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Job No	Sheet No 1	Rev
Part		
Ref		
By	Date 21-Nov-08	Chd
Client	File Vilma Tuominen.std	Date/Time 13-Jun-2011 17:18

Job Information

	Engineer	Checked	Approved
Name:			
Date:	21-Nov-08		

Structure Type | SPACE FRAME

Number of Nodes	445	Highest Node	445
Number of Elements	4	Highest Beam	405
Number of Plates	400	Highest Plate	401

Number of Basic Load Cases	25
Number of Combination Load Cases	0

Included in this printout are data for:

All	The Whole Structure
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Included in this printout are results for load cases:

Type	L/C	Name
Primary	1	DL+INS
Primary	2	DL+INS+LL
Primary	3	DL+INS+WIND(+X)
Primary	4	DL+INS+WIND(-X)
Primary	5	DL+INS+WIND(+Z)
Primary	6	DL+INS+WIND(-Z)
Primary	7	DL+INS+LL+0.6*WIND(+X)
Primary	8	DL+INS+LL+0.6*WIND(-X)
Primary	9	DL+INS+LL+0.6*WIND(+Z)
Primary	10	DL+INS+LL+0.6*WIND(-Z)
Primary	11	1.35*DL+1.35*INS
Primary	12	1.35*DL+1.35*INS+1.5*LL
Primary	13	1.35*DL+1.35*INS+1.5*WIND(+X)
Primary	14	1.35*DL+1.35*INS+1.5*WIND(-X)
Primary	15	1.35*DL+1.35*INS+1.5*WIND(+Z)
Primary	16	1.35*DL+1.35*INS+1.5*WIND(-Z)
Primary	17	EQ(+X)+DL+INS
Primary	18	EQ(-X)+DL+INS
Primary	19	EQ(+Z)+DL+INS
Primary	20	EQ(-Z)+DL+INS
Primary	21	EQ(-Y)+DL+INS
Primary	22	1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND
Primary	23	1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND
Primary	24	1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND
Primary	25	1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND



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Beams

Beam	Node A	Node B	Length (m)	Property	β (degrees)
402	69	442	1.200	2	0
403	363	443	1.200	2	0
404	83	444	1.200	2	0
405	377	445	1.200	2	0

Section Properties

Prop	Section	Area (cm ²)	I_{yy} (cm ⁴)	I_{zz} (cm ⁴)	J (cm ⁴)	Material
2	Rect 0.70x0.70	4.9E 3	2E 6	2E 6	3.38E 6	CONCRETE

Plate Thickness

Prop	Node A (cm)	Node B (cm)	Node C (cm)	Node D (cm)	Material
1	80.000	80.000	80.000	80.000	CONCRETE

Materials

Mat	Name	E (kN/mm ²)	ν	Density (kg/m ³)	α (1/°K)
1	STEEL	205.000	0.300	7.83E 3	12E -6
2	ALUMINUM	68.948	0.330	2.71E 3	23E -6
3	CONCRETE	21.718	0.170	2.55E 3	10E -6

Releases

There is no data of this type.

Basic Load Cases

Number	Name
1	DL+INS
2	DL+INS+LL
3	DL+INS+WIND(+X)
4	DL+INS+WIND(-X)
5	DL+INS+WIND(+Z)
6	DL+INS+WIND(-Z)
7	DL+INS+LL+0.6*WIND(+X)
8	DL+INS+LL+0.6*WIND(-X)
9	DL+INS+LL+0.6*WIND(+Z)
10	DL+INS+LL+0.6*WIND(-Z)
11	1.35*DL+1.35*INS
12	1.35*DL+1.35*INS+1.5*LL
13	1.35*DL+1.35*INS+1.5*WIND(+X)
14	1.35*DL+1.35*INS+1.5*WIND(-X)



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Basic Load Cases Cont...

Number	Name
15	1.35*DL+1.35*INS+1.5*WIND(+Z)
16	1.35*DL+1.35*INS+1.5*WIND(-Z)
17	EQ(+X)+DL+INS
18	EQ(-X)+DL+INS
19	EQ(+Z)+DL+INS
20	EQ(-Z)+DL+INS
21	EQ(-Y)+DL+INS
22	1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND
23	1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND
24	1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND
25	1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND

Combination Load Cases

There is no data of this type.

Load Generators

There is no data of this type.

Node Loads : 1 DL+INS

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-1.530	-229.580	-0.970	3.440	-	2.520
443	-1.120	-221.500	0.650	1.950	-	1.610
444	1.200	-222.950	0.140	0.050	-	-1.740
445	1.440	-223.820	0.180	0.110	-	-2.390

Selfweight : 1 DL+INS

Direction	Factor
Y	-1.000

Node Loads : 2 DL+INS+LL

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-1.530	-261.460	-1.010	3.630	-	2.540
443	-1.110	-253.220	0.660	2.050	-	1.580
444	1.190	-254.720	0.160	0.090	-	-1.710
445	1.450	-255.640	0.180	0.130	-	-2.410



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Selfweight : 2 DL+INS+LL

Direction	Factor
Y	-1.000

Node Loads : 3 DL+INS+WIND(+X)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	100.500	137.170	16.270	3.350	0.100	-4.430
443	100.880	145.230	-16.590	1.990	-	-5.120
444	3.190	-589.690	0.180	0.100	-	-7.290
445	3.430	-590.560	0.140	0.050	-	-7.950

Selfweight : 3 DL+INS+WIND(+X)

Direction	Factor
Y	-1.000

Node Loads : 4 DL+INS+WIND(-X)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-3.620	-598.510	-1.740	5.320	-0.100	8.410
443	-3.050	-586.070	0.740	2.680	-	7.040
444	-101.400	145.560	17.720	0.040	-	5.060
445	-99.940	141.170	-16.720	0.220	-	4.260

Selfweight : 4 DL+INS+WIND(-X)

Direction	Factor
Y	-1.000

Node Loads : 5 DL+INS+WIND(+Z)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	15.550	137.340	101.240	3.850	-	2.510
443	-1.030	-588.490	2.260	11.690	-	1.390
444	-16.050	143.020	103.140	9.760	-	-1.700
445	1.530	-589.720	1.360	8.810	-	-2.590

Selfweight : 5 DL+INS+WIND(+Z)

Direction	Factor
Y	-1.000



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Node Loads : 6 DL+INS+WIND(-Z)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-1.530	-596.490	-3.460	3.060	-	2.540
443	16.370	145.630	-101.470	-2.380	-	1.550
444	0.600	-590.060	-0.620	-7.690	-	-0.300
445	-15.440	143.070	-102.450	-8.830	-	-2.390

Selfweight : 6 DL+INS+WIND(-Z)

Direction	Factor
Y	-1.000

Node Loads : 7 DL+INS+LL+0.6*WIND(+X)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	59.680	-41.410	9.340	3.580	0.060	-1.630
443	60.090	-33.180	-9.680	2.080	-	-2.450
444	2.380	-474.770	0.180	0.120	-	-5.040
445	2.650	-475.690	0.160	0.100	-	-5.740

Selfweight : 7 DL+INS+LL+0.6*WIND(+X)

Direction	Factor
Y	-1.000

Node Loads : 8 DL+INS+LL+0.6*WIND(-X)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-2.790	-482.820	-1.470	4.760	-0.060	6.070
443	-2.270	-471.960	0.720	2.490	-	4.840
444	-60.370	-33.620	10.710	0.080	-	2.370
445	-59.380	-36.650	-9.960	0.200	-	1.580

Selfweight : 8 DL+INS+LL+0.6*WIND(-X)

Direction	Factor
Y	-1.000



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Node Loads : 9 DL+INS+LL+0.6*WIND(+Z)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	8.710	-41.310	60.320	3.880	-	2.530
443	-1.050	-473.410	1.630	7.900	-	1.460
444	-9.160	-35.140	61.960	5.920	-	-1.690
445	1.500	-475.190	0.890	5.350	-	-2.530

Selfweight : 9 DL+INS+LL+0.6*WIND(+Z)

Direction	Factor
Y	-1.000

Node Loads : 10 DL+INS+LL+0.6*WIND(-Z)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-1.540	-481.610	-2.500	3.410	-	2.550
443	9.380	-32.940	-60.600	-0.550	-	1.550
444	0.830	-474.990	-0.300	-4.550	-	-0.850
445	-8.680	-35.510	-61.390	-5.230	-	-2.410

Selfweight : 10 DL+INS+LL+0.6*WIND(-Z)

Direction	Factor
Y	-1.000

Node Loads : 11 1.35*DL+1.35*INS

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-2.060	-309.930	-1.310	4.640	-	3.400
443	-1.510	-299.030	0.870	2.640	-	2.170
444	1.620	-300.980	0.190	0.070	-	-2.340
445	1.950	-302.150	0.250	0.150	-	-3.220

Selfweight : 11 1.35*DL+1.35*INS

Direction	Factor
Y	-1.350



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Node Loads : 12 1.35*DL+1.35*INS+1.5*LL

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-2.070	-357.760	-1.370	4.940	-	3.430
443	-1.500	-346.610	0.900	2.790	-	2.130
444	1.610	-348.640	0.220	0.130	-	-2.310
445	1.960	-349.890	0.250	0.180	-	-3.260

Selfweight : 12 1.35*DL+1.35*INS+1.5*LL

Direction	Factor
Y	-1.350

Node Loads : 13 1.35*DL+1.35*INS+1.5*WIND(+X)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	150.980	240.190	24.550	4.500	0.150	-7.020
443	151.480	251.080	-24.990	2.700	-	-7.920
444	4.600	-851.090	0.250	0.150	-	-10.670
445	4.930	-852.270	0.190	0.060	-	-11.560

Selfweight : 13 1.35*DL+1.35*INS+1.5*WIND(+X)

Direction	Factor
Y	-1.350

Node Loads : 14 1.35*DL+1.35*INS+1.5*WIND(-X)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-5.200	-863.330	-2.470	7.460	-0.140	12.230
443	-4.410	-845.870	1.020	3.720	-	10.320
444	-152.270	251.780	26.560	0.050	-	7.860
445	-150.120	245.330	-25.110	0.310	-	6.750

Selfweight : 14 1.35*DL+1.35*INS+1.5*WIND(-X)

Direction	Factor
Y	-1.350



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Node Loads : 15 1.35*DL+1.35*INS+1.5*WIND(+Z)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	23.550	240.450	152.010	5.270	0.010	3.390
443	-1.370	-849.510	3.290	17.240	-	1.850
444	-24.250	247.980	154.690	14.630	-	-2.290
445	2.080	-851.020	2.010	13.190	-	-3.530

Selfweight : 15 1.35*DL+1.35*INS+1.5*WIND(+Z)

Direction	Factor
Y	-1.350

Node Loads : 16 1.35*DL+1.35*INS+1.5*WIND(-Z)

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-2.070	-860.300	-5.050	4.070	-	3.440
443	24.720	251.670	-152.300	-3.860	-	2.090
444	0.720	-851.640	-0.950	-11.540	0.010	-0.180
445	-23.370	248.180	-153.700	-13.260	0.010	-3.220

Selfweight : 16 1.35*DL+1.35*INS+1.5*WIND(-Z)

Direction	Factor
Y	-1.350

Node Loads : 17 EQ(+X)+DL+INS

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	165.880	316.990	21.990	3.400	0.310	1.980
443	167.470	321.770	-23.180	1.510	-	-8.410
444	4.170	-769.900	0.620	1.590	-	-8.530
445	3.950	-766.710	0.570	1.490	-	-8.210

Selfweight : 17 EQ(+X)+DL+INS

Direction	Factor
Y	-1.000



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Node Loads : 18 EQ(-X)+DL+INS

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-2.760	-777.930	-2.050	3.580	-0.300	3.050
443	-3.520	-762.460	1.640	5.270	-	7.200
444	-168.880	324.860	23.470	-0.070	-	8.870
445	-166.300	317.680	-23.060	0.210	-	7.500

Selfweight : 18 EQ(-X)+DL+INS

Direction	Factor
Y	-1.000

Node Loads : 19 EQ(+Z)+DL+INS

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	21.430	317.130	171.200	4.020	0.010	2.520
443	-0.970	-768.330	-0.270	7.760	-	1.250
444	-22.050	320.760	171.680	8.380	-	-1.700
445	1.590	-767.420	-1.150	4.880	-	-2.750

Selfweight : 19 EQ(+Z)+DL+INS

Direction	Factor
Y	-1.000

Node Loads : 20 EQ(-Z)+DL+INS

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-1.530	-775.430	0.400	2.630	-	2.520
443	21.990	324.400	-172.420	-4.700	-	1.560
444	1.060	-767.510	1.700	-4.200	-	-1.410
445	-21.520	320.700	-171.140	-7.720	-	-2.360

Selfweight : 20 EQ(-Z)+DL+INS

Direction	Factor
Y	-1.000



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Node Loads : 21 EQ(-Y)+DL+INS

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-1.530	-279.660	-1.240	3.520	-	2.530
443	-1.430	-270.620	0.980	2.830	-	2.120
444	1.270	-272.330	0.070	-0.160	-	-1.640
445	1.690	-272.760	0.190	0.020	-	-2.750

Selfweight : 21 EQ(-Y)+DL+INS

Direction	Factor
Y	-1.000

Node Loads : 22 1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND(+X))

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	89.750	-27.680	14.150	4.850	0.090	-2.820
443	90.300	-16.550	-14.620	2.820	-	-3.920
444	3.400	-678.710	0.250	0.180	-	-7.310
445	3.750	-679.960	0.220	0.130	-	-8.260

Selfweight : 22 1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND(+X))

Direction	Factor
Y	-1.350

Node Loads : 23 1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND(-X))

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-3.950	-689.790	-2.060	6.630	-0.080	8.730
443	-3.240	-674.720	0.990	3.440	-	7.020
444	-90.730	-16.990	16.040	0.120	-	3.810
445	-89.280	-21.400	-14.960	0.280	-	2.730

Selfweight : 23 1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND(-X))

Direction	Factor
Y	-1.350



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Node Loads : 24 1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND(+Z))

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	13.290	-27.530	90.620	5.310	0.010	3.420
443	-1.410	-676.900	2.350	11.550	-	1.940
444	-13.920	-19.270	92.920	8.870	-	-2.280
445	2.040	-679.210	1.310	8.010	-	-3.440

Selfweight : 24 1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND(+Z))

Direction	Factor
Y	-1.350

Node Loads : 25 1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND(-Z))

Node	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
442	-2.080	-687.980	-3.610	4.590	-	3.450
443	14.240	-16.190	-91.000	-1.110	-	2.090
444	1.070	-679.040	-0.470	-6.840	-	-1.010
445	-13.230	-19.690	-92.120	-7.860	-	-3.260

Selfweight : 25 1.35*DL+1.35*INS+1.5*LL+1.5*(0.6*WIND(-Z))

Direction	Factor
Y	-1.350



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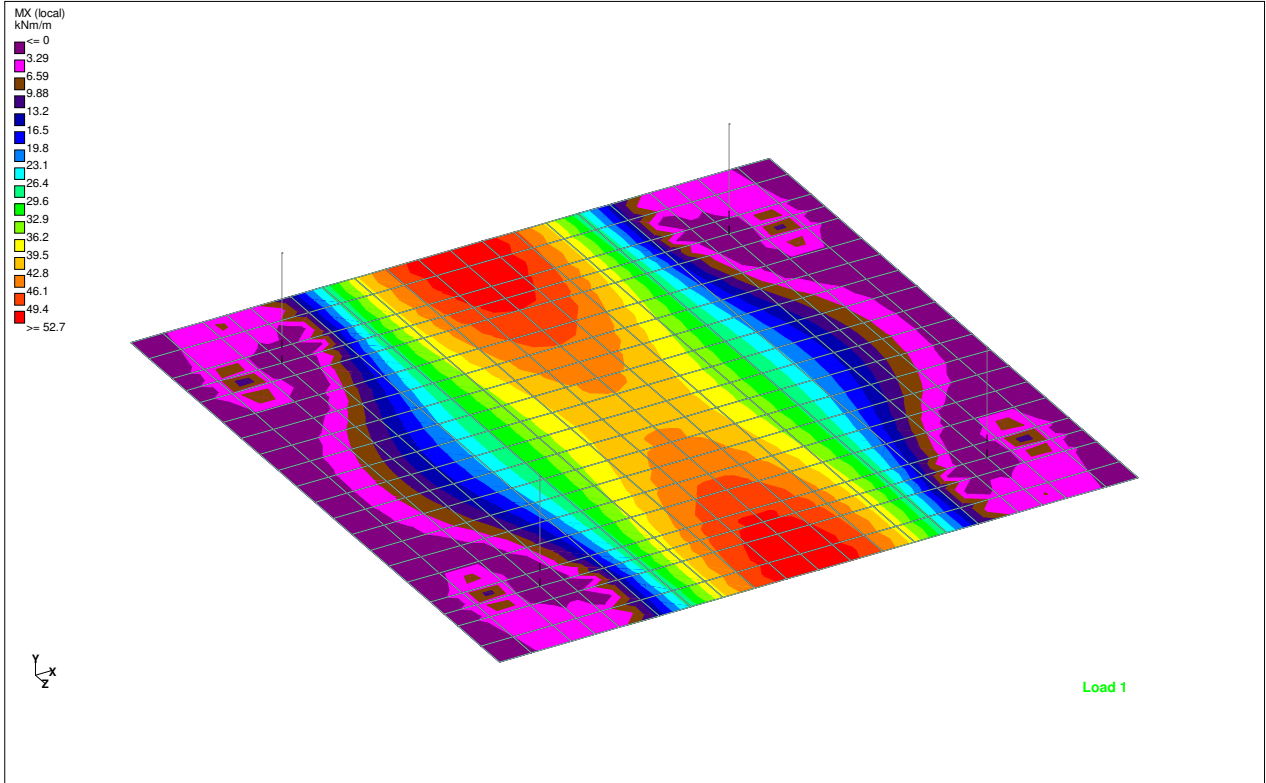
Date 21-Nov-08

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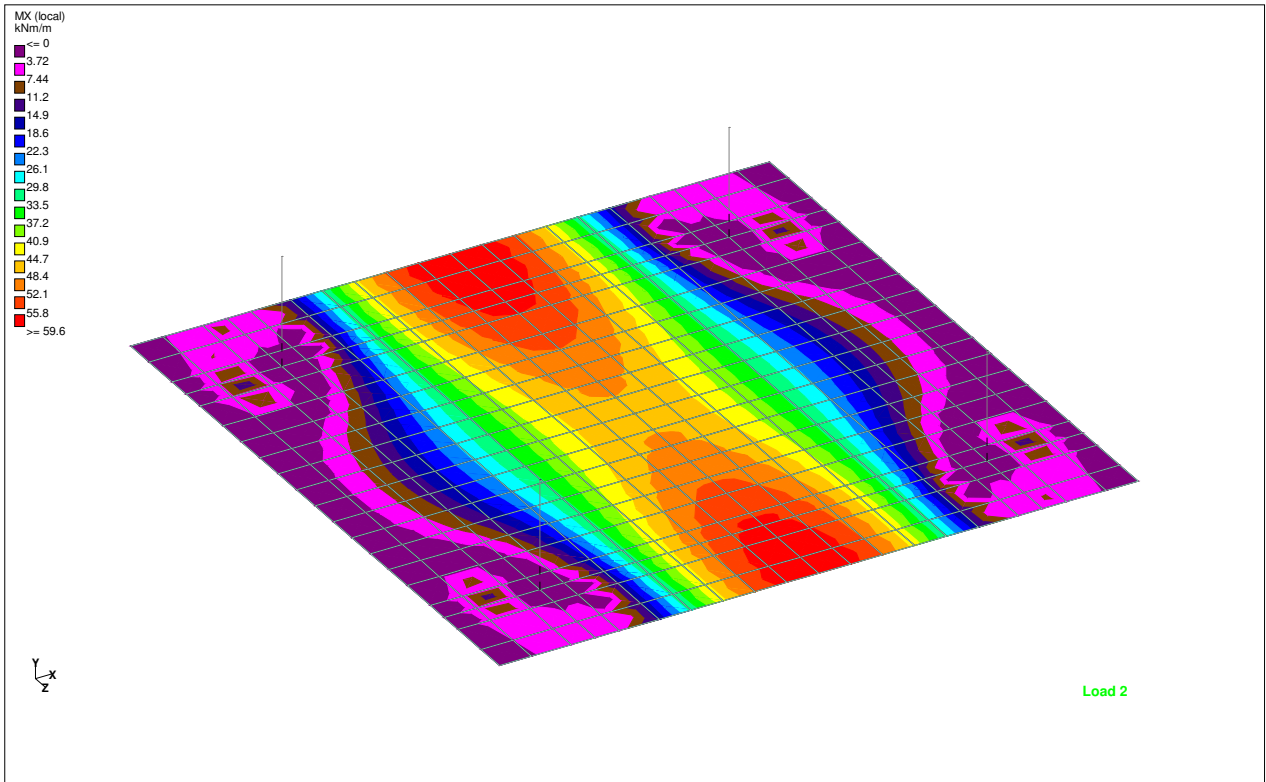
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DL+INS



DL+INS+LL



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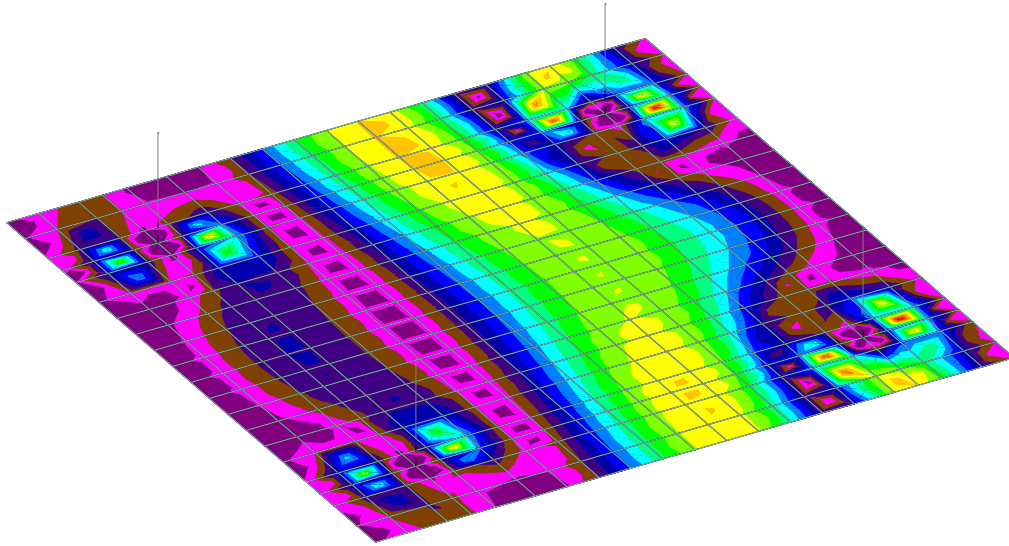
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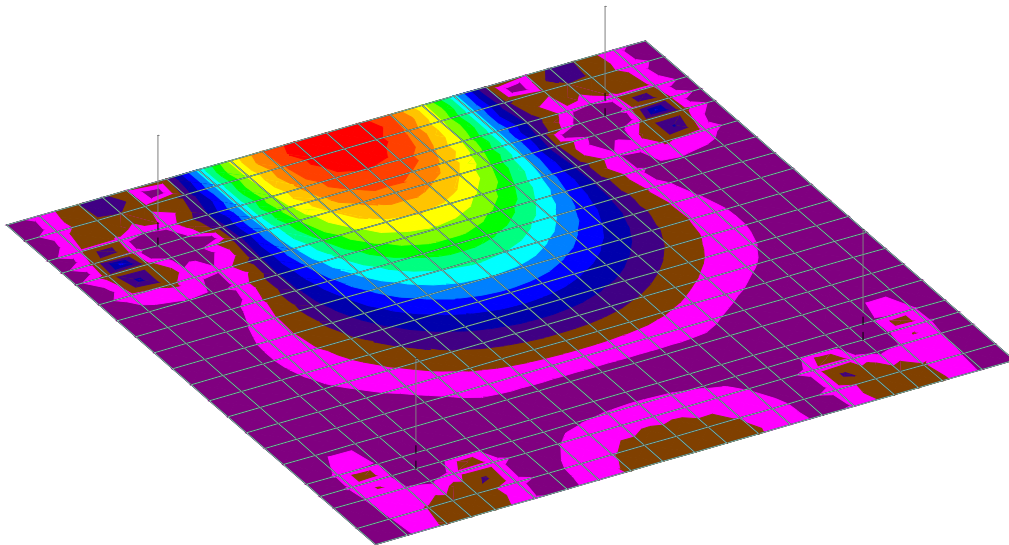
- MX (local)
kNm/m
- <= 0
 - 2.72
 - 5.45
 - 8.17
 - 10.9
 - 13.6
 - 16.3
 - 19.1
 - 21.8
 - 24.5
 - 27.2
 - 30
 - 32.7
 - 35.4
 - 38.1
 - 40.8
 - >= 43.6



Load 3

DL+INS+WIND(+X)

- MX (local)
kNm/m
- <= 0
 - 7.07
 - 14.1
 - 21.2
 - 28.3
 - 35.3
 - 42.4
 - 49.5
 - 56.6
 - 63.6
 - 70.7
 - 77.8
 - 84.8
 - 91.9
 - 99
 - 106
 - >= 113



Load 6

DL+INS+WIND(-Z)



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Job No

Sheet No

14

Rev

Part

Job Title

Ref

By

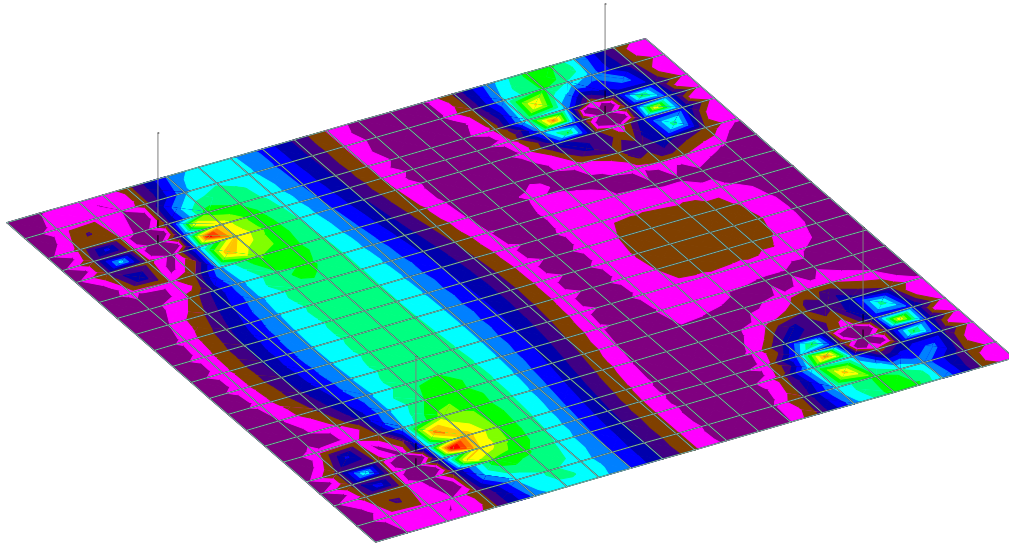
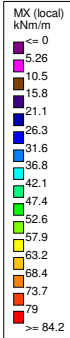
Date 21-Nov-08

Chd

Client

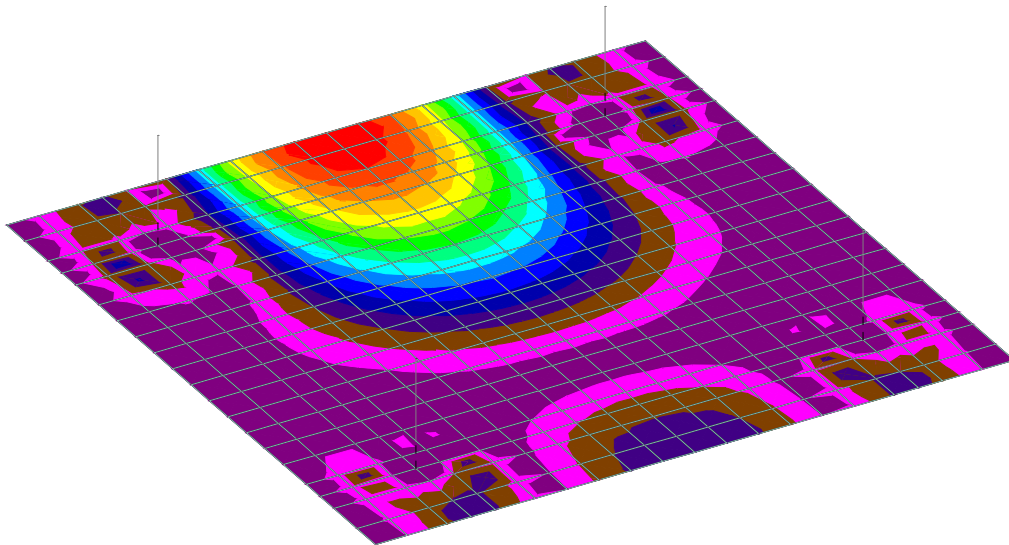
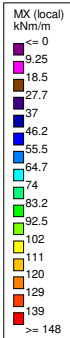
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Date/Time 13-Jun-2011 17:18



Load 17

$EQ(+X)+DL+INS$



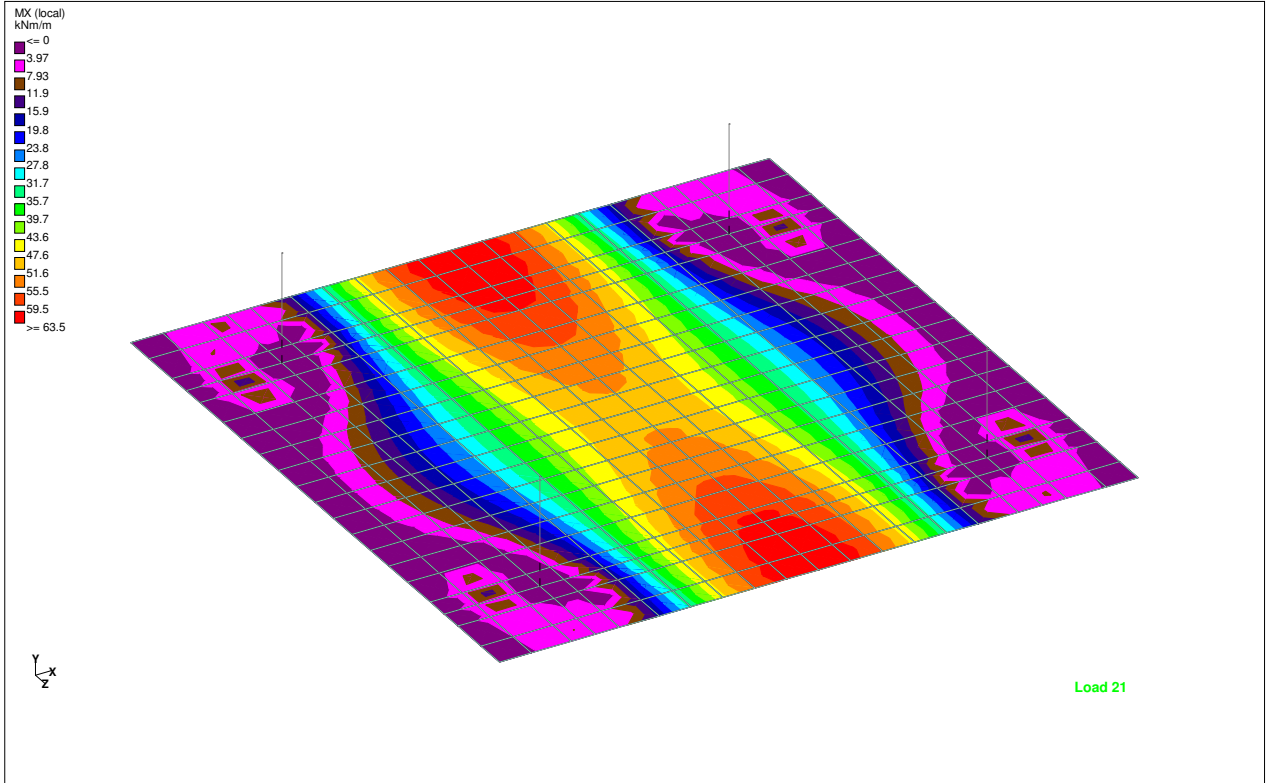
Load 20

$EQ(-Z)+DL+INS$



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Job No	Sheet No 15	Rev
Part	Ref	
Job Title	By	Date 21-Nov-08 Chd
Client	File Vilma Tuominen.std	Date/Time 13-Jun-2011 17:18



EQ(-Y)+DL+INS