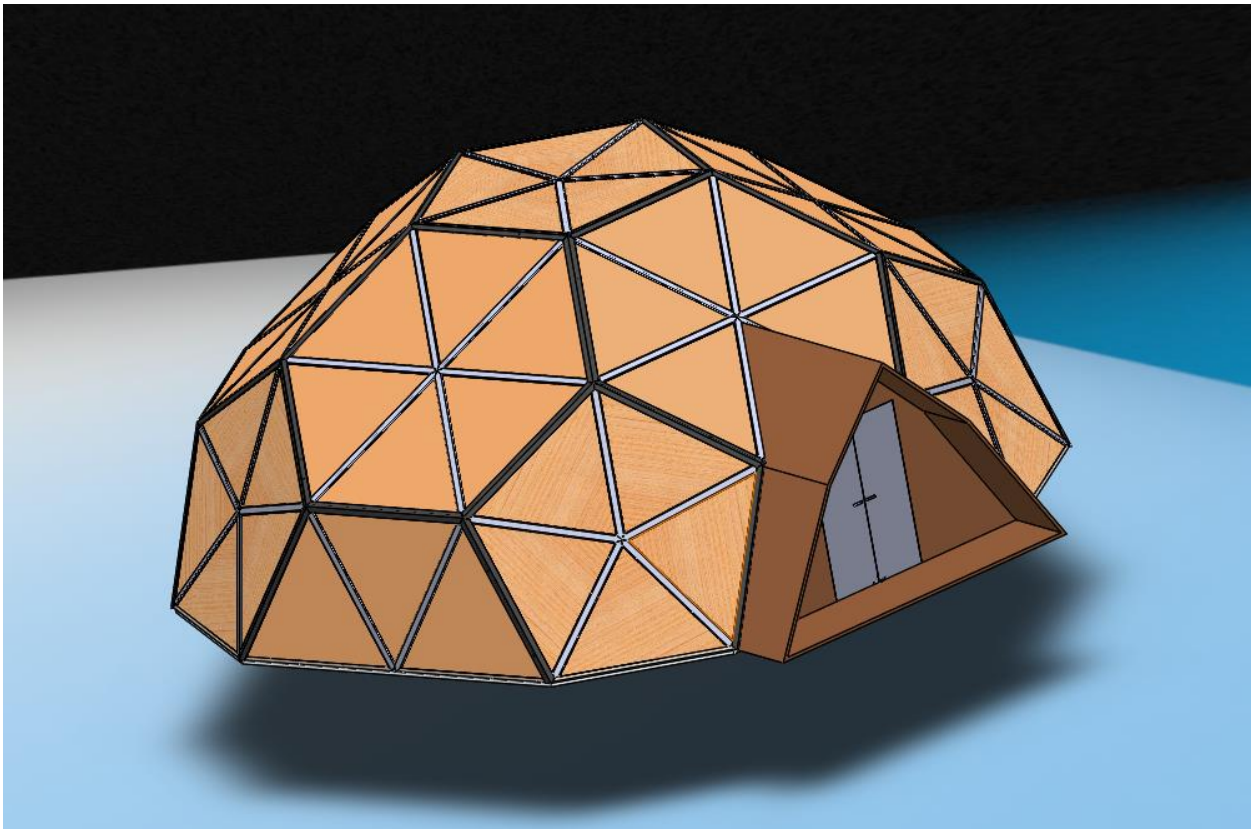
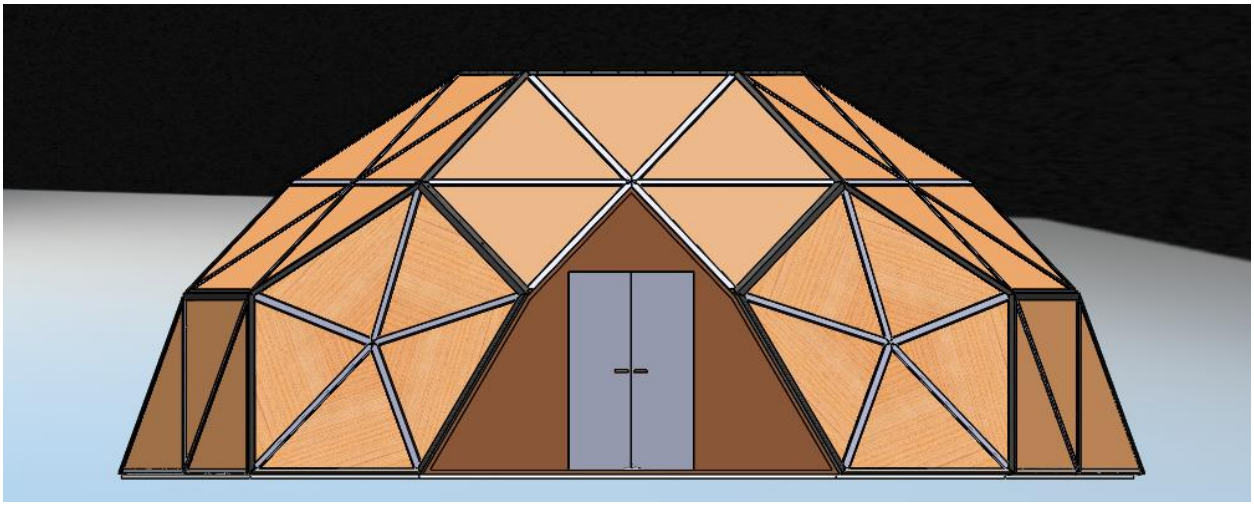




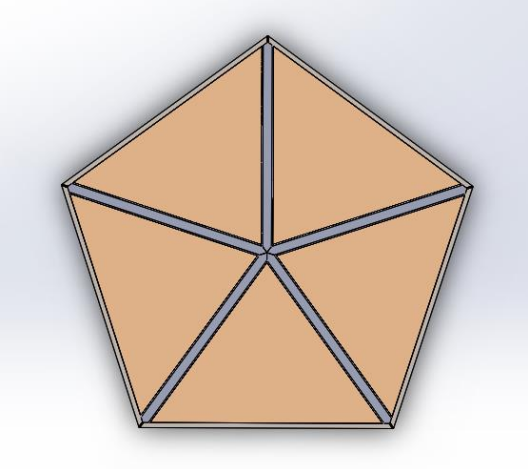


Figure 1 - Pentagonal Tile assembled

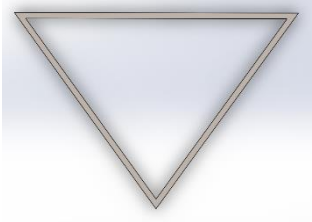


Figure 1-1 - Aluminum triangle part for Pentagonal tile

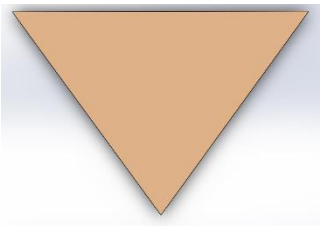


Figure 1-2 - Insulating Triangle Part for the Pentagonal Tile

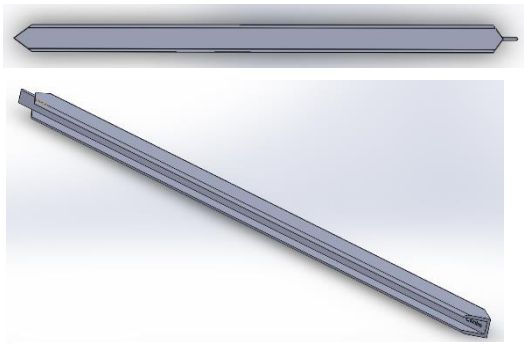


Figure 1-3 - Plastic Interconnector Joint for Pentagonal Tile

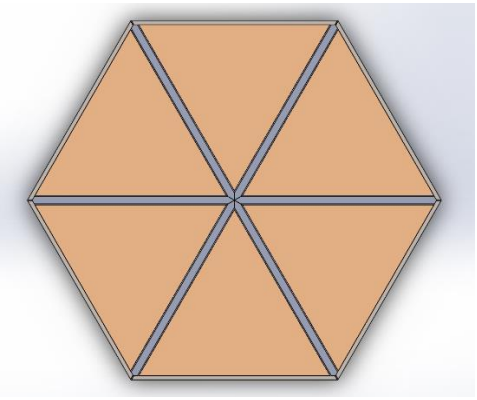


Figure 2 - Hexagon Tile assembled

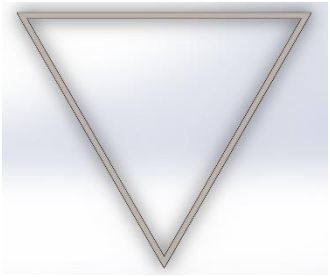


Figure 2- 1 - Aluminum Triangle Part for Hexagonal tile

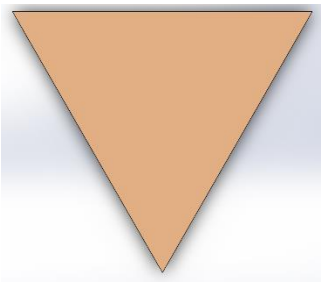


Figure 2-2 - Insulating Triangle Part for the Hexagonal Tile

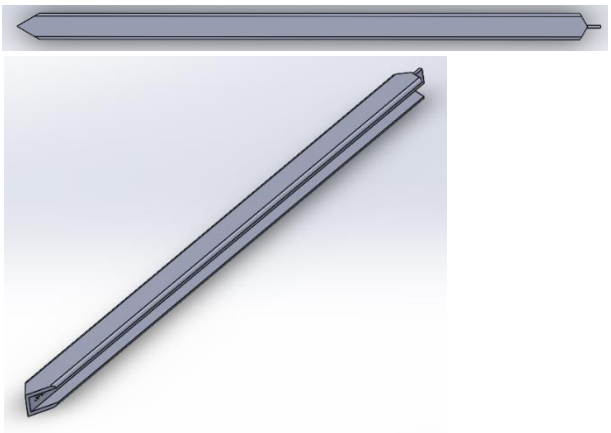


Figure 2-3 -Plastic Interconnector Joint for Hexagonal Tile

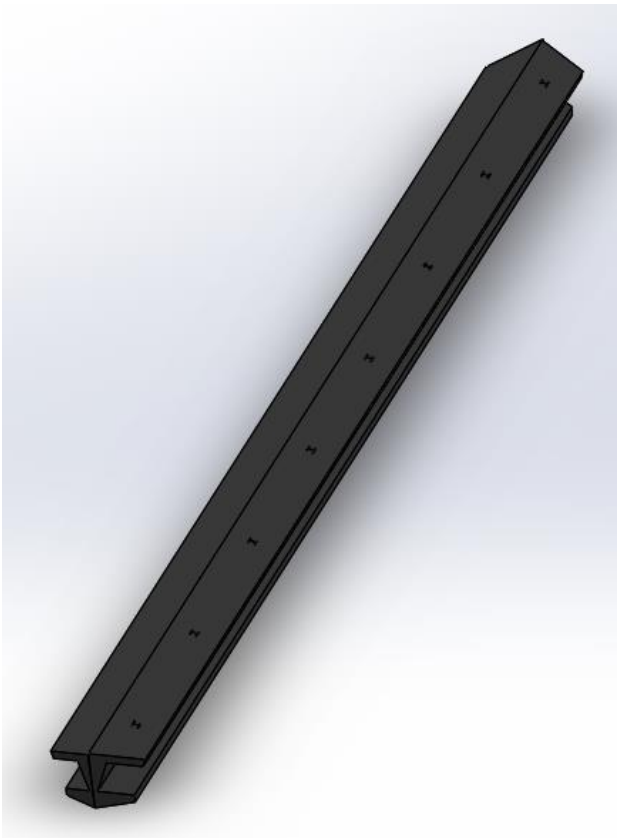


Figure 3 - Interconnector Plastic Joint (Hexagonal - Pentagonal)
H is the side for Hexagonal Tile

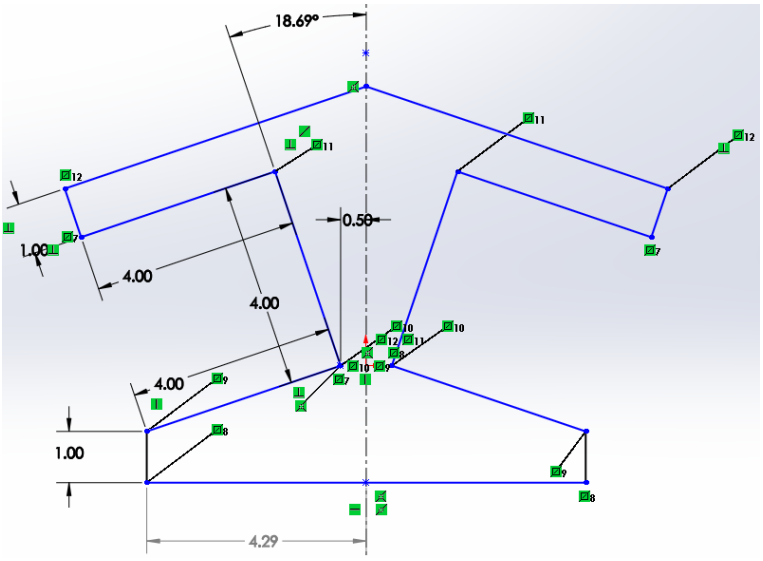


Figure 3-1 - Interconnector Plastic Joint Profile

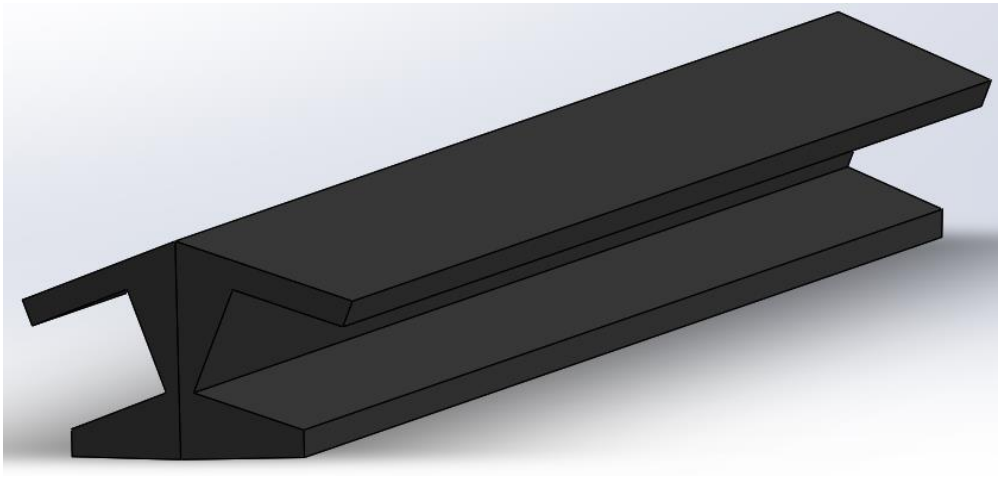


Figure 4 - Interconnector Plastic Joint (Hexagonal - Hexagonal)

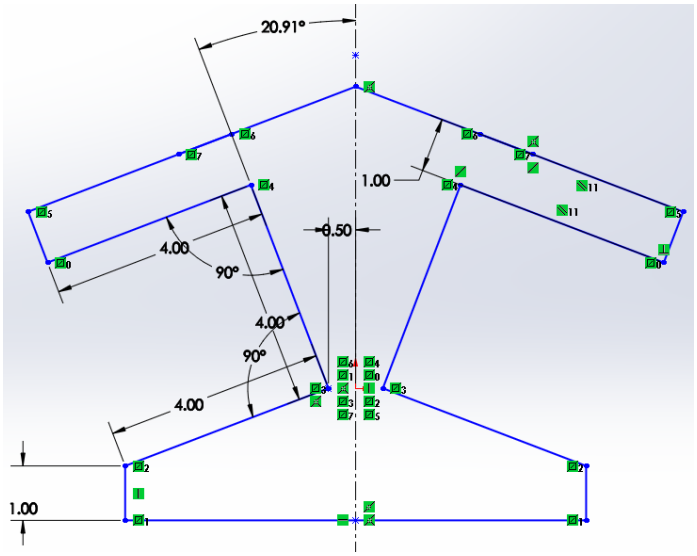
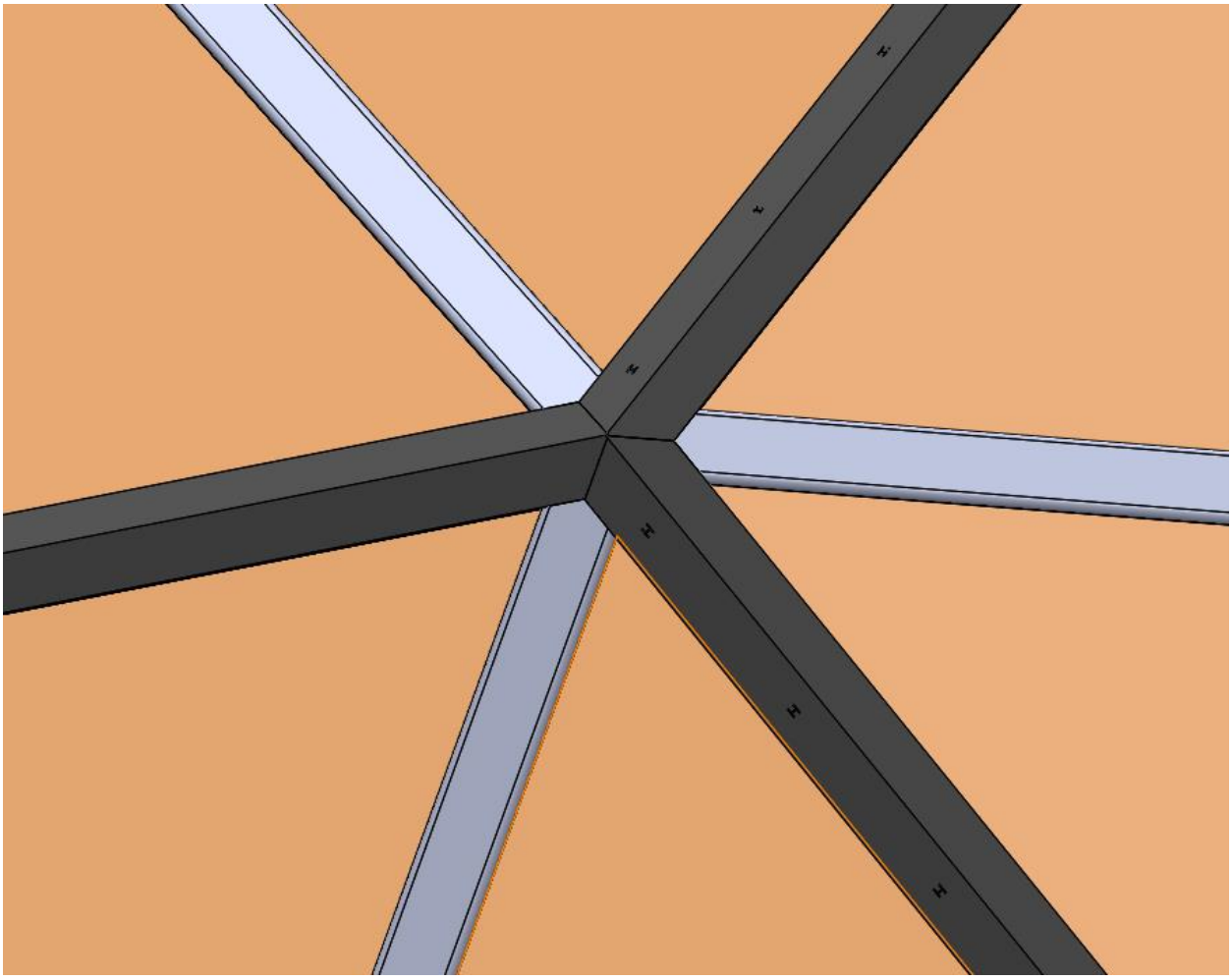
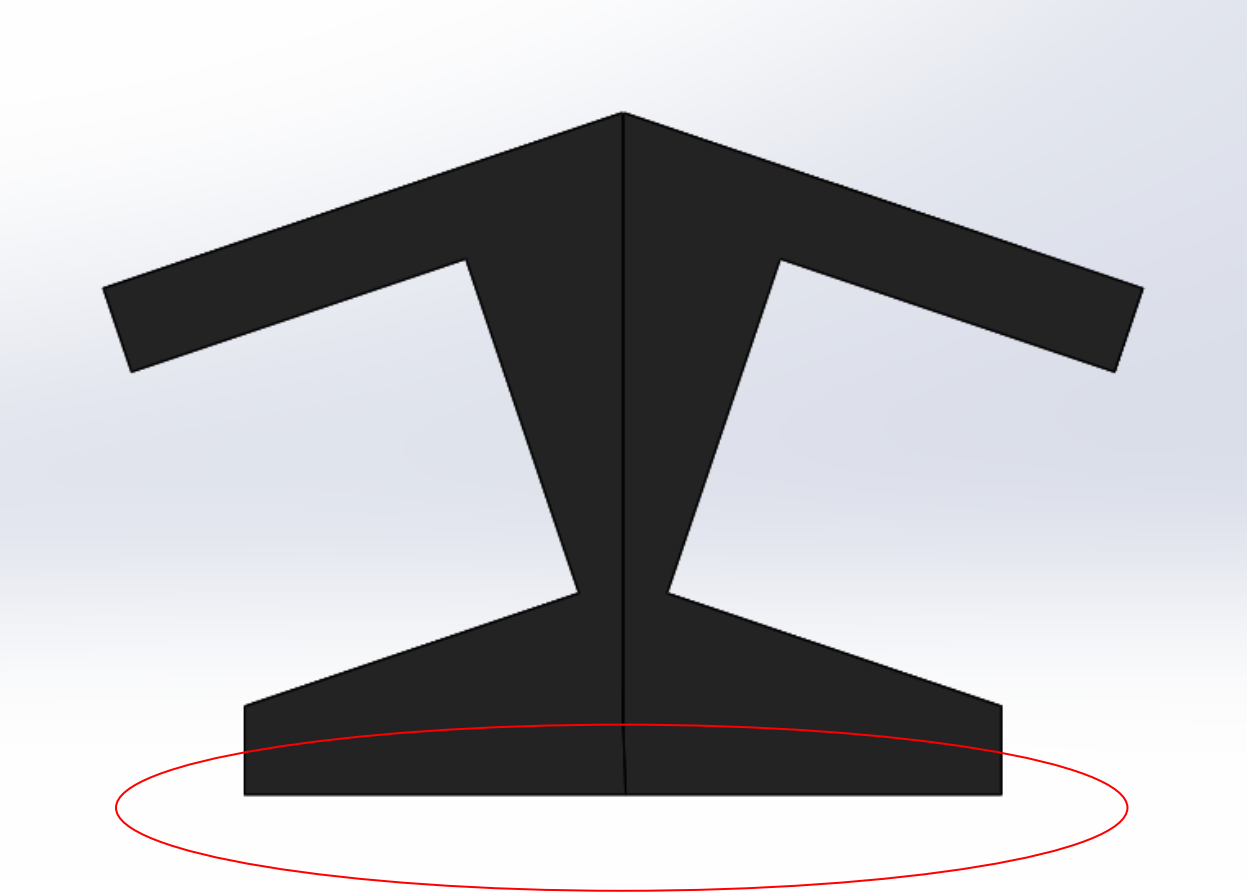


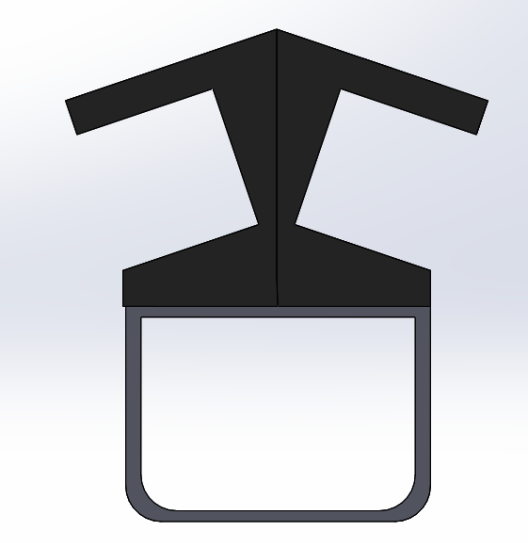
Figure 4-1 - Interconnector Plastic Joint Profile



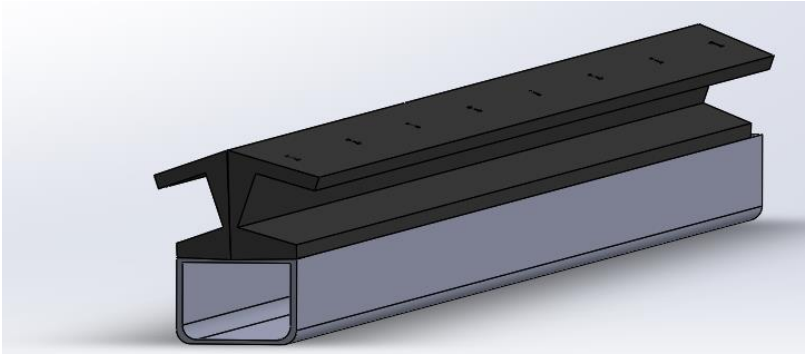
A demonstration of the application of 4 type of joints



This flat side would allow us to fix ducts on these joints, as shown below. Duct for electricity cables, water pipes, lamps, plugs, etc.



The advantage of using these joints is the thermal and sound insulation. These plastic joints are water-proofing the structure.



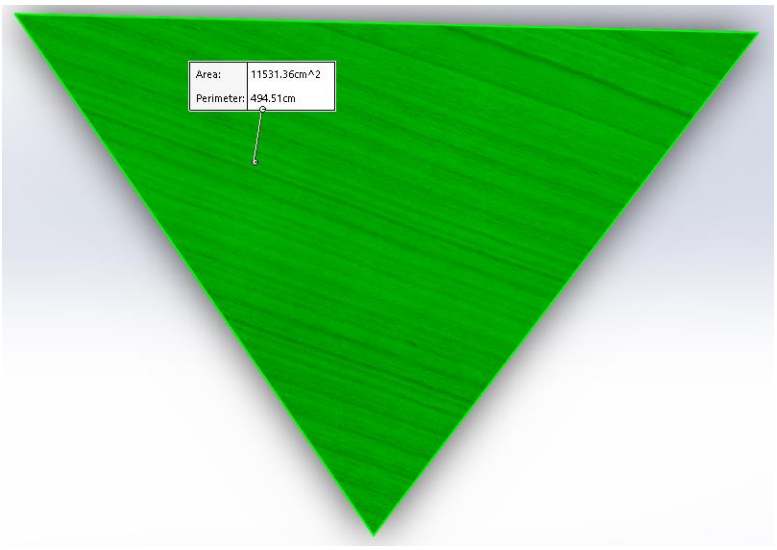


figure 5 - Insulating Triangle for Pentagonal Tile

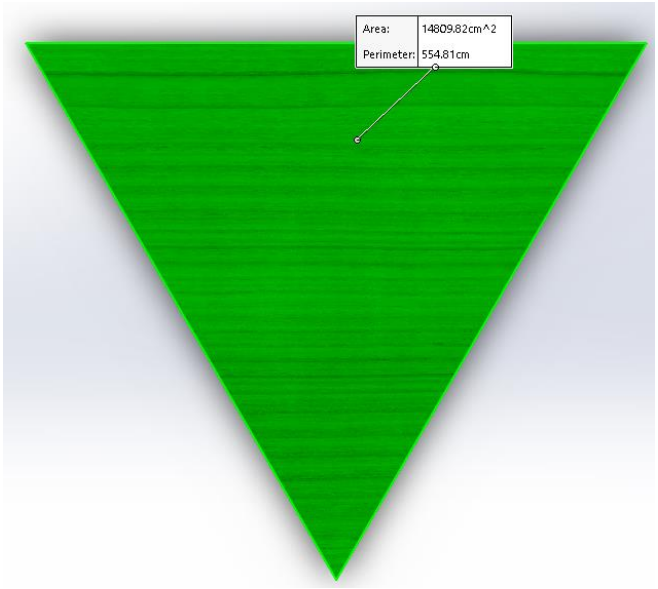


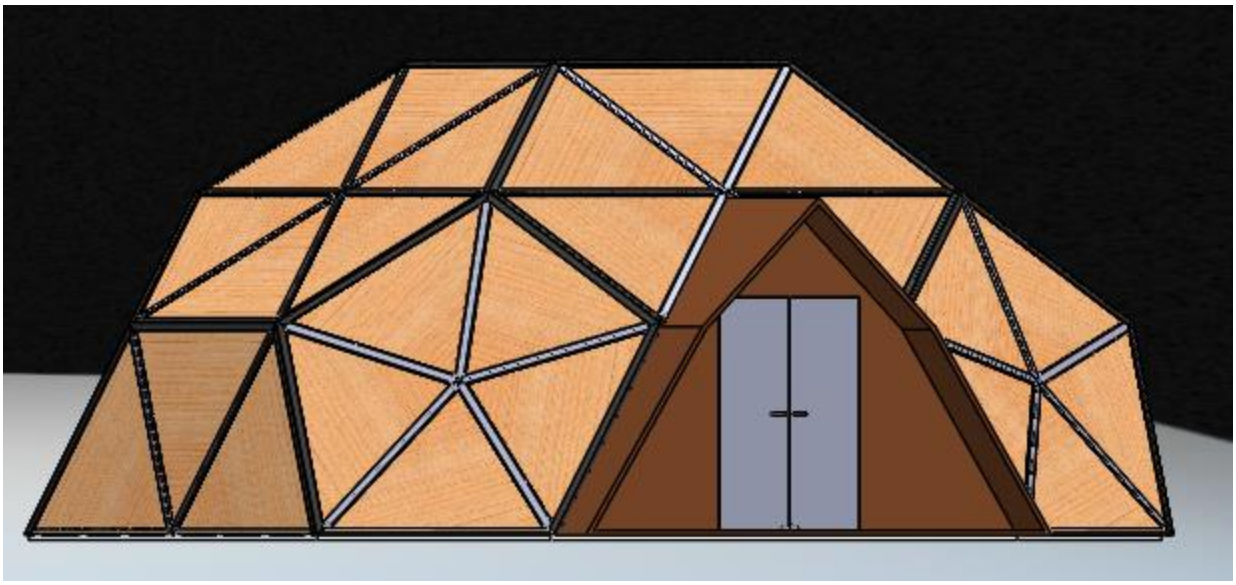
Figure 6 - Insulating Triangle for Hexagonal Tile

Currently I chose 4cm of thickness for these triangle insulating parts, which means 1.5m^2 * 0.04cm = 60L volume per Insulating Triangle for Hexagonal Tile and 1.15m^2 * 0.04cm = 46L volume per Insulating Triangle for Pentagonal Tile. This volume can be used to integrate electronic parts and batteries, or any further idea of utilities.

In an unconnected structure we have 6 hexagonal tiles (6*6 = 36 – 1*(for the door module)* = **35** *Triangle part of 60L*) and 6 Pentagonal tiles (6 * 5 = **30** *Triangle part of 46L*).

35 x 60L = 2100L 30 x 46L = 1380L

A total of 2100L + 1380L = **3480L** usable volume inside these triangles. This value is **8700L** for a thickness of 10cm.



The area of a single structure is about 68m^2 and its height is about 3.9m. The volume occupied by this structure is about 175m^3.