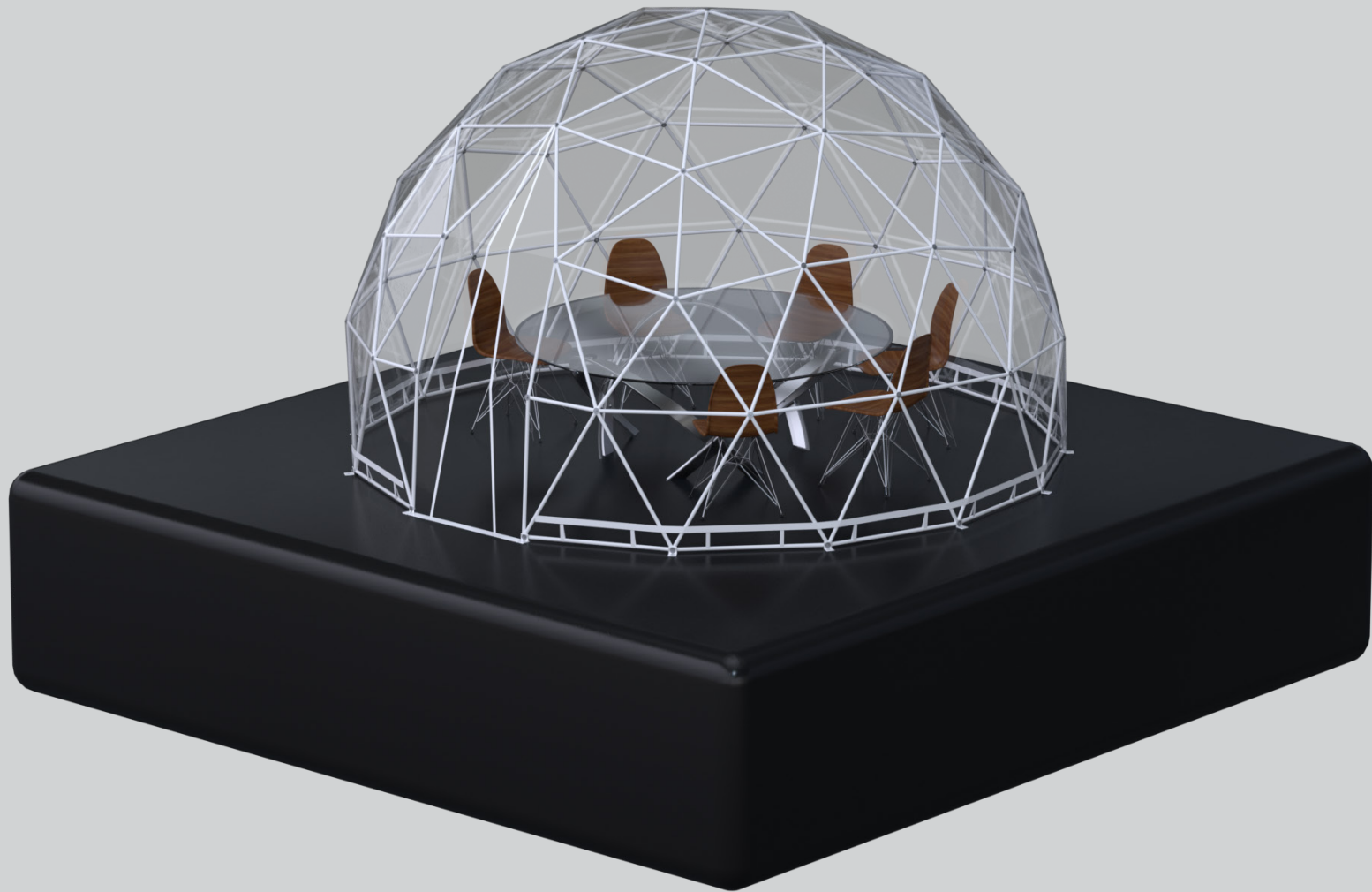


# DOME INSTRUCTION MANUAL

4m Geodesic Dome



# TABLE OF CONTENTS

Section Topic	Page Number
Item list	1
Item Overview and Information	2
3D Frame Diagram - Right Angle View	3
2D Frame Diagram - Top View	4
Row by Row Strut Placement	5
Door Frame and Hub Closeup	6
Measurements	7
Dome Maintenance, Storage and Repair	8
Ballasting / Anchoring Options and Information	9
Hub Hardware and Arrangement	10
Frame Construction Step by Step Instructions	11
Dome Cover Installation Step by Step Instructions	16

## HARDWARE

ITEM NUMBER	ITEM	QUANTITY	DIMS W x L x H	WEIGHT	UNIT
T-1	Steel Nuts	68	5/16"	0.32	lbs
T-2	Long Bolts	62	2" x 5/16"	1.16	lbs
T-3	Nylon Washers	136	5/8"OD x 5/16"ID	0.04	lbs
T-4	Nylon End Caps	68	1/2" x 5/16"	0.08	lbs
T-5	Large Washer	15	1 1/2"OD x 1/2"ID	0.36	lbs
T-6	Ground Anchor	15	4 1/2" x 1/2"	1.68	lbs
T-7	Anchor Plates	15	4" x 2 3/4" x 3 1.4"	5.55	lbs
T-8	Micro Hex Screws	6	1" x 5/16"	0.08	lbs
P-1	Cover	1	24" x 36" x 3 "	83.15	lbs
P-2	Frame	1	See page 5	191.9	lbs
P-3	Lag Screws	60	2" x 3/16"	0.6	lbs
P-4	Small Bolts	8	3/8" x 1/4" 20	0.02	lbs
P-5	Zip Ties	28	20" x 3/8"	0.18	lbs

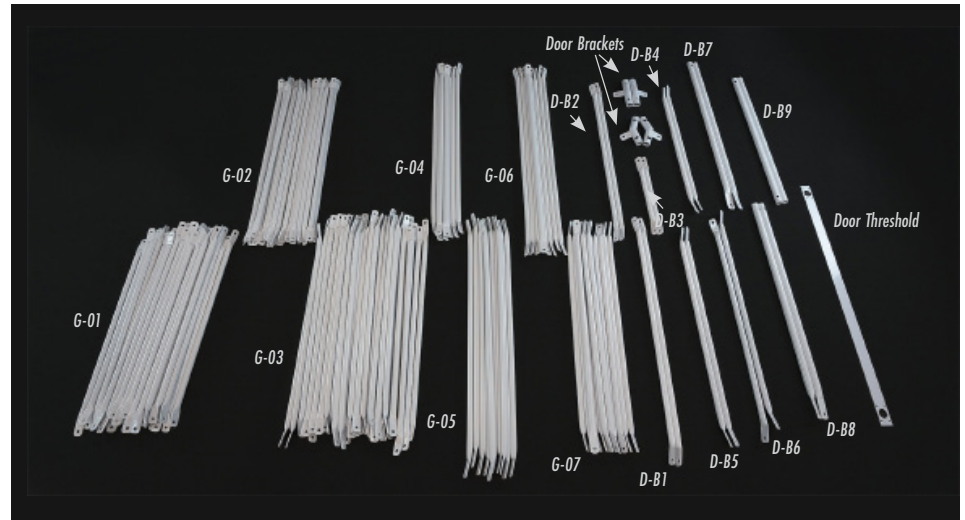
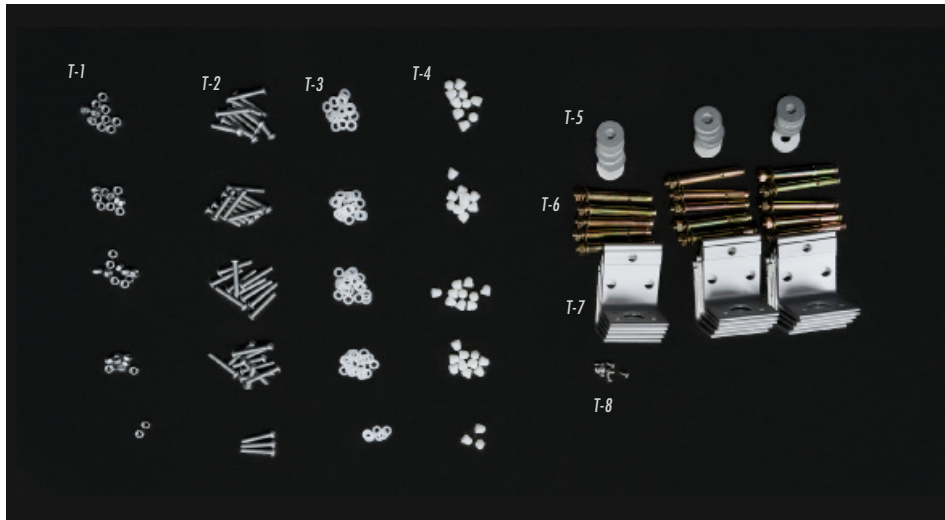
*\*P items not pictured*

## STRUTS

ITEM NUMBER	QUANTITY	
G-01	37	
G-02	26	
G-03	44	
G-04	8	
G-05	10	
G-06	8	
G-07	12	
D-B1	2	
D-B2	2	
D-B3	2	
D-B4	2	
D-B5	2	
D-B6	2	
D-B7	2	
D-B8	2	
D-B9	2	
Door Brackets	U-1	2
Door Threshold	U-2	1

# 4m Geodesic Dome - Item Overview and Information

- Before you start we recommend you become familiar with the frame diagram and ensure that all items in the item list are accounted for.
- Lay out hardware and stagger struts to keep them separated, this will help streamline the build process.

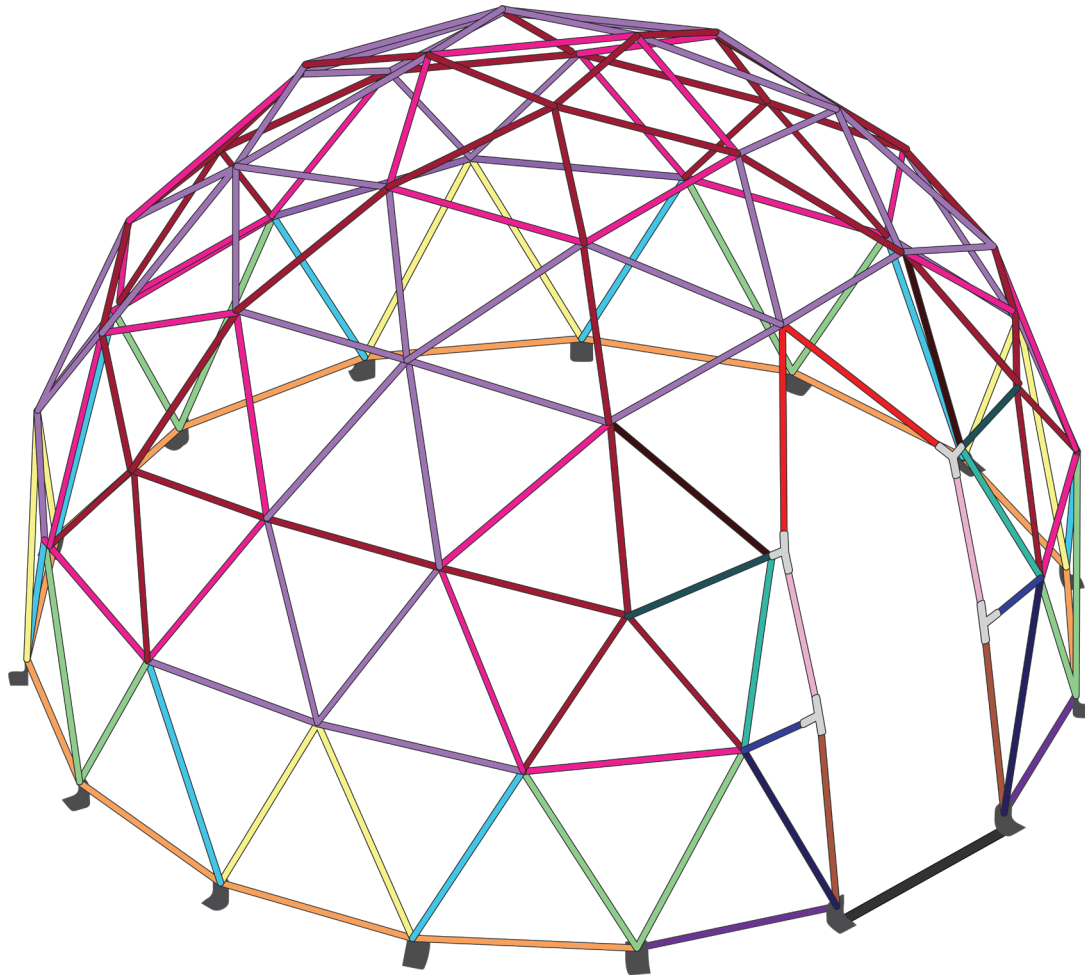


ITEM NUMBER	ITEM	QUANTITY	DIMS W x L x H	WEIGHT	UNIT
T-1	Nuts	68	5/16"	0.32	lbs
T-2	Long Bolts	62	2" x 5/16"	1.16	lbs
T-3	Nylon Washers	136	5/8"OD x 5/16"ID	0.04	lbs
T-4	Nylon End Caps	68	1/2"x5/8"ID	0.08	lbs
T-5	Large Washer	15	1 1/2"OD x 1/2"ID	0.36	lbs
T-6	Ground Anchor	15	4 1/2" x 1/2"	1.68	lbs
T-7	Anchor Plates	15	4" x 2 3/4" x 3 1/4"	5.55	lbs
T-8	Micro Hex Screws	8	1" x 5/16"	0.08	lbs

ITEM NUMBER	QUANTITY
G-01	37
G-02	26
G-03	44
G-04	8
G-05	10
G-06	8
G-07	12
D-B1	2
D-B2	2

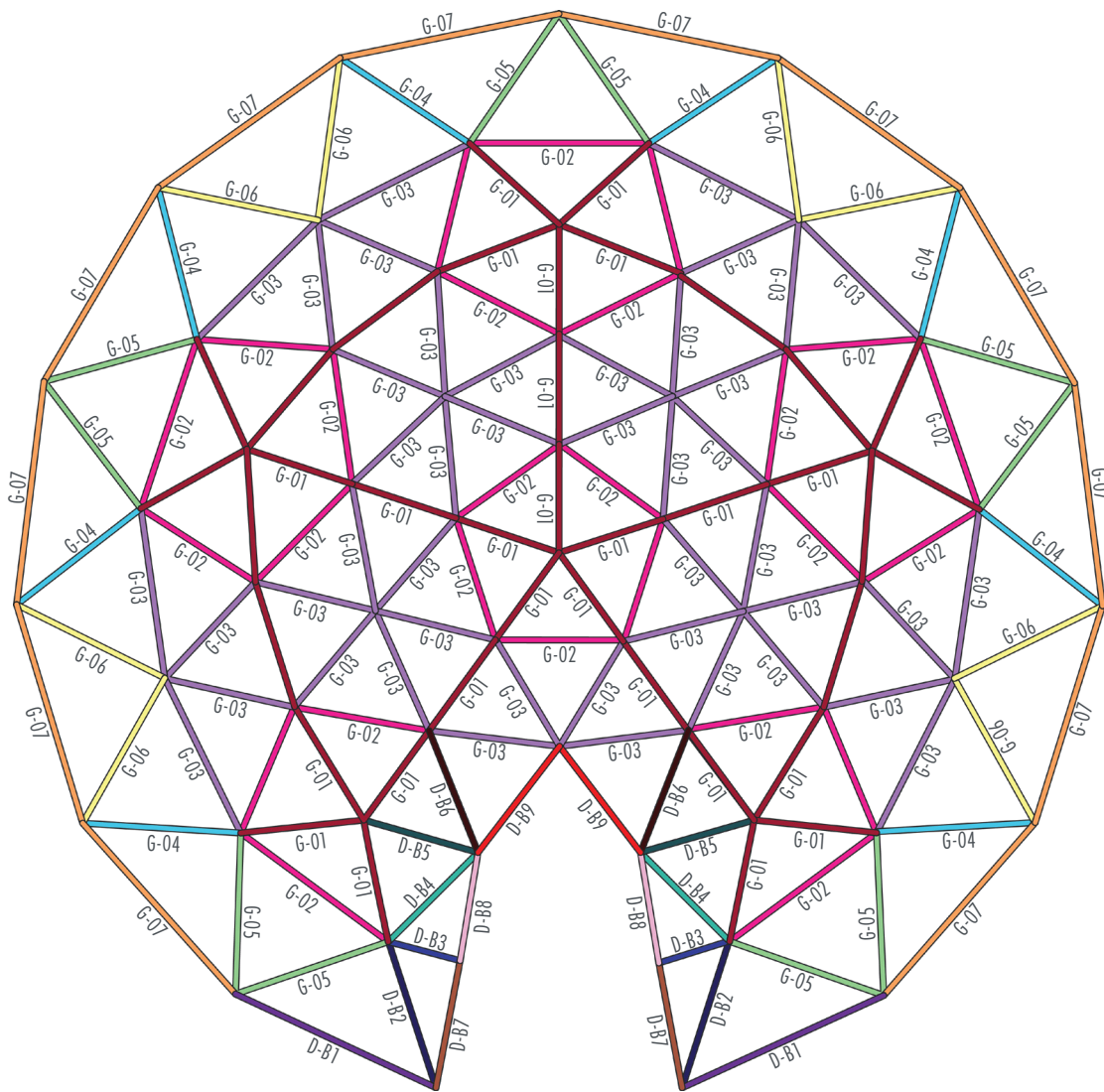
ITEM NUMBER	QUANTITY
D-B3	2
D-B4	2
D-B5	2
D-B6	2
D-B7	2
D-B8	2
D-B9	2
Door Brackets	4
Door Threshold	1

# 4m Geodesic Dome - 3D Diagram - Right Angle View



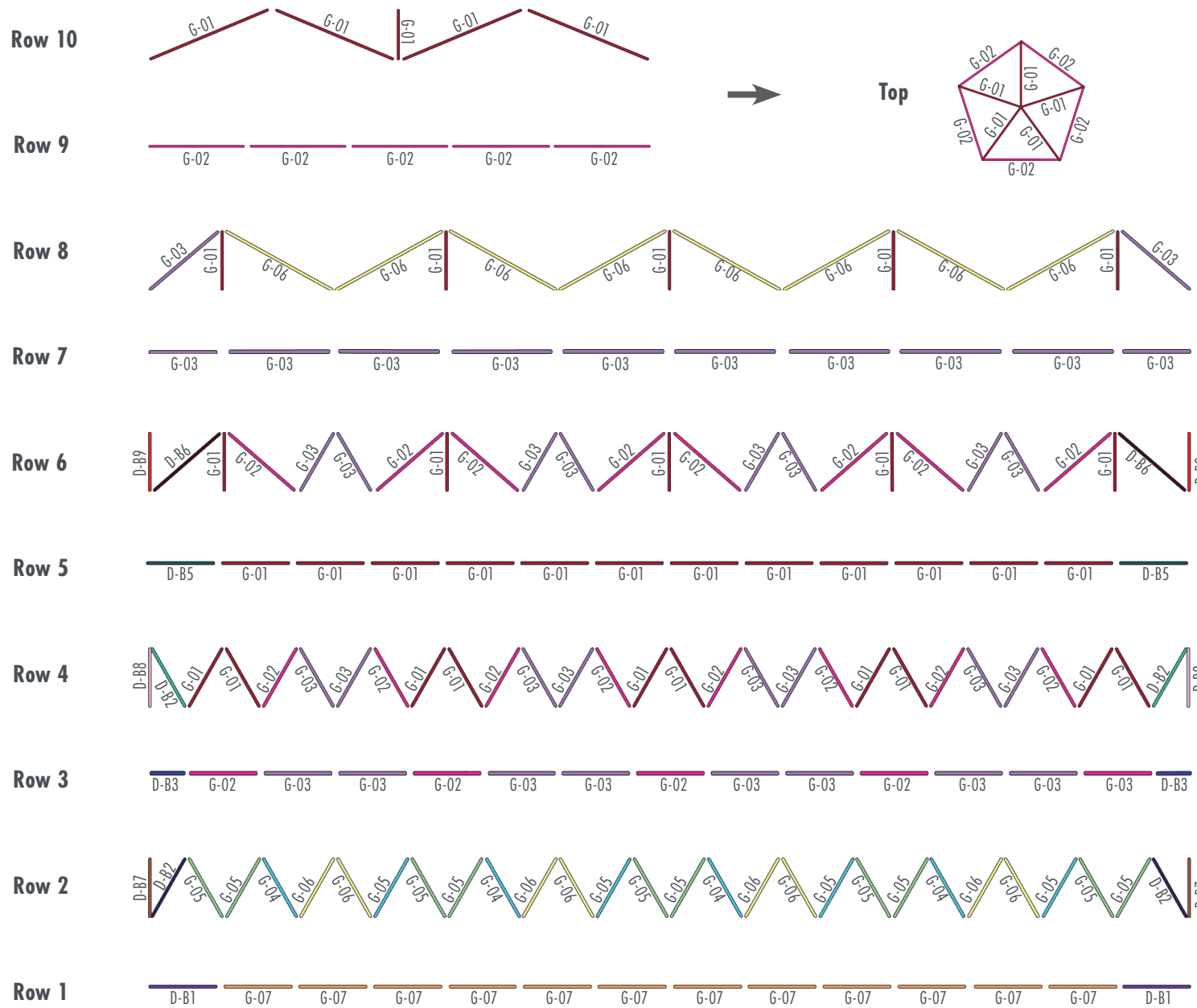
ITEM NUMBER	COLOR	QUANTITY
G-01	Dark Red	37
G-02	Magenta	26
G-03	Purple	44
G-04	Cyan	8
G-05	Light Green	10
G-06	Yellow	8
G-07	Orange	12
D-B1	Dark Purple	2
D-B2	Dark Blue	2
D-B3	Blue	2
D-B4	Teal	2
D-B5	Dark Teal	2
D-B6	Dark Brown	2
D-B7	Brown	2
D-B8	Pink	2
D-B9	Red	2

# 4m Geodesic Dome - 2D Diagram - Top View



ITEM NUMBER	COLOR	QUANTITY
G-01	Dark Red	37
G-02	Magenta	26
G-03	Purple	44
G-04	Cyan	8
G-05	Light Green	10
G-06	Yellow	8
G-07	Orange	12
D-B1	Dark Purple	2
D-B2	Dark Blue	2
D-B3	Blue	2
D-B4	Teal	2
D-B5	Dark Teal	2
D-B6	Dark Brown	2
D-B7	Brown	2
D-B8	Pink	2
D-B9	Red	2

# 4m Geodesic Dome - Row by Row Strut Placement



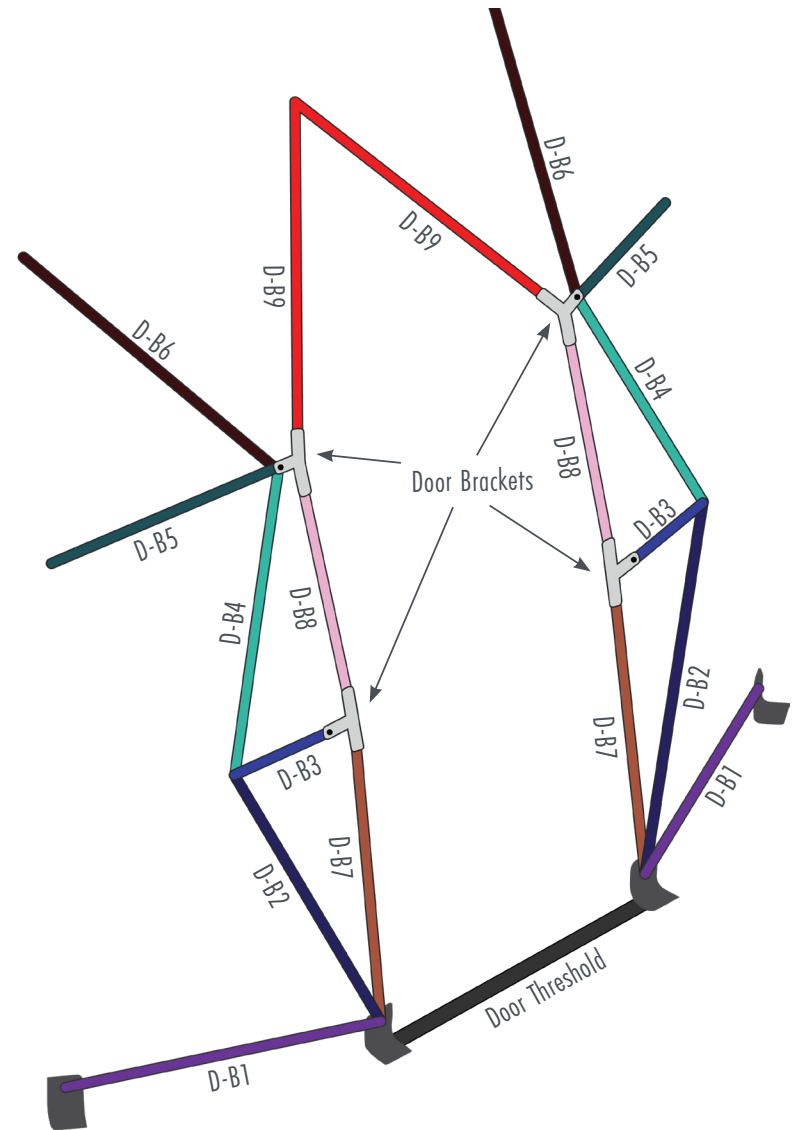
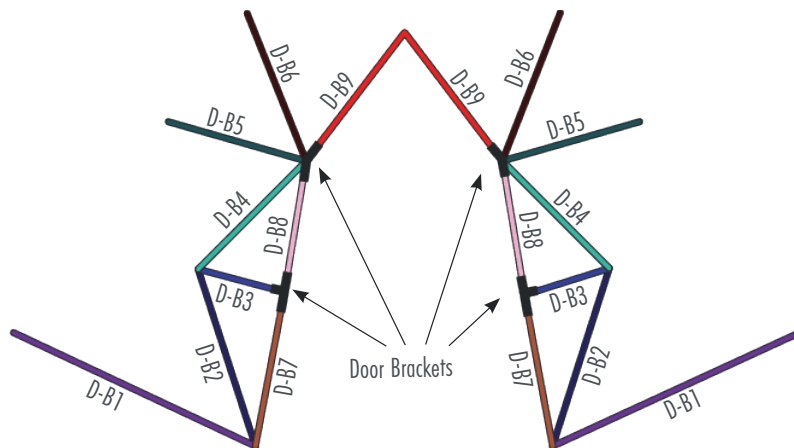
ITEM NUMBER	COLOR
G-01	Dark Red
G-02	Magenta
G-03	Purple
G-04	Cyan
G-05	Light Green
G-06	Yellow
G-07	Orange
D-B1	Dark Purple
D-B2	Dark Blue
D-B3	Blue
D-B4	Teal
D-B5	Dark Teal
D-B6	Dark Brown
D-B7	Brown
D-B8	Pink
D-B9	Red

\* Struts not to scale

## Door Frame Assembly

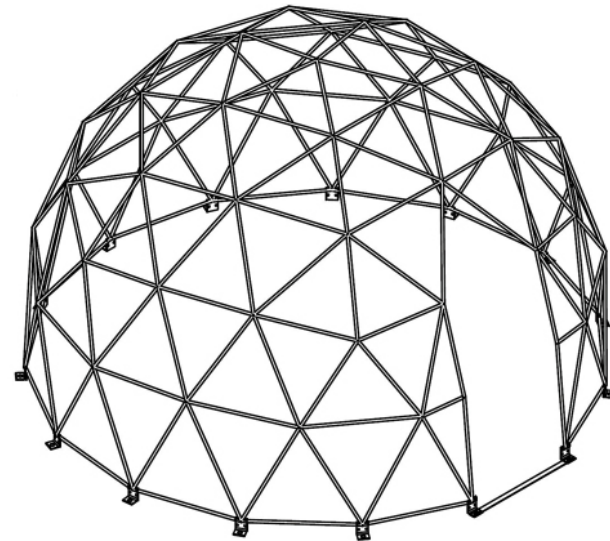
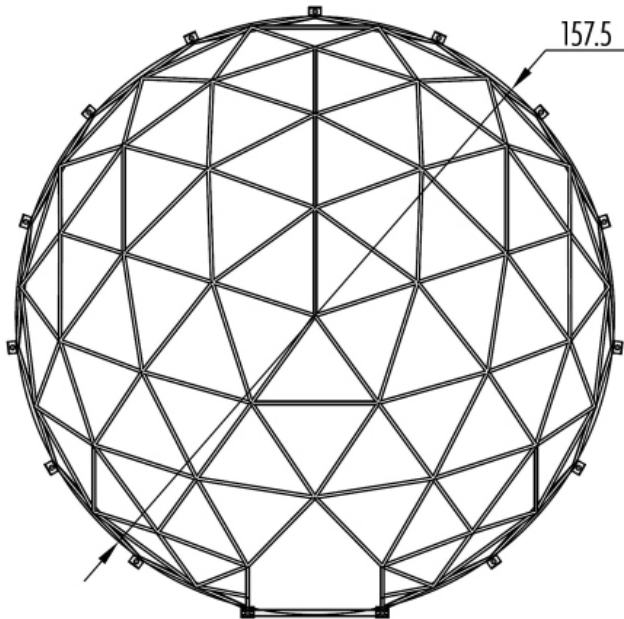
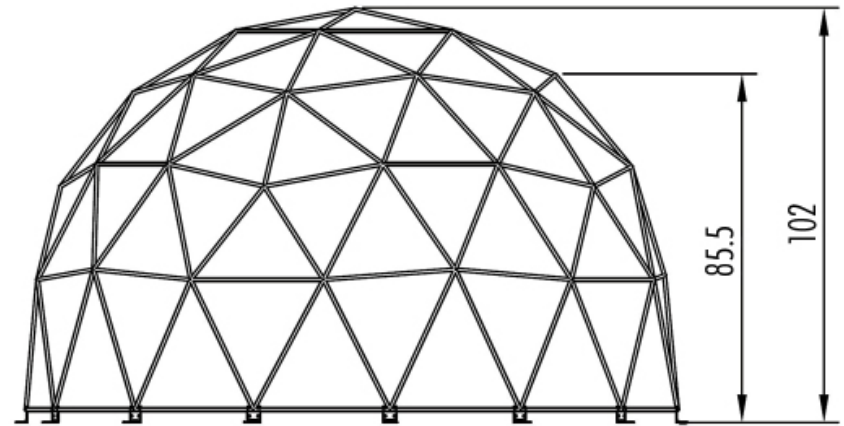
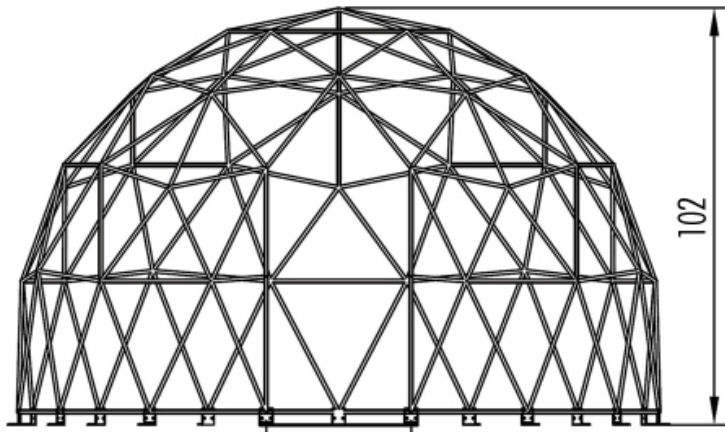
- The door frame is best constructed row by row with the rest of the dome.
- The tubular parts of the door bracket are to be secured to the struts using the same hardware assembly as the hubs.
- Each door bracket needs to be fastened to the struts above and below using **long bolts (T-2)**, **nylon washers (T-2)** and **steel nuts (T-1)**.

ITEM NUMBER	COLOR
D-B1	Purple
D-B2	Dark Blue
D-B3	Blue
D-B4	Teal
D-B5	Dark Green
D-B6	Dark Brown
D-B7	Brown
D-B8	Pink
D-B9	Red
Door Brackets	NA
Door Threshold	NA





\*Measurements in inches



## Cover Maintenance and Cleaning

- Ensure that dome cover stays clean.
- Cover should be hosed down once a month in warm weather. Use a damp cloth if weather is cooler. In freezing temperatures, do not clean the dome as any frost will damage the cover.
- Do not use any products other than mild soap to clean the dome cover. There is a coating that is easily removed by harsher products.
- Do not place the dome where it may come in contact with shrubberies and vines, as some contain acids that can be harmful to the material.
- Repair any small rips or tears immediately to prevent further damage.
- Do not allow water or snow to sit on the dome cover, this can cause the material to stretch and create pockets from the weight.

## Storage

- Store in a warm, dry place.
- Do not store the dome cover when damp or wet, as mildew can grow and may stain the material.
- Do not store in freezing temperatures as this will cause the vinyl to become brittle, which may cause it to crack or break when moved.
- Both the frame and dome cover should be stored above the ground. This will prevent rot from moisture.

## Dome Repair

- Repair any tears on the vinyl cover with vinyl adhesive immediately.

## Frame Maintenance and Cleaning

- Clean with mild soap and water.
- Treat any rust on the dome frame immediately with a steel brush and metal preserve.

## Cold Weather Cover Installation Guide

- Cold weather causes the dome cover to stiffen, making installing it a near impossible task. For cold weather installation, follow the tips below:
- Warm up the cover as much as possible before unwraveling it. This can be done by leaving it in a warm room or vehicle for a few hours .
- In cold weather, some of the smaller folds can be very difficult to stretch out. As soon as the cover is unwraveled enough to drape it over the dome, place an electric heater inside the dome frame. The heat from within the dome should warm up the vinyl, allowing any folds to stretch out.
- Once the cover has been correctly placed over the dome, draping a tarp over the exterior of the cover will help trap heat produced by the heater from inside the dome.

## IMPORTANT SAFETY INFORMATION

- An unanchored dome with the cover installed should never be left unattended and the dome should be anchored immediately. Winds can lead to displacement of the dome, resulting in destruction of property, serious injury and/or death.
- Do not install dome cover in winds above 5mph.
- Even when anchored, dome cover should be removed if winds exceed 60mph.

## Anchoring - Ground Stakes

For medium to soft terrain such as soil or dirt, ground stakes called bull pricks can be used as anchors

Drive a stake through each anchor plate at a 75-80 degree angle



## Anchoring - Penetrators (Ground Screws)

Penetrators work for a range of outdoor terrain types from loose, uncompacted sand to asphalt.

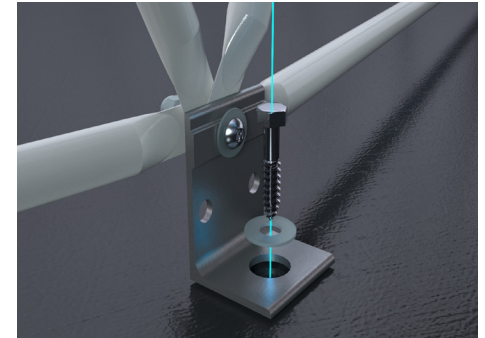
These vary in size, ensure that you are using the correct size for the type of terrain.



## Anchoring - Deck Bolts

For wooden surfaces, lag screws for a wooden deck can be used.

Bolts are another option that can be used on wood, as well as a range of other surface materials.



## Ballasting

We recommend you ballast the dome to the ground at each individual anchor point.

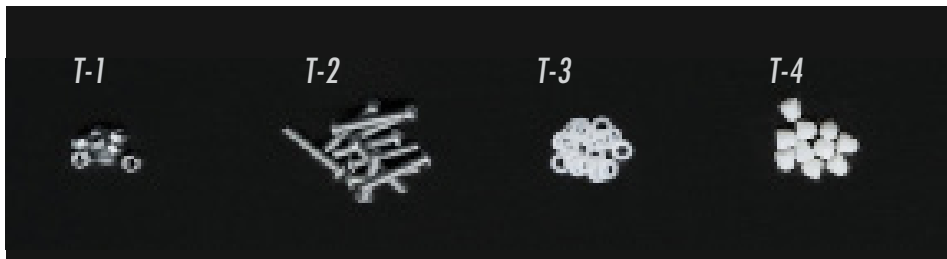
Each ballast should weight a minimum of 150lbs, totalling a weight of 2,250lbs to secure the dome to the ground. Again, this is only safe at wind speeds of up to 60mph.

They can be strapped to the base of the dome frame or secured directly to the anchor plates.

For something a little more unique than standard concrete blocs, we recommend looking at water ballasts or planter ballasts (pictured).



## Hardware Required at each Hub



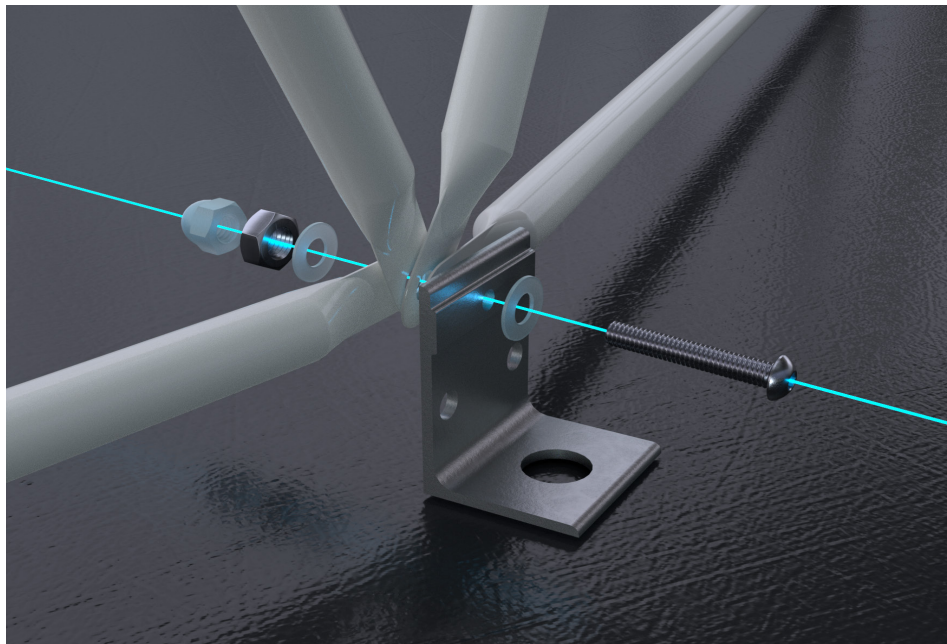
## Hub Structure for Rows 3 and Above

ITEM NUMBER	ITEM	QUANTITY
T-1	Steel Nuts	68
T-2	Long Bolts	62
T-3	Nylon Washers	136
T-4	Nylon End Caps	68

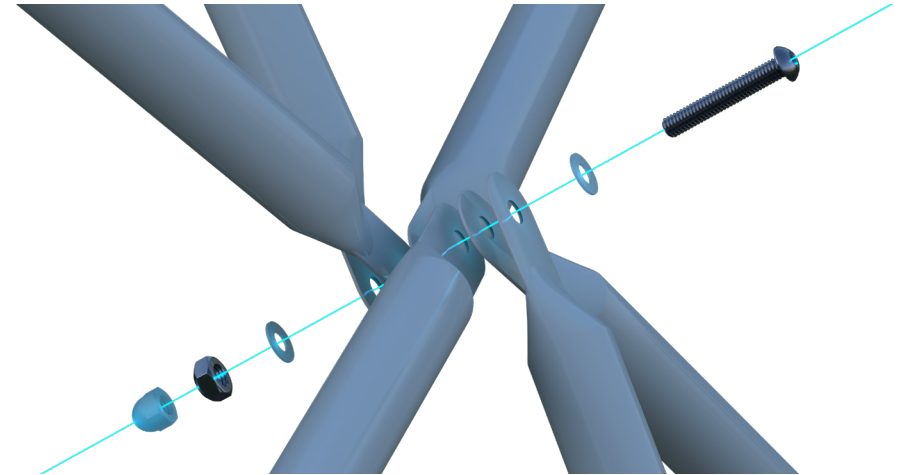
Use the hardware in the table to secure each of the dome frame's hubs.

It is important to correctly align the struts at each hub so the dome frame is as stable as possible.

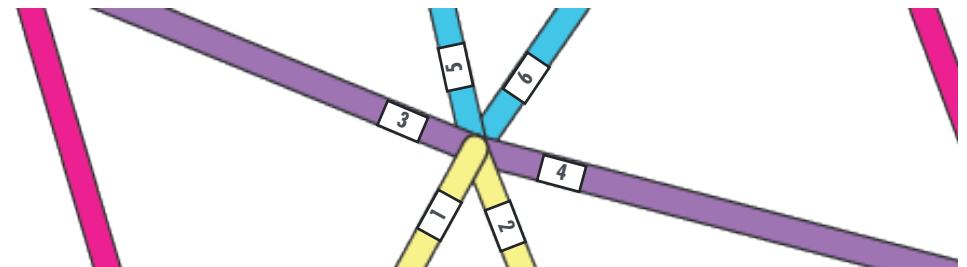
## Hub Structure at Dome Base



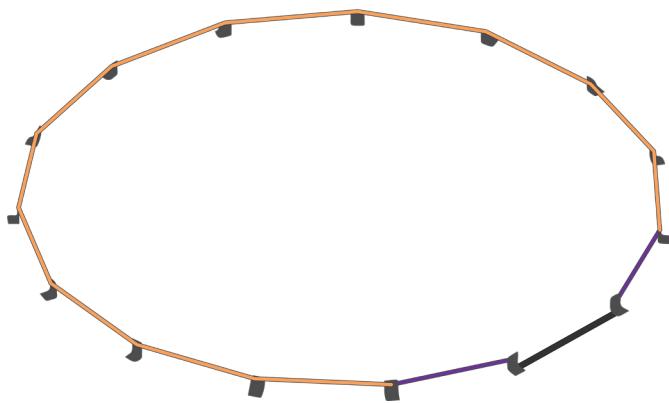
Bolt **anchor plate (T-7)** onto each hub facing outward as shown in the image. Ensure that the frame perimeter is as circular as possible and the hubs are positioned equidistant-



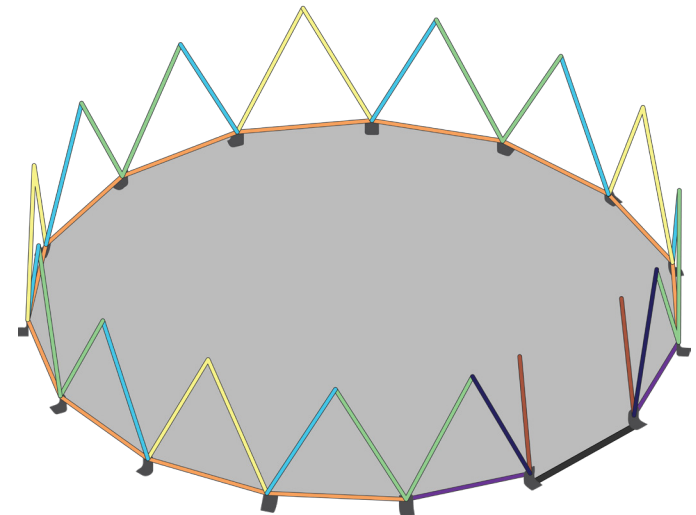
Each hub has 3 Rows of struts attached at the center, ordered as follows (outside to inside):  
 (1) Bottom Left (2) Bottom Right (3) Middle Left (4) Middle Right (5) Top left (5) Top Right



## Row 1



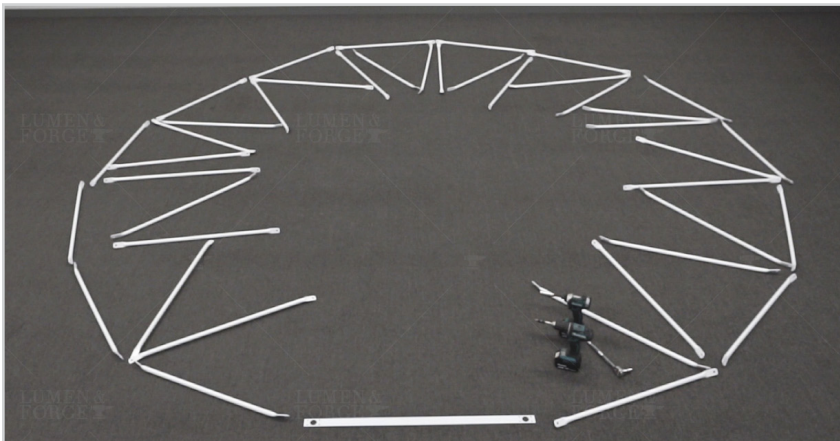
## Row 2

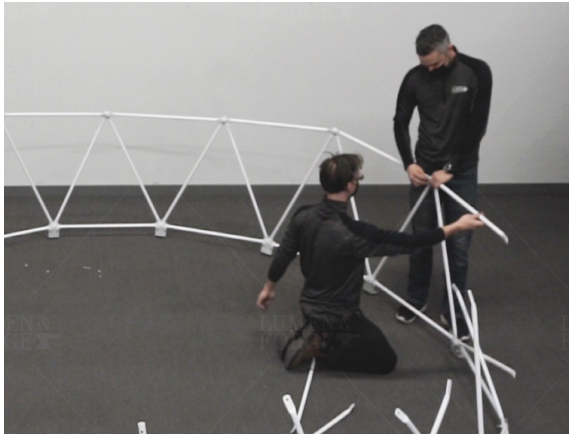


- 1 Lay out all of the struts in the correct order before constructing each layer.

- 2 Secure the **door threshold** of two anchor plates using four **micro hex screws (T-8)** on each side (8 total).
- 3 Beginning at either side of the door frame, secure the struts along the base of the dome using a drill and the provided hardware.
- 4 Each hub will require a **long bolt (T-2)**, two **nylon washers (T-2)**, a **steel nut (T-1)** and an **anchor plate (T-7)**.

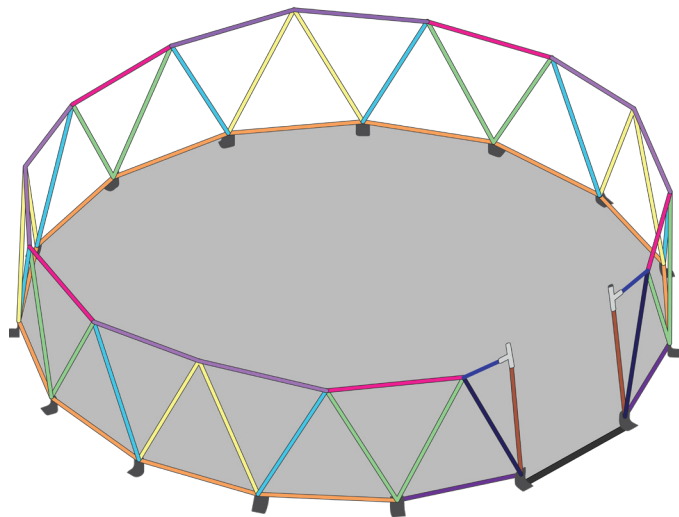
See *\*Base Hub Assembly (Page 5)*



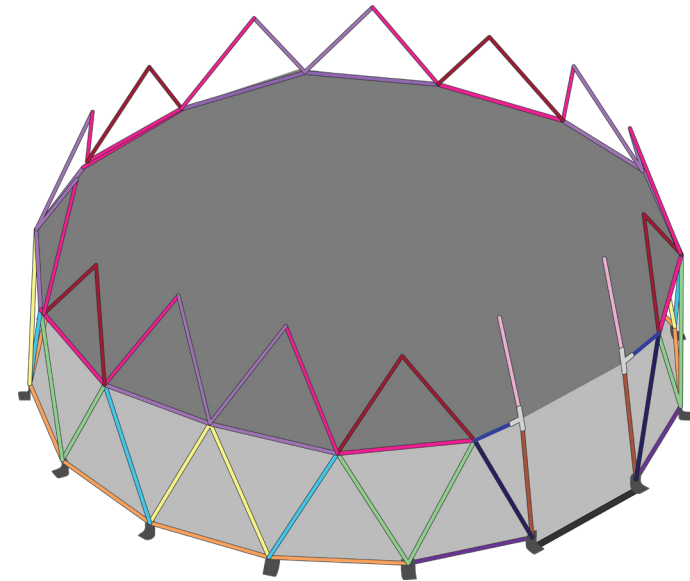


- ③ Loosely attach Row 3 to Row 2 using the provided long bolts (T-1).
- ④ Secure the straight door brackets to either end of Row 3

### Row 3

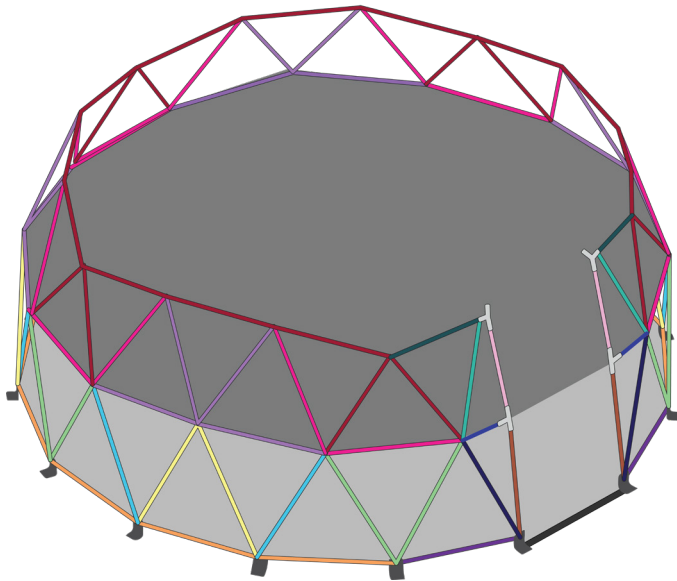


### Row 4

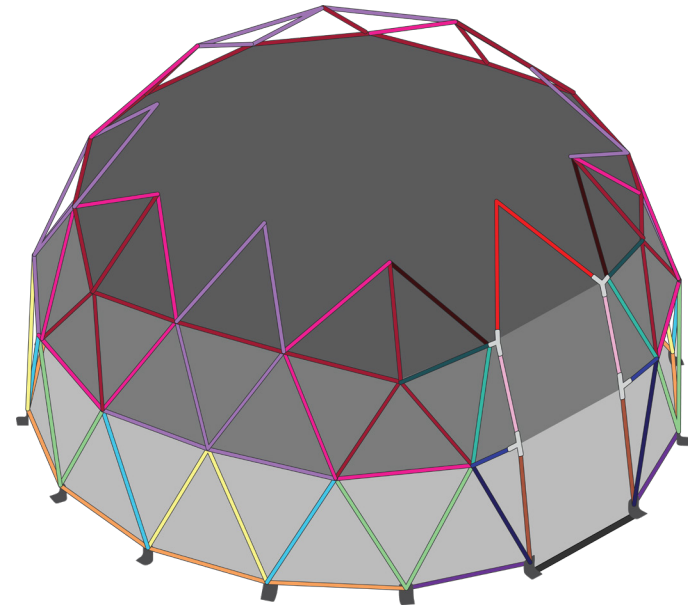


- ⑤ When adding Row 4, secure this layer to Row 2 and Row 3 using a drill and the remaining hardware required to complete the hubs.
- ⑥ Each hub from Row 3 and above will require a long bolt (T-2), two nylon washers (T-2) and a steel nut (T-1).

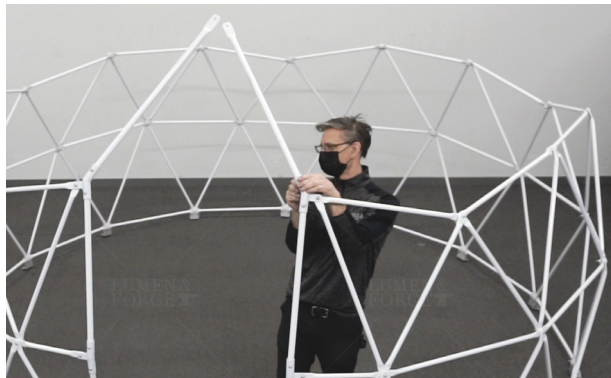
## Row 5



## Row 6



- ⑦ Loosely connect Row 3 to Row 2 using the provided long bolts (T-1).
- ⑧ Attach the elbow door brackets to the ends of Row 4 and 5.



- ⑨ Connect the struts for the top of the door frame (DB-9) to the upper door brackets
- ⑩ Row 6 can now be secured at the hubs to Rows 4 and 5 using a drill.

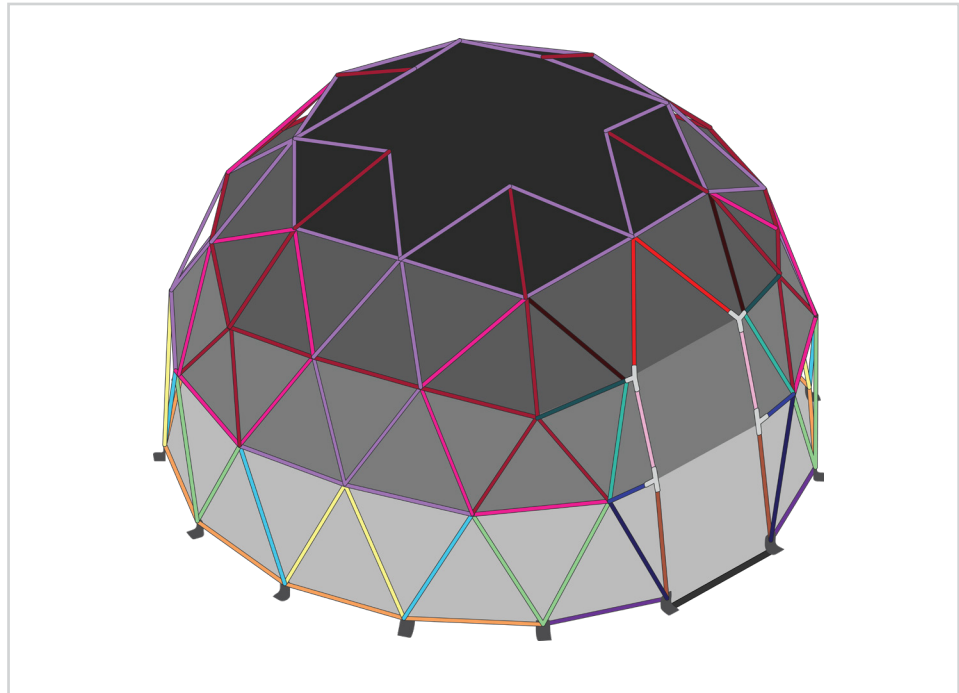




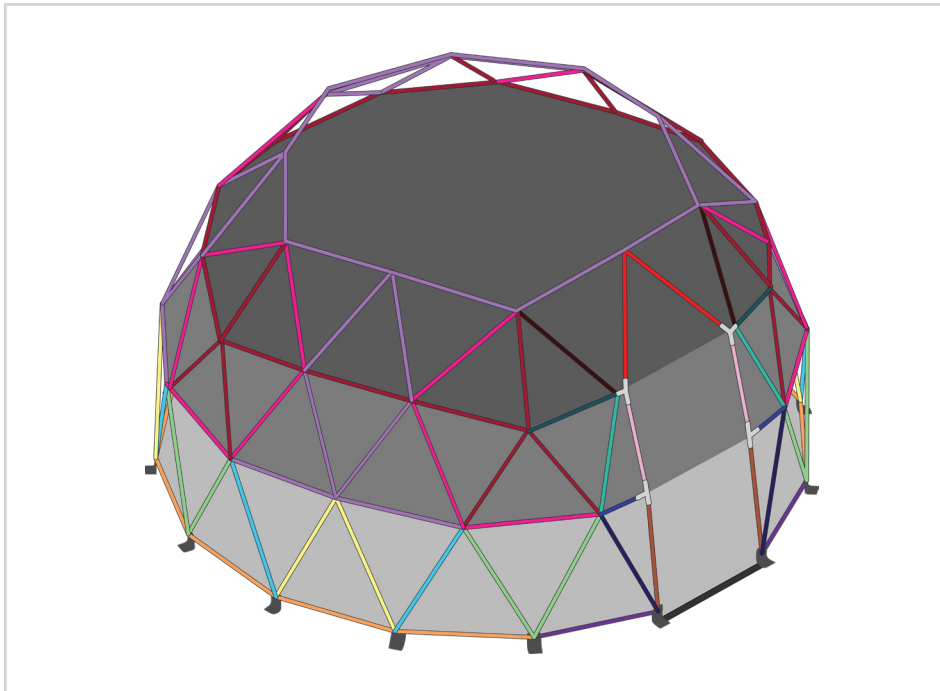
\*This row will require a ladder.

- ⑪ Slowly work your way around, loosely attaching Row 7 to Row 6 using the provided long bolts (T-1).

## Row 8



## Row 7



- ⑫ Secure Row 8 at the hubs to Rows 6 and 7 using a drill.

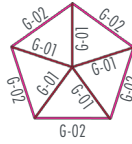




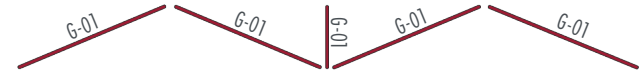
## Row 9



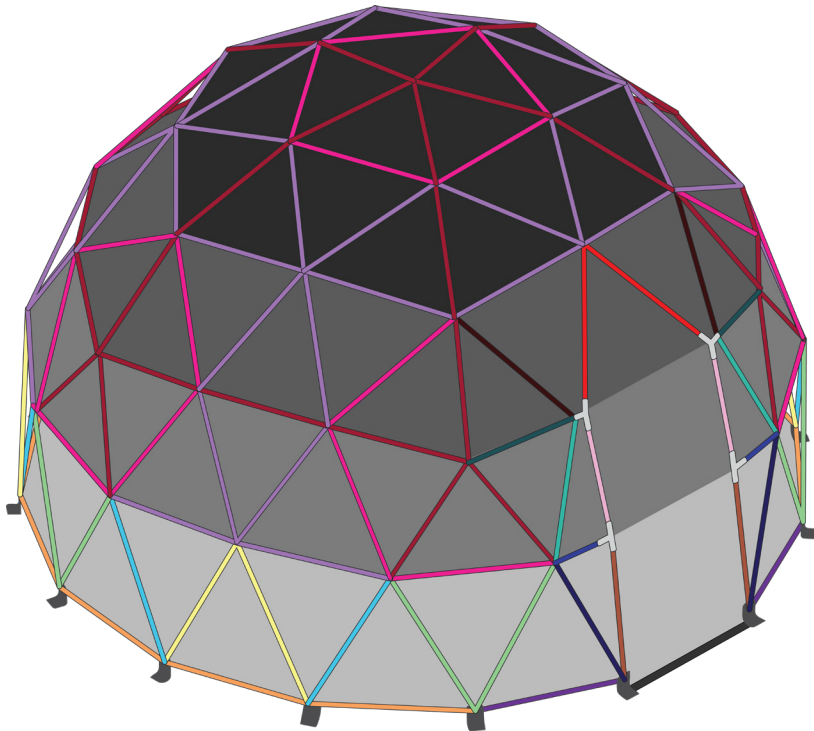
## Top



## Row 10



- 13 The struts from Rows 9 and 10 will need to be added simultaneously as they will fall if not secured immediately.
- 14 Once the top is in place, secure the final hub at the top of the dome.



- 1 The cover is easiest to unravel when warm. Ensure that the cover is in a warm place before installation.



- 2 Place a heater inside the dome before installing the cover, to provide as much heat as possible and allow the material to stretch. See *\*Cold Weather Installation Tips*

- 3 Once the cover is relaxed enough to cover most of the dome, slowly pull the cover across the dome.



- 4 One person pulls the cover over the frame while another person pushes the cover upwards from the interior of the frame using gentle waving movements.



- 5 When the cover has been pulled is past the top of the dome, continue to pull the rest of the cover over from the outside.



- 6 Push outwards against the cover and gently undo small folds until it is sufficiently stretched across the dome.



- 7 When the dome cover has been properly placed, tie the grommets of the dome cover to the door frame using the provided zip ties.

- 8 To help the cover relax, unscrew one side of the door threshold and zip up the dome to allow it to stretch over the course of a few hours.



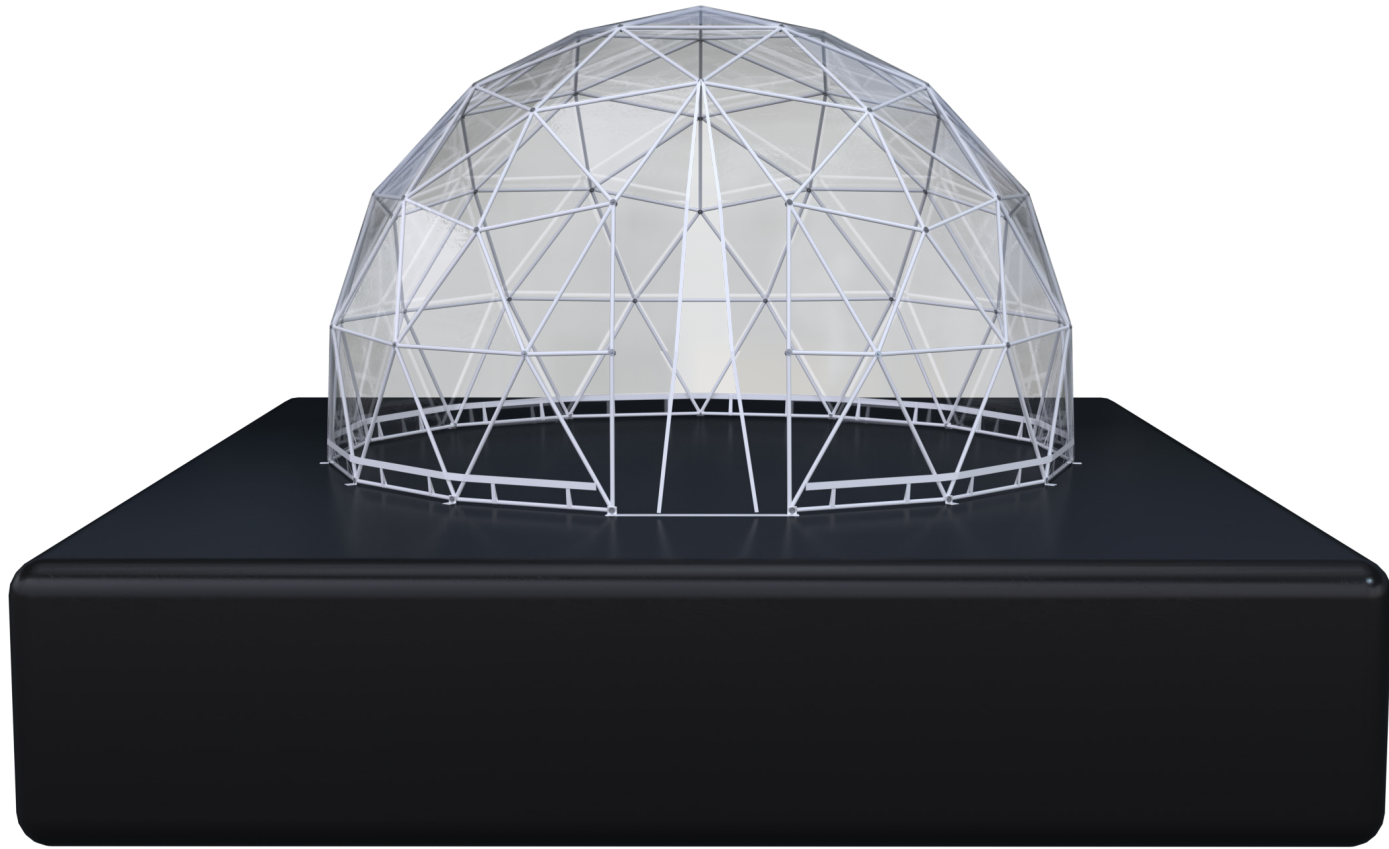
- 9 Once the cover is sufficiently relaxed, re-attach the door threshold and tighten the zip ties once again.

- 10 Secure the dome cover to the frame along the base using the tension straps.



- 11 With the door zipped up and the dome fully relaxed, tighten the zip ties a final time and snip the ends. Your dome is now complete!

# Congratulations!



Your dome is now complete and ready for use