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CALCULATION

Contract No.
2613

Prepared
GPD Date 27/01/16

Calc. Sheet No.

Checked Date

Revision

Contract
FORUM.

Element of Structure

Item

Calculations

TRUSS 3 CHECK - EXISTING

	kg/m ²	kg/m
ASBESTOS CEMENT SHEETING 6mm	0.16	
PURLINS 4" x 9" (x 1/2") - SAY	0.19	
	$0.35 / \cos 24^\circ \times 4.3 =$	1.65
I.L. (OLD CODE)	0.75	= 3.23
[IF	0.60	2.58]

CEILING LOAD

METAL LATHE & PLASTER =	0.35	→ NEGLIGIBLE WHEN SPREAD OVER TRUSSES
WALKWAY =	0.25	
SERVICES =	0.15	
CEILING BEAMS =	0.19	
	$0.94 / \cos 24^\circ \times 4.3 =$	3.01

I.L. = $0.25 \text{ kg/m}^2 \times 4.3 = 1.08$

SPACING BETWEEN TRUSS = $\frac{8.65}{2} = 4.3 \text{ km/m}$ → ORIGINAL DESIGN PRESUMED 0?

FROM CAD'S THE TOP CHORD IS OVER STRESSED BY 9% AT THE EAVES WITH THE ABOVE LOADS. THE STIFFENING EFFECT OF THE EAVES CONNECTION IS LIKELY TO PROVIDE ENOUGH STRENGTH TO MAKE THE TRUSS SUITABLE.

THEREFORE IT IS HIGHLY LIKELY THAT THE EXISTING ROOF COVERING IS AS IT WAS ORIGINALLY BUILT. THE ROOF TRUSSES WOULD NOT HAVE BEEN ABLE TO SUPPORT THE WEIGHT OF A SLATE ROOF WITH ASSOCIATED TIMBER BATTENING.

THE PROPOSED NEW ROOF COVERING IS TO BE KINGSPAN SINUSOIDAL INSULATED PANEL WITH 80mm CORE THICKNESS - SELF WEIGHT $12 \text{ kg/m}^2 \equiv 0.12 \text{ kg/m}^2$

BY INSPECTION PROPOSED ROOFING IS LIGHTER THAN EXISTING ASBESTOS CEMENT SHEET CLADDING.

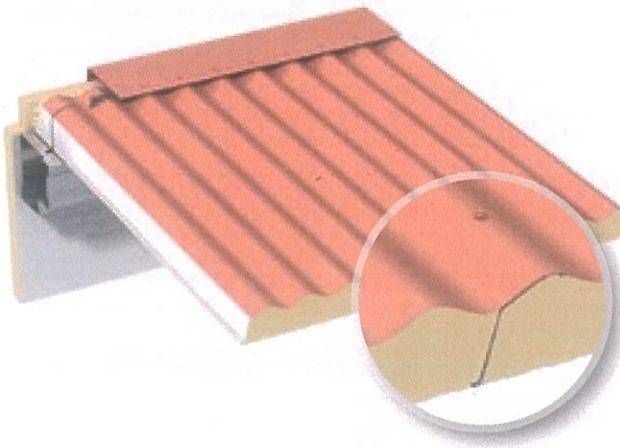
Insulated Roof & Wall Panels

Sinusoidal KS1000 SRW



Berghorst Farm Shed, Dronten, Netherlands

Sinusoidal is a through-fix sinusoidal profiled insulated roof panel which can be used for building applications with roof pitches of 4° or more after deflection.



Product Features

Profile:	Sinusoidal
Fixing detail:	Through-fix
Metal type:	Steel
Colours:	Kingspan XL Forté (Symphony / Vivace / Crescendo) and Kingspan Spectrum (Solid / Metallic / Diamond)
Application:	Pitched roofs of 4° or more after deflection
Lengths:	From 1.8m to 17.8m
Cover width:	1000mm
Environmental rating:	May be Green Guide A+ rated, subject to project specific assessment
Fire rating:	LPCB approved
Product compatibility:	Integrates with Kingspan Safety solutions and Kingspan Roof Mounted PV System; rooflight solution is available
Seals:	Site-applied side and end lap sealants

FIREsafe FIBREfree

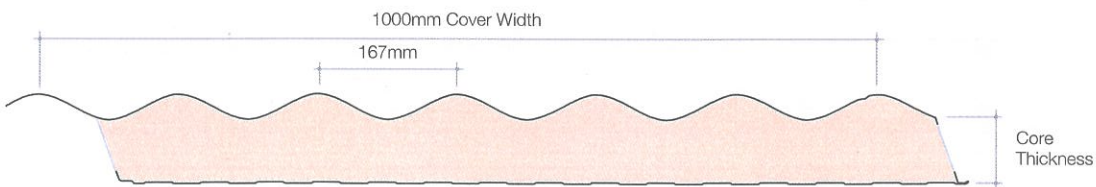
Insulated Roof & Wall Panels

Sinusoidal KS1000 SRW



Insulated Roof
& Wall Panels

KS1000 SRW



Product Specifications and Accreditations

Product Reference	Standard Environment	Temp. Control	Hygiene	High Humidity	Low Temp.	Fire Rating	
						LPCB	FM
KS1000 SRW	✓	✓	✓	✓	•	✓	•

Dimensions, Weight and Thermal Performance

Core Thickness (mm)	40	60	80
Overall Thickness (mm)	70	90	110
U-value (W/m ² K)	0.46	0.32	0.25
Weight (kg/m ²) 0.5 steel / 0.4 steel	10.3	11.3	12.0

The U-values have been calculated using the method required by the appropriate National Building Regulations.



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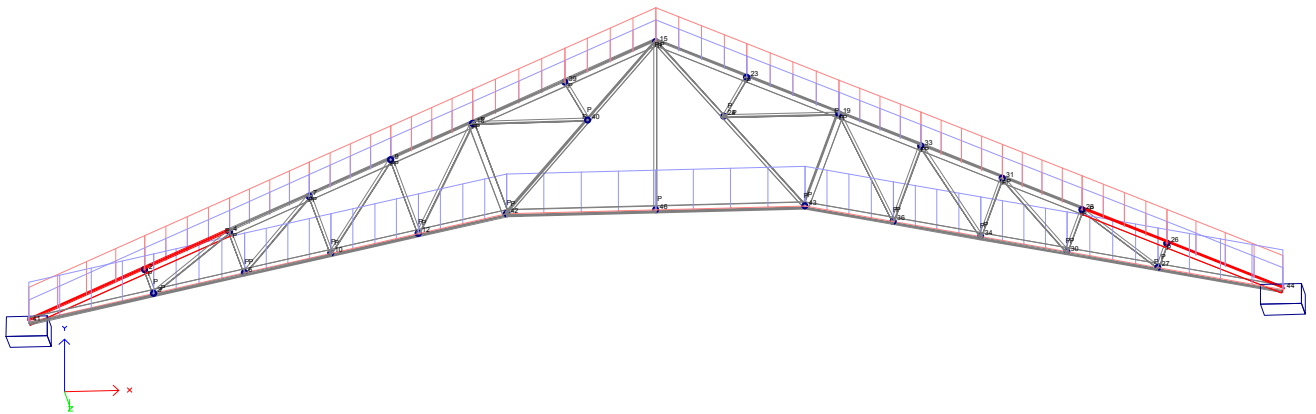
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The Forum, London

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Current View




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Members

<i>Mbr ref</i>	<i>Member type</i>	<i>Start joint</i>	<i>Start fixity</i>	<i>End joint</i>	<i>End fixity</i>	<i>Orient (°)</i>	<i>Directional behaviour</i>	<i>Length (m)</i>	<i>P-Delta behaviour</i>	<i>Slope (°)</i>
2	3"x2.5"x3/8"	3	Pinned	4	Pinned	0.0	Normal	2.385	Normal	39.0
4	3"x2.5"x3/8"	6	Pinned	7	Pinned	0.0	Normal	2.462	Normal	50.1
6	3"x3"x3/8"	9	Pinned	10	Pinned	0.0	Normal	2.744	Normal	-57.6
8	3"x3"x3/8"	12	Pinned	13	Pinned	0.0	Normal	3.039	Normal	64.3
15	3"x3"x3/8"	23	Pinned	24	Pinned	0.0	Normal	1.117	Normal	-59.9
17	3"x2.5"x3/8"	27	Pinned	28	Pinned	0.0	Normal	2.385	Normal	39.0
19	3"x2.5"x3/8"	30	Pinned	31	Pinned	0.0	Normal	2.462	Normal	50.1
21	3"x3"x3/8"	33	Pinned	34	Pinned	0.0	Normal	2.744	Normal	-57.6
23	3"x3"x3/8"	36	Pinned	19	Pinned	0.0	Normal	3.039	Normal	64.3
25	3"x3"x3/8"	39	Pinned	40	Pinned	0.0	Normal	1.117	Normal	-59.9
28	2*6"x4"x9/16"	42	Fixed	46	Fixed	180.0	Normal	3.642	Normal	0.0
32	3"x3"x3/8"	13	Pinned	40	Pinned	0.0	Normal	2.811	Normal	0.2
33	3"x3"x3/8"	24	Pinned	19	Pinned	0.0	Normal	2.811	Normal	-0.2
34	3"x3"x3/8"	34	Pinned	31	Pinned	0.0	Normal	1.544	Normal	70.3
35	3"x2.5"x3/8"	30	Pinned	28	Pinned	0.0	Normal	1.104	Normal	70.3
36	3"x2.5"x3/8"	27	Pinned	26	Pinned	0.0	Normal	0.639	Normal	70.5
37	2*6"x4"x9/16"	43	Pinned	19	Pinned	0.0	Normal	2.441	Normal	70.0
38	2*3"x3"x3/8"	43	Pinned	24	Fixed	0.0	Normal	3.038	Normal	49.4
39	2*6"x4"x9/16"	46	Fixed	43	Fixed	180.0	Normal	3.642	Normal	0.0
40	3"x3"x3/8"	46	Pinned	15	Pinned	0.0	Normal	4.240	Normal	90.0
41	2*3"x3"x3/8"	15	Pinned	24	Fixed	0.0	Normal	2.551	Normal	-49.3
42	2*3"x3"x3/8"	42	Pinned	40	Fixed	0.0	Normal	3.038	Normal	49.4
43	2*3"x3"x3/8"	40	Fixed	15	Pinned	0.0	Normal	2.551	Normal	49.3
45	3"x3"x3/8"	12	Pinned	9	Pinned	0.0	Normal	1.992	Normal	70.3
46	3"x3"x3/8"	10	Pinned	7	Pinned	0.0	Normal	1.544	Normal	70.3
47	3"x2.5"x3/8"	6	Pinned	4	Pinned	0.0	Normal	1.104	Normal	70.3
48	3"x2.5"x3/8"	3	Pinned	2	Pinned	0.0	Normal	0.639	Normal	70.5
49	3"x3"x3/8"	36	Pinned	33	Pinned	0.0	Normal	1.992	Normal	70.3
50	2*6"x4"x9/16"	42	Pinned	13	Pinned	0.0	Normal	2.441	Normal	70.0
51	2*6"x4"x9/16"	41	Fixed	2	Fixed	0.0	Normal	3.094	Normal	23.5
52	2*6"x4"x9/16"	2	Fixed	4	Fixed	0.0	Normal	2.253	Normal	23.5
53	2*6"x4"x9/16"	4	Fixed	7	Fixed	0.0	Normal	2.128	Normal	23.5
54	2*6"x4"x9/16"	7	Fixed	9	Fixed	0.0	Normal	2.169	Normal	23.5
55	2*6"x4"x9/16"	9	Fixed	13	Fixed	0.0	Normal	2.169	Normal	23.5
56	2*6"x4"x9/16"	13	Fixed	39	Fixed	0.0	Normal	2.455	Normal	23.5
57	2*6"x4"x9/16"	39	Fixed	15	Fixed	0.0	Normal	2.424	Normal	23.5
58	2*6"x4"x9/16"	15	Fixed	23	Fixed	0.0	Normal	2.424	Normal	-23.5
59	2*6"x4"x9/16"	23	Fixed	19	Fixed	0.0	Normal	2.455	Normal	-23.5
60	2*6"x4"x9/16"	19	Fixed	33	Fixed	0.0	Normal	2.169	Normal	-23.5
61	2*6"x4"x9/16"	33	Fixed	31	Fixed	0.0	Normal	2.169	Normal	-23.5
62	2*6"x4"x9/16"	31	Fixed	28	Fixed	0.0	Normal	2.128	Normal	-23.5
63	2*6"x4"x9/16"	28	Fixed	26	Fixed	0.0	Normal	2.253	Normal	-23.5
64	2*6"x4"x9/16"	26	Fixed	44	Fixed	0.0	Normal	3.094	Normal	-23.5

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Members(continued)

<i>Mbr ref</i>	<i>Member type</i>	<i>Start joint</i>	<i>Start fixity</i>	<i>End joint</i>	<i>End fixity</i>	<i>Orient (°)</i>	<i>Directional behaviour</i>	<i>Length (m)</i>	<i>P-Delta behaviour</i>	<i>Slope (°)</i>
65	2*6"x4"x9/16"	41	Fixed	3	Fixed	180.0	Normal	3.115	Normal	11.7
66	2*6"x4"x9/16"	3	Fixed	6	Fixed	180.0	Normal	2.272	Normal	11.7
67	2*6"x4"x9/16"	6	Fixed	10	Fixed	180.0	Normal	2.145	Normal	11.7
68	2*6"x4"x9/16"	10	Fixed	12	Fixed	180.0	Normal	2.187	Normal	11.7
69	2*6"x4"x9/16"	12	Fixed	42	Fixed	180.0	Normal	2.196	Normal	11.7
70	2*6"x4"x9/16"	43	Fixed	36	Fixed	180.0	Normal	2.196	Normal	-11.7
71	2*6"x4"x9/16"	36	Fixed	34	Fixed	180.0	Normal	2.187	Normal	-11.7
72	2*6"x4"x9/16"	34	Fixed	30	Fixed	180.0	Normal	2.145	Normal	-11.7
73	2*6"x4"x9/16"	30	Fixed	27	Fixed	180.0	Normal	2.272	Normal	-11.7
74	2*6"x4"x9/16"	27	Fixed	44	Fixed	180.0	Normal	3.115	Normal	-11.7

Joints


<i>Joint ref</i>	<i>X pos (m)</i>	<i>Y pos (m)</i>	<i>Z pos (m)</i>	<i>Joint ref</i>	<i>X pos (m)</i>	<i>Y pos (m)</i>	<i>Z pos (m)</i>	<i>Joint ref</i>	<i>X pos (m)</i>	<i>Y pos (m)</i>	<i>Z pos (m)</i>
2	-5.090	-9.932	3.327	3	-4.878	-10.534	3.327	4	-3.024	-9.034	3.327
6	-2.653	-10.073	3.327	7	-1.073	-8.185	3.327	9	0.917	-7.321	3.327
10	-0.552	-9.638	3.327	12	1.589	-9.195	3.327	13	2.906	-6.456	3.327
15	7.381	-4.511	3.327	19	11.856	-6.456	3.327	23	9.604	-5.477	3.327
24	9.045	-6.444	3.327	26	19.852	-9.932	3.327	27	19.639	-10.534	3.327
28	17.786	-9.034	3.327	30	17.414	-10.073	3.327	31	15.834	-8.185	3.327
33	13.845	-7.321	3.327	34	15.314	-9.638	3.327	36	13.173	-9.195	3.327
39	5.157	-5.477	3.327	40	5.717	-6.444	3.327	41	-7.928	-11.165	3.327
42	3.739	-8.750	3.327	43	11.023	-8.750	3.327	44	22.689	-11.165	3.327
46	7.381	-8.750	3.327								

Supports

<i>Joint ref</i>	<i>Support type</i>	<i>X Trans. (kN/mm)</i>	<i>Y Trans. (kN/mm)</i>	<i>Z Trans. (kN/mm)</i>	<i>X Rot. (kNm/Rad)</i>	<i>Y Rot. (kNm/Rad)</i>	<i>Z Rot. (kNm/Rad)</i>	<i>Direction control</i>
41	Pinned	Fixed	Fixed	Fixed	Free	Free	Free	Normal
44	Pinned	Free	Fixed	Fixed	Free	Free	Free	Normal

Sections

<i>Reference</i>	<i>Area (cm²)</i>	<i>Ixx (cm⁴)</i>	<i>Iyy (cm⁴)</i>	<i>J (cm⁴)</i>	<i>Elements (mm)</i>				
					<i>No</i>	<i>Width</i>	<i>Height</i>	<i>Vert. off</i>	<i>Lat. off</i>
305x165 UKB40	51.3	8503	764	14.7					
2*6.25"x4"x10mm	50.5585	1318.58	841.192	17.7474					
2*6"x4"x9/16"	67.6885	1581.55	1194.847	45.62421					
3"x2.5"x3/8"	12.4125	68.88801	43.2997	3.737587					
3"x3"x3/8"	13.7596	73.4287	73.4287	4.387139					
2*3"x3"x3/8"	27.5193	146.8574	353.7682	8.774278					
6"x4"x9/16"	33.8442	790.7751	283.0851	22.81211					

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Materials

Material reference	Elastic modulus (kN/mm ²)	Poisson ratio	Density (kN/m ³)	Thermal expansion (°C ⁻¹ 10 ⁻⁶)
UK-S235	205.00	0.30	77.00	12.00

Member Types

Reference	Shape	Material	Seg no	Start section	End section	Length (m)	Depth (mm)	Placing rule
2*6"x4"x9/16"	SW Library	UK-S235	1	2*6"x4"x9/16"				
3"x2.5"x3/8"	SW Library	UK-S235	1	3"x2.5"x3/8"				
3"x3"x3/8"	SW Library	UK-S235	1	3"x3"x3/8"				
2*3"x3"x3/8"	SW Library	UK-S235	1	2*3"x3"x3/8"				


Self Weights

Mem ref	Self weight (kN)	Mem ref	Self weight (kN)	Mem ref	Self weight (kN)	Mem ref	Self weight (kN)
2	0.228	4	0.235	6	0.291	8	0.322
15	0.118	17	0.228	19	0.235	21	0.291
23	0.322	25	0.118	28	1.898	32	0.298
33	0.298	34	0.164	35	0.106	36	0.061
37	1.272	38	0.644	39	1.898	40	0.449
41	0.541	42	0.644	43	0.541	45	0.211
46	0.164	47	0.106	48	0.061	49	0.211
50	1.272	51	1.613	52	1.174	53	1.109
54	1.131	55	1.131	56	1.280	57	1.264
58	1.264	59	1.280	60	1.131	61	1.131
62	1.109	63	1.174	64	1.613	65	1.624
66	1.184	67	1.118	68	1.140	69	1.144
70	1.144	71	1.140	72	1.118	73	1.184
74	1.624						

Total self weight for selected members : 43.044 kN

Member Loads


Load reference	Load type	Start pos'n (m)	Start intensity (kN) & (m)	End pos'n (m)	End intensity (kN) & (m)	Direction	Category
<i>Loads on member 28 (Length 3.642m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 39 (Length 3.642m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 51 (Length 3.094m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed

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Member Loads (continued)

Load reference	Load type	Start pos'n (m)	Start intensity (kN) & (m)	End pos'n (m)	End intensity (kN) & (m)	Direction	Category
<i>Loads on member 52 (Length 2.253m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 53 (Length 2.128m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 54 (Length 2.169m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 55 (Length 2.169m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 56 (Length 2.455m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 57 (Length 2.424m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 58 (Length 2.424m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 59 (Length 2.455m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 60 (Length 2.169m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 61 (Length 2.169m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 62 (Length 2.128m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 63 (Length 2.253m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 64 (Length 3.094m)</i>							
Roof DL	UL		1.650			Vertical (-Y)	Dead
Roof IL	UL		2.580			Vertical (-Y)	Imposed
<i>Loads on member 65 (Length 3.115m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 66 (Length 2.272m)</i>							

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Member Loads (continued)

Load reference	Load type	Start pos'n (m)	Start intensity (kN) & (m)	End pos'n (m)	End intensity (kN) & (m)	Direction	Category
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 67 (Length 2.145m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 68 (Length 2.187m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 69 (Length 2.196m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 70 (Length 2.196m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 71 (Length 2.187m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 72 (Length 2.145m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 73 (Length 2.272m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed
<i>Loads on member 74 (Length 3.115m)</i>							
Ceiling DL	UL		3.000			Vertical (-Y)	Dead
Ceiling IL	UL		0.000			Vertical (-Y)	Imposed

Load Combinations

Load Category			Partial Safety Factors		
No	Name	Type	Sub type	1	2
	Combination reference			Existing SLS	Existing ULS
	Limit state			ULS	ULS
	Elastic analysis			Linear	Linear
	Plastic analysis			No	No
1	Self Weight	Permanent	Self weight	1.00	1.40
2	Dead	Permanent	Permanent	1.00	1.40
3	Imposed	Variable	Cat B: office	1.00	1.60
4	Other	Other	Other	0.00	0.00

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Support Reactions for Combination Existing SLS

Analysis Type : Linear elastic

Joint reference	Support reactions (kN)			Support moments (kNm)		
	Px	Py	Pz	Mx	My	Mz
41	0.000	132.204	0.000	0.000	0.000	0.000
44	0.000	132.204	0.000	0.000	0.000	0.000


Support Reactions for Combination Existing ULS

Analysis Type : Linear elastic

Joint reference	Support reactions (kN)			Support moments (kNm)		
	Px	Py	Pz	Mx	My	Mz
41	0.000	192.984	0.000	0.000	0.000	0.000
44	0.000	192.984	0.000	0.000	0.000	0.000

Maximum Axial, Shear and Deflection effects for Combination Existing SLS

Member ref	Axial effects		Shear effects		Deflection effects					
	Compr'n (kN)	Tension (kN)	Normal (kN)	Lateral (kN)	Axial (mm)	Pos (m)	Normal (mm)	Pos (m)	Lateral (mm)	Pos (m)
2	0.000	-22.169	-0.089	0.000	-13.44	0.000	-39.78	2.385	0.00	0.000
4	0.000	-45.923	-0.075	0.000	-24.51	0.000	-41.53	2.462	0.00	0.000
6	0.000	-50.267	0.078	0.000	32.57	2.744	-40.72	0.000	0.00	0.000
8	0.000	-54.752	-0.070	0.000	-38.99	0.000	-37.74	3.039	0.00	0.000
15	0.216	0.000	-0.030	0.000	38.92	0.000	-38.10	0.478	0.00	0.000
17	0.000	-22.169	-0.089	0.000	-37.44	0.000	-20.36	2.385	0.00	0.000
19	0.000	-45.923	-0.075	0.000	-44.32	0.000	-17.85	2.462	0.00	0.000
21	0.000	-50.267	0.078	0.000	49.09	2.744	-14.65	0.000	0.00	0.000
23	0.000	-54.752	-0.070	0.000	-52.36	0.000	-9.91	3.039	0.00	0.000
25	0.216	0.000	-0.030	0.000	54.38	0.000	-11.38	0.478	0.00	0.000
28	0.000	-246.299	8.412	0.000	15.44	3.642	52.10	0.942	0.00	0.000
32	0.000	-1.181	0.149	0.000	17.16	2.811	-52.84	2.668	0.00	0.000
33	0.000	-1.181	0.149	0.000	13.72	2.811	-52.70	0.143	0.00	0.000
34	29.631	0.000	-0.028	0.000	-37.58	1.544	-33.07	0.000	0.00	0.000
35	17.873	0.000	0.018	0.000	-31.53	1.104	-32.92	0.000	0.00	0.000
36	5.897	0.000	-0.010	0.000	-21.16	0.639	-32.22	0.000	0.00	0.000
37	52.287	0.000	0.217	0.000	-43.29	2.441	-32.80	0.000	0.00	0.000
38	0.000	-179.733	0.278	0.000	-49.79	0.000	-24.21	2.555	0.00	3.038
39	0.000	-246.299	-8.412	0.000	16.08	3.642	52.10	2.699	0.00	0.000
40	0.000	-17.273	0.000	0.000	-50.25	0.000	-15.44	0.000	0.00	0.000
41	0.000	-181.128	0.258	0.000	48.78	2.551	-24.21	2.551	0.00	2.551
42	0.000	-179.733	0.278	0.000	-29.70	0.000	-47.64	2.555	0.00	3.038
43	0.000	-181.128	-0.258	0.000	-28.63	0.000	-47.60	0.000	0.00	0.000
45	35.263	0.000	-0.036	0.000	-51.84	1.992	-3.89	0.000	0.00	0.000
46	29.631	0.000	0.028	0.000	-47.99	1.544	-4.01	0.000	0.00	0.000
47	17.873	0.000	0.018	0.000	-41.92	1.104	-3.85	0.000	0.00	0.000
48	5.897	0.000	0.010	0.000	-31.45	0.639	-3.12	0.000	0.00	0.000

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Maximum Axial, Shear and Deflection effects for Combination Existing SLS (continued)

Member ref	Axial effects		Shear effects		Deflection effects					
	Compr'n (kN)	Tension (kN)	Normal (kN)	Lateral (kN)	Axial (mm)	Pos (m)	Normal (mm)	Pos (m)	Lateral (mm)	Pos (m)
49	35.263	0.000	0.036	0.000	-41.41	1.992	-32.94	0.000	0.00	0.000
50	52.287	0.000	-0.217	0.000	-53.83	2.441	-3.78	0.000	0.00	0.000
51	557.240	0.000	8.374	0.000	-1.24	3.094	-31.44	3.094	0.00	0.000
52	552.211	0.000	-7.380	0.000	-2.13	2.253	-41.87	2.253	0.00	0.000
53	528.090	0.000	4.349	0.000	-2.94	2.128	-47.90	2.128	0.00	0.000
54	485.241	0.000	4.560	0.000	-3.69	2.169	-51.71	2.169	0.00	0.000
55	442.141	0.000	-6.235	0.000	-4.38	2.169	-53.66	2.169	0.00	0.000
56	400.915	0.000	8.318	0.000	-5.09	2.455	-55.54	1.916	0.00	0.000
57	396.566	0.000	-11.264	0.000	-5.78	2.424	-55.32	0.000	0.00	0.000
58	396.566	0.000	11.264	0.000	34.09	0.000	-43.01	2.424	0.00	0.000
59	400.915	0.000	-8.318	0.000	33.40	0.000	-43.24	0.539	0.00	0.000
60	442.141	0.000	6.235	0.000	32.69	0.000	-41.35	0.000	0.00	0.000
61	485.241	0.000	-4.560	0.000	32.00	0.000	-39.40	0.000	0.00	0.000
62	528.090	0.000	-4.349	0.000	31.25	0.000	-35.60	0.000	0.00	0.000
63	552.211	0.000	7.380	0.000	30.44	0.000	-29.56	0.000	0.00	0.000
64	557.240	0.000	-8.374	0.000	29.55	0.000	-19.14	0.000	0.00	0.000
65	0.000	-519.138	-7.316	0.000	1.16	3.115	31.57	3.115	0.00	0.000
66	0.000	-500.329	6.755	0.000	1.98	2.272	41.97	2.272	0.00	0.000
67	0.000	-463.470	-3.884	0.000	2.70	2.145	47.92	2.145	0.00	0.000
68	0.000	-426.060	4.239	0.000	3.37	2.187	51.63	2.187	0.00	0.000
69	0.000	-389.593	-4.080	0.000	3.98	2.196	53.72	2.196	0.00	0.000
70	0.000	-389.593	4.080	0.000	26.86	2.196	47.46	0.000	0.00	0.000
71	0.000	-426.060	-4.239	0.000	27.53	2.187	45.37	0.000	0.00	0.000
72	0.000	-463.470	3.884	0.000	28.25	2.145	41.67	0.000	0.00	0.000
73	0.000	-500.329	-6.755	0.000	29.07	2.272	35.71	0.000	0.00	0.000
74	0.000	-519.138	7.316	0.000	30.23	3.115	25.31	0.000	0.00	0.000

Maximum Axial, Shear and Deflection effects for Combination Existing ULS


Member ref	Axial effects		Shear effects		Deflection effects					
	Compr'n (kN)	Tension (kN)	Normal (kN)	Lateral (kN)	Axial (mm)	Pos (m)	Normal (mm)	Pos (m)	Lateral (mm)	Pos (m)
2	0.000	-32.256	-0.124	0.000	-19.62	0.000	-58.05	2.385	0.00	0.000
4	0.000	-66.918	0.106	0.000	-35.76	0.000	-60.60	2.462	0.00	0.000
6	0.000	-73.211	0.109	0.000	47.53	2.744	-59.43	0.000	0.00	0.000
8	0.000	-79.797	0.098	0.000	-56.90	0.000	-55.07	3.039	0.00	0.000
15	0.753	0.000	0.041	0.000	56.81	0.000	-55.59	0.438	0.00	0.000
17	0.000	-32.256	-0.124	0.000	-54.64	0.000	-29.71	2.385	0.00	0.000
19	0.000	-66.918	-0.106	0.000	-64.68	0.000	-26.05	2.462	0.00	0.000
21	0.000	-73.211	0.109	0.000	71.64	2.744	-21.38	0.000	0.00	0.000
23	0.000	-79.797	0.098	0.000	-76.41	0.000	-14.47	3.039	0.00	0.000
25	0.753	0.000	-0.041	0.000	79.37	0.000	-16.60	0.438	0.00	0.000
28	0.000	-359.301	11.877	0.000	22.53	3.642	76.00	0.917	0.00	0.000

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Maximum Axial, Shear and Deflection effects for Combination Existing ULS (continued)


Member ref	Axial effects		Shear effects		Deflection effects					
	Compr'n (kN)	Tension (kN)	Normal (kN)	Lateral (kN)	Axial (mm)	Pos (m)	Normal (mm)	Pos (m)	Lateral (mm)	Pos (m)
32	0.000	-2.224	0.208	0.000	25.05	2.811	-77.11	2.811	0.00	0.000
33	0.000	-2.224	0.208	0.000	20.02	2.811	-76.91	0.000	0.00	0.000
34	43.615	0.000	0.039	0.000	-54.85	1.544	-48.27	0.000	0.00	0.000
35	26.444	0.000	-0.025	0.000	-46.02	1.104	-48.05	0.000	0.00	0.000
36	9.130	0.000	-0.014	0.000	-30.89	0.639	-47.03	0.000	0.00	0.000
37	76.834	0.000	-0.304	0.000	-63.18	2.441	-47.86	0.000	0.00	0.000
38	0.000	-262.024	0.397	0.000	-72.66	0.000	-35.33	2.565	0.00	3.038
39	0.000	-359.301	-11.877	0.000	23.47	3.642	76.00	2.724	0.00	0.000
40	0.000	-24.383	0.000	0.000	-73.32	0.000	-22.53	0.000	0.00	0.000
41	0.000	-264.499	0.370	0.000	71.18	2.551	-35.34	2.551	0.00	2.551
42	0.000	-262.024	0.397	0.000	-43.34	0.000	-69.53	2.565	0.00	3.038
43	0.000	-264.499	-0.370	0.000	-41.79	0.000	-69.48	0.000	0.00	0.000
45	51.764	0.000	0.050	0.000	-75.65	1.992	-5.67	0.000	0.00	0.000
46	43.615	0.000	0.039	0.000	-70.04	1.544	-5.85	0.000	0.00	0.000
47	26.444	0.000	0.025	0.000	-61.17	1.104	-5.62	0.000	0.00	0.000
48	9.130	0.000	-0.014	0.000	-45.91	0.639	-4.55	0.000	0.00	0.000
49	51.764	0.000	0.050	0.000	-60.44	1.992	-48.08	0.000	0.00	0.000
50	76.834	0.000	0.304	0.000	-78.55	2.441	-5.52	0.000	0.00	0.000
51	813.536	0.000	12.539	0.000	-1.80	3.094	-45.89	3.094	0.00	0.000
52	805.974	0.000	-10.965	0.000	-3.11	2.253	-61.10	2.253	0.00	0.000
53	770.699	0.000	6.547	0.000	-4.29	2.128	-69.91	2.128	0.00	0.000
54	708.102	0.000	6.870	0.000	-5.39	2.169	-75.46	2.169	0.00	0.000
55	645.161	0.000	-9.327	0.000	-6.39	2.169	-78.31	2.169	0.00	0.000
56	585.404	0.000	12.391	0.000	-7.42	2.455	-81.07	1.914	0.00	0.000
57	578.801	0.000	-16.695	0.000	-8.43	2.424	-80.74	0.000	0.00	0.000
58	578.801	0.000	16.695	0.000	49.74	0.000	-62.78	2.424	0.00	0.000
59	585.404	0.000	-12.391	0.000	48.74	0.000	-63.11	0.541	0.00	0.000
60	645.161	0.000	9.327	0.000	47.71	0.000	-60.35	0.000	0.00	0.000
61	708.102	0.000	-6.870	0.000	46.70	0.000	-57.50	0.000	0.00	0.000
62	770.699	0.000	-6.547	0.000	45.60	0.000	-51.95	0.000	0.00	0.000
63	805.974	0.000	10.965	0.000	44.42	0.000	-43.14	0.000	0.00	0.000
64	813.536	0.000	-12.539	0.000	43.12	0.000	-27.93	0.000	0.00	0.000
65	0.000	-757.720	-10.349	0.000	1.70	3.115	46.08	3.115	0.00	0.000
66	0.000	-730.185	9.657	0.000	2.89	2.272	61.25	2.272	0.00	0.000
67	0.000	-676.328	-5.461	0.000	3.94	2.145	69.94	2.145	0.00	0.000
68	0.000	-621.684	5.982	0.000	4.91	2.187	75.34	2.187	0.00	0.000
69	0.000	-568.385	-5.792	0.000	5.81	2.196	78.40	2.196	0.00	0.000
70	0.000	-568.385	5.792	0.000	39.20	2.196	69.27	0.000	0.00	0.000
71	0.000	-621.684	-5.982	0.000	40.18	2.187	66.21	0.000	0.00	0.000
72	0.000	-676.328	5.461	0.000	41.22	2.145	60.81	0.000	0.00	0.000
73	0.000	-730.185	-9.657	0.000	42.42	2.272	52.12	0.000	0.00	0.000
74	0.000	-757.720	10.349	0.000	44.11	3.115	36.94	0.000	0.00	0.000

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Max Moment Effects for Combination Existing SLS

Mbr ref	Torsion				Normal				Lateral			
	Anticlk	Pos	Clkwise	Pos	Max+ve	Pos	Max-ve	Pos	Max+ve	Positio	Max-ve	Pos
	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)
2	0.00	0.00	0.00	0.00	0.05	1.19	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.05	1.23	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.05	1.37	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.05	1.52	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.01	0.56	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.05	1.19	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.05	1.23	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.05	1.37	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.05	1.52	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.01	0.56	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	7.08	3.64	-2.97	1.25	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.10	1.41	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.10	1.41	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.01	0.77	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.13	1.22	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.28	2.02	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	7.08	0.00	-2.97	2.39	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.24	1.87	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.28	2.02	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.24	0.68	0.00	2.55	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.02	1.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.01	0.77	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.02	1.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.13	1.22	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	8.40	2.07	-0.29	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	6.66	0.42	-0.08	2.25	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	2.26	1.08	-0.08	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	2.61	1.13	0.04	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	1.22	0.62	-3.60	2.17	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	4.97	2.06	-3.60	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	4.66	0.00	-10.79	2.42	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	4.66	2.42	-10.79	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	4.97	0.39	-3.60	2.46	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	1.22	1.55	-3.60	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	2.61	1.04	0.04	2.17	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	2.26	1.05	-0.08	2.13	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	6.66	1.83	-0.08	0.00	0.00	0.00	0.00	0.00

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Max Moment Effects for Combination Existing SLS (continued)

Mbr ref	Torsion				Normal				Lateral			
	Anticlk	Pos	Clkwise	Pos	Max+ve	Pos	Max-ve	Pos	Max+ve	Positio	Max-ve	Pos
	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)
64	0.00	0.00	0.00	0.00	8.40	1.02	-0.29	3.09	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	-0.29	0.00	-8.19	2.16	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	-0.04	2.27	-6.78	0.28	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	-0.04	0.00	-2.27	1.15	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.59	2.19	-2.06	0.94	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.59	0.00	-1.87	1.20	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.59	2.20	-1.87	0.99	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.59	0.00	-2.06	1.25	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	-0.04	2.14	-2.27	1.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	-0.04	0.00	-6.78	1.99	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	-0.29	3.11	-8.19	0.96	0.00	0.00	0.00	0.00

Max Moment Effects for Combination Existing ULS

Mbr ref	Torsion				Normal				Lateral			
	Anticlk	Pos	Clkwise	Pos	Max+ve	Pos	Max-ve	Pos	Max+ve	Positio	Max-ve	Pos
	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)
2	0.00	0.00	0.00	0.00	0.07	1.19	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.07	1.23	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.07	1.37	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.07	1.52	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.01	0.56	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.07	1.19	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.07	1.23	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.07	1.37	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.07	1.52	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.01	0.56	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	10.08	3.64	-4.23	1.23	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.15	1.41	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.15	1.41	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.01	0.77	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.01	0.55	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.19	1.22	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.41	2.05	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	10.08	0.00	-4.23	2.41	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.35	1.91	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.41	2.05	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.35	0.64	0.00	2.55	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.02	1.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.01	0.77	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.01	0.55	0.00	0.00	0.00	0.00	0.00	0.00

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Max Moment Effects for Combination Existing ULS (continued)

Mbr ref	Torsion				Normal				Lateral			
	Anticlk	Pos	Clkwise	Pos	Max+ve	Pos	Max-ve	Pos	Max+ve	Positio	Max-ve	Pos
	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)	(kNm)	(m)
48	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.02	1.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.19	1.22	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	12.32	2.06	-0.60	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	9.69	0.45	-0.19	2.25	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	3.34	1.08	-0.19	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	3.85	1.13	-0.03	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	1.79	0.64	-5.36	2.17	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	7.26	2.04	-5.36	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	6.73	0.00	-15.87	2.42	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	6.73	2.42	-15.87	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	7.26	0.42	-5.36	2.46	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	1.79	1.53	-5.36	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	3.85	1.04	-0.03	2.17	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	3.34	1.05	-0.19	2.13	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	9.69	1.80	-0.19	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	12.32	1.03	-0.60	3.09	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	-0.60	0.00	-11.89	2.18	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	-0.13	2.27	-9.96	0.24	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	-0.13	0.00	-3.28	1.15	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.81	2.19	-2.97	0.93	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.81	0.00	-2.73	1.22	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.81	2.20	-2.73	0.97	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.81	0.00	-2.97	1.26	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	-0.13	2.14	-3.28	0.99	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	-0.13	0.00	-9.96	2.04	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	-0.60	3.11	-11.89	0.93	0.00	0.00	0.00	0.00

Member Effects for Combination Existing SLS

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
Member 2							
0	0.000	-22.025	0.089	0.000	0.000	0.000	0.000
1	0.596	-22.061	0.044	0.000	0.000	0.040	0.000
2	1.192	-22.097	0.000	0.000	0.000	0.053	0.000
3	1.788	-22.133	-0.044	0.000	0.000	0.040	0.000
4	2.385	-22.169	-0.089	0.000	0.000	0.000	0.000
Member 4							
0	0.000	-45.743	0.075	0.000	0.000	0.000	0.000
1	0.615	-45.788	0.038	0.000	0.000	0.035	0.000


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Member Effects for Combination Existing SLS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)			
			Normal	Lateral	Torsion	Normal	Lateral	
2	1.231	-45.833	0.000	0.000	0.000	0.046	0.000	
3	1.846	-45.878	-0.038	0.000	0.000	0.035	0.000	
4	2.462	-45.923	-0.075	0.000	0.000	0.000	0.000	
<i>Member 6</i>								
0	0.000	-50.267	0.078	0.000	0.000	0.000	0.000	
1	0.686	-50.206	0.039	0.000	0.000	0.040	0.000	
2	1.372	-50.144	0.000	0.000	0.000	0.053	0.000	
3	2.058	-50.083	-0.039	0.000	0.000	0.040	0.000	
4	2.744	-50.021	-0.078	0.000	0.000	0.000	0.000	
<i>Member 8</i>								
0	0.000	-54.461	0.070	0.000	0.000	0.000	0.000	
1	0.760	-54.534	0.035	0.000	0.000	0.040	0.000	
2	1.520	-54.607	0.000	0.000	0.000	0.053	0.000	
3	2.280	-54.679	-0.035	0.000	0.000	0.040	0.000	
4	3.039	-54.752	-0.070	0.000	0.000	0.000	0.000	
<i>Member 15</i>								
0	0.000	0.114	0.030	0.000	0.000	0.000	0.000	
1	0.279	0.140	0.015	0.000	0.000	0.006	0.000	
2	0.558	0.165	0.000	0.000	0.000	0.008	0.000	
3	0.837	0.191	-0.015	0.000	0.000	0.006	0.000	
4	1.117	0.216	-0.030	0.000	0.000	0.000	0.000	
<i>Member 17</i>								
0	0.000	-22.025	0.089	0.000	0.000	0.000	0.000	
1	0.596	-22.061	0.044	0.000	0.000	0.040	0.000	
2	1.192	-22.097	0.000	0.000	0.000	0.053	0.000	
3	1.788	-22.133	-0.044	0.000	0.000	0.040	0.000	
4	2.385	-22.169	-0.089	0.000	0.000	0.000	0.000	
<i>Member 19</i>								
0	0.000	-45.743	0.075	0.000	0.000	0.000	0.000	
1	0.615	-45.788	0.038	0.000	0.000	0.035	0.000	
2	1.231	-45.833	0.000	0.000	0.000	0.046	0.000	
3	1.846	-45.878	-0.038	0.000	0.000	0.035	0.000	
4	2.462	-45.923	-0.075	0.000	0.000	0.000	0.000	
<i>Member 21</i>								
0	0.000	-50.267	0.078	0.000	0.000	0.000	0.000	
1	0.686	-50.206	0.039	0.000	0.000	0.040	0.000	
2	1.372	-50.144	0.000	0.000	0.000	0.053	0.000	
3	2.058	-50.083	-0.039	0.000	0.000	0.040	0.000	
4	2.744	-50.021	-0.078	0.000	0.000	0.000	0.000	
<i>Member 23</i>								
0	0.000	-54.461	0.070	0.000	0.000	0.000	0.000	


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Member Effects for Combination Existing SLS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)			
			Normal	Lateral	Torsion	Normal	Lateral	
1	0.760	-54.534	0.035	0.000	0.000	0.040	0.000	
2	1.520	-54.607	0.000	0.000	0.000	0.053	0.000	
3	2.280	-54.679	-0.035	0.000	0.000	0.040	0.000	
4	3.039	-54.752	-0.070	0.000	0.000	0.000	0.000	
Member 25								
0	0.000	0.114	0.030	0.000	0.000	0.000	0.000	
1	0.279	0.140	0.015	0.000	0.000	0.006	0.000	
2	0.558	0.165	0.000	0.000	0.000	0.008	0.000	
3	0.837	0.191	-0.015	0.000	0.000	0.006	0.000	
4	1.117	0.216	-0.030	0.000	0.000	0.000	0.000	
Member 28								
0	0.000	-246.299	-4.412	0.000	0.000	-0.207	0.000	
1	0.910	-246.299	-1.206	0.000	0.000	-2.764	0.000	
2	1.821	-246.299	2.000	0.000	0.000	-2.403	0.000	
3	2.731	-246.299	5.206	0.000	0.000	0.878	0.000	
4	3.642	-246.299	8.412	0.000	0.000	7.077	0.000	
Member 32								
0	0.000	-1.180	0.149	0.000	0.000	0.000	0.000	
1	0.703	-1.180	0.074	0.000	0.000	0.078	0.000	
2	1.405	-1.181	0.000	0.000	0.000	0.105	0.000	
3	2.108	-1.181	-0.074	0.000	0.000	0.078	0.000	
4	2.811	-1.181	-0.149	0.000	0.000	0.000	0.000	
Member 33								
0	0.000	-1.181	0.149	0.000	0.000	0.000	0.000	
1	0.703	-1.181	0.074	0.000	0.000	0.078	0.000	
2	1.405	-1.181	0.000	0.000	0.000	0.105	0.000	
3	2.108	-1.180	-0.074	0.000	0.000	0.078	0.000	
4	2.811	-1.180	-0.149	0.000	0.000	0.000	0.000	
Member 34								
0	0.000	29.631	0.028	0.000	0.000	0.000	0.000	
1	0.386	29.593	0.014	0.000	0.000	0.008	0.000	
2	0.772	29.554	0.000	0.000	0.000	0.011	0.000	
3	1.158	29.516	-0.014	0.000	0.000	0.008	0.000	
4	1.544	29.477	-0.028	0.000	0.000	0.000	0.000	
Member 35								
0	0.000	17.873	0.018	0.000	0.000	0.000	0.000	
1	0.276	17.849	0.009	0.000	0.000	0.004	0.000	
2	0.552	17.824	0.000	0.000	0.000	0.005	0.000	
3	0.828	17.799	-0.009	0.000	0.000	0.004	0.000	
4	1.104	17.774	-0.018	0.000	0.000	0.000	0.000	
Member 36								


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Member Effects for Combination Existing SLS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)			
			Normal	Lateral	Torsion	Normal	Lateral	
0	0.000	5.897	0.010	0.000	0.000	0.000	0.000	
1	0.160	5.883	0.005	0.000	0.000	0.001	0.000	
2	0.319	5.869	0.000	0.000	0.000	0.002	0.000	
3	0.479	5.854	-0.005	0.000	0.000	0.001	0.000	
4	0.639	5.840	-0.010	0.000	0.000	0.000	0.000	
Member 37								
0	0.000	52.287	0.217	0.000	0.000	0.000	0.000	
1	0.610	51.988	0.109	0.000	0.000	0.099	0.000	
2	1.220	51.689	0.000	0.000	0.000	0.132	0.000	
3	1.831	51.391	-0.109	0.000	0.000	0.099	0.000	
4	2.441	51.092	-0.217	0.000	0.000	0.000	0.000	
Member 38								
0	0.000	-179.244	0.278	0.000	0.000	0.000	0.000	
1	0.760	-179.366	0.174	0.000	0.000	0.172	0.000	
2	1.519	-179.489	0.069	0.000	0.000	0.264	0.000	
3	2.279	-179.611	-0.036	0.000	0.000	0.276	0.000	
4	3.038	-179.733	-0.141	0.000	0.000	0.209	0.000	
Member 39								
0	0.000	-246.299	-8.412	0.000	0.000	7.077	0.000	
1	0.910	-246.299	-5.206	0.000	0.000	0.878	0.000	
2	1.821	-246.299	-2.000	0.000	0.000	-2.403	0.000	
3	2.731	-246.299	1.206	0.000	0.000	-2.764	0.000	
4	3.642	-246.299	4.412	0.000	0.000	-0.207	0.000	
Member 40								
0	0.000	-16.824	0.000	0.000	0.000	0.000	0.000	
1	1.060	-16.936	0.000	0.000	0.000	0.000	0.000	
2	2.120	-17.049	0.000	0.000	0.000	0.000	0.000	
3	3.180	-17.161	0.000	0.000	0.000	0.000	0.000	
4	4.240	-17.273	0.000	0.000	0.000	0.000	0.000	
Member 41								
0	0.000	-181.128	0.258	0.000	0.000	0.000	0.000	
1	0.638	-181.026	0.170	0.000	0.000	0.137	0.000	
2	1.275	-180.923	0.082	0.000	0.000	0.217	0.000	
3	1.913	-180.821	-0.006	0.000	0.000	0.241	0.000	
4	2.551	-180.718	-0.094	0.000	0.000	0.209	0.000	
Member 42								
0	0.000	-179.244	0.278	0.000	0.000	0.000	0.000	
1	0.760	-179.366	0.174	0.000	0.000	0.172	0.000	
2	1.519	-179.489	0.069	0.000	0.000	0.264	0.000	
3	2.279	-179.611	-0.036	0.000	0.000	0.276	0.000	
4	3.038	-179.733	-0.141	0.000	0.000	0.209	0.000	


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Member Effects for Combination Existing SLS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)			
			Normal	Lateral	Torsion	Normal	Lateral	
<i>Member 43</i>								
0	0.000	-180.718	0.094	0.000	0.000	0.209	0.000	
1	0.638	-180.821	0.006	0.000	0.000	0.241	0.000	
2	1.275	-180.923	-0.082	0.000	0.000	0.217	0.000	
3	1.913	-181.026	-0.170	0.000	0.000	0.137	0.000	
4	2.551	-181.128	-0.258	0.000	0.000	0.000	0.000	
<i>Member 45</i>								
0	0.000	35.263	0.036	0.000	0.000	0.000	0.000	
1	0.498	35.213	0.018	0.000	0.000	0.013	0.000	
2	0.996	35.164	0.000	0.000	0.000	0.018	0.000	
3	1.494	35.114	-0.018	0.000	0.000	0.013	0.000	
4	1.992	35.064	-0.036	0.000	0.000	0.000	0.000	
<i>Member 46</i>								
0	0.000	29.631	0.028	0.000	0.000	0.000	0.000	
1	0.386	29.593	0.014	0.000	0.000	0.008	0.000	
2	0.772	29.554	0.000	0.000	0.000	0.011	0.000	
3	1.158	29.516	-0.014	0.000	0.000	0.008	0.000	
4	1.544	29.477	-0.028	0.000	0.000	0.000	0.000	
<i>Member 47</i>								
0	0.000	17.873	0.018	0.000	0.000	0.000	0.000	
1	0.276	17.849	0.009	0.000	0.000	0.004	0.000	
2	0.552	17.824	0.000	0.000	0.000	0.005	0.000	
3	0.828	17.799	-0.009	0.000	0.000	0.004	0.000	
4	1.104	17.774	-0.018	0.000	0.000	0.000	0.000	
<i>Member 48</i>								
0	0.000	5.897	0.010	0.000	0.000	0.000	0.000	
1	0.160	5.883	0.005	0.000	0.000	0.001	0.000	
2	0.319	5.869	0.000	0.000	0.000	0.002	0.000	
3	0.479	5.854	-0.005	0.000	0.000	0.001	0.000	
4	0.639	5.840	-0.010	0.000	0.000	0.000	0.000	
<i>Member 49</i>								
0	0.000	35.263	0.036	0.000	0.000	0.000	0.000	
1	0.498	35.213	0.018	0.000	0.000	0.013	0.000	
2	0.996	35.164	0.000	0.000	0.000	0.018	0.000	
3	1.494	35.114	-0.018	0.000	0.000	0.013	0.000	
4	1.992	35.064	-0.036	0.000	0.000	0.000	0.000	
<i>Member 50</i>								
0	0.000	52.287	0.217	0.000	0.000	0.000	0.000	
1	0.610	51.988	0.109	0.000	0.000	0.099	0.000	
2	1.220	51.689	0.000	0.000	0.000	0.132	0.000	
3	1.831	51.391	-0.109	0.000	0.000	0.099	0.000	


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Member Effects for Combination Existing SLS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
4	2.441	51.092	-0.217	0.000	0.000	0.000	0.000
<i>Member 51</i>							
0	0.000	557.240	8.374	0.000	0.000	-0.291	0.000
1	0.773	555.883	5.252	0.000	0.000	4.979	0.000
2	1.547	554.526	2.130	0.000	0.000	7.834	0.000
3	2.320	553.169	-0.991	0.000	0.000	8.274	0.000
4	3.094	551.812	-4.113	0.000	0.000	6.301	0.000
<i>Member 52</i>							
0	0.000	552.211	1.714	0.000	0.000	6.301	0.000
1	0.563	551.223	-0.560	0.000	0.000	6.625	0.000
2	1.127	550.235	-2.833	0.000	0.000	5.670	0.000
3	1.690	549.247	-5.106	0.000	0.000	3.434	0.000
4	2.253	548.258	-7.380	0.000	0.000	-0.083	0.000
<i>Member 53</i>							
0	0.000	528.090	4.349	0.000	0.000	-0.083	0.000
1	0.532	527.157	2.202	0.000	0.000	1.659	0.000
2	1.064	526.224	0.056	0.000	0.000	2.260	0.000
3	1.596	525.291	-2.091	0.000	0.000	1.718	0.000
4	2.128	524.358	-4.237	0.000	0.000	0.035	0.000
<i>Member 54</i>							
0	0.000	485.241	4.560	0.000	0.000	0.035	0.000
1	0.542	484.290	2.371	0.000	0.000	1.915	0.000
2	1.085	483.338	0.183	0.000	0.000	2.607	0.000
3	1.627	482.387	-2.006	0.000	0.000	2.113	0.000
4	2.169	481.436	-4.194	0.000	0.000	0.432	0.000
<i>Member 55</i>							
0	0.000	442.141	2.519	0.000	0.000	0.432	0.000
1	0.542	441.190	0.330	0.000	0.000	1.205	0.000
2	1.085	440.238	-1.858	0.000	0.000	0.790	0.000
3	1.627	439.287	-4.047	0.000	0.000	-0.811	0.000
4	2.169	438.336	-6.235	0.000	0.000	-3.599	0.000
<i>Member 56</i>							
0	0.000	400.915	8.318	0.000	0.000	-3.599	0.000
1	0.614	399.839	5.841	0.000	0.000	0.747	0.000
2	1.228	398.762	3.364	0.000	0.000	3.572	0.000
3	1.841	397.685	0.887	0.000	0.000	4.876	0.000
4	2.455	396.608	-1.590	0.000	0.000	4.661	0.000
<i>Member 57</i>							
0	0.000	396.566	-1.480	0.000	0.000	4.661	0.000
1	0.606	395.503	-3.926	0.000	0.000	3.023	0.000
2	1.212	394.439	-6.372	0.000	0.000	-0.098	0.000


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Member Effects for Combination Existing SLS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
3	1.818	393.376	-8.818	0.000	0.000	-4.702	0.000
4	2.424	392.313	-11.264	0.000	0.000	-10.788	0.000
Member 58							
0	0.000	392.313	11.264	0.000	0.000	-10.788	0.000
1	0.606	393.376	8.818	0.000	0.000	-4.702	0.000
2	1.212	394.439	6.372	0.000	0.000	-0.098	0.000
3	1.818	395.503	3.926	0.000	0.000	3.023	0.000
4	2.424	396.566	1.480	0.000	0.000	4.661	0.000
Member 59							
0	0.000	396.608	1.590	0.000	0.000	4.661	0.000
1	0.614	397.685	-0.887	0.000	0.000	4.876	0.000
2	1.228	398.762	-3.364	0.000	0.000	3.572	0.000
3	1.841	399.839	-5.841	0.000	0.000	0.747	0.000
4	2.455	400.915	-8.318	0.000	0.000	-3.599	0.000
Member 60							
0	0.000	438.336	6.235	0.000	0.000	-3.599	0.000
1	0.542	439.287	4.047	0.000	0.000	-0.811	0.000
2	1.085	440.238	1.858	0.000	0.000	0.790	0.000
3	1.627	441.190	-0.330	0.000	0.000	1.205	0.000
4	2.169	442.141	-2.519	0.000	0.000	0.432	0.000
Member 61							
0	0.000	481.436	4.194	0.000	0.000	0.432	0.000
1	0.542	482.387	2.006	0.000	0.000	2.113	0.000
2	1.085	483.338	-0.183	0.000	0.000	2.607	0.000
3	1.627	484.290	-2.371	0.000	0.000	1.915	0.000
4	2.169	485.241	-4.560	0.000	0.000	0.035	0.000
Member 62							
0	0.000	524.358	4.237	0.000	0.000	0.035	0.000
1	0.532	525.291	2.091	0.000	0.000	1.718	0.000
2	1.064	526.224	-0.056	0.000	0.000	2.260	0.000
3	1.596	527.157	-2.202	0.000	0.000	1.659	0.000
4	2.128	528.090	-4.349	0.000	0.000	-0.083	0.000
Member 63							
0	0.000	548.258	7.380	0.000	0.000	-0.083	0.000
1	0.563	549.247	5.106	0.000	0.000	3.434	0.000
2	1.127	550.235	2.833	0.000	0.000	5.670	0.000
3	1.690	551.223	0.560	0.000	0.000	6.625	0.000
4	2.253	552.211	-1.714	0.000	0.000	6.301	0.000
Member 64							
0	0.000	551.812	4.113	0.000	0.000	6.301	0.000
1	0.773	553.169	0.991	0.000	0.000	8.274	0.000


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Member Effects for Combination Existing SLS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
2	1.547	554.526	-2.130	0.000	0.000	7.834	0.000
3	2.320	555.883	-5.252	0.000	0.000	4.979	0.000
4	3.094	557.240	-8.374	0.000	0.000	-0.291	0.000
Member 65							
0	0.000	-516.954	-7.316	0.000	0.000	-0.291	0.000
1	0.779	-517.500	-4.678	0.000	0.000	-4.961	0.000
2	1.557	-518.046	-2.041	0.000	0.000	-7.577	0.000
3	2.336	-518.592	0.597	0.000	0.000	-8.139	0.000
4	3.115	-519.138	3.235	0.000	0.000	-6.647	0.000
Member 66							
0	0.000	-498.736	-0.941	0.000	0.000	-6.647	0.000
1	0.568	-499.134	0.983	0.000	0.000	-6.635	0.000
2	1.136	-499.532	2.907	0.000	0.000	-5.531	0.000
3	1.704	-499.931	4.831	0.000	0.000	-3.333	0.000
4	2.272	-500.329	6.755	0.000	0.000	-0.043	0.000
Member 67							
0	0.000	-461.967	-3.884	0.000	0.000	-0.043	0.000
1	0.536	-462.343	-2.068	0.000	0.000	-1.638	0.000
2	1.072	-462.719	-0.252	0.000	0.000	-2.260	0.000
3	1.609	-463.095	1.564	0.000	0.000	-1.909	0.000
4	2.145	-463.470	3.381	0.000	0.000	-0.583	0.000
Member 68							
0	0.000	-424.527	-3.168	0.000	0.000	-0.583	0.000
1	0.547	-424.911	-1.316	0.000	0.000	-1.808	0.000
2	1.093	-425.294	0.536	0.000	0.000	-2.021	0.000
3	1.640	-425.677	2.387	0.000	0.000	-1.223	0.000
4	2.187	-426.060	4.239	0.000	0.000	0.588	0.000
Member 69							
0	0.000	-388.053	-4.080	0.000	0.000	0.588	0.000
1	0.549	-388.438	-2.221	0.000	0.000	-1.141	0.000
2	1.098	-388.823	-0.362	0.000	0.000	-1.850	0.000
3	1.647	-389.208	1.497	0.000	0.000	-1.539	0.000
4	2.196	-389.593	3.356	0.000	0.000	-0.207	0.000
Member 70							
0	0.000	-389.593	-3.356	0.000	0.000	-0.207	0.000
1	0.549	-389.208	-1.497	0.000	0.000	-1.539	0.000
2	1.098	-388.823	0.362	0.000	0.000	-1.850	0.000
3	1.647	-388.438	2.221	0.000	0.000	-1.141	0.000
4	2.196	-388.053	4.080	0.000	0.000	0.588	0.000
Member 71							
0	0.000	-426.060	-4.239	0.000	0.000	0.588	0.000

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Member Effects for Combination Existing SLS (continued)


Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
1	0.547	-425.677	-2.387	0.000	0.000	-1.223	0.000
2	1.093	-425.294	-0.536	0.000	0.000	-2.021	0.000
3	1.640	-424.911	1.316	0.000	0.000	-1.808	0.000
4	2.187	-424.527	3.168	0.000	0.000	-0.583	0.000
Member 72							
0	0.000	-463.470	-3.381	0.000	0.000	-0.583	0.000
1	0.536	-463.095	-1.564	0.000	0.000	-1.909	0.000
2	1.072	-462.719	0.252	0.000	0.000	-2.260	0.000
3	1.609	-462.343	2.068	0.000	0.000	-1.638	0.000
4	2.145	-461.967	3.884	0.000	0.000	-0.043	0.000
Member 73							
0	0.000	-500.329	-6.755	0.000	0.000	-0.043	0.000
1	0.568	-499.931	-4.831	0.000	0.000	-3.333	0.000
2	1.136	-499.532	-2.907	0.000	0.000	-5.531	0.000
3	1.704	-499.134	-0.983	0.000	0.000	-6.635	0.000
4	2.272	-498.736	0.941	0.000	0.000	-6.647	0.000
Member 74							
0	0.000	-519.138	-3.235	0.000	0.000	-6.647	0.000
1	0.779	-518.592	-0.597	0.000	0.000	-8.139	0.000
2	1.557	-518.046	2.041	0.000	0.000	-7.577	0.000
3	2.336	-517.500	4.678	0.000	0.000	-4.961	0.000
4	3.115	-516.954	7.316	0.000	0.000	-0.291	0.000

Member Effects for Combination Existing ULS

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
Member 2							
0	0.000	-32.055	0.124	0.000	0.000	0.000	0.000
1	0.596	-32.105	0.062	0.000	0.000	0.055	0.000
2	1.192	-32.155	0.000	0.000	0.000	0.074	0.000
3	1.788	-32.205	-0.062	0.000	0.000	0.055	0.000
4	2.385	-32.256	-0.124	0.000	0.000	0.000	0.000
Member 4							
0	0.000	-66.665	0.106	0.000	0.000	0.000	0.000
1	0.615	-66.729	0.053	0.000	0.000	0.049	0.000
2	1.231	-66.792	0.000	0.000	0.000	0.065	0.000
3	1.846	-66.855	-0.053	0.000	0.000	0.049	0.000
4	2.462	-66.918	-0.106	0.000	0.000	0.000	0.000
Member 6							


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Member Effects for Combination Existing ULS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)			
			Normal	Lateral	Torsion	Normal	Lateral	
<i>Member 8</i>								
0	0.000	-73.211	0.109	0.000	0.000	0.000	0.000	0.000
1	0.686	-73.125	0.054	0.000	0.000	0.056	0.000	0.000
2	1.372	-73.039	0.000	0.000	0.000	0.075	0.000	0.000
3	2.058	-72.953	-0.054	0.000	0.000	0.056	0.000	0.000
4	2.744	-72.868	-0.109	0.000	0.000	0.000	0.000	0.000
<i>Member 15</i>								
0	0.000	-79.391	0.098	0.000	0.000	0.000	0.000	0.000
1	0.760	-79.492	0.049	0.000	0.000	0.056	0.000	0.000
2	1.520	-79.594	0.000	0.000	0.000	0.074	0.000	0.000
3	2.280	-79.695	-0.049	0.000	0.000	0.056	0.000	0.000
4	3.039	-79.797	-0.098	0.000	0.000	0.000	0.000	0.000
<i>Member 17</i>								
0	0.000	-32.055	0.124	0.000	0.000	0.000	0.000	0.000
1	0.596	-32.105	0.062	0.000	0.000	0.055	0.000	0.000
2	1.192	-32.155	0.000	0.000	0.000	0.074	0.000	0.000
3	1.788	-32.205	-0.062	0.000	0.000	0.055	0.000	0.000
4	2.385	-32.256	-0.124	0.000	0.000	0.000	0.000	0.000
<i>Member 19</i>								
0	0.000	-66.665	0.106	0.000	0.000	0.000	0.000	0.000
1	0.615	-66.729	0.053	0.000	0.000	0.049	0.000	0.000
2	1.231	-66.792	0.000	0.000	0.000	0.065	0.000	0.000
3	1.846	-66.855	-0.053	0.000	0.000	0.049	0.000	0.000
4	2.462	-66.918	-0.106	0.000	0.000	0.000	0.000	0.000
<i>Member 21</i>								
0	0.000	-73.211	0.109	0.000	0.000	0.000	0.000	0.000
1	0.686	-73.125	0.054	0.000	0.000	0.056	0.000	0.000
2	1.372	-73.039	0.000	0.000	0.000	0.075	0.000	0.000
3	2.058	-72.953	-0.054	0.000	0.000	0.056	0.000	0.000
4	2.744	-72.868	-0.109	0.000	0.000	0.000	0.000	0.000
<i>Member 23</i>								
0	0.000	-79.391	0.098	0.000	0.000	0.000	0.000	0.000
1	0.760	-79.492	0.049	0.000	0.000	0.056	0.000	0.000
2	1.520	-79.594	0.000	0.000	0.000	0.074	0.000	0.000
3	2.280	-79.695	-0.049	0.000	0.000	0.056	0.000	0.000
4	3.039	-79.797	-0.098	0.000	0.000	0.000	0.000	0.000


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Member Effects for Combination Existing ULS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)			
			Normal	Lateral	Torsion	Normal	Lateral	
Member 25								
0	0.000	0.609	0.041	0.000	0.000	0.000	0.000	0.000
1	0.279	0.645	0.021	0.000	0.000	0.009	0.000	0.000
2	0.558	0.681	0.000	0.000	0.000	0.012	0.000	0.000
3	0.837	0.717	-0.021	0.000	0.000	0.009	0.000	0.000
4	1.117	0.753	-0.041	0.000	0.000	0.000	0.000	0.000
Member 28								
0	0.000	-359.301	-6.076	0.000	0.000	-0.482	0.000	0.000
1	0.910	-359.301	-1.588	0.000	0.000	-3.971	0.000	0.000
2	1.821	-359.301	2.900	0.000	0.000	-3.374	0.000	0.000
3	2.731	-359.301	7.389	0.000	0.000	1.310	0.000	0.000
4	3.642	-359.301	11.877	0.000	0.000	10.080	0.000	0.000
Member 32								
0	0.000	-2.222	0.208	0.000	0.000	0.000	0.000	0.000
1	0.703	-2.222	0.104	0.000	0.000	0.110	0.000	0.000
2	1.405	-2.223	0.000	0.000	0.000	0.146	0.000	0.000
3	2.108	-2.223	-0.104	0.000	0.000	0.110	0.000	0.000
4	2.811	-2.224	-0.208	0.000	0.000	0.000	0.000	0.000
Member 33								
0	0.000	-2.224	0.208	0.000	0.000	0.000	0.000	0.000
1	0.703	-2.223	0.104	0.000	0.000	0.110	0.000	0.000
2	1.405	-2.223	0.000	0.000	0.000	0.146	0.000	0.000
3	2.108	-2.222	-0.104	0.000	0.000	0.110	0.000	0.000
4	2.811	-2.222	-0.208	0.000	0.000	0.000	0.000	0.000
Member 34								
0	0.000	43.615	0.039	0.000	0.000	0.000	0.000	0.000
1	0.386	43.561	0.019	0.000	0.000	0.011	0.000	0.000
2	0.772	43.507	0.000	0.000	0.000	0.015	0.000	0.000
3	1.158	43.453	-0.019	0.000	0.000	0.011	0.000	0.000
4	1.544	43.399	-0.039	0.000	0.000	0.000	0.000	0.000
Member 35								
0	0.000	26.444	0.025	0.000	0.000	0.000	0.000	0.000
1	0.276	26.409	0.012	0.000	0.000	0.005	0.000	0.000
2	0.552	26.374	0.000	0.000	0.000	0.007	0.000	0.000
3	0.828	26.339	-0.012	0.000	0.000	0.005	0.000	0.000
4	1.104	26.305	-0.025	0.000	0.000	0.000	0.000	0.000
Member 36								
0	0.000	9.130	0.014	0.000	0.000	0.000	0.000	0.000
1	0.160	9.110	0.007	0.000	0.000	0.002	0.000	0.000
2	0.319	9.090	0.000	0.000	0.000	0.002	0.000	0.000
3	0.479	9.070	-0.007	0.000	0.000	0.002	0.000	0.000


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Member Effects for Combination Existing ULS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
4	0.639	9.050	-0.014	0.000	0.000	0.000	0.000
Member 37							
0	0.000	76.834	0.304	0.000	0.000	0.000	0.000
1	0.610	76.415	0.152	0.000	0.000	0.139	0.000
2	1.220	75.997	0.000	0.000	0.000	0.185	0.000
3	1.831	75.578	-0.152	0.000	0.000	0.139	0.000
4	2.441	75.160	-0.304	0.000	0.000	0.000	0.000
Member 38							
0	0.000	-261.340	0.397	0.000	0.000	0.000	0.000
1	0.760	-261.511	0.250	0.000	0.000	0.246	0.000
2	1.519	-261.682	0.103	0.000	0.000	0.380	0.000
3	2.279	-261.853	-0.043	0.000	0.000	0.403	0.000
4	3.038	-262.024	-0.190	0.000	0.000	0.314	0.000
Member 39							
0	0.000	-359.301	-11.877	0.000	0.000	10.080	0.000
1	0.910	-359.301	-7.389	0.000	0.000	1.310	0.000
2	1.821	-359.301	-2.900	0.000	0.000	-3.374	0.000
3	2.731	-359.301	1.588	0.000	0.000	-3.971	0.000
4	3.642	-359.301	6.076	0.000	0.000	-0.482	0.000
Member 40							
0	0.000	-23.754	0.000	0.000	0.000	0.000	0.000
1	1.060	-23.911	0.000	0.000	0.000	0.000	0.000
2	2.120	-24.068	0.000	0.000	0.000	0.000	0.000
3	3.180	-24.225	0.000	0.000	0.000	0.000	0.000
4	4.240	-24.383	0.000	0.000	0.000	0.000	0.000
Member 41							
0	0.000	-264.499	0.370	0.000	0.000	0.000	0.000
1	0.638	-264.356	0.247	0.000	0.000	0.197	0.000
2	1.275	-264.212	0.123	0.000	0.000	0.314	0.000
3	1.913	-264.069	0.000	0.000	0.000	0.354	0.000
4	2.551	-263.926	-0.124	0.000	0.000	0.314	0.000
Member 42							
0	0.000	-261.340	0.397	0.000	0.000	0.000	0.000
1	0.760	-261.511	0.250	0.000	0.000	0.246	0.000
2	1.519	-261.682	0.103	0.000	0.000	0.380	0.000
3	2.279	-261.853	-0.043	0.000	0.000	0.403	0.000
4	3.038	-262.024	-0.190	0.000	0.000	0.314	0.000
Member 43							
0	0.000	-263.926	0.124	0.000	0.000	0.314	0.000
1	0.638	-264.069	0.000	0.000	0.000	0.354	0.000
2	1.275	-264.212	-0.123	0.000	0.000	0.314	0.000


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Member Effects for Combination Existing ULS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
3	1.913	-264.356	-0.247	0.000	0.000	0.197	0.000
4	2.551	-264.499	-0.370	0.000	0.000	0.000	0.000
Member 45							
0	0.000	51.764	0.050	0.000	0.000	0.000	0.000
1	0.498	51.695	0.025	0.000	0.000	0.019	0.000
2	0.996	51.625	0.000	0.000	0.000	0.025	0.000
3	1.494	51.555	-0.025	0.000	0.000	0.019	0.000
4	1.992	51.486	-0.050	0.000	0.000	0.000	0.000
Member 46							
0	0.000	43.615	0.039	0.000	0.000	0.000	0.000
1	0.386	43.561	0.019	0.000	0.000	0.011	0.000
2	0.772	43.507	0.000	0.000	0.000	0.015	0.000
3	1.158	43.453	-0.019	0.000	0.000	0.011	0.000
4	1.544	43.399	-0.039	0.000	0.000	0.000	0.000
Member 47							
0	0.000	26.444	0.025	0.000	0.000	0.000	0.000
1	0.276	26.409	0.012	0.000	0.000	0.005	0.000
2	0.552	26.374	0.000	0.000	0.000	0.007	0.000
3	0.828	26.339	-0.012	0.000	0.000	0.005	0.000
4	1.104	26.305	-0.025	0.000	0.000	0.000	0.000
Member 48							
0	0.000	9.130	0.014	0.000	0.000	0.000	0.000
1	0.160	9.110	0.007	0.000	0.000	0.002	0.000
2	0.319	9.090	0.000	0.000	0.000	0.002	0.000
3	0.479	9.070	-0.007	0.000	0.000	0.002	0.000
4	0.639	9.050	-0.014	0.000	0.000	0.000	0.000
Member 49							
0	0.000	51.764	0.050	0.000	0.000	0.000	0.000
1	0.498	51.695	0.025	0.000	0.000	0.019	0.000
2	0.996	51.625	0.000	0.000	0.000	0.025	0.000
3	1.494	51.555	-0.025	0.000	0.000	0.019	0.000
4	1.992	51.486	-0.050	0.000	0.000	0.000	0.000
Member 50							
0	0.000	76.834	0.304	0.000	0.000	0.000	0.000
1	0.610	76.415	0.152	0.000	0.000	0.139	0.000
2	1.220	75.997	0.000	0.000	0.000	0.185	0.000
3	1.831	75.578	-0.152	0.000	0.000	0.139	0.000
4	2.441	75.160	-0.304	0.000	0.000	0.000	0.000
Member 51							
0	0.000	813.536	12.539	0.000	0.000	-0.601	0.000
1	0.773	811.490	7.833	0.000	0.000	7.278	0.000


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Member Effects for Combination Existing ULS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
2	1.547	809.445	3.127	0.000	0.000	11.517	0.000
3	2.320	807.399	-1.579	0.000	0.000	12.116	0.000
4	3.094	805.353	-6.285	0.000	0.000	9.075	0.000
<i>Member 52</i>							
0	0.000	805.974	2.744	0.000	0.000	9.075	0.000
1	0.563	804.484	-0.683	0.000	0.000	9.655	0.000
2	1.127	802.994	-4.110	0.000	0.000	8.305	0.000
3	1.690	801.505	-7.538	0.000	0.000	5.024	0.000
4	2.253	800.015	-10.965	0.000	0.000	-0.187	0.000
<i>Member 53</i>							
0	0.000	770.699	6.547	0.000	0.000	-0.187	0.000
1	0.532	769.293	3.311	0.000	0.000	2.435	0.000
2	1.064	767.886	0.075	0.000	0.000	3.335	0.000
3	1.596	766.479	-3.161	0.000	0.000	2.515	0.000
4	2.128	765.073	-6.397	0.000	0.000	-0.027	0.000
<i>Member 54</i>							
0	0.000	708.102	6.870	0.000	0.000	-0.027	0.000
1	0.542	706.668	3.571	0.000	0.000	2.804	0.000
2	1.085	705.233	0.272	0.000	0.000	3.846	0.000
3	1.627	703.799	-3.027	0.000	0.000	3.099	0.000
4	2.169	702.365	-6.327	0.000	0.000	0.563	0.000
<i>Member 55</i>							
0	0.000	645.161	3.870	0.000	0.000	0.563	0.000
1	0.542	643.727	0.570	0.000	0.000	1.766	0.000
2	1.085	642.292	-2.729	0.000	0.000	1.181	0.000
3	1.627	640.858	-6.028	0.000	0.000	-1.193	0.000
4	2.169	639.424	-9.327	0.000	0.000	-5.357	0.000
<i>Member 56</i>							
0	0.000	585.404	12.391	0.000	0.000	-5.357	0.000
1	0.614	583.781	8.657	0.000	0.000	1.103	0.000
2	1.228	582.158	4.923	0.000	0.000	5.270	0.000
3	1.841	580.535	1.189	0.000	0.000	7.146	0.000
4	2.455	578.911	-2.545	0.000	0.000	6.729	0.000
<i>Member 57</i>							
0	0.000	578.801	-1.945	0.000	0.000	6.729	0.000
1	0.606	577.198	-5.632	0.000	0.000	4.433	0.000
2	1.212	575.595	-9.320	0.000	0.000	-0.098	0.000
3	1.818	573.992	-13.007	0.000	0.000	-6.864	0.000
4	2.424	572.389	-16.695	0.000	0.000	-15.866	0.000
<i>Member 58</i>							
0	0.000	572.389	16.695	0.000	0.000	-15.866	0.000


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Member Effects for Combination Existing ULS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)			
			Normal	Lateral	Torsion	Normal	Lateral	
1	0.606	573.992	13.007	0.000	0.000	-6.864	0.000	
2	1.212	575.595	9.320	0.000	0.000	-0.098	0.000	
3	1.818	577.198	5.632	0.000	0.000	4.433	0.000	
4	2.424	578.801	1.945	0.000	0.000	6.729	0.000	
Member 59								
0	0.000	578.911	2.545	0.000	0.000	6.729	0.000	
1	0.614	580.535	-1.189	0.000	0.000	7.146	0.000	
2	1.228	582.158	-4.923	0.000	0.000	5.270	0.000	
3	1.841	583.781	-8.657	0.000	0.000	1.103	0.000	
4	2.455	585.404	-12.391	0.000	0.000	-5.357	0.000	
Member 60								
0	0.000	639.424	9.327	0.000	0.000	-5.357	0.000	
1	0.542	640.858	6.028	0.000	0.000	-1.193	0.000	
2	1.085	642.292	2.729	0.000	0.000	1.181	0.000	
3	1.627	643.727	-0.570	0.000	0.000	1.766	0.000	
4	2.169	645.161	-3.870	0.000	0.000	0.563	0.000	
Member 61								
0	0.000	702.365	6.327	0.000	0.000	0.563	0.000	
1	0.542	703.799	3.027	0.000	0.000	3.099	0.000	
2	1.085	705.233	-0.272	0.000	0.000	3.846	0.000	
3	1.627	706.668	-3.571	0.000	0.000	2.804	0.000	
4	2.169	708.102	-6.870	0.000	0.000	-0.027	0.000	
Member 62								
0	0.000	765.073	6.397	0.000	0.000	-0.027	0.000	
1	0.532	766.479	3.161	0.000	0.000	2.515	0.000	
2	1.064	767.886	-0.075	0.000	0.000	3.335	0.000	
3	1.596	769.293	-3.311	0.000	0.000	2.435	0.000	
4	2.128	770.699	-6.547	0.000	0.000	-0.187	0.000	
Member 63								
0	0.000	800.015	10.965	0.000	0.000	-0.187	0.000	
1	0.563	801.505	7.538	0.000	0.000	5.024	0.000	
2	1.127	802.994	4.110	0.000	0.000	8.305	0.000	
3	1.690	804.484	0.683	0.000	0.000	9.655	0.000	
4	2.253	805.974	-2.744	0.000	0.000	9.075	0.000	
Member 64								
0	0.000	805.353	6.285	0.000	0.000	9.075	0.000	
1	0.773	807.399	1.579	0.000	0.000	12.116	0.000	
2	1.547	809.445	-3.127	0.000	0.000	11.517	0.000	
3	2.320	811.490	-7.833	0.000	0.000	7.278	0.000	
4	3.094	813.536	-12.539	0.000	0.000	-0.601	0.000	
Member 65								


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Member Effects for Combination Existing ULS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)		
			Normal	Lateral	Torsion	Normal	Lateral
0	0.000	-754.662	-10.349	0.000	0.000	-0.601	0.000
1	0.779	-755.427	-6.656	0.000	0.000	-7.222	0.000
2	1.557	-756.191	-2.964	0.000	0.000	-10.968	0.000
3	2.336	-756.956	0.729	0.000	0.000	-11.838	0.000
4	3.115	-757.720	4.422	0.000	0.000	-9.832	0.000
Member 66							
0	0.000	-727.955	-1.118	0.000	0.000	-9.832	0.000
1	0.568	-728.513	1.576	0.000	0.000	-9.702	0.000
2	1.136	-729.070	4.270	0.000	0.000	-8.042	0.000
3	1.704	-729.628	6.963	0.000	0.000	-4.851	0.000
4	2.272	-730.185	9.657	0.000	0.000	-0.131	0.000
Member 67							
0	0.000	-674.223	-5.461	0.000	0.000	-0.131	0.000
1	0.536	-674.749	-2.919	0.000	0.000	-2.378	0.000
2	1.072	-675.276	-0.376	0.000	0.000	-3.261	0.000
3	1.609	-675.802	2.167	0.000	0.000	-2.781	0.000
4	2.145	-676.328	4.710	0.000	0.000	-0.937	0.000
Member 68							
0	0.000	-619.538	-4.387	0.000	0.000	-0.937	0.000
1	0.547	-620.074	-1.795	0.000	0.000	-2.627	0.000
2	1.093	-620.611	0.797	0.000	0.000	-2.900	0.000
3	1.640	-621.147	3.389	0.000	0.000	-1.756	0.000
4	2.187	-621.684	5.982	0.000	0.000	0.806	0.000
Member 69							
0	0.000	-566.230	-5.792	0.000	0.000	0.806	0.000
1	0.549	-566.769	-3.189	0.000	0.000	-1.659	0.000
2	1.098	-567.308	-0.586	0.000	0.000	-2.695	0.000
3	1.647	-567.847	2.016	0.000	0.000	-2.303	0.000
4	2.196	-568.385	4.619	0.000	0.000	-0.482	0.000
Member 70							
0	0.000	-568.385	-4.619	0.000	0.000	-0.482	0.000
1	0.549	-567.847	-2.016	0.000	0.000	-2.303	0.000
2	1.098	-567.308	0.586	0.000	0.000	-2.695	0.000
3	1.647	-566.769	3.189	0.000	0.000	-1.659	0.000
4	2.196	-566.230	5.792	0.000	0.000	0.806	0.000
Member 71							
0	0.000	-621.684	-5.982	0.000	0.000	0.806	0.000
1	0.547	-621.147	-3.389	0.000	0.000	-1.756	0.000
2	1.093	-620.611	-0.797	0.000	0.000	-2.900	0.000
3	1.640	-620.074	1.795	0.000	0.000	-2.627	0.000
4	2.187	-619.538	4.387	0.000	0.000	-0.937	0.000

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Member Effects for Combination Existing ULS (continued)

Analysis Type : Linear elastic

Interval no	Interval pos. (m)	Axial force (kN)	Shear force (kN)		Moment effects (kNm)			
			Normal	Lateral	Torsion	Normal	Lateral	
Member 72								
0	0.000	-676.328	-4.710	0.000	0.000	-0.937	0.000	
1	0.536	-675.802	-2.167	0.000	0.000	-2.781	0.000	
2	1.072	-675.276	0.376	0.000	0.000	-3.261	0.000	
3	1.609	-674.749	2.919	0.000	0.000	-2.378	0.000	
4	2.145	-674.223	5.461	0.000	0.000	-0.131	0.000	
Member 73								
0	0.000	-730.185	-9.657	0.000	0.000	-0.131	0.000	
1	0.568	-729.628	-6.963	0.000	0.000	-4.851	0.000	
2	1.136	-729.070	-4.270	0.000	0.000	-8.042	0.000	
3	1.704	-728.513	-1.576	0.000	0.000	-9.702	0.000	
4	2.272	-727.955	1.118	0.000	0.000	-9.832	0.000	
Member 74								
0	0.000	-757.720	-4.422	0.000	0.000	-9.832	0.000	
1	0.779	-756.956	-0.729	0.000	0.000	-11.838	0.000	
2	1.557	-756.191	2.964	0.000	0.000	-10.968	0.000	
3	2.336	-755.427	6.656	0.000	0.000	-7.222	0.000	
4	3.115	-754.662	10.349	0.000	0.000	-0.601	0.000	

Design Results Summary

Group reference	Design object			Comments	Design status
	Reference	Type	Code		
Truss 3	1	SW Design	BS5950:2000		Passed
	2	SW Design	BS5950:2000		Passed
	3	SW Design	BS5950:2000		Passed
	4	SW Design	BS5950:2000		Passed
	5	SW Design	BS5950:2000		Passed
	6	SW Design	BS5950:2000		Passed
	7	SW Design	BS5950:2000		Passed
	8	SW Design	BS5950:2000		Passed
	9	SW Design	BS5950:2000		Passed
	10	SW Design	BS5950:2000		Passed
	11	SW Design	BS5950:2000		Passed
	12	SW Design	BS5950:2000		Passed
	13	SW Design	BS5950:2000		Passed
	14	SW Design	BS5950:2000		Passed
	15	SW Design	BS5950:2000		Passed
	16	SW Design	BS5950:2000		Passed
	17	SW Design	BS5950:2000		Passed
	18	SW Design	BS5950:2000		Passed
	19	SW Design	BS5950:2000		Passed

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Design Results Summary (continued)

Group reference	Design object			Comments	Design status
	Reference	Type	Code		
	20	SW Design	BS5950:2000		Passed
	21	SW Design	BS5950:2000		Passed
	22	SW Design	BS5950:2000		Passed
	23	SW Design	BS5950:2000		Passed
	24	SW Design	BS5950:2000		Passed
	25	SW Design	BS5950:2000		Passed
	26	SW Design	BS5950:2000		Passed
	27	SW Design	BS5950:2000		Passed
	28	SW Design	BS5950:2000		Passed
	29	SW Design	BS5950:2000		Passed
	30	SW Design	BS5950:2000		Failed
	31	SW Design	BS5950:2000		Failed
	32	SW Design	BS5950:2000		Passed
	33	SW Design	BS5950:2000		Passed
	34	SW Design	BS5950:2000		Passed
	35	SW Design	BS5950:2000		Passed
	36	SW Design	BS5950:2000		Passed
	37	SW Design	BS5950:2000		Passed
	38	SW Design	BS5950:2000		Passed
	39	SW Design	BS5950:2000		Passed
	40	SW Design	BS5950:2000		Passed
	41	SW Design	BS5950:2000		Passed
	42	SW Design	BS5950:2000		Failed
	43	SW Design	BS5950:2000		Failed
	44	SW Design	BS5950:2000		Passed
	45	SW Design	BS5950:2000		Passed
	46	SW Design	BS5950:2000		Passed
	47	SW Design	BS5950:2000		Passed
	48	SW Design	BS5950:2000		Passed
	49	SW Design	BS5950:2000		Passed
	50	SW Design	BS5950:2000		Passed
	51	SW Design	BS5950:2000		Passed
	52	SW Design	BS5950:2000		Passed
	53	SW Design	BS5950:2000		Passed

Steelwork Design Results


Desig object ref	Memb ref	Design parameter	Analysis section	Design section	Utilisation factors				Design status
					Local capacity	Lateral buckling	Torsion	Deflection	
Group Reference - Truss 3									
1	2	defaults	3"x2.5"x3/8"		0.152	0.037	n / a	n / a	Passed
2	4	defaults	3"x2.5"x3/8"		0.284	0.037	n / a	n / a	Passed

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Steelwork Design Results (continued)

Desig object ref	Memb ref	Design parameter	Analysis section	Design section	Utilisation factors				Design status
					Local capacity	Lateral buckling	Torsion	Deflection	
3	6	defaults	3"x3"x3/8"		0.287	0.037	n / a	n / a	Passed
4	8	defaults	3"x3"x3/8"		0.310	0.041	n / a	n / a	Passed
5	15	defaults	3"x3"x3/8"		0.005	0.015	n / a	n / a	Passed
6	17	defaults	3"x2.5"x3/8"		0.152	0.037	n / a	n / a	Passed
7	19	defaults	3"x2.5"x3/8"		0.284	0.037	n / a	n / a	Passed
8	21	defaults	3"x3"x3/8"		0.287	0.037	n / a	n / a	Passed
9	23	defaults	3"x3"x3/8"		0.310	0.041	n / a	n / a	Passed
10	25	defaults	3"x3"x3/8"		0.005	0.015	n / a	n / a	Passed
11	28	defaults	2*6"x4"x9/16"		0.515	0.132	n / a	n / a	Passed
12	32	defaults	3"x3"x3/8"		0.054	0.063	n / a	n / a	Passed
13	33	defaults	3"x3"x3/8"		0.054	0.063	n / a	n / a	Passed
14	34	defaults	3"x3"x3/8"		0.135	0.295	n / a	n / a	Passed
15	35	defaults	3"x2.5"x3/8"		0.091	0.156	n / a	n / a	Passed
16	36	defaults	3"x2.5"x3/8"		0.031	0.041	n / a	n / a	Passed
17	37	defaults	2*6"x4"x9/16"		0.053	0.072	n / a	n / a	Passed
18	38	defaults	2*3"x3"x3/8"		0.489	0.057	n / a	n / a	Passed
19	39	defaults	2*6"x4"x9/16"		0.515	0.132	n / a	n / a	Passed
20	40	defaults	3"x3"x3/8"		0.088	0.057	n / a	n / a	Passed
21	41	defaults	2*3"x3"x3/8"		0.485	0.048	n / a	n / a	Passed
22	42	defaults	2*3"x3"x3/8"		0.489	0.057	n / a	n / a	Passed
23	43	defaults	2*3"x3"x3/8"		0.485	0.048	n / a	n / a	Passed
24	45	defaults	3"x3"x3/8"		0.160	0.497	n / a	n / a	Passed
25	46	defaults	3"x3"x3/8"		0.135	0.295	n / a	n / a	Passed
26	47	defaults	3"x2.5"x3/8"		0.091	0.156	n / a	n / a	Passed
27	48	defaults	3"x2.5"x3/8"		0.031	0.041	n / a	n / a	Passed
28	49	defaults	3"x3"x3/8"		0.160	0.497	n / a	n / a	Passed
29	50	defaults	2*6"x4"x9/16"		0.053	0.072	n / a	n / a	Passed
30	51	2613 Truss Type 3-1437	2*6"x4"x9/16"		0.845	1.093	0.960	n / a	Failed
31	52	2613 Truss Type 3-1438	2*6"x4"x9/16"		0.771	1.008	0.868	n / a	Failed
32	53	defaults	2*6"x4"x9/16"		0.574	0.735	n / a	n / a	Passed
33	54	defaults	2*6"x4"x9/16"		0.549	0.700	n / a	n / a	Passed

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Steelwork Design Results (continued)

Desig object ref	Memb ref	Design parameter	Analysis section	Design section	Utilisation factors				Design status
					Local capacity	Lateral buckling	Torsion	Deflection	
34	55	defaults	2*6"x4"x9/16"		0.549	0.596	n / a	n / a	Passed
35	56	defaults	2*6"x4"x9/16"		0.563	0.673	n / a	n / a	Passed
36	57	defaults	2*6"x4"x9/16"		0.794	0.665	n / a	n / a	Passed
37	58	defaults	2*6"x4"x9/16"		0.794	0.665	n / a	n / a	Passed
38	59	defaults	2*6"x4"x9/16"		0.563	0.673	n / a	n / a	Passed
39	60	defaults	2*6"x4"x9/16"		0.549	0.596	n / a	n / a	Passed
40	61	defaults	2*6"x4"x9/16"		0.549	0.700	n / a	n / a	Passed
41	62	defaults	2*6"x4"x9/16"		0.574	0.735	n / a	n / a	Passed
42	63	2613 Truss Type 3-1449	2*6"x4"x9/16"		0.771	1.010	0.868	n / a	Failed
43	64	2613 Truss Type 3-1450	2*6"x4"x9/16"		0.845	1.093	0.960	n / a	Failed
44	65	defaults	2*6"x4"x9/16"		0.829	0.303	n / a	n / a	Passed
45	66	defaults	2*6"x4"x9/16"		0.757	0.226	n / a	n / a	Passed
46	67	defaults	2*6"x4"x9/16"		0.539	0.086	n / a	n / a	Passed
47	68	defaults	2*6"x4"x9/16"		0.494	0.076	n / a	n / a	Passed
48	69	defaults	2*6"x4"x9/16"		0.452	0.070	n / a	n / a	Passed
49	70	defaults	2*6"x4"x9/16"		0.452	0.070	n / a	n / a	Passed
50	71	defaults	2*6"x4"x9/16"		0.494	0.076	n / a	n / a	Passed
51	72	defaults	2*6"x4"x9/16"		0.539	0.086	n / a	n / a	Passed
52	73	defaults	2*6"x4"x9/16"		0.757	0.226	n / a	n / a	Passed
53	74	defaults	2*6"x4"x9/16"		0.829	0.303	n / a	n / a	Passed