy/Iz/Iyz | ys/zs  | y/z-sc | modules | gam    |
|-----|-----|------------|-----------|-----------|--------|--------|---------|--------|
|     | NoR | It[m4]     | [m2]      | [m4]      | [m]    | [m]    | [MPa]   | [kN/m] |
| 3   | =   | Omega mid  |           |           |        |        |         |        |
|     | 3   | 6.4000E-04 | 9.834E-05 | 3.757E-07 | 0.000  | 0.000  | 206000  | 0.05   |
|     |     | 1.330E-09  | 2.435E-04 | 6.130E-07 | -0.037 | -0.085 | 79231   |        |

Cross section No. 4 - C profilis

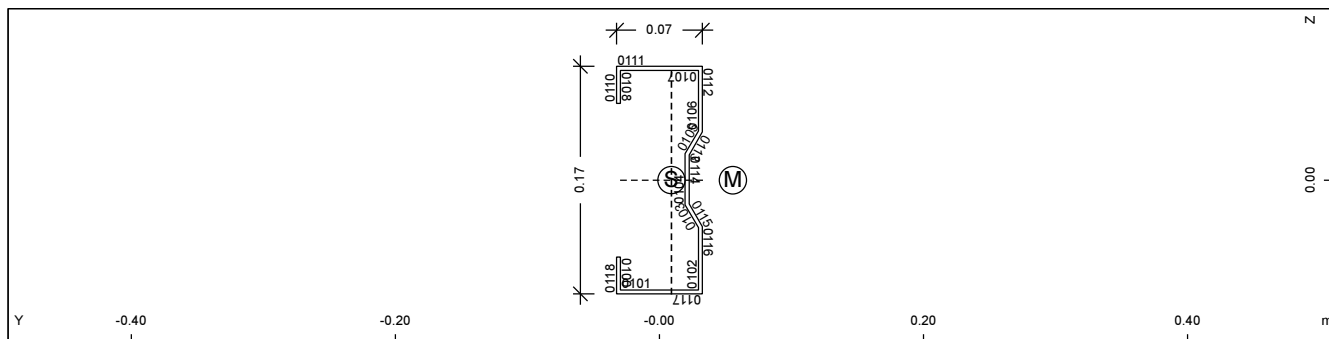


Cross section No. 4 - C profilis

Static properties of cross section

| No. | Mat | A[m2]      | Ay/Az/Ayz | Iy/Iz/Iyz | ys/zs | y/z-sc | modules | gam    |
|-----|-----|------------|-----------|-----------|-------|--------|---------|--------|
|     | NoR | It[m4]     | [m2]      | [m4]      | [m]   | [m]    | [MPa]   | [kN/m] |
| 4   | =   | C profilis |           |           |       |        |         |        |
|     | 3   | 6.7200E-04 | 1.515E-04 | 9.587E-07 | 0.004 | 0.042  | 206000  | 0.05   |
|     |     | 2.393E-09  | 2.087E-04 | 1.713E-07 | 0.000 | 0.000  | 79231   |        |

Cross section No. 5 - S pro



Cross section No. 5 - S pro

Static properties of cross section

| No. | Mat | A[m2]      | Ay/Az/Ayz | Iy/Iz/Iyz | ys/zs | y/z-sc | modules | gam    |
|-----|-----|------------|-----------|-----------|-------|--------|---------|--------|
|     | NoR | It[m4]     | [m2]      | [m4]      | [m]   | [m]    | [MPa]   | [kN/m] |
| 5   | =   | S pro      |           |           |       |        |         |        |
|     | 3   | 1.0556E-03 | 2.425E-04 | 4.727E-06 | 0.009 | 0.056  | 206000  | 0.08   |
|     |     | 2.577E-09  | 3.923E-04 | 5.979E-07 | 0.000 | 0.000  | 79231   |        |

SJ

Calculation of forces and moments

**Load Case 1 (G ) Savasis svoris**

|                                  |        |             |
|----------------------------------|--------|-------------|
| Factor forces and moments        | 1.000  |             |
| Factor dead weight DL-XX         | 0.000  |             |
| Factor dead weight DL-YY         | 0.000  |             |
| Factor dead weight DL-ZZ         | -1.000 |             |
| unfavourable safety factor       | 1.300  |             |
| favourable safety factor         | 0.900  |             |
| Combination coefficient $\psi-0$ | 1.000  | (rare)      |
| Combination coefficient $\psi-1$ | 1.000  | (frequent)  |
| Combination coefficient $\psi-2$ | 1.000  | (permanent) |

**Load Case 2 (G ) Paneliu svoris**

|                                  |       |             |
|----------------------------------|-------|-------------|
| Factor forces and moments        | 1.000 |             |
| Factor dead weight DL-XX         | 0.000 |             |
| Factor dead weight DL-YY         | 0.000 |             |
| Factor dead weight DL-ZZ         | 0.000 |             |
| unfavourable safety factor       | 1.300 |             |
| favourable safety factor         | 0.900 |             |
| Combination coefficient $\psi-0$ | 1.000 | (rare)      |
| Combination coefficient $\psi-1$ | 1.000 | (frequent)  |
| Combination coefficient $\psi-2$ | 1.000 | (permanent) |

**Loads**

| Kind | Reference | to     | Projection Coordinates |       |        |           | Type | Load   | value   |
|------|-----------|--------|------------------------|-------|--------|-----------|------|--------|---------|
|      |           |        | W[m]                   | X[m]  | Y[m]   | Z[m]      |      |        |         |
| Line | gln       | -mult- |                        | 0.000 | 1.600  | 4.276     | PG   | 0.07   | [kN/m]  |
|      |           |        |                        | 7.500 | 1.600  | 4.276     |      | 0.07   | [kN/m]  |
|      |           |        |                        |       |        | activated |      | 100.00 | percent |
| Line | gln       | -mult- |                        | 0.000 | 0.800  | 3.651     | PG   | 0.14   | [kN/m]  |
|      |           |        |                        | 7.500 | 0.800  | 3.651     |      | 0.14   | [kN/m]  |
|      |           |        |                        |       |        | activated |      | 100.00 | percent |
| Line | gln       | -mult- |                        | 0.000 | -1.600 | 1.776     | PG   | 0.07   | [kN/m]  |
|      |           |        |                        | 7.500 | -1.600 | 1.776     |      | 0.07   | [kN/m]  |
|      |           |        |                        |       |        | activated |      | 100.00 | percent |
| Line | gln       | -mult- |                        | 0.000 | 0.000  | 3.026     | PG   | 0.14   | [kN/m]  |
|      |           |        |                        | 7.500 | 0.000  | 3.026     |      | 0.14   | [kN/m]  |
|      |           |        |                        |       |        | activated |      | 100.00 | percent |
| Line | gln       | -mult- |                        | 0.000 | -0.800 | 2.401     | PG   | 0.14   | [kN/m]  |
|      |           |        |                        | 7.500 | -0.800 | 2.401     |      | 0.14   | [kN/m]  |
|      |           |        |                        |       |        | activated |      | 100.00 | percent |

**Load Case 3 (S ) Sniegas**

|                                  |       |             |
|----------------------------------|-------|-------------|
| Factor forces and moments        | 1.000 |             |
| Factor dead weight DL-XX         | 0.000 |             |
| Factor dead weight DL-YY         | 0.000 |             |
| Factor dead weight DL-ZZ         | 0.000 |             |
| unfavourable safety factor       | 1.350 |             |
| favourable safety factor         | 0.000 |             |
| Combination coefficient $\psi-0$ | 0.300 | (rare)      |
| Combination coefficient $\psi-1$ | 0.300 | (frequent)  |
| Combination coefficient $\psi-2$ | 0.300 | (permanent) |

**Loads**

| Kind | Referenceto | Projection | Coordinates |       |        |           | Type | Loadvalue      |
|------|-------------|------------|-------------|-------|--------|-----------|------|----------------|
|      |             |            | W[m]        | X[m]  | Y[m]   | Z[m]      |      |                |
| Line |             |            |             | 0.000 | 1.600  | 4.276     | PG   | 0.51 [kN/m]    |
|      |             |            |             | 7.500 | 1.600  | 4.276     |      | 0.51 [kN/m]    |
|      | gln         | -mult-     |             |       |        | activated |      | 100.00 percent |
| Line |             |            |             | 0.000 | 0.800  | 3.651     | PG   | 1.02 [kN/m]    |
|      |             |            |             | 7.500 | 0.800  | 3.651     |      | 1.02 [kN/m]    |
|      | gln         | -mult-     |             |       |        | activated |      | 100.00 percent |
| Line |             |            |             | 0.000 | 0.000  | 3.026     | PG   | 1.02 [kN/m]    |
|      |             |            |             | 7.500 | 0.000  | 3.026     |      | 1.02 [kN/m]    |
|      | gln         | -mult-     |             |       |        | activated |      | 100.00 percent |
| Line |             |            |             | 0.000 | -0.800 | 2.401     | PG   | 1.02 [kN/m]    |
|      |             |            |             | 7.500 | -0.800 | 2.401     |      | 1.02 [kN/m]    |
|      | gln         | -mult-     |             |       |        | activated |      | 100.00 percent |

SJ

Calculation of forces and moments

# Loads

| Kind | Referenceto | Projection Coordinates | Type           | Loadvalue |
|------|-------------|------------------------|----------------|-----------|
|      |             | W[m] X[m] Y[m] Z[m]    |                |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.51 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.51 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |

## Load Case 4 (W ) Vejas

|                                   |                   |
|-----------------------------------|-------------------|
| Factor forces and moments         | 1.000             |
| Factor dead weight DL-XX          | 0.000             |
| Factor dead weight DL-YY          | 0.000             |
| Factor dead weight DL-ZZ          | 0.000             |
| unfavourable safety factor        | 1.350             |
| favourable safety factor          | 0.000             |
| Combination coefficient $\psi$ -0 | 0.900 (rare)      |
| Combination coefficient $\psi$ -1 | 0.800 (frequent)  |
| Combination coefficient $\psi$ -2 | 0.600 (permanent) |

# Loads

| Kind | Referenceto | Projection Coordinates | Type           | Loadvalue |
|------|-------------|------------------------|----------------|-----------|
|      |             | W[m] X[m] Y[m] Z[m]    |                |           |
| Line |             | 0.000 -1.600 1.776 Pz  | 0.10 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.10 [kN/m]    |           |
|      | GLN 1       | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 Pz  | 0.34 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.34 [kN/m]    |           |
|      | GLN 11      | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 Pz   | 0.45 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.45 [kN/m]    |           |
|      | GLN 14      | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 Pz   | 0.56 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.56 [kN/m]    |           |
|      | GLN 8       | activated              | 100.00 percent |           |
| Line |             | 0.000 1.600 4.276 Pz   | 0.15 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.15 [kN/m]    |           |
|      | GLN 4       | activated              | 100.00 percent |           |

## Sum of Loads

| LC Title          | PXX[kN] | PYY[kN] | PZZ[kN] |
|-------------------|---------|---------|---------|
| 1 Savasis savoris | 0.0     | 0.0     | -4.4    |
| 2 Paneliu savoris | 0.0     | 0.0     | -4.3    |
| 3 Sniegas         | 0.0     | 0.0     | -30.7   |
| 4 Vejas           | 0.0     | 7.4     | -9.4    |

## Nodal Reactions and Residual Forces

| Loadcase | 1    | Savasis savoris |      |       |       |       |
|----------|------|-----------------|------|-------|-------|-------|
| Node     | P-X  | P-Y             | P-Z  | M-X   | M-Y   | M-Z   |
| No       | [kN] | [kN]            | [kN] | [kNm] | [kNm] | [kNm] |
| 2        | 0.0  | 0.0             | 1.3  | 0.05  | 0.00  | 0.00  |
| 3        | 0.0  | 0.0             | 1.3  | 0.05  | 0.00  | 0.00  |
| 4        | 0.0  | 0.0             | 0.9  | 0.04  | 0.00  | 0.00  |
| 5        | 0.0  | 0.0             | 0.9  | 0.02  | 0.00  | 0.00  |

## Nodal Reactions and Residual Forces

| Loadcase | 2    | Paneliu savoris |      |       |       |       |
|----------|------|-----------------|------|-------|-------|-------|
| Node     | P-X  | P-Y             | P-Z  | M-X   | M-Y   | M-Z   |
| No       | [kN] | [kN]            | [kN] | [kNm] | [kNm] | [kNm] |
| 2        | 0.0  | 0.0             | 1.6  | 0.01  | 0.00  | 0.00  |
| 3        | 0.0  | 0.0             | 1.6  | 0.01  | 0.00  | 0.00  |
| 4        | 0.0  | 0.0             | 0.6  | -0.01 | 0.00  | 0.00  |
| 5        | 0.0  | 0.0             | 0.6  | -0.01 | 0.00  | 0.00  |

SJ

Calculation of forces and moments

**Nodal Reactions and Residual Forces**

Loadcase 3 Sniegas

| Node | P-X  | P-Y  | P-Z  | M-X   | M-Y   | M-Z   |
|------|------|------|------|-------|-------|-------|
| No   | [kN] | [kN] | [kN] | [kNm] | [kNm] | [kNm] |
| 2    | 0.0  | 0.0  | 11.1 | 0.07  | -0.01 | 0.01  |
| 3    | 0.0  | 0.0  | 11.1 | 0.09  | 0.00  | 0.01  |
| 4    | 0.0  | 0.0  | 4.3  | -0.07 | -0.02 | 0.00  |
| 5    | 0.0  | 0.0  | 4.3  | -0.08 | 0.01  | 0.00  |

**Nodal Reactions and Residual Forces**

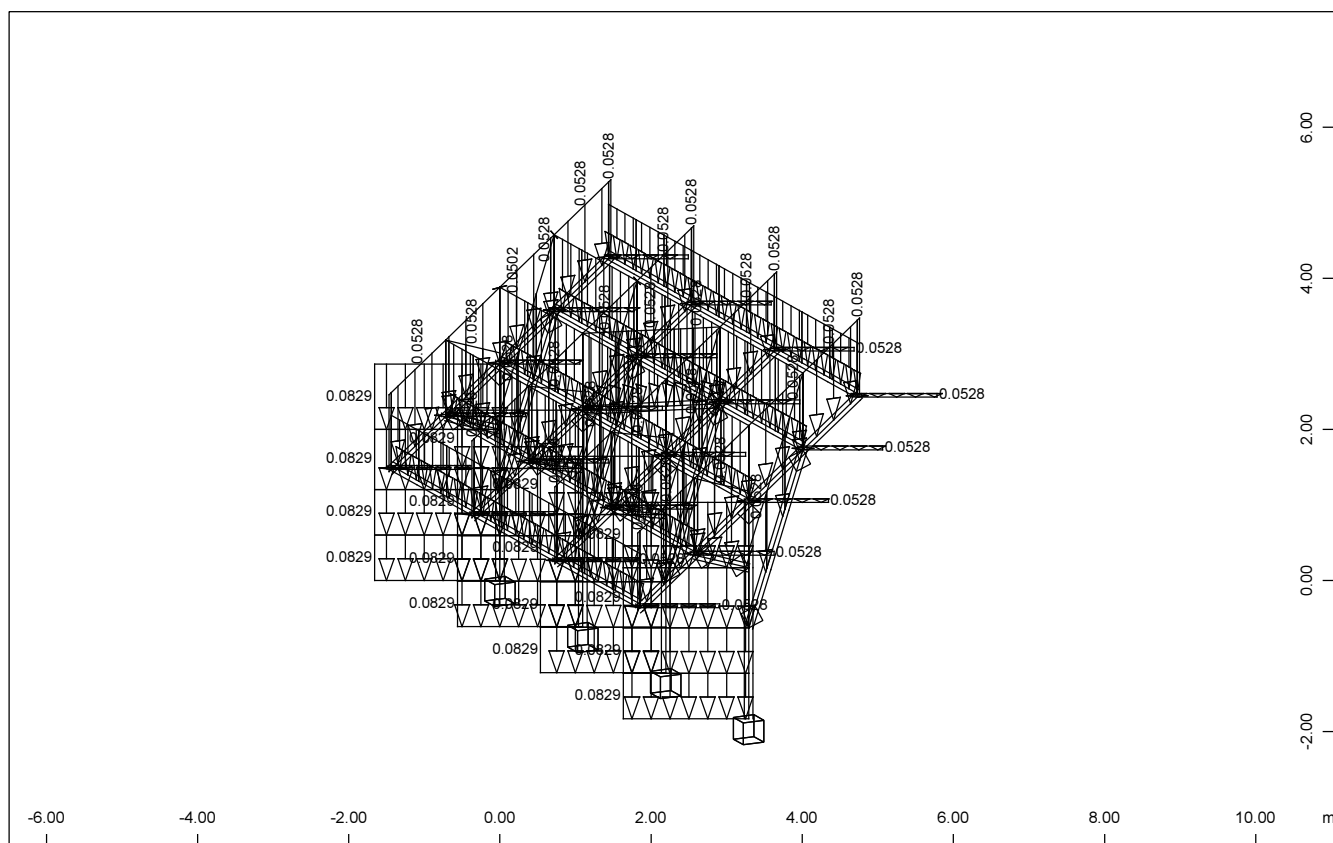
Loadcase 4 Vejas

| Node | P-X  | P-Y  | P-Z  | M-X   | M-Y   | M-Z   |
|------|------|------|------|-------|-------|-------|
| No   | [kN] | [kN] | [kN] | [kNm] | [kNm] | [kNm] |
| 2    | 0.0  | -2.3 | 3.5  | 7.78  | -0.02 | 0.12  |
| 3    | 0.0  | -2.4 | 3.5  | 7.87  | -0.01 | 0.12  |
| 4    | 0.0  | -1.4 | 1.2  | 4.71  | -0.03 | 0.07  |
| 5    | 0.0  | -1.3 | 1.2  | 4.44  | -0.01 | 0.06  |

**Sum of Reactions and Loads**

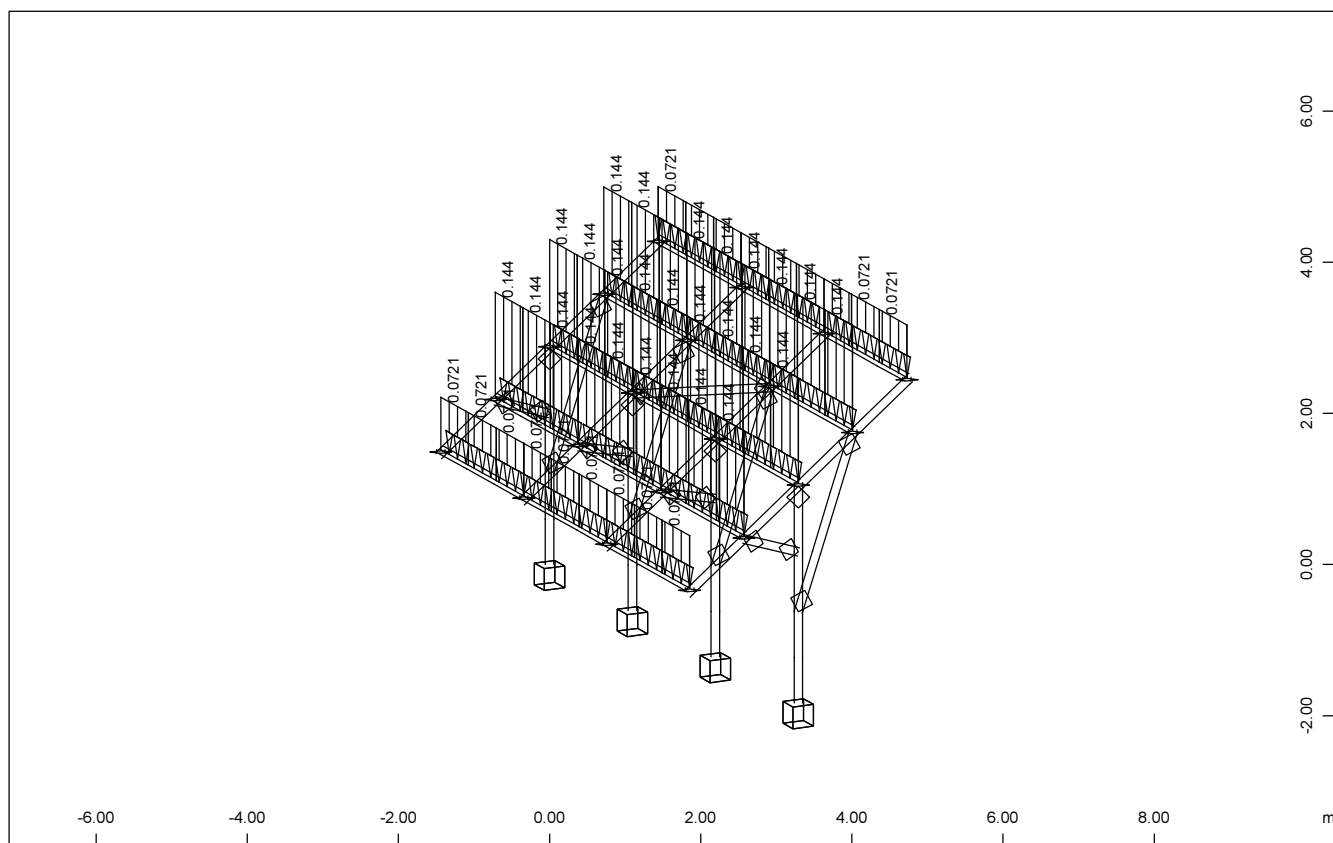
| LC Title         | PXX[kN] | PYY[kN] | PZZ[kN] |
|------------------|---------|---------|---------|
| 1 Savasis svoris | 0.0     | 0.0     | 4.4     |
|                  | 0.0     | 0.0     | -4.4    |
| 2 Paneliu svoris | 0.0     | 0.0     | 4.3     |
|                  | 0.0     | 0.0     | -4.3    |
| 3 Sniegas        | 0.0     | 0.0     | 30.7    |
|                  | 0.0     | 0.0     | -30.7   |
| 4 Vejas          | 0.0     | -7.4    | 9.4     |
|                  | 0.0     | 7.4     | -9.4    |

SJ  
Graphical Output



Z All loads (in components), Loadcase 1 Savasis svoris , (1 cm 3D = unit) Beam dead load  
X Y in global Z (Unit=0.0500 kN/m) (Min=-0.0829) (Max=-0.0346)

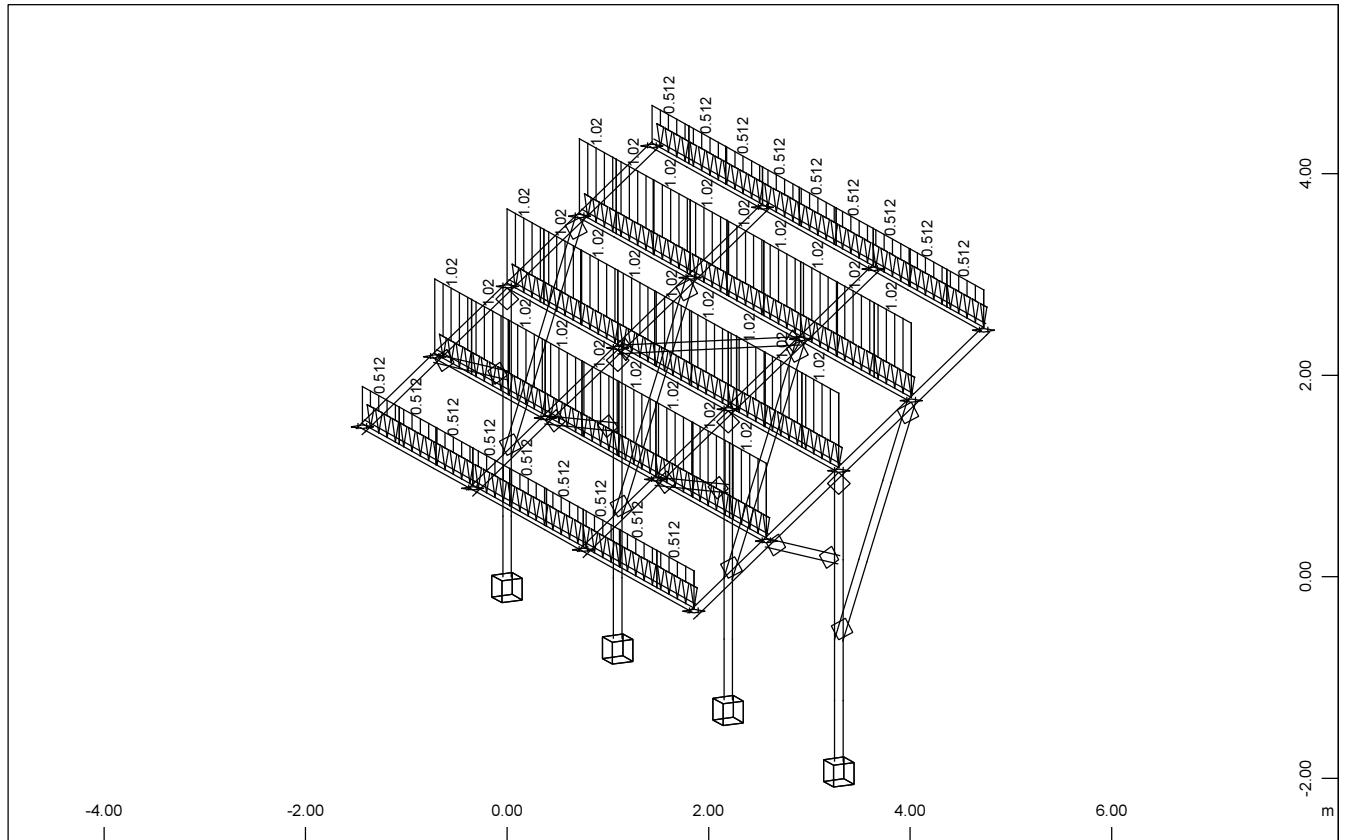
M 1 : 100  
X \* 0.502  
Y \* 0.906  
Z \* 0.962



Z All loads (in components), Loadcase 2 Paneliu svoris , (1 cm 3D = unit) Beam line load  
X Y (force) in global Z (Unit=0.100 kN/m) (Min=-0.144) (Max=-0.0721)

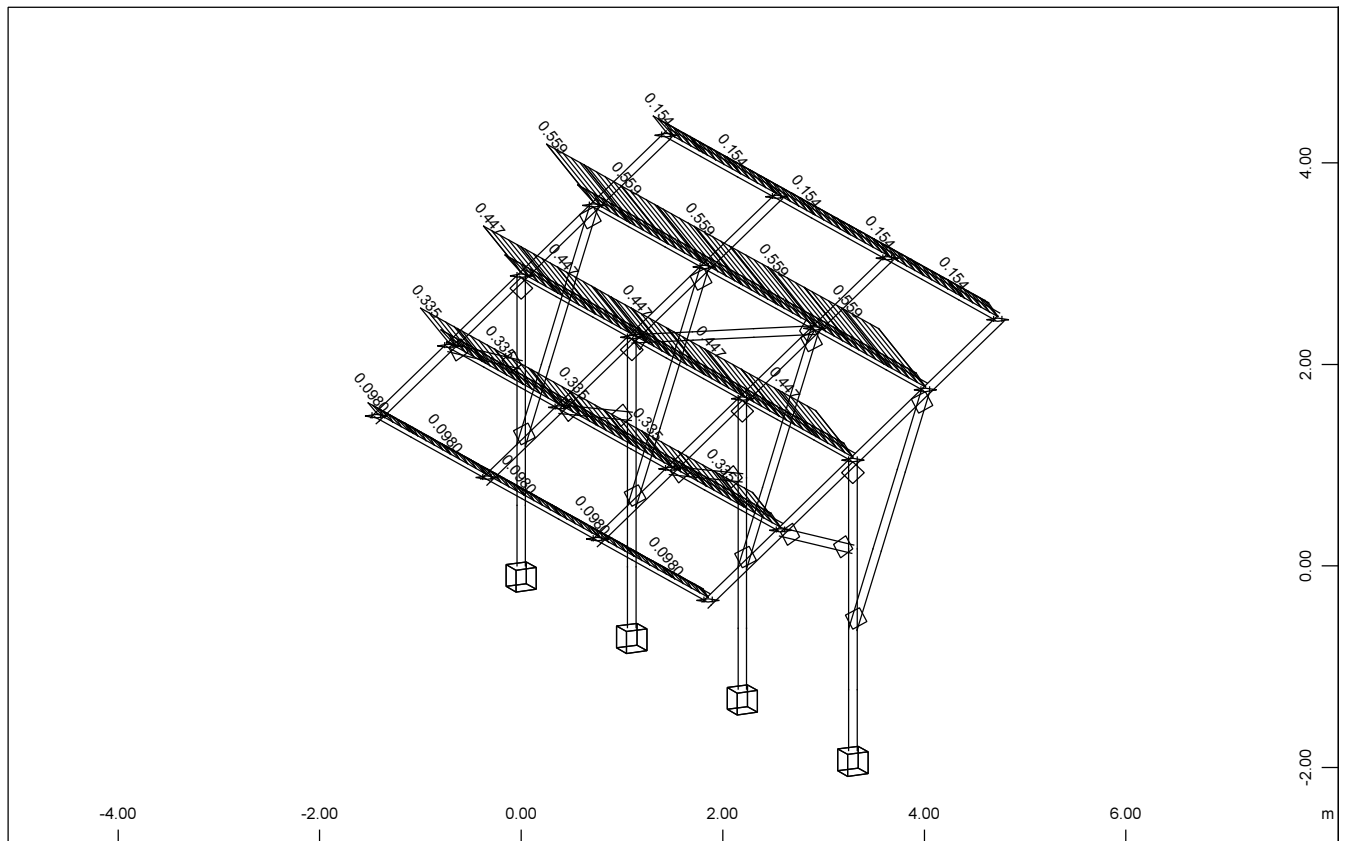
M 1 : 100  
X \* 0.502  
Y \* 0.906  
Z \* 0.962

SJ  
Graphical Output



All loads (in components), Loadcase 3 Sniegas , (1 cm 3D = unit) Beam line load (force)  
in global Z (Unit=1.00 kN/m)  $\nabla$  (Min=-1.02) (Max=-0.512)

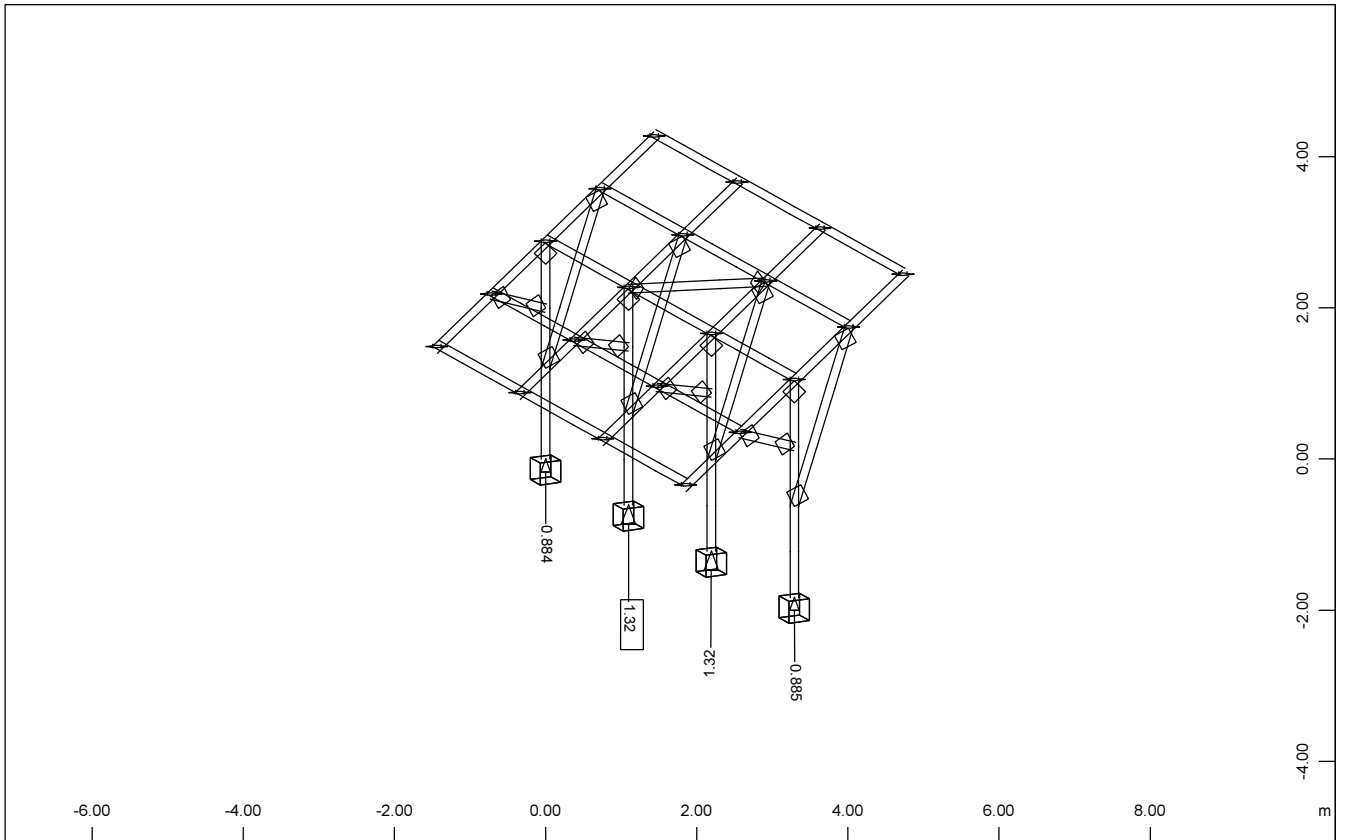
M 1 : 75  
X \* 0.502  
Y \* 0.906  
Z \* 0.962



All loads (in components), Loadcase 4 Vejas , (1 cm 3D = unit) Beam line load (force)  
in local z (Unit=0.500 kN/m)  $\nabla$  (Max=0.559)

M 1 : 75  
X \* 0.502  
Y \* 0.906  
Z \* 0.962

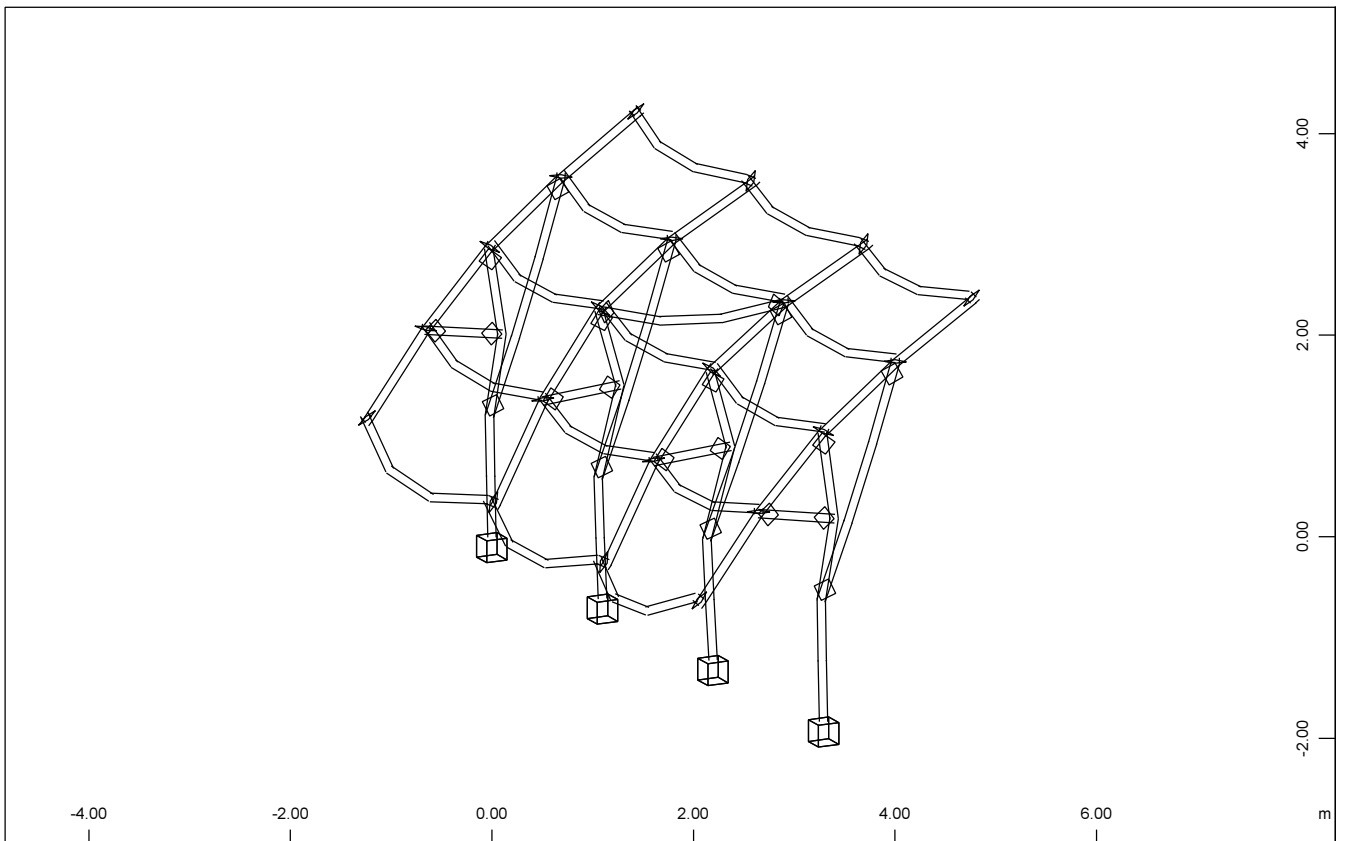
SJ  
Graphical Output



Nodes , Support force vector, Loadcase 1 Savasis savoris , 1 cm 3D = 1.00 kN  
(Max=1.32)



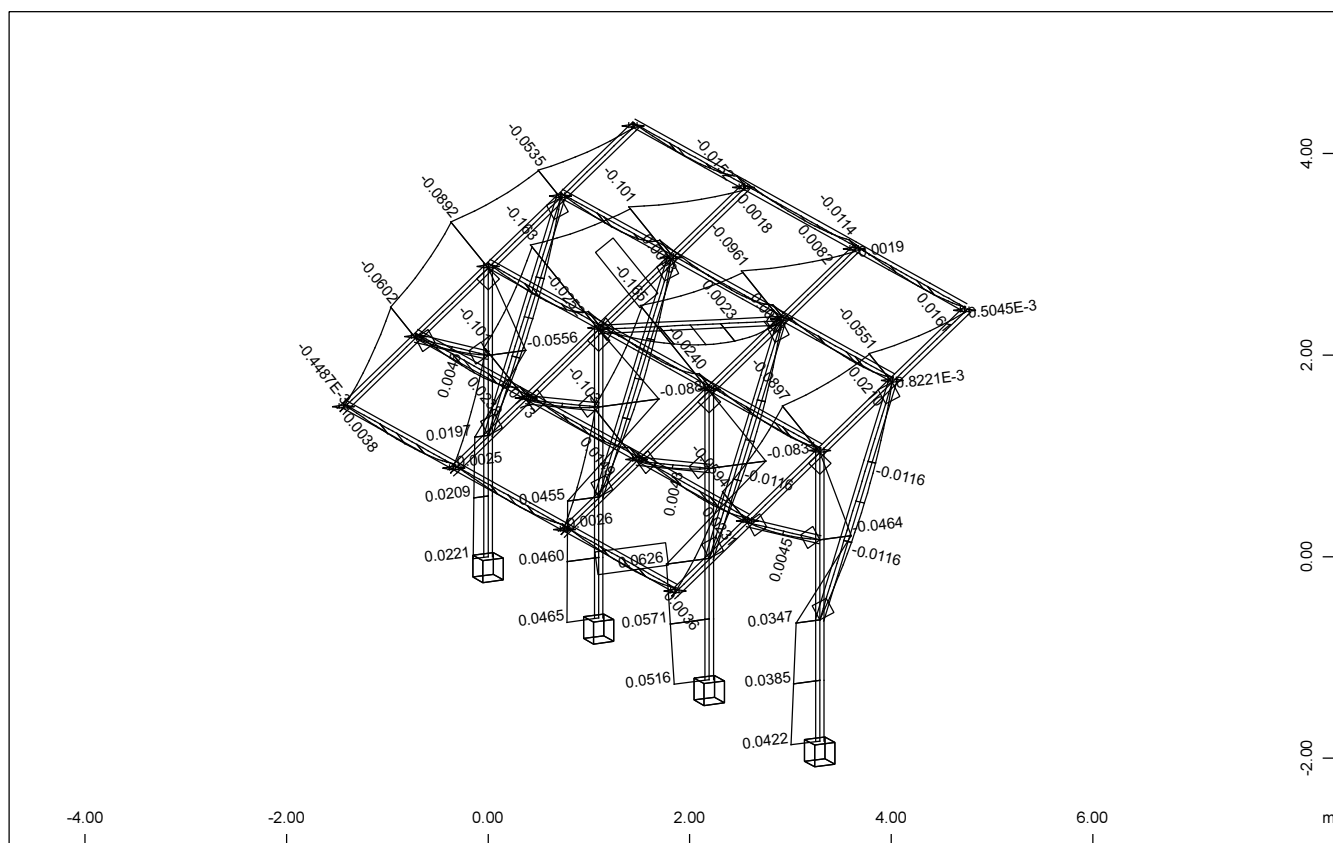
M 1 : 100  
X \* 0.502  
Y \* 0.906  
Z \* 0.962



Deformed Structure from LC 1 Savasis savoris Enlarged by 200.0

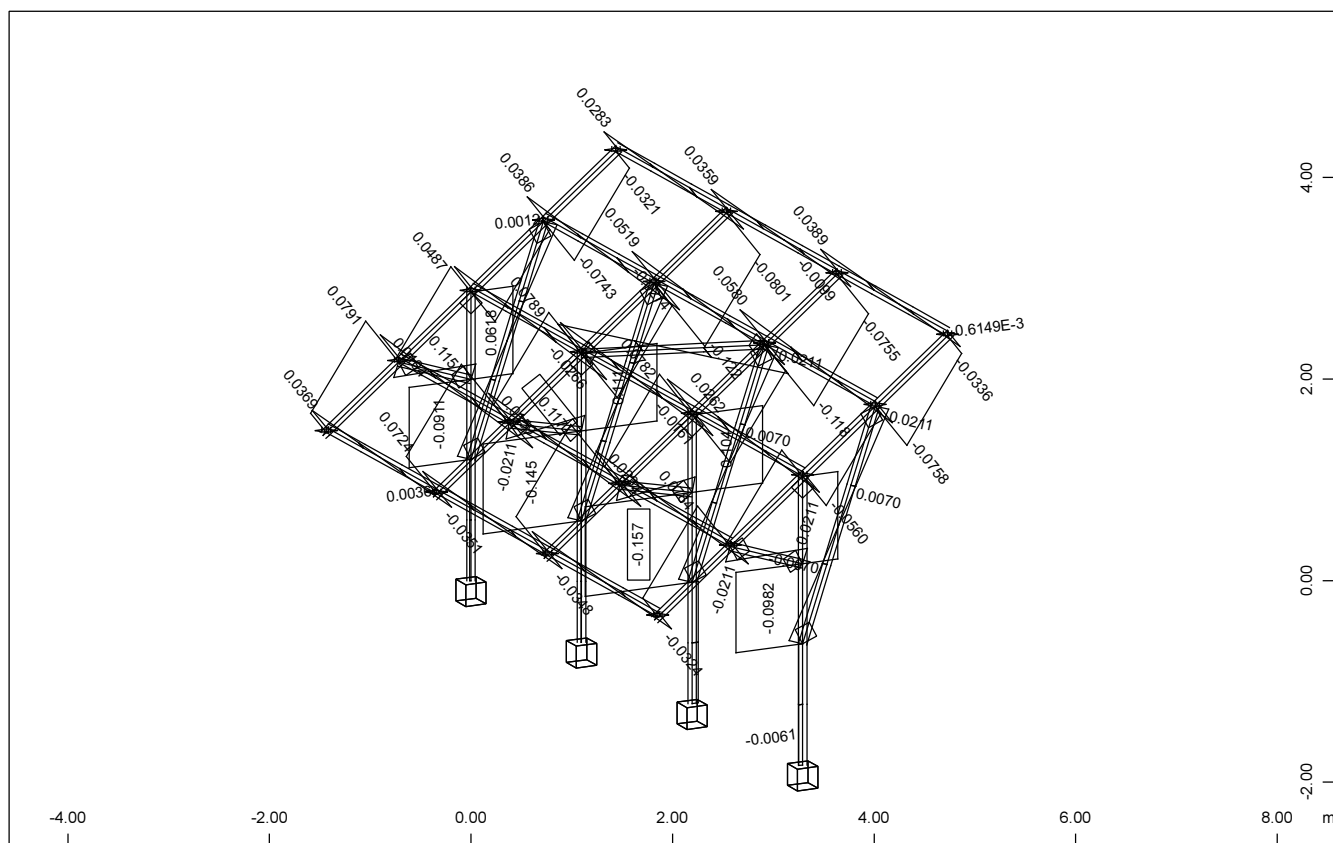
M 1 : 75  
X \* 0.502  
Y \* 0.906  
Z \* 0.962

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Graphical Output



Beam Elements , Bending moment  $M_y$ , Loadcase 1 Savasis savoris , 1 cm 3D = 0.100 kNm  
(Min=-0.165) (Max=0.0626)

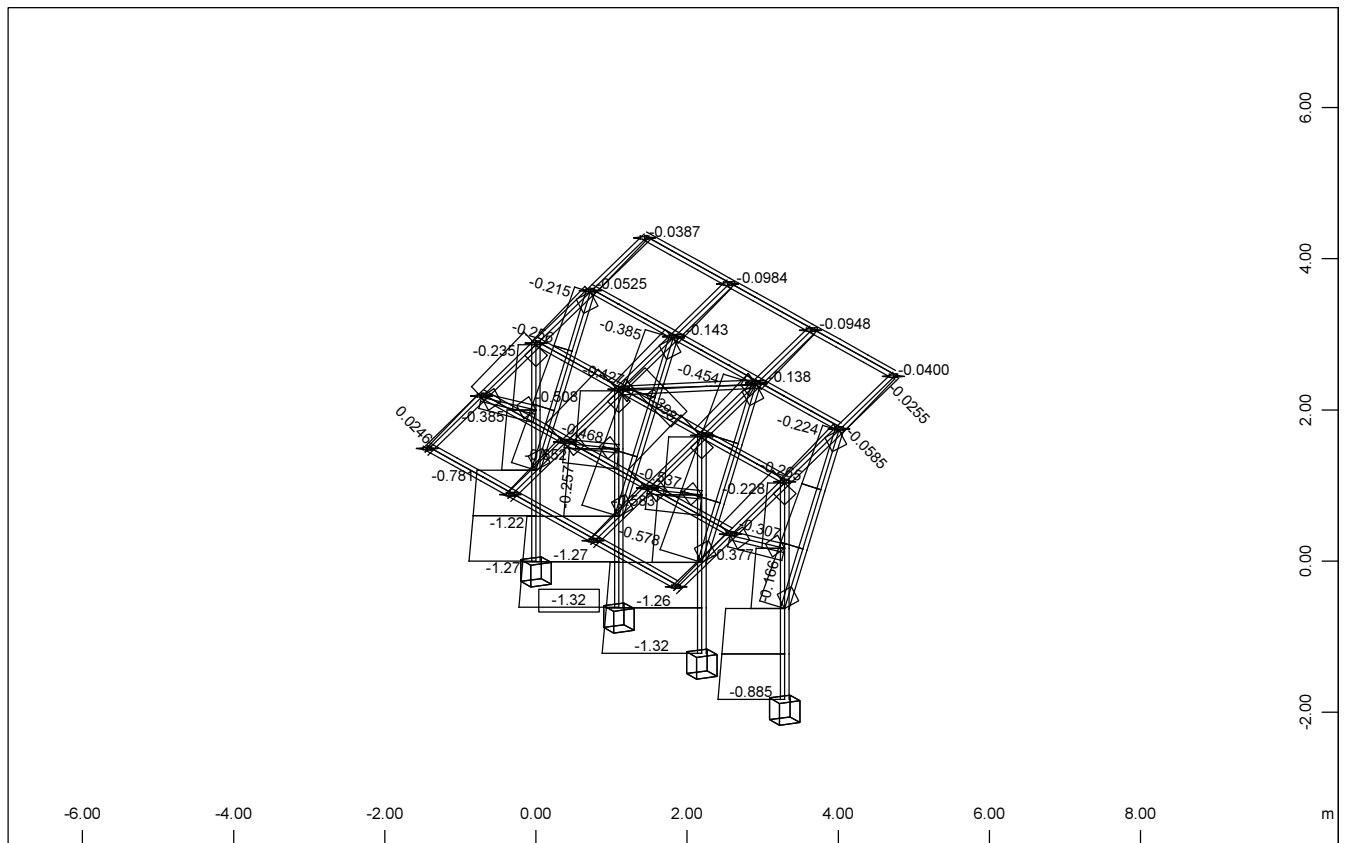
M 1 : 75  
X \* 0.502  
Y \* 0.906  
Z \* 0.962



Beam Elements , Shear force  $V_z$ , Loadcase 1 Savasis savoris , 1 cm 3D = 0.100 kN  
(Min=-0.157) (Max=0.117)

M 1 : 75  
X \* 0.502  
Y \* 0.906  
Z \* 0.962

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Graphical Output



Z  
Y  
X

Beam Elements , Normal force  $N_x$ , Loadcase 1 Savasis savoris , 1 cm 3D = 1.00 kN  
(Min=-1.32) (Max=0.398)

M 1 : 100  
X \* 0.502  
Y \* 0.906  
Z \* 0.962

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Loadcase Combination Manager

**Actions**

| type | part | sup  | Title         | $\gamma-u$ | $\gamma-f$ | $\gamma-a$ | $\psi-0$ | $\psi-1$ | $\psi-2$ |
|------|------|------|---------------|------------|------------|------------|----------|----------|----------|
| G    | G    | perm | dead load     | 1.30       | 0.90       | 1.00       | 1.00     | 1.00     | 1.00     |
| Q    | Q    | cond | variable load | 1.35       | 0.00       | 1.00       | 0.95     | 0.95     | 0.95     |
| S    | Q    | cond | snow loading  | 1.35       | 0.00       | 1.00       | 0.30     | 0.30     | 0.30     |
| W    | Q    | excl | wind loading  | 1.35       | 0.00       | 1.00       | 0.90     | 0.80     | 0.60     |

**Load Case 1001 ((D) ) 1.35G+1.35G**

|                                       |                     |
|---------------------------------------|---------------------|
| Factor forces and moments             | 1.000               |
| Factor dead weight                    | DL-XX 0.000         |
| Factor dead weight                    | DL-YY 0.000         |
| Factor dead weight                    | DL-ZZ -1.350        |
| Loads partially copied from load case | 1 with factor 1.350 |
| Loads partially copied from load case | 2 with factor 1.350 |

**Loads**

| Kind | Referenceto | Projection Coordinates | Type           | Loadvalue |
|------|-------------|------------------------|----------------|-----------|
|      |             | W[m] X[m] Y[m] Z[m]    |                |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.10 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.10 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 0.19 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.10 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.10 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 PG   | 0.19 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 PG  | 0.19 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |

**Load Case 1002 ((D) ) 1.35G+1.35G+1.3S**

|                                       |                     |
|---------------------------------------|---------------------|
| Factor forces and moments             | 1.000               |
| Factor dead weight                    | DL-XX 0.000         |
| Factor dead weight                    | DL-YY 0.000         |
| Factor dead weight                    | DL-ZZ -1.350        |
| Loads partially copied from load case | 1 with factor 1.350 |
| Loads partially copied from load case | 2 with factor 1.350 |
| Loads partially copied from load case | 3 with factor 1.300 |

**Loads**

| Kind | Referenceto | Projection Coordinates | Type           | Loadvalue |
|------|-------------|------------------------|----------------|-----------|
|      |             | W[m] X[m] Y[m] Z[m]    |                |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.10 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.10 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 0.19 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.10 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.10 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 PG   | 0.19 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 PG  | 0.19 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.67 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.67 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 1.33 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 1.33 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |

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# Loads

| Kind | Referenceto | Projection Coordinates |       |        |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|--------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]   | Z[m]      |      |                |
| Line |             |                        | 0.000 | 0.000  | 3.026     | PG   | 1.33 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 1.33 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | PG   | 1.33 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 1.33 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.67 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.67 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |

## Load Case 1003 ((D) ) 1.35G+1.35G+1.3W

|                                       |               |        |
|---------------------------------------|---------------|--------|
| Factor forces and moments             |               | 1.000  |
| Factor dead weight                    | DL-XX         | 0.000  |
| Factor dead weight                    | DL-YY         | 0.000  |
| Factor dead weight                    | DL-ZZ         | -1.350 |
| Loads partially copied from load case | 1 with factor | 1.350  |
| Loads partially copied from load case | 2 with factor | 1.350  |
| Loads partially copied from load case | 4 with factor | 1.300  |

# Loads

| Kind | Referenceto | Projection Coordinates |       |        |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|--------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]   | Z[m]      |      |                |
| Line |             |                        | 0.000 | 1.600  | 4.276     | PG   | 0.10 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.10 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800  | 3.651     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 0.19 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.10 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.10 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.000  | 3.026     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.19 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.19 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | Pz   | 0.13 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.13 [kN/m]    |
|      | GLN 1       |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | Pz   | 0.44 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.44 [kN/m]    |
|      | GLN 11      |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.000  | 3.026     | Pz   | 0.58 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.58 [kN/m]    |
|      | GLN 14      |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800  | 3.651     | Pz   | 0.73 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 0.73 [kN/m]    |
|      | GLN 8       |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 1.600  | 4.276     | Pz   | 0.20 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.20 [kN/m]    |
|      | GLN 4       |                        |       |        | activated |      | 100.00 percent |

## Load Case 1004 ((D) ) 1.35G+1.35G+1.3S+0.78W

|                                       |               |        |
|---------------------------------------|---------------|--------|
| Factor forces and moments             |               | 1.000  |
| Factor dead weight                    | DL-XX         | 0.000  |
| Factor dead weight                    | DL-YY         | 0.000  |
| Factor dead weight                    | DL-ZZ         | -1.350 |
| Loads partially copied from load case | 1 with factor | 1.350  |
| Loads partially copied from load case | 2 with factor | 1.350  |
| Loads partially copied from load case | 3 with factor | 1.300  |
| Loads partially copied from load case | 4 with factor | 0.780  |

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# Loads

| Kind | Referenceto | Projection Coordinates |       |        |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|--------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]   | Z[m]      |      |                |
| Line |             |                        | 0.000 | 1.600  | 4.276     | PG   | 0.10 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.10 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800  | 3.651     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 0.19 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.10 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.10 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.000  | 3.026     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.19 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.19 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 1.600  | 4.276     | PG   | 0.67 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.67 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800  | 3.651     | PG   | 1.33 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 1.33 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.000  | 3.026     | PG   | 1.33 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 1.33 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | PG   | 1.33 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 1.33 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.67 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.67 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | Pz   | 0.08 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.08 [kN/m]    |
|      | GLN 1       |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | Pz   | 0.26 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.26 [kN/m]    |
|      | GLN 11      |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.000  | 3.026     | Pz   | 0.35 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.35 [kN/m]    |
|      | GLN 14      |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800  | 3.651     | Pz   | 0.44 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 0.44 [kN/m]    |
|      | GLN 8       |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 1.600  | 4.276     | Pz   | 0.12 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.12 [kN/m]    |
|      | GLN 4       |                        |       |        | activated |      | 100.00 percent |

## Load Case 1005 (D) 1.35G+1.35G+0.91S+1.3W

|                                       |                     |
|---------------------------------------|---------------------|
| Factor forces and moments             | 1.000               |
| Factor dead weight DL-XX              | 0.000               |
| Factor dead weight DL-YY              | 0.000               |
| Factor dead weight DL-ZZ              | -1.350              |
| Loads partially copied from load case | 1 with factor 1.350 |
| Loads partially copied from load case | 2 with factor 1.350 |
| Loads partially copied from load case | 3 with factor 0.910 |
| Loads partially copied from load case | 4 with factor 1.300 |

# Loads

| Kind | Referenceto | Projection Coordinates |       |       |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|-------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]  | Z[m]      |      |                |
| Line |             |                        | 0.000 | 1.600 | 4.276     | PG   | 0.10 [kN/m]    |
|      |             |                        | 7.500 | 1.600 | 4.276     |      | 0.10 [kN/m]    |
|      | gln -mult-  |                        |       |       | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800 | 3.651     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | 0.800 | 3.651     |      | 0.19 [kN/m]    |

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# Loads

| Kind | Referenceto | Projection Coordinates |       |        |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|--------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]   | Z[m]      |      |                |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.10 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.10 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | 0.000  | 3.026     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.19 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | -0.800 | 2.401     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.19 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | 1.600  | 4.276     | PG   | 0.47 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.47 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | 0.800  | 3.651     | PG   | 0.93 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 0.93 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | 0.000  | 3.026     | PG   | 0.93 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.93 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | -0.800 | 2.401     | PG   | 0.93 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.93 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.47 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.47 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | -1.600 | 1.776     | Pz   | 0.13 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.13 [kN/m]    |
| Line | GLN 1       |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | -0.800 | 2.401     | Pz   | 0.44 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.44 [kN/m]    |
| Line | GLN 11      |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | 0.000  | 3.026     | Pz   | 0.58 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.58 [kN/m]    |
| Line | GLN 14      |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | 0.800  | 3.651     | Pz   | 0.73 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 0.73 [kN/m]    |
| Line | GLN 8       |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | 1.600  | 4.276     | Pz   | 0.20 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.20 [kN/m]    |
| Line | GLN 4       |                        |       |        | activated |      | 100.00 percent |

## Load Case 2001 ((R) ) 1.0G+1.0G

Factor forces and moments 1.000  
Factor dead weight DL-XX 0.000  
Factor dead weight DL-YY 0.000  
Factor dead weight DL-ZZ -1.000  
Loads partially copied from load case 1 with factor 1.000  
Loads partially copied from load case 2 with factor 1.000

# Loads

| Kind | Referenceto | Projection Coordinates |       |        |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|--------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]   | Z[m]      |      |                |
| Line |             |                        | 0.000 | 1.600  | 4.276     | PG   | 0.07 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.07 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | 0.800  | 3.651     | PG   | 0.14 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 0.14 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.07 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.07 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
|      |             |                        | 0.000 | 0.000  | 3.026     | PG   | 0.14 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.14 [kN/m]    |
| Line | gln -mult-  |                        |       |        | activated |      | 100.00 percent |

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# Loads

| Kind | Referenceto | Projection Coordinates |       |        |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|--------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]   | Z[m]      |      |                |
| Line |             |                        | 0.000 | -0.800 | 2.401     | PG   | 0.14 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.14 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |

## Load Case 2002 ((R) ) 1.0G+1.0G+1.0S

|                                       |                     |
|---------------------------------------|---------------------|
| Factor forces and moments             | 1.000               |
| Factor dead weight DL-XX              | 0.000               |
| Factor dead weight DL-YY              | 0.000               |
| Factor dead weight DL-ZZ              | -1.000              |
| Loads partially copied from load case | 1 with factor 1.000 |
| Loads partially copied from load case | 2 with factor 1.000 |
| Loads partially copied from load case | 3 with factor 1.000 |

# Loads

| Kind | Referenceto | Projection Coordinates |       |        |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|--------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]   | Z[m]      |      |                |
| Line |             |                        | 0.000 | 1.600  | 4.276     | PG   | 0.07 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.07 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800  | 3.651     | PG   | 0.14 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 0.14 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.07 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.07 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.000  | 3.026     | PG   | 0.14 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.14 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | PG   | 0.14 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.14 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 1.600  | 4.276     | PG   | 0.51 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.51 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800  | 3.651     | PG   | 1.02 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 1.02 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.000  | 3.026     | PG   | 1.02 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 1.02 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | PG   | 1.02 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 1.02 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.51 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.51 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |

## Load Case 2003 ((R) ) 1.0G+1.0G+1.0S+1.0W

|                                       |                     |
|---------------------------------------|---------------------|
| Factor forces and moments             | 1.000               |
| Factor dead weight DL-XX              | 0.000               |
| Factor dead weight DL-YY              | 0.000               |
| Factor dead weight DL-ZZ              | -1.000              |
| Loads partially copied from load case | 1 with factor 1.000 |
| Loads partially copied from load case | 2 with factor 1.000 |
| Loads partially copied from load case | 3 with factor 1.000 |
| Loads partially copied from load case | 4 with factor 1.000 |

# Loads

| Kind | Referenceto | Projection Coordinates |       |       |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|-------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]  | Z[m]      |      |                |
| Line |             |                        | 0.000 | 1.600 | 4.276     | PG   | 0.07 [kN/m]    |
|      |             |                        | 7.500 | 1.600 | 4.276     |      | 0.07 [kN/m]    |
|      | gln -mult-  |                        |       |       | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800 | 3.651     | PG   | 0.14 [kN/m]    |

SJ  
Loadcase Combination Manager

# Loads

| Kind | Referenceto | Projection | Coordinates |       |           |       | Type | Loadvalue      |
|------|-------------|------------|-------------|-------|-----------|-------|------|----------------|
|      |             |            | W[m]        | X[m]  | Y[m]      | Z[m]  |      |                |
| Line | gln -mult-  |            |             | 7.500 | 0.800     | 3.651 |      | 0.14 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | -1.600    | 1.776 | PG   | 0.07 [kN/m]    |
| Line | gln -mult-  |            |             | 7.500 | -1.600    | 1.776 |      | 0.07 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | 0.000     | 3.026 | PG   | 0.14 [kN/m]    |
| Line | gln -mult-  |            |             | 7.500 | 0.000     | 3.026 |      | 0.14 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | -0.800    | 2.401 | PG   | 0.14 [kN/m]    |
| Line | gln -mult-  |            |             | 7.500 | -0.800    | 2.401 |      | 0.14 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | 1.600     | 4.276 | PG   | 0.51 [kN/m]    |
| Line | gln -mult-  |            |             | 7.500 | 1.600     | 4.276 |      | 0.51 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | 0.800     | 3.651 | PG   | 1.02 [kN/m]    |
| Line | gln -mult-  |            |             | 7.500 | 0.800     | 3.651 |      | 1.02 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | 0.000     | 3.026 | PG   | 1.02 [kN/m]    |
| Line | gln -mult-  |            |             | 7.500 | 0.000     | 3.026 |      | 1.02 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | -0.800    | 2.401 | PG   | 1.02 [kN/m]    |
| Line | gln -mult-  |            |             | 7.500 | -0.800    | 2.401 |      | 1.02 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | -1.600    | 1.776 | PG   | 0.51 [kN/m]    |
| Line | gln -mult-  |            |             | 7.500 | -1.600    | 1.776 |      | 0.51 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | -1.600    | 1.776 | Pz   | 0.10 [kN/m]    |
| Line | GLN 1       |            |             | 7.500 | -1.600    | 1.776 |      | 0.10 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | -0.800    | 2.401 | Pz   | 0.34 [kN/m]    |
| Line | GLN 11      |            |             | 7.500 | -0.800    | 2.401 |      | 0.34 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | 0.000     | 3.026 | Pz   | 0.45 [kN/m]    |
| Line | GLN 14      |            |             | 7.500 | 0.000     | 3.026 |      | 0.45 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | 0.800     | 3.651 | Pz   | 0.56 [kN/m]    |
| Line | GLN 8       |            |             | 7.500 | 0.800     | 3.651 |      | 0.56 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |
|      |             |            |             | 0.000 | 1.600     | 4.276 | Pz   | 0.15 [kN/m]    |
| Line | GLN 4       |            |             | 7.500 | 1.600     | 4.276 |      | 0.15 [kN/m]    |
|      |             |            |             |       | activated |       |      | 100.00 percent |

SJ  
Analysis of Combined Loadcases

# **Analysis parameters**

Geometrical nonlinear analysis TH2

Nonlinear material properties are used for:

Springelements[CRAC,YIEL,MUE,GAP], pilebedding, QUAD-bedding

Only linear material properties are used for:

QUAD- and BRIQ-elements

Truss-, cable-, Beam-, pile- und boundaryelements

Beamelements

# **Load Case 1001 ((D) ) 2nd Order Theory 1.35G+1.35G**

|                                                     |        |
|-----------------------------------------------------|--------|
| Factor forces and moments                           | 1.000  |
| Factor dead weight DL-XX                            | 0.000  |
| Factor dead weight DL-YY                            | 0.000  |
| Factor dead weight DL-ZZ                            | -1.350 |
| Loads partially copied from load case 1 with factor | 1.350  |
| Loads partially copied from load case 2 with factor | 1.350  |

# **Loads**

| Kind | Referenceto | Projection Coordinates | Type      | Loadvalue      |
|------|-------------|------------------------|-----------|----------------|
|      |             | W[m] X[m] Y[m] Z[m]    |           |                |
| Line |             | 0.000 1.600 4.276 PG   |           | 0.10 [kN/m]    |
|      |             | 7.500 1.600 4.276      |           | 0.10 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |
| Line |             | 0.000 0.800 3.651 PG   |           | 0.19 [kN/m]    |
|      |             | 7.500 0.800 3.651      |           | 0.19 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |
| Line |             | 0.000 -1.600 1.776 PG  |           | 0.10 [kN/m]    |
|      |             | 7.500 -1.600 1.776     |           | 0.10 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |
| Line |             | 0.000 0.000 3.026 PG   |           | 0.19 [kN/m]    |
|      |             | 7.500 0.000 3.026      |           | 0.19 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |
| Line |             | 0.000 -0.800 2.401 PG  |           | 0.19 [kN/m]    |
|      |             | 7.500 -0.800 2.401     |           | 0.19 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |

# **Sum of Loads**

| LC Title         | PXX[kN] | PYY[kN] | PZZ[kN] |
|------------------|---------|---------|---------|
| 1001 1.35G+1.35G | 0.0     | 0.0     | -11.8   |

# **Iteration sequence**

|                            |       |        |             |       |       |
|----------------------------|-------|--------|-------------|-------|-------|
| Iteration 1 Residual       | 1.000 | energy | 45.3300 e/f | 0.000 | 1.000 |
| Update nonlinear stiffness |       |        |             |       |       |
| Iteration 2 Residual       | 0.000 | energy | 45.3051 e/f | 0.000 | 1.000 |

# **Nodal Reactions and Residual Forces**

| Loadcase | 1001 | 1.35G+1.35G |      |       |       |       |
|----------|------|-------------|------|-------|-------|-------|
| Node     | P-X  | P-Y         | P-Z  | M-X   | M-Y   | M-Z   |
| No       | [kN] | [kN]        | [kN] | [kNm] | [kNm] | [kNm] |
| 2        | 0.0  | 0.0         | 3.9  | 0.08  | 0.00  | 0.00  |
| 3        | 0.0  | 0.0         | 3.9  | 0.09  | 0.00  | 0.00  |
| 4        | 0.0  | 0.0         | 2.0  | 0.04  | -0.01 | 0.00  |
| 5        | 0.0  | 0.0         | 2.0  | 0.01  | 0.00  | 0.00  |

# **Sum of Reactions and Loads**

| LC Title         | PXX[kN] | PYY[kN] | PZZ[kN] |
|------------------|---------|---------|---------|
| 1001 1.35G+1.35G | 0.0     | 0.0     | 11.8    |
|                  | 0.0     | 0.0     | -11.8   |

SJ

Analysis of Combined Loadcases

**Analysis parameters**

Geometrical nonlinear analysis TH2

Nonlinear material properties are used for:

Springelements[CRAC,YIEL,MUE,GAP], pilebedding, QUAD-bedding

Only linear material properties are used for:

QUAD- and BRIQ-elements

Truss-, cable-, Beam-, pile- und boundaryelements

Beamelements

**Load Case 1002 ((D) ) 2nd Order Theory 1.35G+1.35G+1.3S**

Factor forces and moments 1.000

Factor dead weight DL-XX 0.000

Factor dead weight DL-YY 0.000

Factor dead weight DL-ZZ -1.350

Loads partially copied from load case 1 with factor 1.350

Loads partially copied from load case 2 with factor 1.350

Loads partially copied from load case 3 with factor 1.300

**Loads**

| Kind | Referenceto | Projection Coordinates |       |        |           | Type | Loadvalue      |
|------|-------------|------------------------|-------|--------|-----------|------|----------------|
|      |             | W[m]                   | X[m]  | Y[m]   | Z[m]      |      |                |
| Line |             |                        | 0.000 | 1.600  | 4.276     | PG   | 0.10 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.10 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800  | 3.651     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 0.19 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.10 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.10 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.000  | 3.026     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 0.19 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | PG   | 0.19 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 0.19 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 1.600  | 4.276     | PG   | 0.67 [kN/m]    |
|      |             |                        | 7.500 | 1.600  | 4.276     |      | 0.67 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.800  | 3.651     | PG   | 1.33 [kN/m]    |
|      |             |                        | 7.500 | 0.800  | 3.651     |      | 1.33 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | 0.000  | 3.026     | PG   | 1.33 [kN/m]    |
|      |             |                        | 7.500 | 0.000  | 3.026     |      | 1.33 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -0.800 | 2.401     | PG   | 1.33 [kN/m]    |
|      |             |                        | 7.500 | -0.800 | 2.401     |      | 1.33 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |
| Line |             |                        | 0.000 | -1.600 | 1.776     | PG   | 0.67 [kN/m]    |
|      |             |                        | 7.500 | -1.600 | 1.776     |      | 0.67 [kN/m]    |
|      | gln -mult-  |                        |       |        | activated |      | 100.00 percent |

**Sum of Loads**

| LC Title              | PXX[kN] | PYY[kN] | PZZ[kN] |
|-----------------------|---------|---------|---------|
| 1002 1.35G+1.35G+1.3S | 0.0     | 0.0     | -51.7   |

**Iteration sequence**

|                            |       |        |            |       |       |
|----------------------------|-------|--------|------------|-------|-------|
| Iteration 1 Residual       | 1.000 | energy | 1.5703 e/f | 0.000 | 1.000 |
| Update nonlinear stiffness |       |        |            |       |       |
| Iteration 2 Residual       | 0.000 | energy | 1.5673 e/f | 0.000 | 1.000 |

SJ

Analysis of Combined Loadcases

**Nodal Reactions and Residual Forces**

Loadcase 1002 1.35G+1.35G+1.3S

| Node | P-X  | P-Y  | P-Z  | M-X   | M-Y   | M-Z   |
|------|------|------|------|-------|-------|-------|
| No   | [kN] | [kN] | [kN] | [kNm] | [kNm] | [kNm] |
| 2    | 0.0  | 0.0  | 18.3 | 0.20  | -0.02 | 0.01  |
| 3    | 0.0  | 0.1  | 18.3 | 0.24  | -0.01 | 0.02  |
| 4    | 0.0  | -0.1 | 7.5  | -0.05 | -0.04 | 0.01  |
| 5    | 0.0  | 0.0  | 7.5  | -0.10 | 0.00  | 0.01  |

**Sum of Reactions and Loads**

| LC Title              | PXX[kN] | PYY[kN] | PZZ[kN] |
|-----------------------|---------|---------|---------|
| 1002 1.35G+1.35G+1.3S | 0.0     | 0.0     | 51.7    |
|                       | 0.0     | 0.0     | -51.7   |

SJ

## Analysis of Combined Loadcases

**Analysis parameters**

Geometrical nonlinear analysis TH2

Nonlinear material properties are used for:

Springelements[CRAC,YIEL,MUE,GAP], pilebedding, QUAD-bedding

Only linear material properties are used for:

QUAD- and BRIQ-elements

Truss-, cable-, Beam-, pile- und boundaryelements

Beamelements

**Load Case 1003 ( (D) ) 2nd Order Theory 1.35G+1.35G+1.3W**

|                                       |                     |
|---------------------------------------|---------------------|
| Factor forces and moments             | 1.000               |
| Factor dead weight DL-XX              | 0.000               |
| Factor dead weight DL-YY              | 0.000               |
| Factor dead weight DL-ZZ              | -1.350              |
| Loads partially copied from load case | 1 with factor 1.350 |
| Loads partially copied from load case | 2 with factor 1.350 |
| Loads partially copied from load case | 4 with factor 1.300 |

**Loads**

| Kind | Referenceto | Projection Coordinates | Type      | Loadvalue      |
|------|-------------|------------------------|-----------|----------------|
|      |             | W[m] X[m] Y[m] Z[m]    |           |                |
| Line |             | 0.000 1.600 4.276      | PG        | 0.10 [kN/m]    |
|      |             | 7.500 1.600 4.276      |           | 0.10 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |
| Line |             | 0.000 0.800 3.651      | PG        | 0.19 [kN/m]    |
|      |             | 7.500 0.800 3.651      |           | 0.19 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |
| Line |             | 0.000 -1.600 1.776     | PG        | 0.10 [kN/m]    |
|      |             | 7.500 -1.600 1.776     |           | 0.10 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |
| Line |             | 0.000 0.000 3.026      | PG        | 0.19 [kN/m]    |
|      |             | 7.500 0.000 3.026      |           | 0.19 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |
| Line |             | 0.000 -0.800 2.401     | PG        | 0.19 [kN/m]    |
|      |             | 7.500 -0.800 2.401     |           | 0.19 [kN/m]    |
|      | gln -mult-  |                        | activated | 100.00 percent |
| Line |             | 0.000 -1.600 1.776     | Pz        | 0.13 [kN/m]    |
|      |             | 7.500 -1.600 1.776     |           | 0.13 [kN/m]    |
|      | GLN 1       |                        | activated | 100.00 percent |
| Line |             | 0.000 -0.800 2.401     | Pz        | 0.44 [kN/m]    |
|      |             | 7.500 -0.800 2.401     |           | 0.44 [kN/m]    |
|      | GLN 11      |                        | activated | 100.00 percent |
| Line |             | 0.000 0.000 3.026      | Pz        | 0.58 [kN/m]    |
|      |             | 7.500 0.000 3.026      |           | 0.58 [kN/m]    |
|      | GLN 14      |                        | activated | 100.00 percent |
| Line |             | 0.000 0.800 3.651      | Pz        | 0.73 [kN/m]    |
|      |             | 7.500 0.800 3.651      |           | 0.73 [kN/m]    |
|      | GLN 8       |                        | activated | 100.00 percent |
| Line |             | 0.000 1.600 4.276      | Pz        | 0.20 [kN/m]    |
|      |             | 7.500 1.600 4.276      |           | 0.20 [kN/m]    |
|      | GLN 4       |                        | activated | 100.00 percent |

**Sum of Loads**

| LC Title              | PXX[kN] | PYY[kN] | PZZ[kN] |
|-----------------------|---------|---------|---------|
| 1003 1.35G+1.35G+1.3W | 0.0     | 9.6     | -24.0   |

**Iteration sequence**

|                            |       |        |              |        |       |
|----------------------------|-------|--------|--------------|--------|-------|
| Iteration 1 Residual       | 1.000 | energy | 477.7414 e/f | 0.000  | 1.000 |
| Update nonlinear stiffness |       |        |              |        |       |
| Iteration 2 Residual       | 0.000 | energy | 486.8820 e/f | 0.000  | 1.000 |
| Update nonlinear stiffness |       |        |              |        |       |
| Iteration 3 Residual       | 0.001 | energy | 486.8795 e/f | 0.000  | 0.256 |
| Update nonlinear stiffness |       |        |              |        |       |
| Iteration 4 Residual       | 0.000 | energy | 486.8780 e/f | -0.103 | 0.258 |

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Analysis of Combined Loadcases

Update nonlinear stiffness

Iteration 5 Residual 0.000 energy 486.8698 e/f -0.344 1.590

**Nodal Reactions and Residual Forces**

Loadcase 1003 1.35G+1.35G+1.3W

| Node | P-X  | P-Y  | P-Z  | M-X   | M-Y   | M-Z   |
|------|------|------|------|-------|-------|-------|
| No   | [kN] | [kN] | [kN] | [kNm] | [kNm] | [kNm] |
| 2    | 0.0  | -3.0 | 8.4  | 10.43 | -0.03 | 0.15  |
| 3    | 0.0  | -3.0 | 8.4  | 10.56 | -0.02 | 0.15  |
| 4    | 0.0  | -1.8 | 3.6  | 6.30  | -0.05 | 0.09  |
| 5    | 0.0  | -1.7 | 3.6  | 5.91  | -0.01 | 0.09  |

**Sum of Reactions and Loads**

| LC Title              | PXX[kN] | PYY[kN] | PZZ[kN] |
|-----------------------|---------|---------|---------|
| 1003 1.35G+1.35G+1.3W | 0.0     | -9.6    | 24.0    |
|                       | 0.0     | 9.6     | -24.0   |

SJ  
Analysis of Combined Loadcases

### Analysis parameters

Geometrical nonlinear analysis TH2

Nonlinear material properties are used for:

Springelements[CRAC,YIEL,MUE,GAP], pilebedding, QUAD-bedding

Only linear material properties are used for:

QUAD- and BRIQ-elements

Truss-, cable-, Beam-, pile- und boundaryelements

Beamelements

### Load Case 1004 ((D) ) 2nd Order Theory 1.35G+1.35G+1.3S+0.78W

|                                       |                     |
|---------------------------------------|---------------------|
| Factor forces and moments             | 1.000               |
| Factor dead weight DL-XX              | 0.000               |
| Factor dead weight DL-YY              | 0.000               |
| Factor dead weight DL-ZZ              | -1.350              |
| Loads partially copied from load case | 1 with factor 1.350 |
| Loads partially copied from load case | 2 with factor 1.350 |
| Loads partially copied from load case | 3 with factor 1.300 |
| Loads partially copied from load case | 4 with factor 0.780 |

### Loads

| Kind | Referenceto | Projection Coordinates | Type           | Loadvalue |
|------|-------------|------------------------|----------------|-----------|
|      |             | W[m] X[m] Y[m] Z[m]    |                |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.10 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.10 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 0.19 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.10 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.10 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 PG   | 0.19 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 PG  | 0.19 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.67 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.67 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 1.33 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 1.33 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 PG   | 1.33 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 1.33 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 PG  | 1.33 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 1.33 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.67 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.67 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 Pz  | 0.08 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.08 [kN/m]    |           |
|      | GLN 1       | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 Pz  | 0.26 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.26 [kN/m]    |           |
|      | GLN 11      | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 Pz   | 0.35 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.35 [kN/m]    |           |
|      | GLN 14      | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 Pz   | 0.44 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.44 [kN/m]    |           |
|      | GLN 8       | activated              | 100.00 percent |           |
| Line |             | 0.000 1.600 4.276 Pz   | 0.12 [kN/m]    |           |

SJ  
Analysis of Combined Loadcases

# Loads

| Kind | Referenceto | Projection Coordinates | Type      | Loadvalue      |
|------|-------------|------------------------|-----------|----------------|
|      |             | W[m] X[m] Y[m] Z[m]    |           |                |
|      |             | 7.500 1.600 4.276      |           | 0.12 [kN/m]    |
| GLN  | 4           |                        | activated | 100.00 percent |

# Sum of Loads

| LC Title                    | PXX[kN] | PYY[kN] | PZZ[kN] |
|-----------------------------|---------|---------|---------|
| 1004 1.35G+1.35G+1.3S+0.78W | 0.0     | 5.7     | -59.0   |

# Iteration sequence

|                            |       |        |            |       |       |
|----------------------------|-------|--------|------------|-------|-------|
| Iteration 1 Residual       | 1.000 | energy | 1.8441 e/f | 0.000 | 1.000 |
| Update nonlinear stiffness |       |        |            |       |       |
| Iteration 2 Residual       | 0.000 | energy | 1.8503 e/f | 0.000 | 1.000 |

# Nodal Reactions and Residual Forces

Loadcase 1004 1.35G+1.35G+1.3S+0.78W

| Node | P-X  | P-Y  | P-Z  | M-X   | M-Y   | M-Z   |
|------|------|------|------|-------|-------|-------|
| No   | [kN] | [kN] | [kN] | [kNm] | [kNm] | [kNm] |
| 2    | 0.0  | -1.7 | 21.0 | 6.65  | -0.05 | 0.10  |
| 3    | 0.0  | -1.8 | 21.0 | 6.76  | -0.03 | 0.11  |
| 4    | 0.0  | -1.2 | 8.5  | 3.84  | -0.08 | 0.06  |
| 5    | 0.0  | -1.1 | 8.5  | 3.57  | -0.02 | 0.06  |

# Sum of Reactions and Loads

| LC Title                    | PXX[kN] | PYY[kN] | PZZ[kN] |
|-----------------------------|---------|---------|---------|
| 1004 1.35G+1.35G+1.3S+0.78W | 0.0     | -5.7    | 59.0    |
|                             | 0.0     | 5.7     | -59.0   |

SJ  
Analysis of Combined Loadcases

### Analysis parameters

Geometrical nonlinear analysis TH2

Nonlinear material properties are used for:

Springelements[CRAC,YIEL,MUE,GAP], pilebedding, QUAD-bedding

Only linear material properties are used for:

QUAD- and BRIQ-elements

Truss-, cable-, Beam-, pile- und boundaryelements

Beamelements

### Load Case 1005 ((D) ) 2nd Order Theory 1.35G+1.35G+0.91S+1.3W

|                                       |               |        |
|---------------------------------------|---------------|--------|
| Factor forces and moments             |               | 1.000  |
| Factor dead weight                    | DL-XX         | 0.000  |
| Factor dead weight                    | DL-YY         | 0.000  |
| Factor dead weight                    | DL-ZZ         | -1.350 |
| Loads partially copied from load case | 1 with factor | 1.350  |
| Loads partially copied from load case | 2 with factor | 1.350  |
| Loads partially copied from load case | 3 with factor | 0.910  |
| Loads partially copied from load case | 4 with factor | 1.300  |

### Loads

| Kind | Referenceto | Projection Coordinates | Type           | Loadvalue |
|------|-------------|------------------------|----------------|-----------|
|      |             | W[m] X[m] Y[m] Z[m]    |                |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.10 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.10 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 0.19 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.10 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.10 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 PG   | 0.19 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 PG  | 0.19 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.19 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.47 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.47 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 0.93 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.93 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 PG   | 0.93 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.93 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 PG  | 0.93 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.93 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.47 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.47 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 Pz  | 0.13 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.13 [kN/m]    |           |
|      | GLN 1       | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 Pz  | 0.44 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.44 [kN/m]    |           |
|      | GLN 11      | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 Pz   | 0.58 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.58 [kN/m]    |           |
|      | GLN 14      | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 Pz   | 0.73 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.73 [kN/m]    |           |
|      | GLN 8       | activated              | 100.00 percent |           |
| Line |             | 0.000 1.600 4.276 Pz   | 0.20 [kN/m]    |           |

SJ  
Analysis of Combined Loadcases

# Loads

| Kind | Referenceto | Projection Coordinates | Type      | Loadvalue      |
|------|-------------|------------------------|-----------|----------------|
|      |             | W[m] X[m] Y[m] Z[m]    |           |                |
|      |             | 7.500 1.600 4.276      |           | 0.20 [kN/m]    |
| GLN  | 4           |                        | activated | 100.00 percent |

# Sum of Loads

| LC Title                    | PXX[kN] | PYY[kN] | PZZ[kN] |
|-----------------------------|---------|---------|---------|
| 1005 1.35G+1.35G+0.91S+1.3W | 0.0     | 9.6     | -52.0   |

# Iteration sequence

|                            |       |        |            |        |       |
|----------------------------|-------|--------|------------|--------|-------|
| Iteration 1 Residual       | 1.000 | energy | 1.4414 e/f | 0.000  | 1.000 |
| Update nonlinear stiffness |       |        |            |        |       |
| Iteration 2 Residual       | 0.000 | energy | 1.4622 e/f | 0.000  | 1.000 |
| Update nonlinear stiffness |       |        |            |        |       |
| Iteration 3 Residual       | 0.001 | energy | 1.4622 e/f | 0.000  | 0.256 |
| Update nonlinear stiffness |       |        |            |        |       |
| Iteration 4 Residual       | 0.001 | energy | 1.4622 e/f | -0.103 | 0.258 |
| Update nonlinear stiffness |       |        |            |        |       |
| Iteration 5 Residual       | 0.001 | energy | 1.4623 e/f | -0.344 | 1.590 |

# Nodal Reactions and Residual Forces

Loadcase 1005 1.35G+1.35G+0.91S+1.3W

| Node | P-X  | P-Y  | P-Z  | M-X   | M-Y   | M-Z   |
|------|------|------|------|-------|-------|-------|
| No   | [kN] | [kN] | [kN] | [kNm] | [kNm] | [kNm] |
| 2    | 0.0  | -2.9 | 18.5 | 10.83 | -0.05 | 0.16  |
| 3    | 0.0  | -3.0 | 18.5 | 10.98 | -0.04 | 0.16  |
| 4    | 0.0  | -1.9 | 7.5  | 6.41  | -0.09 | 0.10  |
| 5    | 0.0  | -1.8 | 7.5  | 6.00  | -0.02 | 0.09  |

# Sum of Reactions and Loads

| LC Title                    | PXX[kN] | PYY[kN] | PZZ[kN] |
|-----------------------------|---------|---------|---------|
| 1005 1.35G+1.35G+0.91S+1.3W | 0.0     | -9.6    | 52.0    |
|                             | 0.0     | 9.6     | -52.0   |

SJ  
Analysis of Combined Loadcases

# **Analysis parameters**

Geometrical nonlinear analysis TH2

Nonlinear material properties are used for:

Springelements[CRAC,YIEL,MUE,GAP], pilebedding, QUAD-bedding

Only linear material properties are used for:

QUAD- and BRIQ-elements

Truss-, cable-, Beam-, pile- und boundaryelements

Beamelements

## **Load Case 2001 ((R) ) 2nd Order Theory 1.0G+1.0G**

|                                                     |        |
|-----------------------------------------------------|--------|
| Factor forces and moments                           | 1.000  |
| Factor dead weight DL-XX                            | 0.000  |
| Factor dead weight DL-YY                            | 0.000  |
| Factor dead weight DL-ZZ                            | -1.000 |
| Loads partially copied from load case 1 with factor | 1.000  |
| Loads partially copied from load case 2 with factor | 1.000  |

## **Loads**

| Kind | Referenceto | Projection Coordinates | Type           | Loadvalue |
|------|-------------|------------------------|----------------|-----------|
|      |             | W[m] X[m] Y[m] Z[m]    |                |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.07 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.07 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 0.14 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.14 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.07 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.07 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 PG   | 0.14 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.14 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 PG  | 0.14 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.14 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |

## **Sum of Loads**

| LC Title       | PXX[kN] | PYY[kN] | PZZ[kN] |
|----------------|---------|---------|---------|
| 2001 1.0G+1.0G | 0.0     | 0.0     | -8.7    |

## **Iteration sequence**

|                            |       |        |             |       |       |
|----------------------------|-------|--------|-------------|-------|-------|
| Iteration 1 Residual       | 1.000 | energy | 24.8724 e/f | 0.000 | 1.000 |
| Update nonlinear stiffness |       |        |             |       |       |
| Iteration 2 Residual       | 0.000 | energy | 24.8623 e/f | 0.000 | 1.000 |

## **Nodal Reactions and Residual Forces**

Loadcase 2001 1.0G+1.0G

| Node | P-X  | P-Y  | P-Z  | M-X   | M-Y   | M-Z   |
|------|------|------|------|-------|-------|-------|
| No   | [kN] | [kN] | [kN] | [kNm] | [kNm] | [kNm] |
| 2    | 0.0  | 0.0  | 2.9  | 0.06  | 0.00  | 0.00  |
| 3    | 0.0  | 0.0  | 2.9  | 0.06  | 0.00  | 0.00  |
| 4    | 0.0  | 0.0  | 1.5  | 0.03  | 0.00  | 0.00  |
| 5    | 0.0  | 0.0  | 1.5  | 0.01  | 0.00  | 0.00  |

## **Sum of Reactions and Loads**

| LC Title       | PXX[kN] | PYY[kN] | PZZ[kN] |
|----------------|---------|---------|---------|
| 2001 1.0G+1.0G | 0.0     | 0.0     | 8.7     |
|                | 0.0     | 0.0     | -8.7    |

SJ  
Analysis of Combined Loadcases

# **Analysis parameters**

Geometrical nonlinear analysis TH2

Nonlinear material properties are used for:

Springelements[CRAC,YIEL,MUE,GAP], pilebedding, QUAD-bedding

Only linear material properties are used for:

QUAD- and BRIQ-elements

Truss-, cable-, Beam-, pile- und boundaryelements

Beamelements

## **Load Case 2002 ((R) ) 2nd Order Theory 1.0G+1.0G+1.0S**

|                                       |                     |
|---------------------------------------|---------------------|
| Factor forces and moments             | 1.000               |
| Factor dead weight DL-XX              | 0.000               |
| Factor dead weight DL-YY              | 0.000               |
| Factor dead weight DL-ZZ              | -1.000              |
| Loads partially copied from load case | 1 with factor 1.000 |
| Loads partially copied from load case | 2 with factor 1.000 |
| Loads partially copied from load case | 3 with factor 1.000 |

## **Loads**

| Kind | Referenceto | Projection Coordinates | Type | Loadvalue      |
|------|-------------|------------------------|------|----------------|
|      |             | W[m] X[m] Y[m] Z[m]    |      |                |
| Line |             | 0.000 1.600 4.276 PG   |      | 0.07 [kN/m]    |
|      |             | 7.500 1.600 4.276      |      | 0.07 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |
| Line |             | 0.000 0.800 3.651 PG   |      | 0.14 [kN/m]    |
|      |             | 7.500 0.800 3.651      |      | 0.14 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |
| Line |             | 0.000 -1.600 1.776 PG  |      | 0.07 [kN/m]    |
|      |             | 7.500 -1.600 1.776     |      | 0.07 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |
| Line |             | 0.000 0.000 3.026 PG   |      | 0.14 [kN/m]    |
|      |             | 7.500 0.000 3.026      |      | 0.14 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |
| Line |             | 0.000 -0.800 2.401 PG  |      | 0.14 [kN/m]    |
|      |             | 7.500 -0.800 2.401     |      | 0.14 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |
| Line |             | 0.000 1.600 4.276 PG   |      | 0.51 [kN/m]    |
|      |             | 7.500 1.600 4.276      |      | 0.51 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |
| Line |             | 0.000 0.800 3.651 PG   |      | 1.02 [kN/m]    |
|      |             | 7.500 0.800 3.651      |      | 1.02 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |
| Line |             | 0.000 0.000 3.026 PG   |      | 1.02 [kN/m]    |
|      |             | 7.500 0.000 3.026      |      | 1.02 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |
| Line |             | 0.000 -0.800 2.401 PG  |      | 1.02 [kN/m]    |
|      |             | 7.500 -0.800 2.401     |      | 1.02 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |
| Line |             | 0.000 -1.600 1.776 PG  |      | 0.51 [kN/m]    |
|      |             | 7.500 -1.600 1.776     |      | 0.51 [kN/m]    |
|      | gln -mult-  | activated              |      | 100.00 percent |

## **Sum of Loads**

| LC Title            | PXX[kN] | PYY[kN] | PZZ[kN] |
|---------------------|---------|---------|---------|
| 2002 1.0G+1.0G+1.0S | 0.0     | 0.0     | -39.4   |

## **Iteration sequence**

|                            |       |        |              |       |       |
|----------------------------|-------|--------|--------------|-------|-------|
| Iteration 1 Residual       | 1.000 | energy | 917.6390 e/f | 0.000 | 1.000 |
| Update nonlinear stiffness |       |        |              |       |       |
| Iteration 2 Residual       | 0.000 | energy | 916.2301 e/f | 0.000 | 1.000 |

SJ

# Analysis of Combined Loadcases

## Nodal Reactions and Residual Forces

Loadcase 2002 1.0G+1.0G+1.0S

| Node | P-X  | P-Y  | P-Z  | M-X   | M-Y   | M-Z   |
|------|------|------|------|-------|-------|-------|
| No   | [kN] | [kN] | [kN] | [kNm] | [kNm] | [kNm] |
| 2    | 0.0  | 0.0  | 14.0 | 0.14  | -0.01 | 0.01  |
| 3    | 0.0  | 0.0  | 14.0 | 0.17  | 0.00  | 0.01  |
| 4    | 0.0  | 0.0  | 5.7  | -0.04 | -0.03 | 0.00  |
| 5    | 0.0  | 0.0  | 5.7  | -0.07 | 0.01  | 0.00  |

## Sum of Reactions and Loads

| LC Title            | PXX[kN] | PYY[kN] | PZZ[kN] |
|---------------------|---------|---------|---------|
| 2002 1.0G+1.0G+1.0S | 0.0     | 0.0     | 39.4    |
|                     | 0.0     | 0.0     | -39.4   |

SJ  
Analysis of Combined Loadcases

### Analysis parameters

Geometrical nonlinear analysis TH2

Nonlinear material properties are used for:

Springelements[CRAC,YIEL,MUE,GAP], pilebedding, QUAD-bedding

Only linear material properties are used for:

QUAD- and BRIQ-elements

Truss-, cable-, Beam-, pile- und boundaryelements

Beamelements

### Load Case 2003 ((R) ) 2nd Order Theory 1.0G+1.0G+1.0S+1.0W

|                                       |               |        |
|---------------------------------------|---------------|--------|
| Factor forces and moments             |               | 1.000  |
| Factor dead weight                    | DL-XX         | 0.000  |
| Factor dead weight                    | DL-YY         | 0.000  |
| Factor dead weight                    | DL-ZZ         | -1.000 |
| Loads partially copied from load case | 1 with factor | 1.000  |
| Loads partially copied from load case | 2 with factor | 1.000  |
| Loads partially copied from load case | 3 with factor | 1.000  |
| Loads partially copied from load case | 4 with factor | 1.000  |

### Loads

| Kind | Referenceto | Projection Coordinates | Type           | Loadvalue |
|------|-------------|------------------------|----------------|-----------|
|      |             | W[m] X[m] Y[m] Z[m]    |                |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.07 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.07 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 0.14 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.14 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.07 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.07 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 PG   | 0.14 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.14 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 PG  | 0.14 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.14 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 1.600 4.276 PG   | 0.51 [kN/m]    |           |
|      |             | 7.500 1.600 4.276      | 0.51 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 PG   | 1.02 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 1.02 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 PG   | 1.02 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 1.02 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 PG  | 1.02 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 1.02 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 PG  | 0.51 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.51 [kN/m]    |           |
|      | gln -mult-  | activated              | 100.00 percent |           |
| Line |             | 0.000 -1.600 1.776 Pz  | 0.10 [kN/m]    |           |
|      |             | 7.500 -1.600 1.776     | 0.10 [kN/m]    |           |
|      | GLN 1       | activated              | 100.00 percent |           |
| Line |             | 0.000 -0.800 2.401 Pz  | 0.34 [kN/m]    |           |
|      |             | 7.500 -0.800 2.401     | 0.34 [kN/m]    |           |
|      | GLN 11      | activated              | 100.00 percent |           |
| Line |             | 0.000 0.000 3.026 Pz   | 0.45 [kN/m]    |           |
|      |             | 7.500 0.000 3.026      | 0.45 [kN/m]    |           |
|      | GLN 14      | activated              | 100.00 percent |           |
| Line |             | 0.000 0.800 3.651 Pz   | 0.56 [kN/m]    |           |
|      |             | 7.500 0.800 3.651      | 0.56 [kN/m]    |           |
|      | GLN 8       | activated              | 100.00 percent |           |
| Line |             | 0.000 1.600 4.276 Pz   | 0.15 [kN/m]    |           |

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Analysis of Combined Loadcases

# Loads

| Kind | Referenceto | Projection Coordinates | Type      | Loadvalue      |
|------|-------------|------------------------|-----------|----------------|
|      |             | W[m] X[m] Y[m] Z[m]    |           |                |
|      |             | 7.500 1.600 4.276      |           | 0.15 [kN/m]    |
| GLN  | 4           |                        | activated | 100.00 percent |

# Sum of Loads

| LC Title                 | PXX[kN] | PYY[kN] | PZZ[kN] |
|--------------------------|---------|---------|---------|
| 2003 1.0G+1.0G+1.0S+1.0W | 0.0     | 7.4     | -48.8   |

# Iteration sequence

|                            |       |        |            |       |       |
|----------------------------|-------|--------|------------|-------|-------|
| Iteration 1 Residual       | 1.000 | energy | 1.2777 e/f | 0.000 | 1.000 |
| Update nonlinear stiffness |       |        |            |       |       |
| Iteration 2 Residual       | 0.000 | energy | 1.2886 e/f | 0.000 | 1.000 |

# Nodal Reactions and Residual Forces

Loadcase 2003 1.0G+1.0G+1.0S+1.0W

| Node | P-X  | P-Y  | P-Z  | M-X   | M-Y   | M-Z   |
|------|------|------|------|-------|-------|-------|
| No   | [kN] | [kN] | [kN] | [kNm] | [kNm] | [kNm] |
| 2    | 0.0  | -2.3 | 17.5 | 8.33  | -0.04 | 0.12  |
| 3    | 0.0  | -2.3 | 17.4 | 8.45  | -0.03 | 0.13  |
| 4    | 0.0  | -1.5 | 7.0  | 4.89  | -0.08 | 0.07  |
| 5    | 0.0  | -1.4 | 7.0  | 4.57  | -0.02 | 0.07  |

# Sum of Reactions and Loads

| LC Title                 | PXX[kN] | PYY[kN] | PZZ[kN] |
|--------------------------|---------|---------|---------|
| 2003 1.0G+1.0G+1.0S+1.0W | 0.0     | -7.4    | 48.8    |
|                          | 0.0     | 7.4     | -48.8   |

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elastic - elastic : stress check + c/t ratio for buckling, according to EC 3

**Selected Beam Elements**

| FROM  | TO    | INC | X-VALUE | NC | MEMBER | CS0 | CS1 | CS2 | CS3 | CS4 | CS5 |
|-------|-------|-----|---------|----|--------|-----|-----|-----|-----|-----|-----|
| 10000 | 10016 | 1   |         |    |        |     |     |     |     |     |     |
| 20000 | 20024 | 1   |         |    |        |     |     |     |     |     |     |
| 30000 | 30016 | 1   |         |    |        |     |     |     |     |     |     |
| 40000 | 40048 | 1   |         |    |        |     |     |     |     |     |     |

Default design code is DIN EuroNorm EN 1993 (2010) Steel Structures (Germany) V 27.0  
Structure: A (Buildings)

**Considered Load Cases**

1001                      1002                      1003                      1004                      1005

**Stresses [MPa]**

| Beam  | x[m]  | NoS | LC  | M | A | sig-    | sig+   | tau    | sig-I  | sig-II  | sig-v  |
|-------|-------|-----|-----|---|---|---------|--------|--------|--------|---------|--------|
| 10001 | 0.000 | 5   | MIN | 3 |   | -2.23   | -5.07  | 1.12   | 0.52   | -2.54   | 2.79   |
|       |       |     | MAX | 3 |   | -118.17 | 104.86 | 13.91  | 105.14 | -118.52 | 118.70 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.625 | 5   | MIN | 3 |   | -2.05   | -4.60  | 1.12   | 0.53   | -2.43   | 2.71   |
|       |       |     | MAX | 3 |   | -97.91  | 85.42  | 13.91  | 85.76  | -98.34  | 98.56  |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10002 | 0.000 | 5   | MIN | 3 |   | -2.05   | -4.60  | 1.12   | 0.53   | -2.43   | 2.71   |
|       |       |     | MAX | 3 |   | -97.91  | 85.42  | 13.91  | 85.76  | -98.34  | 98.56  |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.625 | 5   | MIN | 3 |   | -1.87   | -4.14  | 1.12   | 0.54   | -2.34   | 2.65   |
|       |       |     | MAX | 3 |   | -77.36  | 65.84  | 13.91  | 66.29  | -77.90  | 78.17  |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10003 | 0.000 | 5   | MIN | 3 |   | -1.15   | -1.38  | 11.52  | 11.01  | -12.05  | 19.97  |
|       |       |     | MAX | 3 |   | -73.62  | 67.91  | 64.38  | 85.56  | -89.47  | 113.06 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.826 | 5   | MIN | 3 |   | -4.45   | 0.24   | 11.52  | 11.75  | -12.79  | 20.09  |
|       |       |     | MAX | 3 |   | -33.22  | 30.68  | 64.38  | 64.30  | -67.02  | 111.53 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10004 | 0.000 | 5   | MIN | 3 |   | -4.30   | 0.52   | 6.01   | 13.40  | -14.27  | 22.78  |
|       |       |     | MAX | 3 |   | -32.05  | 30.40  | 63.80  | 65.72  | -69.57  | 111.06 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.900 | 5   | MIN | 3 |   | -0.69   | -3.35  | 6.01   | 5.66   | -6.39   | 10.44  |
|       |       |     | MAX | 3 |   | -3.35   | -0.69  | 63.80  | 62.15  | -65.50  | 110.56 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10005 | 0.000 | 5   | MIN | 3 |   | -5.30   | -12.95 | 3.51   | 2.32   | -6.29   | 7.37   |
|       |       |     | MAX | 3 |   | -218.64 | 183.46 | 32.87  | 184.03 | -220.02 | 220.72 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.625 | 5   | MIN | 3 |   | -5.29   | -12.32 | 3.51   | 2.34   | -6.29   | 7.35   |
|       |       |     | MAX | 3 |   | -184.44 | 149.08 | 32.87  | 149.97 | -186.07 | 186.89 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10006 | 0.000 | 5   | MIN | 3 |   | -5.29   | -12.32 | 3.51   | 2.34   | -6.29   | 7.35   |
|       |       |     | MAX | 3 |   | -184.44 | 149.08 | 32.87  | 149.97 | -186.07 | 186.89 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.625 | 5   | MIN | 3 |   | -5.29   | -11.76 | 3.51   | 2.37   | -6.28   | 7.33   |
|       |       |     | MAX | 3 |   | -148.81 | 114.15 | 32.87  | 115.12 | -150.83 | 151.84 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10007 | 0.000 | 5   | MIN | 3 |   | -3.82   | -4.67  | 22.61  | 21.93  | -23.91  | 39.18  |
|       |       |     | MAX | 3 |   | -140.28 | 120.38 | 145.08 | 169.74 | -181.19 | 254.18 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.926 | 5   | MIN | 3 |   | -8.79   | -4.06  | 22.61  | 22.99  | -25.08  | 39.44  |
|       |       |     | MAX | 3 |   | -48.19  | 40.33  | 145.08 | 140.93 | -151.13 | 251.56 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10008 | 0.000 | 5   | MIN | 3 |   | -8.41   | -4.03  | 28.71  | 29.14  | -31.08  | 49.94  |
|       |       |     | MAX | 3 |   | -46.11  | 39.78  | 154.98 | 157.92 | -167.67 | 269.54 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.800 | 5   | MIN | 3 |   | -1.71   | -9.77  | 28.71  | 27.87  | -29.58  | 49.76  |
|       |       |     | MAX | 3 |   | -9.77   | -1.71  | 154.98 | 150.54 | -159.55 | 268.58 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10009 | 0.000 | 5   | MIN | 3 |   | -5.31   | -12.82 | 4.28   | 3.03   | -6.97   | 8.58   |
|       |       |     | MAX | 3 |   | -220.41 | 185.72 | 32.54  | 186.21 | -221.73 | 222.40 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.625 | 5   | MIN | 3 |   | -5.48   | -12.06 | 4.28   | 3.09   | -6.97   | 8.58   |
|       |       |     | MAX | 3 |   | -185.98 | 151.02 | 32.54  | 151.83 | -187.54 | 188.33 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10010 | 0.000 | 5   | MIN | 3 |   | -5.48   | -12.06 | 4.28   | 3.09   | -6.97   | 8.58   |
|       |       |     | MAX | 3 |   | -185.98 | 151.02 | 32.54  | 151.83 | -187.54 | 188.33 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.625 | 5   | MIN | 3 |   | -5.64   | -11.35 | 4.28   | 3.15   | -6.97   | 8.58   |
|       |       |     | MAX | 3 |   | -150.15 | 115.78 | 32.54  | 116.64 | -152.08 | 153.06 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10011 | 0.000 | 5   | MIN | 3 |   | -4.09   | -4.17  | 23.27  | 22.70  | -24.65  | 40.32  |
|       |       |     | MAX | 3 |   | -141.55 | 122.06 | 145.71 | 171.46 | -182.56 | 255.37 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.926 | 5   | MIN | 3 |   | -8.49   | -4.71  | 23.27  | 23.65  | -25.66  | 40.56  |
|       |       |     | MAX | 3 |   | -48.90  | 41.21  | 145.71 | 141.41 | -151.61 | 252.63 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10012 | 0.000 | 5   | MIN | 3 |   | -8.18   | -4.68  | 28.53  | 28.97  | -30.83  | 49.61  |
|       |       |     | MAX | 3 |   | -46.62  | 40.57  | 155.36 | 158.26 | -167.97 | 270.19 |
|       |       |     |     |   |   |         |        |        |        |         |        |
|       | 0.800 | 5   | MIN | 3 |   | -1.62   | -9.65  | 28.53  | 27.73  | -29.35  | 49.44  |
|       |       |     | MAX | 3 |   | -9.65   | -1.62  | 155.36 | 150.98 | -159.88 | 269.25 |
|       |       |     |     |   |   |         |        |        |        |         |        |
| 10013 | 0.000 | 5   | MIN | 3 |   | -3.14   | -4.66  | 1.24   | 0.69   | -3.34   | 3.45   |
|       |       |     | MAX | 3 |   | -130.21 | 113.54 | 14.36  | 113.82 | -130.55 | 130.72 |

SJ

elastic - elastic : stress check + c/t ratio for buckling, according to EC 3

**Stresses [MPa]**

| Beam  | x[m]  | NoS | LC  | M | A | sig-    | sig+   | tau   | sig-I  | sig-II  | sig-v  |
|-------|-------|-----|-----|---|---|---------|--------|-------|--------|---------|--------|
| 10014 | 0.625 | 5   | MIN | 3 |   | -2.84   | -4.22  | 1.24  | 0.68   | -3.06   | 3.17   |
|       |       |     | MAX | 3 |   | -107.78 | 92.47  | 14.36 | 92.80  | -108.18 | 108.39 |
|       | 0.000 | 5   | MIN | 3 |   | -2.84   | -4.22  | 1.24  | 0.68   | -3.06   | 3.17   |
|       |       |     | MAX | 3 |   | -107.78 | 92.47  | 14.36 | 92.80  | -108.18 | 108.39 |
| 10015 | 0.625 | 5   | MIN | 3 |   | -2.53   | -3.81  | 1.24  | 0.68   | -2.77   | 2.91   |
|       |       |     | MAX | 3 |   | -84.94  | 71.24  | 14.36 | 71.67  | -85.45  | 85.71  |
|       | 0.000 | 5   | MIN | 3 |   | -1.79   | -0.99  | 11.60 | 11.26  | -12.13  | 20.11  |
|       |       |     | MAX | 3 |   | -81.15  | 73.34  | 64.93 | 90.74  | -95.76  | 114.04 |
| 10016 | 0.826 | 5   | MIN | 3 |   | -4.37   | 2.40   | 11.60 | 11.84  | -12.76  | 20.22  |
|       |       |     | MAX | 3 |   | -36.49  | 33.66  | 64.93 | 66.04  | -67.93  | 112.46 |
|       | 0.000 | 5   | MIN | 3 |   | -4.14   | 2.53   | 7.73  | 13.03  | -13.81  | 22.15  |
|       |       |     | MAX | 3 |   | -35.19  | 33.28  | 63.32 | 65.43  | -68.68  | 110.15 |
| 20001 | 0.900 | 5   | MIN | 3 |   | -0.68   | -3.33  | 7.73  | 7.39   | -8.09   | 13.41  |
|       |       |     | MAX | 3 |   | -3.33   | -0.68  | 63.32 | 61.67  | -65.01  | 109.72 |
|       | 0.000 | 4   | MIN | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       |       |     | MAX | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
| 20002 | 0.042 | 4   | MIN | 3 |   | -0.01   | 0.00   | 0.09  | 0.09   | -0.09   | 0.15   |
|       |       |     | MAX | 3 |   | -0.01   | 0.00   | 0.09  | 0.09   | -0.09   | 0.15   |
|       | 0.000 | 4   | MIN | 3 |   | -0.15   | -0.49  | 4.46  | 4.39   | -4.54   | 7.73   |
|       |       |     | MAX | 3 |   | -2.21   | 1.07   | 27.85 | 27.96  | -28.40  | 48.24  |
| 20003 | 1.015 | 4   | MIN | 3 |   | -8.25   | 7.85   | 6.52  | 11.45  | -11.84  | 13.98  |
|       |       |     | MAX | 3 |   | -50.02  | 47.64  | 29.91 | 62.06  | -61.06  | 70.38  |
|       | 0.000 | 4   | MIN | 3 |   | -7.76   | 8.46   | 2.45  | 9.04   | -8.51   | 9.41   |
|       |       |     | MAX | 3 |   | -50.58  | 55.07  | 15.56 | 55.18  | -50.79  | 55.56  |
| 20004 | 1.015 | 4   | MIN | 3 |   | -13.08  | 13.72  | 1.63  | 14.73  | -14.53  | 15.42  |
|       |       |     | MAX | 3 |   | -78.71  | 83.28  | 17.62 | 83.28  | -78.71  | 83.64  |
|       | 0.000 | 4   | MIN | 3 |   | -12.56  | 14.58  | 3.15  | 15.05  | -13.31  | 15.29  |
|       |       |     | MAX | 3 |   | -77.49  | 86.69  | 11.50 | 87.61  | -78.91  | 88.08  |
| 20005 | 1.015 | 4   | MIN | 3 |   | -8.17   | 9.90   | 1.11  | 10.01  | -8.27   | 10.07  |
|       |       |     | MAX | 3 |   | -40.47  | 48.70  | 9.47  | 50.15  | -42.02  | 50.90  |
|       | 0.000 | 4   | MIN | 3 |   | -8.82   | 9.23   | 6.91  | 12.91  | -12.61  | 15.10  |
|       |       |     | MAX | 3 |   | -45.51  | 47.20  | 29.92 | 61.24  | -60.34  | 69.71  |
| 20006 | 1.015 | 4   | MIN | 3 |   | 0.05    | 0.25   | 4.85  | 4.93   | -4.83   | 8.41   |
|       |       |     | MAX | 3 |   | -0.91   | 2.22   | 27.86 | 28.46  | -28.15  | 48.27  |
|       | 0.000 | 4   | MIN | 3 |   | 0.00    | 0.01   | 0.09  | 0.09   | -0.09   | 0.15   |
|       |       |     | MAX | 3 |   | 0.00    | 0.01   | 0.09  | 0.09   | -0.09   | 0.15   |
| 20007 | 0.042 | 4   | MIN | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       |       |     | MAX | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       | 0.000 | 4   | MIN | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       |       |     | MAX | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
| 20008 | 0.042 | 4   | MIN | 3 |   | -0.01   | 0.00   | 0.09  | 0.09   | -0.09   | 0.15   |
|       |       |     | MAX | 3 |   | -0.01   | 0.00   | 0.09  | 0.09   | -0.09   | 0.15   |
|       | 0.000 | 4   | MIN | 3 |   | -0.55   | -1.55  | 11.24 | 11.15  | -11.52  | 19.48  |
|       |       |     | MAX | 3 |   | -2.94   | 0.78   | 68.95 | 68.18  | -69.77  | 119.44 |
| 20009 | 1.015 | 4   | MIN | 3 |   | -18.32  | 17.42  | 13.30 | 24.61  | -25.12  | 29.28  |
|       |       |     | MAX | 3 |   | -112.13 | 107.55 | 71.01 | 142.85 | -144.82 | 165.01 |
|       | 0.000 | 4   | MIN | 3 |   | -16.89  | 18.32  | 6.03  | 20.12  | -18.48  | 21.09  |
|       |       |     | MAX | 3 |   | -108.03 | 118.52 | 34.48 | 123.98 | -112.35 | 126.80 |
| 20010 | 1.015 | 4   | MIN | 3 |   | -29.60  | 30.72  | 4.77  | 32.72  | -31.10  | 33.77  |
|       |       |     | MAX | 3 |   | -194.56 | 202.92 | 36.54 | 206.73 | -197.42 | 208.67 |
|       | 0.000 | 4   | MIN | 3 |   | -27.40  | 31.48  | 8.07  | 33.42  | -29.00  | 34.44  |
|       |       |     | MAX | 3 |   | -178.77 | 201.54 | 42.15 | 209.56 | -185.30 | 213.68 |
| 20011 | 1.015 | 4   | MIN | 3 |   | -15.87  | 19.87  | 6.01  | 21.54  | -17.55  | 22.43  |
|       |       |     | MAX | 3 |   | -87.81  | 110.55 | 40.09 | 122.88 | -100.82 | 129.49 |
|       | 0.000 | 4   | MIN | 3 |   | -16.90  | 17.78  | 13.00 | 24.60  | -23.96  | 28.66  |
|       |       |     | MAX | 3 |   | -95.51  | 99.84  | 67.46 | 133.56 | -130.40 | 153.46 |
| 20012 | 1.015 | 4   | MIN | 3 |   | 1.18    | 0.67   | 10.95 | 11.29  | -10.88  | 18.97  |
|       |       |     | MAX | 3 |   | -0.02   | 3.23   | 65.40 | 66.82  | -64.82  | 113.31 |
|       | 0.000 | 4   | MIN | 3 |   | 0.00    | 0.01   | 0.09  | 0.09   | -0.09   | 0.15   |
|       |       |     | MAX | 3 |   | 0.00    | 0.01   | 0.09  | 0.09   | -0.09   | 0.15   |
|       | 0.042 | 4   | MIN | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       |       |     | MAX | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |

SJ

elastic - elastic : stress check + c/t ratio for buckling, according to EC 3

**Stresses [MPa]**

| Beam  | x[m]  | NoS | LC  | M | A | sig-    | sig+   | tau   | sig-I  | sig-II  | sig-v  |
|-------|-------|-----|-----|---|---|---------|--------|-------|--------|---------|--------|
| 20013 | 0.000 | 4   | MIN | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       |       |     | MAX | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       | 0.042 | 4   | MIN | 3 |   | -0.01   | 0.00   | 0.09  | 0.09   | -0.09   | 0.15   |
|       |       |     | MAX | 3 |   | -0.01   | 0.00   | 0.09  | 0.09   | -0.09   | 0.15   |
| 20014 | 0.000 | 4   | MIN | 3 |   | -0.54   | -1.56  | 11.38 | 11.28  | -11.64  | 19.71  |
|       |       |     | MAX | 3 |   | -2.99   | 0.81   | 69.10 | 68.33  | -69.88  | 119.70 |
|       | 1.015 | 4   | MIN | 3 |   | -18.65  | 17.85  | 13.44 | 24.82  | -25.68  | 29.82  |
|       |       |     | MAX | 3 |   | -112.29 | 108.53 | 71.16 | 141.82 | -146.79 | 166.73 |
| 20015 | 0.000 | 4   | MIN | 3 |   | -17.10  | 18.56  | 5.92  | 20.16  | -18.95  | 21.09  |
|       |       |     | MAX | 3 |   | -105.90 | 117.09 | 34.84 | 122.68 | -110.36 | 125.56 |
|       | 1.015 | 4   | MIN | 3 |   | -28.84  | 30.11  | 5.22  | 32.09  | -30.72  | 33.13  |
|       |       |     | MAX | 3 |   | -190.41 | 199.91 | 36.90 | 203.82 | -193.37 | 205.80 |
| 20016 | 0.000 | 4   | MIN | 3 |   | -27.04  | 31.28  | 7.96  | 32.86  | -29.21  | 33.86  |
|       |       |     | MAX | 3 |   | -178.70 | 202.59 | 41.34 | 208.32 | -187.60 | 211.25 |
|       | 1.015 | 4   | MIN | 3 |   | -15.70  | 19.67  | 5.90  | 21.31  | -17.34  | 22.17  |
|       |       |     | MAX | 3 |   | -86.98  | 109.84 | 39.28 | 122.16 | -100.83 | 128.76 |
| 20017 | 0.000 | 4   | MIN | 3 |   | -16.76  | 17.64  | 12.94 | 24.41  | -23.79  | 28.46  |
|       |       |     | MAX | 3 |   | -95.63  | 100.12 | 67.37 | 133.04 | -130.43 | 152.97 |
|       | 1.015 | 4   | MIN | 3 |   | 1.18    | 0.68   | 10.88 | 11.23  | -10.81  | 18.86  |
|       |       |     | MAX | 3 |   | -0.10   | 3.29   | 65.31 | 66.72  | -64.73  | 113.15 |
| 20018 | 0.000 | 4   | MIN | 3 |   | 0.00    | 0.01   | 0.09  | 0.09   | -0.09   | 0.15   |
|       |       |     | MAX | 3 |   | 0.00    | 0.01   | 0.09  | 0.09   | -0.09   | 0.15   |
|       | 0.042 | 4   | MIN | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       |       |     | MAX | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
| 20019 | 0.000 | 4   | MIN | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       |       |     | MAX | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       | 0.042 | 4   | MIN | 3 |   | -0.01   | 0.00   | 0.09  | 0.09   | -0.09   | 0.15   |
|       |       |     | MAX | 3 |   | -0.01   | 0.00   | 0.09  | 0.09   | -0.09   | 0.15   |
| 20020 | 0.000 | 4   | MIN | 3 |   | -0.15   | -0.49  | 4.50  | 4.44   | -4.58   | 7.80   |
|       |       |     | MAX | 3 |   | -2.31   | 1.18   | 27.88 | 28.03  | -28.45  | 48.30  |
|       | 1.015 | 4   | MIN | 3 |   | -8.43   | 7.98   | 6.56  | 11.67  | -11.88  | 14.05  |
|       |       |     | MAX | 3 |   | -48.57  | 46.77  | 29.94 | 61.37  | -62.13  | 70.46  |
| 20021 | 0.000 | 4   | MIN | 3 |   | -7.92   | 8.60   | 2.34  | 9.20   | -8.39   | 9.51   |
|       |       |     | MAX | 3 |   | -48.89  | 53.77  | 15.25 | 54.42  | -49.44  | 54.77  |
|       | 1.015 | 4   | MIN | 3 |   | -14.00  | 14.25  | 1.53  | 15.50  | -14.92  | 16.16  |
|       |       |     | MAX | 3 |   | -88.49  | 90.65  | 17.31 | 90.67  | -88.73  | 90.97  |
| 20022 | 0.000 | 4   | MIN | 3 |   | -13.26  | 14.85  | 3.18  | 15.50  | -13.78  | 15.83  |
|       |       |     | MAX | 3 |   | -83.49  | 89.72  | 11.64 | 90.95  | -84.44  | 91.57  |
|       | 1.015 | 4   | MIN | 3 |   | -8.23   | 9.91   | 1.15  | 10.04  | -8.34   | 10.10  |
|       |       |     | MAX | 3 |   | -40.38  | 48.60  | 9.63  | 49.90  | -42.08  | 50.65  |
| 20023 | 0.000 | 4   | MIN | 3 |   | -8.85   | 9.23   | 6.89  | 12.91  | -12.49  | 15.09  |
|       |       |     | MAX | 3 |   | -45.69  | 47.43  | 29.88 | 61.13  | -60.46  | 69.59  |
|       | 1.015 | 4   | MIN | 3 |   | 0.05    | 0.24   | 4.83  | 4.91   | -4.81   | 8.37   |
|       |       |     | MAX | 3 |   | -0.98   | 2.24   | 27.82 | 28.43  | -28.13  | 48.20  |
| 20024 | 0.000 | 4   | MIN | 3 |   | 0.00    | 0.01   | 0.09  | 0.09   | -0.09   | 0.15   |
|       |       |     | MAX | 3 |   | 0.00    | 0.01   | 0.09  | 0.09   | -0.09   | 0.15   |
|       | 0.042 | 4   | MIN | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
|       |       |     | MAX | 3 |   | 0.00    | 0.00   | 0.00  | 0.00   | 0.00    | 0.00   |
| 30001 | 0.000 | 4   | MIN | 3 |   | -2.38   | -14.61 | 1.91  | 0.93   | -3.44   | 4.07   |
|       |       |     | MAX | 3 |   | -14.61  | -2.38  | 11.27 | 6.82   | -19.98  | 23.80  |
|       | 0.828 | 4   | MIN | 3 |   | -3.12   | -13.65 | 1.22  | 0.66   | -3.54   | 3.77   |
|       |       |     | MAX | 3 |   | -15.40  | -1.47  | 10.58 | 6.50   | -20.02  | 23.32  |
| 30002 | 0.000 | 4   | MIN | 3 |   | -3.12   | -13.65 | 1.22  | 0.66   | -3.54   | 3.77   |
|       |       |     | MAX | 3 |   | -15.40  | -1.47  | 10.58 | 6.50   | -20.02  | 23.32  |
|       | 0.828 | 4   | MIN | 3 |   | -3.04   | -13.57 | 0.53  | 0.18   | -3.13   | 3.17   |
|       |       |     | MAX | 3 |   | -15.31  | -1.39  | 9.90  | 5.88   | -19.39  | 22.35  |
| 30003 | 0.000 | 4   | MIN | 3 |   | -3.04   | -13.57 | 0.53  | 0.18   | -3.13   | 3.17   |
|       |       |     | MAX | 3 |   | -15.31  | -1.39  | 9.90  | 5.88   | -19.39  | 22.35  |
|       | 0.828 | 4   | MIN | 3 |   | -2.13   | -14.36 | 0.21  | 0.02   | -2.15   | 2.16   |
|       |       |     | MAX | 3 |   | -14.36  | -2.13  | 9.21  | 4.99   | -18.07  | 20.82  |
| 30004 | 0.000 | 4   | MIN | 3 |   | -1.43   | -8.22  | 3.19  | 2.56   | -3.99   | 5.71   |
|       |       |     | MAX | 3 |   | -8.22   | -1.43  | 31.59 | 28.35  | -35.21  | 55.15  |

SJ

elastic - elastic : stress check + c/t ratio for buckling, according to EC 3

**Stresses [MPa]**

| Beam  | x[m]  | NoS | LC  | M | A | sig-   | sig+   | tau   | sig-I | sig-II | sig-v |
|-------|-------|-----|-----|---|---|--------|--------|-------|-------|--------|-------|
| 30005 | 0.819 | 4   | MIN | 3 |   | -1.41  | -8.20  | 1.13  | 0.63  | -2.04  | 2.42  |
|       |       |     | MAX | 3 |   | -8.20  | -1.41  | 29.54 | 26.32 | -33.15 | 51.61 |
|       | 0.000 | 4   | MIN | 3 |   | -1.18  | -6.07  | 0.08  | 0.00  | -1.84  | 2.25  |
|       |       |     | MAX | 3 |   | -6.07  | -1.18  | 6.19  | 4.66  | -9.37  | 11.44 |
| 30006 | 0.828 | 4   | MIN | 3 |   | -1.92  | -5.15  | 0.42  | 0.14  | -2.01  | 2.05  |
|       |       |     | MAX | 3 |   | -6.83  | -0.28  | 5.50  | 4.34  | -9.37  | 10.91 |
|       | 0.000 | 4   | MIN | 3 |   | -1.92  | -5.15  | 0.42  | 0.14  | -2.01  | 2.05  |
|       |       |     | MAX | 3 |   | -6.83  | -0.28  | 5.50  | 4.34  | -9.37  | 10.91 |
| 30007 | 0.828 | 4   | MIN | 3 |   | -1.83  | -5.06  | 0.26  | 0.19  | -1.87  | 1.89  |
|       |       |     | MAX | 3 |   | -6.75  | -0.19  | 4.81  | 3.71  | -8.75  | 9.95  |
|       | 0.000 | 4   | MIN | 3 |   | -1.83  | -5.06  | 0.26  | 0.19  | -1.87  | 1.89  |
|       |       |     | MAX | 3 |   | -6.75  | -0.19  | 4.81  | 3.71  | -8.75  | 9.95  |
| 30008 | 0.828 | 4   | MIN | 3 |   | -0.93  | -5.82  | 0.95  | 0.21  | -1.52  | 1.89  |
|       |       |     | MAX | 3 |   | -5.82  | -0.93  | 4.13  | 2.79  | -7.45  | 8.44  |
|       | 0.000 | 4   | MIN | 3 |   | -0.72  | -3.42  | 1.79  | 1.46  | -2.18  | 3.18  |
|       |       |     | MAX | 3 |   | -3.42  | -0.72  | 17.94 | 16.63 | -19.36 | 31.19 |
| 30009 | 0.846 | 4   | MIN | 3 |   | -0.69  | -3.39  | 0.32  | 0.12  | -0.81  | 0.88  |
|       |       |     | MAX | 3 |   | -3.39  | -0.69  | 15.88 | 14.59 | -17.29 | 27.64 |
|       | 0.000 | 4   | MIN | 3 |   | -1.44  | -8.22  | 2.95  | 2.31  | -3.75  | 5.30  |
|       |       |     | MAX | 3 |   | -8.22  | -1.44  | 33.24 | 29.99 | -36.85 | 57.98 |
| 30010 | 0.819 | 4   | MIN | 3 |   | -1.42  | -8.20  | 0.89  | 0.43  | -1.85  | 2.10  |
|       |       |     | MAX | 3 |   | -8.20  | -1.42  | 31.18 | 27.95 | -34.79 | 54.44 |
|       | 0.000 | 4   | MIN | 3 |   | -2.52  | -14.71 | 2.11  | 0.73  | -3.72  | 4.44  |
|       |       |     | MAX | 3 |   | -14.71 | -2.52  | 11.96 | 7.84  | -20.64 | 24.85 |
| 30011 | 0.828 | 4   | MIN | 3 |   | -3.26  | -13.76 | 1.43  | 0.48  | -3.79  | 4.09  |
|       |       |     | MAX | 3 |   | -15.50 | -1.61  | 11.28 | 7.51  | -20.66 | 24.33 |
|       | 0.000 | 4   | MIN | 3 |   | -3.26  | -13.76 | 1.43  | 0.48  | -3.79  | 4.09  |
|       |       |     | MAX | 3 |   | -15.50 | -1.61  | 11.28 | 7.51  | -20.66 | 24.33 |
| 30012 | 0.828 | 4   | MIN | 3 |   | -3.17  | -13.67 | 0.74  | 0.25  | -3.34  | 3.42  |
|       |       |     | MAX | 3 |   | -15.42 | -1.53  | 10.59 | 6.89  | -20.03 | 23.33 |
|       | 0.000 | 4   | MIN | 3 |   | -3.17  | -13.67 | 0.74  | 0.25  | -3.34  | 3.42  |
|       |       |     | MAX | 3 |   | -15.42 | -1.53  | 10.59 | 6.89  | -20.03 | 23.33 |
| 30013 | 0.828 | 4   | MIN | 3 |   | -2.27  | -14.46 | 0.06  | 0.00  | -2.27  | 2.27  |
|       |       |     | MAX | 3 |   | -14.46 | -2.27  | 9.91  | 5.98  | -18.71 | 21.81 |
|       | 0.000 | 4   | MIN | 3 |   | -1.20  | -6.13  | 0.13  | 0.00  | -1.90  | 2.34  |
|       |       |     | MAX | 3 |   | -6.13  | -1.20  | 6.46  | 4.90  | -9.68  | 11.91 |
| 30014 | 0.828 | 4   | MIN | 3 |   | -1.94  | -5.19  | 0.47  | 0.12  | -2.05  | 2.10  |
|       |       |     | MAX | 3 |   | -6.89  | -0.29  | 5.78  | 4.59  | -9.67  | 11.35 |
|       | 0.000 | 4   | MIN | 3 |   | -1.94  | -5.19  | 0.47  | 0.12  | -2.05  | 2.10  |
|       |       |     | MAX | 3 |   | -6.89  | -0.29  | 5.78  | 4.59  | -9.67  | 11.35 |
| 30015 | 0.828 | 4   | MIN | 3 |   | -1.85  | -5.11  | 0.21  | 0.13  | -1.88  | 1.89  |
|       |       |     | MAX | 3 |   | -6.81  | -0.21  | 5.09  | 3.95  | -9.04  | 10.37 |
|       | 0.000 | 4   | MIN | 3 |   | -1.85  | -5.11  | 0.21  | 0.13  | -1.88  | 1.89  |
|       |       |     | MAX | 3 |   | -6.81  | -0.21  | 5.09  | 3.95  | -9.04  | 10.37 |
| 30016 | 0.828 | 4   | MIN | 3 |   | -0.95  | -5.88  | 0.90  | 0.29  | -1.49  | 1.82  |
|       |       |     | MAX | 3 |   | -5.88  | -0.95  | 4.40  | 3.03  | -7.74  | 8.86  |
|       | 0.000 | 4   | MIN | 3 |   | -0.71  | -3.40  | 1.88  | 1.56  | -2.27  | 3.33  |
|       |       |     | MAX | 3 |   | -3.40  | -0.71  | 18.80 | 17.49 | -20.20 | 32.67 |
| 40001 | 0.846 | 4   | MIN | 3 |   | -0.68  | -3.37  | 0.24  | 0.08  | -0.76  | 0.80  |
|       |       |     | MAX | 3 |   | -3.37  | -0.68  | 16.74 | 15.46 | -18.13 | 29.12 |
|       | 0.000 | 4   | MIN | 3 |   | -0.05  | -0.30  | 0.33  | 0.23  | -0.47  | 0.62  |
|       |       |     | MAX | 3 |   | -0.30  | -0.05  | 3.48  | 3.35  | -3.62  | 6.04  |
| 40002 | 0.899 | 4   | MIN | 3 |   | -6.93  | 5.24   | 0.23  | 5.30  | -6.93  | 6.93  |
|       |       |     | MAX | 3 |   | -7.21  | 5.48   | 3.07  | 6.79  | -7.84  | 8.29  |
|       | 0.000 | 4   | MIN | 3 |   | -6.93  | 5.24   | 0.23  | 5.30  | -6.93  | 6.93  |
|       |       |     | MAX | 3 |   | -7.21  | 5.48   | 3.07  | 6.79  | -7.84  | 8.29  |
| 40003 | 0.899 | 4   | MIN | 3 |   | -6.91  | 5.26   | 0.38  | 5.31  | -7.15  | 7.15  |
|       |       |     | MAX | 3 |   | -7.18  | 5.50   | 4.89  | 8.32  | -8.86  | 10.24 |
|       | 0.000 | 4   | MIN | 3 |   | -6.91  | 5.26   | 0.38  | 5.31  | -7.15  | 7.15  |
|       |       |     | MAX | 3 |   | -7.18  | 5.50   | 4.89  | 8.32  | -8.86  | 10.24 |
|       | 0.899 | 4   | MIN | 3 |   | 0.02   | -0.24  | 2.27  | 2.17  | -2.37  | 3.93  |
|       |       |     | MAX | 3 |   | -0.24  | 0.02   | 6.74  | 6.72  | -6.77  | 11.68 |

SJ

elastic - elastic : stress check + c/t ratio for buckling, according to EC 3

**Stresses [MPa]**

| Beam  | x[m]  | NoS | LC  | M | A | sig-   | sig+   | tau    | sig-I  | sig-II  | sig-v  |
|-------|-------|-----|-----|---|---|--------|--------|--------|--------|---------|--------|
| 40004 | 0.000 | 1   | MIN | 3 |   | -0.08  | 0.11   | 21.04  | 21.05  | -21.03  | 36.44  |
|       |       |     | MAX | 3 |   | -0.96  | 1.34   | 134.79 | 134.92 | -134.65 | 233.46 |
|       | 0.833 | 1   | MIN | 3 |   | -13.45 | 22.01  | 6.91   | 23.14  | -15.50  | 23.72  |
|       |       |     | MAX | 3 |   | -81.63 | 127.25 | 44.39  | 135.19 | -95.43  | 139.34 |
| 40005 | 0.000 | 1   | MIN | 3 |   | -13.45 | 22.01  | 6.91   | 23.14  | -15.50  | 23.72  |
|       |       |     | MAX | 3 |   | -81.63 | 127.25 | 44.39  | 135.19 | -95.43  | 139.34 |
|       | 0.833 | 1   | MIN | 3 |   | -12.23 | 17.83  | 7.22   | 19.30  | -14.56  | 20.07  |
|       |       |     | MAX | 3 |   | -72.37 | 100.28 | 46.01  | 110.34 | -88.29  | 115.70 |
| 40006 | 0.000 | 1   | MIN | 3 |   | -12.23 | 17.83  | 7.22   | 19.30  | -14.56  | 20.07  |
|       |       |     | MAX | 3 |   | -72.37 | 100.28 | 46.01  | 110.34 | -88.28  | 115.70 |
|       | 0.833 | 1   | MIN | 3 |   | -12.56 | 8.63   | 21.35  | 23.06  | -25.53  | 37.77  |
|       |       |     | MAX | 3 |   | -87.41 | 55.72  | 136.39 | 148.72 | -166.28 | 242.41 |
| 40007 | 0.000 | 1   | MIN | 3 |   | -12.54 | 8.51   | 21.20  | 22.78  | -25.39  | 37.52  |
|       |       |     | MAX | 3 |   | -87.42 | 55.89  | 135.61 | 147.20 | -165.50 | 241.09 |
|       | 0.833 | 1   | MIN | 3 |   | -10.84 | 13.53  | 7.07   | 15.30  | -13.31  | 16.90  |
|       |       |     | MAX | 3 |   | -62.94 | 76.92  | 45.21  | 88.95  | -80.33  | 101.31 |
| 40008 | 0.000 | 1   | MIN | 3 |   | -10.84 | 13.53  | 7.07   | 15.30  | -13.31  | 16.90  |
|       |       |     | MAX | 3 |   | -62.94 | 76.92  | 45.21  | 88.95  | -80.33  | 101.31 |
|       | 0.833 | 1   | MIN | 3 |   | -10.71 | 13.39  | 7.06   | 15.17  | -13.20  | 16.81  |
|       |       |     | MAX | 3 |   | -62.67 | 76.94  | 45.19  | 88.96  | -80.06  | 101.26 |
| 40009 | 0.000 | 1   | MIN | 3 |   | -10.71 | 13.39  | 7.06   | 15.17  | -13.20  | 16.81  |
|       |       |     | MAX | 3 |   | -62.67 | 76.94  | 45.19  | 88.96  | -80.06  | 101.26 |
|       | 0.833 | 1   | MIN | 3 |   | -12.96 | 8.26   | 21.19  | 22.85  | -25.61  | 37.58  |
|       |       |     | MAX | 3 |   | -87.82 | 54.77  | 135.56 | 147.12 | -165.79 | 241.14 |
| 40010 | 0.000 | 1   | MIN | 3 |   | -12.95 | 8.16   | 21.35  | 23.11  | -25.78  | 37.86  |
|       |       |     | MAX | 3 |   | -88.01 | 55.01  | 136.40 | 148.83 | -166.67 | 242.57 |
|       | 0.833 | 1   | MIN | 3 |   | -11.89 | 17.58  | 7.23   | 19.06  | -14.27  | 19.84  |
|       |       |     | MAX | 3 |   | -71.65 | 100.50 | 46.02  | 110.54 | -87.75  | 115.89 |
| 40011 | 0.000 | 1   | MIN | 3 |   | -11.89 | 17.58  | 7.23   | 19.06  | -14.27  | 19.84  |
|       |       |     | MAX | 3 |   | -71.65 | 100.50 | 46.02  | 110.54 | -87.75  | 115.89 |
|       | 0.833 | 1   | MIN | 3 |   | -13.24 | 21.90  | 6.90   | 23.03  | -15.31  | 23.61  |
|       |       |     | MAX | 3 |   | -80.90 | 127.43 | 44.36  | 135.36 | -94.78  | 139.49 |
| 40012 | 0.000 | 1   | MIN | 3 |   | -13.24 | 21.90  | 6.90   | 23.03  | -15.31  | 23.61  |
|       |       |     | MAX | 3 |   | -80.90 | 127.43 | 44.36  | 135.36 | -94.78  | 139.49 |
|       | 0.833 | 1   | MIN | 3 |   | -0.11  | 0.08   | 21.04  | 21.03  | -21.04  | 36.43  |
|       |       |     | MAX | 3 |   | -1.43  | 0.92   | 134.75 | 134.84 | -134.66 | 233.40 |
| 40013 | 0.000 | 2   | MIN | 3 |   | -0.02  | 0.01   | 9.22   | 9.01   | -9.69   | 16.00  |
|       |       |     | MAX | 3 |   | -1.13  | 2.10   | 91.94  | 91.91  | -91.96  | 159.24 |
|       | 0.833 | 2   | MIN | 3 |   | -11.12 | 14.51  | 3.17   | 15.33  | -12.91  | 15.76  |
|       |       |     | MAX | 3 |   | -75.93 | 90.40  | 30.76  | 95.43  | -86.23  | 98.04  |
| 40014 | 0.000 | 2   | MIN | 3 |   | -11.12 | 14.51  | 3.17   | 15.33  | -12.91  | 15.76  |
|       |       |     | MAX | 3 |   | -75.93 | 90.40  | 30.76  | 95.43  | -86.23  | 98.04  |
|       | 0.833 | 2   | MIN | 3 |   | -7.32  | 9.71   | 2.92   | 10.85  | -9.65   | 11.46  |
|       |       |     | MAX | 3 |   | -56.65 | 63.74  | 30.46  | 70.25  | -68.76  | 75.55  |
| 40015 | 0.000 | 2   | MIN | 3 |   | -7.32  | 9.71   | 2.92   | 10.85  | -9.65   | 11.46  |
|       |       |     | MAX | 3 |   | -56.65 | 63.74  | 30.46  | 70.25  | -68.76  | 75.55  |
|       | 0.833 | 2   | MIN | 3 |   | -14.41 | 11.42  | 8.99   | 21.10  | -18.60  | 27.26  |
|       |       |     | MAX | 3 |   | -80.16 | 63.48  | 91.60  | 128.68 | -118.76 | 170.88 |
| 40016 | 0.000 | 2   | MIN | 3 |   | -14.43 | 11.43  | 9.15   | 21.14  | -19.84  | 27.32  |
|       |       |     | MAX | 3 |   | -80.66 | 63.55  | 91.77  | 128.90 | -118.95 | 171.19 |
|       | 0.833 | 2   | MIN | 3 |   | -3.73  | 5.05   | 3.07   | 6.86   | -6.99   | 9.08   |
|       |       |     | MAX | 3 |   | -48.83 | 53.23  | 30.59  | 57.30  | -54.14  | 63.21  |
| 40017 | 0.000 | 2   | MIN | 3 |   | -3.73  | 5.05   | 3.07   | 6.86   | -6.99   | 9.08   |
|       |       |     | MAX | 3 |   | -48.83 | 53.23  | 30.59  | 57.30  | -54.14  | 63.21  |
|       | 0.833 | 2   | MIN | 3 |   | -3.95  | 5.21   | 3.00   | 6.99   | -7.14   | 9.16   |
|       |       |     | MAX | 3 |   | -48.69 | 52.65  | 30.58  | 56.75  | -54.00  | 63.29  |
| 40018 | 0.000 | 2   | MIN | 3 |   | -3.95  | 5.21   | 3.00   | 6.99   | -7.14   | 9.16   |
|       |       |     | MAX | 3 |   | -48.69 | 52.65  | 30.58  | 56.75  | -54.00  | 63.29  |
|       | 0.833 | 2   | MIN | 3 |   | -13.93 | 10.75  | 9.07   | 20.67  | -18.78  | 27.02  |
|       |       |     | MAX | 3 |   | -80.13 | 62.93  | 91.74  | 128.45 | -118.78 | 170.90 |
| 40019 | 0.000 | 2   | MIN | 3 |   | -13.91 | 10.74  | 9.05   | 20.63  | -19.61  | 26.98  |
|       |       |     | MAX | 3 |   | -80.26 | 62.87  | 91.58  | 128.26 | -118.66 | 170.63 |

SJ

elastic - elastic : stress check + c/t ratio for buckling, according to EC 3

**Stresses [MPa]**

| Beam  | x[m]  | NoS | LC  | M | A | sig-    | sig+   | tau    | sig-I  | sig-II  | sig-v  |
|-------|-------|-----|-----|---|---|---------|--------|--------|--------|---------|--------|
| 40020 | 0.833 | 2   | MIN | 3 |   | -7.77   | 10.04  | 2.98   | 11.14  | -10.01  | 11.74  |
|       |       |     | MAX | 3 |   | -57.01  | 63.69  | 30.46  | 70.21  | -69.08  | 75.83  |
|       | 0.000 | 2   | MIN | 3 |   | -7.77   | 10.04  | 2.98   | 11.14  | -10.01  | 11.74  |
|       |       |     | MAX | 3 |   | -57.01  | 63.69  | 30.46  | 70.21  | -69.08  | 75.83  |
| 40021 | 0.833 | 2   | MIN | 3 |   | -11.35  | 14.67  | 3.15   | 15.48  | -13.11  | 15.90  |
|       |       |     | MAX | 3 |   | -75.93  | 90.61  | 30.75  | 95.62  | -86.22  | 98.22  |
|       | 0.000 | 2   | MIN | 3 |   | -11.35  | 14.67  | 3.15   | 15.48  | -13.11  | 15.90  |
|       |       |     | MAX | 3 |   | -75.93  | 90.61  | 30.75  | 95.62  | -86.22  | 98.22  |
| 40022 | 0.833 | 2   | MIN | 3 |   | -0.01   | 0.01   | 9.16   | 9.69   | -8.86   | 15.90  |
|       |       |     | MAX | 3 |   | -2.02   | 1.15   | 91.92  | 91.90  | -91.94  | 159.21 |
|       | 0.000 | 3   | MIN | 3 |   | -0.03   | 0.02   | 21.54  | 21.54  | -21.53  | 37.30  |
|       |       |     | MAX | 3 |   | -1.60   | 2.77   | 145.45 | 145.06 | -145.83 | 251.93 |
| 40023 | 0.833 | 3   | MIN | 3 |   | -11.49  | 17.22  | 6.96   | 18.87  | -14.08  | 19.75  |
|       |       |     | MAX | 3 |   | -95.17  | 125.33 | 46.87  | 135.81 | -110.34 | 141.34 |
|       | 0.000 | 3   | MIN | 3 |   | -11.49  | 17.22  | 6.96   | 18.87  | -14.08  | 19.75  |
|       |       |     | MAX | 3 |   | -95.17  | 125.33 | 46.87  | 135.81 | -110.34 | 141.34 |
| 40024 | 0.833 | 3   | MIN | 3 |   | -6.35   | 9.98   | 7.66   | 12.49  | -10.66  | 13.91  |
|       |       |     | MAX | 3 |   | -61.26  | 72.31  | 51.71  | 88.15  | -82.15  | 99.50  |
|       | 0.000 | 3   | MIN | 3 |   | -6.35   | 9.98   | 7.66   | 12.49  | -10.66  | 13.91  |
|       |       |     | MAX | 3 |   | -61.26  | 72.31  | 51.71  | 88.15  | -82.15  | 99.50  |
| 40025 | 0.833 | 3   | MIN | 3 |   | -21.71  | 15.43  | 22.26  | 29.53  | -30.83  | 39.75  |
|       |       |     | MAX | 3 |   | -159.30 | 109.34 | 150.25 | 200.49 | -217.44 | 266.79 |
|       | 0.000 | 3   | MIN | 3 |   | -21.68  | 15.40  | 21.91  | 29.36  | -30.81  | 39.28  |
|       |       |     | MAX | 3 |   | -159.06 | 107.89 | 147.89 | 198.63 | -217.42 | 264.06 |
| 40026 | 0.833 | 3   | MIN | 3 |   | -1.64   | 2.98   | 7.31   | 7.83   | -7.75   | 12.70  |
|       |       |     | MAX | 3 |   | -38.83  | 53.89  | 49.31  | 64.99  | -61.87  | 87.42  |
|       | 0.000 | 3   | MIN | 3 |   | -1.64   | 2.98   | 7.31   | 7.83   | -7.75   | 12.70  |
|       |       |     | MAX | 3 |   | -38.83  | 53.89  | 49.31  | 64.99  | -61.87  | 87.42  |
| 40027 | 0.833 | 3   | MIN | 3 |   | -1.76   | 3.18   | 7.29   | 7.96   | -7.90   | 12.65  |
|       |       |     | MAX | 3 |   | -38.44  | 52.67  | 49.27  | 64.19  | -61.82  | 87.33  |
|       | 0.000 | 3   | MIN | 3 |   | -1.76   | 3.18   | 7.29   | 7.96   | -7.90   | 12.65  |
|       |       |     | MAX | 3 |   | -38.44  | 52.67  | 49.27  | 64.19  | -61.82  | 87.33  |
| 40028 | 0.833 | 3   | MIN | 3 |   | -21.08  | 14.62  | 21.88  | 28.89  | -30.38  | 39.04  |
|       |       |     | MAX | 3 |   | -158.43 | 107.69 | 147.81 | 198.44 | -216.88 | 263.76 |
|       | 0.000 | 3   | MIN | 3 |   | -21.17  | 14.67  | 22.25  | 29.08  | -30.42  | 39.54  |
|       |       |     | MAX | 3 |   | -159.69 | 107.12 | 150.30 | 199.20 | -217.75 | 266.06 |
| 40029 | 0.833 | 3   | MIN | 3 |   | -6.85   | 10.32  | 7.66   | 12.77  | -11.00  | 14.15  |
|       |       |     | MAX | 3 |   | -62.64  | 71.98  | 51.75  | 87.87  | -83.03  | 100.44 |
|       | 0.000 | 3   | MIN | 3 |   | -6.85   | 10.32  | 7.66   | 12.77  | -11.00  | 14.15  |
|       |       |     | MAX | 3 |   | -62.64  | 71.98  | 51.75  | 87.87  | -83.03  | 100.44 |
| 40030 | 0.833 | 3   | MIN | 3 |   | -11.73  | 17.35  | 6.96   | 18.99  | -14.28  | 19.86  |
|       |       |     | MAX | 3 |   | -94.95  | 125.04 | 46.84  | 135.52 | -110.14 | 141.06 |
|       | 0.000 | 3   | MIN | 3 |   | -11.73  | 17.35  | 6.96   | 18.99  | -14.28  | 19.86  |
|       |       |     | MAX | 3 |   | -94.95  | 125.04 | 46.84  | 135.52 | -110.14 | 141.06 |
| 40031 | 0.833 | 3   | MIN | 3 |   | -0.07   | 0.04   | 21.54  | 21.53  | -21.54  | 37.31  |
|       |       |     | MAX | 3 |   | -3.52   | 2.15   | 145.38 | 145.75 | -145.00 | 251.80 |
|       | 0.000 | 3   | MIN | 3 |   | -0.04   | 0.02   | 21.49  | 21.48  | -21.49  | 37.22  |
|       |       |     | MAX | 3 |   | -1.10   | 1.86   | 144.26 | 143.98 | -144.53 | 249.86 |
| 40032 | 0.833 | 3   | MIN | 3 |   | -13.13  | 19.08  | 6.89   | 20.54  | -15.40  | 21.31  |
|       |       |     | MAX | 3 |   | -92.18  | 124.17 | 46.21  | 134.35 | -107.16 | 139.71 |
|       | 0.000 | 3   | MIN | 3 |   | -13.13  | 19.08  | 6.89   | 20.54  | -15.40  | 21.31  |
|       |       |     | MAX | 3 |   | -92.18  | 124.17 | 46.21  | 134.35 | -107.16 | 139.71 |
| 40033 | 0.833 | 3   | MIN | 3 |   | -9.63   | 13.75  | 7.71   | 15.81  | -12.98  | 16.93  |
|       |       |     | MAX | 3 |   | -64.82  | 81.98  | 51.84  | 96.98  | -87.27  | 105.32 |
|       | 0.000 | 3   | MIN | 3 |   | -9.63   | 13.75  | 7.71   | 15.81  | -12.98  | 16.93  |
|       |       |     | MAX | 3 |   | -64.82  | 81.98  | 51.84  | 96.98  | -87.27  | 105.32 |
| 40034 | 0.833 | 3   | MIN | 3 |   | -16.04  | 10.51  | 22.31  | 26.77  | -27.42  | 38.93  |
|       |       |     | MAX | 3 |   | -126.72 | 81.69  | 149.86 | 185.01 | -193.74 | 261.69 |
|       | 0.000 | 3   | MIN | 3 |   | -16.07  | 10.53  | 21.90  | 26.50  | -27.42  | 38.30  |
|       |       |     | MAX | 3 |   | -127.10 | 81.19  | 147.08 | 182.89 | -194.07 | 257.28 |
|       | 0.833 | 3   | MIN | 3 |   | -6.05   | 8.26   | 7.30   | 11.08  | -10.36  | 13.42  |
|       |       |     | MAX | 3 |   | -37.80  | 48.81  | 49.03  | 69.42  | -68.64  | 90.74  |

SJ

elastic - elastic : stress check + c/t ratio for buckling, according to EC 3

**Stresses [MPa]**

| Beam  | x[m]  | NoS | LC  | M | A | sig-    | sig+   | tau    | sig-I  | sig-II  | sig-v  |
|-------|-------|-----|-----|---|---|---------|--------|--------|--------|---------|--------|
| 40035 | 0.000 | 3   | MIN | 3 |   | -6.05   | 8.26   | 7.30   | 11.08  | -10.36  | 13.42  |
|       |       |     | MAX | 3 |   | -37.80  | 48.81  | 49.03  | 69.42  | -68.64  | 90.74  |
|       | 0.833 | 3   | MIN | 3 |   | -5.99   | 8.12   | 7.30   | 10.97  | -10.33  | 13.40  |
|       |       |     | MAX | 3 |   | -37.64  | 48.97  | 49.02  | 69.53  | -68.52  | 90.65  |
| 40036 | 0.000 | 3   | MIN | 3 |   | -5.99   | 8.12   | 7.30   | 10.97  | -10.33  | 13.40  |
|       |       |     | MAX | 3 |   | -37.64  | 48.97  | 49.02  | 69.53  | -68.52  | 90.65  |
|       | 0.833 | 3   | MIN | 3 |   | -16.47  | 10.71  | 21.90  | 26.60  | -27.60  | 38.31  |
|       |       |     | MAX | 3 |   | -127.50 | 81.67  | 147.03 | 183.11 | -194.29 | 257.29 |
| 40037 | 0.000 | 3   | MIN | 3 |   | -16.44  | 10.71  | 22.32  | 26.89  | -27.62  | 38.96  |
|       |       |     | MAX | 3 |   | -127.68 | 81.08  | 149.93 | 184.73 | -194.04 | 261.60 |
|       | 0.833 | 3   | MIN | 3 |   | -9.49   | 13.48  | 7.72   | 15.57  | -12.90  | 16.72  |
|       |       |     | MAX | 3 |   | -64.91  | 82.25  | 51.88  | 97.25  | -87.44  | 105.56 |
| 40038 | 0.000 | 3   | MIN | 3 |   | -9.49   | 13.48  | 7.72   | 15.57  | -12.90  | 16.72  |
|       |       |     | MAX | 3 |   | -64.91  | 82.25  | 51.88  | 97.25  | -87.44  | 105.56 |
|       | 0.833 | 3   | MIN | 3 |   | -13.05  | 18.95  | 6.88   | 20.41  | -15.34  | 21.18  |
|       |       |     | MAX | 3 |   | -91.73  | 123.80 | 46.15  | 133.99 | -106.77 | 139.36 |
| 40039 | 0.000 | 3   | MIN | 3 |   | -13.05  | 18.95  | 6.88   | 20.41  | -15.34  | 21.18  |
|       |       |     | MAX | 3 |   | -91.73  | 123.80 | 46.15  | 133.99 | -106.77 | 139.36 |
|       | 0.833 | 3   | MIN | 3 |   | -0.04   | 0.03   | 21.48  | 21.48  | -21.47  | 37.20  |
|       |       |     | MAX | 3 |   | -2.28   | 1.37   | 144.19 | 144.46 | -143.92 | 249.75 |
| 40040 | 0.000 | 3   | MIN | 3 |   | -0.03   | 0.05   | 21.46  | 21.47  | -21.46  | 37.17  |
|       |       |     | MAX | 3 |   | -1.48   | 2.42   | 144.52 | 144.24 | -144.81 | 250.32 |
|       | 0.833 | 3   | MIN | 3 |   | -11.65  | 17.30  | 6.88   | 18.91  | -14.18  | 19.77  |
|       |       |     | MAX | 3 |   | -89.32  | 119.21 | 46.27  | 129.93 | -104.94 | 135.61 |
| 40041 | 0.000 | 3   | MIN | 3 |   | -11.65  | 17.30  | 6.88   | 18.91  | -14.18  | 19.77  |
|       |       |     | MAX | 3 |   | -89.32  | 119.21 | 46.27  | 129.93 | -104.94 | 135.61 |
|       | 0.833 | 3   | MIN | 3 |   | -6.63   | 10.09  | 7.73   | 12.62  | -10.93  | 14.06  |
|       |       |     | MAX | 3 |   | -52.71  | 65.50  | 52.07  | 82.72  | -78.67  | 98.02  |
| 40042 | 0.000 | 3   | MIN | 3 |   | -6.63   | 10.09  | 7.73   | 12.62  | -10.93  | 14.06  |
|       |       |     | MAX | 3 |   | -52.71  | 65.50  | 52.07  | 82.72  | -78.67  | 98.02  |
|       | 0.833 | 3   | MIN | 3 |   | -21.57  | 15.02  | 22.33  | 29.36  | -30.77  | 39.74  |
|       |       |     | MAX | 3 |   | -160.72 | 109.09 | 150.36 | 200.92 | -218.86 | 267.13 |
| 40043 | 0.000 | 3   | MIN | 3 |   | -21.42  | 14.93  | 21.89  | 29.06  | -30.61  | 39.10  |
|       |       |     | MAX | 3 |   | -159.60 | 107.43 | 147.44 | 198.40 | -217.82 | 264.38 |
|       | 0.833 | 3   | MIN | 3 |   | -1.73   | 2.93   | 7.30   | 7.88   | -7.87   | 12.66  |
|       |       |     | MAX | 3 |   | -28.35  | 43.87  | 49.16  | 59.50  | -58.88  | 86.14  |
| 40044 | 0.000 | 3   | MIN | 3 |   | -1.73   | 2.93   | 7.30   | 7.88   | -7.87   | 12.66  |
|       |       |     | MAX | 3 |   | -28.35  | 43.87  | 49.16  | 59.50  | -58.88  | 86.14  |
|       | 0.833 | 3   | MIN | 3 |   | -1.74   | 2.83   | 7.30   | 7.83   | -7.90   | 12.65  |
|       |       |     | MAX | 3 |   | -27.68  | 43.05  | 49.15  | 59.30  | -58.68  | 86.03  |
| 40045 | 0.000 | 3   | MIN | 3 |   | -1.74   | 2.83   | 7.30   | 7.83   | -7.90   | 12.65  |
|       |       |     | MAX | 3 |   | -27.68  | 43.05  | 49.15  | 59.30  | -58.68  | 86.03  |
|       | 0.833 | 3   | MIN | 3 |   | -21.74  | 14.88  | 21.90  | 29.04  | -30.85  | 39.10  |
|       |       |     | MAX | 3 |   | -160.76 | 108.47 | 147.47 | 199.03 | -218.74 | 264.86 |
| 40046 | 0.000 | 3   | MIN | 3 |   | -21.81  | 14.93  | 22.34  | 29.30  | -30.96  | 39.69  |
|       |       |     | MAX | 3 |   | -161.49 | 107.86 | 150.45 | 200.27 | -219.50 | 266.76 |
|       | 0.833 | 3   | MIN | 3 |   | -6.71   | 9.96   | 7.74   | 12.51  | -11.00  | 14.07  |
|       |       |     | MAX | 3 |   | -53.33  | 65.29  | 52.14  | 82.56  | -79.25  | 98.70  |
| 40047 | 0.000 | 3   | MIN | 3 |   | -6.71   | 9.96   | 7.74   | 12.51  | -11.00  | 14.07  |
|       |       |     | MAX | 3 |   | -53.33  | 65.29  | 52.14  | 82.56  | -79.25  | 98.70  |
|       | 0.833 | 3   | MIN | 3 |   | -11.71  | 17.27  | 6.87   | 18.89  | -14.23  | 19.74  |
|       |       |     | MAX | 3 |   | -89.35  | 119.58 | 46.30  | 130.27 | -104.97 | 135.93 |
| 40048 | 0.000 | 3   | MIN | 3 |   | -11.71  | 17.27  | 6.87   | 18.89  | -14.23  | 19.74  |
|       |       |     | MAX | 3 |   | -89.35  | 119.58 | 46.30  | 130.27 | -104.97 | 135.93 |
|       | 0.833 | 3   | MIN | 3 |   | -0.07   | 0.13   | 21.45  | 21.46  | -21.45  | 37.16  |
|       |       |     | MAX | 3 |   | -2.03   | 1.53   | 144.46 | 144.86 | -144.05 | 250.21 |

**Stresses [MPa]**

| Beam         | x[m] | NoS | LC  | M | A | sig-    | sig+   | tau    | sig-I  | sig-II  | sig-v  |
|--------------|------|-----|-----|---|---|---------|--------|--------|--------|---------|--------|
| Total System |      |     | MIN | 3 |   | 1.18    | -14.71 | 0.00   | 0.00   | 0.00    | 0.00   |
| Total System |      |     | MAX | 3 |   | -220.41 | 202.92 | 155.36 | 209.56 | -221.73 | 270.19 |

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elastic - elastic : stress check + c/t ratio for buckling, according to EC 3

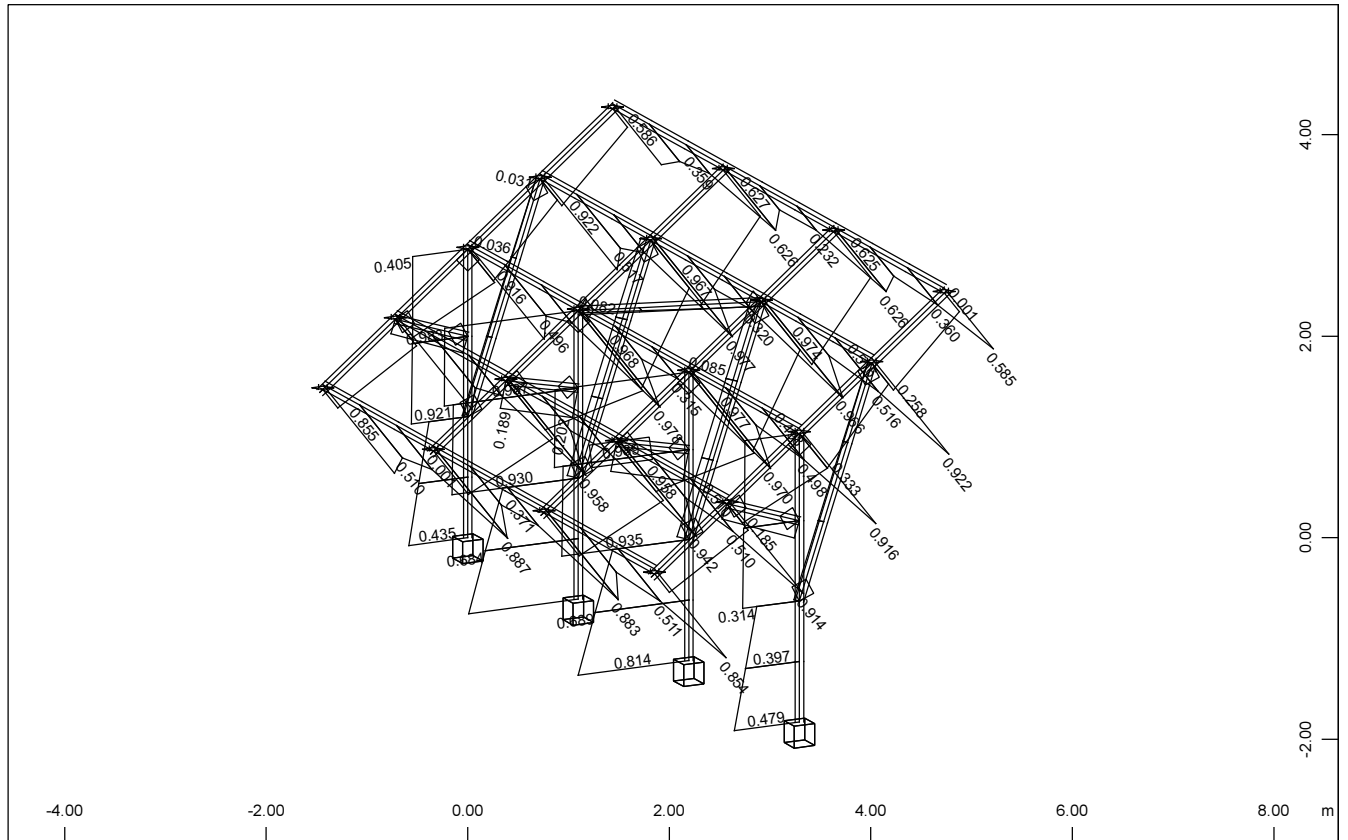
**Reviewed Maximum Values Material 3**

|                            |            |       |       |         |             |   |
|----------------------------|------------|-------|-------|---------|-------------|---|
| Constant compression       | 273.17 MPa | usage | 0.073 | LC 1004 | Elem. 10005 | 0 |
| Constant tension           | 273.17 MPa | usage | 0.043 | LC 1004 | Elem. 20010 | 0 |
| Uniaxial tension           | 273.17 MPa | usage | 0.734 | LC 1004 | Elem. 20010 | 0 |
| Biaxial compression        | 273.17 MPa | usage | 0.807 | LC 1005 | Elem. 10009 | 0 |
| Biaxial tension            | 273.17 MPa | usage | 0.743 | LC 1004 | Elem. 20009 | 1 |
| Shear stress               | 157.72 MPa | usage | 0.985 | LC 1002 | Elem. 10012 | 0 |
| Comparison stress          | 273.17 MPa | usage | 0.989 | LC 1002 | Elem. 10012 | 0 |
| Shear in weldings          | 225.81 MPa |       |       |         |             |   |
| Compression in compr. zone | 273.17 MPa | usage | 0.073 | LC 1004 | Elem. 10005 | 0 |

**Maximum Degree of Utilization**

|              |   | N     | Vy    | Vz    | Mt    | My    | Mz    | Mb    | Mt2   | Total  |
|--------------|---|-------|-------|-------|-------|-------|-------|-------|-------|--------|
|              |   | sig-c | sig-t | tau   | sig-* | tend. | As-l  | As-v  | crack | sigdyn |
| Cross sect.  | 1 | 0.000 | 0.051 | 0.022 | 0.860 | 0.263 | 0.276 | 0.000 | 0.000 | 0.888  |
| Omega v      |   | 0.322 | 0.466 | 0.865 | 0.888 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  |
| Cross sect.  | 2 | 0.000 | 0.049 | 0.025 | 0.586 | 0.201 | 0.161 | 0.000 | 0.000 | 0.627  |
| Omega vv     |   | 0.295 | 0.332 | 0.583 | 0.627 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  |
| Cross sect.  | 3 | 0.001 | 0.059 | 0.057 | 0.882 | 0.347 | 0.257 | 0.000 | 0.000 | 0.978  |
| Omega mid    |   | 0.591 | 0.459 | 0.954 | 0.978 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  |
| Cross sect.  | 4 | 0.054 | 0.002 | 0.038 | 0.457 | 0.734 | 0.062 | 0.000 | 0.000 | 0.782  |
| C profilis   |   | 0.712 | 0.743 | 0.451 | 0.782 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  |
| Cross sect.  | 5 | 0.073 | 0.000 | 0.101 | 0.947 | 0.676 | 0.001 | 0.000 | 0.000 | 0.989  |
| S pro        |   | 0.807 | 0.680 | 0.985 | 0.989 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  |
| -----        |   |       |       |       |       |       |       |       |       |        |
| Total System |   | 0.073 | 0.059 | 0.101 | 0.947 | 0.734 | 0.276 | 0.000 | 0.000 | 0.989  |
|              |   | 0.807 | 0.743 | 0.985 | 0.989 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  |

SJ  
Graphical Output



Beam Elements , Utilisation level (all effects), Design Case 901 MAX-AQB-S , 1 cm 3D =  
0.500 (Max=0.989)

M 1 : 75  
X \* 0.502  
Y \* 0.906  
Z \* 0.962

SJ  
Eigenvalues Easy

Primary loadcase for eigenvalue analysis is loadcase 1004  
with deformation factor 0.0000 (on undeformed system)

#### Parameter of System of Equations

|                             |       |               |
|-----------------------------|-------|---------------|
| Number of unknowns          | 600   | DIRECT-SPARSE |
| Total entries               | 5382  |               |
| Total entries after fill in | 10848 |               |
| Mass matrix                 | 0     | -             |
| Geometric matrix            | 3912  | (consistent)  |

#### Buckling Eigenvalues

Using Vectoriteration

Iterationsvectors 6

| No. | LC   | Relativ<br>error | buckling<br>factor |
|-----|------|------------------|--------------------|
| 1   | 2001 | 3.27E-16         | 2.118              |
| 2   | 2002 | 6.33E-06         | 5.546              |
| 3   | 2003 | 1.84E-08         | 5.748              |
| 4   | 2004 | 4.62E-04         | 21.907             |
| 5   | 2005 | 8.10E-04         | -7.515             |
| 6   | 2006 | 8.79E-05         | -76.835            |