LAMELLA DOME ASSEMBLY MANUAL

PREPARATION

1. **Climate**
   - Recommended temperature 10 to 30°C.

2. **Platform**
   - Wooden/WPC deck: ensure ground level, thickness at least 30-50mm
   - Concrete platform: ensure ground level, recommended 200mm thickness, concrete mix compressive strength C25 or higher
   - Soft ground (grass/sand/soil): ensure ground level

3. **Tools Preparation**
   - hex key
   - step ladder
   - thick ropes
   - utility knife
   - tape measure
   - hammer drill
   - electric wrench
   - adjustable wrench
   - scaffold (mainly for dome over 7m)

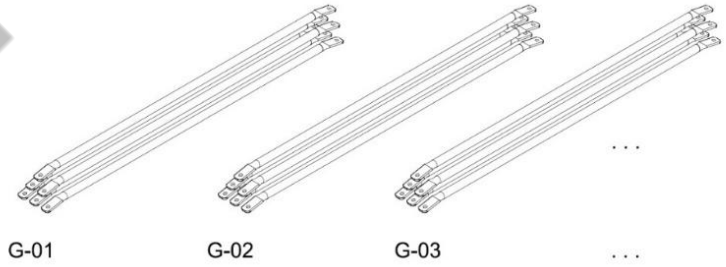
4. **Packages Check**

   Please refer to the "*Packing List*", check the packages and make sure everything is received.

5. **Framework Tubes Preparation**

   Arrange the framework tubes by the marked number at its both ends (e.g.: G-01, G-02, G-03 …).

   Note: Make sure to pick out the pre-drilled tubes (perforated, for some accessories' placement) according to the "*Packing List*", "*Technical Drawing Guide*" and the frame tube's item code (specified on packaging sticker).



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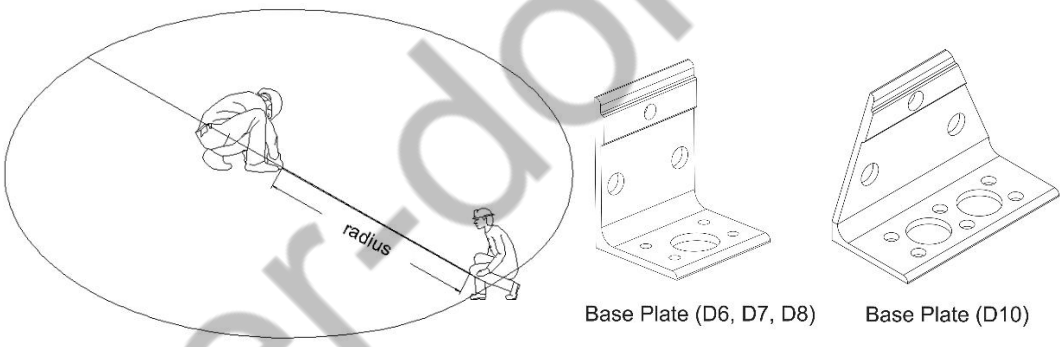
6. Site Plan

Decide the dome's orientation and mark a circle on the platform, roughly place the base plates according to the order's "*Technical Drawing Guide*".



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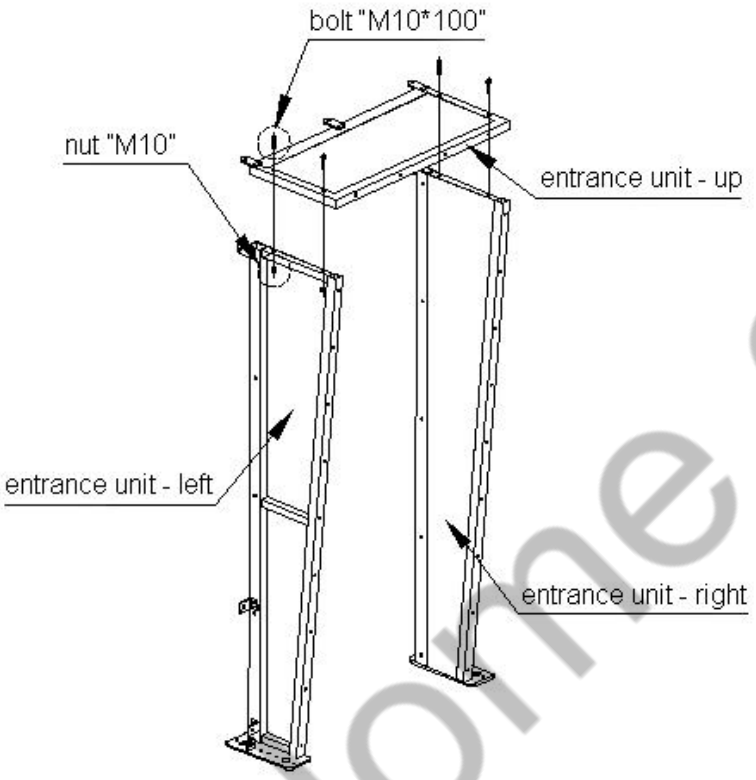
STRUCTURE

1. Door Frame (Entrance) Assembly

Install the entrance by connecting the up, left and right entrance units with bolt



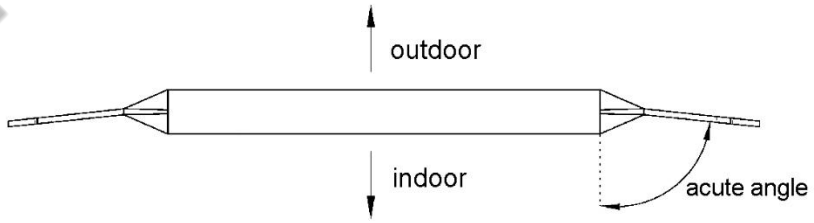
"M10*100"

2. Framework Assembly

Check the framework assembly page in the order's "*Technical Drawing Guide"* to understand the framework tubes arrangement, also check the bolts list on the same page.

Note:

- Ensure perforated tubes' placement beforehand, make sure to install at correct place.
- Install the framework layer by layer from bottom to top and start from the entrance.
- Check the bolts list in the order's "Technical Drawing Guide" before assembly.
- Double check each tube's marked number before assembly.
- All the horizontal tubes should be placed at outermost.
- Place plain washer at both ends of each node.
- The tube's both ends are inclined. The acute angle side should be inward-facing.



[Step 1]:

Install the first layer of horizontal tubes, place at the base plate's outward-facing side

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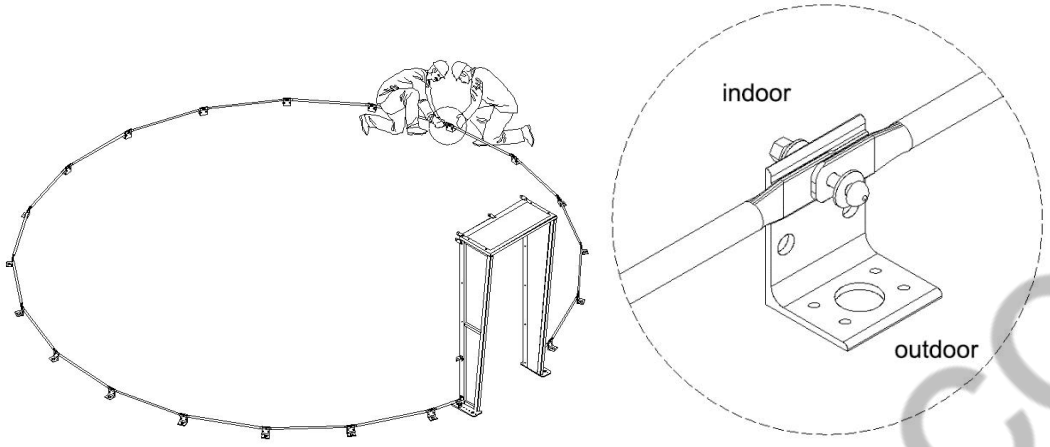
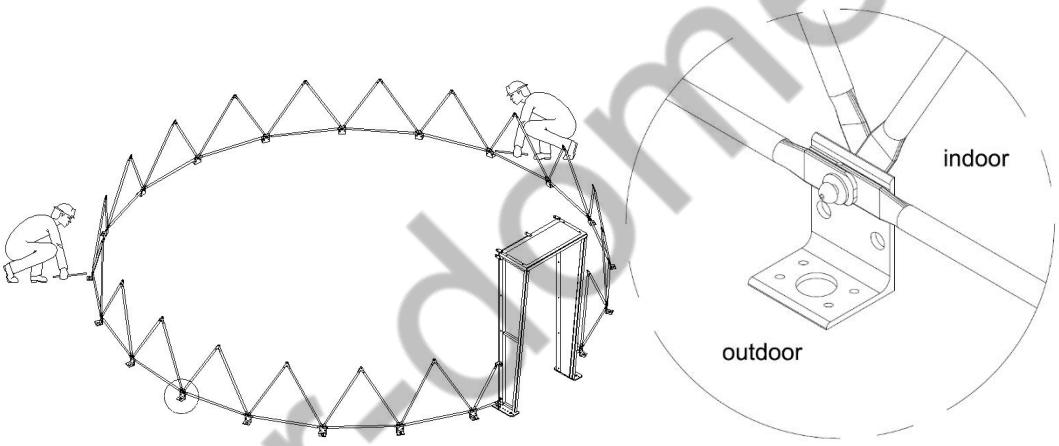
(alternative to place at inward-facing side).



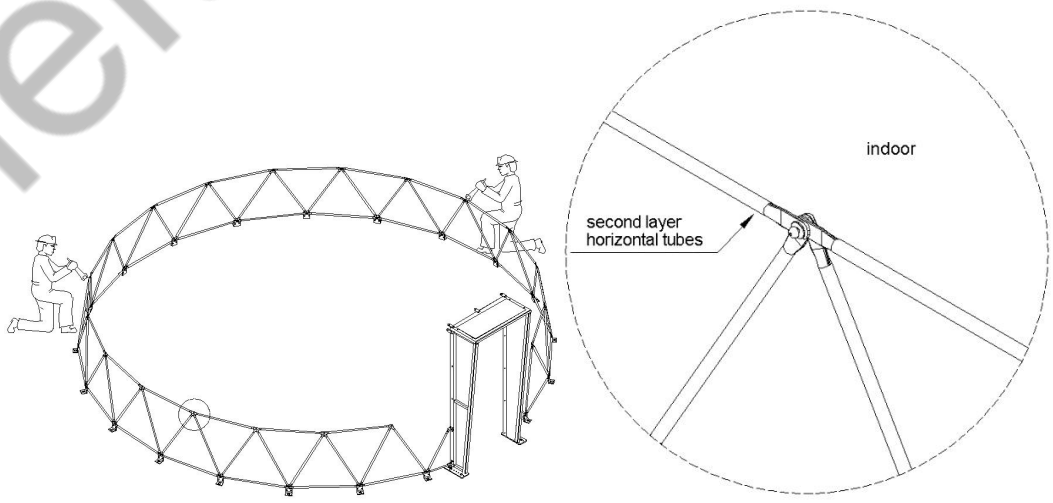
[Step 2]:

Install the first layer of upright tubes, place at the base plate's inward-facing side.



[Step 3]:

Install the second layer of horizontal tubes, place at outermost, as well as the following layers of horizontal tubes.



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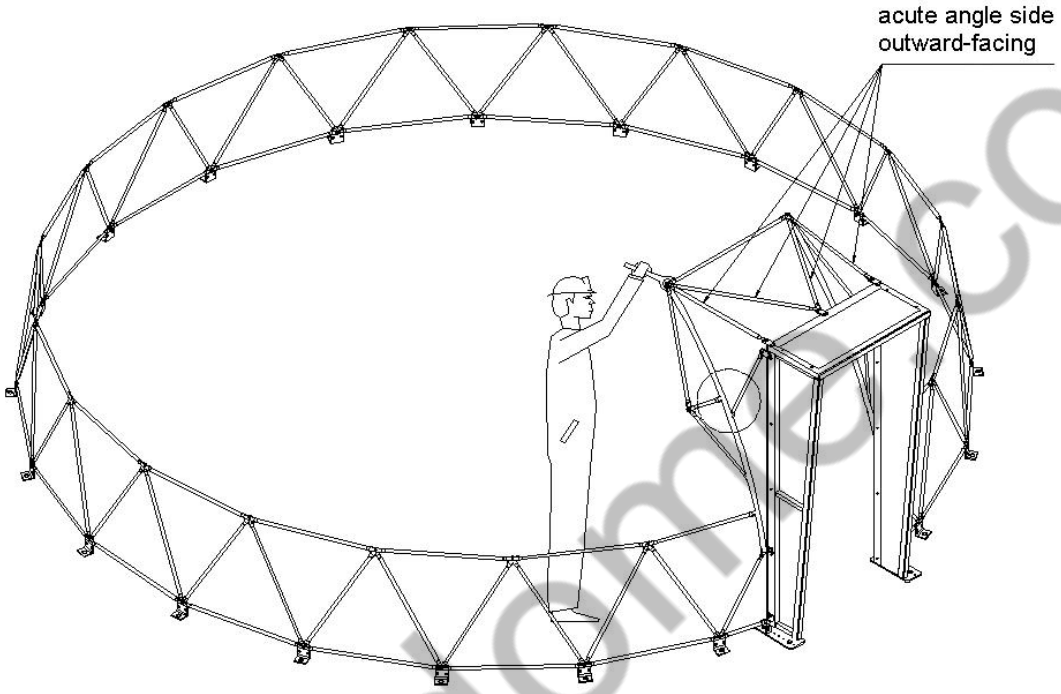
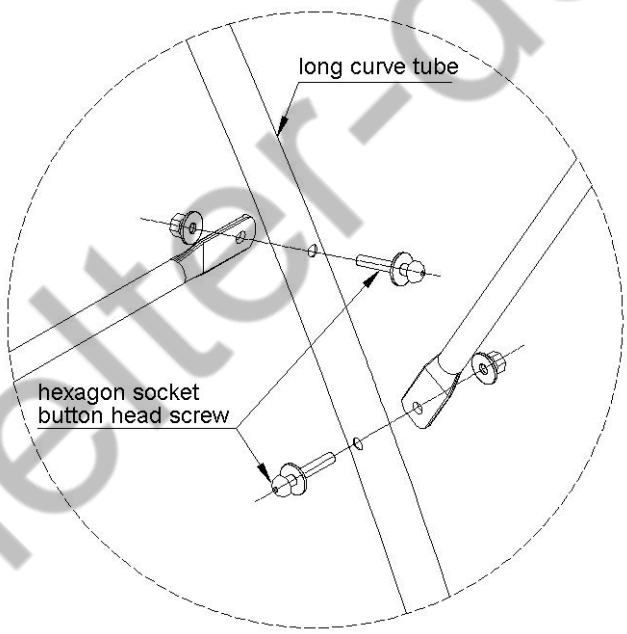
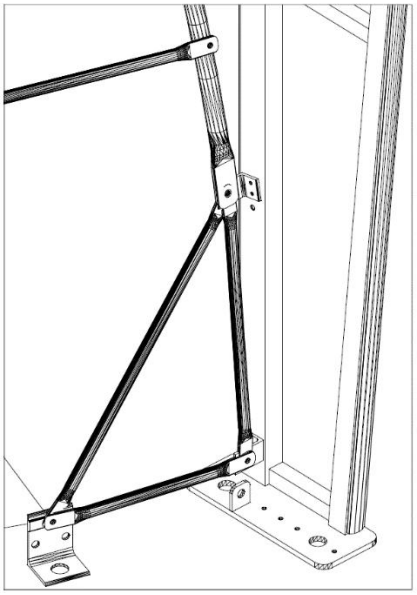
[Step 4]:

Install the tubes at the entrance area. Each size dome can be different, please refer to the framework assembly page in the order's "*Technical Drawing Guide"*. Install the long curve tubes first then the others.







Note:

Please check the bolts list in the order's "*Technical Drawing Guide"*.

- For the tubes to be connected with the entrance units' connectors use the shorter bolt (Φ20mm tube structure/"M8" shorter bolts, Φ25mm tube structure/"M10" shorter bolts).

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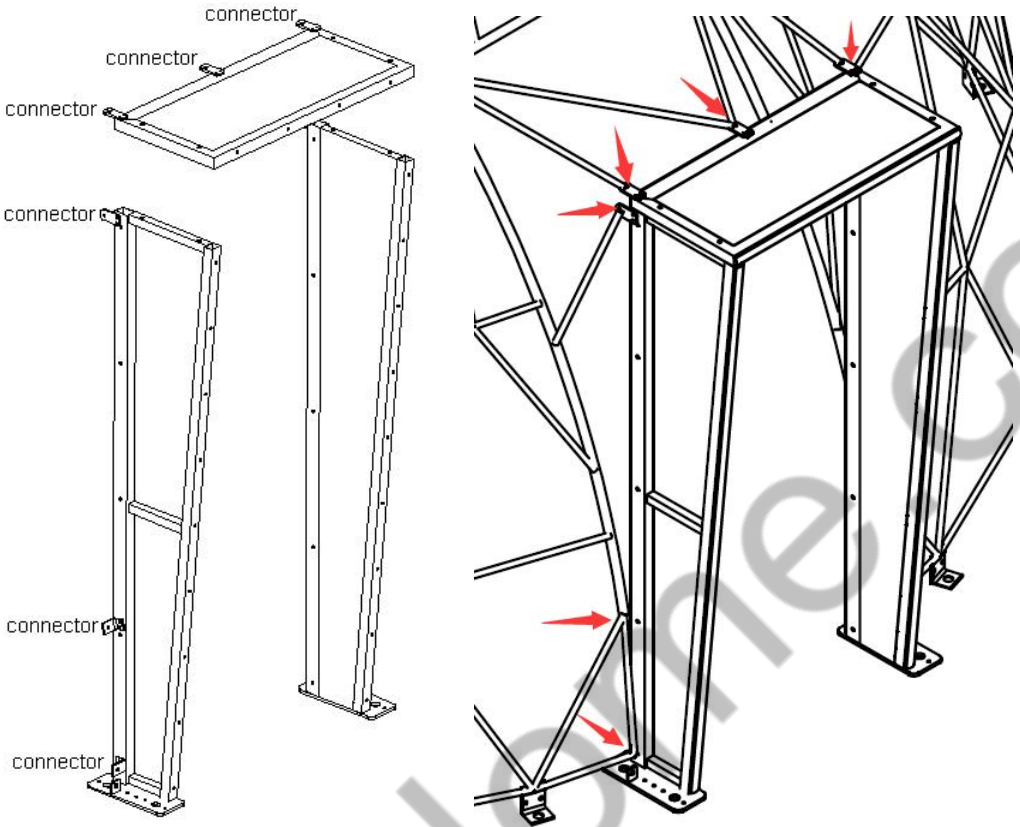
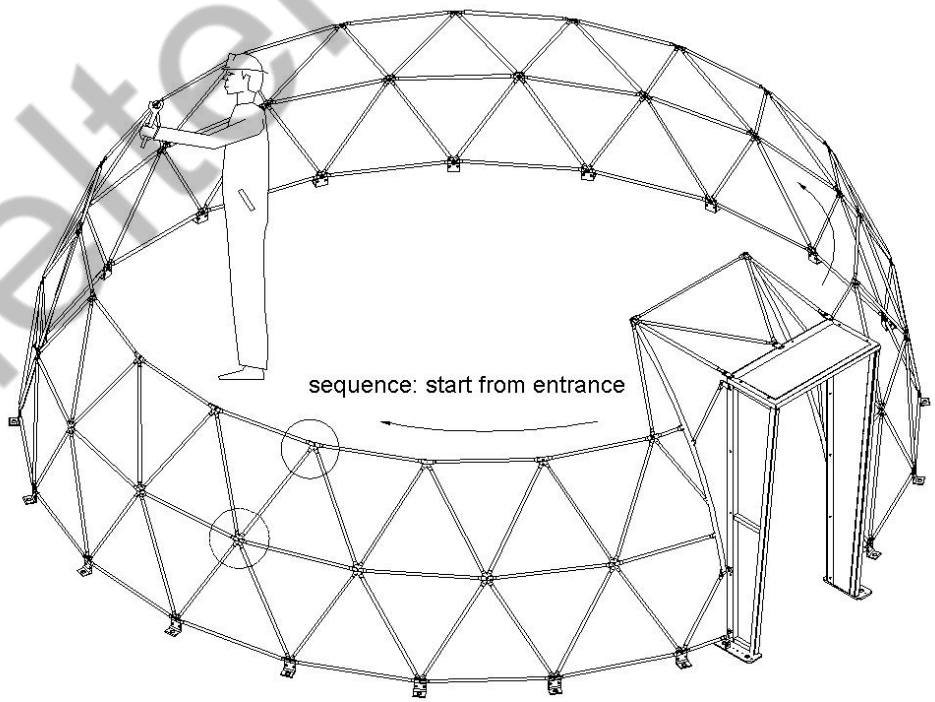
- For the other tubes near door use the longer bolt (Φ20mm tube structure/”M8” longer bolts, Φ25mm tube structure/”M10” longer bolts).



[Step 5]:

Install the second layer of upright tubes (place at innermost) and the third layer of horizontal tubes (place at outermost).



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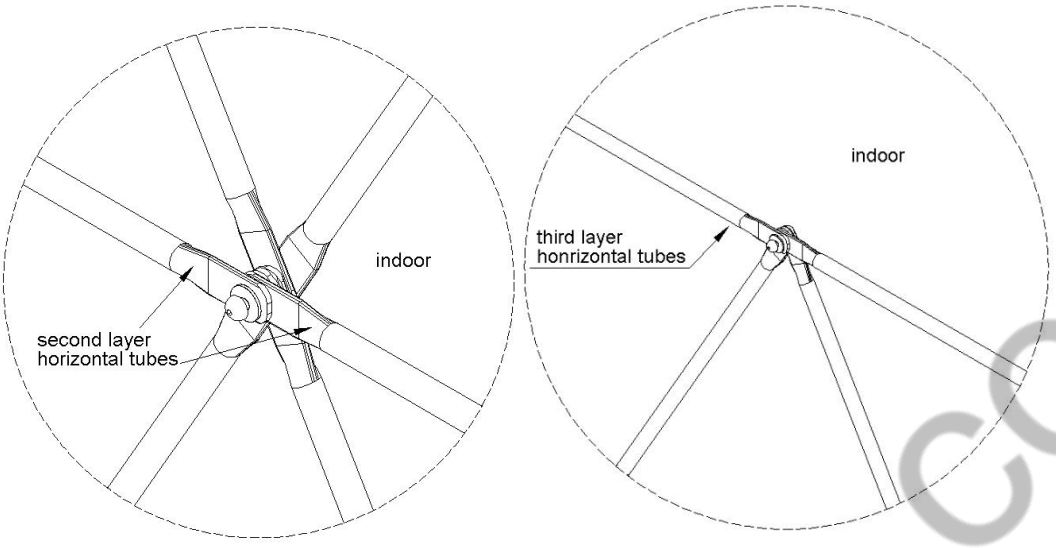
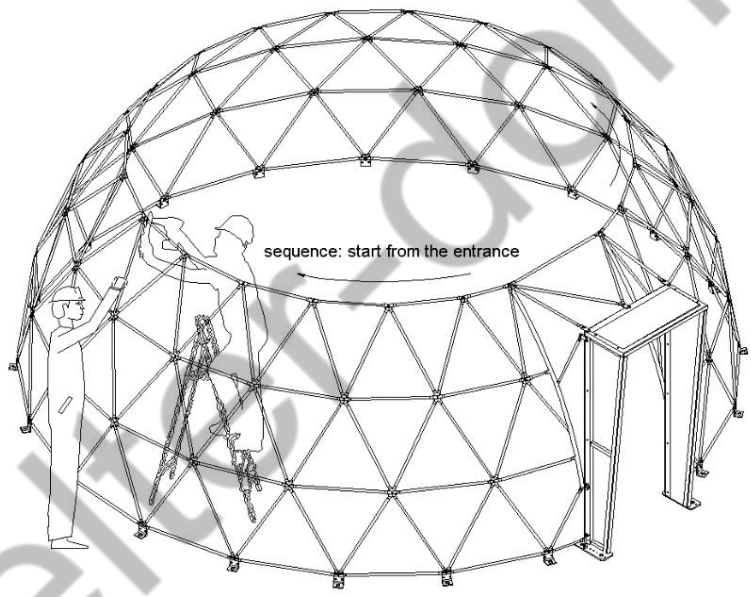
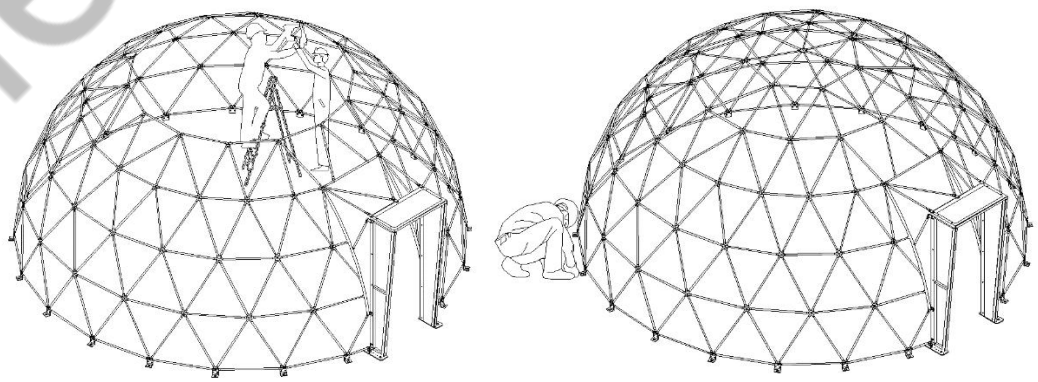


[Step 6]:

Follow the same placement rules (horizontal tubes at outermost, upper upright tubes at innermost, underneath upright tubes in the middle), finish the rest framework. Check the entire structure and secure all the nodes.





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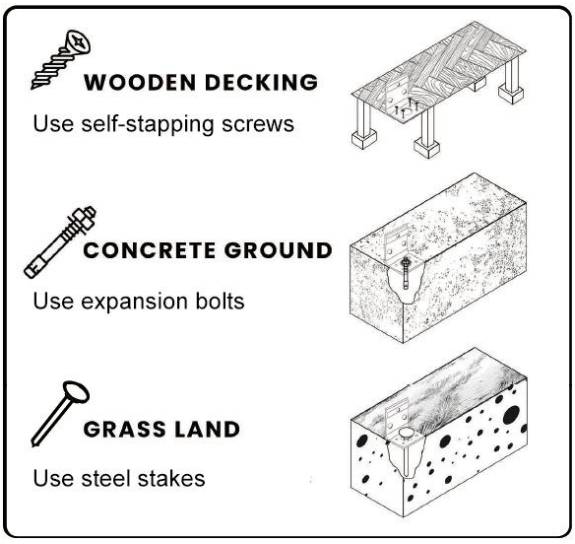
[Step 7]:

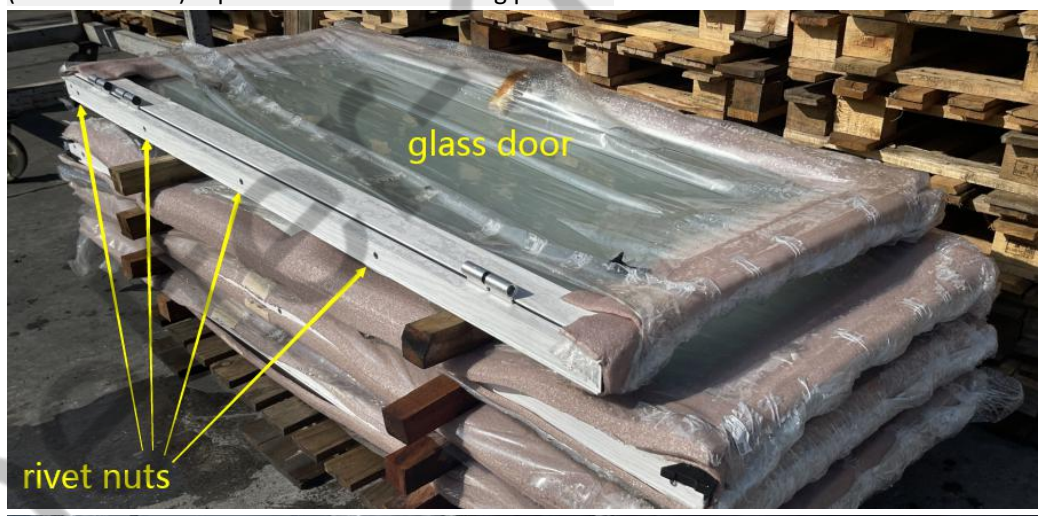
Anchor the base plates with the corresponding fasteners.

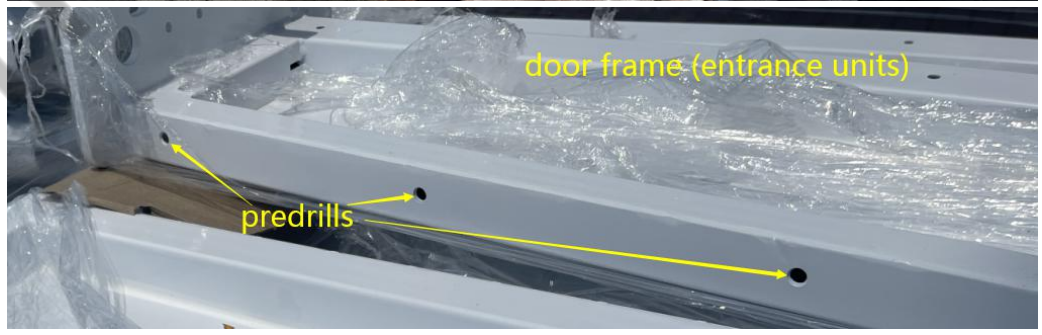
- Wooden/WPC deck: self-tapping screws “ST6*50” or lag bolts “M12*60”
- Concrete platform: expansion bolts “M12*120” & plain washers “Φ14*Φ40”
- Soft ground (grass/sand/soil): steel stakes



DOOR

Note: The single door’s frame is with rivet nuts that has internal thread, and the door frame (entrance units) is perforated with matching predrills.





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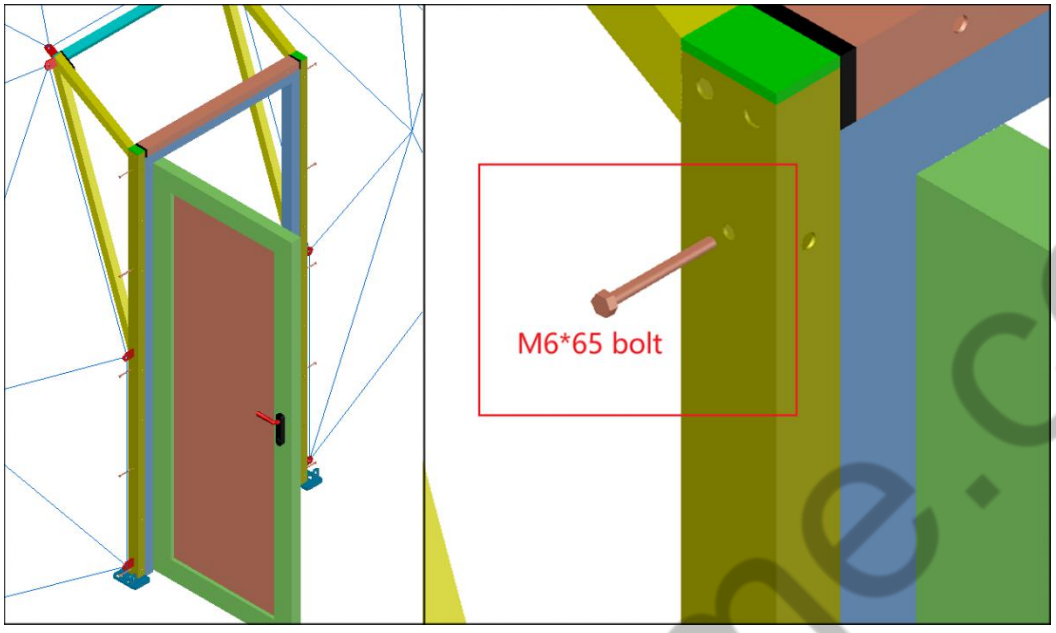
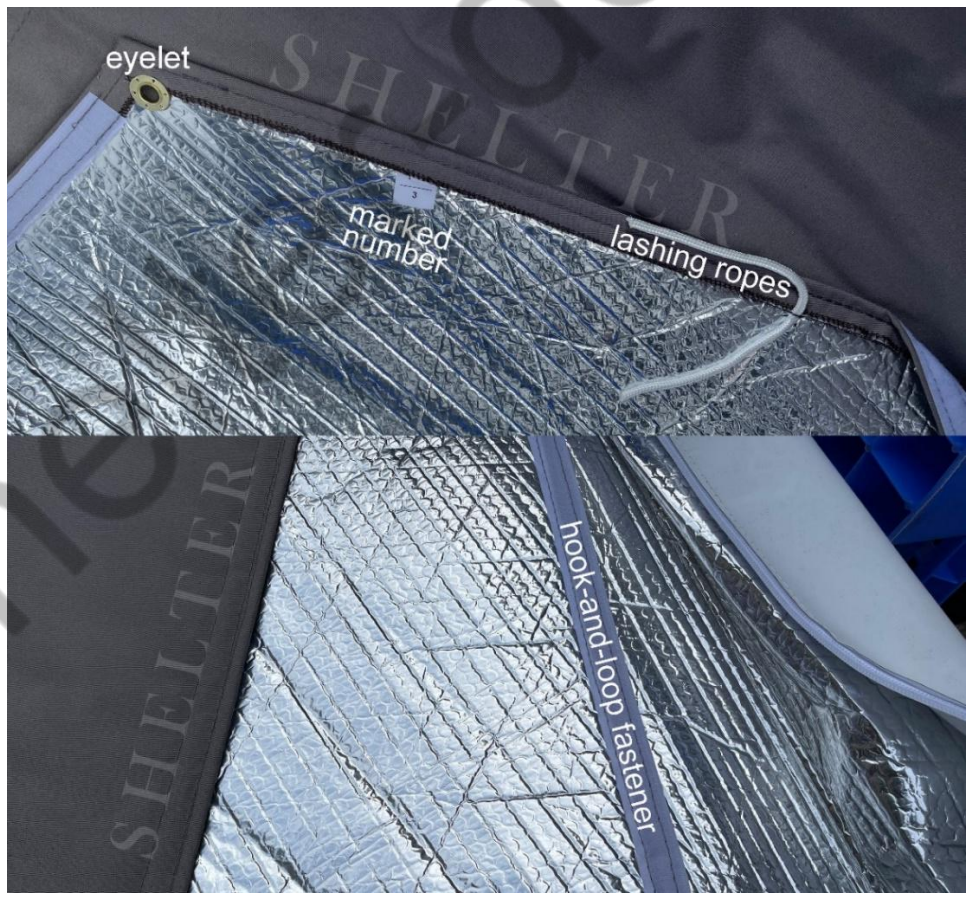
Match the door frame (entrance units) and single door by the rivet nuts and predrills, connect with bolts “M6*65” (wooden door same way but by “ST4.8*60” tapping screws).



INSULATION

Note: Each insulation piece is marked with certain number, and it’s also with eyelets, lashing ropes and hook-and-loop fasteners.



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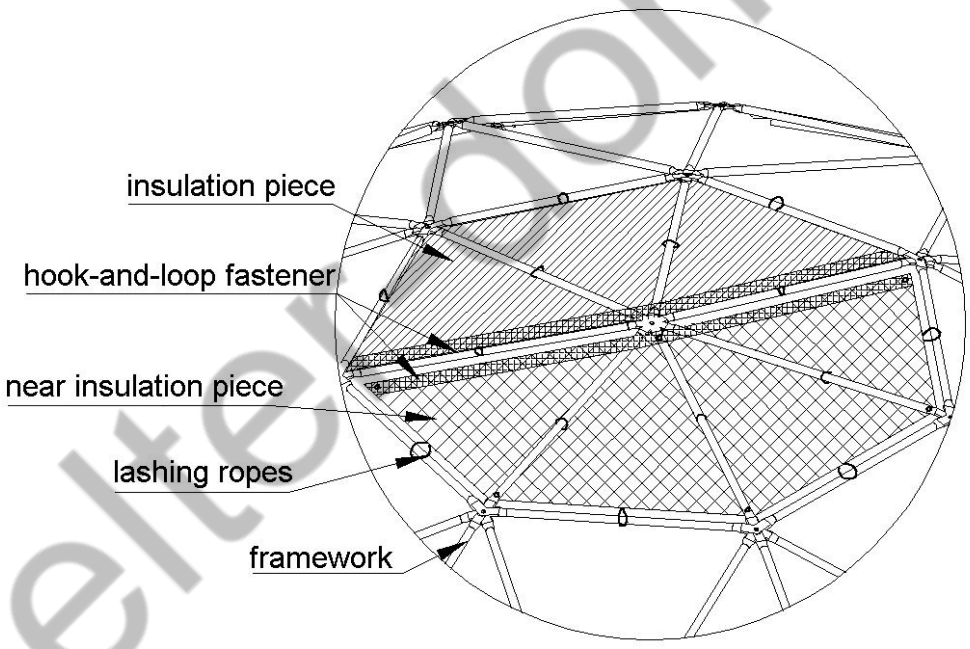
[Step 1]:
Check the insulation assembly page in the order's "*Technical Drawing Guide"* to understand the insulation pieces' arrangement.

[Step 2]:
Put up the insulation pieces by attaching the eyelets on the framework's nodes, and tie up the lashing ropes on the framework.

[Step 3]:
Connect the near insulation pieces by attaching the hook-and-loop fasteners (for the insulation piece beside entrance, please find the hook-and-loop fastener tape and stick on the entrance, then attach the insulation piece on it).

[Step 4]:
Secure the nodes and cover up with plastic acorn hex cap nuts.

Note: It's ok to begin with "INSULATION" step after "OUTER COVER" if the weather is inconvenient.



OUTER COVER

Note:

- The PVC outer cover for entrance area comes with multiple eyelets.
- The PVC outer cover has pocket design at the bottom area.
- Find the stretch bars and white ropes in the package.
- Prepare thick ropes at local.

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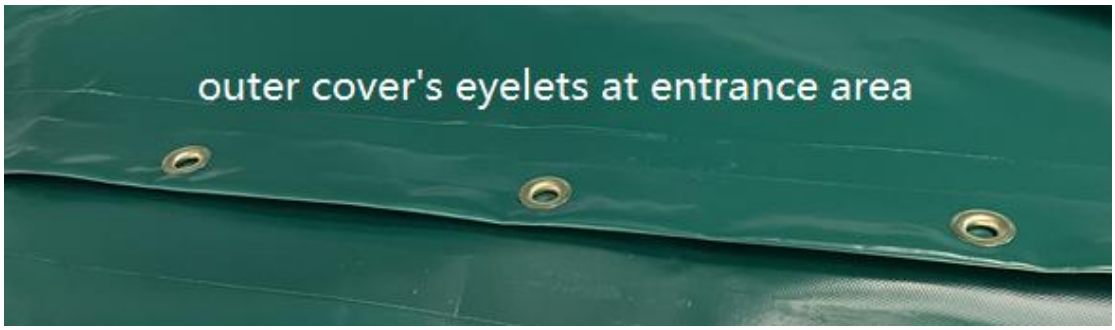

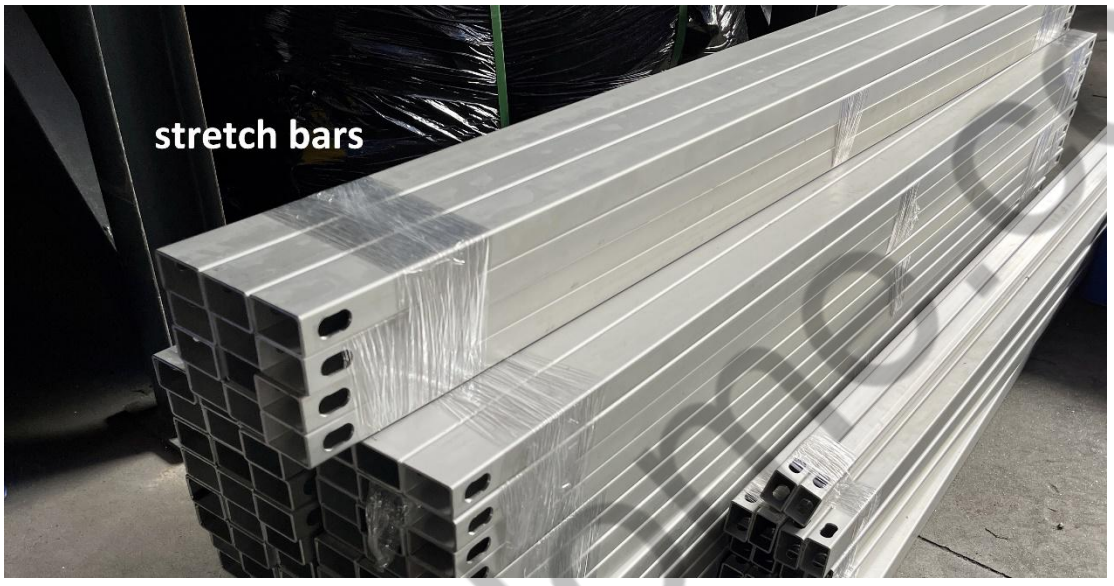

1. **Putting Up Outer Cover**

   [Step 1]:

   Ensure the outer cover's orientation according to the door's direction. Use thick ropes to fasten the outer cover's opaque area, have at least 2 groups of people to pull the ropes and to assist.

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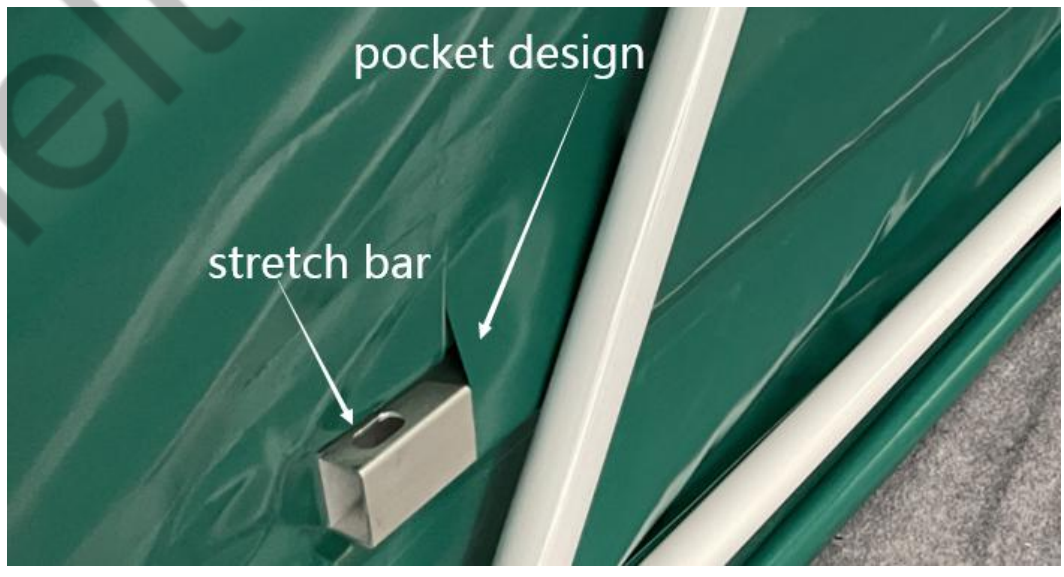
[Step 2]:
Adjust the outer cover by having multiple people push the interior together towards the correct direction.

2. Tightening

[Step 1]:
Make sure the outer cover is well adjusted at the correct place. Cut the outer cover's pocket design at the base plates' area, about 100mm.

[Step 2]:
Put the stretch bar into the pocket design. (The 2 stretch bars near door are relatively shorter, please refer to the order's "*Packing List*")



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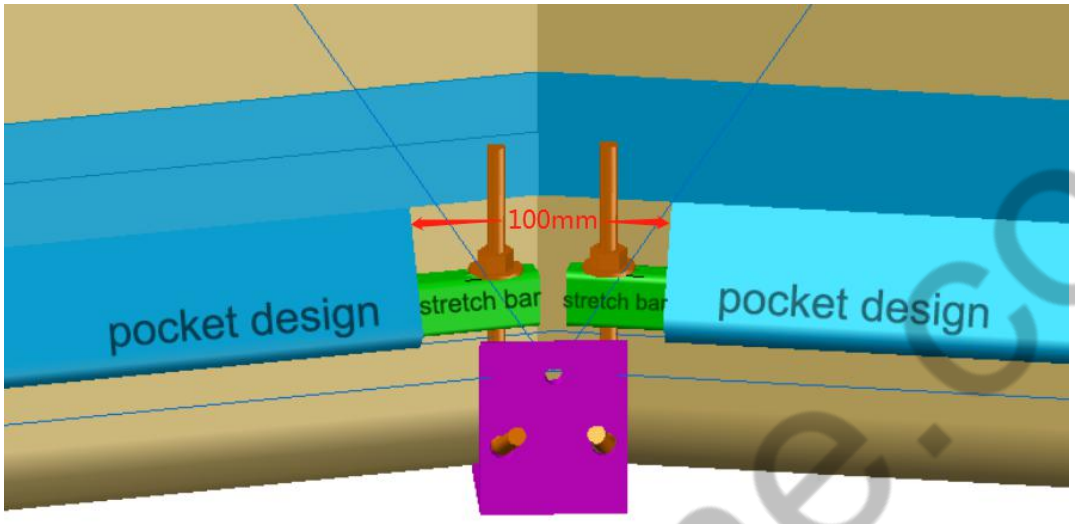
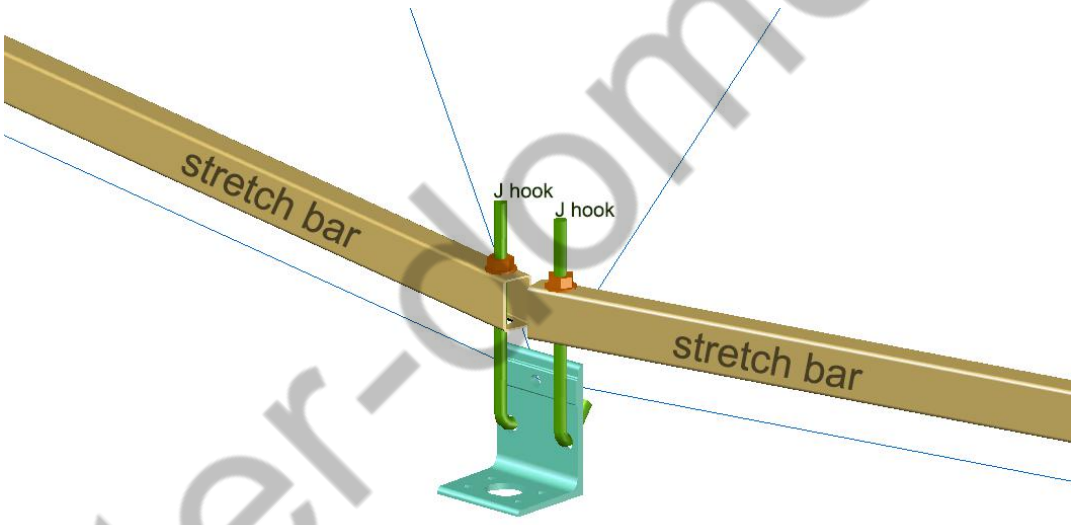
[Step 3]:

Use “J hook” to connect the stretch bar and the base plate, secure with plain washer and hex nut. Tighten up the hex nut so to tighten the dome’s outer cover.





[Step 4]:

Cover the bottom area with insulation skirting strips, attach the eyelets on the nodes and

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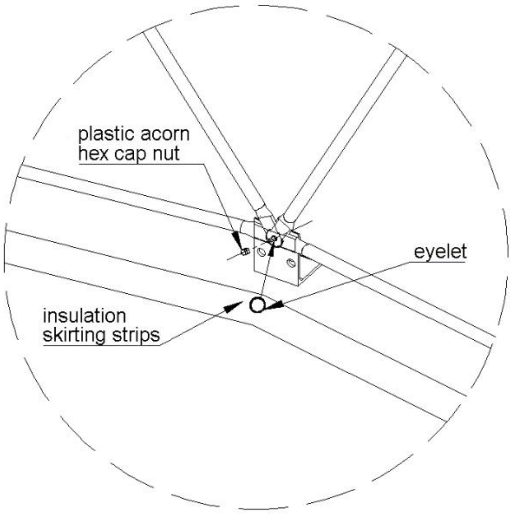
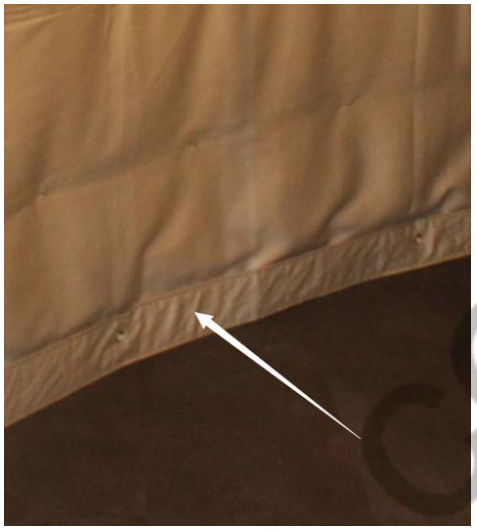
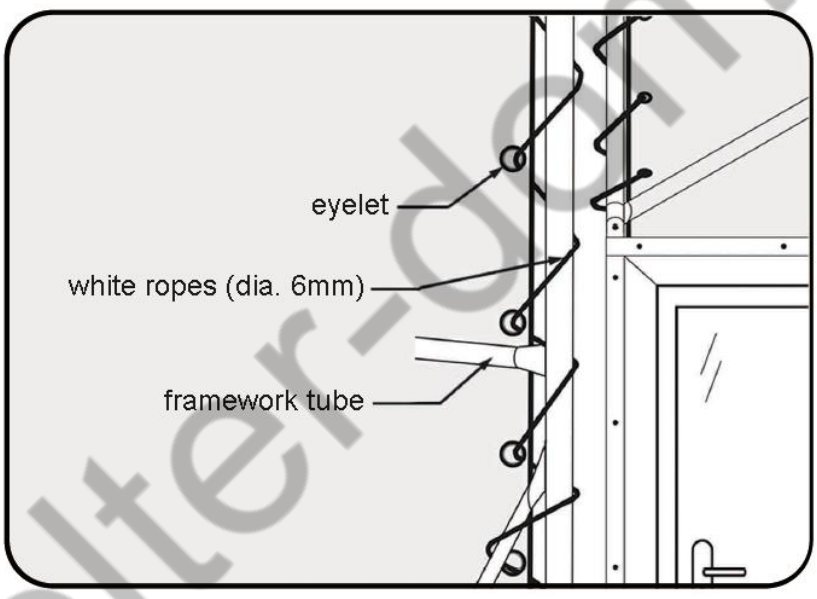
cover up with plastic acorn hex cap nuts.





[Step 5]:

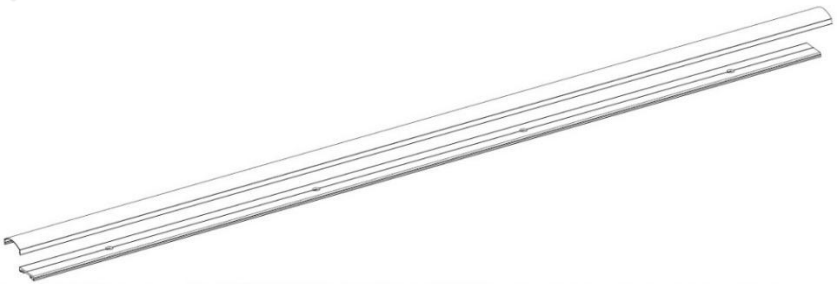
Use white ropes (or cable ties) go through the outer cover's eyelets at entrance area, tie up on the structure.



3. Securing

[Step 1]:

Prepare the aluminium strips and their matching aluminium caps.



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[Step 2]:

Use tapping screws “ST4.2*35” to secure the aluminium strips on bottom fabric, cover with the matching aluminium

caps.

[Step 3]:

Use screws “M6*25” to secure the aluminium strips on the door frame’s inside and outside

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surface (up, left and right entrance units), cover with aluminium caps.

If the dome comes with gutter awning, fix the gutter awning panel on the up door frame instead, also with screws “M6*25”.

SOLAR EXTRACTOR FAN

1. **Metal Base Plate Installation**

   [Step 1]:

   Refer to the order's “*Technical Drawing Guide”*, find the extractor fan’s location. Make sure

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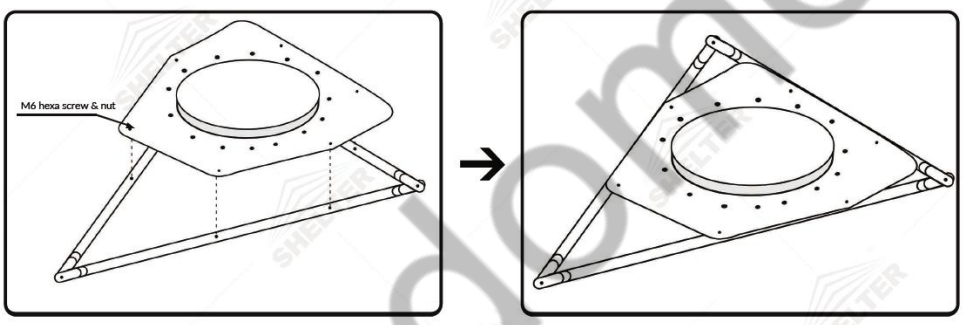
the perforated tubes are installed at the correct place in advance.

[Step 2]:
The metal base plate comes with 2 metal seal strips (semi-circular batten plates) fixed on it with bolts “M8*20”. Take down the metal seal strips and prepare for later use.

[Step 3]:
Place the metal base plate under the structure (It’s optional to place the base plate above or under the structure, but it’s better to place under).

[Step 4]:
Fix the metal base plate to the tubes by M6 hexagon head bolts (Φ20mm tube structure/”M6*30”, Φ25mm tube structure/”M6*40”).

The outer cover comes with a matching round cut already, so now the metal base plate is under the PVC outer cover and structure.



2. Solar Extractor Fan Installation

[Step 1]:
With PVC outer cover in between, fix the metal seal strips on the base plate with bolts “M8*20”.

[Step 2]:
Put down the solar extractor fan on the metal base plate, find their matching assembly holes, and mount together with the screws pre-assembled on it.

[Step 3]:
Apply sealant glue at the gap between the outer cover and the metal seal

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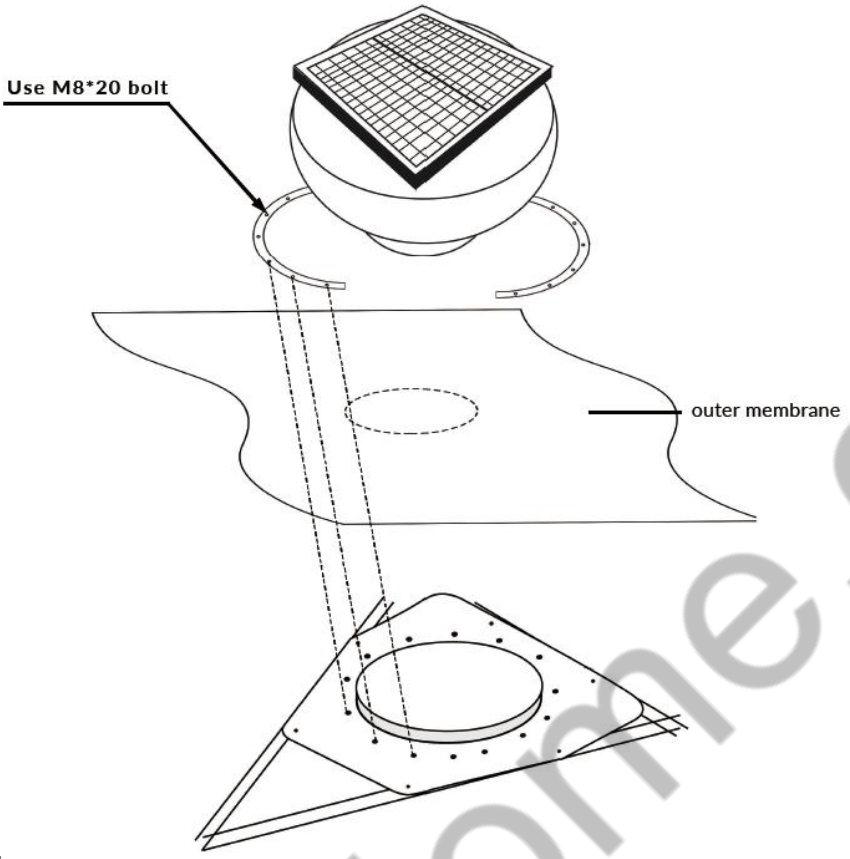

strips.

GLASS WINDOW

Note: Prepare the glass window and its 3 support tubes (with internal thread), and metal seal strips (2 semi-circular batten plates), and sealant glue. Refer to the order's "*Technical Drawing Guide"* to find the spot for glass window's placement and follow the next steps.

1. Install the 3 support tubes, attach on the nearby 3 framework notes.
2. Cut the PVC fabric carefully, connect the glass window and the 3 support tubes with bolt "M8*30".

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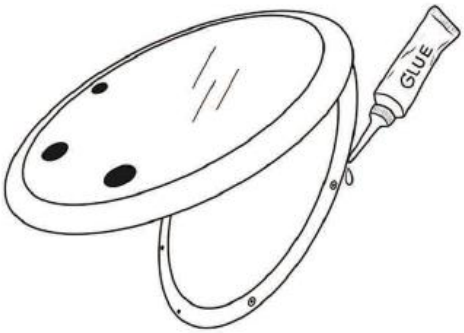
3. Place the metal seal strips at the inside and fasten up by bolt “M6*16”.

4. Apply sealant glue at the edge.



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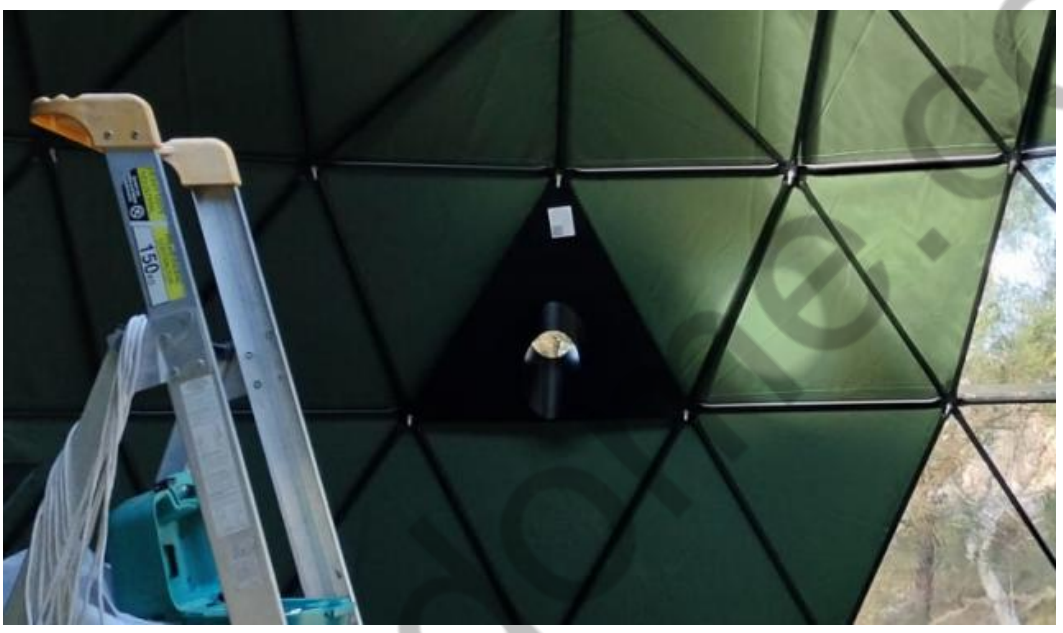
STOVE JACK

1. Refer to the order's "*Technical Drawing Guide"* and find the stove jack panel's location. If it comes with perforated tubes make sure the perforated tubes are installed at the correct place in advance.
2. Place the stove jack panel under the structure.
3. Fix the stove jack panel to the tubes by M6 hexagon head bolts (Φ20mm tube/"M6*30", Φ25mm tube/"M6*40").



4. Place the metal seal strips (2 semi-circular batten plates) at the outside and fasten up by bolt "M8*25". Apply sealant glue at the edge.

CURTAIN

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1. Prepare the curtain and accessories:

(1) Curtain Track Bracket (long & short)

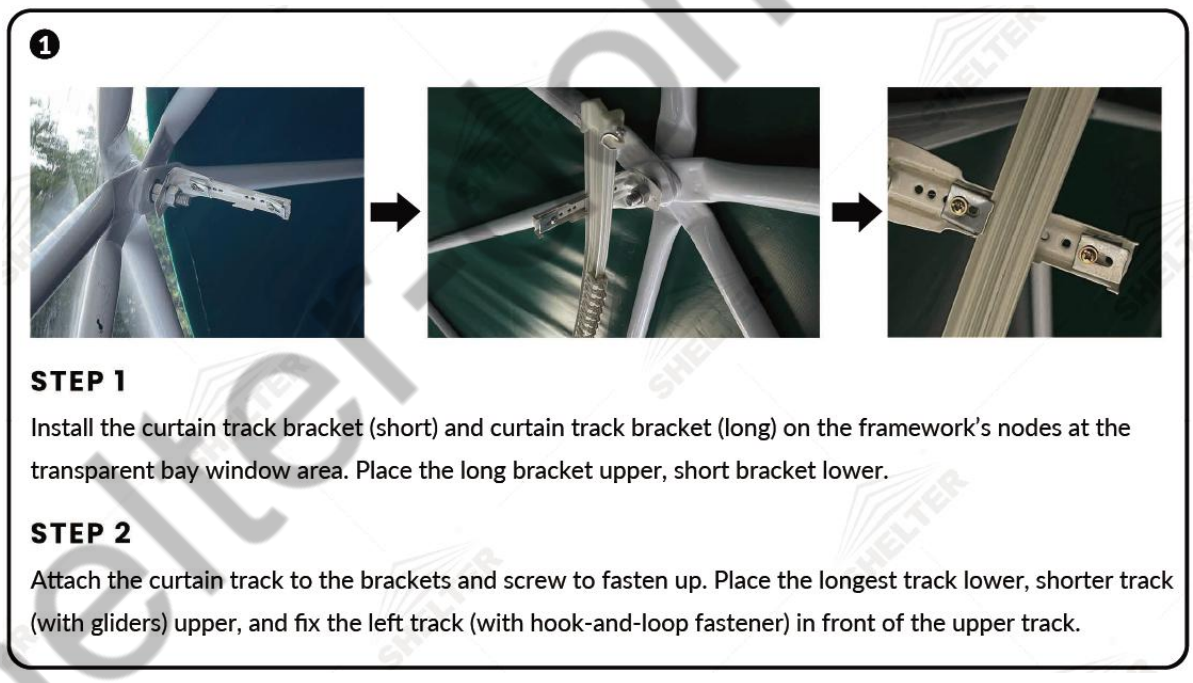
(2) Curtain Tracks

- Curtain Track with Gliders (upper)
- Curtain Track with Velcro (upper)
- Curtain Track (lower)

(3) Curtain Fabric

- Curtain Fabric (valance)
- Curtain Fabric (left)
- Curtain Fabric (right)

2. Install the curtain according to the following steps.



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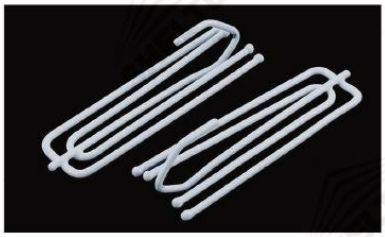
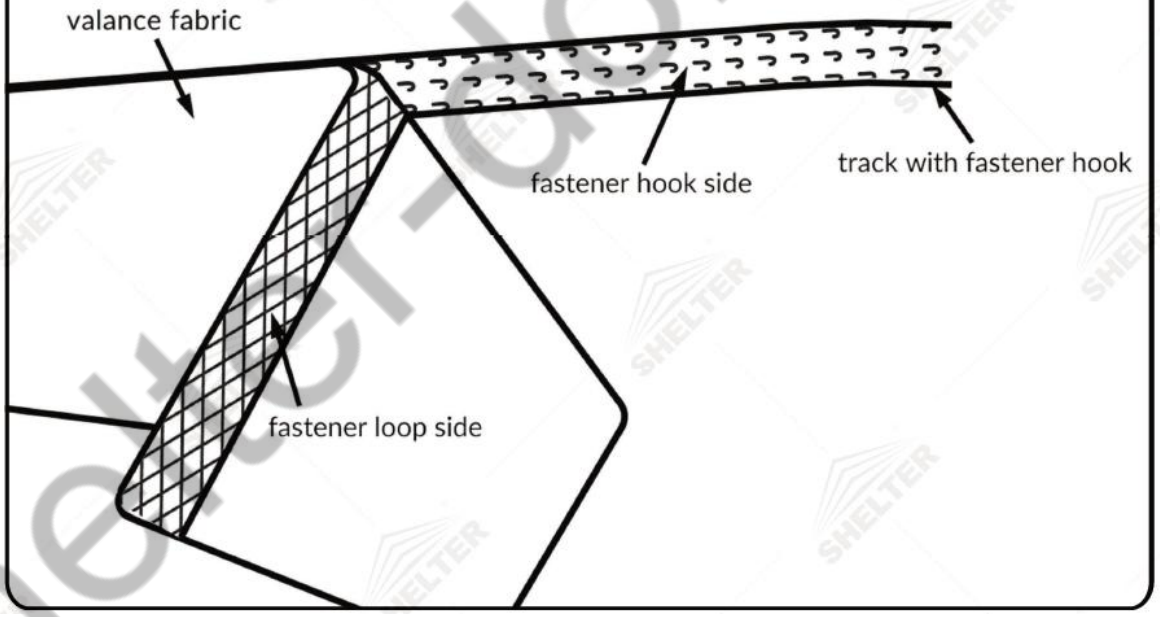
STEP 3

Attach the top of curtain fabric to the upper track (with gliders) by curtain hooks, and attach the lower fabric to the lower track with curtain buckles.



STEP 4

Attach the valance fabric (with oop fastener) to the upper track (with hook fastener).



AUTOMATIC SHADES

1. **Framework Tubes Check**

   Please check the framework page and insulation page in the order's *"Technical Drawing Guide"* to find the perforated tubes' placement, make sure the perforated tubes are already installed at the correct place in STRUCTURE step.

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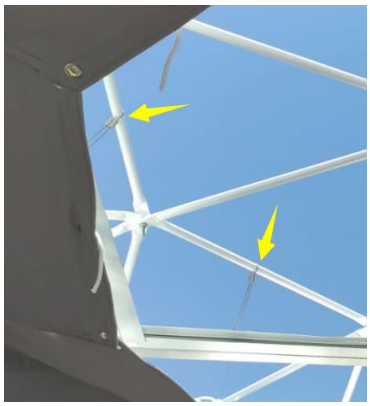
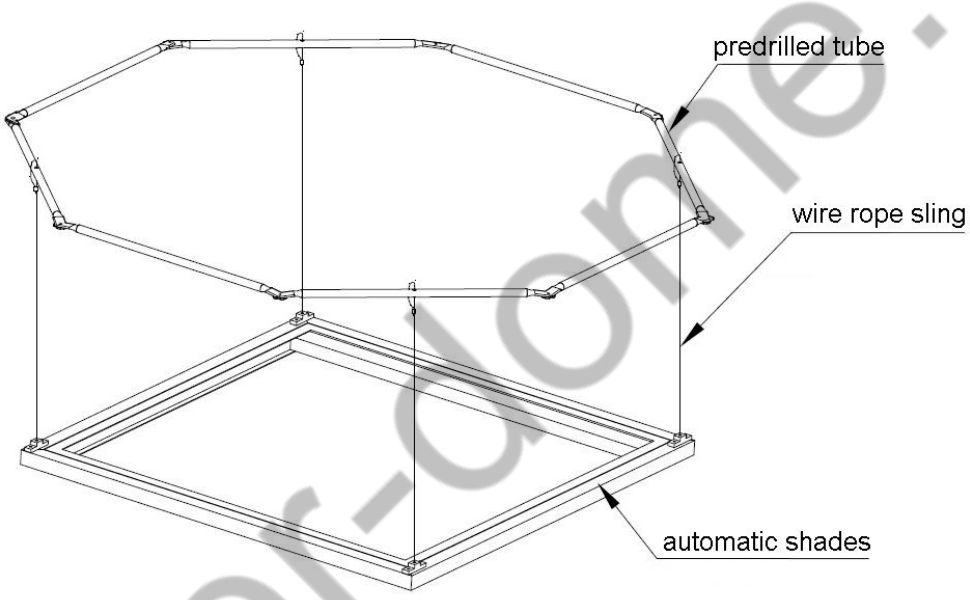
2. Automatic Shades Installation

The automatic shades has adjustable wire rope slings at the 4 right-angles. Make the wire rope sling go through the drill on the tube, pull the wire rope slings till the automatic shades reaches to the very top, then adjust the wire rope slings to secure.





3. Connecting Insulation

Find the hook-and-loop fastener tape and stick it on the automatic shades' frame, attach the near insulation pieces' edge to the hook-and-loop fastener tape.

Geodesic Dome Installation Video Reference:
https://www.youtube.com/watch?v=4aSkqIkHKyo&t=394s

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