Prime Consulting Engineers Pty. Ltd.

Design Report:

12m Dome Structure (enclosed)

For

EXTREME MARQUEES

Ref: R-22-211-1

Date: 05/05/2022

Amendment: -

Prepared by: KZ

Checked by: SD

Email: info@primeengineers.com.au
Web: www.primeengineers.com.au
Address: 21/1-7 Jordan St, Gladesville NSW 2111
Phone: (02) 8964 1818

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Email: info@primeengineers.com.au
Web: www.primeengineers.com.au
Address: 21/1-7 Jordan St, Gladesville NSW 2111
Phone: (02) 8964 1818

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Web: www.primeengineers.com.au
Address: 21/1-7 Jordan St, Gladesville NSW 2111
Phone: (02) 8964 1818

1 Introduction and Scope:

The report and certification are the sole property of Prime Consulting Engineers Pty. Ltd.

Prime Consulting Engineers have been engaged by Extreme Marquees Pty. Ltd. to carry out a structural analysis of 12m dome structure for wind loads region A (non-cyclonic) and snow loads for sub-alpine regions. It should be noted that the outcome of our analysis is limited to the selected items as outlined in this report.

This report shall be read in conjunction with the documents listed in the references (Section 1.2)

1.1 Project Description

The report examines the effect of 3s gust wind of **(refer to summary)** and snow loads of sub-alpine region positioned for the worst effect on the 12m dome structure. The result of this report is also applicable to the smaller dome structure with identical member sizes. The relevant Australian Standards AS1170.0:2002 General principles, AS1170.1:2002 Permanent, imposed and other actions, AS1170.2:2021 Wind actions and AS1170.3 Snow actions are used. The design check is in accordance with AS4100:1998 steel structures.

1.2 References

- The documents referred to in this report are as follows:
  - Report of results produced through SAP2000 V24 software & excel spreadsheets.
  - Detail drawing provided by manufacturer. Refer to appendix ‘A’.
- The basic standards used in this report are as follows:
  - AS 1170.0:2002 – Structural Design Actions (Part 0: General principles)
  - AS 1170.1:2002 – Structural Design Actions (Part 1: Permanent, imposed, and other actions)
  - AS 1170.2:2021 – Structural Design Actions (Part 2: Wind Actions)
  - AS 1170.3:2003 – Snow and ice actions.
  - AS4100:1998 – Steel Structures.
- Section Properties of Steel (Q235) Section provided by the client.
- The program(s) used for this analysis are as follows:
  - SAP2000 V24
  - Microsoft Excel

1.3 Notation

AS/NZS	Australian Standard/New Zealand Standard
FEM/FEA	Finite Element Method/Finite Element Analysis

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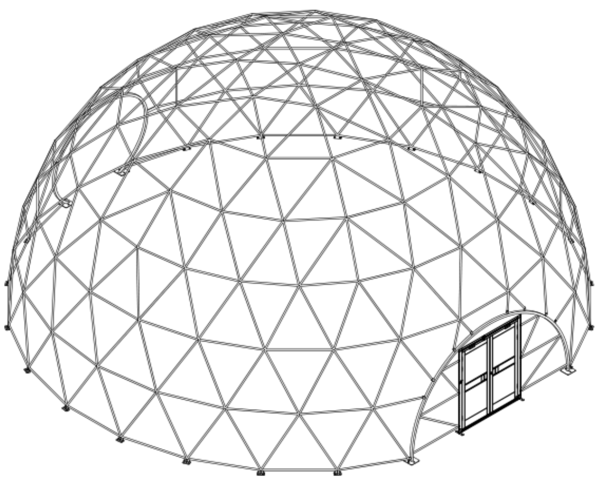
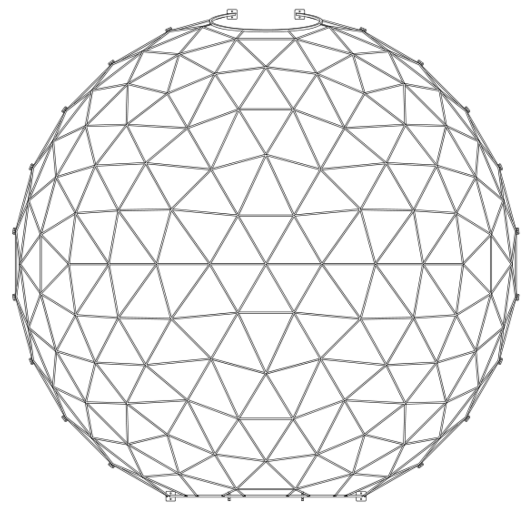
SLS	Serviceability Limit State
ULS	Ultimate Limit State

2 Design Overview

2.1 Geometry Data





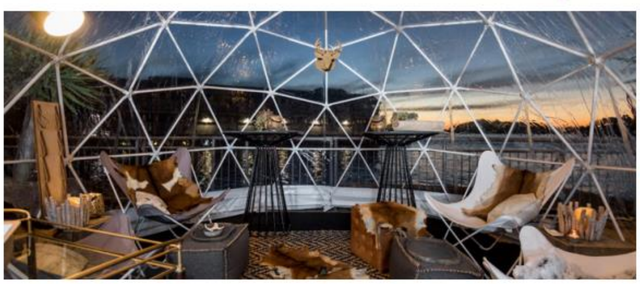
EXTREME MARQUEES

WE CAN CUSTOM PRINT ANY COLOUR

DOME RANGE

4m / 5m / 6m / 7m / 8m / 9m / 10m / 11m / 12m

EVENT TENT



ITEM	SPECIFICATION								
Size	4m	5m	6m	7m	8m	9m	10m	11m	12m
Ceiling Height	2.4m	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m
Door Size	1200mm W x 1800mm H			1500mm W × 2100mm H			1500mm W x 2400mm H		
Dome Style	Lapela								
Floor Space	12.5 sq.m	17.8 sq.m	28 sq.m	38 sq.m	50 sq.m	63 sq.m	78 sq.m	95 sq.m	113 sq.m
Stand up Capacity	15	24	34	46	60	76	94	114	136
Sit down Capacity	10	16	23	31	40	51	63	76	90
Frame Material	Steel								
Frame Size	20mm diameter x 1.5mm thickness				25mm diameter x 2mm thickness				

Isometric view of structures

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2.2 Assumptions & Limitations

- The erected structure is for temporary use only.
- For forecast winds in excess of **(refer to summary)** the dome structure should be completely dismantled.
- The structure may only be used in regions with wind and snow classifications no greater than the limits specified in cl. 5 & 6 of this report.
- Parameters used for wind & snow calculations:
  - TC 2
  - Wind Region A
  - Sub-alpine region (Orange, NSW)
- Topographical factors such as erecting the structure on the crest of a hill or on the top of an escarpment may result in a higher wind speed classification. Thus, special considerations should be taken to the topographical location of the installation site.
- Shall the site conditions, wind or snow parameters exceed prescribed design actions (refer to cl.7), Prime Consulting Engineers Pty. Ltd. should be informed to determine appropriate wind/snow classifications and amend computations accordingly.
- It is assumed that the structure is fully enclosed with equally permeable side walls to calculate Wind Internal Forces.

2.3 Exclusions

- Design of fabric
- Wind actions due to tropical or severe tropical cyclonic areas.
- Snow actions due to snow loads other than Orange, NSW.
- Super imposed loads such as live load.

2.4 Design Parameters and Inputs

2.4.1 Load Cases

1.	G	Permanent actions (Dead load)
3.	Wu	Ultimate wind action (ULS)
4.	Ws	Serviceability wind action (SLS)
5.	S	Snow action (SLS)

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2.4.2 Load Combinations

Strength (ULS):

1. 1.35G — Permanent action only
3. $0.9G+W_u$ — Permanent and wind actions
4. $1.2G+W_u$ — Permanent and wind actions
5. 1.2G+S — Permanent and snow actions

Serviceability (SLS):

2. $G+W_s$ — Wind service actions

3 Specifications

3.1 Material Properties

Material Properties 03a - Steel Data								
Material	Fy	Fu	EffFy	EffFu	SHard	SMax	SRup	FinalSlope
Text	KN/m2	KN/m2	KN/m2	KN/m2	Unitless	Unitless	Unitless	Unitless
Q235	235000	390000	260000	430000	0.015	0.11	0.17	-0.1

3.2 Member Sizes & Section Properties

Frame Section Properties 01 - General												
SectionName	t3	t2	tf	tw	Area	TorsConst	I33	I22	S33	S22	Z33	Z22
Text	mm	mm	mm	mm	mm2	mm4	mm4	mm4	mm3	mm3	mm3	mm3
25x2 CHS	25			2	144.51	19256.39	9628.2	9628.2	770.26	770.26	1060.67	1060.67
30x2 SHS	30	30	2	2	224	43904	29418.67	29418.67	1961.24	1961.24	2356	2356

4 Design Loads

Self weight	G	self weight
3s 120km/hr gust	W_u	0.552 C_{fig} (kPa)
Sub-alpine snow load	W_s	0.13 - 0.68 (kPa)

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5 Wind Analysis

5.1 Ultimate

PRIME CONSULTING ENGINEERS PTY. LTD

Project: *12m Dome Structure*

Jon no. *22-211-1* *Designer:* *KZ*

Date: *4/05/2022* *Amendment:* *-*

Name	*Symbol*	*Value*	*Unit*	*Notes*	*Ref.*
			General		
Importance level		3			*Table 3.1 - Table 3.2 (AS1170.0)*
Annual probability of exceedance		Temporary			*Table 3.3*
Regional gust wind speed		**120.00**	Km/hr		
Regional gust wind speed	V_R	33.333	m/s		
Wind Direction Multipliers	M_d	1			*Table 3.2 (AS1170.2)*
Terrain Category	TC	2			
Terrain Category Multiplier	$M_{Z,Cat}$	0.91			
Shield Multiplier	M_S	1			*4.3 (AS1170.2)*
Topographic Multiplier	M_t	1			*4.4 (AS1170.2)*
Site Wind Speed	$V_{Site,\beta}$	**30.33**	m/s	$V_{Site,\beta}=V_R{*}M_d{*}M_{z,cat}{*}M_S,M_t$	
Pitch	α	0	Deg		
Pitch	α	0.000	rad		
Width	B	12	m		
Width Span	S_w	-	m		
Length	D	12	m		
Height	Z	3	m		
Bay Span		-	m		
	h/d	0.25			
	h/b	0.25			
			Wind Pressure		
ρair	ρ	1.2	Kg/m^3		

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dynamic response factor	C_{dyn}	1			
Wind Pressure	ρ*C_{fig}	**0.552**	Kg/m^2	ρ=0.5ρ_{air}*($V_{des,\beta}$)^2*C_{fig}*C_{dyn}	2.4 (AS1170.2)
WIND DIRECTION 1 (Perpendicular to Length)					
Internal Pressure					
Opening Assumption					
	Without Dominant Opening				
Internal Pressure Coefficient (Without Dominant) **MIN**		-0.3			
Internal Pressure Coefficient (Without Dominant) **MAX**		0.2			
Internal Pressure Coefficient (With Dominant) **MIN**		0			
Internal Pressure Coefficient (With Dominant) **MAX**		0.3			
N		0.7		*Cpi= N*Cpe*	
Combination Factor	$K_{C,i}$	1			
Internal Pressure Coefficient **MIN**	$C_{p,i}$	-0.30			
Internal Pressure Coefficient **MAX**	$C_{p,i}$	0.20			
External Pressure					
1. Windward Wall					
External Pressure Coefficient	$C_{P,e}$	0.7			
Area Reduction Factor	K_a	1			*Table 5.4*
combination factor applied to internal pressures	$K_{C,e}$	0.8			
local pressure factor	K_l	1			
porous cladding reduction factor	K_p	1			
aerodynamic shape factor	$C_{fig,e}$	0.56			
Wind Wall Pressure	P	**0.31**	**kPa**		
2. Leeward Wall					
External Pressure Coefficient	$C_{P,e}$	-0.5			
Area Reduction Factor	K_a	1			*Table 5.4*
combination factor applied to internal pressures	$K_{C,e}$	0.8			
local pressure factor	K_l	1			
porous cladding reduction factor	K_p	1			

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aerodynamic shape factor	$C_{fig,e}$	-0.4			
Leeward Wall Pressure	P	**-0.22**	**kPa**		
3. Side Wall					
Area Reduction Factor	K_a	1			*Table 5.4*
combination factor applied to internal pressures	$K_{C,e}$	0.8			
local pressure factor	K_l	1			
porous cladding reduction factor	K_p	1			
External Pressure Coefficient	$C_{P,e}$	-0.65		*0 to 1h*	
External Pressure Coefficient	$C_{P,e}$	-0.5		*1h to 2h*	
External Pressure Coefficient	$C_{P,e}$	-0.3		*2h to 3h*	
External Pressure Coefficient	$C_{P,e}$	-0.2		*>3h*	
aerodynamic shape factor	$C_{fig,e}$	-0.52		*0 to 1h*	
aerodynamic shape factor	$C_{fig,e}$	-0.4		*1h to 2h*	
aerodynamic shape factor	$C_{fig,e}$	-0.24		*2h to 3h*	
aerodynamic shape factor	$C_{fig,e}$	-0.16		*>3h*	
Side Wall Pressure	P	**-0.29**	**kPa**	*0 to 1h*	
Side Wall Pressure	P	**-0.22**	**kPa**	*1h to 2h*	
Side Wall Pressure	P	**-0.13**	**kPa**	*2h to 3h*	
Side Wall Pressure	P	**-0.09**	**kPa**	*>3h*	
4. Roof					
r (rise)	r	6	**m**		
h/r	h/r	0.50			
Breadth Effect		1.00		*(b/d)^0.25>1*	
Rise-to-span ratio	r/d	0.50			
4.1 Roof Windward Quarter					
U	U	3	**m**		Table C3
Area Reduction Factor	K_a	1			
combination factor applied to internal pressures	$K_{C,e}$	0.8			
local pressure factor	K_l	1			
porous cladding reduction factor	K_p	1			
External Pressure Coefficient	$C_{P,e}$	0.3			
Factored External Pressure Coefficient	$C_{P,e}$	0.30			
aerodynamic shape factor	$C_{fig,e}$	0.24			
Pressure	P	**0.13**	**kPa**		

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4.2 Roof Centre Half					
T	T	6	**m**		Table C3
Area Reduction Factor	K_a	1			
combination factor applied to internal pressures	$K_{C,e}$	0.8			
local pressure factor	K_l	1			
porous cladding reduction factor	K_p	1			
External Pressure Coefficient	$C_{P,e}$	-0.65			
Factored External Pressure Coefficient	$C_{P,e}$	-0.65			
aerodynamic shape factor	$C_{fig,e}$	-0.52			
Pressure	P	**-0.29**	**kPa**		
4.2 Roof Centre Half					
D	D	3	**m**		Table C3
Area Reduction Factor	K_a	1			
combination factor applied to internal pressures	$K_{C,e}$	0.8			
local pressure factor	K_l	1			
porous cladding reduction factor	K_p	1			
External Pressure Coefficient	$C_{P,e}$	-0.2			
Factored External Pressure Coefficient	$C_{P,e}$	-0.20			
aerodynamic shape factor	$C_{fig,e}$	-0.16			
Pressure	P	**-0.09**	**kPa**		

5.1.1 Summary Forces

WIND EXTERNAL PRESSURE (kPa)				
			Wind Direction1	
Windward			0.31	
Leeward			-0.22	
Sidewall	0m - 3m		-0.29	
	3m - 6m		-0.22	
	6m - 9m		-0.13	
	> 9m		-0.09	
Roof				
	Windward Quarter (U)	3m	0.13	
	Centre Half (T)	6m	-0.29	
	Leeward Quarter (D)	3m	-0.09	
Wind Internal Pressure (kPa)				
			-0.17	0.11

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6 Snow Load

6.1 Sub-Alpine

S = Sg x Ce x μi

Annual probability of exceedance: 1/20
Snow region: Orange, NSW
Sg = 0.9kPa

C_e = 1

Average slope:
Segment 1: 6º → μ= = 0.756
Segment 2: 24.5º → μ= = 0.5
Segment 3: 63.5º say 50º → μ= = 0.14

Snow loads:
Segment 1: 0.68 kPa
Segment 2: 0.45 kPa
Segment 3: 0.127 kPa

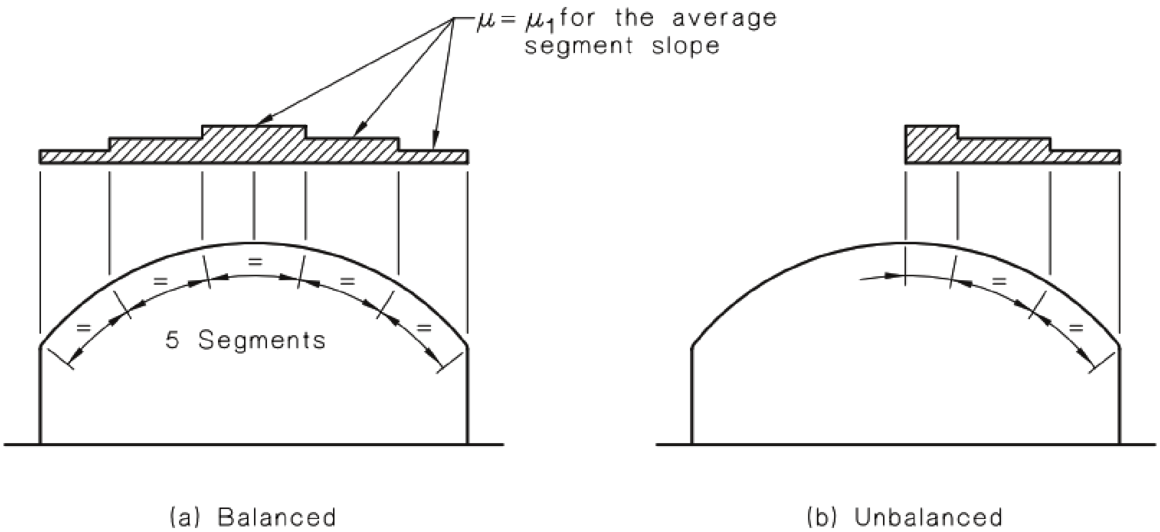

FIGURE 7.4 TYPES OF SNOW LOAD ON CURVED ROOFS (SUB-ALPINE)

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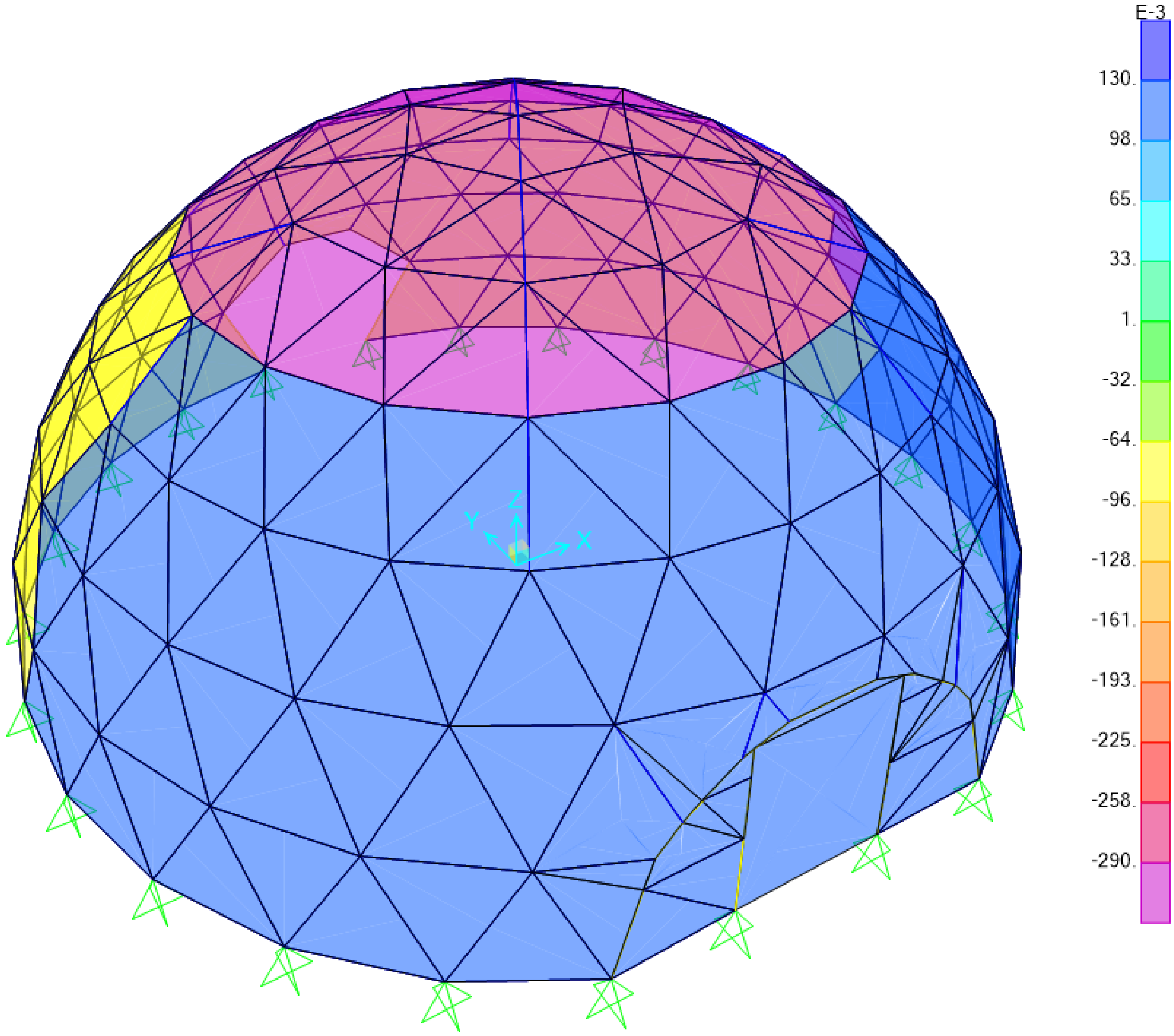
7 Load Diagrams

7.1 Wind Load

7.1.1 Wind Load Ultimate (W_U)



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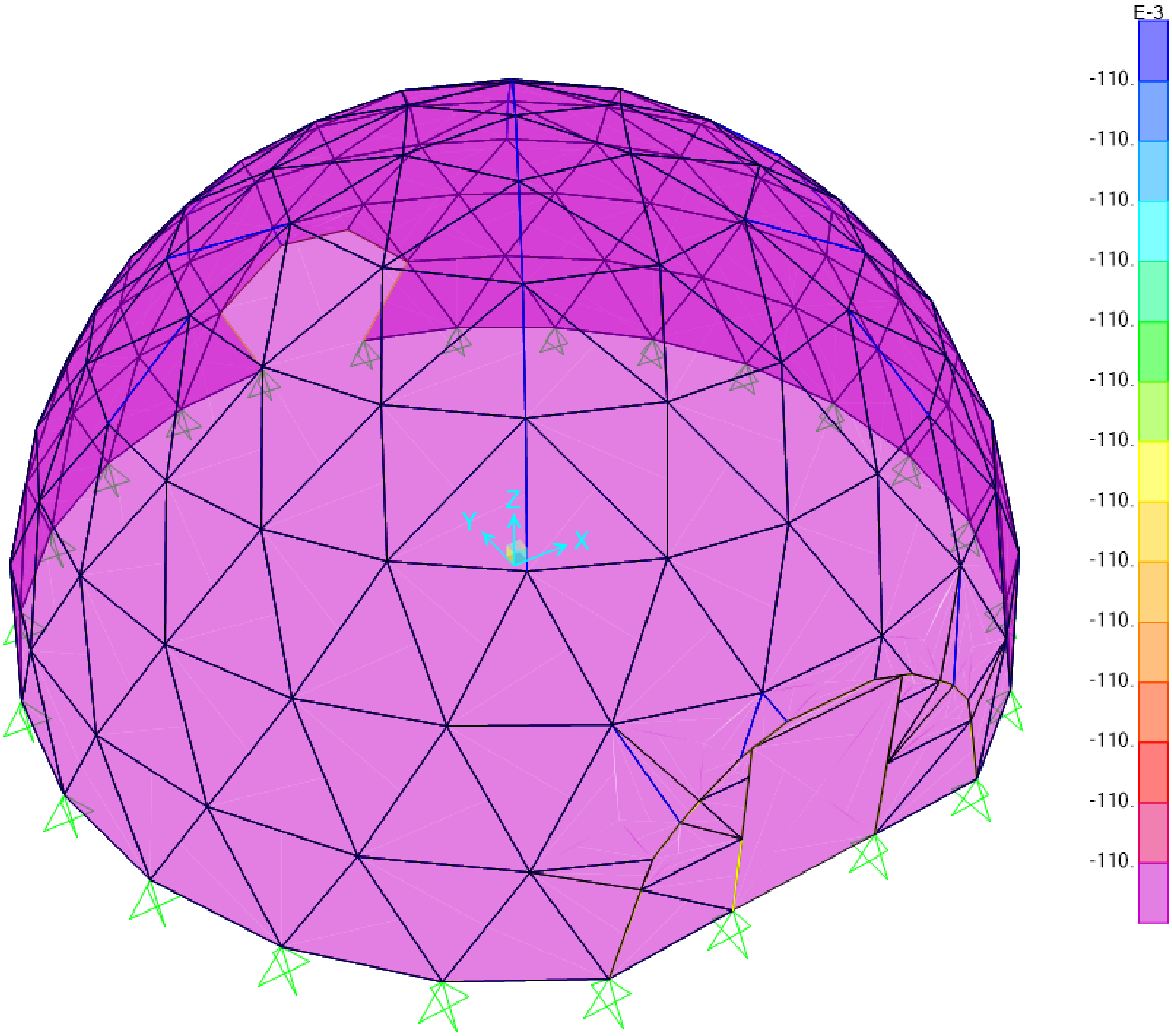
7.1.2 Wind Load Internal Pressure ($W_{I,pressure}$)



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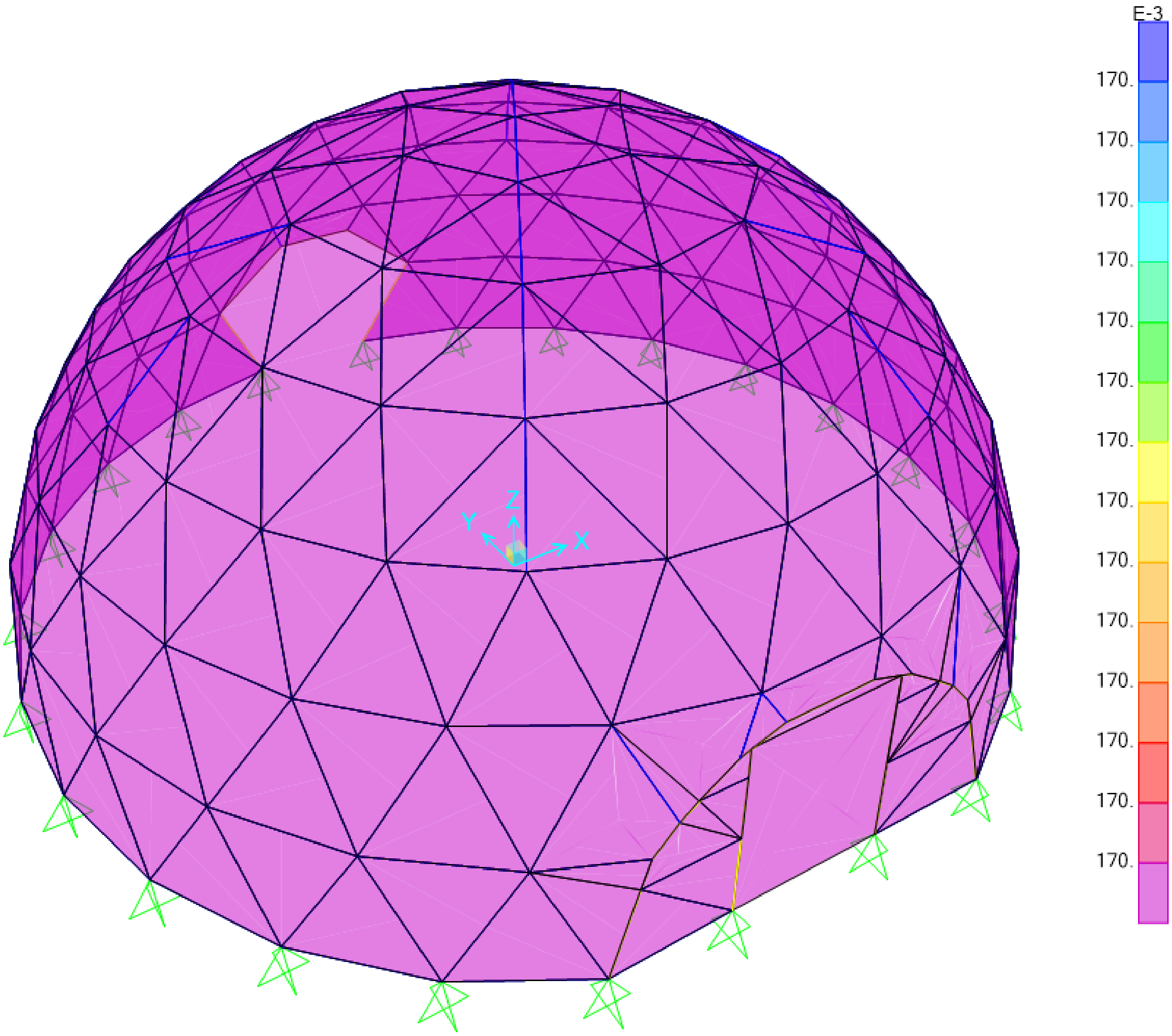
7.1.3 Wind Load Internal Suction ($W_{I,suction}$)



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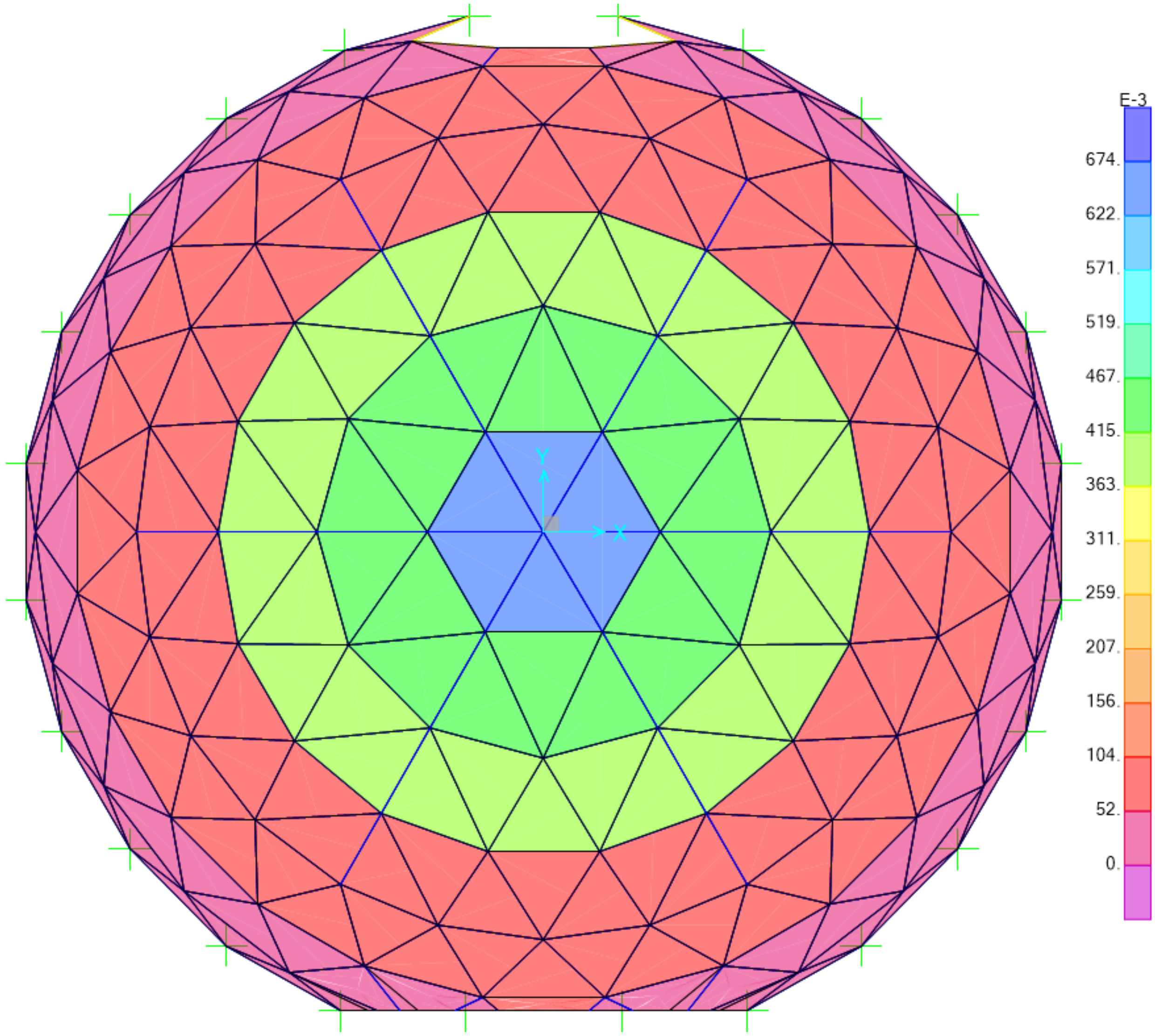
7.2 Snow Load

7.2.1 Snow Load (Case1)



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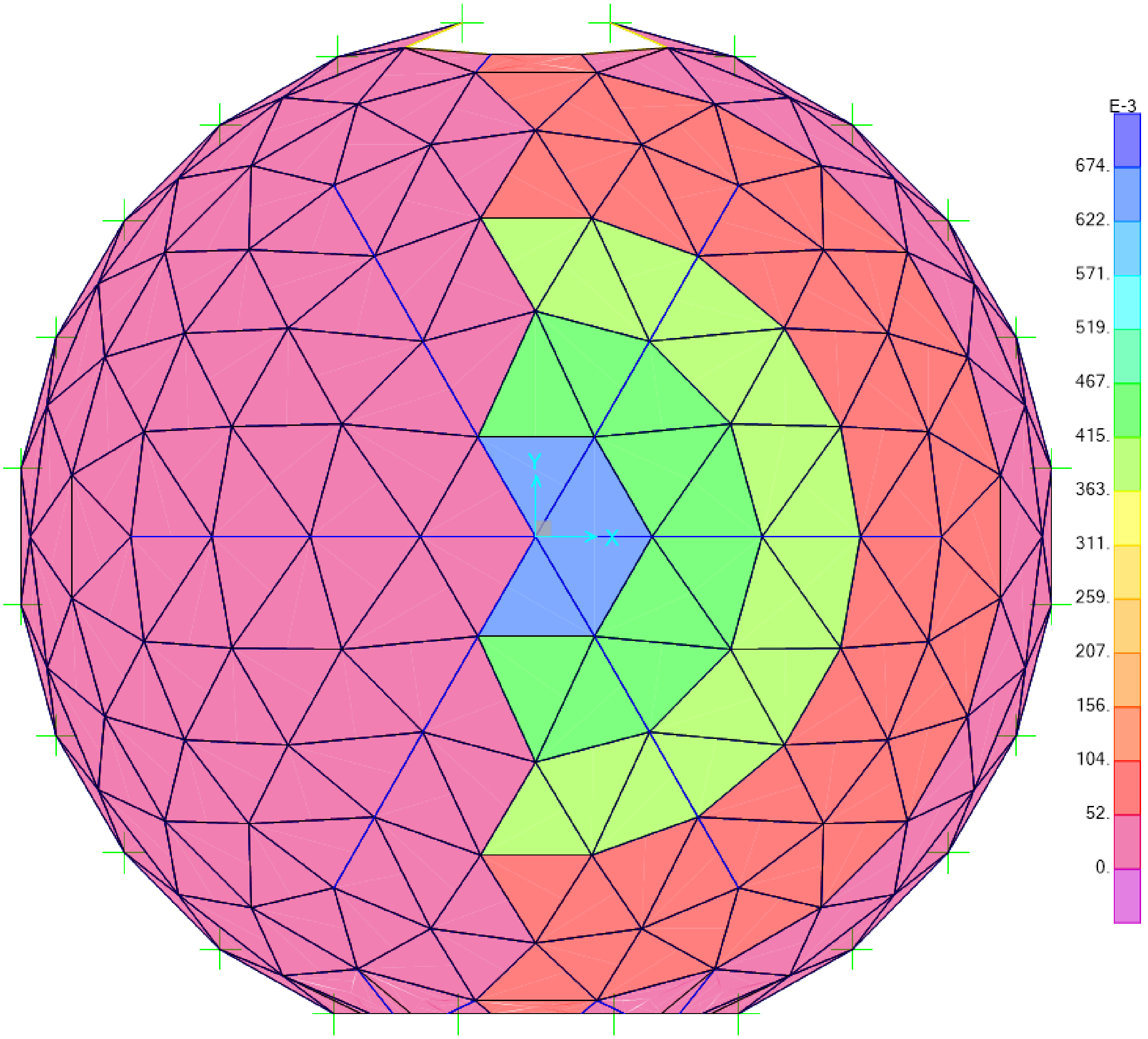
7.2.2 Snow Load (Case2)



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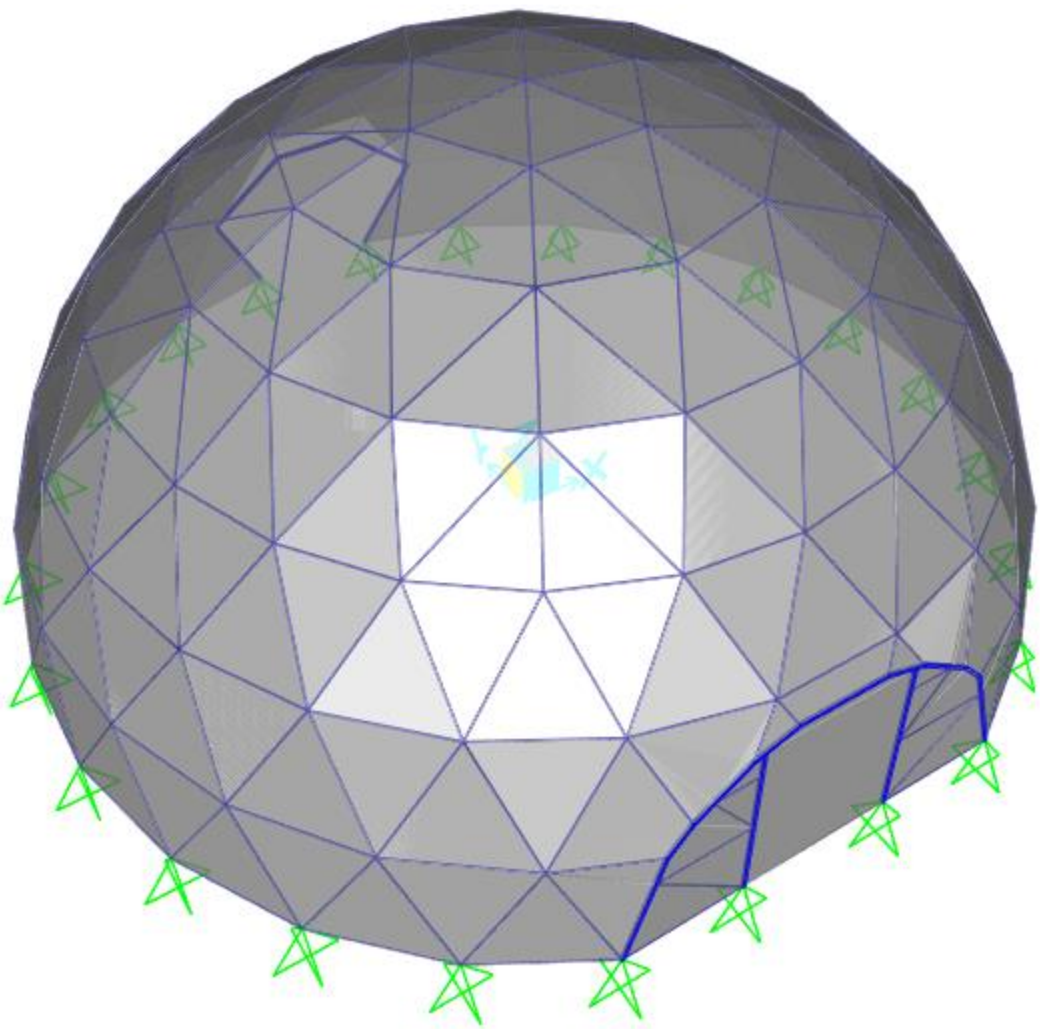
8 Analysis

8.1 3D model



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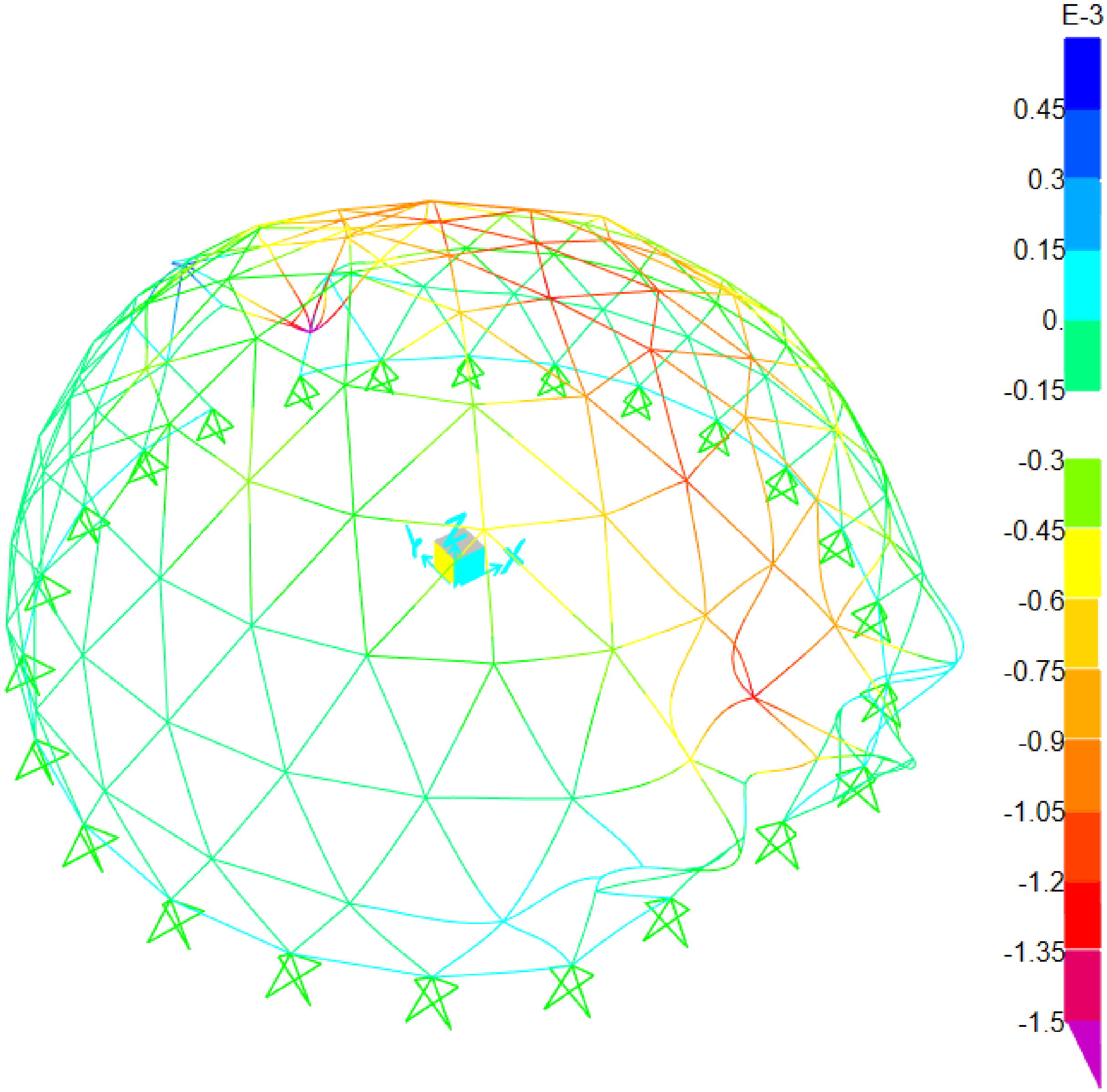
8.2 Results

8.2.1 Maximum vertical deflection (serviceability)



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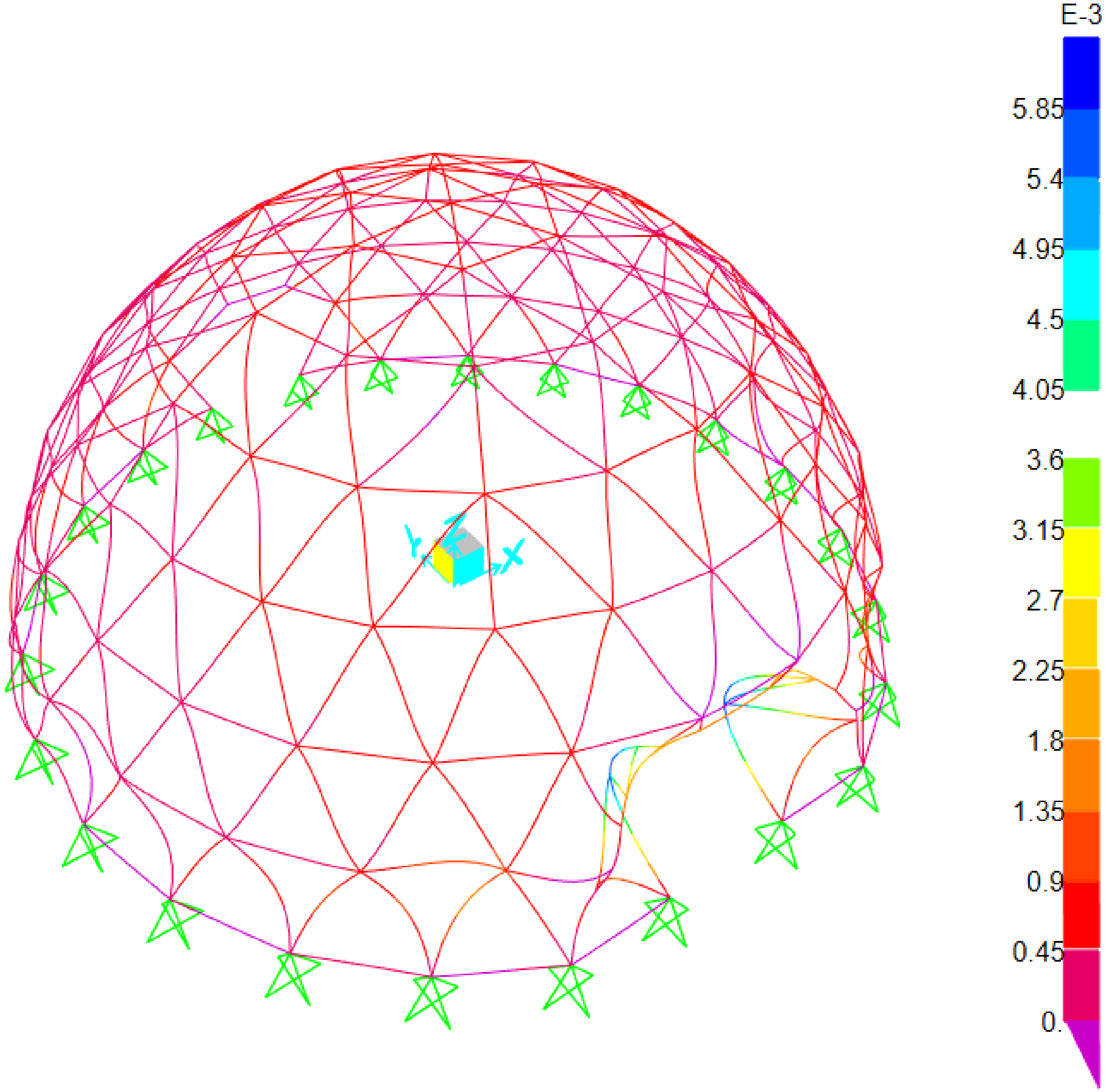
8.2.2 Maximum horizontal deflection (serviceability)



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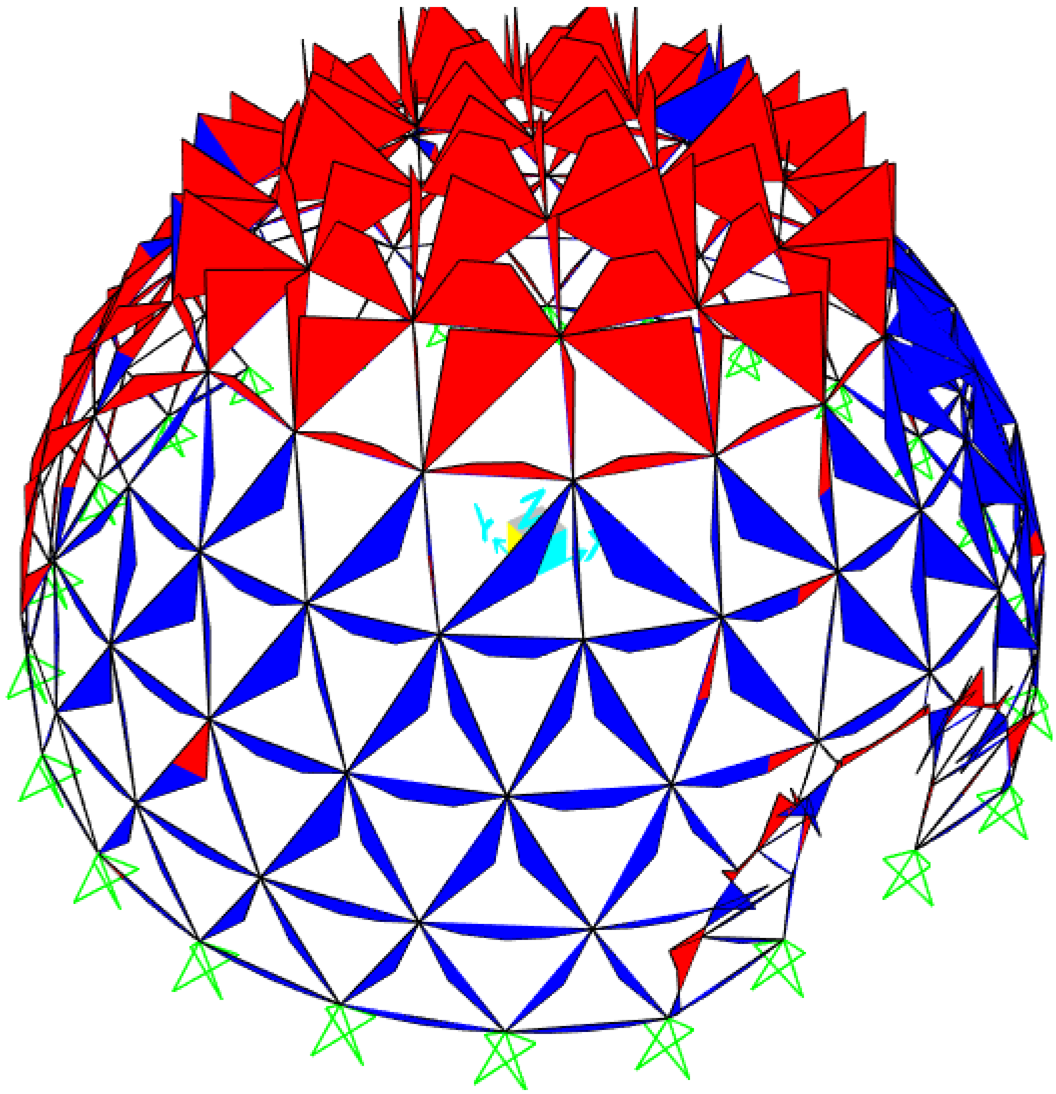
8.2.3 Maximum Bending Moment in Major Axis



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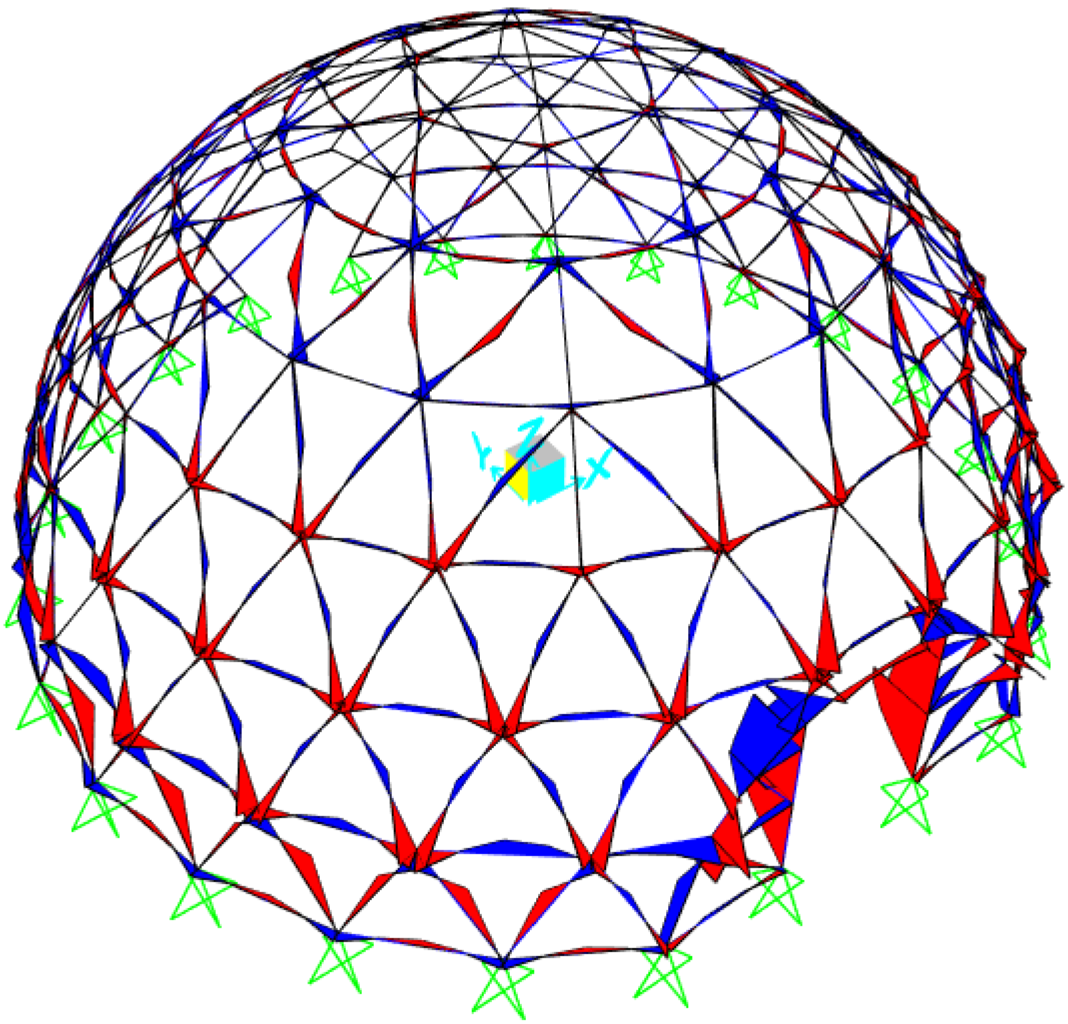
8.2.4 Maximum Bending Moment in Minor Axis



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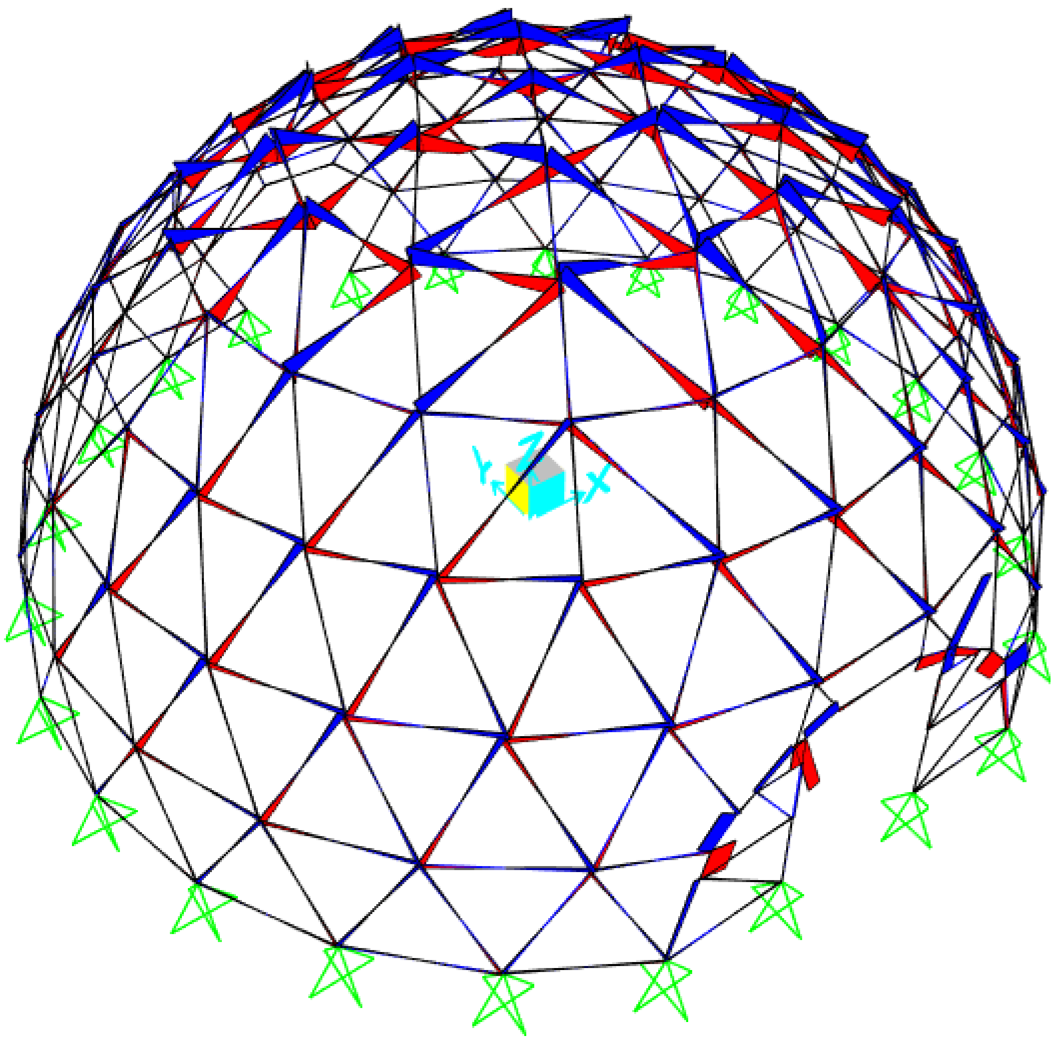
8.2.5 Maximum Shear



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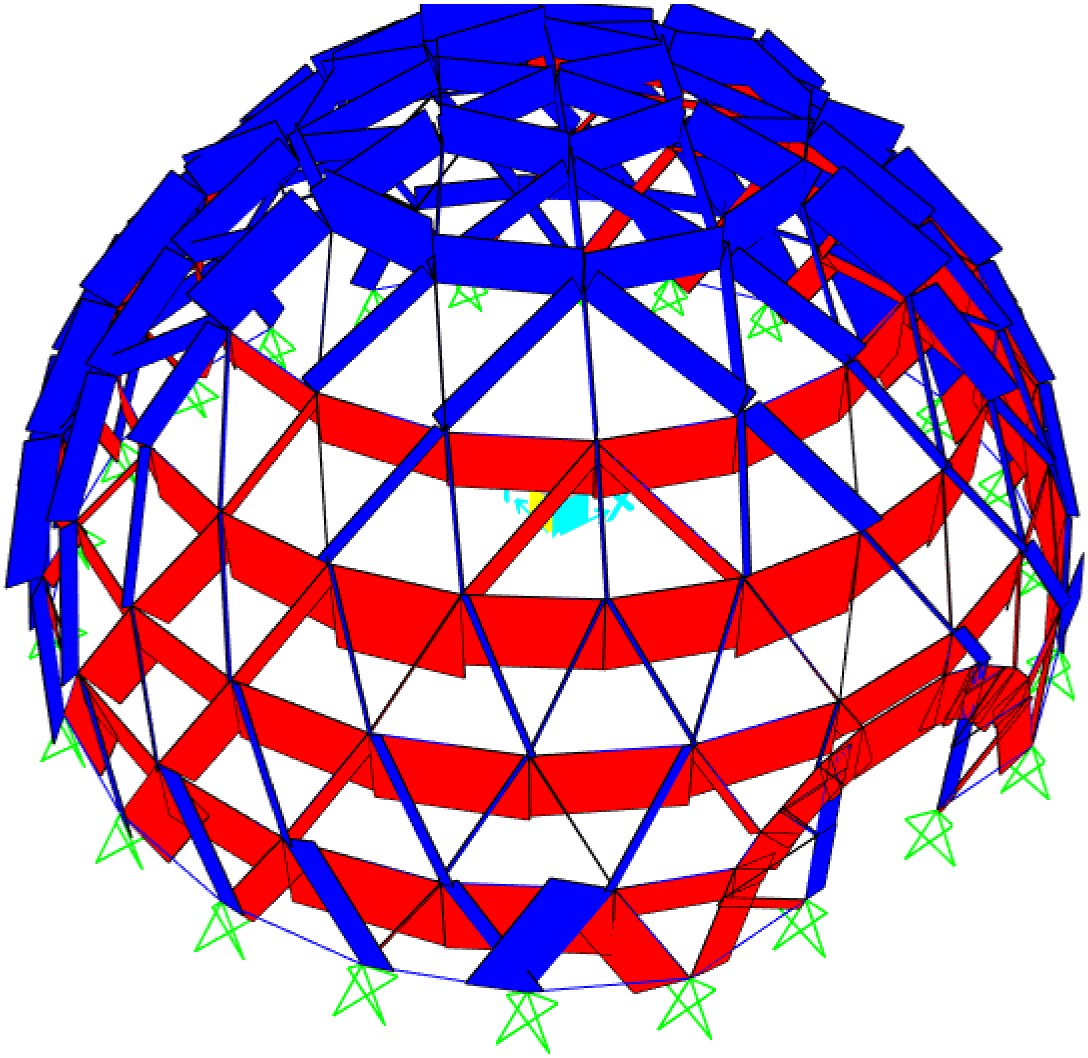
8.2.6 Maximum Axial Force



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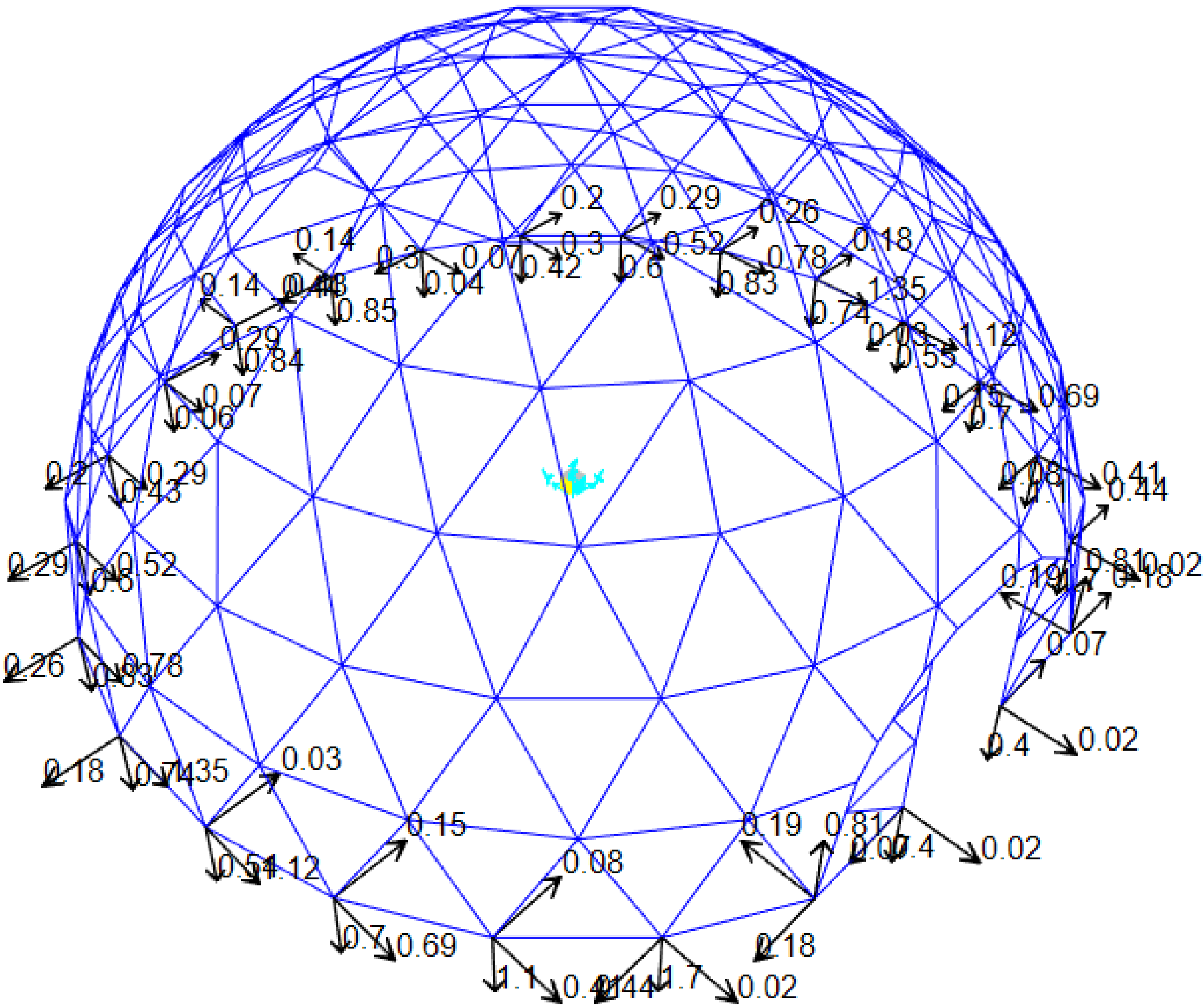
8.2.7 Maximum Reactions



Max. F_x = 1.75 kN
Max. F_y = 1.75 kN
Max. $F_{Z,\ Bearing}$ = 4.45 kN
Max. $F_{Z,\ uplift}$ = 1.93 kN

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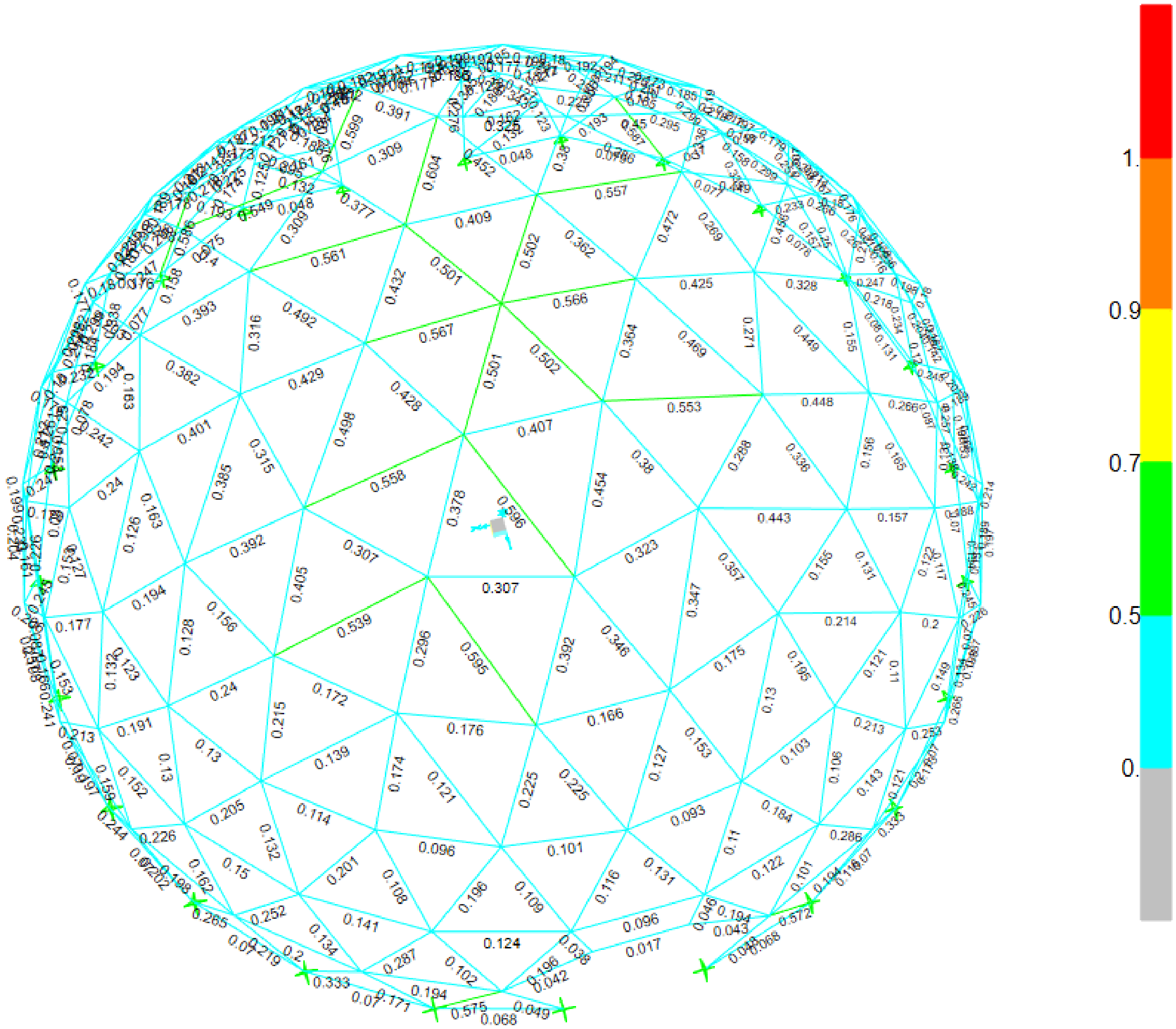
9 Steel Member Design

All members pass for the defined design wind actions. Refer to Appendix 'B' for section capacities and factor of safeties.



All members Pass

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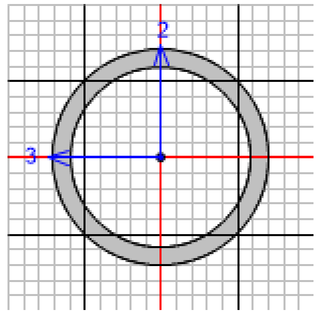
9.1 25x2 CHS

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AS 4100-1998 STEEL SECTION CHECK    (Summary for Combo and Station)
Units  :  KN, m, C

Frame :  367       X Mid:  -0.668     Combo:  COMB7           Design Type:  Brace
Length:  1.344     Y Mid:  -9.414E-10Shape:  25x2 CHS        Frame Type:   Braced Frame
Loc   :  0.672     Z Mid:  5.925      Class:  Compact         Princpl Rot: 0. degrees

PhiB=0.9           PhiC=0.9           PhiTY=0.9          PhiTF=0.9          PhiS=0.9

A=1.445E-04        I33=9.628E-09      r33=0.008          Z33=7.703E-07      Av3=7.262E-05
J=1.926E-08        I22=9.628E-09      r22=0.008          Z22=7.703E-07      Av2=7.262E-05
E=210000000.       Fy=235000.         Ry=1.106           S33=1.061E-06      Iw=0.
RLLF=1.            Fu=390000.         SteelType=HR       S22=1.061E-06


STRESS CHECK FORCES & MOMENTS  (Combo COMB7)
    Location                N*        M33*        M22*         V2*         V3*          T*
    0.672               -1.997       0.082   4.040E-07  -4.854E-04   1.374E-06   1.444E-06

PMM DEMAND/CAPACITY RATIO   (8.4.4.1)
    D/C Ratio:    0.566 = 0.566                                     <   0.95          OK
                       = M33*/(phi*Mo33)

BASIC FACTORS
    Buckling Mode   K Factor    L Factor       KL/r
    Major Flexure         1.          1.    164.605
    Minor Flexure         1.          1.    164.605
    Major Braced          1.          1.    164.605
    Minor Braced          1.          1.    164.605
    LTB                  1.4          1.    230.447

AXIAL FORCE & BIAXIAL MOMENT DESIGN   (8.4.4.1)
    Factor                  L    Braced ke     Sway ke     Delta_b     Delta_s     Cm Betam
    Major Bending          1.          1.          1.        1.22          1.     1.    -1.
    Minor Bending          1.          1.          1.          1.          1. 0.444 0.391

                         Lltb          Kt          Kl          Kr     Alpha_m     Alpha_s
    LTB Factors            1.          1.         1.4          1.       1.388        0.99

                   Steel Type          Kf          Kt     Alpha_a     Alpha_b     Alpha_c
    Axial Factors          HR          1.          1.      12.234         -1.       0.302

                      Element    Lambda_e   Lambda_ep   Lambda_ey   Lambda_ew Compactness
    Bending               Any       11.75         50.        120.   1.000E+14     Compact
    Axial                 Any       11.75                     82.                 Compact
```


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	ZeMajor	ZeMinor	de	Aeff
Effective Pro	1.061E-06	1.061E-06	0.025	1.445E-04

	M*	Ms	Mr	Mi	Nc
Major Moment	0.099	0.249	0.233	0.195	10.271
Minor Moment	4.040E-07	0.249	0.233	0.195	10.271

	Mo,cr	Mb	Mo	Mc	Mt
Major Moment	2.962	0.249	0.195	0.195	0.195

	N*	Ns	Nc	Nt	Noz
Axial	-1.997	33.961	10.271	33.961	11672.225

SHEAR CHECK

	V* Force	Vv Capacity	Stress Ratio	Status Check
Major Shear	4.854E-04	11.003	4.411E-05	OK
Minor Shear	1.374E-06	11.003	0.	OK

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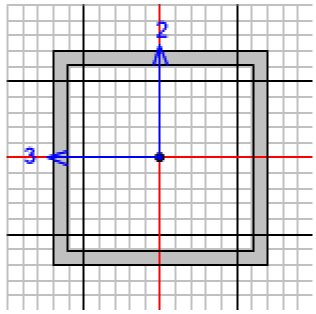
9.2 30x2 SHS




```
AS 4100-1998 STEEL SECTION CHECK    (Summary for Combo and Station)
Units  :  KN, m, C

Frame :  14        X Mid:  2.129     Combo:  COMB8          Design Type:  Brace
Length:  1.4       Y Mid:  -5.51     Shape:  30x2 SHS       Frame Type:   Braced Frame
Loc   :  0.        Z Mid:  0.668     Class:  Compact        Princpl Rot: 0. degrees

PhiB=0.9           PhiC=0.9          PhiTY=0.9          PhiTF=0.9          PhiS=0.9

A=2.240E-04        I33=2.942E-08     r33=0.011          Z33=1.961E-06      Av3=1.200E-04
J=4.390E-08        I22=2.942E-08     r22=0.011          Z22=1.961E-06      Av2=1.200E-04
E=210000000.       Fy=235000.        Ry=1.106           S33=2.356E-06      Iw=0.
RLLF=1.            Fu=390000.        SteelType=HR       S22=2.356E-06


STRESS CHECK FORCES & MOMENTS  (Combo COMB8)
    Location              N*          M33*         M22*          V2*          V3*          T*
    0.             -5.354E-05       -0.062        0.041       -0.238        0.045  -8.282E-04

PMM DEMAND/CAPACITY RATIO   (8.4.4.1)
    D/C Ratio:     0.125 = 0.125                                         <   0.95          OK
                        = M33*/(phi*Mo33)

BASIC FACTORS
    Buckling Mode    K Factor    L Factor        KL/r
    Major Flexure          1.       0.749      91.452
    Minor Flexure          1.          1.     122.166
    Major Braced           1.       0.749      91.452
    Minor Braced           1.          1.     122.166
    LTB                   1.4          1.     171.033

AXIAL FORCE & BIAXIAL MOMENT DESIGN   (8.4.4.1)
    Factor                  L    Braced ke     Sway ke      Delta_b      Delta_s     Cm Betam
    Major Bending       0.749           1.          1.           1.           1. 0.376 0.561
    Minor Bending          1.           1.          1.           1.           1.   0.2    1.

                         Lltb           Kt          Kl           Kr      Alpha_m      Alpha_s
    LTB Factors            1.           1.         1.4           1.          2.5        0.996

                   Steel Type           Kf          Kt      Alpha_a      Alpha_b      Alpha_c
    Axial Factors          HR           1.          1.       15.447          -1.        0.521

    Slenderness      Lambda_e    Lambda_ep   Lambda_ey    Lambda_ew Lambda_e/ey Compactness
    Major/Flange       12.604          30.         45.         180.        0.28      Compact
         /Web          12.604          82.        115.         180.        0.11      Compact
    Minor/Flange       12.604          82.        115.         180.        0.11      Compact
```

/Web	12.604	30.	45.	180.	0.28	Compact
Axial/Flange	12.604		45.		0.28	Compact
/Web	12.604		45.		0.28	Compact

	ZeMajor	ZeMinor	b-be	d-de	Aeff
Effective Pro	2.356E-06	2.356E-06	0.	0.	2.240E-04

	M*	Ms	Mr	Mi	Nc
Major Moment	-0.062	0.554	0.554	0.554	39.314
Minor Moment	0.041	0.554	0.554	0.554	27.432

	Mo,cr	Mb	Mo	Mc	Mt
Major Moment	7.502	0.554	0.554	0.554	0.554

	N*	Ns	Nc	Nt	Noz
Axial	-5.354E-05	52.64	27.432	52.64	13500.351

SHEAR CHECK

	V* Force	Vv Capacity	Stress Ratio	Status Check
Major Shear	0.238	15.228	0.016	OK
Minor Shear	0.045	15.228	0.003	OK

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10 Pegging Design

PRIME CONSULTING ENGINEERS PTY. LTD

Project: **12m Dome**

Jon no. **22-211-1**

Date: **4/05/2022**

Name	Value	Unit	Notes
minimum embedment depth for lateral bearing:			
Max. Horizontal Force	1.75	*kN*	
Max. Vertical Force	1.93	*kN*	
Number of Pegs	2		
Horizontal Load per peg	0.9	*kN*	
Vertical Load per peg	1.0	*kN*	
Sticking out of Ground	0	*m*	
S (bearing capacity)	150	*kPa*	To be confirmed by Geotechnical engineer
φ	0.02	*m*	
H	292	*mm*	
M	**0.00**	*kNm*	
γ	19	*kN/m³*	To be confirmed by Geotechnical engineer
min required Embedment:	**292**	*mm*	
F.S	**4.11**		
	OK		
Bending:			
Profile	φ20mm Peg		
Fy	350	*mPa*	
Ze	785.4	*mm3*	
phi	0.9		
phi Ms	**0.25**	*kNm*	
	OK		
Pull out Checking:			
Clay:			
Cu	25	*kPa*	To be confirmed by Geotechnical engineer
α (reduction factor)	1		
Provided Embedment	1200	*mm*	
L/d	60		
Rs	0.96		

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Perimeter	63	*mm*
Total Surface Area	0.075	*m^2*
min required Embedment:	0.64	*m*
F.S	1.87	
	OK	
Coefficient of Friction	0.6	
Equivalent Ballast	**0.29**	*tonne*

Reference: Foundations of Structures - Dunham, Mc Graw-Hill

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11 Summary and Recommendations

- The 12m Dome Structure as specified is capable of withstanding 3s gust wind speed up to **120km/hr** in region A, TC2.
- The dome structure is required to be dismantled for forecast winds in excess of **120km/hr**.
- The dome structure is designed to withstand snow loads of sub-alpine region (Orange, NSW) with maximum ground snow (Sg) 0.9kPa.
- For uplift due to 120km/hr, 2 kN (200kg) holding down weight/per support is required. (24 anchor points in total). Alternatively, pegging system described in Cl. 10 can be used.

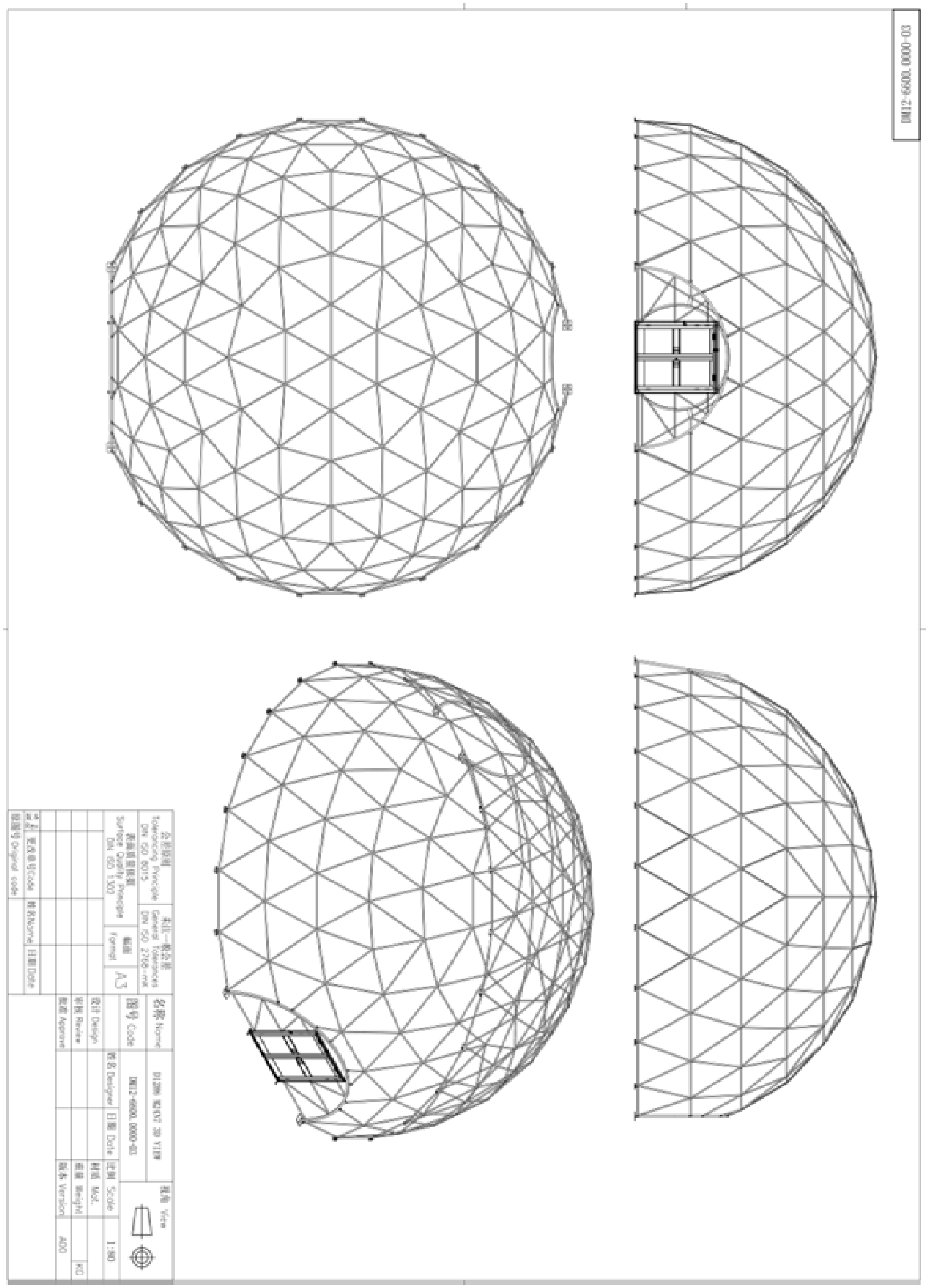
Yours faithfully,

Prime Consulting Engineers Pty. Ltd.

Kevin Zia, BEng, Meng, MIEAust, CPENG NER

Email: info@primeengineers.com.au **Address:** 21/1-7 Jordan St, Gladesville NSW 2111
Web: www.primeengineers.com.au **Phone:** (02) 8964 1818

12 Appendix A – Detail Drawings



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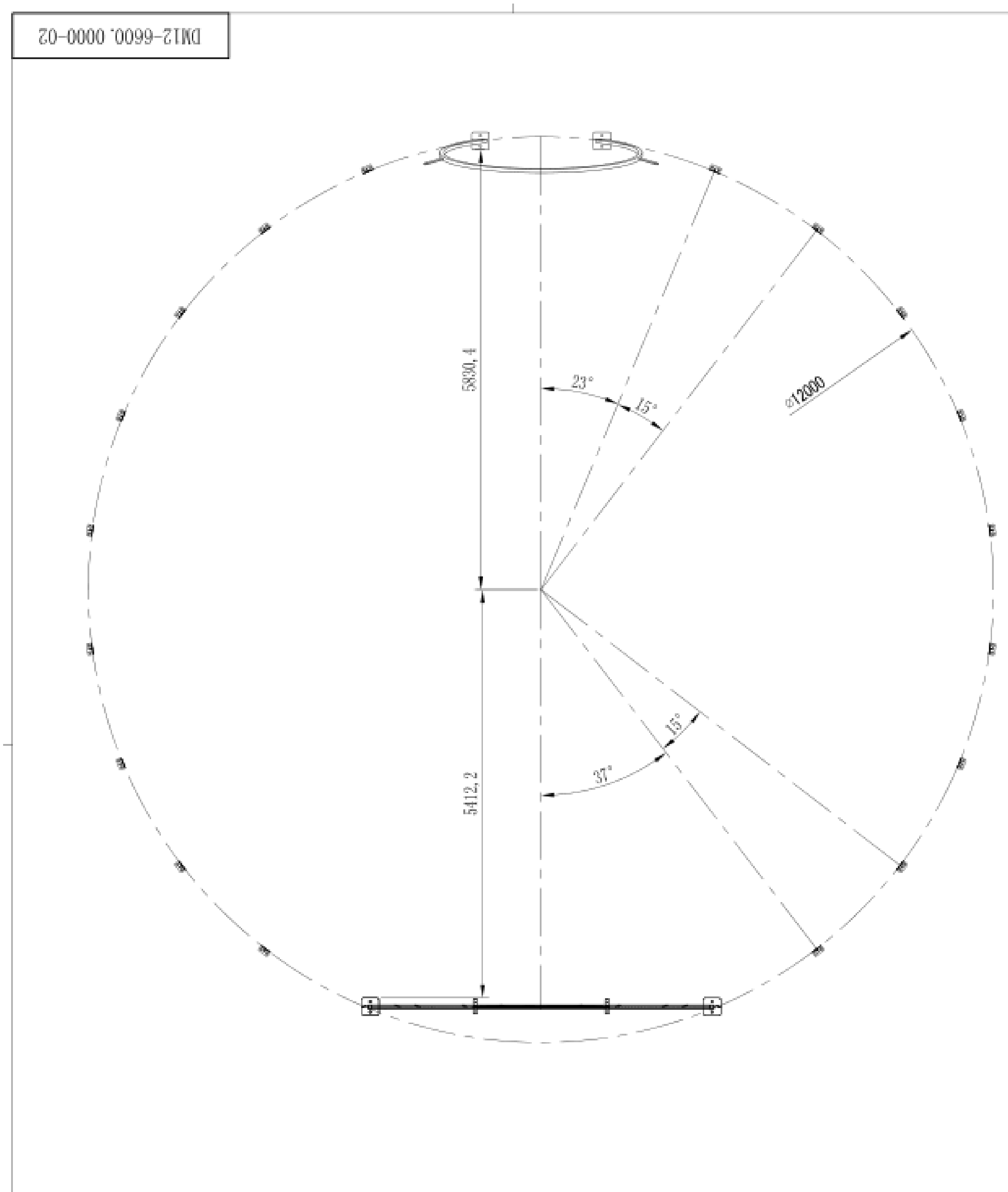

公差原则 Tolerancing Principle DIN ISO 8015	未注一般公差 General Tolerances DIN ISO 2768-mK	名称 Name	D12H6 M24N7 ORIENTATION PLAN			视角 View	
表面质量依据 Surface Quality Principle DIN ISO 1302	幅面 Format A4	图号 Code	DM12-6600.0000-02				
			姓名 Designer	日期 Date	比例 Scale	1:1	
		设计 Design			材质 Mat.	Q235B	
		审核 Review			重量 Weight	*	KG
		批准 Approve			版本 Version	A00	
版本 Rev. 更改单号Code	姓名Name 日期 Date						
原图号 Original code							

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DM12-6600.0000-01

CODE	DIS. BTW. EDGES	DIS. BTW. HOLES	QUANTITY	WEIGHT (kg)
G-01	1403.2	1343.6	24	49.9
G-02	1394.7	1335.1	6	12.4
G-03	1713.6	1654.2	12	30.5
G-04	1407.2	1347.6	12	25.0
G-05	1785.6	1726.2	12	31.7
G-06	1509.1	1449.5	12	26.8
G-07	1358.8	1299.2	18	36.2
G-08	1791.8	1732.4	12	31.9
G-09	1452.0	1392.4	12	25.8
G-10	1588.7	1529.2	12	28.2
G-11	1284.3	1224.6	24	45.7
G-12	1555.9	1496.4	48	110.6
G-13	1470.8	1411.2	24	52.3
G-14	1591.2	1531.7	40	94.3
G-15	1586.5	1527.0	18	42.3
G-16	1610.5	1551.0	36	85.9
G-17	1625.8	1566.3	16	38.5
G-18	1572.2	1512.7	2	4.7
G-19	1583.7	1524.2	2	4.7
G-20	1158.5	1098.8	2	3.4
G-21	1217.2	1157.5	2	3.6
G-22	674.5	614.6	2	2.0
G-23	460.5	400.5	2	1.4
G-24	1443.0	1383.0	2	4.3
G-25	1508.0	1448.0	2	4.5
G-26	1244.1	1184.1	2	3.7
G-27	960.7	900.7	2	2.8
G-28	617.7	557.7	2	1.8
G-29	1552.7	1493.2	2	4.6
G-30	566.6	506.7	2	1.7
TOTAL			364	811

LIST OF BOLTS

CODE	POSITION	DESCRIPTION	NORMS	QUANTITY
1	TUBES	TUBE& TUBES	M12*40	103
2	BASE PLATE	BASE& TUBES	M12*30	18
3	DOOR FRAME	DOOR CONNECTION	M12*30	14
4	DOOR FRAME	DOOR CONNECTION	M12*70	8
5	ABOVE	HEX NUTS	M12	143
6	ABOVE	CAP NUTS	M12	143
7	DOOR FRAME	DOOR& DOOR	M10*20	16

公差原则 Tolerancing Principle DIN ISO 8015	未注一般公差 General Tolerances DIN ISO 2768-mK	名称 Name	D12M6 M24N7 ASSEMBLY PLAN
表面质量依据 Surface Quality Principle DIN ISO 1302	幅面 Format A3	图号 Code	DM12-6600.0000-01
	姓名 Designer	日期 Date	比例 Scale 1:70
设计 Design			材质 Mat.
审核 Review			重量 Weight KG
批准 Approve			版本 Version A00
更改单号 Code	姓名Name	日期 Date	视角 View
原图号 Original code			

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