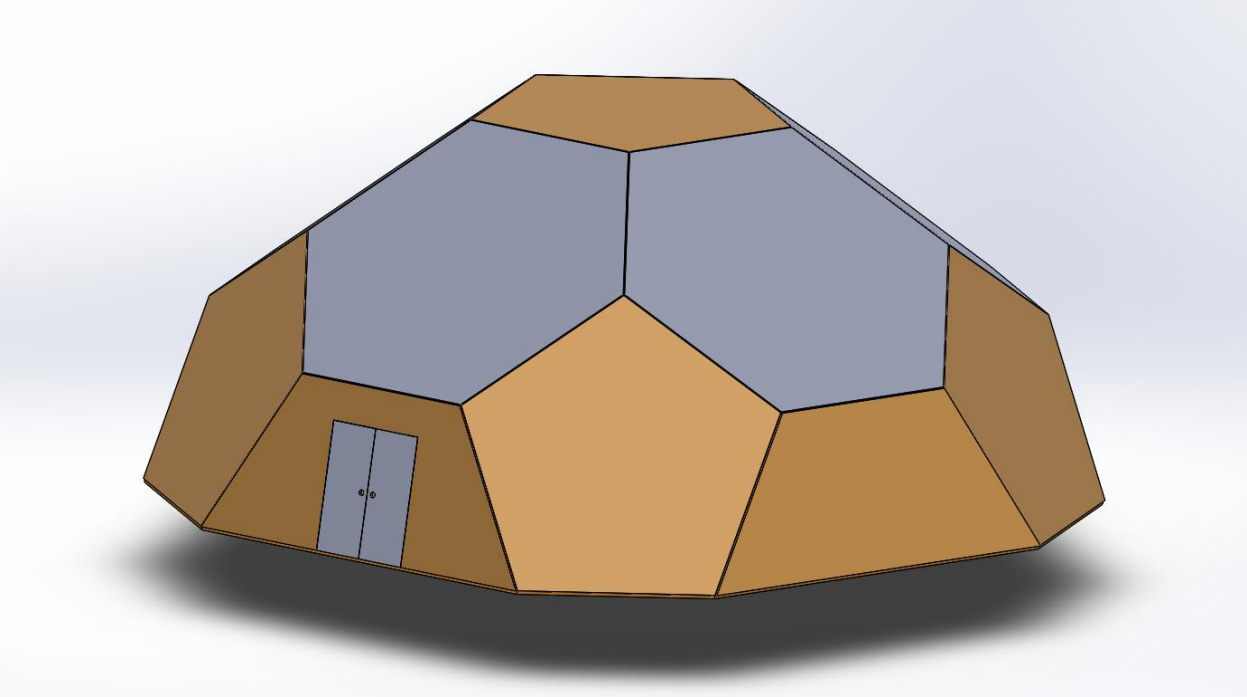
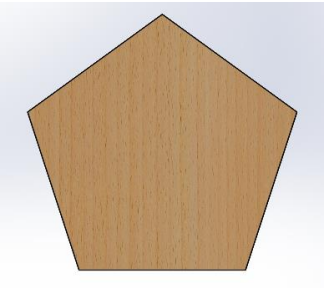
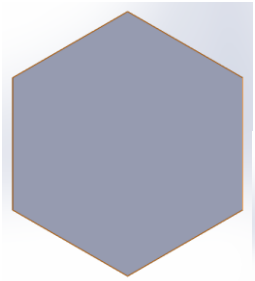
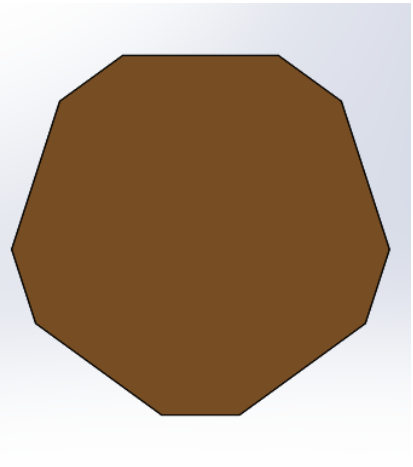
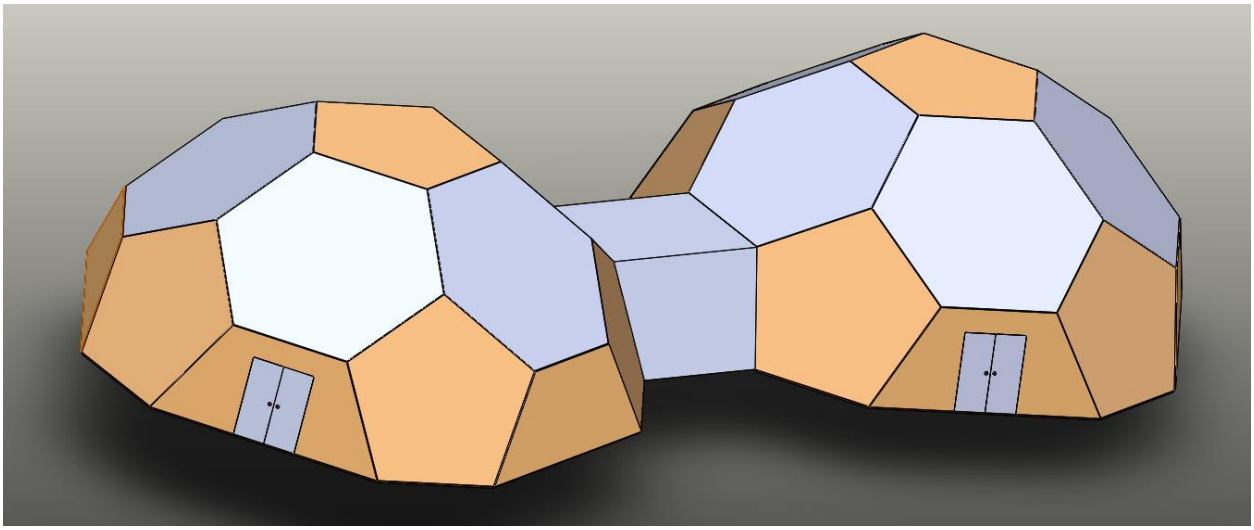


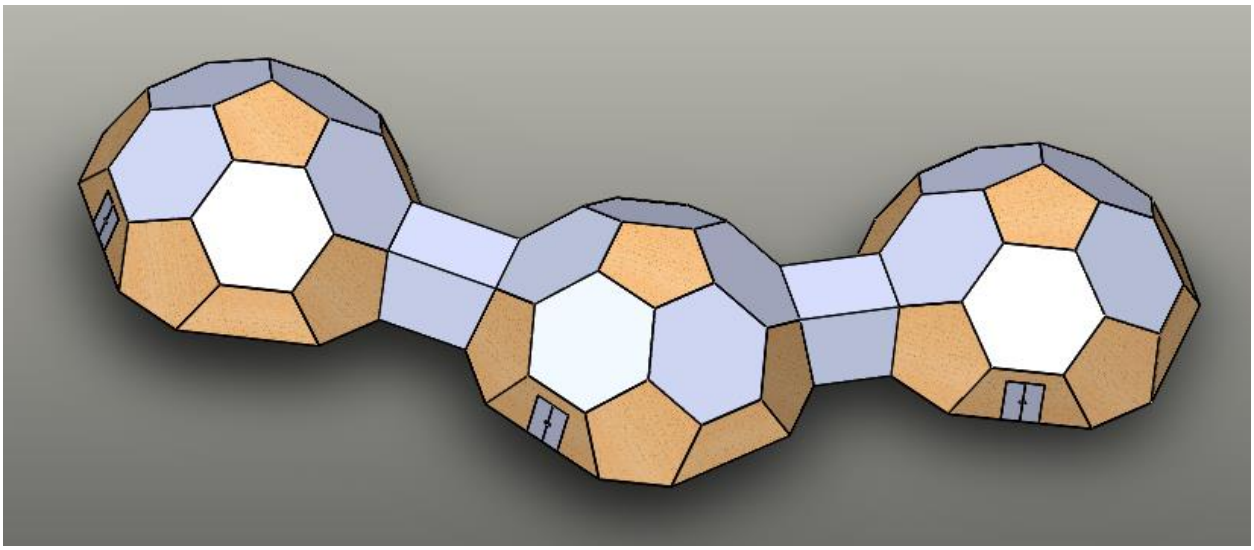
In this structure we use 6 Pentagonal tiles, 5 Hexagonal tiles, and 5 Half-Hexagonal tiles. All these tiles are based on a non regular Decagon. 12 parts overall for a single shelter.

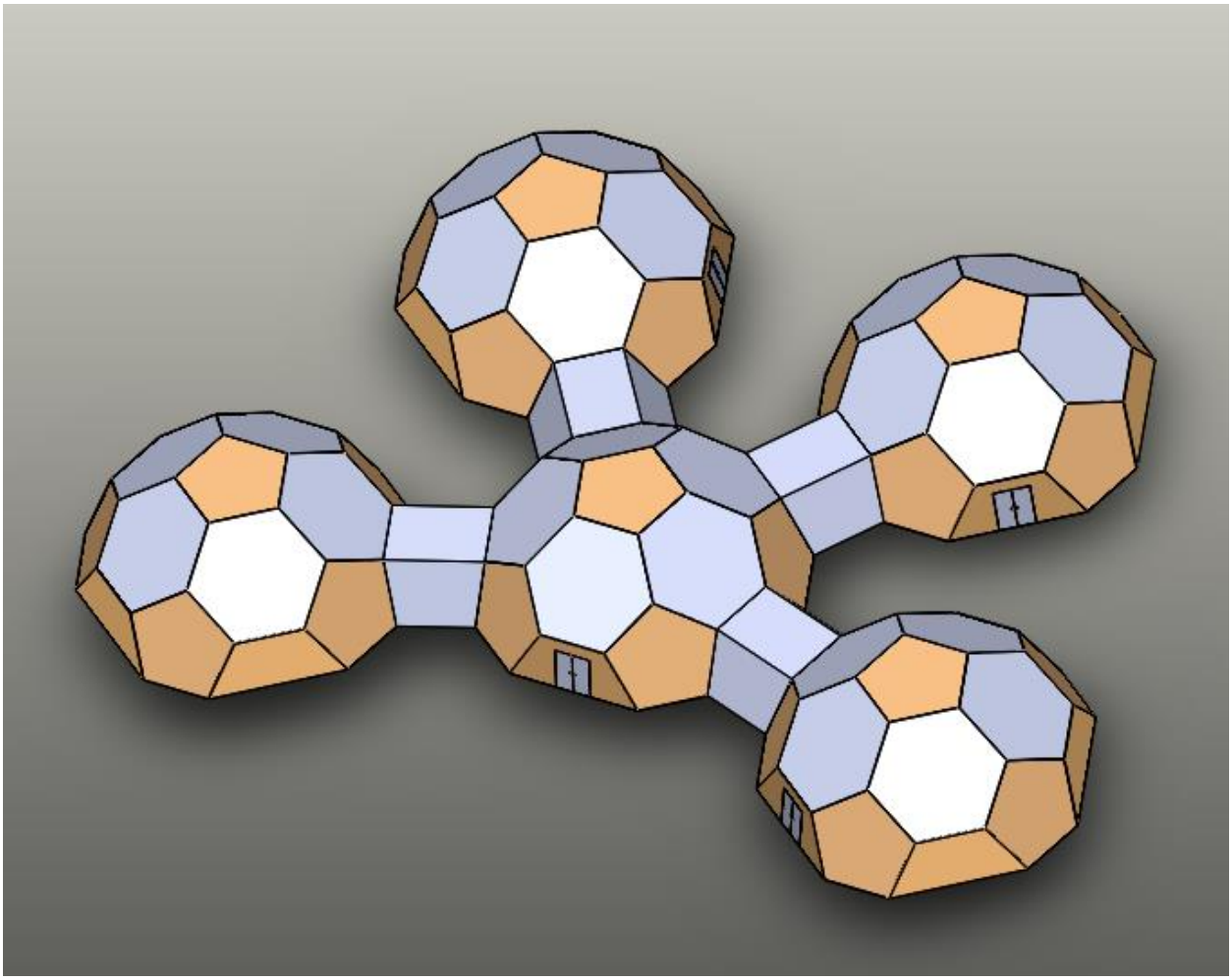








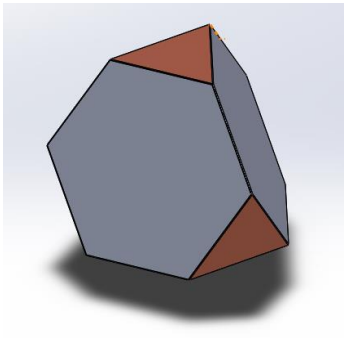
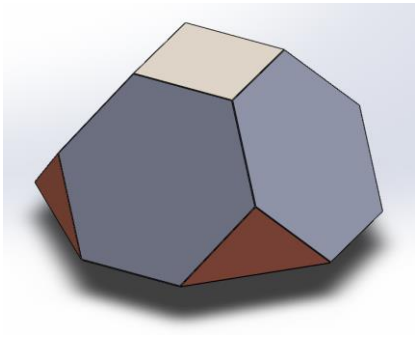
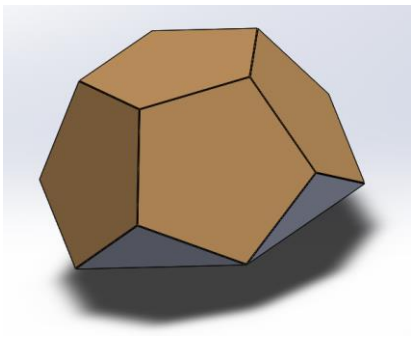




As exposed on upper photos, this structure allows us to interconnect them and increase the living space and adopt it to the different needs. These separate regions of this structure are detachable and can be used separately. This structure is modular and we can add or remove modules onto the structure. We can also use this design in different climate and environments and we can adapt it to the environment. These tiles have the ability to have different types of technology or infrastructures (pipes, wiring system, etc.) installed onto them. Some of these tiles can have batteries installed onto them. A smart grid system can help us to efficiently share the produced electricity by embedded photovoltaic panel on tiles or generators.

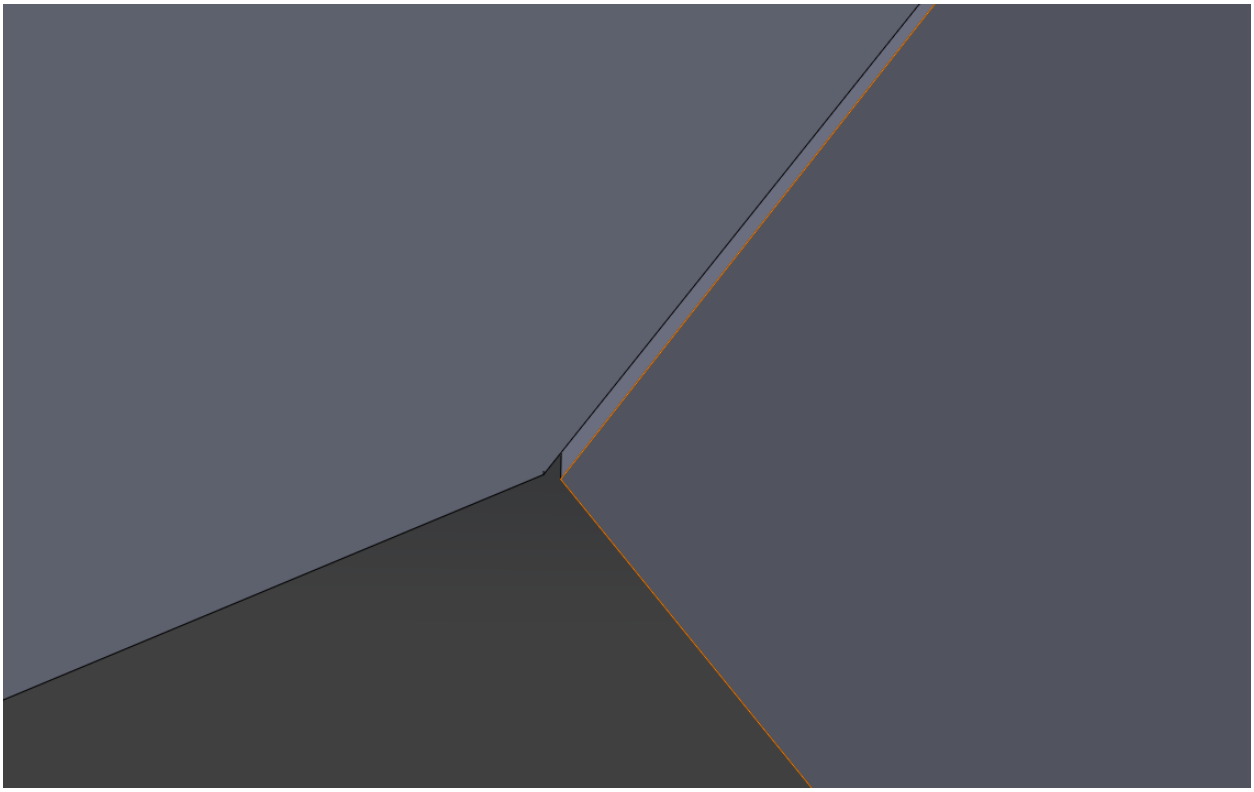
In research of an ideal structure I tried different mixture of these hexagonal and pentagonal tiles.

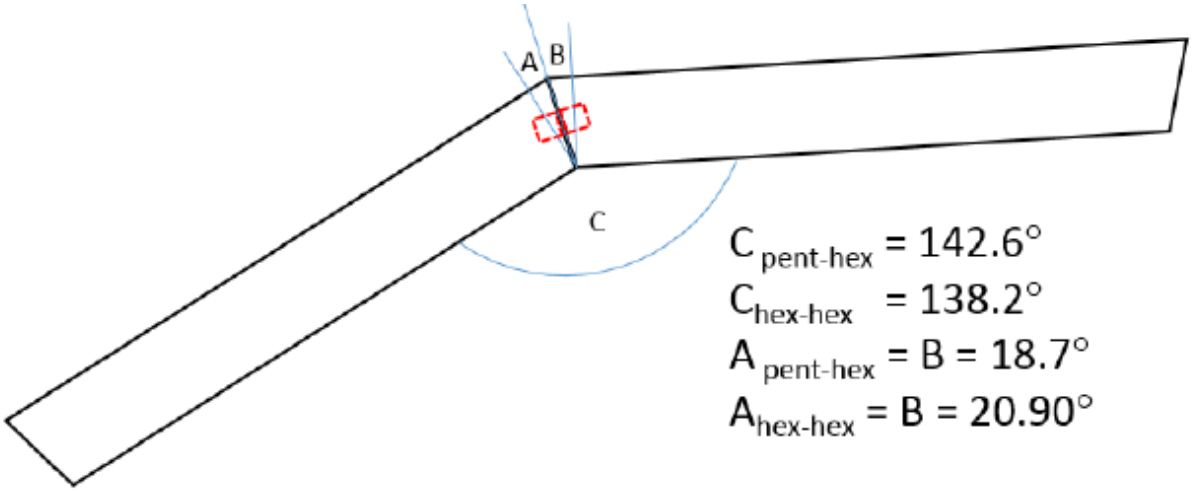
Here you find some of them:

There are geometrical limits which would not let us having too many structures, for example you can connect six pentagons as shown on photos but not seven hexagons (because of angles 3 x 120 = 360 it would be flat).

I applied the angles which are on one of the papers:





The problem is that when I fixed the entire structure it would not mate, because of this micro-gap. I believe this problem can be solved by adding plastic joints. This can also be a solution in addition to make the structure water-proof.