

IGLOO-VILLA

PREFABRICATED DOME HOUSES



<https://www.igloo-villa.com>



Basic idea

Due to the phenomenon of global warming, every year we face a large number of natural disasters such as massive fires, floods, devastating storms, etc., in which a large number of people unfortunately lose their homes and shelters.

On the one hand, rebuilding destroyed houses and buildings is a time-consuming process, and on the other hand, there are transportation restrictions for relocating housing estates.

Therefore, the initial idea of constructing a structure that is prefabricated and separately designed and constructed and can be transported to the required location in large numbers with maximum use of road transport capacities, was formed.

After several studies, I found that the best structures that could be suitable for the initial idea are geodetic dome structures.





History

Dome houses have been traditionally used in different parts of the world for many years.

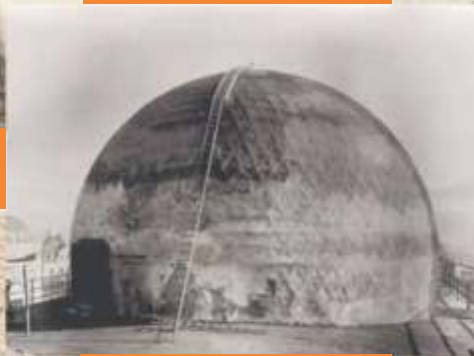
The thatched domes of the city of Yazd in central Iran, as well as the houses of the Eskimos or igloos in the Arctic, are historical examples in this field.



In terms of engineering, these structures were first designed in the United States by engineer Barsfield in 1924 and have been used in various parts of the world ever since.

For many years, due to the special design and construction, these structures have been used mainly for study centers in the field of astronomy and structures related to military industry, but recently, the use of this type of structures for personal and commercial purposes for reasons such as resistance to against earthquakes and storms, etc., along with their apparent charms, has expanded.

But still one of the challenges of using them is the issue of time consuming completion on site, which has been addressed in the newly designed structures of **Igloo Villa**.



Structural components

4

The **Igloo Villa** dome structure consists of painted triangular steel frames. Inside the steel frames, there is one layer of PVC composite, and a layer of rock wool to provide sound and heat insulation. The outer part of the steel frame is also covered by a layer of concrete and waterproofing material.

It is possible to use double glazing inside steel triangular frames instead of rockwool. After production, the steel triangular frames with their inner cover are transferred to the installation site and together with the bolts according to the installation diagram, they create a dome structure together.

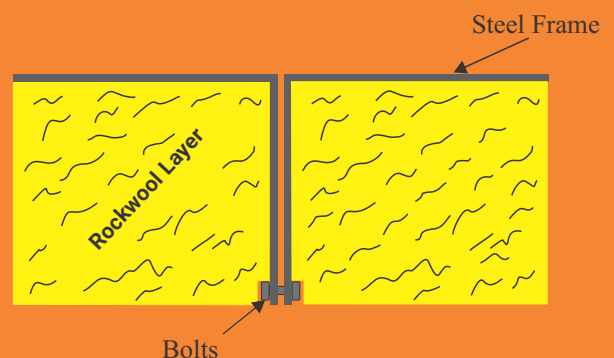
Since the location of the bolts is located on the outer surface of the steel triangular frames, if necessary, it is possible to open the structure from the connection points and transfer it to another location.

The presence of triangular walls in **Igloo Villa**

structures allows the user to use windows in any direction and in any number he wishes, or to use clear or colored glass to cover the entire structure.

In order to use this structure for tourist purposes, instead of concrete, it can be covered with thatch in desert areas or with wood in forest areas, which beautifully harmonizes it with the surrounding environment.

The process of construction and connection of dome houses have been registered in Iran's intellectual property registration office with number 107284.





DIMENSIONS AND CONSTRUCTION TIME

At present, **Igloo Villa** structures are routinely produced in areas of 30 to 115 square meters, but the possibility of manufacturing larger structures is also available on request.

It should be remembered that in domed structures, the more space, caused to the height of the roof.

Due to the high ceilings in large structures, it is possible to easily construct a half floor inside the structure too. The area of this half-floor is usually 40% of the floor area of the main structure.

Also, the dome shape of the **Igloo Villa** structure allows it to easily integrate a number of structures together.

The construction and installation time of the above structures is maximum of three working months.



Diameter	Height	Area
6.25 m	3.70 m	30 m ²
7.25 m	4.20 m	41 m ²
8.25 m	4.80 m	53-75 m ²
9.25 m	5.30 m	67-94 m ²
10.25 m	5.90 m	80-115 m ²





Major uses

At present, due to the high speed of construction and installation, **Igloo Villa** structures can be used mainly for the construction of

- **Residential House**
- **Commercial Shop**
- **Sports Center**
- **Medical Center**
- **Tourist centers**

in different areas with a wide variety of shapes.

Also, this structure is one of the most efficient structures for building **Greenhouses** and there are numerous scientific articles in this field.



6





Special uses

It is possible to use this structure in the following cases:

- **Skylights of buildings**
- **Penthouse structures in apartments and towers**





Global warming

According to research, the phenomenon of **Global Warming** will undoubtedly occur in the coming years, and temperatures in some countries in the Persian Gulf and North Africa will reach 85 degrees Celsius in summer. At this temperature, even the best cooling systems will lose their efficiency.

The solution is to use the large **Igloo Villa** dome structures as an artificial atmosphere outside the buildings. The large prefabricated **Igloo Villa** dome structures can act as a shield, saving residential houses and other places from direct contact with the open air and extreme heat.

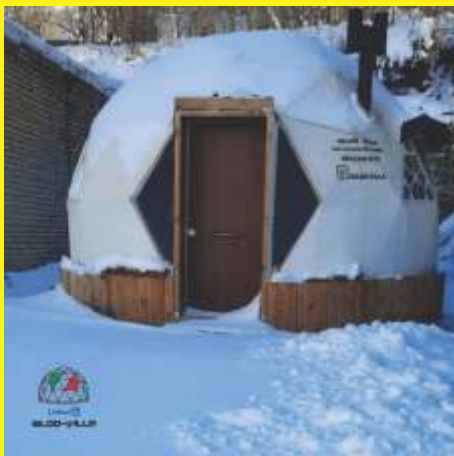
For example, the prefabricated dome structure of **Igloo Villa** with a diameter of 40 meters can cover an area of 1250 Sqm with a height of about 16 meters and without the need of middle columns. Numerous scientific articles have proven the efficiency of dome buildings in hot weather.



Structures in cold areas

The dome shape, the presence of rock wool insulation, moisture insulation and the use of double glazing prevent energy loss in this structure and make it suitable for use in cold areas.

In addition, the prefabricated structures of the **Igloo Villa** dome in large dimensions, as an external shield of the underlying structures can protect it from direct exposure to extreme cold and provide a warmer atmosphere for the underlying environment.





Use of materials without VOC

One of the most popular topics in recent years is the use of **VOC-free** building materials, especially in residential homes.

VOC materials are mainly used in paints, insulators, preservatives and waterproof coatings. They are very harmful to health and are often carcinogenic.

If the large prefabricated dome structures of "**Igloo Villa**" are used as an external shield with double glazing, in the space below the structure, it is possible to build wooden houses using building materials without VOC, because the structure of **Igloo Villa** prevents the entry of any water and moisture into it.



Advantages of Igloo Villa prefabricated dome structures:

- Easy to install and re-assemble
- Earthquake and storm resistant
- Suitable for any weather conditions
- Sound, heat and moisture insulation
- Ability to build and connect several structures together
- Ability to use solar cells according to the dome shape of the structure
- Construction and installation time is maximum of two working months
- The possibility of using the outer covering of the structure as a green wall
- Build able areas from 26 to 1250 square meters according to customer request



Exterior Design



10

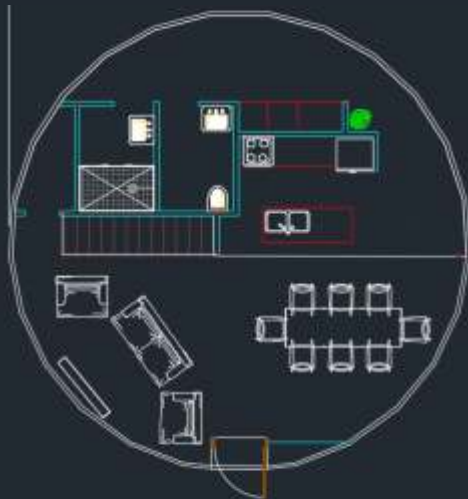
94 and 115 Sq.M two-story structures



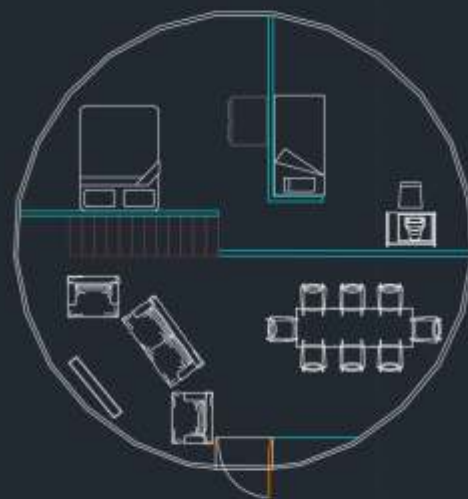
Interior Design

The internal plan of the structures:

- Igloo Banaa
- Igloo Emaarat



First Fl.



Second Fl.



Interior Design



Living Room



Interior Design



Dining Room



Interior Design



Kitchen



Interior Design



Bathroom

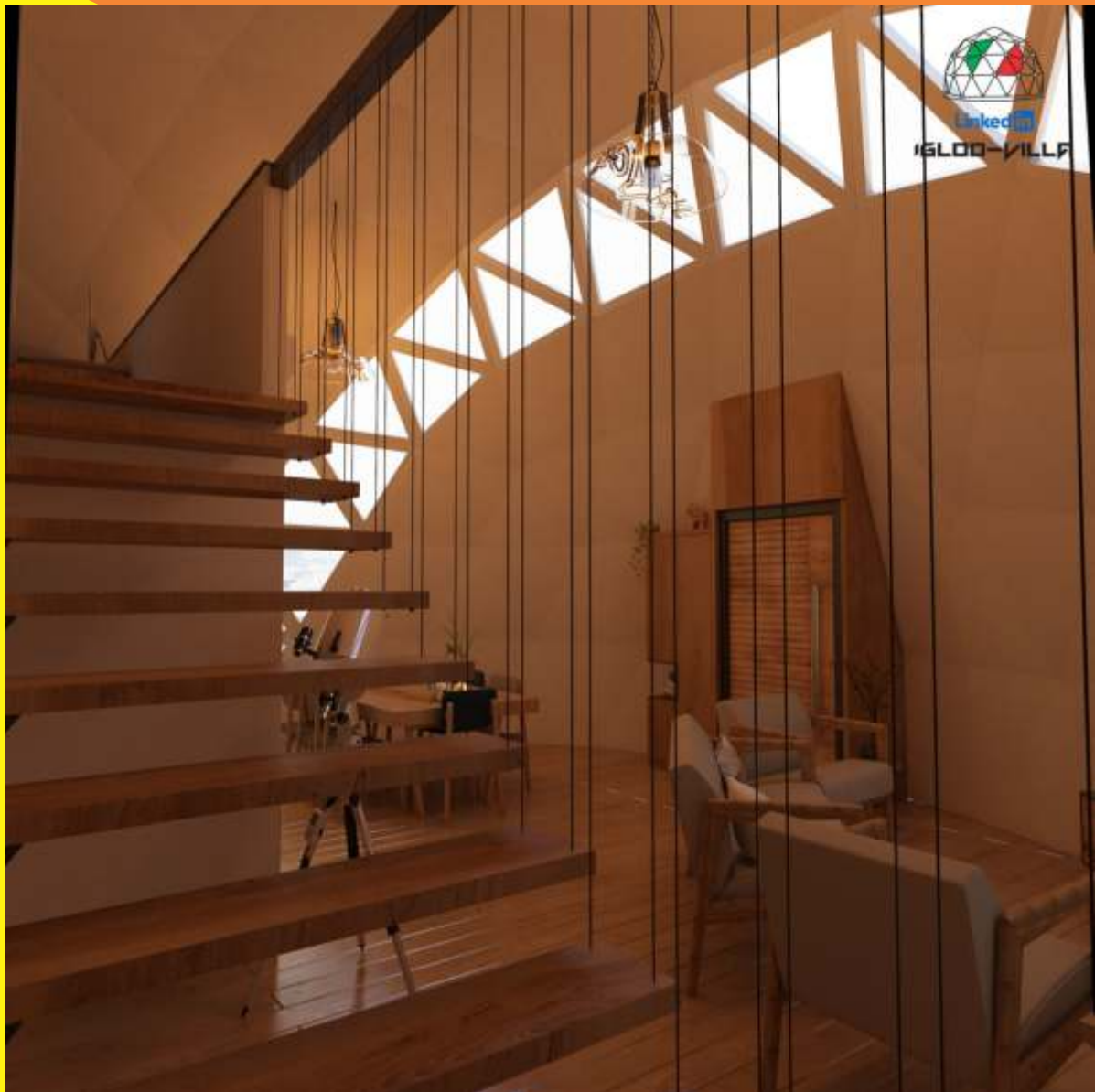
Interior Design



Rest Room



Interior Design



Stair



Interior Design



Living room view from upstairs



Interior Design



Single room - first view



Interior Design



Single room - second view



Interior Design



Double room - first view



Interior Design



Double room - second view



Exterior Design



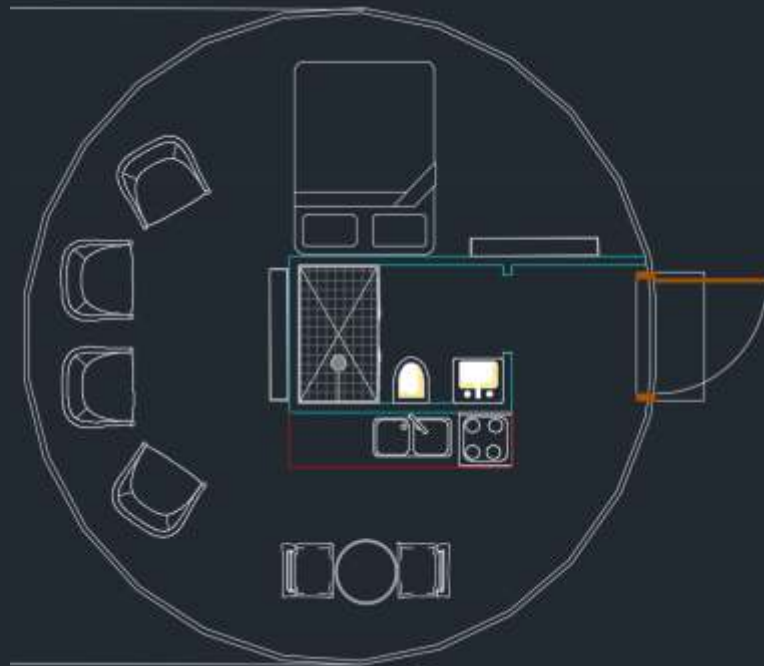
30, 41 and 53 Sq.m structures with one floor



Interior Design

The internal plan of the structures:

- Igloo Cottage
- Igloo Locus
- Igloo House





Interior Design



W.C. & Bathroom



Interior Design



Kitchen



Interior Design



Living Room



Interior Design



Bedroom - first view



Interior Design



Bedroom - second view



Commercial plans

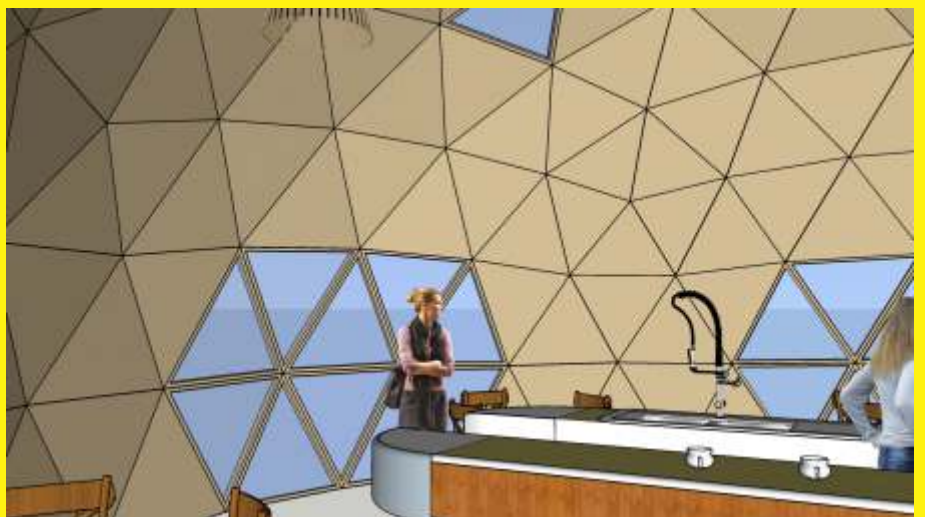
Restaurant - coffee shop





Commercial plans

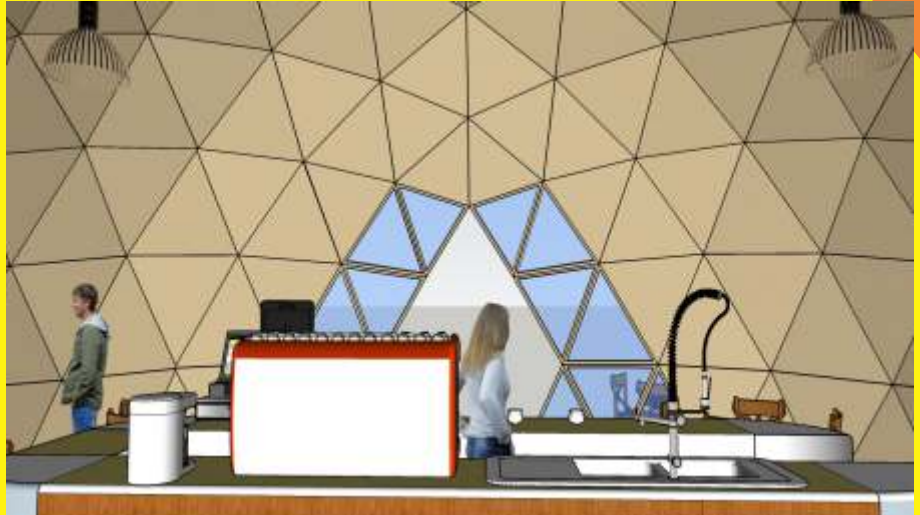
Restaurant - coffee shop



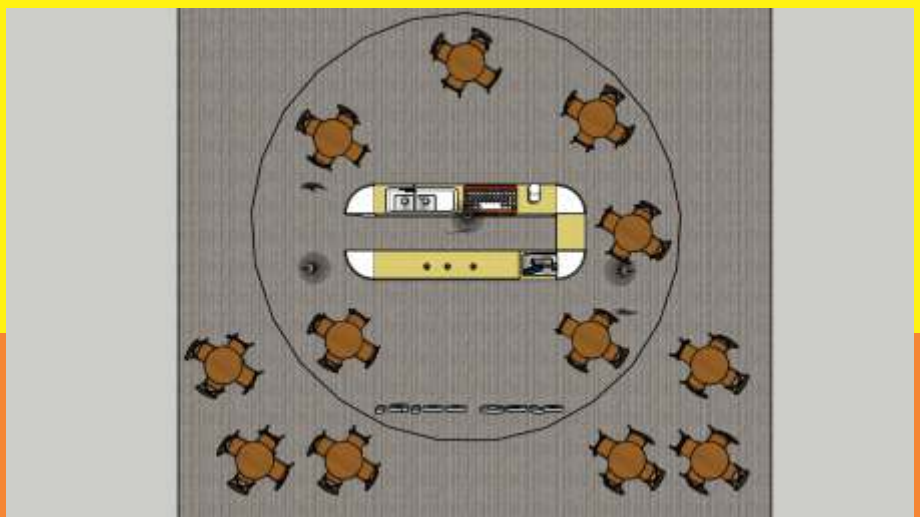


Commercial plans

Restaurant - coffee shop



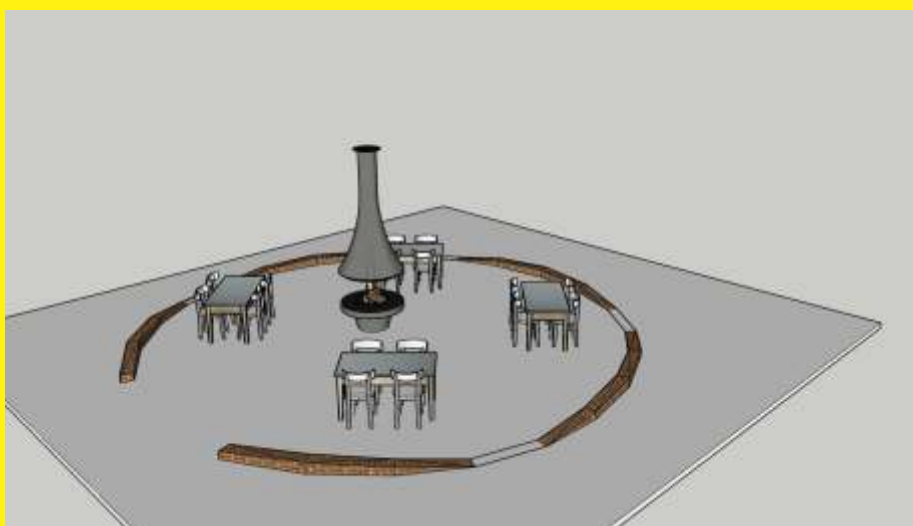
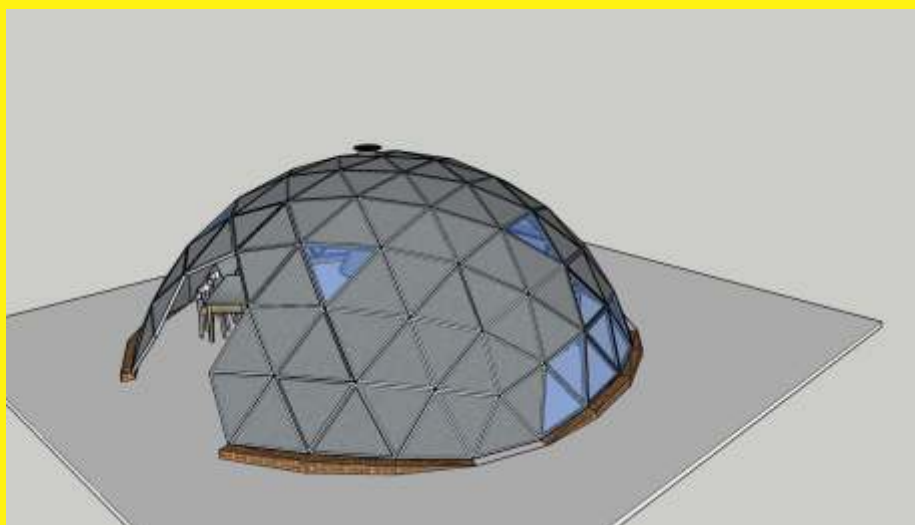
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Commercial plans

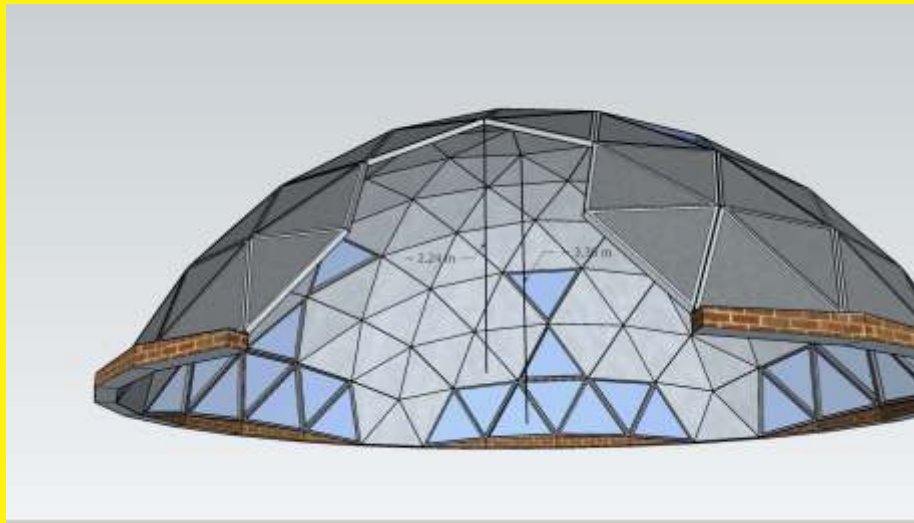
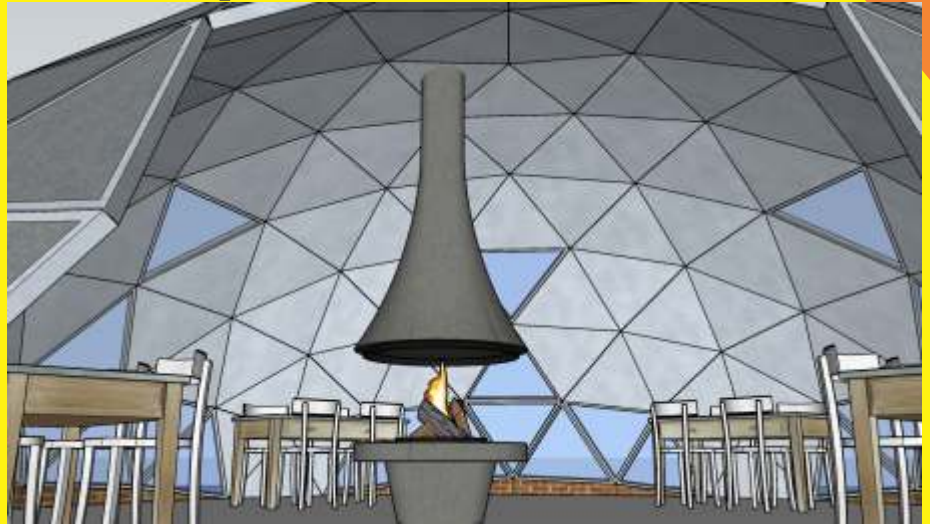
Restaurant - coffee shop





Commercial plans

Restaurant - coffee shop



34





Pergola plans

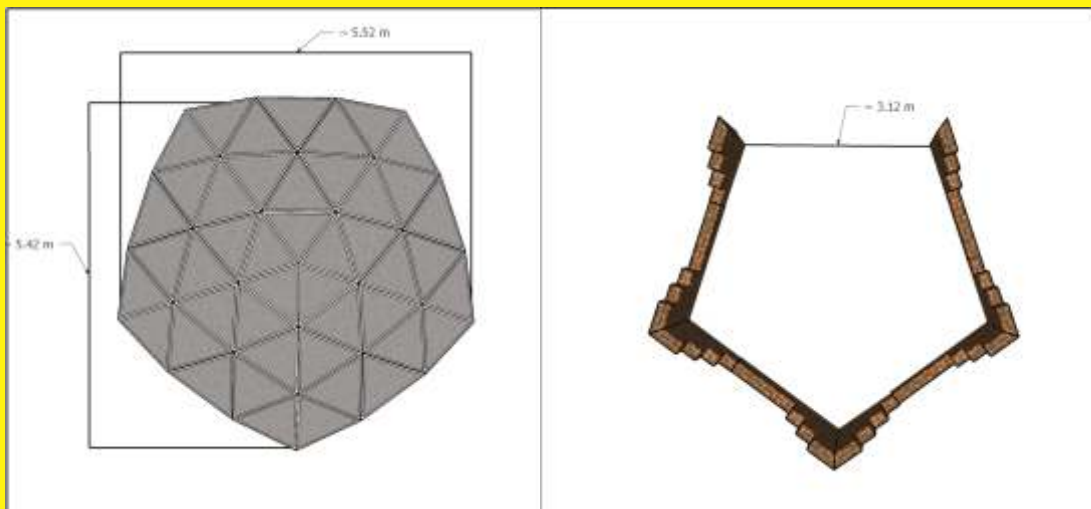
Alpha





Pergola plans

Alpha





Pergola plans

Beta

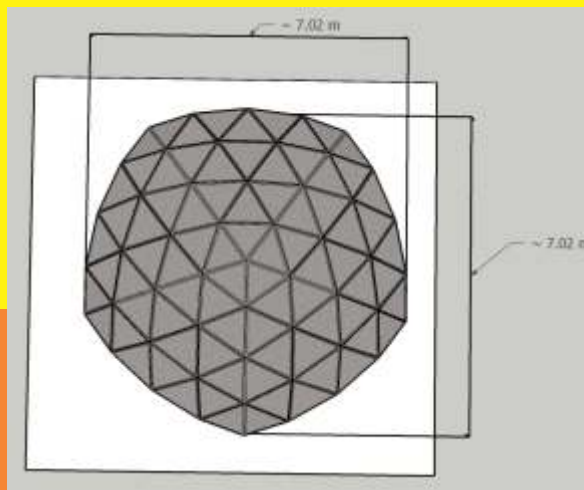


Pergola plans

Beta



38

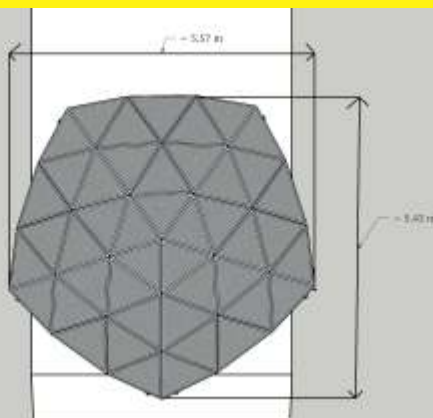
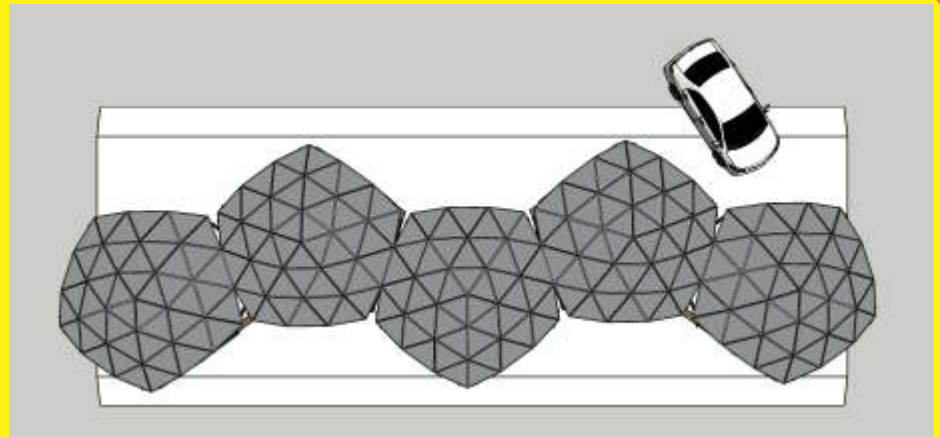




Parking plan



Parking plan

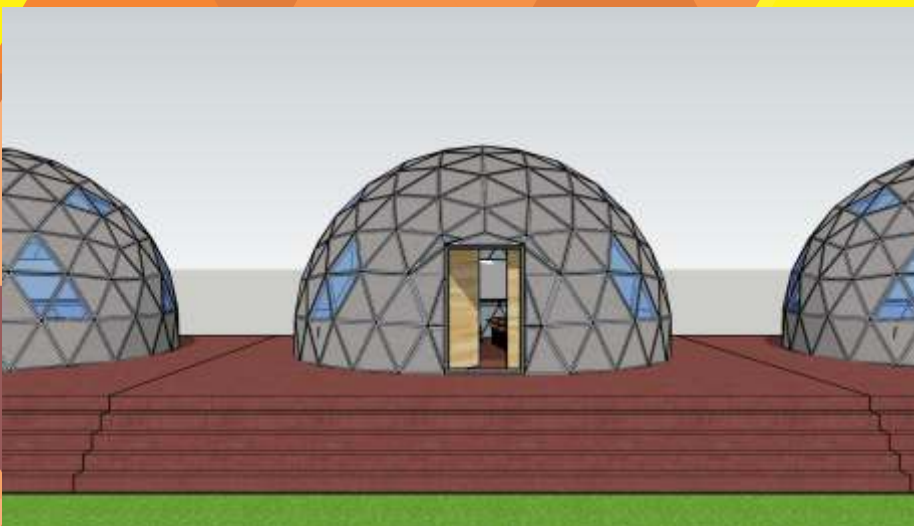
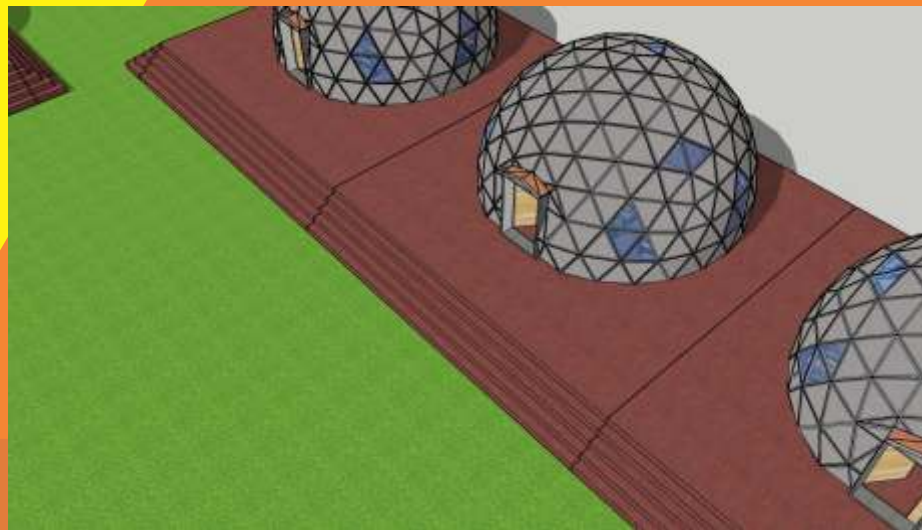
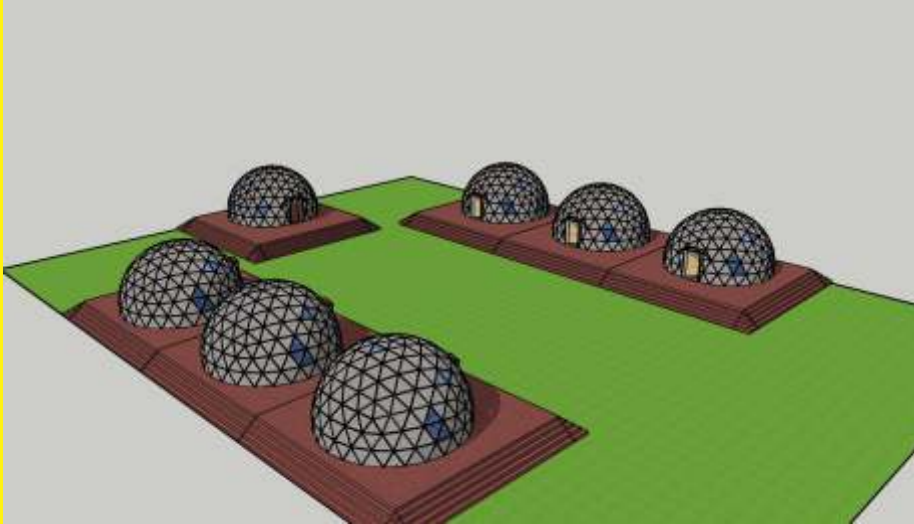


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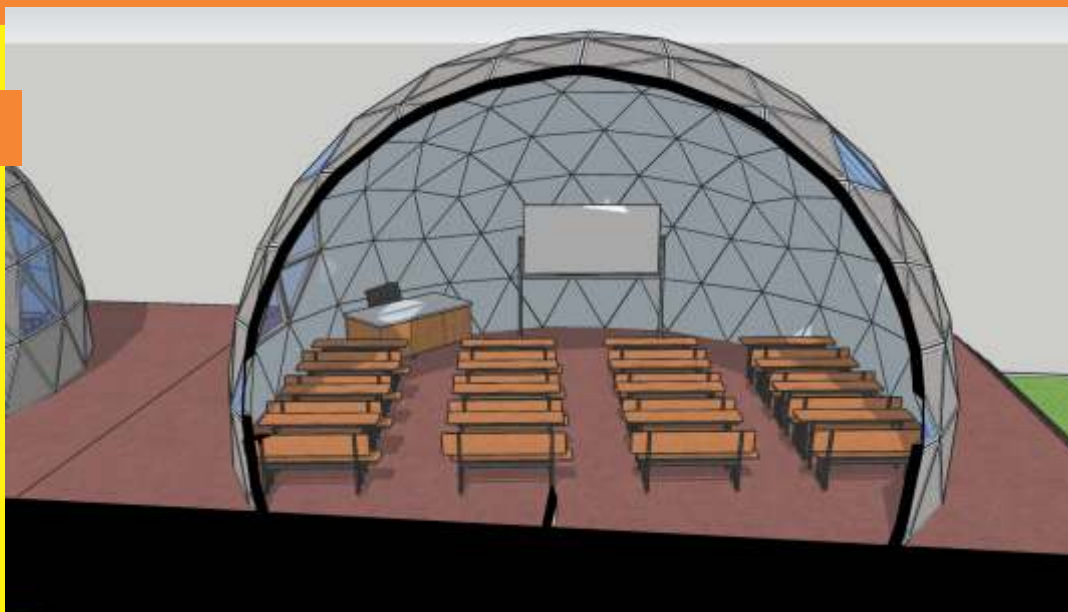


Dome schools






Dome schools







Kamyar Kashani
Founder & CEO

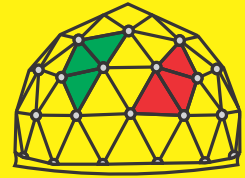
Igloo Villa Prefabricated Dome Houses

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Tehran, Iran

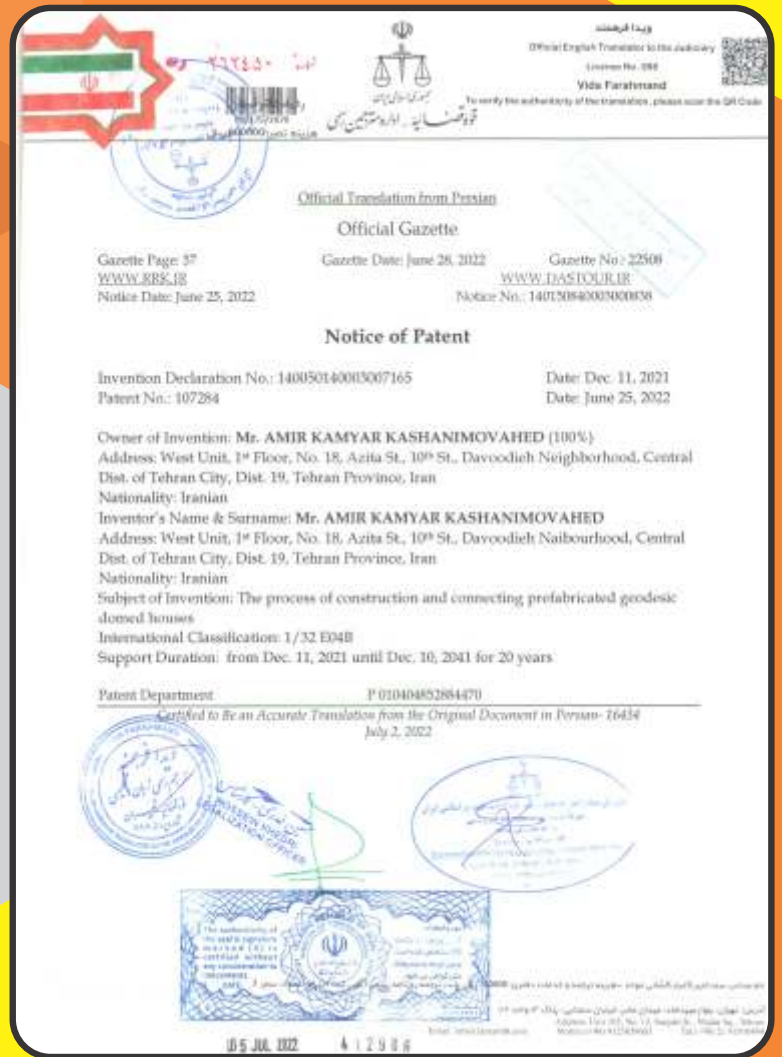
 +98 912 310 7670

 ayaghut@yahoo.com

 <https://www.igloo-villa.com>



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