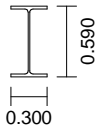
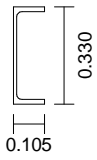
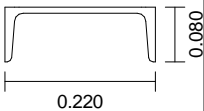
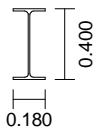

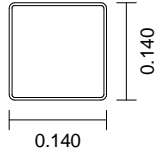
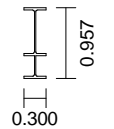
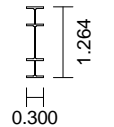
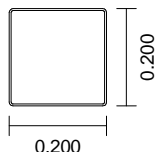
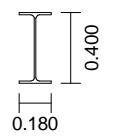


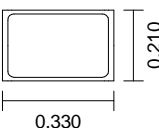
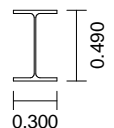
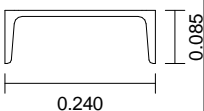
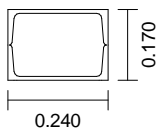
Section properties

1	HEA 600 	Centroid [m] Area [m²] Moments of inertia [m⁴] Main axis angle [Grad]	ys = 0.000 A = 2.2600e-02 Ix = 3.9900e-06 ly = 1.4120e-03 lz = 1.1270e-04 Phi = 0.000	zs = 0.000 I1 = 1.4120e-03 I2 = 1.1270e-04
2	Bibliothek 	UPE 330 Centroid [m] Area [m²] Moments of inertia [m⁴] Main axis angle [Grad]	ys = 0.024 A = 6.7800e-03 Ix = 4.5200e-07 ly = 1.1008e-04 lz = 6.8100e-06 Phi = 0.000	zs = 0.000 I1 = 1.1008e-04 I2 = 6.8100e-06
3	Polygon 	Centroid [m] Area [m²] Moments of inertia [m⁴] Main axis angle [Grad]	ys = 0.000 A = 3.7482e-03 Ix = 1.0000e-06 ly = 1.9415e-06 lz = 2.6930e-05 Phi = -0.000	zs = -0.000 I1 = 1.9415e-06 I2 = 2.6930e-05
4	Area	Element thickness [m] Orthotropy ratio dy/dx E-Modulus slab/plain	d = 0.0025 = 1 = 1	torsion-free
5	IPE 400 	Centroid [m] Area [m²] Moments of inertia [m⁴] Main axis angle [Grad]	ys = 0.000 A = 8.4500e-03 Ix = 5.1400e-07 ly = 2.3130e-04 lz = 1.3200e-05 Phi = 0.000	zs = 0.000 I1 = 2.3130e-04 I2 = 1.3200e-05
6	Polygon 	Centroid [m] Area [m²] Moments of inertia [m⁴] Main axis angle [Grad]	ys = 0.000 A = 2.1310e-03 Ix = 1.0000e-06 ly = 3.7301e-06 lz = 9.2307e-06 Phi = -0.000	zs = -0.000 I1 = 3.7301e-06 I2 = 9.2307e-06

Section properties

7	Bibliothek 	QRO 140 x 140 x 4 (EN 10219-2) Centroid [m] $y_s = 0.000$ $z_s = 0.000$ Area [m ²] $A = 2.1300\text{e-}03$ Moments of inertia [m ⁴] $I_x = 1.0230\text{e-}05$ $I_y = 6.5200\text{e-}06$ $I_1 = 6.5200\text{e-}06$ $I_z = 6.5200\text{e-}06$ $I_2 = 6.5200\text{e-}06$ Main axis angle [Grad] $\Phi = 0.000$
8	Polygon 	Centroid [m] $y_s = 0.000$ $z_s = 0.187$ Area [m ²] $A = 4.2753\text{e-}02$ Moments of inertia [m ⁴] $I_x = 1.0000\text{e-}06$ $I_y = 5.2537\text{e-}03$ $I_1 = 5.2537\text{e-}03$ $I_z = 2.0979\text{e-}04$ $I_2 = 2.0979\text{e-}04$ Main axis angle [Grad] $\Phi = -0.000$
9	Polygon 	Centroid [m] $y_s = -0.000$ $z_s = 0.000$ Area [m ²] $A = 5.6814\text{e-}02$ Moments of inertia [m ⁴] $I_x = 1.0000\text{e-}06$ $I_y = 1.1379\text{e-}02$ $I_1 = 1.1379\text{e-}02$ $I_z = 2.7971\text{e-}04$ $I_2 = 2.7971\text{e-}04$ Main axis angle [Grad] $\Phi = -0.000$
10	Bibliothek 	QRO 200 x 200 x 4 (EN 10219-2) Centroid [m] $y_s = 0.000$ $z_s = 0.000$ Area [m ²] $A = 3.0900\text{e-}03$ Moments of inertia [m ⁴] $I_x = 3.0490\text{e-}05$ $I_y = 1.9680\text{e-}05$ $I_1 = 1.9680\text{e-}05$ $I_z = 1.9680\text{e-}05$ $I_2 = 1.9680\text{e-}05$ Main axis angle [Grad] $\Phi = 0.000$
11	IPE 400 	Centroid [m] $y_s = 0.000$ $z_s = 0.000$ Area [m ²] $A = 8.4500\text{e-}03$ Moments of inertia [m ⁴] $I_x = 5.1400\text{e-}07$ $I_y = 2.3130\text{e-}04$ $I_1 = 2.3130\text{e-}04$ $I_z = 1.3200\text{e-}05$ $I_2 = 1.3200\text{e-}05$ Main axis angle [Grad] $\Phi = 0.000$

Section properties

12	Polygon		Centroid [m] Area [m²] Moments of inertia [m⁴] Main axis angle [Grad]	ys = 0.023 A = 1.3580e-02 Ix = 1.0000e-06 Iy = 9.2122e-05 Iz = 2.2068e-04 Phi = -0.000	zs = 0.076 I1 = 9.2122e-05 I2 = 2.2068e-04
13	HEA 500		Centroid [m] Area [m²] Moments of inertia [m⁴] Main axis angle [Grad]	ys = 0.000 A = 1.9800e-02 Ix = 3.1000e-06 Iy = 8.6970e-04 Iz = 1.0370e-04 Phi = 0.000	zs = 0.000 I1 = 8.6970e-04 I2 = 1.0370e-04
14	Polygon		Centroid [m] Area [m²] Moments of inertia [m⁴] Main axis angle [Grad]	ys = 0.000 A = 4.2352e-03 Ix = 1.0000e-06 Iy = 2.4545e-06 Iz = 3.6020e-05 Phi = 0.000	zs = 0.000 I1 = 2.4545e-06 I2 = 3.6020e-05
15	Polygon		Centroid [m] Area [m²] Moments of inertia [m⁴] Main axis angle [Grad]	ys = 0.000 A = 8.4705e-03 Ix = 1.0000e-06 Iy = 3.8251e-05 Iz = 7.2039e-05 Phi = -0.000	zs = -0.000 I1 = 3.8251e-05 I2 = 7.2039e-05

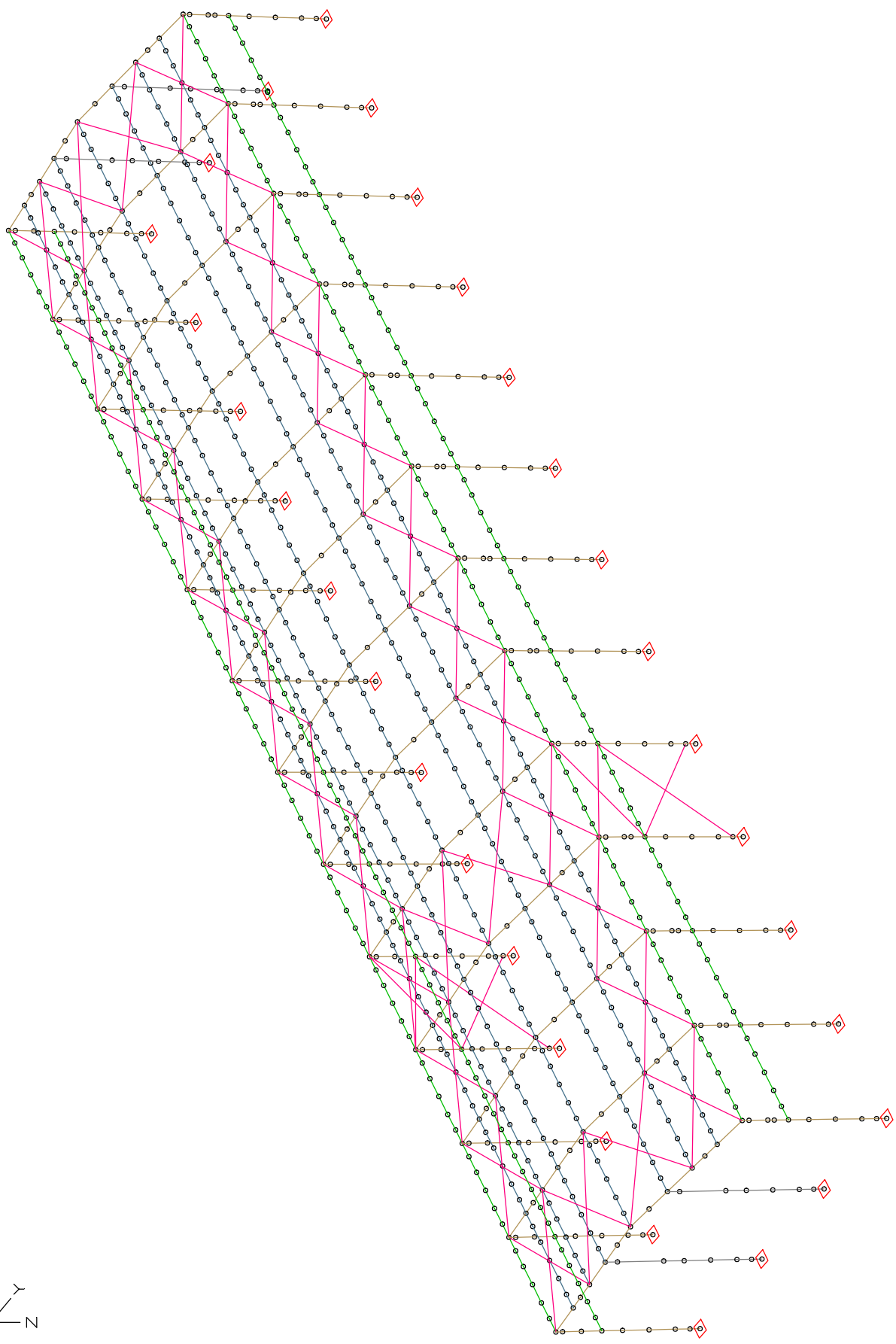
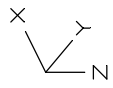
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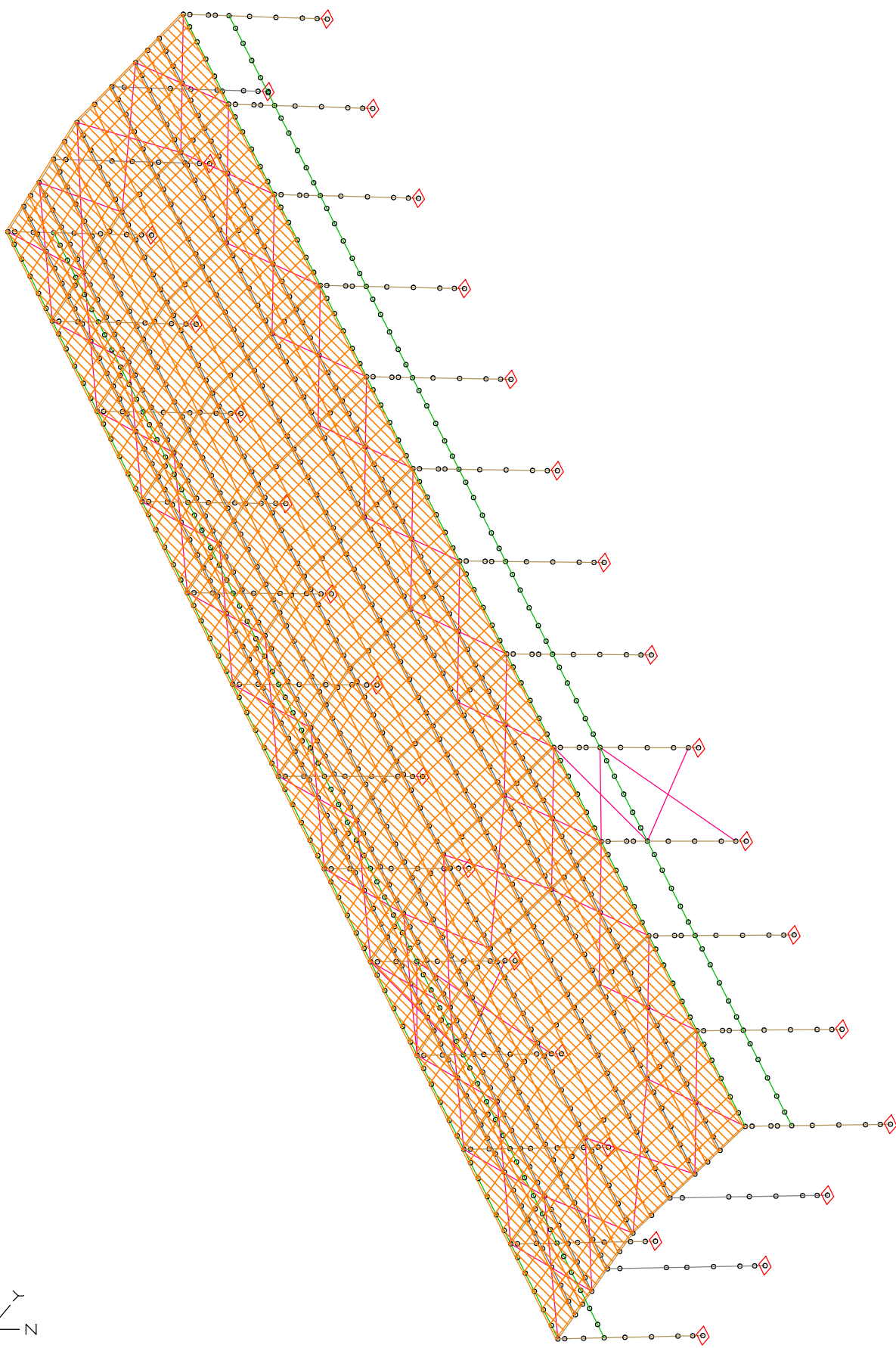
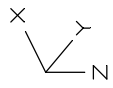
	No.	Type	E-Modu. [MN/m²]	G-Modu. [MN/m²]	Poiss. ratio	alpha.t [1/K]	gamma [kN/m³]
1	1	S235	210000	81000	0.30	1.200e-05	78.500
2	2	S235	210000	81000	0.30	1.200e-05	78.500
3	3	S235	210000	81000	0.30	1.200e-05	78.500
4	4	S235	210000	81000	0.30	1.200e-05	78.500
5	5	S235	210000	81000	0.30	1.200e-05	78.500
6	6	S235	210000	81000	0.30	1.200e-05	78.500
7	7	S235	210000	81000	0.30	1.200e-05	78.500
8	8	S235	210000	81000	0.30	1.200e-05	78.500
9	9	S235	210000	81000	0.30	1.200e-05	78.500

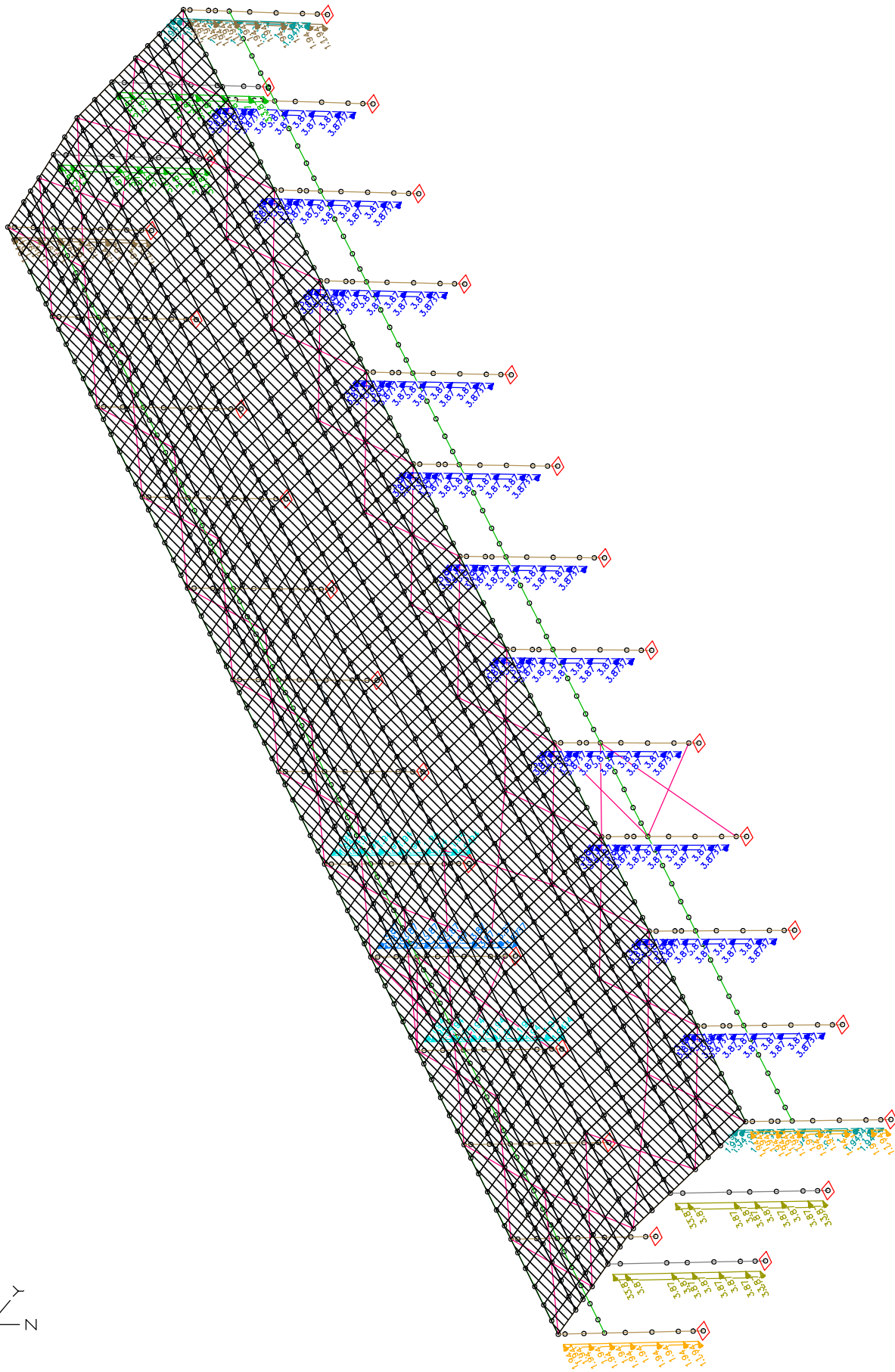
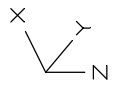
Material properties

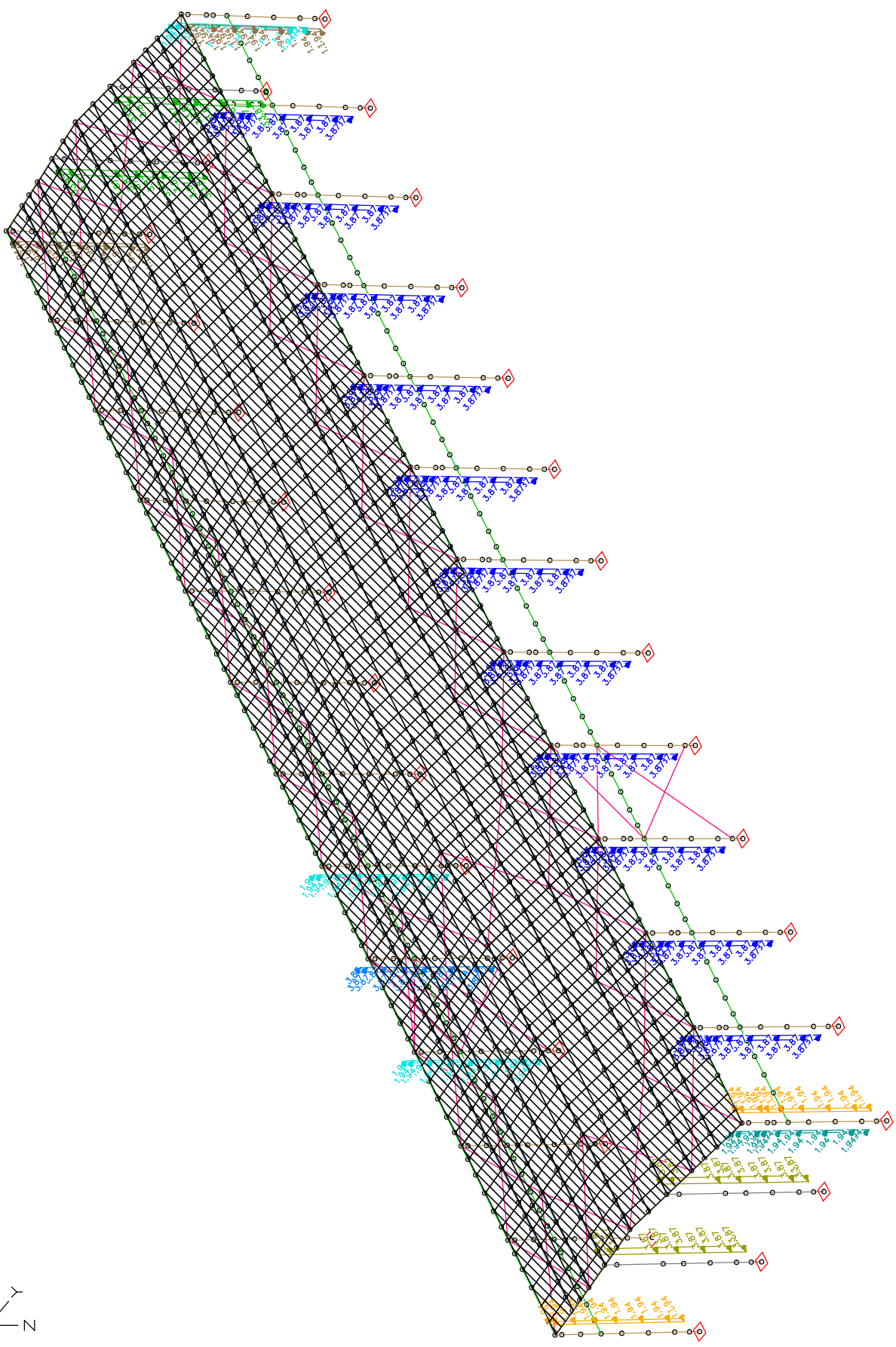
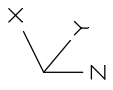
	No.	Type	E-Modu. [MN/m²]	G-Modu. [MN/m²]	Poiss. ratio	alpha.t [1/K]	gamma [kN/m³]
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11	11	S235	210000	81000	0.30	1.200e-05	78.500
12	12	S235	210000	81000	0.30	1.200e-05	78.500
13	13	S235	210000	81000	0.30	1.200e-05	78.500
14	14	S235	210000	81000	0.30	1.200e-05	78.500
15	15	S235	210000	81000	0.30	1.200e-05	78.500

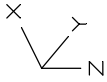
DEAD LOAD











Load case combination 1, W

1. Variable exclusive action		Faktor
3	Wx1	1.000
4	Wy	1.000
5	Wx2	1.000
6	-Wy	1.000

Load case combination 2, -Zx

1. Variable exclusive action		Faktor
1001	Response spectrum 1. eigenmod	-1.000
1002	Response spectrum 2. eigenmod	-1.000
1003	Response spectrum 3. eigenmod	-1.000
1004	Response spectrum 4. eigenmod	-1.000
1005	Response spectrum 5. eigenmod	-1.000
1006	Response spectrum 6. eigenmod	-1.000

Load case combination 3, -Zy

1. Variable exclusive action		Faktor
1010	Response spectrum 10. eigenmo	-1.000
1011	Response spectrum 11. eigenmo	-1.000
1012	Response spectrum 12. eigenmo	-1.000
1013	Response spectrum 13. eigenmo	-1.000
1014	Response spectrum 14. eigenmo	-1.000
1015	Response spectrum 15. eigenmo	-1.000
1016	Response spectrum 16. eigenmo	-1.000

Load case combination 4, -Zz

1. Variable exclusive action		Faktor
1020	Response spectrum 20. eigenmo	-1.000
1021	Response spectrum 21. eigenmo	-1.000
1022	Response spectrum 22. eigenmo	-1.000
1023	Response spectrum 23. eigenmo	-1.000
1024	Response spectrum 24. eigenmo	-1.000

Load case combination 4, -Zz

1. Variable exclusive action		Faktor
1025	Response spectrum 25. eigenmo	-1.000
1026	Response spectrum 26. eigenmo	-1.000

Load case combination 5, $Zx+0.3Zy+0.3Zz$

1. Variable exclusive action		Faktor
1000	Response spectrum overlaid	1.000
1001	Response spectrum 1. eigenmod	1.000
1002	Response spectrum 2. eigenmod	1.000
1003	Response spectrum 3. eigenmod	1.000
1004	Response spectrum 4. eigenmod	1.000
1005	Response spectrum 5. eigenmod	1.000
1006	Response spectrum 6. eigenmod	1.000
K2	-Zx	1.000
2. Variable exclusive action		Faktor
1010	Response spectrum 10. eigenmo	0.300
1011	Response spectrum 11. eigenmo	0.300
1012	Response spectrum 12. eigenmo	0.300
1013	Response spectrum 13. eigenmo	0.300
1014	Response spectrum 14. eigenmo	0.300
1015	Response spectrum 15. eigenmo	0.300
1016	Response spectrum 16. eigenmo	0.300
K3	-Zy	0.300
3. Variable exclusive action		Faktor
1020	Response spectrum 20. eigenmo	0.300
1021	Response spectrum 21. eigenmo	0.300
1022	Response spectrum 22. eigenmo	0.300
1023	Response spectrum 23. eigenmo	0.300
1024	Response spectrum 24. eigenmo	0.300
1025	Response spectrum 25. eigenmo	0.300
1026	Response spectrum 26. eigenmo	0.300
K4	-Zz	0.300

Load case combination 6, 0.3Zx+Zy+0.3Zz

1. Variable exclusive action		Faktor
1000	Response spectrum overlaid	0.300
1001	Response spectrum 1. eigenmod	0.300
1002	Response spectrum 2. eigenmod	0.300
1003	Response spectrum 3. eigenmod	0.300
1004	Response spectrum 4. eigenmod	0.300
1005	Response spectrum 5. eigenmod	0.300
1006	Response spectrum 6. eigenmod	0.300
K2	-Zx	0.300
2. Variable exclusive action		Faktor
1010	Response spectrum 10. eigenmo	1.000
1011	Response spectrum 11. eigenmo	1.000
1012	Response spectrum 12. eigenmo	1.000
1013	Response spectrum 13. eigenmo	1.000
1014	Response spectrum 14. eigenmo	1.000
1015	Response spectrum 15. eigenmo	1.000
1016	Response spectrum 16. eigenmo	1.000
K3	-Zy	1.000
3. Variable exclusive action		Faktor
1020	Response spectrum 20. eigenmo	0.300
1021	Response spectrum 21. eigenmo	0.300
1022	Response spectrum 22. eigenmo	0.300
1023	Response spectrum 23. eigenmo	0.300
1024	Response spectrum 24. eigenmo	0.300
1025	Response spectrum 25. eigenmo	0.300
1026	Response spectrum 26. eigenmo	0.300
K4	-Zz	0.300

Load case combination 7, 0.3Zx+0.3Zy+Zz

1. Variable exclusive action		Faktor
1000	Response spectrum overlaid	0.300
1001	Response spectrum 1. eigenmod	0.300
1002	Response spectrum 2. eigenmod	0.300

Load case combination 7, 0.3Zx+0.3Zy+Zz

1. Variable exclusive action		Faktor
1003	Response spectrum 3. eigenmod	0.300
1004	Response spectrum 4. eigenmod	0.300
1005	Response spectrum 5. eigenmod	0.300
1006	Response spectrum 6. eigenmod	0.300
K2	-Zx	0.300
2. Variable exclusive action		Faktor
1010	Response spectrum 10. eigenmo	0.300
1011	Response spectrum 11. eigenmo	0.300
1012	Response spectrum 12. eigenmo	0.300
1013	Response spectrum 13. eigenmo	0.300
1014	Response spectrum 14. eigenmo	0.300
1015	Response spectrum 15. eigenmo	0.300
1016	Response spectrum 16. eigenmo	0.300
K3	-Zy	0.300
3. Variable exclusive action		Faktor
1020	Response spectrum 20. eigenmo	1.000
1021	Response spectrum 21. eigenmo	1.000
1022	Response spectrum 22. eigenmo	1.000
1023	Response spectrum 23. eigenmo	1.000
1024	Response spectrum 24. eigenmo	1.000
1025	Response spectrum 25. eigenmo	1.000
1026	Response spectrum 26. eigenmo	1.000
K4	-Zz	1.000

Load case combination 8, 1.5S+Zi

Variable inclusive action		Faktor
2	S	1.500
1. Variable exclusive action		Faktor
K5	Zx+0.3Zy+0.3Zz	1.000
K6	0.3Zx+Zy+0.3Zz	1.000
K7	0.3Zx+0.3Zy+Zz	1.000

Load case combination 9, 1.5S+).75W

Variable inclusive action	Faktor
2 S	1.500
K1 W	0.750

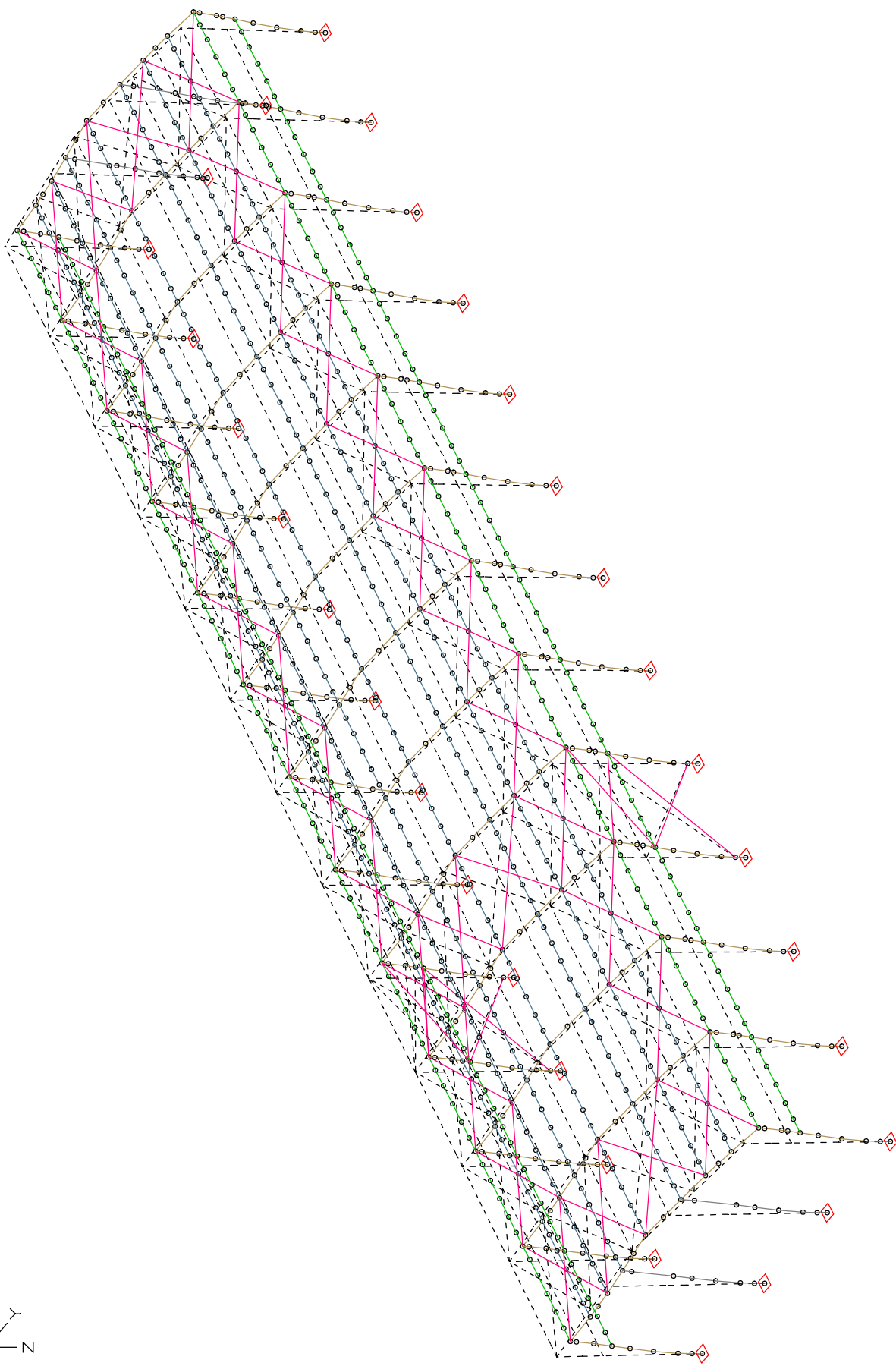
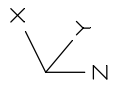
Load case combination 10, 0.75S+1.5W

Variable inclusive action	Faktor
2 S	0.750
K1 W	1.500

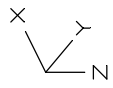
Load case combination 11

Permanent action	Faktor
1 G	1.350

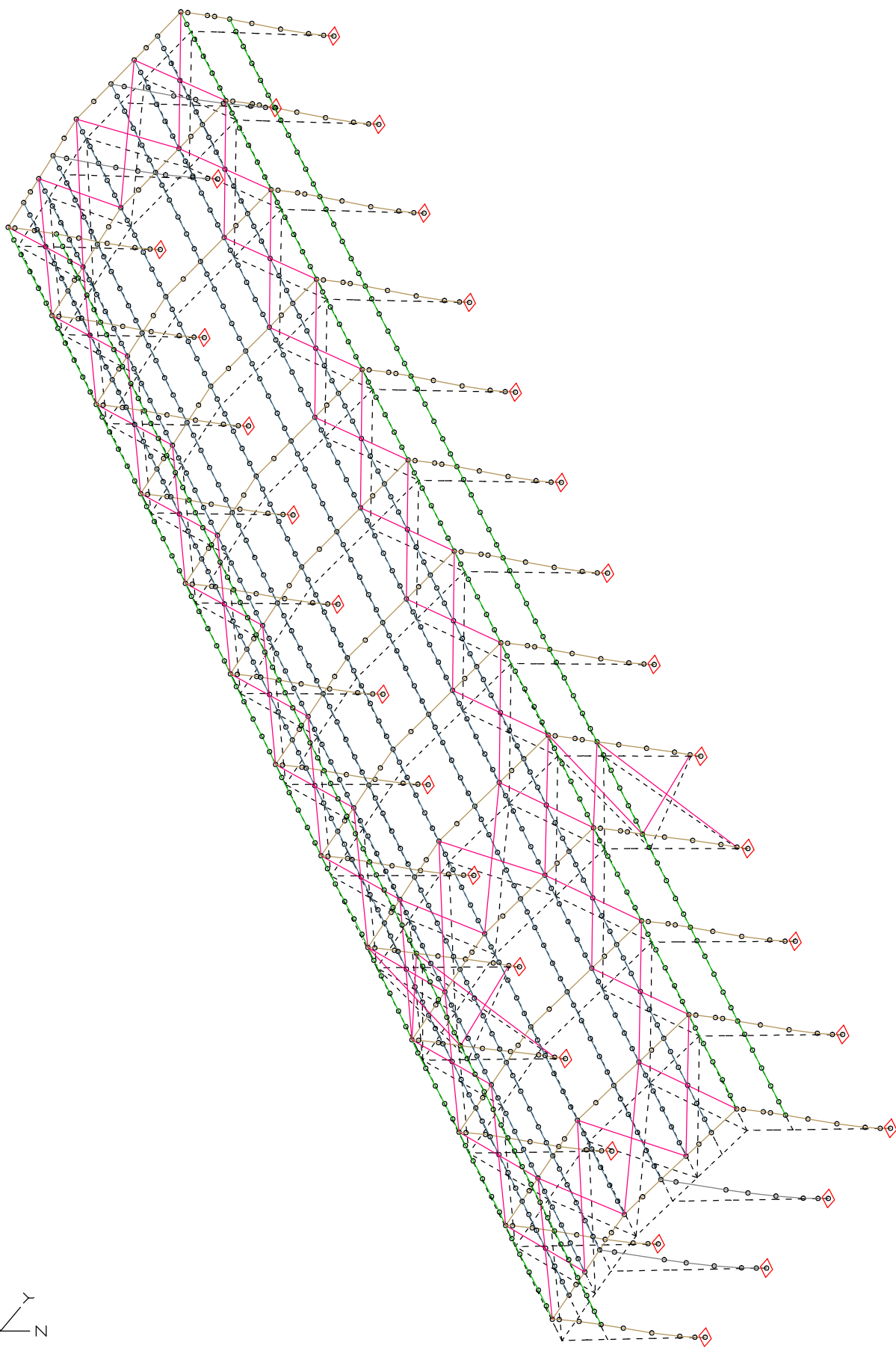
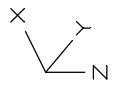
1. Variable exclusive action	Faktor
K1 W	1.500
K5 $Z_x+0.3Z_y+0.3Z_z$	1.000
K6 $0.3Z_x+Z_y+0.3Z_z$	1.000
K7 $0.3Z_x+0.3Z_y+Z_z$	1.000
K8 $1.5S+Z_i$	1.000
K9 $1.5S+).75W$	1.000
K10 $0.75S+1.5W$	1.000



Eigenmode 1: Deformations u [mm], Faktor = 23.5, Resonant frequency = 1.92 Hz
Value range (overall system, min/max): 0.00/57.53 [mm]



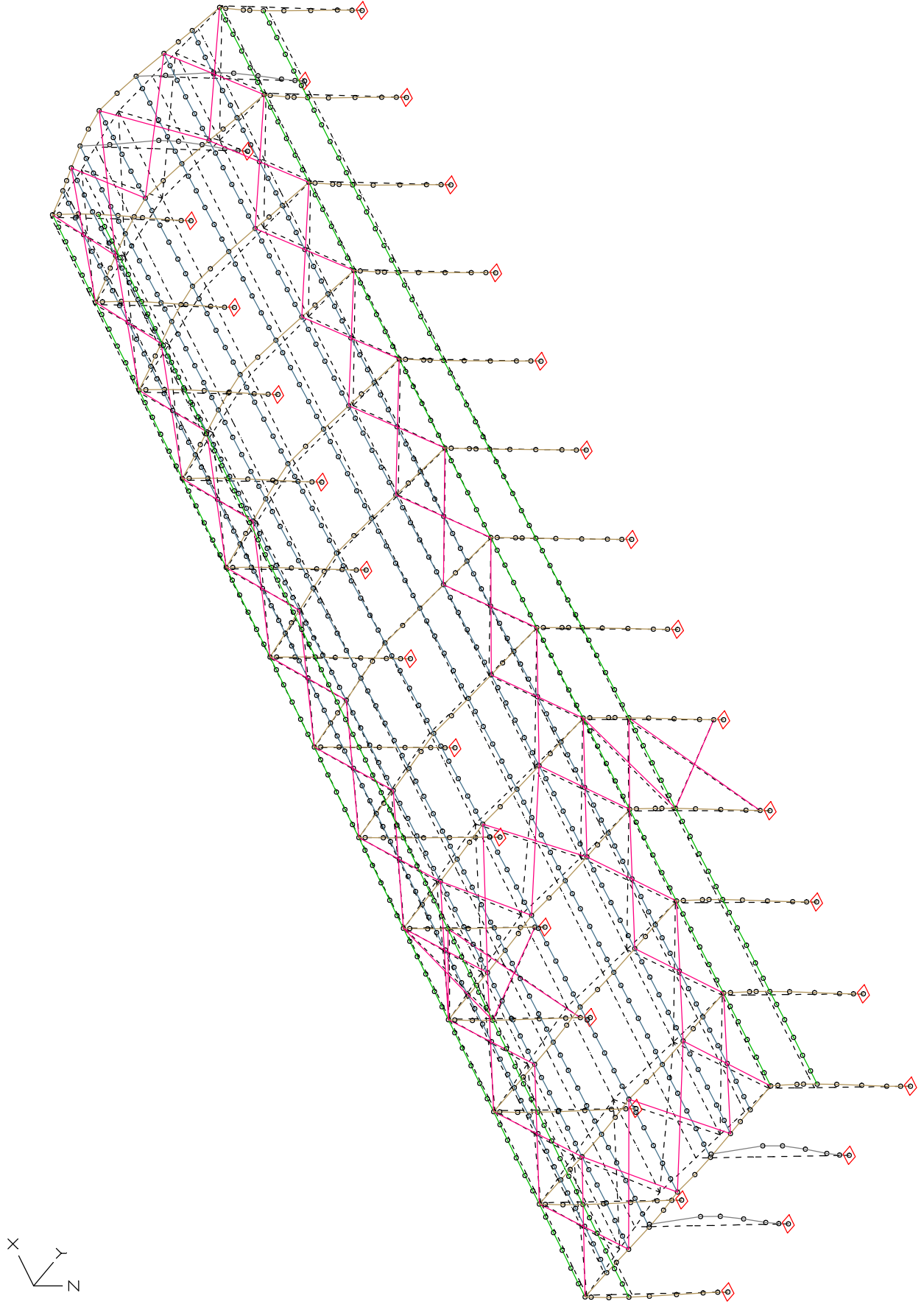
Eigenmode 2: Deformations u [mm], Faktor = 14.1, Resonant frequency = 2.17 Hz
 Value range (overall system, min/max): 0.00/95.81 [mm]



Eigenmode 3: Deformations u [mm], Faktor = 23.7, Resonant frequency = 2.25 Hz
Value range (overall system, min/max): 0.00/56.84 [mm]



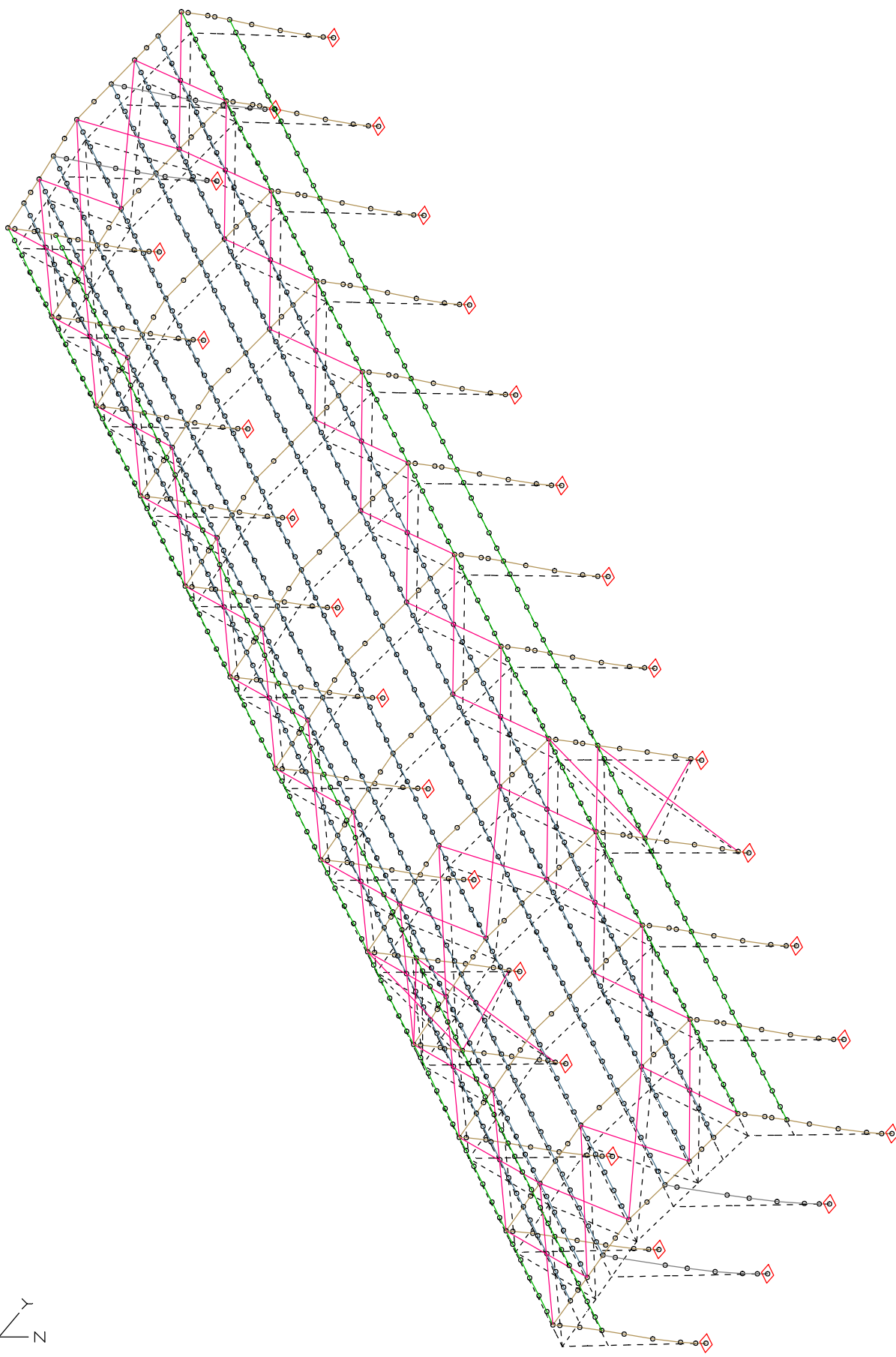
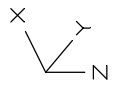
Eigenmode 4: Deformations u [mm], Faktor = 13.9, Resonant frequency = 3.83 Hz
 Value range (overall system, min/max): 0.00/96.89 [mm]



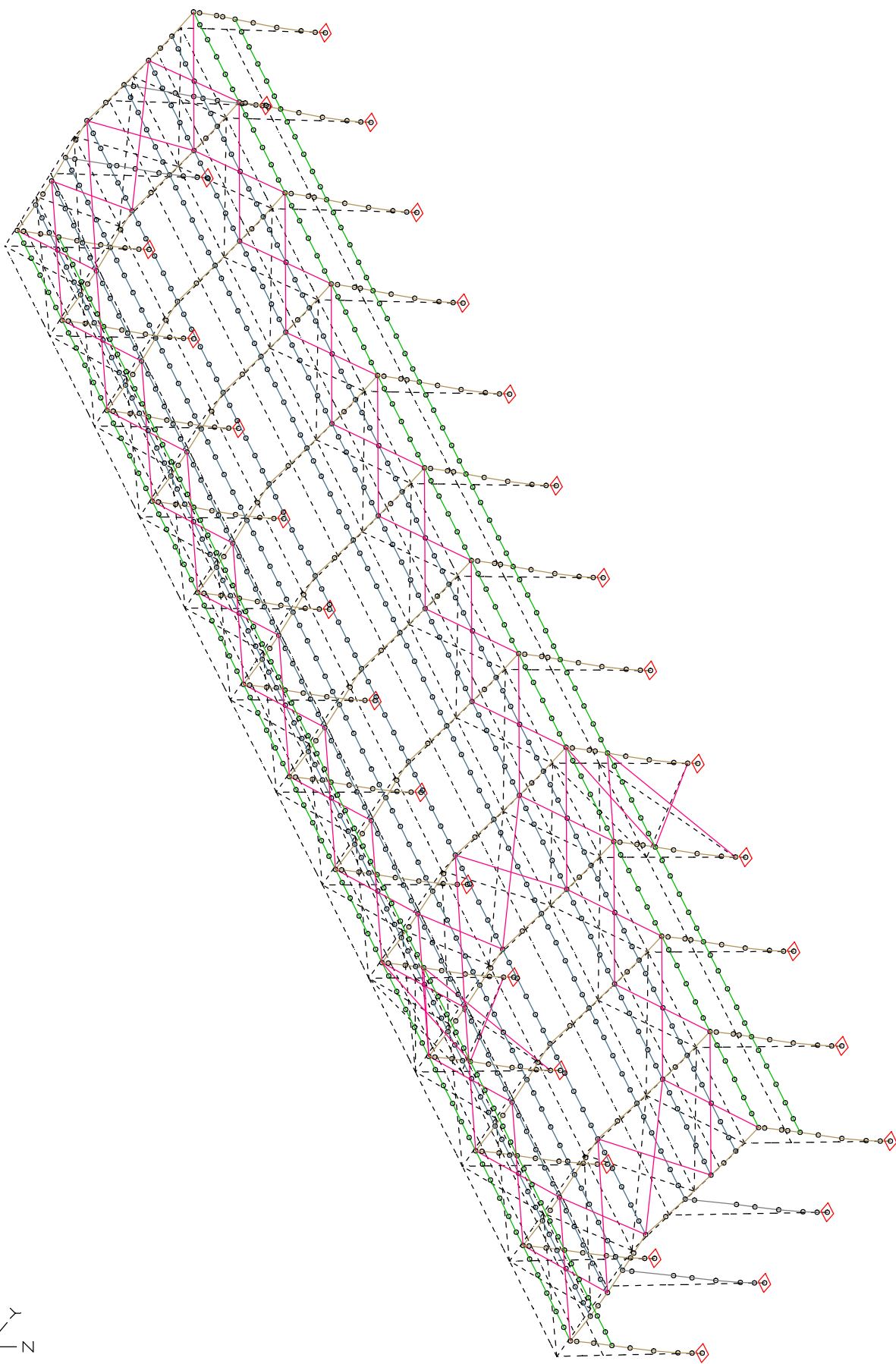
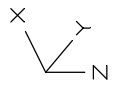
Eigenmode 5: Deformations u [mm], Faktor = 9.6, Resonant frequency = 4.05 Hz
 Value range (overall system, min/max): 0.00/140.40 [mm]



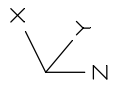
Eigenmode 6: Deformations u [mm], Faktor = 17.2, Resonant frequency = 4.92 Hz
 Value range (overall system, min/max): 0.00/78.30 [mm]



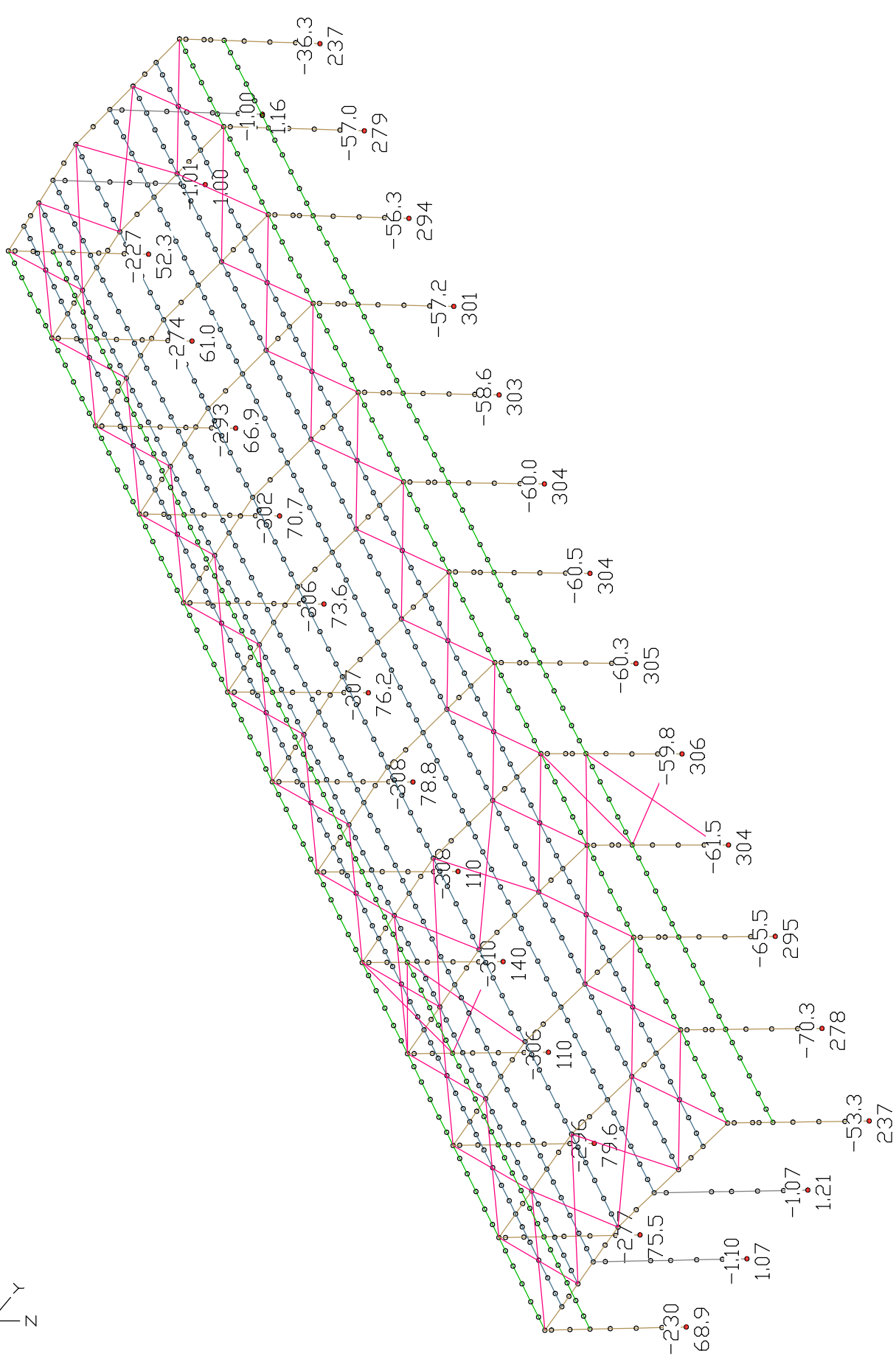
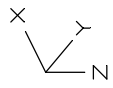
LF 1000: Response spectrum overlay
Deformations u [mm], Faktor = 217.8
Value range (overall system, min/max): 0.00/6.20 [mm]



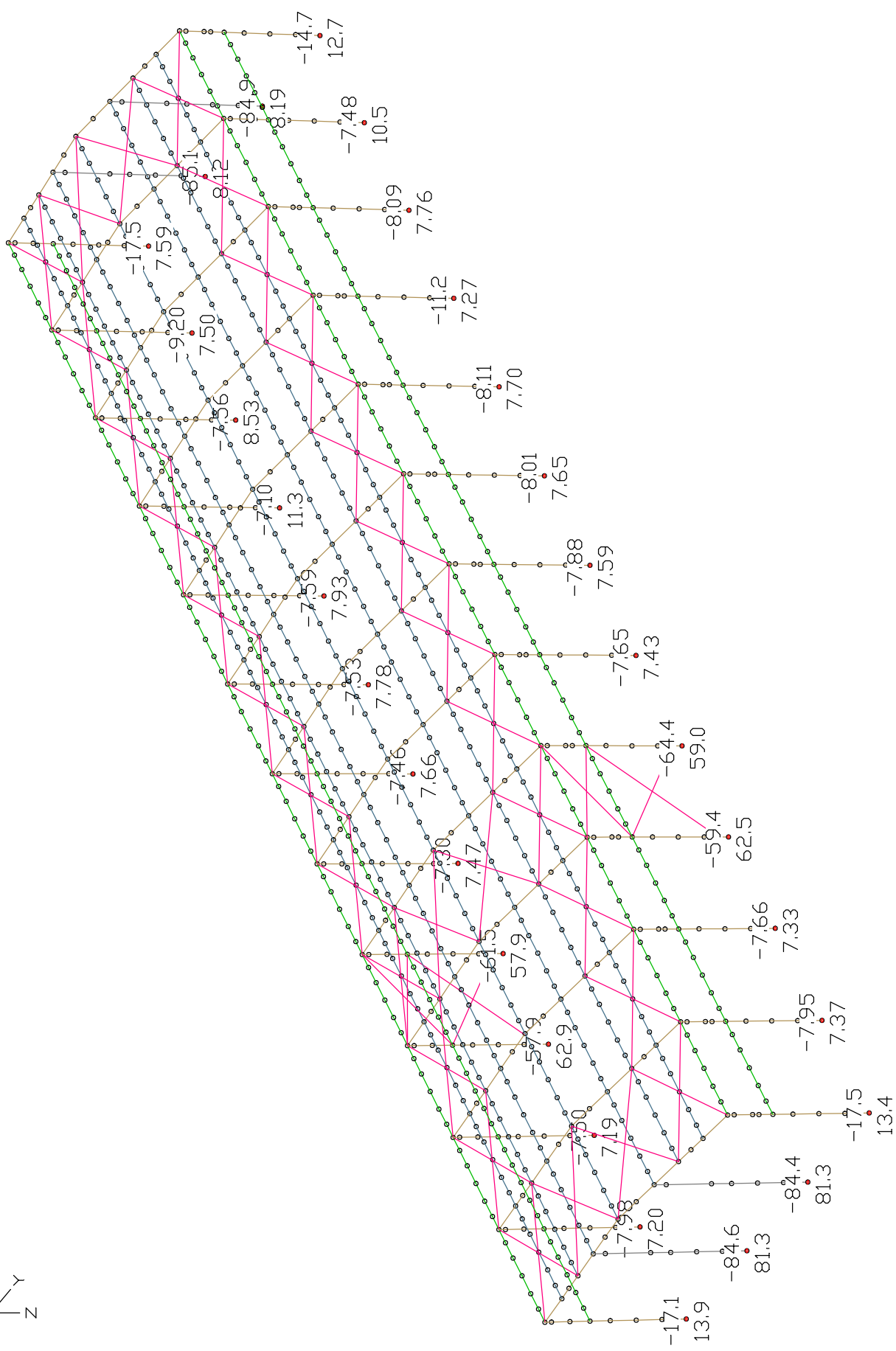
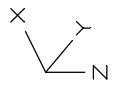
LF 1010: Response spectrum 10. eigenmode
Deformations u [mm], Faktor = 186.4
Value range (overall system, min/max): 0.00/7.24 [mm]



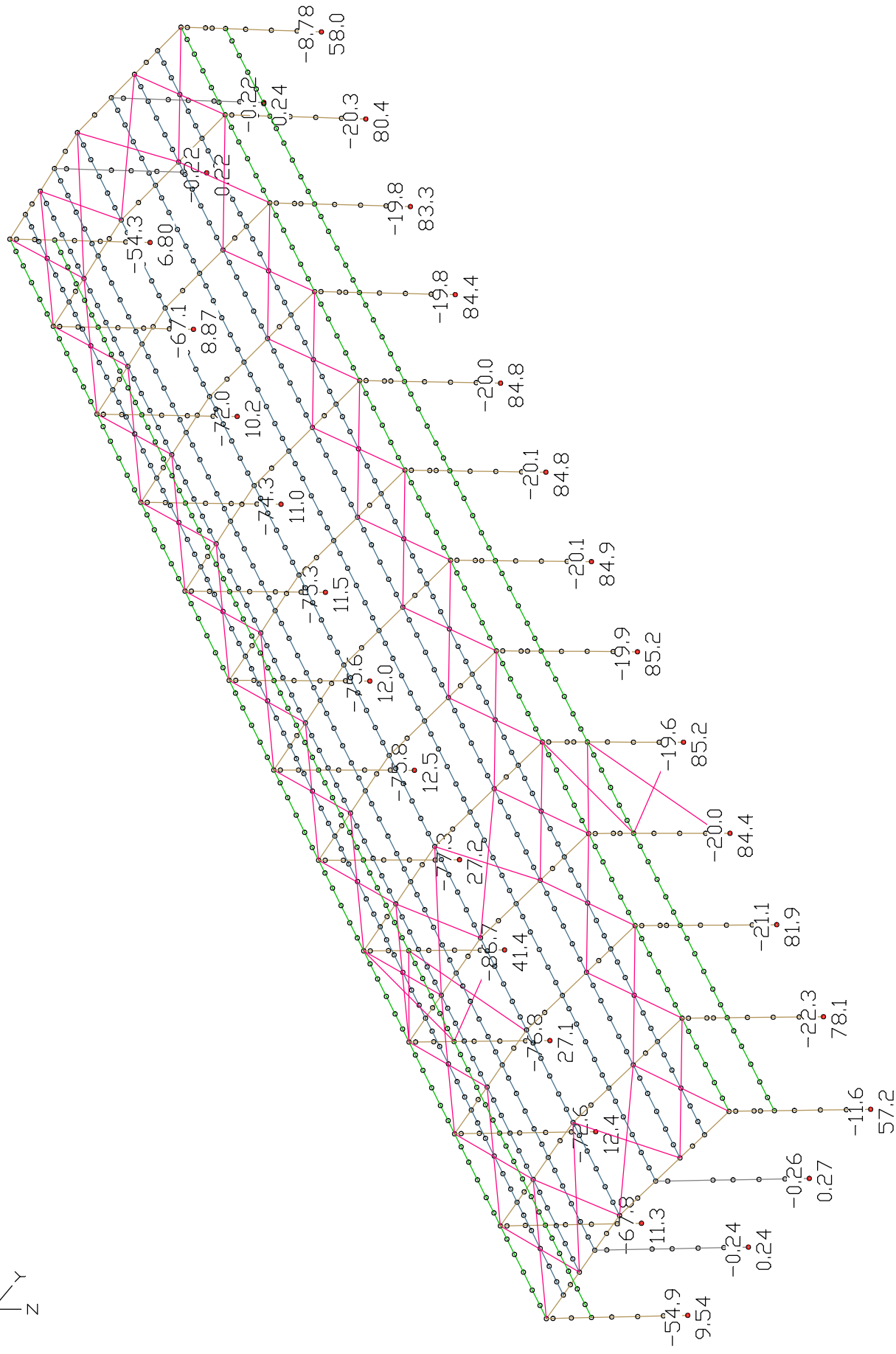
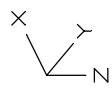
LF 1020: Response spectrum 20. eigenmode
Deformations u [mm], Faktor = 372.6
Value range (overall system, min/max): 0.00/3.62 [mm]



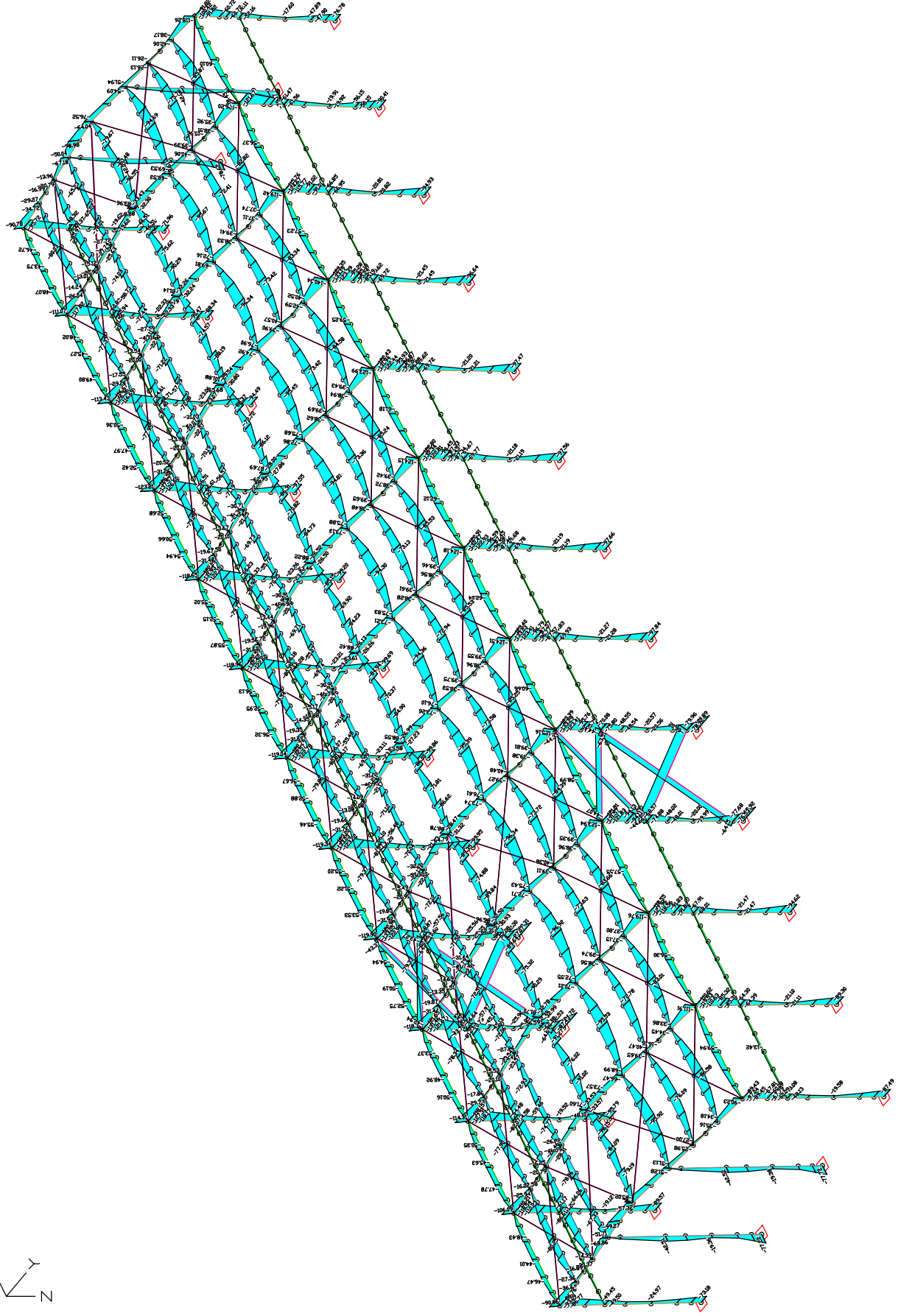
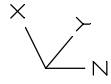
LFK 11: Support reactions in the local system min,max $M_x(l)$ [kNm]



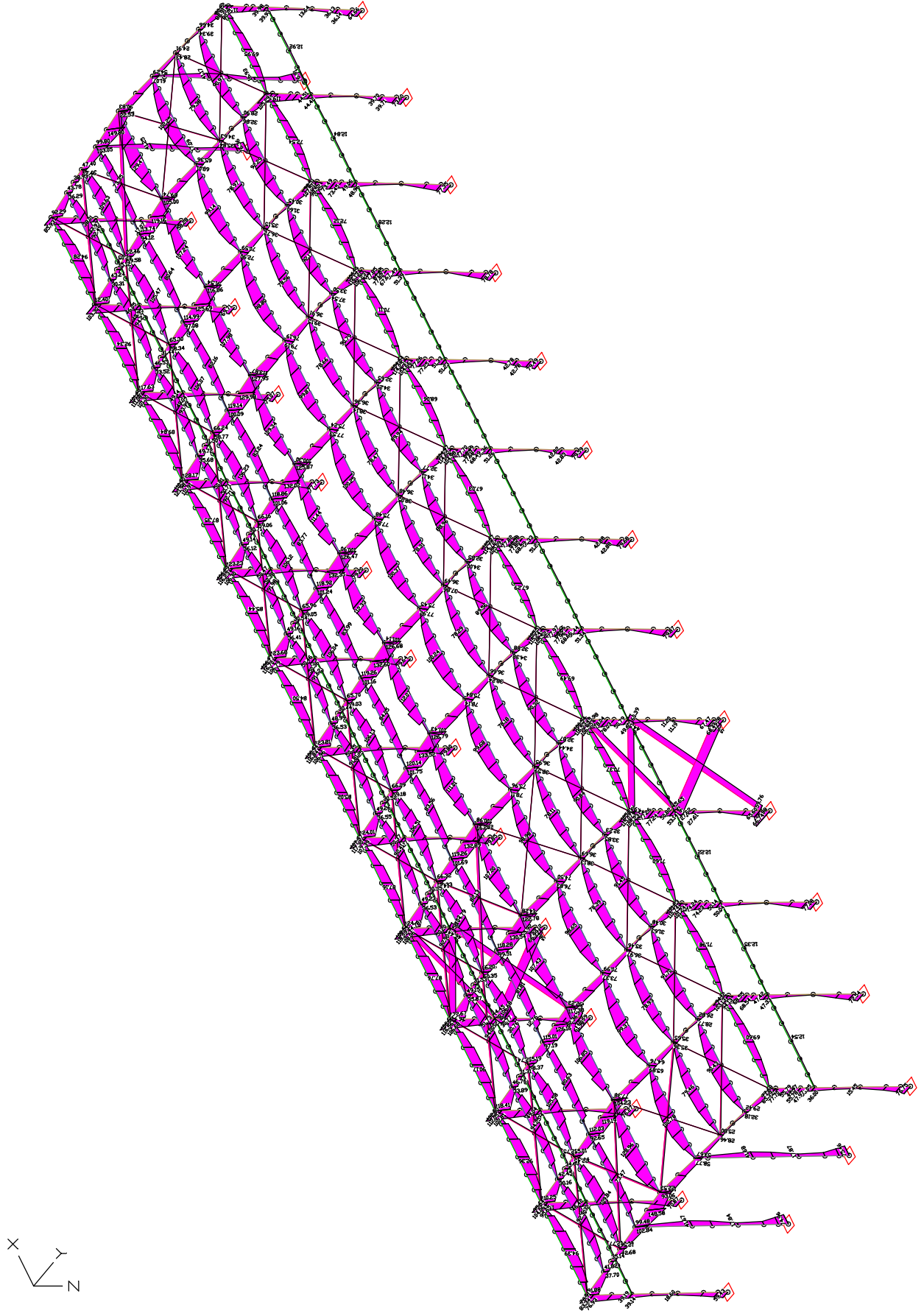
LFK 11: Support reactions in the local system $\min, \max M_y(l)$ [kNm]



LFK 11: Support reactions in the local system $\min, \max R_y(l)$ [kN]



LFK 11: Stresses min Sigma.x [MN/m²]
Value range (overall system, min/max): -184.72/0.81 [MN/m²]



LFK 11: Stresses max Sigma.x [MN/m²]
Value range (overall system, min/max): -0.22/165.88 [MN/m²]