

ER-87496

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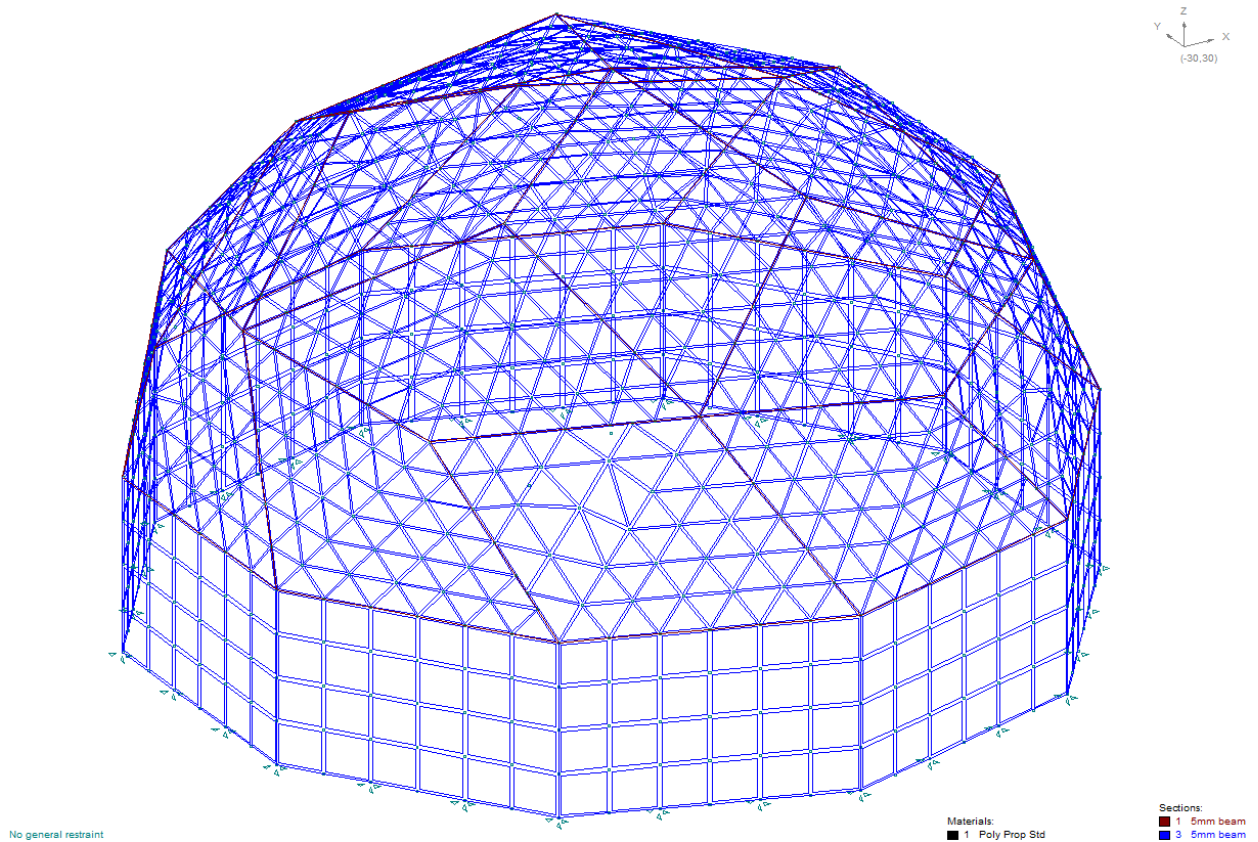
U-Dome 200

Dome Shelter

Engineering Report:

Dome Structure

30 October 2009



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i n t e r n a t i o n a l

1.0 Introduction

This report summarizes analysis results of a 16 ft (4.8 m) diameter x 11 ft 10 inch (3.6 m) tall dome. The lower wall is nearly 3 ft 10 inches (1.17 m) tall and the upper dome is a 2 frequency icosahedron. The enclosed area in plan is some 200 ft² (18 m²).

The dome material is made of flame retardant 5 mm thick corrugated polypropylene panels connected with nylon fasteners. Checking of the actual foundation and fasteners is beyond the scope of this report but a minimum fastener load capacity is provided for the design capacity loads.

2.0 Summary

The materials used for construction of the dome are not defined in the 2006 International Building Code (2006 IBC) so testing of panel strength and deflection has been performed to use in the analysis. The limiting environmental loads have been determined to provide a 1.9 safety factor against panel buckling. Individual panel segments may deflect to the interior side up to 6" during capacity loading but still maintain significant load capability during high wind loading.

Resulting capacities of the system are:

Roof Live /Snow load: 12 psf.

Wind load:

- Exposure B locations 90 mph (145 km/hr) 3 second gust
(Urban and suburban areas, wooded areas or other terrain with numerous closely spaced obstructions having the size of single-family dwellings or larger – within 1,500 ft (457 m) upwind).

-Exposure C locations 74 mph (119 km/hr) 3 second gust
(Open terrain with scattered obstructions having heights generally less than 30 feet (9.1 m). This category includes flat open country, grasslands, and all water surfaces in hurricane-prone regions).

The foundation attachment at each corner (10 total locations) must be able to withstand 167 lbs (76 kg) uplift and 95 lbs (43 kg) lateral.

3.0 Input Data

Documentation provided by World Shelters to conduct the structure analysis includes:

1. Panel construction of 5mm Polypropylene co-polymer with a density of 90 g/cc, tensile strength at yield of 4000 psi and elongation at yield of 10%.

Assumptions made by Engineering Review International include:

1. U-domes are not placed adjacent to the top of escarpments, hills or ridges that could result in increased wind loading.
2. A safety factor of 1.9 against panel buckling has been used to determine dome loading capacities of live/snow and wind.

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3. With a total self weight of structure less than 200 lbs, earthquake loads will not govern.

4.0 Loading

Using methods from the 2006 IBC, the structure is checked for a 90 mph 3 second gust wind speed for wind exposure B. Wind loading on the dome surface is approximated using ASCE Standard 7-05 and specifically figure 6-7 for domed roofs. A roof live/snow load capacity of 12 psf is determined.

The loading conditions modeled for the steel structure include:

10. D Dead
11. D + Lr/S Dead + Roof Live/Roof Snow load of 12 psf
12. D + W Dead + Wind for 90 mph exp B

5.0 System Analysis

The analysis is completed using the program Spacegass which is described in Appendix B. A summary of the analysis model is included in Appendix C. The dome is modeled with panel elements connected to the folded beam elements made of the same material as the panels. The beam element moments are released at the ends. In this finite element model, non linear affects of large displacements are accounted for. Global buckling values exceed 12 so local plate buckling controls.

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Appendix A

Calculations:

- Loads
- Material Property Test
- Panel Stress Plots

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1. ROOF LIVE / SNOWIBC 2006

Typical structures require a 20psf LIVE LOAD
 Reducible to 12psf for larger areas.

As PERSONNEL ACCESS IS NOT REQUIRED FOR THE
 DOME, use 12psf

2. WIND LOADASCE 7-05

THE TARGET DESIGN WIND LOAD = 90mph 3second gust
 WIND exposure B

MAX. HEIGHT ≤ 12 FT.

EXTERNAL pressure coef. C_p for domed roofs is
 CONTAINED IN FIGURE 6-7.

$$f = 46''$$

$$f/D = 0.15$$

$$D = 192''$$

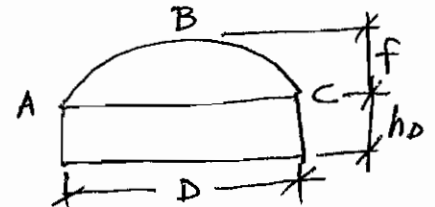
$$h_D/D = 0.24$$

$$h_D = 46''$$

$$C_p \text{ at A} = +0.80$$

$$C_p \text{ at B} = -1.35$$

$$C_p \text{ at C} = -0.25$$



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2. CONTI (WIND)

MWFRS - METHOD 2

$$\begin{aligned}
 q_z &= 0.00256 K_z K_{zt} K_d V^2 I \\
 &= 0.00256 (0.57) 1.0 (0.85) 90^2 (1.0) \\
 &= 10.05 \text{ psf}
 \end{aligned}$$

$$P = q C_p - q_i (C_{pi}) \quad 6-17$$

where for an enclosed structure, $C_{pi} = \pm 0.18$
 use $-0.18(10.05) = -1.81 \text{ psf}$ for max. uplift

$$\textcircled{A} \quad P = 10.05(0.85) 0.80 - 1.81 = \underline{\underline{+5.0 \text{ psf}}} \text{ windward}$$

$$\textcircled{B} \quad P = 10.05(0.85) - 1.35 - 1.81 = \underline{\underline{-13.3 \text{ psf}}} \text{ top}$$

$$\textcircled{C} \quad P = 10.05(0.85) - 0.25 - 1.81 = \underline{\underline{-3.9 \text{ psf}}} \text{ leeward}$$

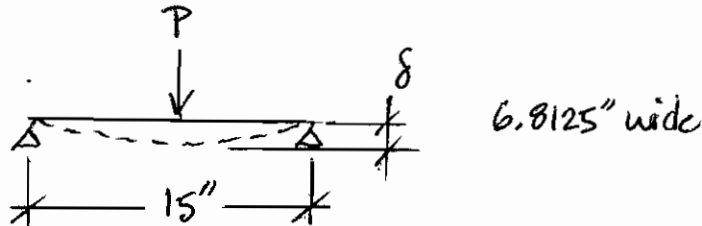
INTERPOLATION is used between A & B and B & C.



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 project UDOME 200
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1. TEST DESCRIPTIONTEST WITH FLUTES \perp SPAN

P	δ	f_b effective
3.0lbs	-0.83"	239 psi
6.2lbs	-1.79"	488 psi
10.4lbs	- failure	814 psi

TEST WITH FLUTES // SPAN

P	δ	f_b effective
3.0lbs	-0.78"	239 psi
6.2lbs	-1.60"	488 psi
10.4lbs	-2.66"	814 psi

2. MATERIAL PROPERTIES

USE MODULUS OF ELASTICITY = 60,000 psi

MAX. PANEL VM STRESS = $\frac{814}{1.9} = 428$ psi

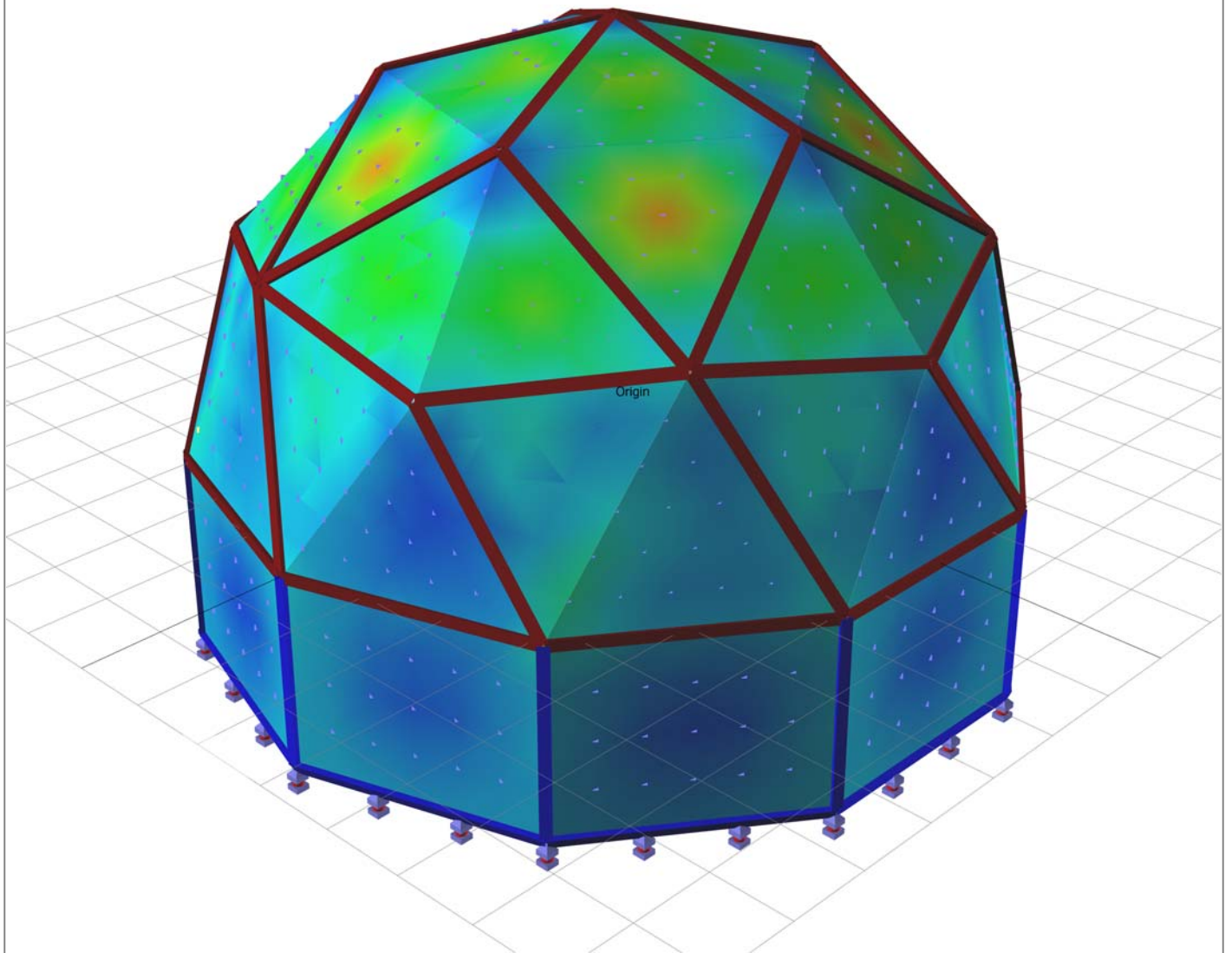


SPACE GASS 10.72a - C:\Users\staples\Documents\ERi\39-World Shelters\87496 U Dome 200\5 Computer Models\UD200-01.SG

Load case 10 - D

Von Mises Stress:

- 5.26Psi
- 4.63Psi
- 4.00Psi
- 3.37Psi
- 2.74Psi
- 2.11Psi
- 1.48Psi
- 0.86Psi
- 0.23Psi



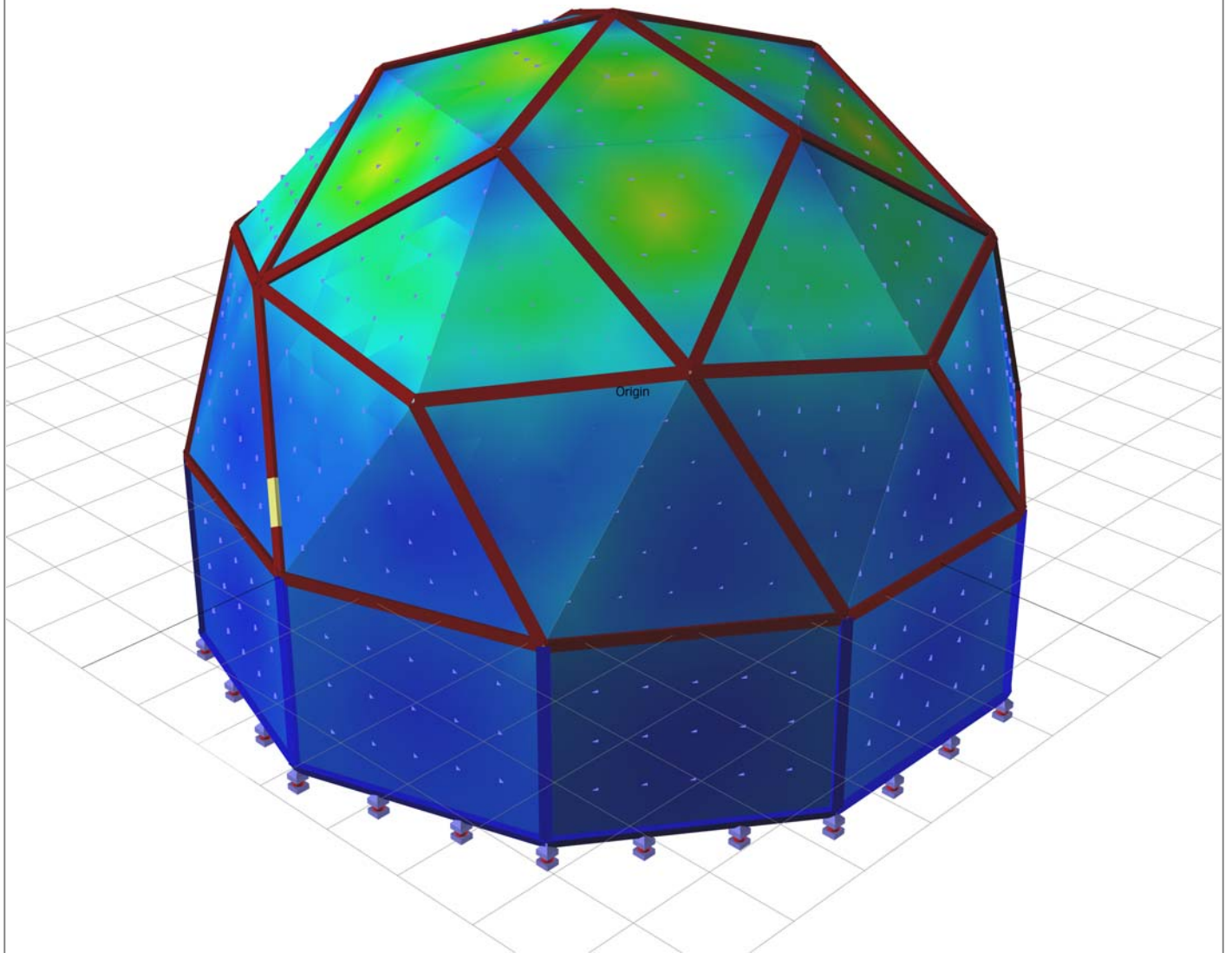
Materials:
■ 1 Poly Prop Std

Sections:
■ 1 5mm beam
■ 3 5mm beam

Load case 11 - D+Lr

Von Mises Stress:

- 295.73Psi
- 259.08Psi
- 222.44Psi
- 185.80Psi
- 149.15Psi
- 112.51Psi
- 75.86Psi
- 39.22Psi
- 2.58Psi



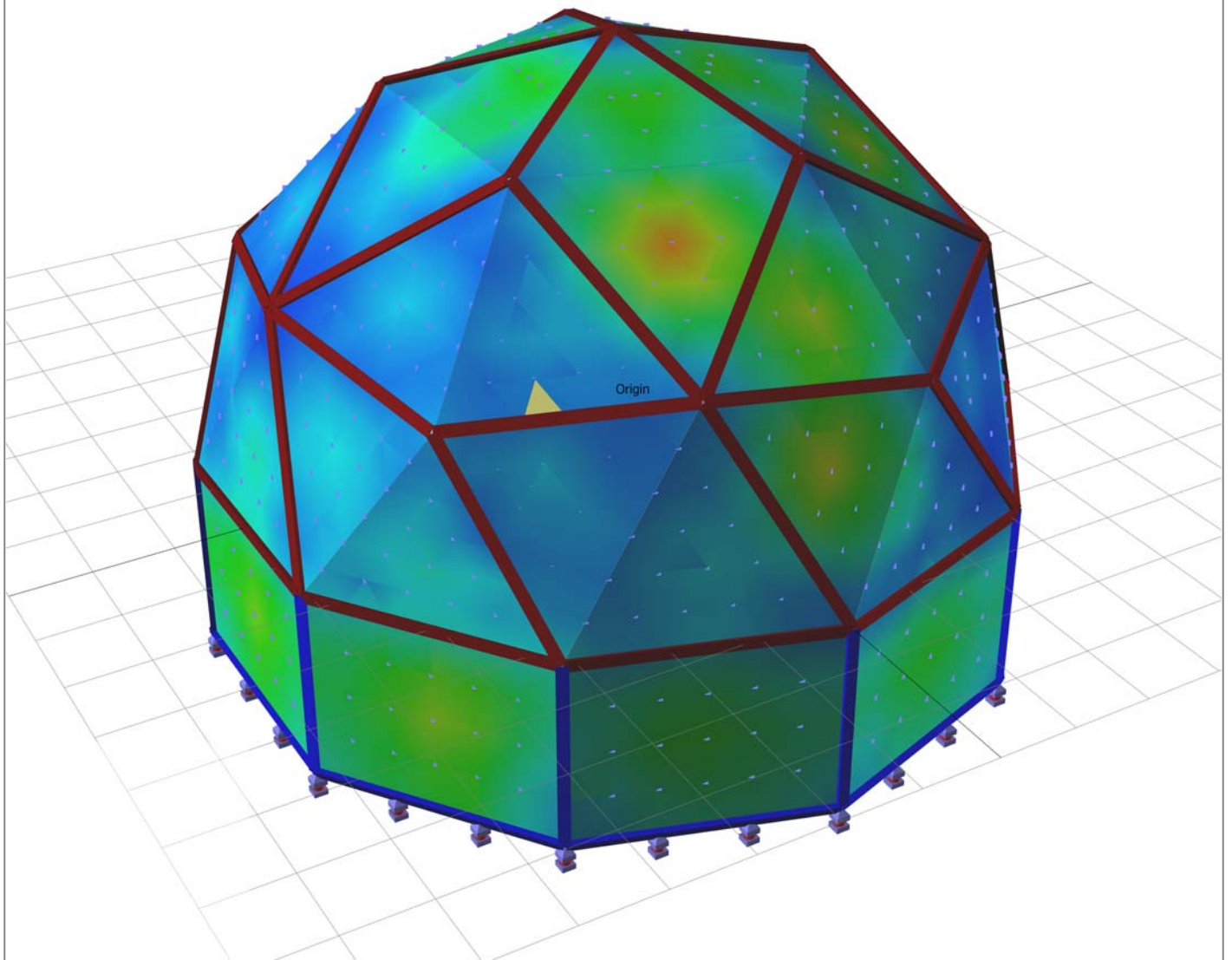
Materials:
■ 1 Poly Prop Std

Sections:
■ 1 5mm beam
■ 3 5mm beam

Load case 12 - D+Wx90

Von Mises Stress:

- 427.19Psi
- 374.33Psi
- 321.47Psi
- 268.61Psi
- 215.75Psi
- 162.89Psi
- 110.03Psi
- 57.17Psi
- 4.31Psi



Materials:
■ 1 Poly Prop Std

Sections:
■ 1 5mm beam
■ 3 5mm beam

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Appendix B

Analysis Program description - SPACEGASS

TITLE: 3D or 2D general frame analysis and steel design. **ACCESSIBILITY:** Any computer running Windows 95, 98, NT, 2000 or ME.

MAINTENANCE: Integrated Technical Software

CAPABILITY: Analyses 3 dimensional frames with straight prismatic members. Capacity is theoretically unlimited but depends on the available memory in the computer. Units may be any consistent set. Input methods include graphical input, datasheet input, free format text file input, standard structure input and CAD input.

Features include linear and non-linear static analysis, dynamic frequency analysis, dynamic response analysis, buckling analysis, master-slave constraints, tension-only members, compression-only members, cable members, 3D member offsets, extensive data generation facilities, non-sequential numbering, automatic re-numbering, elastic supports, complete or partial member end fixity, comprehensive data checking for inconsistencies and instabilities and wavefront analysis method with wavefront optimizer.

Permissible loading conditions include any combination of concentrated and distributed forces and moments on nodes and members, thermal loads, self weight, and prescribed node displacements. Numerous primary and combination load cases can be analyzed in a single run. Frames or sub-frames can be moved, rotated, copied or mirrored. Section and material properties can be input manually or can be read directly from a library. Data can be transferred into or from a CAD program such as AutoCAD via DXF files.

Integrated steel member design modules for the latest codes including AISC-LRFD (17), AISC-ASD (16), EUROCODE 3 (18), AS1250 (3), AS4100 (4), SABS0162 (5), BS5950 (6), NZS3404 (7), AS3990 (11) and AS/NZS4600 (13). Selected members or the entire frame can be designed or checked in accordance with the appropriate code.

Integrated steel connection design and drafting module for AS4100 (4). Connections can be designed and connection drawings can be viewed, printed or exported to DXF files.

Integrated concrete design module for AS3600 (14). Selected members or the entire frame can be designed or checked in accordance with the code.

INPUT: Node coordinates, member connectivity and fixity, node restraints, section and material properties, master-slave constraints, member offsets, node loads, prescribed displacements, member concentrated and distributed loads, self weight, combination load cases, load case titles, lumped masses, dynamic response spectra, steel member design data, steel connection design data and concrete design data.

OUTPUT: Printout of all input data plus displacements, forces, moments, reactions, stresses, equilibrium summary, bill of materials, centre of gravity coordinates, dynamic

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natural frequencies and mode shapes, buckling load factors and member effective lengths, steel member design results, steel connection design results and concrete design results. Output can be chosen selectively and can be limited to user defined nodes, members, load cases, member design groups and connections. Results envelopes can be produced. Deflections, forces and moments can be output at numerous points along members (not just at the end nodes). Graphical output on screen, printer or plotter includes the frame geometry, loading diagrams, deformed geometry, bending moment diagrams, shear force diagrams, axial force diagrams, stress diagrams, dynamic mode shapes, buckling mode shapes, 3D full member geometry with hidden line removal, steel connection drawings, concrete column interaction diagrams.

METHOD: Stiffness analysis method using wavefront equation solver with optimization.

LANGUAGE: Fortran and C.

AUTHORS: Integrated Technical Software

DOCUMENTATION: Comprehensive user manual with worked examples.

INFORMATION: www.spacegass.com

ABSTRACT BY: Integrated Technical Software

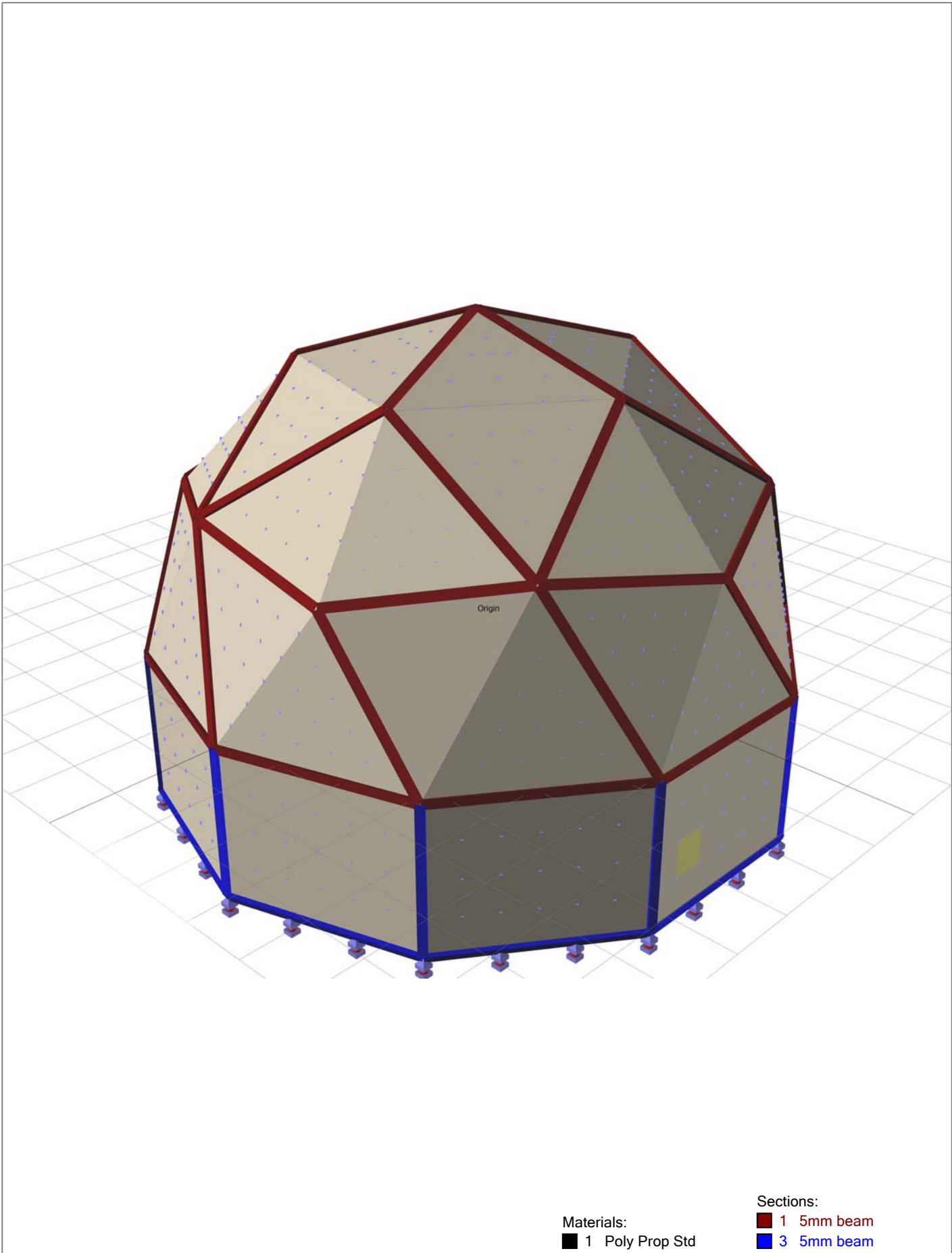
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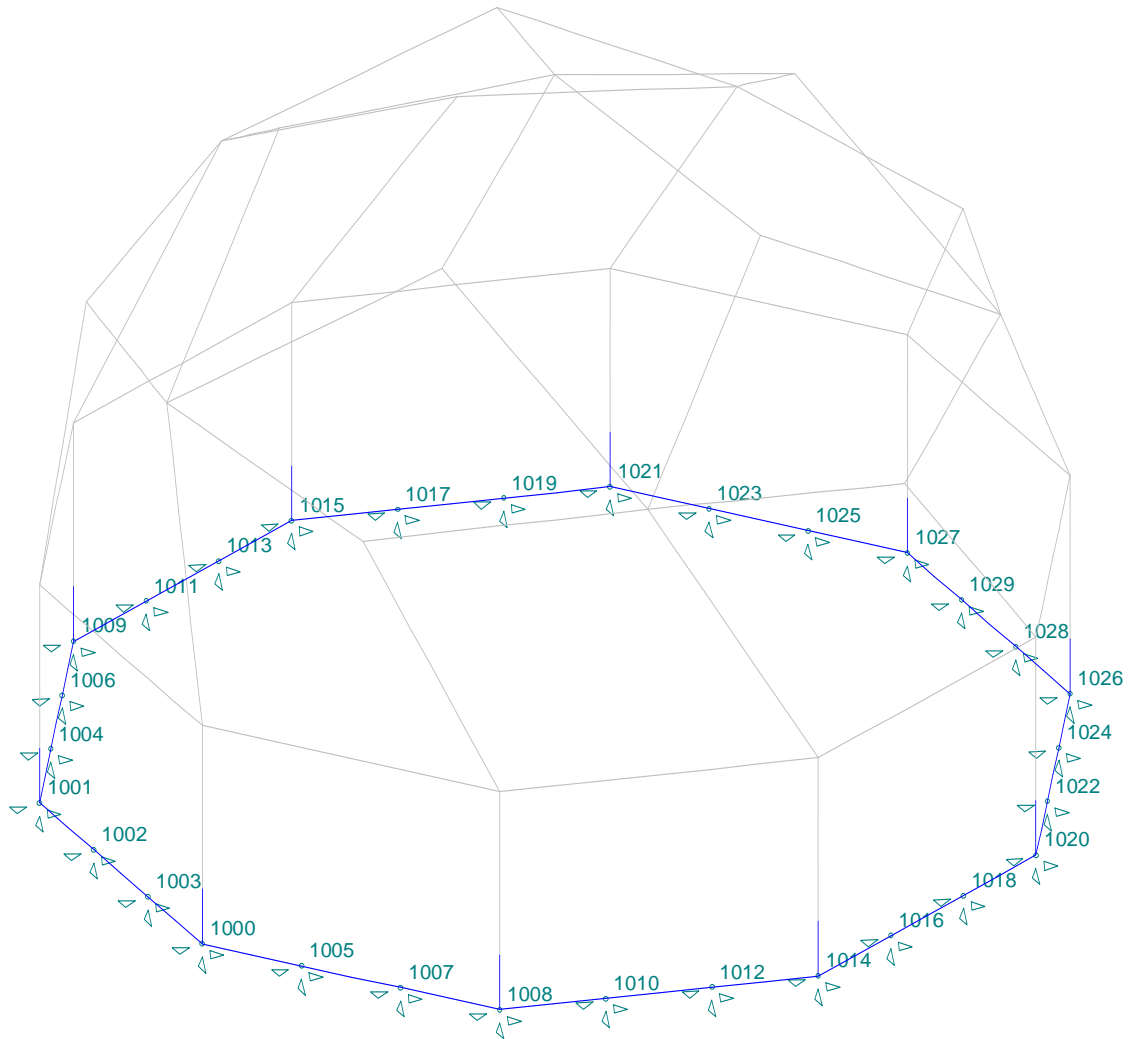
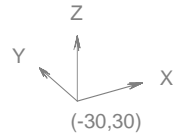
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Appendix C

Spacegass Models, UD200-01.sg

- Model images with property and support node number locations
- Model deflected shape for Wind
- Input/Output Summary of Model





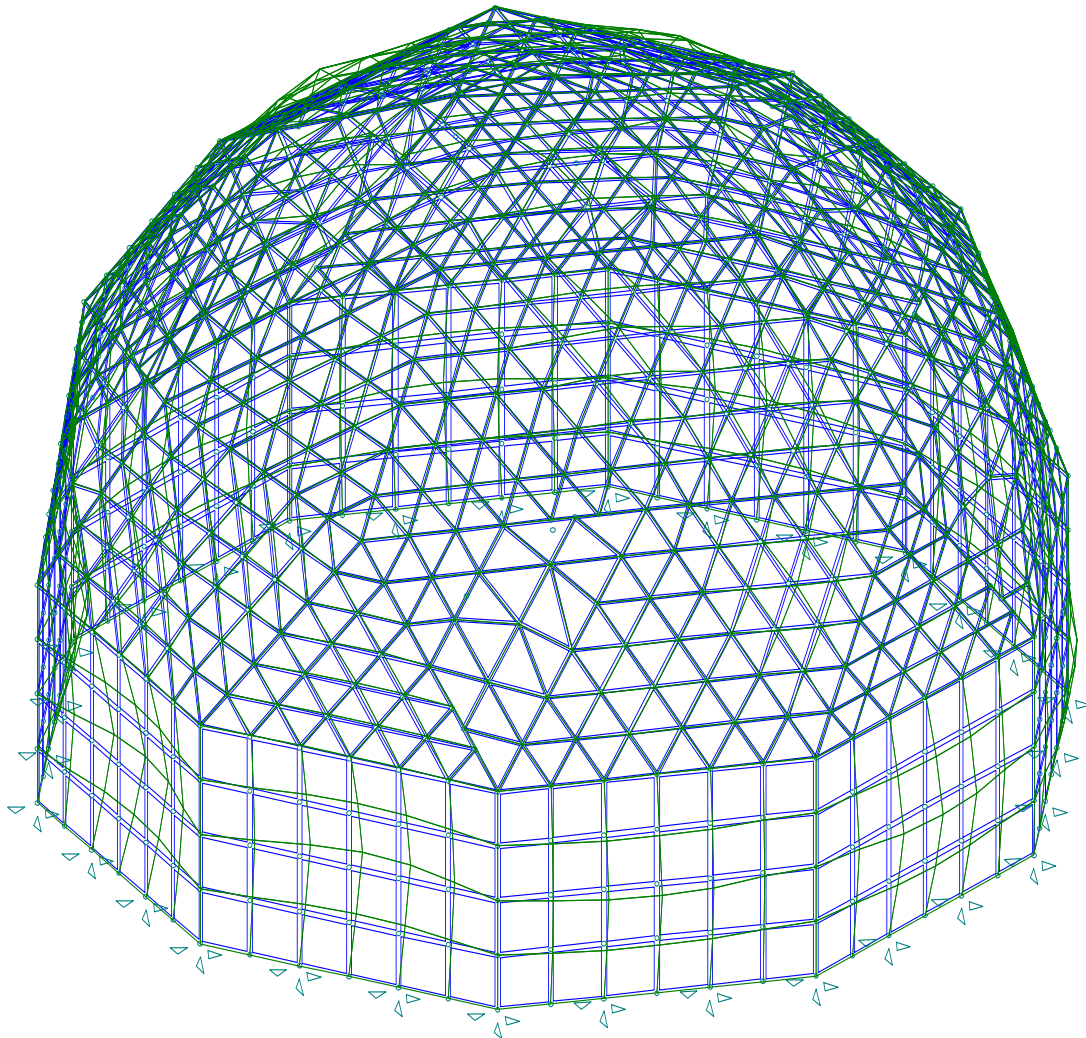
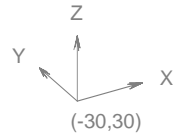
Support Node Numbers
No general restraint

Materials:
■ 1 Poly Prop Std

Sections:
■ 3 5mm beam

Load cases:

■ 12 (SW) D+Wx90



Wind Deflection
No general restraint

Materials:
■ 1 Poly Prop Std

Sections:
■ 1 5mm beam
■ 3 5mm beam

ANALYSIS STATUS REPORT

	Node	X Coord	Y Coord	Z Coord	
Job name	UD200-01	61	-16.82	-51.78	71.27
Location	C:\Users\staples\Documents\ERI\39-World Shelters\87496 U Do...	62	-30.43	-61.67	60.87
Length units	in	63	-11.62	-67.78	60.87
Section property units	in	64	-3.21	-41.89	81.66
Material strength units	Psi	65	1.99	-57.89	71.27
Mass density units	lb/in ³	66	32.42	-48.00	71.27
Temperature units	Fahrenheit	67	27.22	-32.00	81.66
Force units	lb	68	44.04	-32.00	71.27
Moment units	lbin	69	49.24	-48.00	60.87
Mass units	lb	70	60.87	-32.00	60.87
Acceleration units	g's	71	38.85	-16.00	81.66
Translation units	in	72	55.67	-16.00	71.27
Stress units	Psi	73	55.67	16.00	71.27
		74	38.85	16.00	81.66
		75	44.04	32.00	71.27
Nodes	967 (32765)	76	60.87	32.00	60.87
Members	364 (32765)	77	49.24	48.00	60.87
Plates	1580 (32765)	78	27.22	32.00	81.66
Restrained nodes	30 (32765)	79	32.42	48.00	71.27
Nodes with spring restraints	0 (32765)	80	1.99	57.89	71.27
Section properties	3 (999)	81	-3.21	41.89	81.66
Material properties	1 (999)	82	-16.82	51.78	71.27
Constrained nodes	0 (32765)	83	-11.62	67.78	60.87
Member offsets	0 (32765)	84	-30.43	61.67	60.87
		85	-22.02	35.78	81.66
Node loads	0 (32765)	86	-35.63	45.67	71.27
Prescribed node displacements	0 (32765)	87	-55.15	40.07	62.30
Member concentrated loads	0 (32765)	88	-61.25	14.83	66.07
Member distributed forces	0 (32765)	89	-75.56	25.24	46.70
Member distributed torsions	0 (32765)	90	0.65	-79.66	46.70
Thermal loads	0 (32765)	91	-4.82	-62.83	66.07
Member prestress loads	0 (32765)	92	21.06	-64.83	62.30
Plate pressure loads	3156 (32765)	93	40.83	-48.00	66.07
Self weight load cases	1 (999)	94	46.30	-64.83	46.70
Combination load cases	3 (999)	95	75.97	-24.00	46.70
Load cases with titles	7 (999)	96	58.27	-24.00	66.07
Lumped masses	0 (32765)	97	68.17	0.00	62.30
Spectral load cases	0 (999)	98	58.27	24.00	66.07
		99	75.97	24.00	46.70
Static analysis	Y	100	46.30	64.83	46.70
Dynamic analysis	N	101	40.83	48.00	66.07
Response analysis	N	102	21.06	64.83	62.30
Buckling analysis	Y	103	-4.82	62.83	66.07
Ill-conditioned	N	104	0.65	79.66	46.70
Non-linear convergence	Y	105	-47.35	64.07	46.70
Frontwidth	498	106	-33.03	53.67	66.07
Total degrees of freedom	5646	107	28.21	-86.83	0.00
Static load cases	3 (999)	108	13.27	-88.83	21.47
Mass load cases	1 (999)	109	41.48	-79.66	21.47
		110	-21.22	25.30	85.25
		111	62.85	-57.89	33.65
		112	74.48	-41.89	33.65
		113	71.27	-51.78	16.82
		114	59.64	-67.78	16.82
		115	68.05	-61.67	0.00
		116	82.89	-35.78	16.82
		117	79.68	-45.67	0.00
		118	88.58	-14.83	21.47
		119	78.68	-38.83	25.24
		120	91.30	0.00	0.00
		121	88.58	14.83	21.47
		122	11.70	36.00	85.25
		123	74.48	41.89	33.65
		124	62.85	57.89	33.65
		125	71.27	51.78	16.82
		126	82.89	35.78	16.82
		127	79.68	45.67	0.00
		128	59.64	67.78	16.82
		129	68.05	61.67	0.00
		130	41.48	79.66	21.47
		131	61.25	62.83	25.24
		132	28.21	86.83	0.00
		133	13.27	88.83	21.47
		134	21.41	40.00	81.66
		135	-16.82	83.78	33.65
		136	-35.63	77.67	33.65
		137	-27.22	83.78	16.82
		138	-8.41	89.89	16.82
		139	-18.81	89.89	0.00
		140	-46.03	77.67	16.82
		141	-37.62	83.78	0.00
		142	-62.95	64.07	21.47
		143	-40.83	77.67	25.24
		144	-73.86	53.67	0.00
		145	-80.38	40.07	21.47
		146	17.51	28.00	85.25
		147	-84.88	9.89	33.65
		148	-84.88	-9.89	33.65
		149	-88.09	0.00	16.82
		150	-88.09	19.78	16.82
		151	-91.30	9.89	0.00
		152	-88.09	-19.78	16.82
		153	-91.30	-9.89	0.00
		154	-86.48	-14.83	25.24
		155	-80.38	-40.07	21.47
		156	-62.95	-64.07	21.47
		157	-73.86	-53.67	0.00
		158	37.85	0.00	85.25
		159	-37.62	-83.78	0.00
		160	-46.03	-77.67	16.82
		161	-27.22	-83.78	16.82
		162	-18.81	-89.89	0.00
		163	-8.41	-89.89	16.82
		164	-35.63	-77.67	33.65
		165	-16.82	-83.78	33.65
		166	-12.62	-86.83	25.24
		168	-37.62	-83.78	-23.00
		169	-56.43	-77.67	-23.00
		171	-18.81	-89.89	-23.00
		172	0.00	-96.00	-23.00
		174	18.81	-89.89	-23.00
		176	37.62	-83.78	-23.00
		177	56.43	-77.67	-23.00
		178	18.81	-89.89	0.00
		179	37.62	-83.78	0.00
		181	68.05	-61.67	-23.00
		183	79.68	-45.67	-23.00

STEEL DESIGN STATUS REPORT

Members with design data	66 (32765)
Member design or check	C AISC-ASD
Connections with design data	0 (32765)
Connection design	N

NODE COORDINATES (in)

Node	X Coord	Y Coord	Z Coord
1	50.47	0.00	81.66
2	66.07	48.00	50.47
3	15.60	48.00	81.66
4	0.00	0.00	96.00
5	26.53	81.66	42.93
6	-25.24	77.67	50.47
7	-40.83	29.67	81.66
8	-69.47	50.47	42.93
9	-81.66	0.00	50.47
10	-40.83	-29.67	81.66
11	-69.47	-50.47	42.93
12	-25.24	-77.67	50.47
13	15.60	-48.00	81.66
14	26.53	-81.66	42.93
15	66.07	-48.00	50.47
16	85.86	0.00	42.93
17	56.43	77.67	0.00
18	91.30	29.67	0.00
19	-56.43	77.67	0.00
20	0.00	96.00	0.00
21	-91.30	-29.67	0.00
22	-91.30	29.67	0.00
23	0.00	-96.00	0.00
24	-56.43	-77.67	0.00
25	91.30	-29.67	0.00
26	56.43	-77.67	0.00
37	-20.42	-14.83	88.83
38	-30.62	-22.25	85.25
39	-20.42	14.83	88.83
40	-40.83	-19.78	81.66
41	7.80	24.00	88.83
42	-30.62	-12.36	85.25
43	25.24	0.00	88.83
44	-30.62	22.25	85.25
45	7.80	-24.00	88.83
46	-31.43	32.72	81.66
47	-54.44	19.78	71.27
48	-40.83	9.89	81.66
49	-54.44	0.00	71.27
50	-68.05	9.89	60.87
51	-68.05	-9.89	60.87
52	-40.83	-9.89	81.66
53	-54.44	-19.78	71.27
54	-61.25	-14.83	66.07
55	-55.15	-40.07	62.30
56	-75.56	-25.24	46.70
57	-47.35	-64.07	46.70
58	-33.03	-53.67	66.07
59	-35.63	-45.67	71.27
60	-22.02	-35.78	81.66

SPACE GASS 10.72a - ENGINEERING REVIEW INTERNATIONAL

Job: C:\Users\staples\Documents\Eri\39-World Shelt...\5 Computer Models\UD200-01

Designer:

Date: 30 Oct 2009, 4:03 PM

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Node	X Coord	Y Coord	Z Coord	Node	X Coord	Y Coord	Z Coord
184	91.30	-29.67	-23.00	315	43.09	-74.72	29.88
186	91.30	-9.89	-23.00	316	39.71	-70.44	45.45
188	91.30	9.89	-23.00	317	44.69	-69.78	38.29
189	91.30	29.67	-23.00	318	64.46	-52.94	42.06
190	91.30	-9.89	0.00	319	70.27	-44.94	42.06
191	91.30	9.89	0.00	320	68.67	-49.89	33.65
193	79.68	45.67	-23.00	321	90.40	-24.72	7.16
195	68.05	61.67	-23.00	322	87.10	-32.72	8.41
196	56.43	77.67	-23.00	323	86.19	-27.78	15.57
198	37.62	83.78	-23.00	324	89.49	-19.78	14.31
200	18.81	89.89	-23.00	325	85.28	-22.83	22.72
201	0.00	96.00	-23.00	326	81.98	-30.83	23.98
202	37.62	83.78	0.00	327	91.30	-19.78	0.00
203	18.81	89.89	0.00	328	90.40	-14.83	7.16
205	-18.81	89.89	-23.00	329	90.40	-4.94	7.16
207	-37.62	83.78	-23.00	330	89.49	-9.89	14.31
208	-56.43	77.67	-23.00	331	86.77	4.94	35.78
210	-68.05	61.67	-23.00	332	82.57	8.00	44.19
212	-79.68	45.67	-23.00	333	83.47	12.94	37.03
213	-91.30	29.67	-23.00	334	87.68	9.89	28.62
214	-68.05	61.67	0.00	335	84.38	17.89	29.88
215	-79.68	45.67	0.00	336	79.27	16.00	45.45
217	-91.30	9.89	-23.00	337	80.17	20.94	38.29
219	-91.30	-9.89	-23.00	338	70.27	44.94	42.06
220	-91.30	-29.67	-23.00	339	64.46	52.94	42.06
222	-79.68	-45.67	-23.00	340	68.67	49.89	33.65
224	-68.05	-61.67	-23.00	341	51.45	78.33	7.16
225	-79.68	-45.67	0.00	342	58.03	72.72	8.41
226	-68.05	-61.67	0.00	343	53.05	73.39	15.57
227	0.00	0.00	0.00	344	46.46	79.00	14.31
228	44.66	-8.00	81.66	345	48.07	74.05	22.72
229	32.04	-8.00	85.25	346	54.66	68.44	23.98
230	11.70	-36.00	85.25	347	47.02	80.72	0.00
231	6.19	-44.94	81.66	348	42.04	81.39	7.16
232	2.29	-32.94	85.25	349	62.44	84.44	7.16
233	-47.64	24.72	76.46	350	37.06	82.05	14.31
234	-40.83	19.78	81.66	351	22.11	84.05	35.78
235	-47.64	14.83	76.46	352	17.91	81.00	44.19
236	-47.64	-24.72	76.46	353	13.48	83.39	37.03
237	-45.60	-33.13	75.21	354	17.69	86.44	28.62
238	-52.41	-28.19	70.01	355	9.06	85.78	29.88
239	-59.21	-23.24	64.81	356	9.28	80.33	45.45
240	-50.38	-36.60	68.75	357	4.86	82.72	38.29
241	-57.18	-31.66	63.55	358	-21.03	80.72	42.06
242	-62.09	-55.00	44.19	359	-30.43	77.67	42.06
243	-64.69	-47.00	49.39	360	-26.23	80.72	33.65
244	-57.32	-51.54	50.64	361	-58.60	73.13	7.16
245	-54.72	-59.54	45.45	362	-51.23	77.67	8.41
246	-49.95	-56.07	51.90	363	-53.40	73.13	15.57
247	-59.92	-43.54	55.84	364	-60.77	68.60	14.31
248	-52.55	-48.07	57.10	365	-55.57	68.60	22.72
249	-38.23	-37.67	76.46	366	-48.20	73.13	23.98
250	-31.43	-32.72	81.66	367	-62.24	69.77	0.00
251	-26.83	-40.72	76.46	368	-64.41	65.13	7.16
252	24.01	-48.00	76.46	369	-70.23	57.13	7.16
253	21.41	-40.00	81.66	370	-66.59	60.60	14.31
254	29.82	-40.00	76.46	371	-73.11	47.00	35.78
255	53.07	8.00	76.46	372	-71.50	42.06	44.19
256	44.66	8.00	81.66	373	-75.14	38.59	37.03
257	47.26	16.00	76.46	374	-76.74	43.54	28.62
258	8.79	52.94	76.46	375	-78.78	35.12	29.88
259	6.19	44.94	81.66	376	-73.53	33.65	45.45
260	-0.61	49.89	76.46	377	-77.17	30.18	38.29
261	-45.60	33.13	75.21	378	-83.27	4.94	42.06
262	-52.41	28.19	70.01	379	-83.27	-4.94	42.06
263	-50.38	36.60	68.75	380	-84.88	0.00	33.65
264	-57.18	31.66	63.55	381	-79.63	-8.41	49.21
265	-59.21	23.24	64.81	382	-81.24	-13.36	40.80
266	-16.61	-78.33	49.21	383	-82.84	-18.30	32.39
267	-18.43	-72.72	55.67	384	-77.60	-16.82	47.96
268	-9.80	-73.39	54.41	385	-79.20	-21.77	39.55
269	-7.98	-79.00	47.96	386	-73.11	-47.00	35.78
270	-31.17	-74.05	53.16	387	-67.29	-55.00	35.78
271	-3.00	-68.44	59.41	388	-70.93	-51.54	28.62
272	17.42	-53.61	75.21	389	-76.74	-43.54	28.62
273	25.83	-53.61	70.01	390	-74.57	-48.07	21.47
274	19.24	-59.22	68.75	391	-65.12	-59.54	28.62
275	27.65	-59.22	63.55	392	-68.76	-56.07	21.47
276	34.24	-53.61	64.81	393	-51.23	-77.67	8.41
277	69.37	-40.00	49.21	394	-59.69	-70.87	10.73
278	63.47	-40.00	55.67	395	-54.49	-70.87	19.14
279	66.77	-32.00	54.41	396	-47.02	-80.72	0.00
280	72.67	-32.00	47.96	397	-41.82	-80.72	8.41
281	70.07	-24.00	53.16	398	-21.03	-80.72	42.06
282	64.17	-24.00	59.61	399	-12.40	-81.39	40.80
283	56.37	0.00	75.21	400	-8.20	-84.44	32.39
284	58.97	8.00	70.01	401	-3.77	-82.05	39.55
285	62.27	0.00	68.75	402	-47.02	-80.72	-46.00
286	64.87	8.00	63.55	403	-47.02	-80.72	-34.50
287	61.57	16.00	64.81	404	-56.43	-77.67	-34.50
288	59.48	53.61	49.21	405	-37.62	-83.78	-34.50
289	57.65	48.00	55.67	406	-47.02	-80.72	-23.00
290	55.07	53.61	54.41	407	9.40	-92.94	-46.00
291	52.89	59.22	47.96	408	9.40	-92.94	-34.50
292	44.48	59.22	53.16	409	0.00	-96.00	-34.50
293	42.65	53.61	59.61	410	18.81	-89.89	-34.50
294	17.42	53.61	75.21	411	9.40	-92.94	-23.00
295	10.61	58.55	70.01	412	62.24	-69.67	-46.00
296	19.24	59.22	68.75	413	62.24	-69.67	-34.50
297	12.44	64.17	63.55	414	56.43	-77.67	-34.50
298	3.81	63.50	64.81	415	68.05	-61.67	-34.50
299	-32.61	73.13	49.21	416	62.24	-69.67	-23.00
300	-27.83	69.67	55.67	417	91.30	-19.78	-46.00
301	-35.21	65.13	54.41	418	91.30	-19.78	-34.50
302	-39.98	68.60	47.96	419	91.30	-29.67	-34.50
303	-42.58	60.60	53.16	420	91.30	-9.89	-34.50
304	-37.81	57.13	59.61	421	91.30	-19.78	-23.00
305	9.40	-92.94	0.00	422	85.49	37.67	-46.00
306	4.42	-93.61	7.16	423	85.49	37.67	-34.50
307	13.83	-90.55	7.16	424	91.30	29.67	-34.50
308	23.23	-87.50	7.16	425	79.68	45.67	-34.50
309	8.94	-91.22	14.31	426	83.00	37.67	-23.00
310	18.25	-86.17	14.31	427	47.02	80.72	-46.00
311	31.52	-81.00	35.78	428	47.02	80.72	-34.50
312	33.12	-76.05	44.19	429	56.43	77.67	-34.50
313	38.10	-75.39	37.03	430	37.62	83.78	-34.50
314	36.50	-80.33	28.62	431	47.02	80.72	-23.00

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Node	X Coord	Y Coord	Z Coord	Node	X Coord	Y Coord	Z Coord
432	-9.40	92.94	-46.00	549	55.06	40.00	60.87
433	-9.40	92.94	-34.50	550	63.47	40.00	55.67
434	0.00	96.00	-34.50	551	35.63	32.00	76.46
435	-18.81	89.89	-34.50	552	29.82	40.00	76.46
436	-9.40	92.94	-23.00	553	38.23	40.00	71.27
437	-62.24	69.67	-46.00	554	24.01	48.00	76.46
438	-62.24	69.67	-34.50	555	-10.02	46.83	76.46
439	-56.43	77.67	-34.50	556	-7.42	54.83	71.27
440	-68.05	61.67	-34.50	557	-14.22	59.78	66.07
441	-62.24	69.67	-23.00	558	-23.63	56.72	66.07
442	-91.30	19.78	-46.00	559	-21.03	64.72	60.87
443	-91.30	19.78	-34.50	560	-18.43	72.72	55.67
444	-91.30	29.67	-34.50	561	-19.42	43.78	76.46
445	-91.30	9.89	-34.50	562	-28.83	40.72	76.46
446	-91.30	19.78	-23.00	563	-26.23	48.72	71.27
447	-85.49	-37.67	-46.00	564	-38.23	37.67	76.46
448	-85.49	-37.67	-34.50	565	-70.79	21.77	53.16
449	-91.30	-29.67	-34.50	566	-68.76	30.18	51.90
450	-79.68	-45.67	-34.50	567	-63.99	26.71	58.36
451	-85.49	-37.67	-23.00	568	-66.02	18.30	59.61
452	-30.62	12.36	85.25	569	-61.95	35.12	57.10
453	-30.62	0.00	85.25	570	-59.92	43.54	55.84
454	-20.42	0.00	88.83	571	-66.73	38.59	50.64
455	-40.83	0.00	81.66	572	-64.69	47.00	49.39
456	-13.61	-9.89	91.22	573	-72.82	13.36	54.41
457	-20.42	-4.94	88.83	574	-77.60	16.82	47.96
458	-13.61	0.00	91.22	575	-79.63	8.41	49.21
459	-6.81	-4.94	93.61	576	12.44	-64.17	63.55
460	-6.81	4.94	93.61	577	14.26	-69.78	57.10
461	-20.42	4.94	88.83	578	5.63	-69.11	58.36
462	-13.61	9.89	91.22	579	3.81	-63.50	64.81
463	2.29	32.94	85.25	580	7.45	-74.72	51.90
464	-9.46	29.12	85.25	581	9.28	-80.33	45.45
465	-6.31	19.42	88.83	582	16.08	-75.39	50.64
466	-12.62	38.83	81.66	583	17.91	-81.00	44.19
467	-11.01	17.89	88.83	584	24.71	-76.05	49.39
468	-4.21	12.94	91.22	585	22.89	-70.44	55.84
469	2.60	8.00	93.61	586	10.61	-58.55	70.01
470	-1.61	20.94	88.83	587	44.48	-59.22	53.16
471	5.20	16.00	91.22	588	37.89	-64.83	51.90
472	32.04	8.00	85.25	589	36.07	-59.22	58.36
473	24.77	18.00	85.25	590	42.65	-53.61	59.61
474	16.52	12.00	88.83	591	29.48	-64.83	57.10
475	33.03	24.00	81.66	592	31.30	-70.44	50.64
476	13.61	16.00	88.83	593	51.07	-53.61	54.41
477	11.01	8.00	91.22	594	52.89	-59.22	47.96
478	8.41	0.00	93.61	595	59.48	-53.61	49.21
479	19.42	8.00	88.83	596	64.87	-8.00	63.55
480	16.82	0.00	91.22	597	70.77	-8.00	57.10
481	16.52	-12.00	88.83	598	67.47	-16.00	58.36
482	24.77	-18.00	85.25	599	61.57	-16.00	64.81
483	17.51	-28.00	85.25	600	73.37	-16.00	51.90
484	33.03	-24.00	81.66	601	79.27	-16.00	45.45
485	19.42	-8.00	88.83	602	76.67	-8.00	50.64
486	11.01	-8.00	91.22	603	82.57	-8.00	44.19
487	2.60	-8.00	93.61	604	79.97	0.00	49.39
488	13.61	-16.00	88.83	605	74.07	0.00	55.84
489	5.20	-16.00	91.22	606	58.97	-8.00	70.01
490	-6.31	-19.42	88.83	607	70.07	24.00	53.16
491	-9.46	-29.12	85.25	608	73.37	16.00	51.90
492	-21.22	-25.30	85.25	609	67.47	16.00	58.36
493	-12.62	-38.83	81.66	610	64.17	24.00	59.61
494	-1.61	-20.94	88.83	611	70.77	8.00	57.10
495	-4.21	-12.94	91.22	612	76.67	8.00	50.64
496	-11.01	-17.89	88.83	613	66.77	32.00	54.41
497	-47.64	4.94	76.46	614	72.67	32.00	47.96
498	-54.44	9.89	71.27	615	69.37	40.00	49.21
499	-61.25	4.94	66.07	616	27.65	59.22	63.55
500	-61.25	-4.94	66.07	617	29.48	64.83	57.10
501	-68.05	0.00	60.87	618	36.07	59.22	58.36
502	-74.86	4.94	55.67	619	34.24	53.61	64.81
503	-74.86	-4.94	55.67	620	37.89	64.83	51.90
504	-47.64	-4.94	76.46	621	39.71	70.44	45.45
505	-47.64	-14.83	76.46	622	31.30	70.44	50.64
506	-54.44	-9.89	71.27	623	33.12	76.05	44.19
507	-68.76	-30.18	51.90	624	24.71	76.05	49.39
508	-70.79	-21.77	53.16	625	22.89	70.44	55.84
509	-63.99	-26.71	58.36	626	25.83	53.61	70.01
510	-61.95	-35.12	57.10	627	-1.17	74.05	53.16
511	-66.02	-18.30	59.61	628	7.45	74.72	51.90
512	-72.82	-13.36	54.41	629	5.63	69.11	58.36
513	-66.73	-38.59	50.64	630	-3.00	68.44	59.61
514	-73.53	-33.65	45.45	631	14.26	69.78	57.10
515	-71.50	-42.06	44.19	632	16.08	75.39	50.64
516	-40.41	-49.13	64.81	633	-9.80	73.39	54.41
517	-37.81	-57.13	59.61	634	-7.98	79.00	47.96
518	-45.18	-52.60	58.36	635	-16.61	78.33	49.21
519	-47.78	-44.60	63.55	636	-47.78	44.60	63.55
520	-42.58	-60.60	53.16	637	-52.55	48.07	57.10
521	-39.98	-68.60	47.96	638	-45.18	52.60	58.36
522	-35.21	-65.13	54.41	639	-40.41	49.13	64.81
523	-32.61	-73.13	49.21	640	-49.95	56.07	51.90
524	-27.83	-69.67	55.67	641	-59.72	59.54	45.45
525	-43.00	-41.13	70.01	642	-57.32	51.54	50.64
526	-19.42	-43.78	76.46	643	-62.09	55.00	44.19
527	-26.23	-48.72	71.27	644	-43.00	41.13	70.01
528	-23.63	-56.72	66.07	645	32.08	-82.72	21.47
529	-14.22	-59.78	66.07	646	37.06	-82.05	14.31
530	-21.03	-64.72	60.87	647	27.65	-85.11	14.31
531	-10.02	-46.83	76.46	648	22.67	-85.78	21.47
532	-0.61	-49.89	76.46	649	32.64	-84.44	7.16
533	-7.42	-54.83	71.27	650	42.04	-81.39	7.16
534	8.79	-52.94	76.46	651	47.02	-80.72	0.00
535	35.63	-32.00	76.46	652	51.45	-78.33	7.16
536	38.23	-40.00	71.27	653	46.46	-79.00	14.31
537	46.64	-40.00	66.07	654	17.69	-86.44	28.62
538	52.46	-32.00	66.07	655	27.09	-83.39	28.62
539	55.06	-40.00	60.87	656	22.11	-84.05	35.78
540	57.65	-48.00	55.67	657	54.58	-61.36	40.17
541	41.44	-24.00	76.46	658	52.57	-67.54	29.66
542	47.26	-16.00	76.46	659	61.25	-62.83	25.24
543	49.86	-24.00	71.27	660	47.89	-72.25	34.08
544	55.07	-8.00	76.46	661	50.56	-73.72	19.14
545	41.44	24.00	76.46	662	48.95	-78.66	10.73
546	49.86	24.00	71.27	663	58.03	-72.72	8.41
547	52.46	32.00	66.07	664	56.18	-56.42	48.59
548	46.64	40.00	66.07	665	72.87	-46.83	25.24

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Node	X Coord	Y Coord	Z Coord	Node	X Coord	Y Coord	Z Coord
666	67.06	-54.83	25.24	783	-89.69	14.83	8.41
667	65.45	-59.78	16.82	784	-91.30	19.78	0.00
668	69.66	-56.72	8.41	785	-88.09	-9.89	16.82
669	63.85	-64.72	8.41	786	-89.69	-14.83	8.41
670	62.24	-69.67	0.00	787	-89.69	-4.94	8.41
671	77.08	-43.78	16.82	788	-91.30	0.00	0.00
672	81.28	-40.72	8.41	789	-89.69	-24.72	8.41
673	75.47	-48.72	8.41	790	-91.30	-19.78	0.00
674	73.86	-53.67	0.00	791	-78.78	-35.12	29.88
675	85.49	-37.67	0.00	792	-82.42	-31.66	22.72
676	76.87	-28.94	39.55	793	-80.81	-26.71	31.13
677	80.17	-20.94	38.29	794	-77.17	-30.18	38.29
678	81.08	-25.89	31.13	795	-84.45	-23.24	23.98
679	77.78	-33.89	32.39	796	-86.06	-28.19	15.57
680	84.38	-17.89	29.88	797	-87.66	-33.13	7.16
681	87.68	-9.89	28.62	798	-84.02	-36.60	14.31
682	83.47	-12.94	37.03	799	-75.14	-38.59	37.03
683	86.77	-4.94	35.78	800	-70.23	-57.13	7.16
684	73.57	-36.94	40.80	801	-76.04	-49.13	7.16
685	88.58	4.94	21.47	802	-72.40	-52.60	14.31
686	89.49	9.89	14.31	803	-66.59	-60.60	14.31
687	89.49	0.00	14.31	804	-78.21	-44.60	14.31
688	88.58	-4.94	21.47	805	-81.85	-41.13	7.16
689	90.40	4.94	7.16	806	-85.49	-37.67	0.00
690	90.40	14.83	7.16	807	-60.77	-68.60	14.31
691	91.30	19.78	0.00	808	-64.41	-65.13	7.16
692	90.40	24.72	7.16	809	-58.60	-73.13	7.16
693	89.49	19.78	14.31	810	-62.24	-69.67	0.00
694	87.68	0.00	28.62	811	-55.15	-64.07	34.08
695	75.22	32.94	40.17	812	-47.99	-70.87	29.66
696	80.48	29.12	29.66	813	-41.49	-70.87	40.17
697	78.68	38.83	25.24	814	-40.83	-77.67	25.24
698	82.27	19.42	34.08	815	-30.43	-77.67	42.06
699	85.74	25.30	19.14	816	-36.29	-70.87	48.59
700	89.94	22.25	10.73	817	-57.75	-64.07	29.88
701	87.10	32.72	8.41	818	-59.92	-59.54	37.03
702	71.02	36.00	48.59	819	-52.55	-64.07	38.29
703	67.06	54.83	25.24	820	-36.63	-80.72	16.82
704	72.87	46.83	25.24	821	-32.42	-83.78	8.41
705	77.08	43.78	16.82	822	-28.21	-86.83	0.00
706	75.47	48.72	8.41	823	-23.01	-86.83	8.41
707	81.28	40.72	8.41	824	-17.82	-86.83	16.82
708	85.49	37.67	0.00	825	-13.61	-89.89	8.41
709	65.45	59.78	16.82	826	-9.40	-92.94	0.00
710	63.85	64.72	8.41	827	-4.21	-92.94	8.41
711	69.66	56.72	8.41	828	-31.43	-80.72	25.24
712	73.86	53.67	0.00	829	-26.23	-80.72	33.65
713	62.24	69.67	0.00	830	-22.02	-83.78	25.24
714	51.28	64.17	39.55	831	9.06	-85.78	29.88
715	44.69	69.78	38.29	832	4.64	-88.17	22.72
716	49.68	69.11	31.13	833	0.43	-85.11	31.13
717	56.26	63.50	32.39	834	4.86	-82.72	38.29
718	43.09	74.72	29.88	835	-3.99	-87.50	23.98
719	36.50	80.33	28.62	836	0.22	-90.55	15.57
720	38.10	75.39	37.03	837	13.48	-83.39	37.03
721	31.52	81.00	35.78	838	-28.21	-86.83	-46.00
722	57.87	58.55	40.80	839	-28.21	-86.83	-34.50
723	22.67	85.78	21.47	840	-18.81	-89.89	-34.50
724	18.25	88.17	14.31	841	-28.21	-86.83	-23.00
725	27.65	85.11	14.31	842	-9.40	-92.94	-46.00
726	32.08	82.72	21.47	843	-9.40	-92.94	-34.50
727	23.23	87.50	7.16	844	-9.40	-92.94	-23.00
728	13.83	90.55	7.16	845	-47.02	-80.72	-11.50
729	9.40	92.94	0.00	846	-56.43	-77.67	-11.50
730	4.42	93.61	7.16	847	-37.62	-83.78	-11.50
731	8.84	91.22	14.31	848	-28.21	-86.83	-11.50
732	27.09	83.39	28.62	849	-18.81	-89.89	-11.50
733	-8.09	81.72	40.17	850	-9.40	-92.94	-11.50
734	-2.83	85.54	29.66	851	0.00	-96.00	-11.50
735	-12.62	86.83	25.24	852	28.21	-86.83	-46.00
736	6.96	84.25	34.08	853	28.21	-86.83	-34.50
737	2.43	89.36	19.14	854	37.62	-83.78	-34.50
738	6.63	92.42	10.73	855	28.21	-86.83	-23.00
739	-6.21	92.94	8.41	856	47.02	-80.72	-46.00
740	-12.29	78.66	48.59	857	47.02	-80.72	-34.50
741	-31.43	80.72	25.24	858	47.02	-80.72	-23.00
742	-22.02	83.78	25.24	859	9.40	-92.94	-11.50
743	-17.82	86.83	16.82	860	18.81	-89.89	-11.50
744	-23.01	86.83	8.41	861	28.21	-86.83	-11.50
745	-13.61	89.89	8.41	862	37.62	-83.78	-11.50
746	-9.40	92.94	0.00	863	47.02	-80.72	-11.50
747	-36.63	80.72	16.82	864	56.43	-77.67	-11.50
748	-41.82	80.72	8.41	865	73.86	-53.67	-46.00
749	-32.42	83.78	8.41	866	73.86	-53.67	-34.50
750	-28.21	86.83	0.00	867	79.68	-45.67	-34.50
751	-47.02	80.72	0.00	868	73.86	-53.67	-23.00
752	-45.18	68.60	39.55	869	85.49	-37.67	-46.00
753	-52.55	64.07	38.29	870	85.49	-37.67	-34.50
754	-50.38	68.60	31.13	871	85.49	-37.67	-23.00
755	-43.00	73.13	32.39	872	62.24	-69.67	-11.50
756	-57.75	64.07	29.88	873	68.05	-61.67	-11.50
757	-65.12	59.54	28.62	874	73.86	-53.67	-11.50
758	-59.92	59.54	37.03	875	79.68	-45.67	-11.50
759	-67.29	55.00	35.78	876	85.49	-37.67	-11.50
760	-37.81	73.13	40.80	877	91.30	-29.67	-11.50
761	-74.57	48.07	21.47	878	91.30	0.00	-46.00
762	-78.21	44.60	14.31	879	91.30	0.00	-34.50
763	-72.40	52.60	14.31	880	91.30	9.89	-34.50
764	-68.76	56.07	21.47	881	91.30	0.00	-23.00
765	-76.04	49.13	7.16	882	91.30	19.78	-46.00
766	-81.85	41.13	7.16	883	91.30	19.78	-34.50
767	-85.49	37.67	0.00	884	91.30	19.78	-23.00
768	-87.66	33.13	7.16	885	91.30	-19.78	-11.50
769	-84.02	36.60	14.31	886	91.30	-9.89	-11.50
770	-70.93	51.54	28.62	887	91.30	0.00	-11.50
771	-80.22	17.56	40.17	888	91.30	9.89	-11.50
772	-82.23	23.74	29.66	889	91.30	19.78	-11.50
773	-86.48	14.83	25.24	890	91.30	29.67	-11.50
774	-77.97	32.65	34.08	891	73.86	53.67	-46.00
775	-84.24	29.92	19.14	892	73.86	53.67	-34.50
776	-85.84	34.87	10.73	893	68.05	61.67	-34.50
777	-89.69	24.72	8.41	894	73.86	53.67	-23.00
778	-78.61	12.62	48.59	895	62.24	69.67	-46.00
779	-86.48	-4.94	25.24	896	62.24	69.67	-34.50
780	-86.48	4.94	25.24	897	62.24	69.67	-23.00
781	-88.09	9.89	16.82	898	85.49	37.67	-11.50
782	-89.69	4.94	8.41	899	79.68	45.67	-11.50

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Node	X Coord	Y Coord	Z Coord	Memb	Dir Angle	Dir Node	Dir Axis	Memb Type	Node A	Node B	Sec	Mat	Node A Fixity	Node B Fixity	Length
900	73.86	53.67	-11.50	12		227		Norm	4	459	1	1	FFFFRR	FFFFFF	8.745
901	68.05	61.67	-11.50	13		227		Norm	158	1	1	1	FFFFRR	FFFFRR	13.117
902	62.24	69.67	-11.50	14		227		Norm	230	13	1	1	FFFFRR	FFFFRR	13.117
903	56.43	77.67	-11.50	15		227		Norm	13	534	1	1	FFFFRR	FFFFFF	9.889
904	28.21	86.83	-46.00	16		227		Norm	233	47	1	1	FFFFRR	FFFFFF	9.889
905	28.21	86.83	-34.50	17		227		Norm	4	487	1	1	FFFFRR	FFFFFF	8.745
906	18.81	89.89	-34.50	18		227		Norm	4	478	1	1	FFFFRR	FFFFFF	8.745
907	28.21	86.83	-23.00	19		227		Norm	242	11	1	1	FFFFRR	FFFFRR	8.745
908	9.40	92.94	-46.00	20		227		Norm	13	252	1	1	FFFFRR	FFFFFF	9.889
909	9.40	92.94	-34.50	21		227		Norm	1	544	1	1	FFFFRR	FFFFFF	9.889
910	9.40	92.94	-23.00	22		227		Norm	245	242	1	1	FFFFRR	FFFFFF	8.745
911	47.02	80.72	-11.50	23		227		Norm	17	713	1	1	FFFFRR	FFFFFF	9.889
912	37.62	83.78	-11.50	24		227		Norm	17	342	1	1	FFFFRR	FFFFFF	9.889
913	28.21	86.83	-11.50	25		227		Norm	249	59	1	1	FFFFRR	FFFFFF	9.889
914	18.81	89.89	-11.50	26		227		Norm	5	623	1	1	FFFFRR	FFFFFF	8.745
915	9.40	92.94	-11.50	27		227		Norm	2	615	1	1	FFFFRR	FFFFFF	8.745
916	0.00	96.00	-11.50	28		227		Norm	19	751	1	1	FFFFRR	FFFFFF	9.889
917	-28.21	86.83	-46.00	29		227		Norm	19	362	1	1	FFFFRR	FFFFFF	9.889
918	-28.21	86.83	-34.50	30		227		Norm	252	66	1	1	FFFFRR	FFFFFF	9.889
919	-37.62	83.78	-34.50	31		227		Norm	8	643	1	1	FFFFRR	FFFFFF	8.745
920	-28.21	86.83	-23.00	32		227		Norm	6	635	1	1	FFFFRR	FFFFFF	8.745
921	-47.02	80.72	-46.00	33		227		Norm	21	790	1	1	FFFFRR	FFFFFF	9.889
922	-47.02	80.72	-34.50	34		227		Norm	21	789	1	1	FFFFRR	FFFFFF	9.889
923	-47.02	80.72	-23.00	35		227		Norm	255	73	1	1	FFFFRR	FFFFFF	9.889
924	-9.40	92.94	-11.50	36		227		Norm	11	515	1	1	FFFFRR	FFFFFF	8.745
925	-18.81	89.89	-11.50	37		227		Norm	9	575	1	1	FFFFRR	FFFFFF	8.745
926	-28.21	86.83	-11.50	38		227		Norm	23	826	1	1	FFFFRR	FFFFFF	9.889
927	-37.62	83.78	-11.50	39		227		Norm	23	827	1	1	FFFFRR	FFFFFF	9.889
928	-47.02	80.72	-11.50	40		227		Norm	258	80	1	1	FFFFRR	FFFFFF	9.889
929	-56.43	77.67	-11.50	41		227		Norm	14	583	1	1	FFFFRR	FFFFFF	8.745
930	-73.86	53.67	-46.00	42		227		Norm	12	523	1	1	FFFFRR	FFFFFF	8.745
931	-73.86	53.67	-34.50	43		227		Norm	25	675	1	1	FFFFRR	FFFFFF	9.889
932	-79.68	45.67	-34.50	44		227		Norm	25	322	1	1	FFFFRR	FFFFFF	9.889
933	-73.86	53.67	-23.00	45		227		Norm	266	12	1	1	FFFFRR	FFFFFF	8.745
934	-85.49	37.67	-46.00	46		227		Norm	16	603	1	1	FFFFRR	FFFFFF	8.745
935	-85.49	37.67	-34.50	47		227		Norm	15	595	1	1	FFFFRR	FFFFFF	8.745
936	-85.49	37.67	-23.00	48		227		Norm	5	351	1	1	FFFFRR	FFFFFF	8.745
937	-62.24	69.67	-11.50	49		227		Norm	269	266	1	1	FFFFRR	FFFFFF	8.745
938	-68.05	61.67	-11.50	50		227		Norm	277	15	1	1	FFFFRR	FFFFRR	8.745
939	-73.86	53.67	-11.50	51		227		Norm	8	371	1	1	FFFFRR	FFFFFF	8.745
940	-79.68	45.67	-11.50	52		227		Norm	280	277	1	1	FFFFRR	FFFFFF	8.745
941	-85.49	37.67	-11.50	53		227		Norm	288	2	1	1	FFFFRR	FFFFRR	8.745
942	-91.30	29.67	-11.50	54		227		Norm	11	387	1	1	FFFFRR	FFFFFF	8.745
943	-91.30	0.00	-46.00	55		227		Norm	291	288	1	1	FFFFRR	FFFFFF	8.745
944	-91.30	0.00	-34.50	56		227		Norm	226	157	1	1	FFFFRR	FFFFFF	9.889
945	-91.30	-9.89	-34.50	57		227		Norm	14	311	1	1	FFFFRR	FFFFFF	8.745
946	-91.30	0.00	-23.00	58		227		Norm	299	6	1	1	FFFFRR	FFFFRR	8.745
947	-91.30	-19.78	-46.00	59		227		Norm	302	299	1	1	FFFFRR	FFFFFF	8.745
948	-91.30	-19.78	-34.50	60		227		Norm	16	331	1	1	FFFFRR	FFFFFF	8.745
949	-91.30	-19.78	-23.00	61		227		Norm	311	314	1	1	FFFFRR	FFFFFF	8.745
950	-91.30	19.78	-11.50	62		227		Norm	312	14	1	1	FFFFRR	FFFFRR	8.745
951	-91.30	9.89	-11.50	63		227		Norm	23	851	3	1	FFFFRR	FFFFFF	11.500
952	-91.30	0.00	-11.50	64		227		Norm	26	864	3	1	FFFFRR	FFFFFF	11.500
953	-91.30	-9.89	-46.00	65		227		Norm	25	877	3	1	FFFFRR	FFFFFF	11.500
954	-91.30	-19.78	-11.50	66		227		Norm	18	890	3	1	FFFFRR	FFFFFF	11.500
955	-91.30	-29.67	-11.50	67		227		Norm	24	846	3	1	FFFFRR	FFFFFF	11.500
956	-73.86	-53.67	-46.00	68		227		Norm	21	955	3	1	FFFFRR	FFFFFF	11.500
957	-73.86	-53.67	-34.50	69		227		Norm	17	903	3	1	FFFFRR	FFFFFF	11.500
958	-68.05	-61.67	-34.50	70		227		Norm	20	916	3	1	FFFFRR	FFFFFF	11.500
959	-73.86	-53.67	-23.00	71		227		Norm	19	929	3	1	FFFFRR	FFFFFF	11.500
960	-62.24	-69.67	-46.00	72		227		Norm	22	942	3	1	FFFFRR	FFFFFF	11.500
961	-62.24	-69.67	-34.50	73		227		Norm	1026	417	3	1	FFFFRR	FFFFFF	9.889
962	-62.24	-69.67	-23.00	74		227		Norm	1027	422	3	1	FFFFRR	FFFFFF	9.889
963	-85.49	-37.67	-11.50	75		227		Norm	1021	427	3	1	FFFFRR	FFFFFF	9.889
964	-79.68	-45.67	-11.50	76		227		Norm	1015	432	3	1	FFFFRR	FFFFFF	9.889
965	-73.86	-53.67	-11.50	77		227		Norm	1009	437	3	1	FFFFRR	FFFFFF	9.889
966	-68.05	-61.67	-11.50	78		227		Norm	1001	442	3	1	FFFFRR	FFFFFF	9.889
967	-62.24	-69.67	-11.50	79		227		Norm	1000	447	3	1	FFFFRR	FFFFFF	9.889
1000	-91.30	-29.67	-46.00	80		227		Norm	1008	402	3	1	FFFFRR	FFFFFF	9.889
1001	-91.30	29.67	-46.00	81		227		Norm	1014	407	3	1	FFFFRR	FFFFFF	9.889
1002	-91.30	9.89	-46.00	82		227		Norm	1020	412	3	1	FFFFRR	FFFFFF	9.889
1003	-91.30	-9.89	-46.00	83		227		Norm	314	109	1	1	FFFFRR	FFFFFF	8.745
1004	-79.68	45.67	-46.00	84		227		Norm	316	312	1	1	FFFFRR	FFFFFF	8.745
1005	-79.68	-45.67	-46.00	85		227		Norm	319	15	1	1	FFFFRR	FFFFRR	9.889
1006	-68.05	61.67	-46.00	86		227		Norm	331	334	1	1	FFFFRR	FFFFFF	8.745
1007	-68.05	-61.67	-46.00	87		227		Norm	332	16	1	1	FFFFRR	FFFFRR	8.745
1008	-56.43	-77.67	-46.00	88		227		Norm	37	38	1	1	FFFFRR	FFFFFF	13.117
1009	-56.43	77.67	-46.00	89		227		Norm	334	121	1	1	FFFFRR	FFFFFF	8.745
1010	-37.62	-83.78	-46.00	90		227		Norm	39	44	1	1	FFFFRR	FFFFFF	13.117
1011	-37.62	83.78	-46.00	91		227		Norm	336	332	1	1	FFFFRR	FFFFFF	8.745
1012	-18.81	-89.89	-46.00	92		227		Norm	41	122	1	1	FFFFRR	FFFFFF	13.117
1013	-18.81	89.89	-46.00	93		227		Norm	339	2	1	1	FFFFRR	FFFFRR	9.889
1014	0.00	-96.00	-46.00	94		227		Norm	43	158	1	1	FFFFRR	FFFFFF	13.117
1015	0.00	96.00	-46.00	95		227		Norm	351	354	1	1	FFFFRR	FFFFFF	8.745
1016	18.81	-89.89	-46.00	96		227		Norm	45	230	1	1	FFFFRR	FFFFFF	13.117
1017	18.81	89.89	-46.00	97		227		Norm	352	5	1	1	FFFFRR	FFFFRR	8.745
1018	37.62	-83.78	-46.00	98		227		Norm	354	133	1	1	FFFFRR	FFFFFF	8.745
1019	37.62	83.78	-46.00	99		227		Norm	50	502	1	1	FFFFRR	FFFFFF	9.889
1020	56.43	-77.67	-46.00	100		227		Norm	51	503	1	1	FFFFRR	FFFFFF	9.889
1021	56.43	77.67	-46.00	101		227		Norm	356	352	1	1	FFFFRR	FFFFFF	8.745
1022	68.05	-61.67	-46.00	102		227		Norm	359	6	1	1	FFFFRR	FFFFRR	9.889
1023	68.05	61.67	-46.00	103		227		Norm	56	384	1	1	FFFFRR	FFFFFF	8.745
1024	79.68	-45.67	-46.00	104		227		Norm	57	245	1	1	FFFFRR	FFFFFF	8.745
1025	79.68	45.67	-46.00	105		227		Norm	371	374	1	1	FFFFRR	FFFFFF	8.745
1026	91.30	-29.67	-46.00	106		227		Norm	372	8	1	1	FFFFRR	FFFFRR	8.745
1027	91.30	29.67	-46.00	107		227		Norm	63	267	1	1	FFFFRR	FFFFFF	9.889
1028	91.30	-9.89	-46.00	108		227		Norm	374	145	1	1	FFFFRR	FFFFFF	8.745
1029	91.30	9.89	-46.00	109		227		Norm	376	372	1	1	FFFFRR	FFFFFF	8.745

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Memb	Dir Angle	Dir Node	Dir Axis	Memb Type	Node A	Node B	Sec	Mat	Node A Fixity	Node B Fixity	Length	Memb	Dir Angle	Dir Node	Dir Axis	Memb Type	Node A	Node B	Sec	Mat	Node A Fixity	Node B Fixity	Length
129	227	227	Norm	99	336	1	1	FFFFF	FFFFF	8.745	246	227	227	Norm	544	72	1	1	FFFFF	FFFFF	9.889		
130	227	227	Norm	100	291	1	1	FFFFF	FFFFF	8.745	247	227	227	Norm	23	305	1	1	FFFFR	FFFFF	9.889		
131	227	227	Norm	407	1016	3	1	FFFFF	FFFFF	9.889	248	227	227	Norm	178	107	1	1	FFFFF	FFFFF	9.889		
132	227	227	Norm	104	356	1	1	FFFFF	FFFFF	8.745	249	227	227	Norm	107	179	1	1	FFFFF	FFFFF	9.889		
133	227	227	Norm	105	302	1	1	FFFFF	FFFFF	8.745	250	227	227	Norm	179	651	1	1	FFFFF	FFFFF	9.889		
134	227	227	Norm	409	1014	3	1	FFFFF	FFFFF	11.500	251	227	227	Norm	550	2	1	1	FFFFF	FFFFR	9.889		
135	227	227	Norm	412	1022	3	1	FFFFF	FFFFF	9.889	252	227	227	Norm	289	2	1	1	FFFFF	FFFFR	9.889		
136	227	227	Norm	109	653	1	1	FFFFF	FFFFF	8.745	253	227	227	Norm	554	79	1	1	FFFFF	FFFFF	9.889		
137	227	227	Norm	414	1020	3	1	FFFFF	FFFFF	11.500	254	227	227	Norm	560	6	1	1	FFFFF	FFFFR	9.889		
138	227	227	Norm	112	319	1	1	FFFFF	FFFFF	9.889	255	227	227	Norm	300	6	1	1	FFFFF	FFFFF	9.889		
139	227	227	Norm	115	670	1	1	FFFFF	FFFFF	9.889	256	227	227	Norm	564	86	1	1	FFFFF	FFFFF	9.889		
140	227	227	Norm	417	1028	3	1	FFFFF	FFFFF	9.889	257	227	227	Norm	574	89	1	1	FFFFF	FFFFF	8.745		
141	227	227	Norm	117	674	1	1	FFFFF	FFFFF	9.889	258	227	227	Norm	575	574	1	1	FFFFF	FFFFF	8.745		
142	227	227	Norm	419	1026	3	1	FFFFF	FFFFF	11.500	259	227	227	Norm	581	90	1	1	FFFFF	FFFFF	8.745		
143	227	227	Norm	422	1023	3	1	FFFFF	FFFFF	9.889	260	227	227	Norm	583	581	1	1	FFFFF	FFFFF	8.745		
144	227	227	Norm	121	693	1	1	FFFFF	FFFFF	8.745	261	227	227	Norm	594	94	1	1	FFFFF	FFFFF	8.745		
145	227	227	Norm	424	1027	3	1	FFFFF	FFFFF	11.500	262	227	227	Norm	595	594	1	1	FFFFF	FFFFF	8.745		
146	227	227	Norm	124	339	1	1	FFFFF	FFFFF	9.889	263	227	227	Norm	601	95	1	1	FFFFF	FFFFF	8.745		
147	227	227	Norm	127	708	1	1	FFFFF	FFFFF	9.889	264	227	227	Norm	603	601	1	1	FFFFF	FFFFF	8.745		
148	227	227	Norm	427	1019	3	1	FFFFF	FFFFF	9.889	265	227	227	Norm	614	99	1	1	FFFFF	FFFFF	8.745		
149	227	227	Norm	129	712	1	1	FFFFF	FFFFF	9.889	266	227	227	Norm	615	614	1	1	FFFFF	FFFFF	8.745		
150	227	227	Norm	429	1021	3	1	FFFFF	FFFFF	11.500	267	227	227	Norm	621	100	1	1	FFFFF	FFFFF	8.745		
151	227	227	Norm	432	1013	3	1	FFFFF	FFFFF	9.889	268	227	227	Norm	623	621	1	1	FFFFF	FFFFF	8.745		
152	227	227	Norm	133	731	1	1	FFFFF	FFFFF	8.745	269	227	227	Norm	634	104	1	1	FFFFF	FFFFF	8.745		
153	227	227	Norm	434	1015	3	1	FFFFF	FFFFF	11.500	270	227	227	Norm	635	634	1	1	FFFFF	FFFFF	8.745		
154	227	227	Norm	136	359	1	1	FFFFF	FFFFF	9.889	271	227	227	Norm	80	103	1	1	FFFFF	FFFFF	9.889		
155	227	227	Norm	139	746	1	1	FFFFF	FFFFF	9.889	272	227	227	Norm	103	83	1	1	FFFFF	FFFFF	9.889		
156	227	227	Norm	437	1006	3	1	FFFFF	FFFFF	9.889	273	227	227	Norm	86	106	1	1	FFFFF	FFFFF	9.889		
157	227	227	Norm	141	750	1	1	FFFFF	FFFFF	9.889	274	227	227	Norm	106	84	1	1	FFFFF	FFFFF	9.889		
158	227	227	Norm	439	1009	3	1	FFFFF	FFFFF	11.500	275	227	227	Norm	47	88	1	1	FFFFF	FFFFF	9.889		
159	227	227	Norm	442	1002	3	1	FFFFF	FFFFF	9.889	276	227	227	Norm	88	50	1	1	FFFFF	FFFFF	9.889		
160	227	227	Norm	145	769	1	1	FFFFF	FFFFF	8.745	277	227	227	Norm	53	54	1	1	FFFFF	FFFFF	9.889		
161	227	227	Norm	444	1001	3	1	FFFFF	FFFFF	11.500	278	227	227	Norm	54	51	1	1	FFFFF	FFFFF	9.889		
162	227	227	Norm	148	379	1	1	FFFFF	FFFFF	9.889	279	227	227	Norm	10	249	1	1	FFFFR	FFFFF	9.889		
163	227	227	Norm	151	784	1	1	FFFFF	FFFFF	9.889	280	227	227	Norm	59	58	1	1	FFFFF	FFFFF	9.889		
164	227	227	Norm	447	1005	3	1	FFFFF	FFFFF	9.889	281	227	227	Norm	58	62	1	1	FFFFF	FFFFF	9.889		
165	227	227	Norm	153	788	1	1	FFFFF	FFFFF	9.889	282	227	227	Norm	62	524	1	1	FFFFF	FFFFF	9.889		
166	227	227	Norm	449	1000	3	1	FFFFF	FFFFF	11.500	283	227	227	Norm	65	91	1	1	FFFFF	FFFFF	9.889		
167	227	227	Norm	156	394	1	1	FFFFF	FFFFF	13.117	284	227	227	Norm	91	63	1	1	FFFFF	FFFFF	9.889		
168	227	227	Norm	225	806	1	1	FFFFF	FFFFF	9.889	285	227	227	Norm	66	93	1	1	FFFFF	FFFFF	9.889		
169	227	227	Norm	456	37	1	1	FFFFF	FFFFF	8.745	286	227	227	Norm	93	69	1	1	FFFFF	FFFFF	9.889		
170	227	227	Norm	159	396	1	1	FFFFF	FFFFF	9.889	287	227	227	Norm	72	96	1	1	FFFFF	FFFFF	9.889		
171	227	227	Norm	162	822	1	1	FFFFF	FFFFF	9.889	288	227	227	Norm	96	70	1	1	FFFFF	FFFFF	9.889		
172	227	227	Norm	459	456	1	1	FFFFF	FFFFF	8.745	289	227	227	Norm	73	98	1	1	FFFFF	FFFFF	9.889		
173	227	227	Norm	165	398	1	1	FFFFF	FFFFF	9.889	290	227	227	Norm	98	76	1	1	FFFFF	FFFFF	9.889		
174	227	227	Norm	1010	838	3	1	FFFFF	FFFFF	9.889	291	227	227	Norm	79	101	1	1	FFFFF	FFFFF	9.889		
175	227	227	Norm	169	404	3	1	FFFFF	FFFFF	11.500	292	227	227	Norm	101	77	1	1	FFFFF	FFFFF	9.889		
176	227	227	Norm	1012	842	3	1	FFFFF	FFFFF	9.889	293	227	227	Norm	124	131	1	1	FFFFF	FFFFF	9.889		
177	227	227	Norm	172	409	3	1	FFFFF	FFFFF	11.500	294	227	227	Norm	131	128	1	1	FFFFF	FFFFF	9.889		
178	227	227	Norm	1016	852	3	1	FFFFF	FFFFF	9.889	295	227	227	Norm	641	105	1	1	FFFFF	FFFFF	8.745		
179	227	227	Norm	1018	856	3	1	FFFFF	FFFFF	9.889	296	227	227	Norm	643	641	1	1	FFFFF	FFFFF	8.745		
180	227	227	Norm	177	414	3	1	FFFFF	FFFFF	11.500	297	227	227	Norm	651	26	1	1	FFFFF	FFFFR	9.889		
181	227	227	Norm	1022	865	3	1	FFFFF	FFFFF	9.889	298	227	227	Norm	652	26	1	1	FFFFF	FFFFF	8.745		
182	227	227	Norm	1024	869	3	1	FFFFF	FFFFF	9.889	299	227	227	Norm	653	652	1	1	FFFFF	FFFFF	8.745		
183	227	227	Norm	184	419	3	1	FFFFF	FFFFF	11.500	300	227	227	Norm	670	26	1	1	FFFFF	FFFFR	9.889		
184	227	227	Norm	1028	878	3	1	FFFFF	FFFFF	9.889	301	227	227	Norm	674	115	1	1	FFFFF	FFFFF	9.889		
185	227	227	Norm	1029	882	3	1	FFFFF	FFFFF	9.889	302	227	227	Norm	322	116	1	1	FFFFF	FFFFF	9.889		
186	227	227	Norm	189	424	3	1	FFFFF	FFFFF	11.500	303	227	227	Norm	675	117	1	1	FFFFF	FFFFF	9.889		
187	227	227	Norm	1025	891	3	1	FFFFF	FFFFF	9.889	304	227	227	Norm	691	18	1	1	FFFFF	FFFFR	9.889		
188	227	227	Norm	1023	895	3	1	FFFFF	FFFFF	9.889	305	227	227	Norm	692	18	1	1	FFFFF	FFFFR	8.745		
189	227	227	Norm	196	429	3	1	FFFFF	FFFFF	11.500	306	227	227	Norm	693	692	1	1	FFFFF	FFFFF	8.745		
190	227	227	Norm	1019	904	3	1	FFFFF	FFFFF	9.889	307	227	227	Norm	708	18	1	1	FFFFF	FFFFR	9.889		
191	227	227	Norm	1017	908	3	1	FFFFF	FFFFF	9.889	308	227	227	Norm	712	127	1	1	FFFFF	FFFFF	9.889		
192	227	227	Norm	201	434	3	1	FFFFF	FFFFF	11.500	309	227	227	Norm	342	128	1	1	FFFFF	FFFFF	9.889		
193	227	227	Norm	1013	917	3	1	FFFFF	FFFFF	9.889	310	227	227	Norm	713	129	1	1	FFFFF	FFFFF	9.889		
194	227	227	Norm	1011	921	3	1	FFFFF	FFFFF	9.889	311	227	227	Norm	729	20	1	1	FFFFF	FFFFR	9.889		
195	227	227	Norm	208	439	3	1	FFFFF	FFFFF	11.500	312	227	227	Norm	730	20	1	1	FFFFF	FFFFR	8.745		
196	227	227	Norm	1006	930	3	1	FFFFF	FFFFF	9.889	313	227	227	Norm	731	730	1	1	FFFFF	FFFFF	8.745		
197	227	227	Norm	1004	934	3	1	FFFFF	FFFFF	9.889	314	227	227	Norm	746	20	1	1	FFFFF	FFFFR	9.889		
198	227	227	Norm	213	444	3	1	FFFFF	FFFFF	11.500	315	227	227	Norm	750	139	1	1	FFFFF	FFFFF	9.889		
199	227	227	Norm	1002	943	3	1	FFFFF	FFFFF	9.889	316	227	227	Norm	362	140							

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Memb	Dir Angle	Dir Node	Dir Axis	Memb Type	Node A	Node B	Node C	Node D	Sec Mat	Node A Fixity	Node B Fixity	Length	Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset
363		227		Norm	960	1008	3	1	1	FFFFFF	FFFFRR	9.889	108	0.00			Mind	81	555	466		0.197	1	0.00
364		227		Norm	806	21	1	1	1	FFFFFF	FFFFRR	9.889	109	180.00			Mind	86	562	563		0.197	1	0.00
													110	0.00			Mind	82	558	563		0.197	1	0.00
													111	0.00			Mind	85	562	46		0.197	1	0.00
													112	-180.00			Mind	89	565	566		0.197	1	0.00
													113	0.00			Mind	87	570	569		0.197	1	0.00
													114	0.00			Mind	88	568	50		0.197	1	0.00
													115	-180.00			Mind	92	576	577		0.197	1	0.00
													116	0.00			Mind	90	581	580		0.197	1	0.00
													117	0.00			Mind	91	579	65		0.197	1	0.00
													118	-180.00			Mind	94	587	588		0.197	1	0.00
													119	0.00			Mind	92	585	591		0.197	1	0.00
													120	0.00			Mind	93	590	600		0.197	1	0.00
													121	-180.00			Mind	97	596	597		0.197	1	0.00
													122	0.00			Mind	97	601	600		0.197	1	0.00
													123	0.00			Mind	96	599	72		0.197	1	0.00
													124	-180.00			Mind	99	607	608		0.197	1	0.00
													125	0.00			Mind	97	605	611		0.197	1	0.00
													126	0.00			Mind	98	610	76		0.197	1	0.00
													127	-180.00			Mind	102	616	617		0.197	1	0.00
													128	0.00			Mind	100	621	620		0.197	1	0.00
													129	0.00			Mind	101	619	79		0.197	1	0.00
													130	-180.00			Mind	104	627	628		0.197	1	0.00
													131	0.00			Mind	102	625	631		0.197	1	0.00
													132	0.00			Mind	103	630	83		0.197	1	0.00
													133	180.00			Mind	87	636	637		0.197	1	0.00
													134	0.00			Mind	105	641	640		0.197	1	0.00
													135	0.00			Mind	106	639	86		0.197	1	0.00
													136	180.00			Mind	109	645	646		0.197	1	0.00
													137	0.00			Mind	107	179	649		0.197	1	0.00
													138	0.00			Mind	108	648	654		0.197	1	0.00
													139	180.00			Mind	111	657	658		0.197	1	0.00
													140	0.00			Mind	109	662	661		0.197	1	0.00
													141	0.00			Mind	94	657	664		0.197	1	0.00
													142	180.00			Mind	113	665	666		0.197	1	0.00
													143	0.00			Mind	111	659	666		0.197	1	0.00
													144	-180.00			Mind	115	668	669		0.197	1	0.00
													145	0.00			Mind	114	663	669		0.197	1	0.00
													146	0.00			Mind	112	665	119		0.197	1	0.00
													147	180.00			Mind	117	672	673		0.197	1	0.00
													148	0.00			Mind	113	668	673		0.197	1	0.00
													149	0.00			Mind	116	672	322		0.197	1	0.00
													150	-180.00			Mind	95	676	677		0.197	1	0.00
													151	0.00			Mind	118	681	680		0.197	1	0.00
													152	0.00			Mind	119	679	112		0.197	1	0.00
													153	-180.00			Mind	121	685	686		0.197	1	0.00
													154	0.00			Mind	120	191	689		0.197	1	0.00
													155	0.00			Mind	118	688	681		0.197	1	0.00
													156	180.00			Mind	123	695	696		0.197	1	0.00
													157	0.00			Mind	121	700	699		0.197	1	0.00
													158	0.00			Mind	99	695	702		0.197	1	0.00
													159	180.00			Mind	125	703	704		0.197	1	0.00
													160	0.00			Mind	123	697	704		0.197	1	0.00
													161	-180.00			Mind	127	706	707		0.197	1	0.00
													162	0.00			Mind	126	701	707		0.197	1	0.00
													163	0.00			Mind	124	703	131		0.197	1	0.00
													164	180.00			Mind	129	710	711		0.197	1	0.00
													165	0.00			Mind	125	706	711		0.197	1	0.00
													166	0.00			Mind	128	710	342		0.197	1	0.00
													167	-180.00			Mind	100	714	715		0.197	1	0.00
													168	0.00			Mind	130	719	718		0.197	1	0.00
													169	0.00			Mind	131	717	124		0.197	1	0.00
													170	-180.00			Mind	133	723	724		0.197	1	0.00
													171	0.00			Mind	132	203	727		0.197	1	0.00
													172	0.00			Mind	130	726	719		0.197	1	0.00
													173	-180.00			Mind	135	733	734		0.197	1	0.00
													174	0.00			Mind	133	738	737		0.197	1	0.00
													175	0.00			Mind	104	733	740		0.197	1	0.00
													176	180.00			Mind	137	741	742		0.197	1	0.00
													177	0.00			Mind	135	735	742		0.197	1	0.00
													178	-180.00			Mind	139	744	745				

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Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset	Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset
225	0.00			Mind	171	844	850	849	0.197	1	0.00	342	0.00			Mind	277	280	279		0.197	1	0.00
226	0.00			Mind	1016	852	853	410	0.197	1	0.00	343	180.00			Mind	281	279	280		0.197	1	0.00
227	0.00			Mind	1018	856	857	854	0.197	1	0.00	344	0.00			Mind	280	95	281		0.197	1	0.00
228	0.00			Mind	172	411	859	851	0.197	1	0.00	345	0.00			Mind	278	279	70		0.197	1	0.00
229	0.00			Mind	174	855	861	860	0.197	1	0.00	346	-180.00			Mind	282	70	279		0.197	1	0.00
230	0.00			Mind	176	858	863	862	0.197	1	0.00	347	0.00			Mind	279	281	282		0.197	1	0.00
231	0.00			Mind	1022	865	866	415	0.197	1	0.00	348	0.00			Mind	70	282	96		0.197	1	0.00
232	0.00			Mind	1024	869	870	867	0.197	1	0.00	349	-180.00			Mind	284	255	283		0.197	1	0.00
233	0.00			Mind	177	416	872	864	0.197	1	0.00	350	0.00			Mind	283	285	284		0.197	1	0.00
234	0.00			Mind	181	868	874	873	0.197	1	0.00	351	-180.00			Mind	286	284	285		0.197	1	0.00
235	0.00			Mind	183	871	876	875	0.197	1	0.00	352	0.00			Mind	285	97	286		0.197	1	0.00
236	0.00			Mind	1028	878	879	420	0.197	1	0.00	353	0.00			Mind	255	284	73		0.197	1	0.00
237	0.00			Mind	1029	882	883	880	0.197	1	0.00	354	180.00			Mind	287	73	284		0.197	1	0.00
238	0.00			Mind	184	421	885	877	0.197	1	0.00	355	0.00			Mind	284	286	287		0.197	1	0.00
239	0.00			Mind	186	883	887	886	0.197	1	0.00	356	0.00			Mind	73	287	98		0.197	1	0.00
240	0.00			Mind	188	884	889	888	0.197	1	0.00	357	-180.00			Mind	290	289	288		0.197	1	0.00
241	0.00			Mind	1025	891	892	425	0.197	1	0.00	358	0.00			Mind	288	291	290		0.197	1	0.00
242	0.00			Mind	1023	895	896	893	0.197	1	0.00	359	180.00			Mind	292	290	291		0.197	1	0.00
243	0.00			Mind	189	426	898	890	0.197	1	0.00	360	0.00			Mind	291	100	292		0.197	1	0.00
244	0.00			Mind	193	894	900	899	0.197	1	0.00	361	0.00			Mind	289	290	77		0.197	1	0.00
245	0.00			Mind	195	897	902	901	0.197	1	0.00	362	180.00			Mind	293	77	290		0.197	1	0.00
246	0.00			Mind	1019	904	905	430	0.197	1	0.00	363	0.00			Mind	290	292	293		0.197	1	0.00
247	0.00			Mind	1017	908	909	906	0.197	1	0.00	364	0.00			Mind	77	293	101		0.197	1	0.00
248	0.00			Mind	196	431	911	903	0.197	1	0.00	365	-180.00			Mind	295	258	294		0.197	1	0.00
249	0.00			Mind	198	907	913	912	0.197	1	0.00	366	0.00			Mind	294	296	295		0.197	1	0.00
250	0.00			Mind	200	910	915	914	0.197	1	0.00	367	180.00			Mind	297	295	296		0.197	1	0.00
251	0.00			Mind	1013	917	918	435	0.197	1	0.00	368	0.00			Mind	296	102	297		0.197	1	0.00
252	0.00			Mind	1011	921	922	919	0.197	1	0.00	369	0.00			Mind	258	295	80		0.197	1	0.00
253	0.00			Mind	201	436	924	916	0.197	1	0.00	370	180.00			Mind	298	80	295		0.197	1	0.00
254	0.00			Mind	205	920	926	925	0.197	1	0.00	371	0.00			Mind	295	297	298		0.197	1	0.00
255	0.00			Mind	207	923	928	927	0.197	1	0.00	372	0.00			Mind	80	298	103		0.197	1	0.00
256	0.00			Mind	1006	930	931	440	0.197	1	0.00	373	-180.00			Mind	301	300	299		0.197	1	0.00
257	0.00			Mind	1004	934	935	932	0.197	1	0.00	374	0.00			Mind	299	302	301		0.197	1	0.00
258	0.00			Mind	208	441	937	929	0.197	1	0.00	375	-180.00			Mind	303	301	302		0.197	1	0.00
259	0.00			Mind	210	933	939	938	0.197	1	0.00	376	0.00			Mind	302	105	303		0.197	1	0.00
260	0.00			Mind	212	936	941	940	0.197	1	0.00	377	0.00			Mind	300	301	84		0.197	1	0.00
261	0.00			Mind	1002	943	944	445	0.197	1	0.00	378	180.00			Mind	304	84	301		0.197	1	0.00
262	0.00			Mind	1003	947	948	945	0.197	1	0.00	379	0.00			Mind	301	303	304		0.197	1	0.00
263	0.00			Mind	213	446	950	942	0.197	1	0.00	380	0.00			Mind	84	304	106		0.197	1	0.00
264	0.00			Mind	217	946	952	951	0.197	1	0.00	381	180.00			Mind	307	306	305		0.197	1	0.00
265	0.00			Mind	219	949	954	953	0.197	1	0.00	382	0.00			Mind	305	178	307		0.197	1	0.00
266	0.00			Mind	1005	956	957	450	0.197	1	0.00	383	-180.00			Mind	308	307	178		0.197	1	0.00
267	0.00			Mind	1007	960	961	958	0.197	1	0.00	384	0.00			Mind	178	107	308		0.197	1	0.00
268	0.00			Mind	220	451	963	955	0.197	1	0.00	385	0.00			Mind	306	307	309		0.197	1	0.00
269	0.00			Mind	222	959	965	964	0.197	1	0.00	386	-180.00			Mind	310	309	307		0.197	1	0.00
270	0.00			Mind	224	962	967	966	0.197	1	0.00	387	0.00			Mind	307	308	310		0.197	1	0.00
271	0.00			Mind	41	122	463		0.197	1	0.00	388	0.00			Mind	309	310	108		0.197	1	0.00
272	0.00			Mind	38	37	42		0.197	1	0.00	389	-180.00			Mind	313	312	311		0.197	1	0.00
273	0.00			Mind	40	42	52		0.197	1	0.00	390	0.00			Mind	311	314	313		0.197	1	0.00
274	180.00			Mind	110	46	44		0.197	1	0.00	391	180.00			Mind	315	313	314		0.197	1	0.00
275	0.00			Mind	44	39	110		0.197	1	0.00	392	0.00			Mind	314	109	315		0.197	1	0.00
276	0.00			Mind	46	110	85		0.197	1	0.00	393	0.00			Mind	312	313	316		0.197	1	0.00
277	180.00			Mind	146	134	122		0.197	1	0.00	394	-180.00			Mind	317	316	313		0.197	1	0.00
278	0.00			Mind	122	41	146		0.197	1	0.00	395	0.00			Mind	313	315	317		0.197	1	0.00
279	0.00			Mind	134	146	78		0.197	1	0.00	396	0.00			Mind	316	317	94		0.197	1	0.00
280	180.00			Mind	229	228	158		0.197	1	0.00	397	-180.00			Mind	320	319	318		0.197	1	0.00
281	0.00			Mind	158	43	229		0.197	1	0.00	398	0.00			Mind	318	111	320		0.197	1	0.00
282	0.00			Mind	228	229	71		0.197	1	0.00	399	0.00			Mind	319	320	112		0.197	1	0.00
283	180.00			Mind	232	231	230		0.197	1	0.00	400	-180.00			Mind	323	322	321		0.197	1	0.00
284	0.00			Mind	230	45	232		0.197	1	0.00	401	0.00			Mind	321	324	323		0.197	1	0.00
285	0.00			Mind	231	232	64		0.197	1	0.00	402	180.00			Mind	325	323	324		0.197	1	0.00
286	-180.00			Mind	235	234	233		0.197	1	0.00	403	0.00			Mind	324	118	325		0.197	1	0.00
287	0.00			Mind	233	47	235		0.197	1	0.00	404	0.00			Mind	322	323	116		0.197	1	0.00
288	0.00			Mind	234	235	48		0.197	1	0.00	405	180.00			Mind	326	116	323		0.197	1	0.00
289	-180.00			Mind	238	237	236		0.197	1	0.00	406	0.00			Mind	323	325	326		0.197	1	0.00
290	0.00			Mind	236	53	238		0.197	1	0.00	407	0.00			Mind	116	326	119		0.197	1	0.00
291	180.00			Mind	239	238	53		0.197	1	0.00	408	-180.00			Mind	328	321	327		0.197	1	0.00
292	0.00			Mind	53	54	239		0.197	1	0.00	409	0.00			Mind	327	190	328		0.197	1	

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Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset	Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset	
459	-180.00			Mind	366	140	363		0.197	1	0.00	576	0.00			Mind	479	480	43		0.197	1	0.00	
460	0.00			Mind	363	365	366		0.197	1	0.00	577	-180.00			Mind	158	256	472		0.197	1	0.00	
461	0.00			Mind	140	366	143		0.197	1	0.00	578	0.00			Mind	472	43	158		0.197	1	0.00	
462	180.00			Mind	368	361	367		0.197	1	0.00	579	0.00			Mind	256	158	1		0.197	1	0.00	
463	0.00			Mind	367	214	368		0.197	1	0.00	580	180.00			Mind	488	45	483		0.197	1	0.00	
464	-180.00			Mind	369	368	214		0.197	1	0.00	581	180.00			Mind	229	482	484		0.197	1	0.00	
465	0.00			Mind	214	144	369		0.197	1	0.00	582	180.00			Mind	482	483	67		0.197	1	0.00	
466	0.00			Mind	361	368	364		0.197	1	0.00	583	-180.00			Mind	486	485	480		0.197	1	0.00	
467	180.00			Mind	370	364	368		0.197	1	0.00	584	0.00			Mind	480	478	486		0.197	1	0.00	
468	0.00			Mind	368	369	370		0.197	1	0.00	585	180.00			Mind	487	486	478		0.197	1	0.00	
469	0.00			Mind	364	370	142		0.197	1	0.00	586	0.00			Mind	478	4	487		0.197	1	0.00	
470	-180.00			Mind	373	372	371		0.197	1	0.00	587	0.00			Mind	485	486	488		0.197	1	0.00	
471	0.00			Mind	371	374	373		0.197	1	0.00	588	180.00			Mind	489	488	486		0.197	1	0.00	
472	-180.00			Mind	375	373	374		0.197	1	0.00	589	0.00			Mind	486	487	489		0.197	1	0.00	
473	0.00			Mind	374	145	375		0.197	1	0.00	590	0.00			Mind	488	489	45		0.197	1	0.00	
474	0.00			Mind	372	373	376		0.197	1	0.00	591	180.00			Mind	230	253	483		0.197	1	0.00	
475	180.00			Mind	377	376	373		0.197	1	0.00	592	0.00			Mind	483	45	230		0.197	1	0.00	
476	0.00			Mind	373	375	377		0.197	1	0.00	593	0.00			Mind	253	230	13		0.197	1	0.00	
477	0.00			Mind	376	377	89		0.197	1	0.00	594	180.00			Mind	496	37	492		0.197	1	0.00	
478	-180.00			Mind	380	379	378		0.197	1	0.00	595	180.00			Mind	232	491	493		0.197	1	0.00	
479	0.00			Mind	378	147	380		0.197	1	0.00	596	180.00			Mind	491	492	60		0.197	1	0.00	
480	0.00			Mind	379	380	148		0.197	1	0.00	597	-180.00			Mind	495	494	489		0.197	1	0.00	
481	-180.00			Mind	382	381	379		0.197	1	0.00	598	0.00			Mind	489	487	495		0.197	1	0.00	
482	0.00			Mind	379	148	382		0.197	1	0.00	599	180.00			Mind	459	495	487		0.197	1	0.00	
483	-180.00			Mind	383	382	148		0.197	1	0.00	600	0.00			Mind	487	4	459		0.197	1	0.00	
484	0.00			Mind	148	154	383		0.197	1	0.00	601	0.00			Mind	494	495	496		0.197	1	0.00	
485	0.00			Mind	381	382	384		0.197	1	0.00	602	180.00			Mind	456	496	495		0.197	1	0.00	
486	180.00			Mind	385	384	382		0.197	1	0.00	603	0.00			Mind	495	459	456		0.197	1	0.00	
487	0.00			Mind	382	383	385		0.197	1	0.00	604	0.00			Mind	496	456	37		0.197	1	0.00	
488	0.00			Mind	384	385	56		0.197	1	0.00	605	180.00			Mind	38	250	492		0.197	1	0.00	
489	180.00			Mind	388	387	386		0.197	1	0.00	606	0.00			Mind	492	37	38		0.197	1	0.00	
490	0.00			Mind	386	389	388		0.197	1	0.00	607	0.00			Mind	250	38	10		0.197	1	0.00	
491	180.00			Mind	390	388	389		0.197	1	0.00	608	0.00			Mind	235	498	497		0.197	1	0.00	
492	0.00			Mind	389	155	390		0.197	1	0.00	609	180.00			Mind	497	48	235		0.197	1	0.00	
493	0.00			Mind	387	388	391		0.197	1	0.00	610	180.00			Mind	498	235	47		0.197	1	0.00	
494	-180.00			Mind	392	391	388		0.197	1	0.00	611	-180.00			Mind	499	498	88		0.197	1	0.00	
495	0.00			Mind	388	390	392		0.197	1	0.00	612	0.00			Mind	88	50	499		0.197	1	0.00	
496	0.00			Mind	391	392	156		0.197	1	0.00	613	0.00			Mind	498	499	49		0.197	1	0.00	
497	180.00			Mind	395	394	393		0.197	1	0.00	614	0.00			Mind	499	501	500		0.197	1	0.00	
498	0.00			Mind	393	160	395		0.197	1	0.00	615	-180.00			Mind	500	49	499		0.197	1	0.00	
499	0.00			Mind	394	395	156		0.197	1	0.00	616	-180.00			Mind	501	499	50		0.197	1	0.00	
500	180.00			Mind	397	393	396		0.197	1	0.00	617	-180.00			Mind	503	501	502		0.197	1	0.00	
501	0.00			Mind	396	159	397		0.197	1	0.00	618	0.00			Mind	502	9	503		0.197	1	0.00	
502	0.00			Mind	393	397	160		0.197	1	0.00	619	0.00			Mind	501	503	51		0.197	1	0.00	
503	-180.00			Mind	399	266	398		0.197	1	0.00	620	-180.00			Mind	504	455	497		0.197	1	0.00	
504	0.00			Mind	398	165	399		0.197	1	0.00	621	0.00			Mind	497	49	504		0.197	1	0.00	
505	180.00			Mind	400	399	165		0.197	1	0.00	622	0.00			Mind	455	504	52		0.197	1	0.00	
506	0.00			Mind	165	166	400		0.197	1	0.00	623	0.00			Mind	504	506	505		0.197	1	0.00	
507	0.00			Mind	266	399	269		0.197	1	0.00	624	180.00			Mind	505	52	504		0.197	1	0.00	
508	-180.00			Mind	401	269	399		0.197	1	0.00	625	180.00			Mind	506	504	49		0.197	1	0.00	
509	0.00			Mind	399	400	401		0.197	1	0.00	626	-180.00			Mind	54	506	500		0.197	1	0.00	
510	0.00			Mind	269	401	90		0.197	1	0.00	627	0.00			Mind	500	51	54		0.197	1	0.00	
511	0.00			Mind	402	1010	405	403		0.197	1	0.00	628	0.00			Mind	506	54	53		0.197	1	0.00
512	0.00			Mind	404	403	406	169		0.197	1	0.00	629	-180.00			Mind	236	40	505		0.197	1	0.00
513	0.00			Mind	403	405	168	406		0.197	1	0.00	630	0.00			Mind	505	53	236		0.197	1	0.00
514	0.00			Mind	407	1016	410	408		0.197	1	0.00	631	0.00			Mind	40	236	10		0.197	1	0.00
515	0.00			Mind	409	408	411	172		0.197	1	0.00	632	0.00			Mind	509	508	507		0.197	1	0.00
516	0.00			Mind	408	410	174	411		0.197	1	0.00	633	180.00			Mind	507	510	509		0.197	1	0.00
517	0.00			Mind	412	1022	415	413		0.197	1	0.00	634	0.00			Mind	241	509	510		0.197	1	0.00
518	0.00			Mind	414	413	416	177		0.197	1	0.00	635	180.00			Mind	510	55	241		0.197	1	0.00
519	0.00			Mind	413	415	181	416		0.197	1	0.00	636	180.00			Mind	508	509	511		0.197	1	0.00
520	0.00			Mind	417	1028	420	418		0.197	1	0.00	637	0.00			Mind	239	511	509		0.197	1	0.00
521	0.00			Mind	419	418	421	184		0.197	1	0.00	638	180.00			Mind	509	241	239		0.197	1	0.00
522	0.00			Mind	418	420	186	421		0.197	1	0.00	639	180.00			Mind	511	239	54		0.197	1	0.00
523	0.00			Mind	422	1025	425	423		0.197	1	0.00	640	180.00			Mind	512	511	51		0.197	1	0.00
524	0.00			Mind	424	423	426	189		0.197	1	0.00	641	0.00			Mind	51	503	512		0.197	1	0.00
525	0.00			Mind	423	425	193	426		0.197	1	0.00	642	180.00			Mind	381	512	503		0.197	1	0.00
526	0.00			Mind	427	1019	430	428		0.197	1	0.00	643	0.00			Mind	503						

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Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset	Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset
693	0.00			Mind	526	61	531		0.197	1	0.00	810	180.00			Mind	584	582	583		0.197	1	0.00
694	0.00			Mind	493	531	64		0.197	1	0.00	811	0.00			Mind	583	14	584		0.197	1	0.00
695	0.00			Mind	531	533	532		0.197	1	0.00	812	0.00			Mind	580	582	577		0.197	1	0.00
696	180.00			Mind	532	64	531		0.197	1	0.00	813	-180.00			Mind	585	577	582		0.197	1	0.00
697	180.00			Mind	533	531	61		0.197	1	0.00	814	0.00			Mind	582	584	585		0.197	1	0.00
698	-180.00			Mind	91	533	529		0.197	1	0.00	815	0.00			Mind	577	585	92		0.197	1	0.00
699	0.00			Mind	529	63	91		0.197	1	0.00	816	-180.00			Mind	586	65	579		0.197	1	0.00
700	0.00			Mind	533	91	65		0.197	1	0.00	817	0.00			Mind	579	576	586		0.197	1	0.00
701	-180.00			Mind	534	231	532		0.197	1	0.00	818	180.00			Mind	274	586	576		0.197	1	0.00
702	0.00			Mind	532	65	534		0.197	1	0.00	819	0.00			Mind	576	92	274		0.197	1	0.00
703	0.00			Mind	231	534	13		0.197	1	0.00	820	0.00			Mind	65	586	534		0.197	1	0.00
704	0.00			Mind	534	536	535		0.197	1	0.00	821	180.00			Mind	272	534	586		0.197	1	0.00
705	180.00			Mind	535	67	254		0.197	1	0.00	822	0.00			Mind	586	274	272		0.197	1	0.00
706	-180.00			Mind	536	254	66		0.197	1	0.00	823	0.00			Mind	534	272	13		0.197	1	0.00
707	0.00			Mind	537	536	93		0.197	1	0.00	824	0.00			Mind	589	588	587		0.197	1	0.00
708	0.00			Mind	93	69	537		0.197	1	0.00	825	-180.00			Mind	587	590	589		0.197	1	0.00
709	0.00			Mind	536	537	68		0.197	1	0.00	826	0.00			Mind	276	589	590		0.197	1	0.00
710	0.00			Mind	537	539	538		0.197	1	0.00	827	-180.00			Mind	590	93	276		0.197	1	0.00
711	-180.00			Mind	538	68	537		0.197	1	0.00	828	-180.00			Mind	588	589	591		0.197	1	0.00
712	-180.00			Mind	539	537	69		0.197	1	0.00	829	0.00			Mind	275	591	589		0.197	1	0.00
713	180.00			Mind	278	539	540		0.197	1	0.00	830	-180.00			Mind	589	276	275		0.197	1	0.00
714	0.00			Mind	540	15	278		0.197	1	0.00	831	-180.00			Mind	591	275	92		0.197	1	0.00
715	0.00			Mind	539	278	70		0.197	1	0.00	832	180.00			Mind	592	591	585		0.197	1	0.00
716	-180.00			Mind	541	484	535		0.197	1	0.00	833	0.00			Mind	585	584	592		0.197	1	0.00
717	0.00			Mind	535	68	541		0.197	1	0.00	834	-180.00			Mind	312	592	584		0.197	1	0.00
718	0.00			Mind	484	541	71		0.197	1	0.00	835	0.00			Mind	584	14	312		0.197	1	0.00
719	0.00			Mind	541	543	542		0.197	1	0.00	836	0.00			Mind	591	592	588		0.197	1	0.00
720	180.00			Mind	542	71	541		0.197	1	0.00	837	180.00			Mind	316	588	592		0.197	1	0.00
721	180.00			Mind	543	541	68		0.197	1	0.00	838	0.00			Mind	592	312	316		0.197	1	0.00
722	-180.00			Mind	96	543	538		0.197	1	0.00	839	0.00			Mind	588	316	94		0.197	1	0.00
723	0.00			Mind	538	70	96		0.197	1	0.00	840	-180.00			Mind	593	69	590		0.197	1	0.00
724	0.00			Mind	543	96	72		0.197	1	0.00	841	0.00			Mind	590	587	593		0.197	1	0.00
725	-180.00			Mind	544	228	542		0.197	1	0.00	842	180.00			Mind	594	593	587		0.197	1	0.00
726	0.00			Mind	542	72	544		0.197	1	0.00	843	0.00			Mind	587	94	594		0.197	1	0.00
727	0.00			Mind	228	544	1		0.197	1	0.00	844	0.00			Mind	599	593	540		0.197	1	0.00
728	0.00			Mind	257	546	545		0.197	1	0.00	845	180.00			Mind	595	540	593		0.197	1	0.00
729	-180.00			Mind	545	74	257		0.197	1	0.00	846	0.00			Mind	593	594	595		0.197	1	0.00
730	-180.00			Mind	546	257	73		0.197	1	0.00	847	0.00			Mind	540	595	15		0.197	1	0.00
731	-180.00			Mind	547	546	98		0.197	1	0.00	848	0.00			Mind	598	597	596		0.197	1	0.00
732	0.00			Mind	98	76	547		0.197	1	0.00	849	-180.00			Mind	596	599	598		0.197	1	0.00
733	0.00			Mind	546	547	75		0.197	1	0.00	850	0.00			Mind	282	598	599		0.197	1	0.00
734	0.00			Mind	547	549	548		0.197	1	0.00	851	-180.00			Mind	599	96	282		0.197	1	0.00
735	180.00			Mind	548	75	547		0.197	1	0.00	852	-180.00			Mind	597	598	600		0.197	1	0.00
736	180.00			Mind	549	547	76		0.197	1	0.00	853	0.00			Mind	281	600	598		0.197	1	0.00
737	180.00			Mind	289	549	550		0.197	1	0.00	854	-180.00			Mind	598	282	281		0.197	1	0.00
738	0.00			Mind	550	2	289		0.197	1	0.00	855	-180.00			Mind	600	281	95		0.197	1	0.00
739	0.00			Mind	549	289	77		0.197	1	0.00	856	180.00			Mind	602	600	601		0.197	1	0.00
740	-180.00			Mind	551	475	545		0.197	1	0.00	857	0.00			Mind	601	603	602		0.197	1	0.00
741	0.00			Mind	545	75	551		0.197	1	0.00	858	180.00			Mind	604	602	603		0.197	1	0.00
742	0.00			Mind	475	551	78		0.197	1	0.00	859	0.00			Mind	603	16	604		0.197	1	0.00
743	0.00			Mind	551	553	552		0.197	1	0.00	860	0.00			Mind	600	602	597		0.197	1	0.00
744	180.00			Mind	552	78	551		0.197	1	0.00	861	-180.00			Mind	605	597	607		0.197	1	0.00
745	180.00			Mind	553	551	75		0.197	1	0.00	862	0.00			Mind	602	604	605		0.197	1	0.00
746	-180.00			Mind	101	553	548		0.197	1	0.00	863	0.00			Mind	597	605	97		0.197	1	0.00
747	0.00			Mind	548	77	101		0.197	1	0.00	864	-180.00			Mind	606	72	599		0.197	1	0.00
748	0.00			Mind	553	101	79		0.197	1	0.00	865	0.00			Mind	599	596	606		0.197	1	0.00
749	-180.00			Mind	554	134	552		0.197	1	0.00	866	-180.00			Mind	285	606	596		0.197	1	0.00
750	0.00			Mind	552	79	554		0.197	1	0.00	867	0.00			Mind	596	97	285		0.197	1	0.00
751	0.00			Mind	134	554	3		0.197	1	0.00	868	0.00			Mind	72	606	544		0.197	1	0.00
752	0.00			Mind	260	556	555		0.197	1	0.00	869	180.00			Mind	283	544	606		0.197	1	0.00
753	180.00			Mind	555	81	260		0.197	1	0.00	870	0.00			Mind	606	285	283		0.197	1	0.00
754	180.00			Mind	556	260	80		0.197	1	0.00	871	0.00			Mind	544	283	1		0.197	1	0.00
755	-180.00			Mind	557	556	103		0.197	1	0.00	872	0.00			Mind	609	608	607		0.197	1	0.00
756	0.00			Mind	103	83	557		0.197	1	0.00	873	-180.00			Mind	607	610	609		0.197	1	0.00
757	0.00			Mind	556	557	82		0.197	1	0.00	874	0.00			Mind	287	609	610		0.197	1	0.00
758	0.00			Mind	557	559	558		0.197	1	0.00	875	-180.00			Mind	610	98	287		0.197	1	0.00
759	-180.00			Mind	558	82	557		0.197	1	0.00	876	-180.00			Mind	608	609	611		0.197	1	0.00
760	-180.00			Mind	559	557	83		0.197	1	0.00	877	0.00			Mind	286	611	609		0.197	1	0.00
761	-180.00			Mind	300	559	560		0.197	1	0.00	878	-180.00			Mind	609	287	286		0.197	1	0.00

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Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset	Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset
927	-180.00			Mind	631	297	102		0.197	1	0.00	1044	0.00			Mind	676	95	280		0.197	1	0.00
928	-180.00			Mind	632	631	625		0.197	1	0.00	1045	0.00			Mind	112	684	319		0.197	1	0.00
929	0.00			Mind	625	624	632		0.197	1	0.00	1046	180.00			Mind	277	319	684		0.197	1	0.00
930	180.00			Mind	352	632	624		0.197	1	0.00	1047	0.00			Mind	684	280	277		0.197	1	0.00
931	0.00			Mind	624	5	352		0.197	1	0.00	1048	0.00			Mind	319	277	15		0.197	1	0.00
932	0.00			Mind	631	632	628		0.197	1	0.00	1049	0.00			Mind	687	686	685		0.197	1	0.00
933	-180.00			Mind	356	628	632		0.197	1	0.00	1050	-180.00			Mind	685	688	687		0.197	1	0.00
934	0.00			Mind	632	352	356		0.197	1	0.00	1051	0.00			Mind	330	687	688		0.197	1	0.00
935	0.00			Mind	628	356	104		0.197	1	0.00	1052	-180.00			Mind	688	118	330		0.197	1	0.00
936	-180.00			Mind	633	83	630		0.197	1	0.00	1053	-180.00			Mind	686	687	689		0.197	1	0.00
937	0.00			Mind	630	627	633		0.197	1	0.00	1054	0.00			Mind	329	689	687		0.197	1	0.00
938	-180.00			Mind	634	633	627		0.197	1	0.00	1055	-180.00			Mind	687	330	329		0.197	1	0.00
939	0.00			Mind	627	104	634		0.197	1	0.00	1056	-180.00			Mind	689	329	120		0.197	1	0.00
940	0.00			Mind	83	633	560		0.197	1	0.00	1057	-180.00			Mind	690	689	191		0.197	1	0.00
941	180.00			Mind	635	560	633		0.197	1	0.00	1058	0.00			Mind	191	691	690		0.197	1	0.00
942	0.00			Mind	633	634	635		0.197	1	0.00	1059	-180.00			Mind	692	690	691		0.197	1	0.00
943	0.00			Mind	560	635	6		0.197	1	0.00	1060	0.00			Mind	691	18	692		0.197	1	0.00
944	0.00			Mind	638	637	636		0.197	1	0.00	1061	0.00			Mind	689	690	686		0.197	1	0.00
945	180.00			Mind	636	639	638		0.197	1	0.00	1062	-180.00			Mind	693	686	690		0.197	1	0.00
946	0.00			Mind	304	638	639		0.197	1	0.00	1063	0.00			Mind	690	692	693		0.197	1	0.00
947	180.00			Mind	639	106	304		0.197	1	0.00	1064	0.00			Mind	686	693	121		0.197	1	0.00
948	180.00			Mind	637	638	640		0.197	1	0.00	1065	-180.00			Mind	694	681	688		0.197	1	0.00
949	0.00			Mind	303	640	638		0.197	1	0.00	1066	0.00			Mind	688	685	694		0.197	1	0.00
950	180.00			Mind	638	304	303		0.197	1	0.00	1067	-180.00			Mind	334	694	685		0.197	1	0.00
951	180.00			Mind	640	303	105		0.197	1	0.00	1068	0.00			Mind	685	121	334		0.197	1	0.00
952	180.00			Mind	642	640	641		0.197	1	0.00	1069	0.00			Mind	681	694	683		0.197	1	0.00
953	0.00			Mind	641	643	642		0.197	1	0.00	1070	-180.00			Mind	331	683	694		0.197	1	0.00
954	-180.00			Mind	572	642	643		0.197	1	0.00	1071	0.00			Mind	694	334	331		0.197	1	0.00
955	0.00			Mind	643	8	572		0.197	1	0.00	1072	0.00			Mind	683	331	16		0.197	1	0.00
956	0.00			Mind	640	642	637		0.197	1	0.00	1073	180.00			Mind	695	99	337		0.197	1	0.00
957	180.00			Mind	570	637	642		0.197	1	0.00	1074	167.13			Mind	697	696	699		0.197	1	0.00
958	0.00			Mind	642	572	570		0.197	1	0.00	1075	167.13			Mind	699	335	121		0.197	1	0.00
959	0.00			Mind	637	570	87		0.197	1	0.00	1076	-180.00			Mind	701	699	700		0.197	1	0.00
960	180.00			Mind	644	86	639		0.197	1	0.00	1077	0.00			Mind	700	18	701		0.197	1	0.00
961	0.00			Mind	639	636	644		0.197	1	0.00	1078	0.00			Mind	699	701	126		0.197	1	0.00
962	180.00			Mind	263	644	636		0.197	1	0.00	1079	180.00			Mind	338	702	695		0.197	1	0.00
963	0.00			Mind	636	87	263		0.197	1	0.00	1080	0.00			Mind	695	123	338		0.197	1	0.00
964	0.00			Mind	86	644	564		0.197	1	0.00	1081	0.00			Mind	702	338	2		0.197	1	0.00
965	180.00			Mind	261	564	644		0.197	1	0.00	1082	0.00			Mind	340	704	703		0.197	1	0.00
966	0.00			Mind	644	263	261		0.197	1	0.00	1083	180.00			Mind	703	124	340		0.197	1	0.00
967	0.00			Mind	564	261	7		0.197	1	0.00	1084	180.00			Mind	704	340	123		0.197	1	0.00
968	0.00			Mind	647	646	645		0.197	1	0.00	1085	180.00			Mind	705	704	697		0.197	1	0.00
969	180.00			Mind	645	648	647		0.197	1	0.00	1086	0.00			Mind	697	126	705		0.197	1	0.00
970	0.00			Mind	310	647	648		0.197	1	0.00	1087	0.00			Mind	704	705	125		0.197	1	0.00
971	180.00			Mind	648	108	310		0.197	1	0.00	1088	0.00			Mind	705	707	706		0.197	1	0.00
972	180.00			Mind	646	647	649		0.197	1	0.00	1089	-180.00			Mind	706	125	705		0.197	1	0.00
973	0.00			Mind	308	649	647		0.197	1	0.00	1090	-180.00			Mind	707	705	126		0.197	1	0.00
974	180.00			Mind	647	310	308		0.197	1	0.00	1091	180.00			Mind	708	707	701		0.197	1	0.00
975	180.00			Mind	649	308	107		0.197	1	0.00	1092	0.00			Mind	701	18	708		0.197	1	0.00
976	-180.00			Mind	650	649	179		0.197	1	0.00	1093	0.00			Mind	707	708	127		0.197	1	0.00
977	0.00			Mind	179	651	650		0.197	1	0.00	1094	180.00			Mind	709	131	703		0.197	1	0.00
978	-180.00			Mind	652	650	651		0.197	1	0.00	1095	0.00			Mind	703	125	709		0.197	1	0.00
979	0.00			Mind	651	26	652		0.197	1	0.00	1096	0.00			Mind	131	709	128		0.197	1	0.00
980	0.00			Mind	649	650	646		0.197	1	0.00	1097	0.00			Mind	709	711	710		0.197	1	0.00
981	180.00			Mind	653	646	650		0.197	1	0.00	1098	180.00			Mind	710	128	709		0.197	1	0.00
982	0.00			Mind	650	652	653		0.197	1	0.00	1099	180.00			Mind	711	709	125		0.197	1	0.00
983	0.00			Mind	646	653	109		0.197	1	0.00	1100	180.00			Mind	712	711	706		0.197	1	0.00
984	-180.00			Mind	655	654	648		0.197	1	0.00	1101	0.00			Mind	706	127	712		0.197	1	0.00
985	0.00			Mind	648	645	655		0.197	1	0.00	1102	0.00			Mind	711	712	129		0.197	1	0.00
986	180.00			Mind	314	655	645		0.197	1	0.00	1103	180.00			Mind	713	342	710		0.197	1	0.00
987	0.00			Mind	645	109	314		0.197	1	0.00	1104	0.00			Mind	710	129	713		0.197	1	0.00
988	0.00			Mind	654	655	656		0.197	1	0.00	1105	0.00			Mind	342	713	17		0.197	1	0.00
989	180.00			Mind	311	656	655		0.197	1	0.00	1106	0.00			Mind	716	715	714		0.197	1	0.00
990	0.00			Mind	655	314	311		0.197	1	0.00	1107	-180.00			Mind	714	717	716		0.197	1	0.00
991	0.00			Mind	656	311	14		0.197	1	0.00	1108	0.00			Mind	346	716	717		0.197	1	0.00
992	180.00			Mind	657	94	317		0.197	1	0.00	1109	-180.00			Mind	717	131	346		0.197	1	0.00
993	167.13			Mind	659	658	661		0.197	1	0.00	1110	-180.00			Mind	715	716	718		0.197	1	0.00
994	167.13			Mind	658	317	315		0.197	1	0.00	1111	0.00			Mind	345	718	716		0.197	1	0.00
995	180.00			Mind	663	661																	

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Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset	Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset
1161	0.00			Mind	733	135	358		0.197	1	0.00	1278	-180.00			Mind	797	796	789		0.197	1	0.00
1162	0.00			Mind	740	358	6		0.197	1	0.00	1279	0.00			Mind	789	21	797		0.197	1	0.00
1163	0.00			Mind	360	742	741		0.197	1	0.00	1280	0.00			Mind	795	796	792		0.197	1	0.00
1164	180.00			Mind	741	136	360		0.197	1	0.00	1281	180.00			Mind	798	792	796		0.197	1	0.00
1165	180.00			Mind	742	360	135		0.197	1	0.00	1282	0.00			Mind	796	797	798		0.197	1	0.00
1166	-180.00			Mind	743	742	735		0.197	1	0.00	1283	0.00			Mind	792	798	155		0.197	1	0.00
1167	0.00			Mind	735	138	743		0.197	1	0.00	1284	-180.00			Mind	799	514	794		0.197	1	0.00
1168	0.00			Mind	742	743	137		0.197	1	0.00	1285	0.00			Mind	794	791	799		0.197	1	0.00
1169	0.00			Mind	743	745	744		0.197	1	0.00	1286	-180.00			Mind	389	799	791		0.197	1	0.00
1170	-180.00			Mind	744	137	743		0.197	1	0.00	1287	0.00			Mind	791	155	389		0.197	1	0.00
1171	-180.00			Mind	745	743	138		0.197	1	0.00	1288	0.00			Mind	514	799	515		0.197	1	0.00
1172	-180.00			Mind	746	745	739		0.197	1	0.00	1289	180.00			Mind	386	515	799		0.197	1	0.00
1173	0.00			Mind	739	20	746		0.197	1	0.00	1290	0.00			Mind	799	389	386		0.197	1	0.00
1174	0.00			Mind	745	746	139		0.197	1	0.00	1291	0.00			Mind	515	386	11		0.197	1	0.00
1175	-180.00			Mind	747	143	741		0.197	1	0.00	1292	0.00			Mind	802	801	800		0.197	1	0.00
1176	0.00			Mind	741	137	747		0.197	1	0.00	1293	180.00			Mind	800	803	802		0.197	1	0.00
1177	0.00			Mind	143	747	140		0.197	1	0.00	1294	0.00			Mind	392	802	803		0.197	1	0.00
1178	0.00			Mind	747	749	748		0.197	1	0.00	1295	180.00			Mind	803	156	392		0.197	1	0.00
1179	-180.00			Mind	748	140	747		0.197	1	0.00	1296	180.00			Mind	801	802	804		0.197	1	0.00
1180	-180.00			Mind	749	747	137		0.197	1	0.00	1297	0.00			Mind	390	804	802		0.197	1	0.00
1181	-180.00			Mind	750	749	744		0.197	1	0.00	1298	180.00			Mind	802	392	390		0.197	1	0.00
1182	0.00			Mind	744	139	750		0.197	1	0.00	1299	180.00			Mind	804	390	155		0.197	1	0.00
1183	0.00			Mind	749	750	141		0.197	1	0.00	1300	-180.00			Mind	805	804	798		0.197	1	0.00
1184	180.00			Mind	751	362	748		0.197	1	0.00	1301	0.00			Mind	798	797	805		0.197	1	0.00
1185	0.00			Mind	748	141	751		0.197	1	0.00	1302	180.00			Mind	806	805	797		0.197	1	0.00
1186	0.00			Mind	362	751	19		0.197	1	0.00	1303	0.00			Mind	797	21	806		0.197	1	0.00
1187	0.00			Mind	754	753	752		0.197	1	0.00	1304	0.00			Mind	804	805	801		0.197	1	0.00
1188	180.00			Mind	752	755	754		0.197	1	0.00	1305	-180.00			Mind	225	801	805		0.197	1	0.00
1189	0.00			Mind	366	754	755		0.197	1	0.00	1306	0.00			Mind	805	806	225		0.197	1	0.00
1190	180.00			Mind	755	143	366		0.197	1	0.00	1307	0.00			Mind	801	225	157		0.197	1	0.00
1191	180.00			Mind	753	754	756		0.197	1	0.00	1308	-180.00			Mind	808	807	803		0.197	1	0.00
1192	0.00			Mind	365	756	754		0.197	1	0.00	1309	0.00			Mind	803	800	808		0.197	1	0.00
1193	180.00			Mind	754	366	365		0.197	1	0.00	1310	180.00			Mind	226	808	800		0.197	1	0.00
1194	180.00			Mind	756	365	142		0.197	1	0.00	1311	0.00			Mind	800	157	226		0.197	1	0.00
1195	-180.00			Mind	758	756	757		0.197	1	0.00	1312	0.00			Mind	807	808	809		0.197	1	0.00
1196	0.00			Mind	757	759	758		0.197	1	0.00	1313	180.00			Mind	810	809	808		0.197	1	0.00
1197	180.00			Mind	643	758	759		0.197	1	0.00	1314	0.00			Mind	808	226	810		0.197	1	0.00
1198	0.00			Mind	759	8	643		0.197	1	0.00	1315	0.00			Mind	809	810	24		0.197	1	0.00
1199	0.00			Mind	756	758	753		0.197	1	0.00	1316	180.00			Mind	817	156	395		0.197	1	0.00
1200	180.00			Mind	641	753	758		0.197	1	0.00	1317	-180.00			Mind	813	812	814		0.197	1	0.00
1201	0.00			Mind	758	643	641		0.197	1	0.00	1318	180.00			Mind	812	395	160		0.197	1	0.00
1202	0.00			Mind	753	641	105		0.197	1	0.00	1319	180.00			Mind	816	813	815		0.197	1	0.00
1203	180.00			Mind	760	136	755		0.197	1	0.00	1320	0.00			Mind	815	12	816		0.197	1	0.00
1204	0.00			Mind	755	752	760		0.197	1	0.00	1321	0.00			Mind	813	816	57		0.197	1	0.00
1205	-180.00			Mind	302	760	752		0.197	1	0.00	1322	180.00			Mind	818	391	817		0.197	1	0.00
1206	0.00			Mind	752	105	302		0.197	1	0.00	1323	0.00			Mind	817	819	818		0.197	1	0.00
1207	0.00			Mind	136	760	359		0.197	1	0.00	1324	180.00			Mind	245	818	819		0.197	1	0.00
1208	180.00			Mind	299	359	760		0.197	1	0.00	1325	0.00			Mind	819	57	245		0.197	1	0.00
1209	0.00			Mind	760	302	299		0.197	1	0.00	1326	0.00			Mind	391	818	387		0.197	1	0.00
1210	0.00			Mind	359	299	6		0.197	1	0.00	1327	-180.00			Mind	242	387	818		0.197	1	0.00
1211	0.00			Mind	763	762	761		0.197	1	0.00	1328	0.00			Mind	818	245	242		0.197	1	0.00
1212	-180.00			Mind	761	764	763		0.197	1	0.00	1329	0.00			Mind	387	242	11		0.197	1	0.00
1213	0.00			Mind	370	763	764		0.197	1	0.00	1330	0.00			Mind	397	821	820		0.197	1	0.00
1214	-180.00			Mind	764	142	370		0.197	1	0.00	1331	180.00			Mind	820	160	397		0.197	1	0.00
1215	-180.00			Mind	762	763	765		0.197	1	0.00	1332	180.00			Mind	821	397	159		0.197	1	0.00
1216	0.00			Mind	369	765	763		0.197	1	0.00	1333	180.00			Mind	823	821	822		0.197	1	0.00
1217	-180.00			Mind	763	370	369		0.197	1	0.00	1334	0.00			Mind	822	162	823		0.197	1	0.00
1218	-180.00			Mind	765	369	144		0.197	1	0.00	1335	0.00			Mind	821	823	161		0.197	1	0.00
1219	-180.00			Mind	766	765	215		0.197	1	0.00	1336	0.00			Mind	823	825	824		0.197	1	0.00
1220	0.00			Mind	215	767	766		0.197	1	0.00	1337	-180.00			Mind	824	161	823		0.197	1	0.00
1221	-180.00			Mind	768	766	767		0.197	1	0.00	1338	-180.00			Mind	825	823	162		0.197	1	0.00
1222	0.00			Mind	767	22	768		0.197	1	0.00	1339	-180.00			Mind	827	825	826		0.197	1	0.00
1223	0.00			Mind	765	766	762		0.197	1	0.00	1340	0.00			Mind	826	23	827		0.197	1	0.00
1224	180.00			Mind	769	762	766		0.197	1	0.00	1341	0.00			Mind	825	827	163		0.197	1	0.00
1225	0.00			Mind	766	768	769		0.197	1	0.00	1342	180.00			Mind	828	814	820		0.197	1	0.00
1226	0.00			Mind	762	769	145		0.197	1	0.00	1343	0.00			Mind	820	161	828		0.197	1	0.00
1227	-180.00			Mind	770	757	764		0.197	1	0.00	1344	0.00			Mind	814	828	164		0.197	1	0.00
1228	0.00			Mind	764	761	770		0.197	1	0.00	1345	0.00			Mind	828	830	829				

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Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset	Plate	Dir Angle	Dir Node	Dir Axis	Type	Node A	Node B	Node C	Node D	Thick	Mat	Offset
1395	0.00			Mind	853	854	176	855	0.197	1	0.00	1512	0.00			Mind	954	955	21	790	0.197	1	0.00
1396	0.00			Mind	856	1020	414	857	0.197	1	0.00	1513	0.00			Mind	956	1007	958	957	0.197	1	0.00
1397	0.00			Mind	854	857	858	176	0.197	1	0.00	1514	0.00			Mind	450	957	959	222	0.197	1	0.00
1398	0.00			Mind	857	414	177	858	0.197	1	0.00	1515	0.00			Mind	957	958	224	959	0.197	1	0.00
1399	0.00			Mind	411	174	860	859	0.197	1	0.00	1516	0.00			Mind	960	1008	404	961	0.197	1	0.00
1400	0.00			Mind	851	859	305	23	0.197	1	0.00	1517	0.00			Mind	958	961	962	224	0.197	1	0.00
1401	0.00			Mind	859	860	178	305	0.197	1	0.00	1518	0.00			Mind	961	404	169	962	0.197	1	0.00
1402	0.00			Mind	855	176	862	861	0.197	1	0.00	1519	0.00			Mind	451	222	964	963	0.197	1	0.00
1403	0.00			Mind	860	861	107	178	0.197	1	0.00	1520	0.00			Mind	955	963	806	21	0.197	1	0.00
1404	0.00			Mind	861	862	179	107	0.197	1	0.00	1521	0.00			Mind	963	964	225	806	0.197	1	0.00
1405	0.00			Mind	858	177	864	863	0.197	1	0.00	1522	0.00			Mind	959	224	966	965	0.197	1	0.00
1406	0.00			Mind	862	863	651	179	0.197	1	0.00	1523	0.00			Mind	964	965	157	225	0.197	1	0.00
1407	0.00			Mind	863	864	26	651	0.197	1	0.00	1524	0.00			Mind	965	966	226	157	0.197	1	0.00
1408	0.00			Mind	865	1024	867	866	0.197	1	0.00	1525	0.00			Mind	962	169	846	967	0.197	1	0.00
1409	0.00			Mind	415	866	183	867	0.197	1	0.00	1526	0.00			Mind	966	967	810	226	0.197	1	0.00
1410	0.00			Mind	866	867	183	868	0.197	1	0.00	1527	0.00			Mind	967	846	24	810	0.197	1	0.00
1411	0.00			Mind	869	1026	419	870	0.197	1	0.00	1528	-180.00			Mind	259	463	122		0.197	1	0.00
1412	0.00			Mind	867	870	871	183	0.197	1	0.00	1529	0.00			Mind	122	3	259		0.197	1	0.00
1413	0.00			Mind	870	419	184	871	0.197	1	0.00	1530	0.00			Mind	463	259	81		0.197	1	0.00
1414	0.00			Mind	416	181	873	872	0.197	1	0.00	1531	0.00			Mind	466	464	463		0.197	1	0.00
1415	0.00			Mind	864	872	670	26	0.197	1	0.00	1532	0.00			Mind	85	110	464		0.197	1	0.00
1416	0.00			Mind	872	873	115	670	0.197	1	0.00	1533	0.00			Mind	467	470	464		0.197	1	0.00
1417	0.00			Mind	868	183	875	874	0.197	1	0.00	1534	0.00			Mind	470	41	464		0.197	1	0.00
1418	0.00			Mind	873	874	674	115	0.197	1	0.00	1535	0.00			Mind	39	467	110		0.197	1	0.00
1419	0.00			Mind	874	875	117	674	0.197	1	0.00	1536	0.00			Mind	455	453	452		0.197	1	0.00
1420	0.00			Mind	871	184	877	876	0.197	1	0.00	1537	0.00			Mind	453	461	39		0.197	1	0.00
1421	0.00			Mind	875	876	675	117	0.197	1	0.00	1538	0.00			Mind	453	457	461		0.197	1	0.00
1422	0.00			Mind	876	877	25	675	0.197	1	0.00	1539	0.00			Mind	42	37	457		0.197	1	0.00
1423	0.00			Mind	878	1029	880	879	0.197	1	0.00	1540	0.00			Mind	52	42	453		0.197	1	0.00
1424	0.00			Mind	420	879	881	186	0.197	1	0.00	1541	0.00			Mind	60	493	491		0.197	1	0.00
1425	0.00			Mind	879	880	188	881	0.197	1	0.00	1542	0.00			Mind	493	64	232		0.197	1	0.00
1426	0.00			Mind	882	1027	424	883	0.197	1	0.00	1543	0.00			Mind	491	232	494		0.197	1	0.00
1427	0.00			Mind	880	883	884	188	0.197	1	0.00	1544	0.00			Mind	491	494	496		0.197	1	0.00
1428	0.00			Mind	883	189	884	189	0.197	1	0.00	1545	0.00			Mind	496	492	491		0.197	1	0.00
1429	0.00			Mind	421	186	886	885	0.197	1	0.00	1546	0.00			Mind	483	482	488		0.197	1	0.00
1430	0.00			Mind	877	885	327	25	0.197	1	0.00	1547	0.00			Mind	488	482	485		0.197	1	0.00
1431	0.00			Mind	885	886	190	327	0.197	1	0.00	1548	0.00			Mind	485	482	229		0.197	1	0.00
1432	0.00			Mind	881	188	888	887	0.197	1	0.00	1549	0.00			Mind	229	484	71		0.197	1	0.00
1433	0.00			Mind	886	887	120	190	0.197	1	0.00	1550	0.00			Mind	484	482	67		0.197	1	0.00
1434	0.00			Mind	887	888	191	120	0.197	1	0.00	1551	0.00			Mind	476	146	41		0.197	1	0.00
1435	0.00			Mind	884	189	890	889	0.197	1	0.00	1552	0.00			Mind	473	78	146		0.197	1	0.00
1436	0.00			Mind	888	889	691	191	0.197	1	0.00	1553	0.00			Mind	479	473	476		0.197	1	0.00
1437	0.00			Mind	889	890	18	691	0.197	1	0.00	1554	0.00			Mind	43	473	479		0.197	1	0.00
1438	0.00			Mind	891	1023	893	892	0.197	1	0.00	1555	0.00			Mind	472	475	473		0.197	1	0.00
1439	0.00			Mind	425	892	894	193	0.197	1	0.00	1556	0.00			Mind	317	658	657		0.197	1	0.00
1440	0.00			Mind	892	893	195	894	0.197	1	0.00	1557	0.00			Mind	658	659	111		0.197	1	0.00
1441	0.00			Mind	895	1021	429	896	0.197	1	0.00	1558	0.00			Mind	114	659	661		0.197	1	0.00
1442	0.00			Mind	893	896	897	195	0.197	1	0.00	1559	0.00			Mind	661	658	315		0.197	1	0.00
1443	0.00			Mind	896	429	196	897	0.197	1	0.00	1560	0.00			Mind	315	109	661		0.197	1	0.00
1444	0.00			Mind	426	193	899	898	0.197	1	0.00	1561	0.00			Mind	395	812	817		0.197	1	0.00
1445	0.00			Mind	890	898	708	18	0.197	1	0.00	1562	0.00			Mind	817	812	819		0.197	1	0.00
1446	0.00			Mind	898	899	127	708	0.197	1	0.00	1563	0.00			Mind	819	812	813		0.197	1	0.00
1447	0.00			Mind	894	195	901	900	0.197	1	0.00	1564	0.00			Mind	813	814	164		0.197	1	0.00
1448	0.00			Mind	899	900	712	127	0.197	1	0.00	1565	0.00			Mind	814	812	160		0.197	1	0.00
1449	0.00			Mind	900	901	129	712	0.197	1	0.00	1566	0.00			Mind	775	772	375		0.197	1	0.00
1450	0.00			Mind	897	196	903	902	0.197	1	0.00	1567	0.00			Mind	377	375	772		0.197	1	0.00
1451	0.00			Mind	901	902	713	129	0.197	1	0.00	1568	0.00			Mind	772	771	377		0.197	1	0.00
1452	0.00			Mind	902	903	17	713	0.197	1	0.00	1569	0.00			Mind	772	773	147		0.197	1	0.00
1453	0.00			Mind	904	1017	906	905	0.197	1	0.00	1570	0.00			Mind	775	150	773		0.197	1	0.00
1454	0.00			Mind	430	905	907	198	0.197	1	0.00	1571	0.00			Mind	355	737	734		0.197	1	0.00
1455	0.00			Mind	905	906	200	907	0.197	1	0.00	1572	0.00			Mind	734	357	355		0.197	1	0.00
1456	0.00			Mind	908	1015	434	909	0.197	1	0.00	1573	0.00			Mind	734	733	357		0.197	1	0.00
1457	0.00			Mind	906	909	910	200	0.197	1	0.00	1574	0.00			Mind	734	735	135		0.197	1	0.00
1458	0.00			Mind	909	434	201	910	0.197	1	0.00	1575	0.00			Mind	737	138	735		0.197	1	0.00
1459	0.00			Mind	431	198	912	911	0.197	1	0.00	1576	0.00			Mind	335	699	696		0.197	1	0.00
1460	0.00			Mind	903	911	347	17	0.197	1	0.00	1577	0.00			Mind	696	337	335		0.197	1	0.00
1461	0.00			Mind	911	912	202	347	0.197	1	0.00	1578	0.00			Mind	696</						

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Sect	Area of Section	Torsion Constant	Y-Axis Mom of In	Z-Axis Mom of In	Y-Axis Shr Area	Z-Axis Shr Area	Princ Angle	Node	X-Axis Force	Y-Axis Force	Z-Axis Force	X-Axis Moment	Y-Axis Moment	Z-Axis Moment
1	1.7157E+00	1.0787E+00	8.0612E-01	1.5922E+00	INFINITE	INFINITE	0.00	1004	-3.28	-4.61	60.91	0.00	0.00	0.00
2	1.7157E+00	1.0787E+00	8.0612E-01	1.5922E+00	INFINITE	INFINITE	0.00	1005	-2.66	3.53	63.49	0.00	0.00	0.00
3	1.7157E+00	1.0787E+00	8.0612E-01	1.5922E+00	INFINITE	INFINITE	0.00	1006	2.17	2.72	64.94	0.00	0.00	0.00

MATERIAL PROPERTIES (Psi,lb/in^3,strain/degF)

Matl	Material Name	Young's Modulus	Poisson's Ratio	Mass Density	Coeff of Expansion	Concrete Strength
1	Poly Prop Std	7.5000E+04	0.30	7.1000E-03	0.000E+00	

SELF WEIGHT (g's)

Load Case	X-Axis Accel'n	Y-Axis Accel'n	Z-Axis Accel'n
1	0.00	0.00	-1.00

COMBINATION LOAD CASES

Load case 10: D

1.000 * Load case 1: Dead

Load case 11: D+Lr

1.000 * Load case 1: Dead
1.000 * Load case 2: Roof Live

Load case 12: D+Wx90

1.000 * Load case 1: Dead
1.000 * Load case 3: Wind X

LOAD CASE TITLES

Load Case	Title
1	Dead
2	Roof Live
3	Wind X
4	Snow
10	D
11	D+Lr
12	D+Wx90

NODE REACTIONS (lb,lb/in)

Load case 1 (Not analysed): Dead

Load case 2 (Not analysed): Roof Live

Load case 3 (Not analysed): Wind X

Load case 10 (Non-linear): D
Non-linear effects: P-A, P-δ, 2 Iterations, 99.982% Convergence

Node	X-Axis Force	Y-Axis Force	Z-Axis Force	X-Axis Moment	Y-Axis Moment	Z-Axis Moment
1000	0.44	0.04	7.94	0.00	0.00	0.00
1001	0.39	-0.03	7.29	0.00	0.00	0.00
1002	0.00	0.27	3.82	0.00	0.00	0.00
1003	0.00	-0.22	3.93	0.00	0.00	0.00
1004	-0.10	-0.14	4.13	0.00	0.00	0.00
1005	-0.08	0.11	4.22	0.00	0.00	0.00
1006	0.06	0.08	4.27	0.00	0.00	0.00
1007	0.10	-0.14	4.10	0.00	0.00	0.00
1008	0.16	0.36	7.33	0.00	0.00	0.00
1009	0.17	-0.43	8.01	0.00	0.00	0.00
1010	-0.27	0.08	3.85	0.00	0.00	0.00
1011	-0.19	-0.06	3.94	0.00	0.00	0.00
1012	0.20	-0.06	3.95	0.00	0.00	0.00
1013	0.28	0.09	3.83	0.00	0.00	0.00
1014	0.10	0.44	7.96	0.00	0.00	0.00
1015	0.09	-0.38	7.27	0.00	0.00	0.00
1016	-0.12	-0.04	4.23	0.00	0.00	0.00
1017	-0.17	0.05	4.10	0.00	0.00	0.00
1018	0.17	0.06	4.11	0.00	0.00	0.00
1019	0.12	-0.04	4.23	0.00	0.00	0.00
1020	-0.30	0.25	7.30	0.00	0.00	0.00
1021	-0.34	-0.29	7.95	0.00	0.00	0.00
1022	-0.17	-0.23	3.83	0.00	0.00	0.00
1023	-0.14	0.18	3.94	0.00	0.00	0.00
1024	0.13	0.18	3.94	0.00	0.00	0.00
1025	0.16	-0.22	3.84	0.00	0.00	0.00
1026	-0.38	0.23	7.97	0.00	0.00	0.00
1027	-0.34	-0.20	7.33	0.00	0.00	0.00
1028	0.00	-0.13	4.24	0.00	0.00	0.00
1029	0.00	0.17	4.12	0.00	0.00	0.00

Node	X-Axis Force	Y-Axis Force	Z-Axis Force	X-Axis Moment	Y-Axis Moment	Z-Axis Moment
1004	-3.28	-4.61	60.91	0.00	0.00	0.00
1005	-2.66	3.53	63.49	0.00	0.00	0.00
1006	2.17	2.72	64.94	0.00	0.00	0.00
1007	3.35	-4.42	59.89	0.00	0.00	0.00
1008	0.95	4.99	114.41	0.00	0.00	0.00
1009	1.54	-6.92	135.43	0.00	0.00	0.00
1010	-7.93	2.51	53.52	0.00	0.00	0.00
1011	-5.63	-1.72	56.75	0.00	0.00	0.00
1012	6.12	-1.87	56.51	0.00	0.00	0.00
1013	8.42	2.71	53.36	0.00	0.00	0.00
1014	2.56	6.21	133.06	0.00	0.00	0.00
1015	2.35	-4.41	113.20	0.00	0.00	0.00
1016	-3.78	-1.29	63.66	0.00	0.00	0.00
1017	-5.45	1.73	59.95	0.00	0.00	0.00
1018	5.47	1.88	60.19	0.00	0.00	0.00
1019	3.84	-1.24	63.81	0.00	0.00	0.00
1020	-4.54	2.26	114.20	0.00	0.00	0.00
1021	-5.81	-3.45	133.77	0.00	0.00	0.00
1022	-5.01	-6.97	53.43	0.00	0.00	0.00
1023	-3.95	5.32	56.60	0.00	0.00	0.00
1024	3.69	5.20	56.74	0.00	0.00	0.00
1025	4.88	-6.65	53.43	0.00	0.00	0.00
1026	-5.17	4.37	134.47	0.00	0.00	0.00
1027	-3.68	-3.46	114.58	0.00	0.00	0.00
1028	0.01	-4.13	64.22	0.00	0.00	0.00
1029	-0.08	5.73	60.41	0.00	0.00	0.00

Frame	X-Axis Force	Y-Axis Force	Z-Axis Force	X-Axis Moment	Y-Axis Moment	Z-Axis Moment
5.257E-11	-4.217E-11	0.000E+00				
Nodes 3.391E-11	2.674E-11	3.024E-11	1.886E-11	1.424E-11	1.284E-11	

Load case 12 (Non-linear): D+Wx90
 Non-linear effects: P-A, P-δ, 3 Iterations, 99.988% Convergence

Node	X-Axis Force	Y-Axis Force	Z-Axis Force	X-Axis Moment	Y-Axis Moment	Z-Axis Moment
1000	-5.60	29.31	-159.11	0.00	0.00	0.00
1001	-4.84	-25.46	-166.85	0.00	0.00	0.00
1002	-13.31	-8.33	-27.83	0.00	0.00	0.00
1003	-13.68	10.99	-25.68	0.00	0.00	0.00
1004	-41.57	-34.49	-13.15	0.00	0.00	0.00
1005	-42.16	36.20	-11.23	0.00	0.00	0.00
1006	-68.29	-66.69	-8.87	0.00	0.00	0.00
1007	-67.54	63.90	-3.48	0.00	0.00	0.00
1008	-71.92	51.51	-90.18	0.00	0.00	0.00
1009	-75.49	-52.38	-113.05	0.00	0.00	0.00
1010	-68.75	37.23	-65.77	0.00	0.00	0.00
1011	-72.22	-37.21	-68.95	0.00	0.00	0.00
1012	-65.10	31.17	-59.42	0.00	0.00	0.00
1013	-68.92	-33.32	-53.14	0.00	0.00	0.00
1014	-41.76	-8.80	-40.97	0.00	0.00	0.00
1015	-43.05	6.25	-14.03	0.00	0.00	0.00
1016	-14.67	6.79	-58.03	0.00	0.00	0.00
1017	-12.51	-6.91	-51.80	0.00	0.00	0.00
1018	-15.67	6.30	-47.28	0.00	0.00	0.00
1019	-13.56	-6.96	-48.32	0.00	0.00	0.00
1020	0.66	-16.17	-20.30	0.00	0.00	0.00
1021	2.08	16.82	-35.49	0.00	0.00	0.00
1022	-11.39	2.08	-33.99	0.00	0.00	0.00
1023	-12.23	-1.26	-36.82	0.00	0.00	0.00
1024	-13.87	-0.98	-31.26	0.00	0.00	0.00
1025	-14.66	2.22	-29.16	0.00	0.00	0.00
1026	10.50	-9.96	-9.33	0.00	0.00	0.00
1027	9.23	9.04	5.33	0.00	0.00	0.00
1028	-10.74	-2.14	-34.23	0.00	0.00	0.00
1029	-10.79	-1.21	-32.20	0.00	0.00	0.00

Frame	X-Axis Force	Y-Axis Force	Z-Axis Force	X-Axis Moment	Y-Axis Moment	Z-Axis Moment
0.000E+00	0.000E+00	0.000E+00				
Nodes 8.710E-11	6.658E-11	4.531E-11	6.997E-11	5.614E-11	4.723E-11	

BILL OF MATERIALS (in,in^2,lb)

Memb	Sect	Qty	Section Name	Unit Length	Total Length	Unit Mass	Total Mass
1	1	150	5mm beam	9.89	1483.28	0.12	18.07
2	1	102	5mm beam	8.74	891.94	0.11	10.86
3	1	12	5mm beam	13.12	157.40	0.16	1.92
4	3	40	5mm beam	11.50	460.00	0.14	5.60
5	3	60	5mm beam	9.89	593.31	0.12	7.23

Plate	Qty	Thickness	Total Area	Total Mass
1	1580	0.20	81048.40	113.30

Total mass = 156.99
 Centre of gravity = 0.00,0.00,21.21

BUCKLING LOAD FACTORS

Load Case	Mode	Load Factor	Tolerance	Iterations	Node at Max Trans	Node at Max Rotn
10	1	>1000.0				
11	1	67.67	0.007812	21	163 (Y)	836 (Y)
12	1	12.55	0.007812	15	144 (X)	941 (X)

Frame	X-Axis Force	Y-Axis Force	Z-Axis Force	X-Axis Moment	Y-Axis Moment	Z-Axis Moment
2.404E-12	3.846E-13	0.000E+00				
Nodes 9.039E-13	6.003E-13	7.170E-13	3.359E-13	3.308E-13	2.281E-13	

Load case 11 (Non-linear): D+Lr
 Non-linear effects: P-A, P-δ, 3 Iterations, 99.998% Convergence

Node	X-Axis Force	Y-Axis Force	Z-Axis Force	X-Axis Moment	Y-Axis Moment	Z-Axis Moment
1000	6.59	-0.45	132.93	0.00	0.00	0.00
1001	5.06	0.81	114.03	0.00	0.00	0.00
1002	-0.06	8.22	53.01	0.00	0.00	0.00
1003	0.12	-6.61	56.21	0.00	0.00	0.00