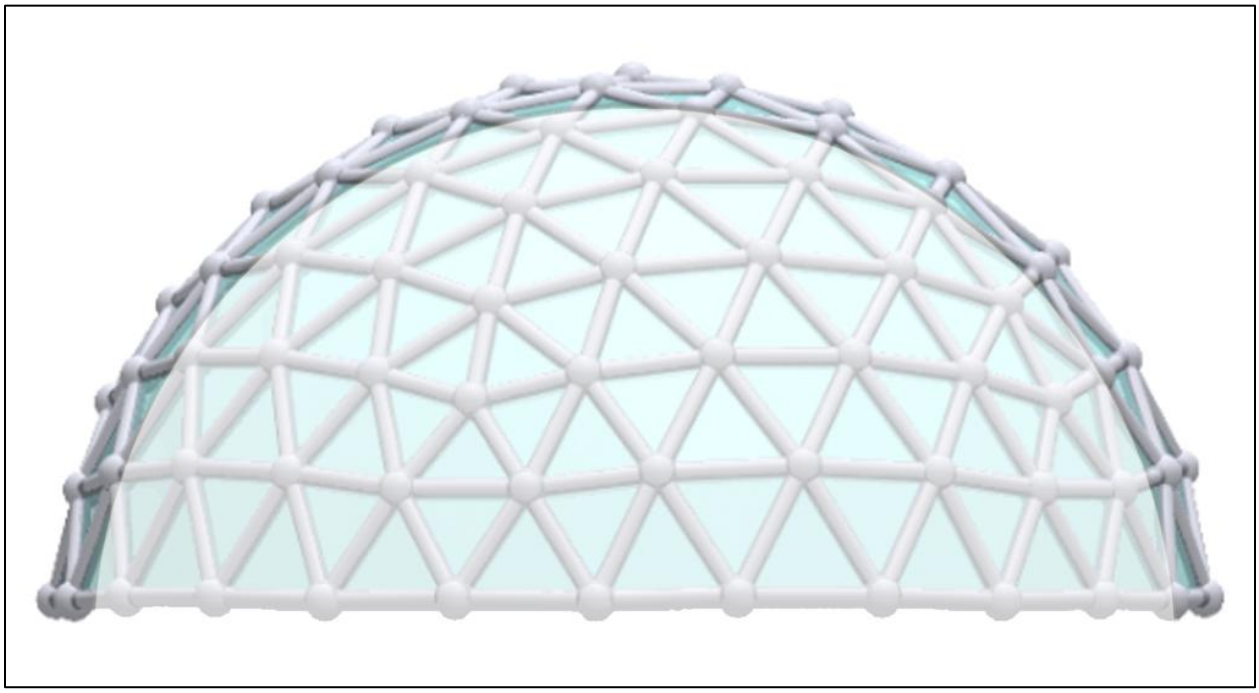
# Suspended Gore Dome Inscribed In A 3v Geodesic Dome

## A Comprehensive Instruction Set by Adam Goss

### Original Concept: Joe Abraham Dean



**Basic planetarium gore designs are a concept familiar to any engineer or planetarium guru alike.** Recently a proposal for an new design was submitted by Joe Abraham Dean. This concept relies on an exoskeleton composed of a 3v geodesic structure with an inflated gore internally suspended from the sides using tie line and eye hole grommets. These instruction plans rely on gores with 20 lateral divisions of accuracy producing a gore dome of 19' 6". The 3v Geodesic frame is a 20' diameter dome allowing for 3" of space between the skeleton and the suspended gore dome. These plans include detailed gore section patterns for a 19' 6" dome with several different specifications.

The instruction set is broken down into the following four gore patterns which can be used based on design parameters:

1. 180° Butt Joint Gore Dome
2. 180° 3" Seam Gore Dome
3. 225° Butt Joint Gore Dome
4. 225° 3" Seam Gore Dome

The aforementioned design patterns consist of two dome types; 180° domes and 225° domes. Butt joint domes consist of gores connected edge to edge (*no seam)*. Seam gore domes consist of sections with a 3" overlap on *each edge* so that when constructed, the dome will have a 3" seam on the outside of each section.

# THIS PATTERN CALLS FOR A MATERIAL WIDTH OF 1 METER (39")

**Note: All Dimensions are in Inches**

For all gores that have listed seams, seam allowances are 3" per side. NOTE this is a total of 6" worth of seams for each gore (one on each side).

Values in the left column represent the width of the gore at the corresponding vertical height in the right column.

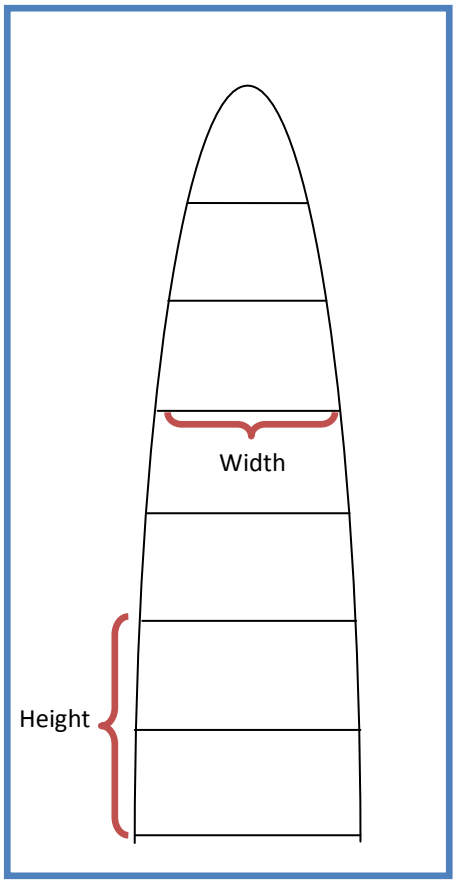
## Gores of 180° Inclusion

### Sections: 20

| 180 PLAIN | HEIGHT |
|---|---|
| 38.33 | 0.00 |
| 38.21 | 9.58 |
| 37.86 | 19.16 |
| 37.27 | 28.75 |
| 36.45 | 38.33 |
| 35.41 | 47.91 |
| 34.15 | 57.49 |
| 32.68 | 67.07 |
| 31.01 | 76.65 |
| 29.14 | 86.24 |
| 27.10 | 95.82 |
| 24.89 | 105.40 |
| 22.53 | 114.98 |
| 20.03 | 124.56 |
| 17.40 | 134.15 |
| 14.67 | 143.73 |
| 11.84 | 153.31 |
| 8.95 | 162.89 |
| 6.00 | 172.47 |
| 3.01 | 182.06 |
| 0.00 | 191.64 |

### Sections: 24

| 180 SEAM | HEIGHT |
|---|---|
| 37.94 | 0.00 |
| 37.84 | 9.58 |
| 37.55 | 19.16 |
| 37.06 | 28.75 |
| 36.38 | 38.33 |
| 35.51 | 47.91 |
| 34.46 | 57.49 |
| 33.23 | 67.07 |
| 31.84 | 76.65 |
| 30.29 | 86.24 |
| 28.58 | 95.82 |
| 26.74 | 105.40 |
| 24.77 | 114.98 |
| 22.69 | 124.56 |
| 20.50 | 134.15 |
| 18.22 | 143.73 |
| 15.87 | 153.31 |
| 13.46 | 162.89 |
| 11.00 | 172.47 |
| 8.51 | 182.06 |
| 6.00 | 191.64 |



## Gores of 225° Inclusion

### Sections: 20

| 225 PLAIN | HEIGHT |
|---|---|
| 35.41 | 0.00 |
| 36.45 | 9.58 |
| 37.27 | 19.16 |
| 37.86 | 28.75 |
| 38.21 | 38.33 |
| 38.33 | 47.91 |
| 38.21 | 57.49 |
| 37.86 | 67.07 |
| 37.27 | 76.65 |
| 36.45 | 86.24 |
| 35.41 | 95.82 |
| 34.15 | 105.40 |
| 32.68 | 114.98 |
| 31.01 | 124.56 |
| 29.14 | 134.15 |
| 27.10 | 143.73 |
| 24.89 | 153.31 |
| 22.53 | 162.89 |
| 20.03 | 172.47 |
| 17.40 | 182.06 |
| 14.67 | 191.64 |
| 11.84 | 201.22 |
| 8.95 | 210.80 |
| 6.00 | 220.38 |
| 3.01 | 229.96 |
| 0.00 | 239.55 |

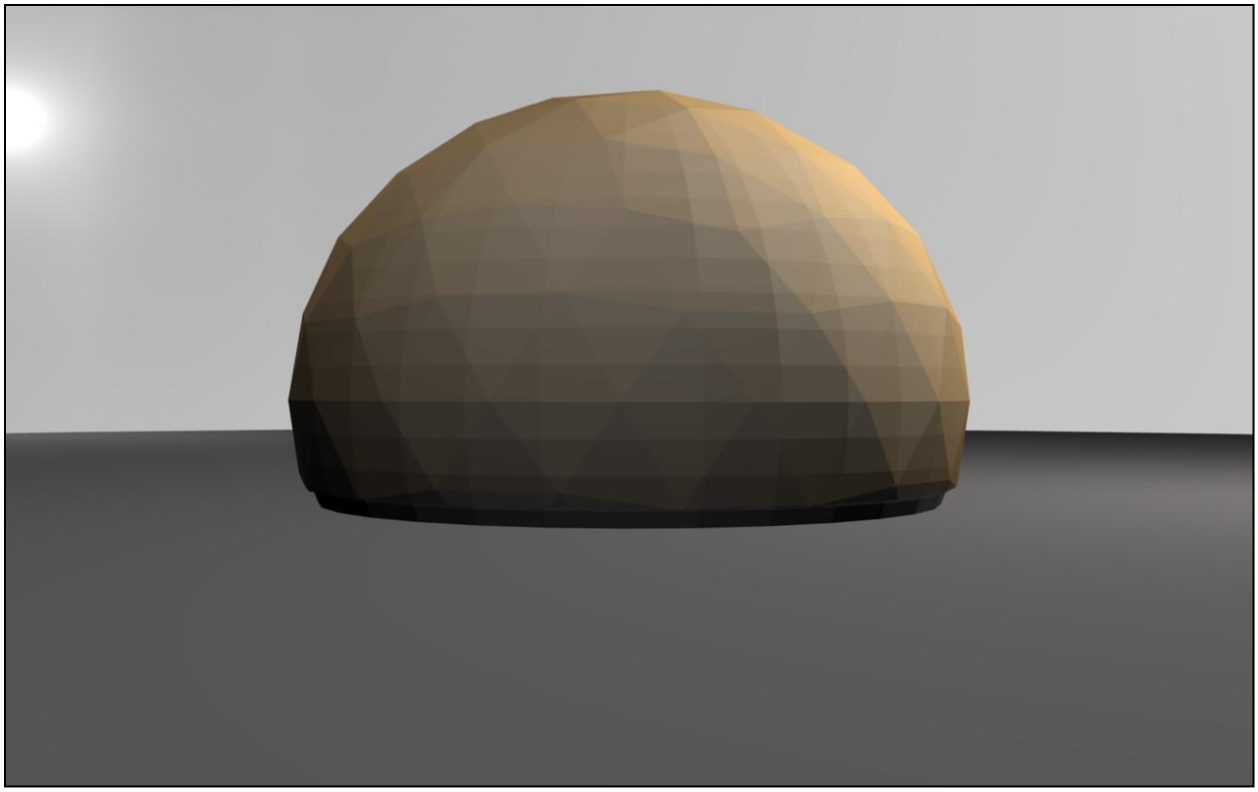
### Sections: 24

| 225 SEAM | HEIGHT |
|---|---|
| 35.51 | 0.00 |
| 36.38 | 9.58 |
| 37.06 | 19.16 |
| 37.55 | 28.75 |
| 37.84 | 38.33 |
| 37.94 | 47.91 |
| 37.84 | 57.49 |
| 37.55 | 67.07 |
| 37.06 | 76.65 |
| 36.38 | 86.24 |
| 35.51 | 95.82 |
| 34.46 | 105.40 |
| 33.23 | 114.98 |
| 31.84 | 124.56 |
| 30.29 | 134.15 |
| 28.58 | 143.73 |
| 26.74 | 153.31 |
| 24.77 | 162.89 |
| 22.69 | 172.47 |
| 20.50 | 182.06 |
| 18.22 | 191.64 |
| 15.87 | 201.22 |
| 13.46 | 210.80 |
| 11.00 | 220.38 |
| 8.51 | 229.96 |
| 6.00 | 239.55 |

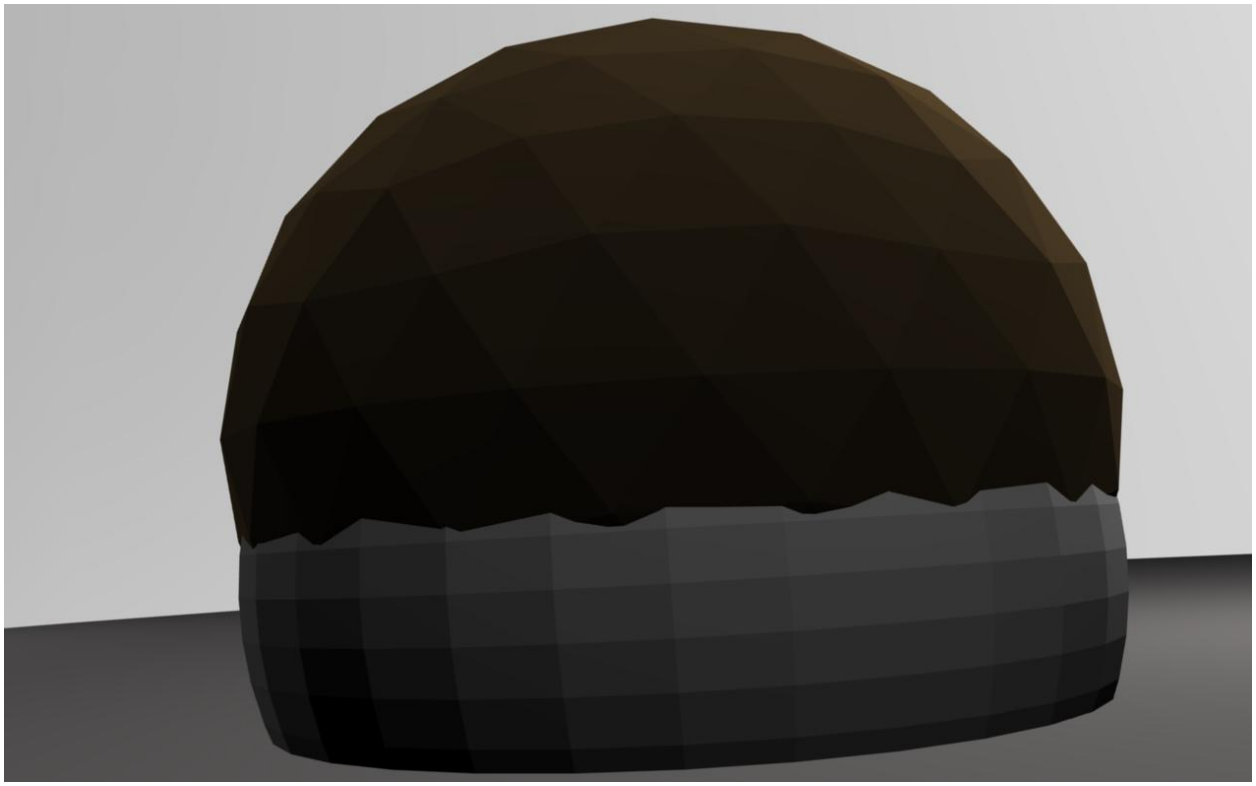
GROUND ZERO: This width is the 180° Mark

Values above this mark are 180°-220°

Values below this mark are below 180°, or part of the regular gore.



Inscribed Gore Dome of 225°



Gore Dome with Geodesic 3V raised to show sections