World First Material

structure material for Dome House is next to wood, Iron, and concrete

01

About the Dome House

The sectret of the Dome House. New materials and new shape.

02

Various use

Housing, Commercial Facility, Reserach Facility, and Factory. It is all up to you.

03

Structure of Dome House

The 4th structure material, expanded polystyrene

04

Construction Process

How it is constructed for short term.

05

High Durability

The Dome House is Resistant and fit in any environment in the world.

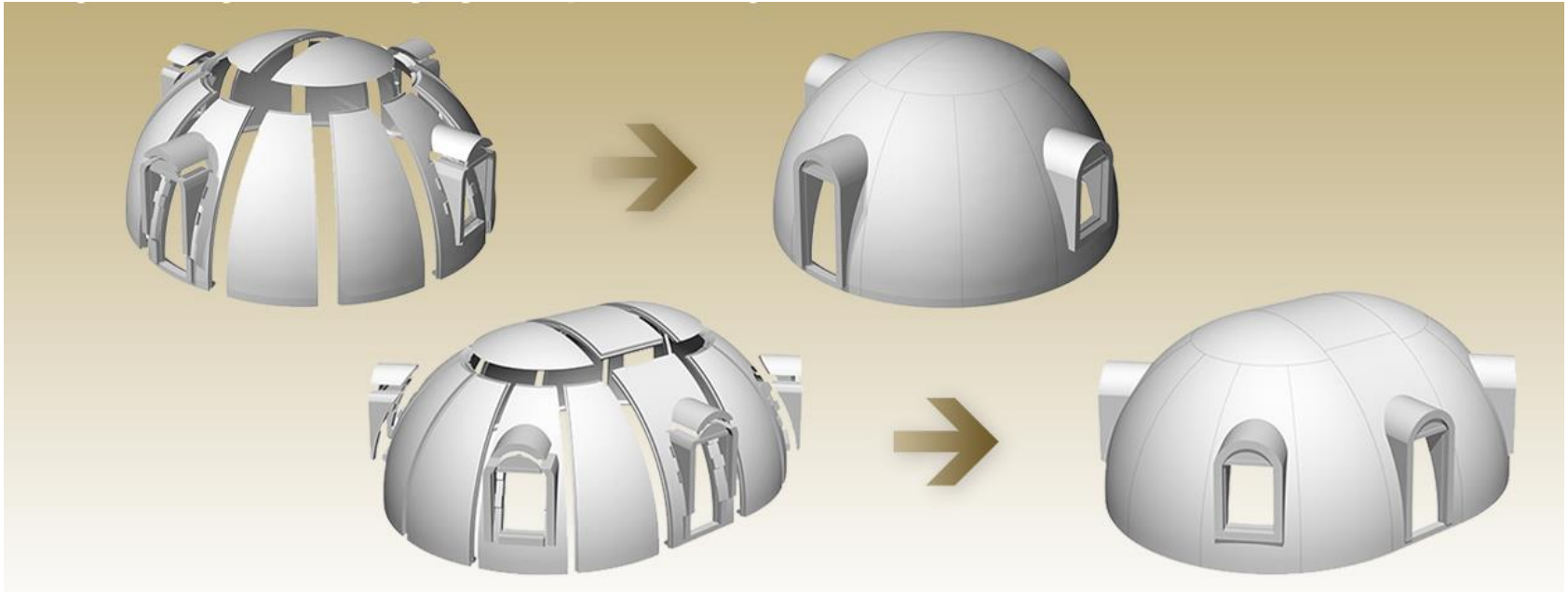
About the Dome House

The sectret of the Dome House. New materials and new shape.

01

About the Dome House

The 4th structure material, expanded polystyrene foam is next to wood, Iron, and concrete, and it is approved by Minister of Land, Infrastructure, Transport and Tourism.



About the Dome House

20cm thick unique polystyrene foam is High in resistant from both heat and cold air, so it keeps moderate temperarure inside. Also, it is semi permanently anti-damage.
Great for both desert and where extremely cold.

World No.1 for the 4categories

- **Energy Saving**
- **Durability**
- **High Resistance for Strong wind and snow**
- **High Resitance for Earthquake**

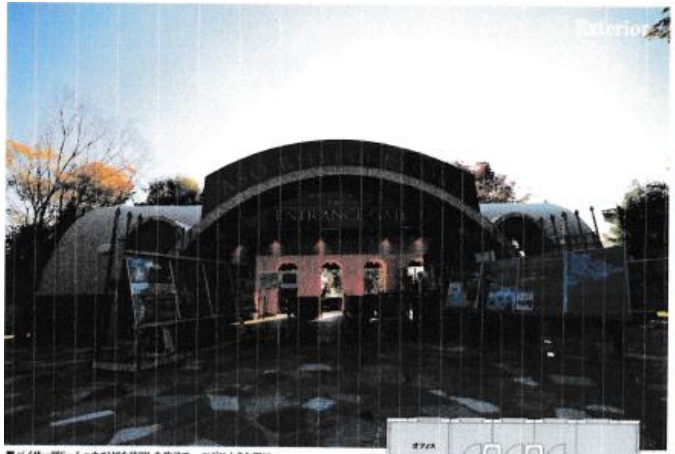
Various use

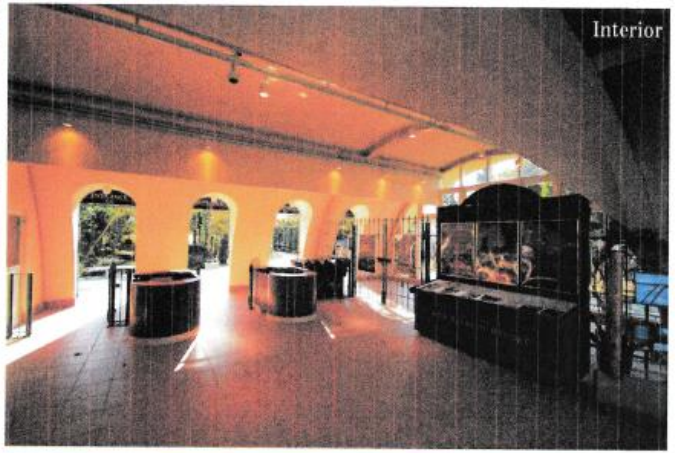
Housing, Commercial Facility, Reserach Facility, and Factory. It is all up to you.

02

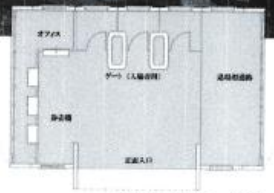
Various use

Entrance Gate Type



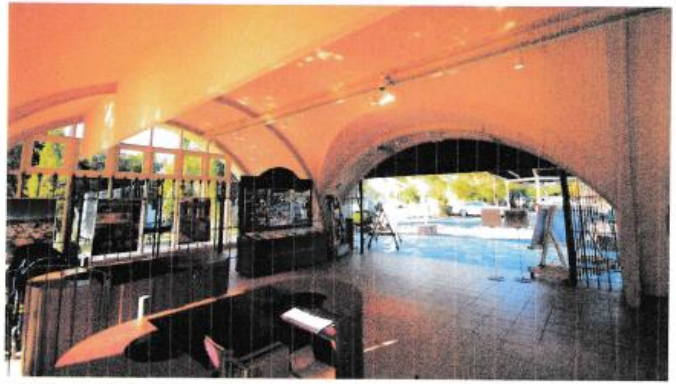


■パイザー型ドームハウスは被を使用した施設で、正面に大きな開口部を設けているのが特徴です。開口部はドームピース3枚分、約8mあり、座席分も発泡ポリスチレン製品で作られています。開口部の円弧に沿うした鉄骨を入れることで補強しています。その開口部の向い側の壁面にはトゥモの入場口と退場口2ヶ所を設け、これらは通常のロング形・屋ピースを使用しています。ドームハウスを採用することで、省施設で、人口を引くデザインの入場ゲートを短期間で設置することが可能になります。



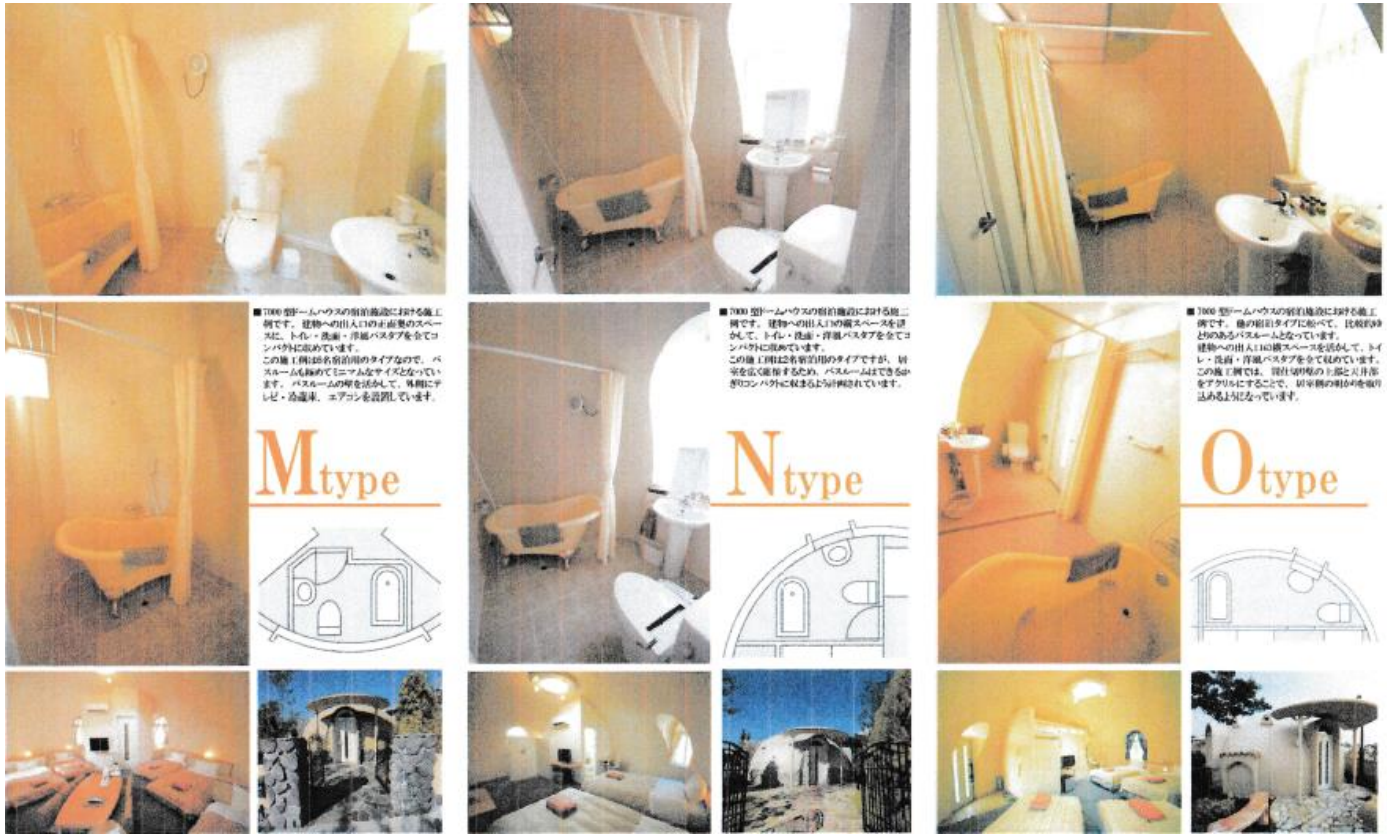
7700 パイザー型ドーム図　約82㎡

■ドームの断面（妻側）は全てガラスで覆っていますが、必要があれば、この面に展示設備（棒棒窓）を設けることもできます。8つの入場口の上に付けられた波もドームピース（ロング用屋根パーツ）を使用しているので、建物全体に一体感が出ています。入場口には鉄製フェンスの付け外しができるようにしてもよいでしょう。



Various use

Bathroom Image 5



Various use

Café&Bar type

存在感のある、ドーム型の丸いかたち。
カラフルで自由な色使いで、さらに目立ち度大幅アップ。
他にはない、存在感のある個性的なショップ展開が可能になります。

■ドームハウスは厚さ20cmの発泡ポリスチレンで出来ています。断熱性が高く抜群の省エネ効果を発揮し、空調など光熱費の削減につながります。発泡ポリスチレンの耐衝撃性に加えて、ドーム型は力学的にも極めて安定した形で、地震や台風などの災害にも強いのです。また加工が容易で、写真のような特殊な形状も造りだすことが出来、個性的な店舗づくりが可能なのです。

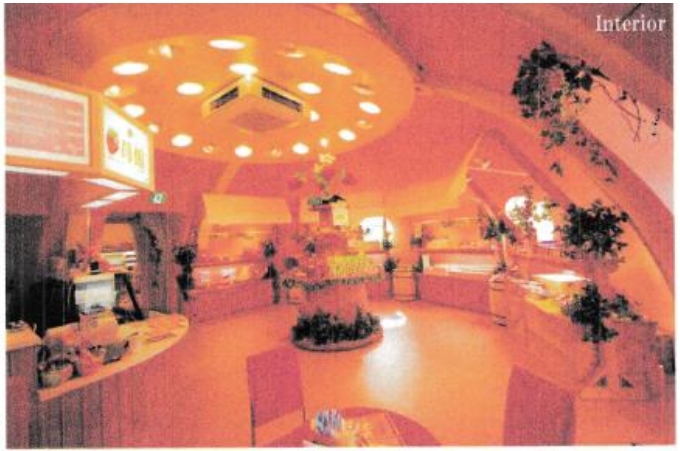
■直径7mのドームを2棟連結し、連結した中央部に広い出入り口を設けています。目のように見える丸い窓は壁をくり抜いて作られています。
発泡ポリスチレンで出来ているドームハウスは、加工が極めて簡単で、アイディア次第でこのように様々なアレンジを施すことが出来ます。
また、全体を塗装で仕上げるため、イメージや好みに合わせて自由なカラーリングが可能です。

7000型ドーム2棟　約120㎡

■ドームを2棟連結して広い空間を得るため、鉄骨で補強し、広々とした店内を実現。
丸いドームを斜めに横切るようにカウンターを配し、その前にカウンター席を設けています。カウンターの背後には飲物やグラス用の冷蔵庫や収納があり、その奥はバックヤードになっています。
発泡ポリスチレンの建物は極めて省エネ効果が高いため、エアコンは中央に1台取り付けられているだけです。

Various use

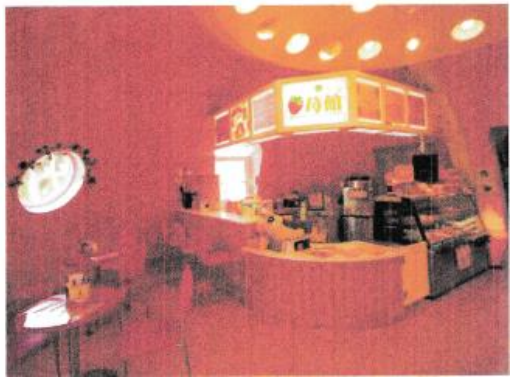
Café&Sweets Shop type



■ドームハウス本体に採用されているのは、直径7.7mのドームハウスを2mロングにした、7.7m×9.7mのロングドーム1号タイプです。外観は小さく見えても、天井が高く、内部がとても広く感じられるのが特長。約62㎡（約19坪強）とコンパクトながら、商品販売用の什器とサービス用のカウンター、3.5mにカウンター室とテーブル席を確保しています。
個性的な外観を活かして、小型店舗のフランチャイズ展開にも最適です。

■ドーム型のひさしは、ドームハウス本体と同じ強度の発泡ポリスチレン製。
中央の穴の上に被せてあるアクリル製ドームも、ドームハウス本体のトップライト用と同じです。曲面のRも同じなので、統一感のある組み合わせとなっているのです。
この他にも、発泡ポリスチレン素材を用いた様々なタイプのひさしを造ることが可能です。

■建物の前半分をショップとして、もう半分をカフェとしてレイアウトした例です。テイクアウト用の前もキッチン横に設けられています。
天井に取り付けられているのは、ドームハウスと同じ発泡ポリスチレンを用いたオリジナル照明です。大きくても軽量なので、天井からボルトで吊り下げています。
左下の写真は、このドームハウス店舗を既存建物と連結した場合の施工例です。



Structure of Dome House

The 4th structure material, expanded polystyrene

03

Structure of Dome House

Ministry of Land, Infrastructure, Transport and Tourism Certified

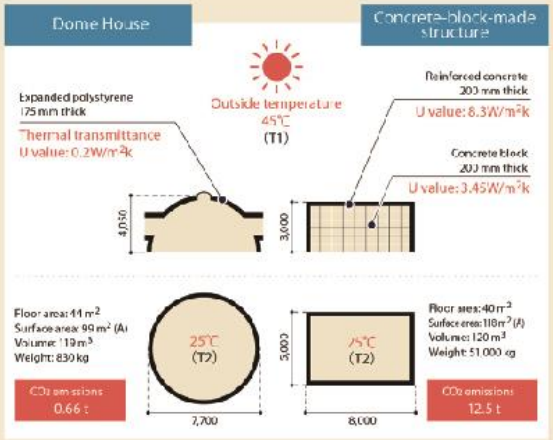
Up until recently in Japan, no other materials besides wood, iron and concrete have been recognized as building materials. For expanded polystyrene to be approved, it had to pass strict requirements for withstanding various conditions of use like regular building materials. Thanks to our own R&D over many years, we were able to obtain certification from the Ministry of Land, Infrastructure, Transport and Tourism for our dome-shaped building constructed of expanded polystyrene.

Structure of Dome House

Material compression test

Seismic test

Load test



	Dome House	Concrete-block-made structure
A x U thermal conductivity Q = A x U x (T1-T2)	30W 600W/h	705W 14,100W/h
1 day (calculated as 18 hours)	10.8KW/d	253.8KW/d
Electricity consumption per day	2.7KWh/d	63.5KWh/d
1 year (calculated as 300 days)	810KWh	19,050KWh
CO_2 emissions from electricity	1.35t	31.75t

Energy savings : **18,240** KWh/y

Annual CO_2 reduction : **42.24** t

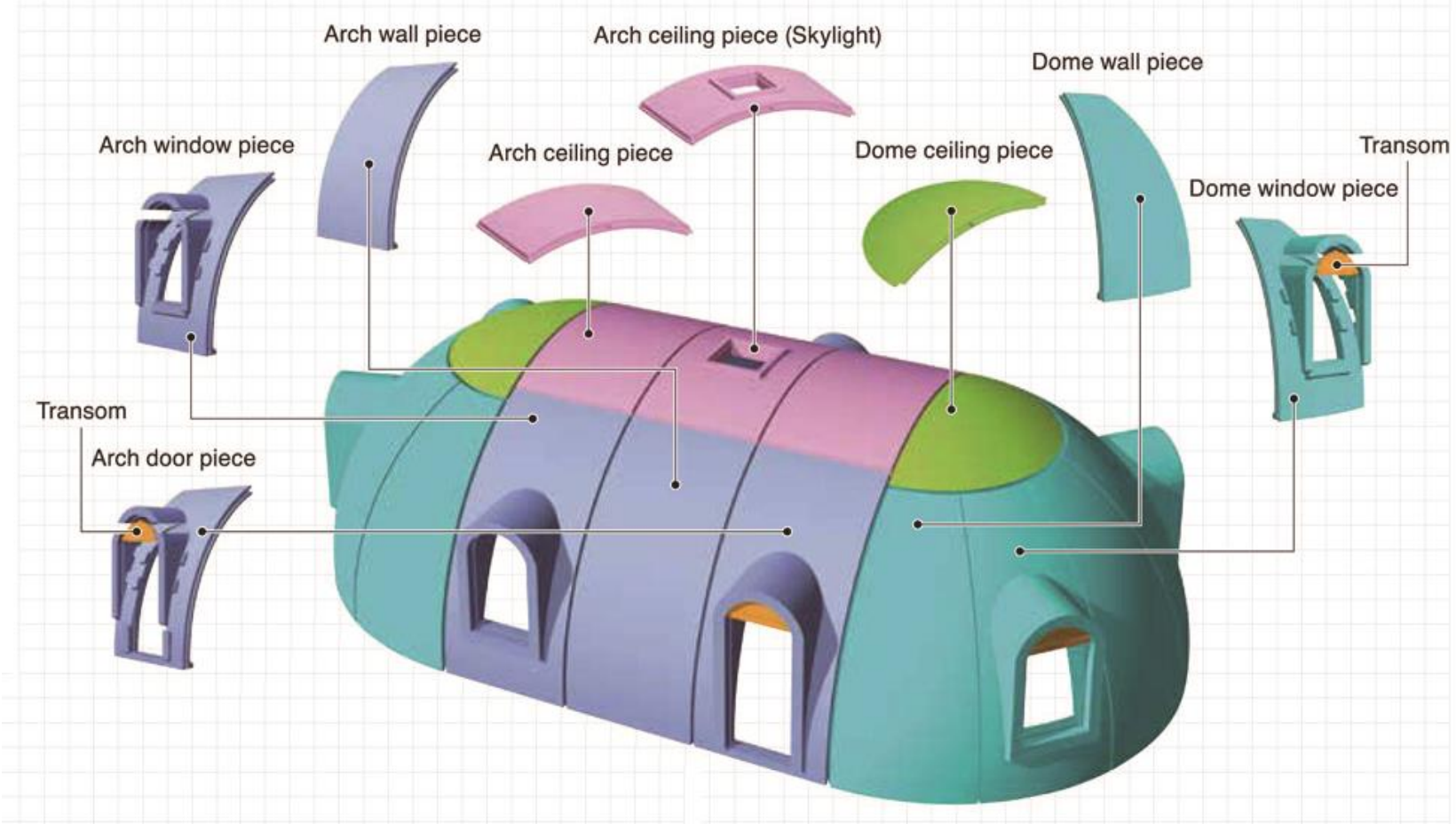
Structure of Dome House

The Dome House is assembled from pieces.

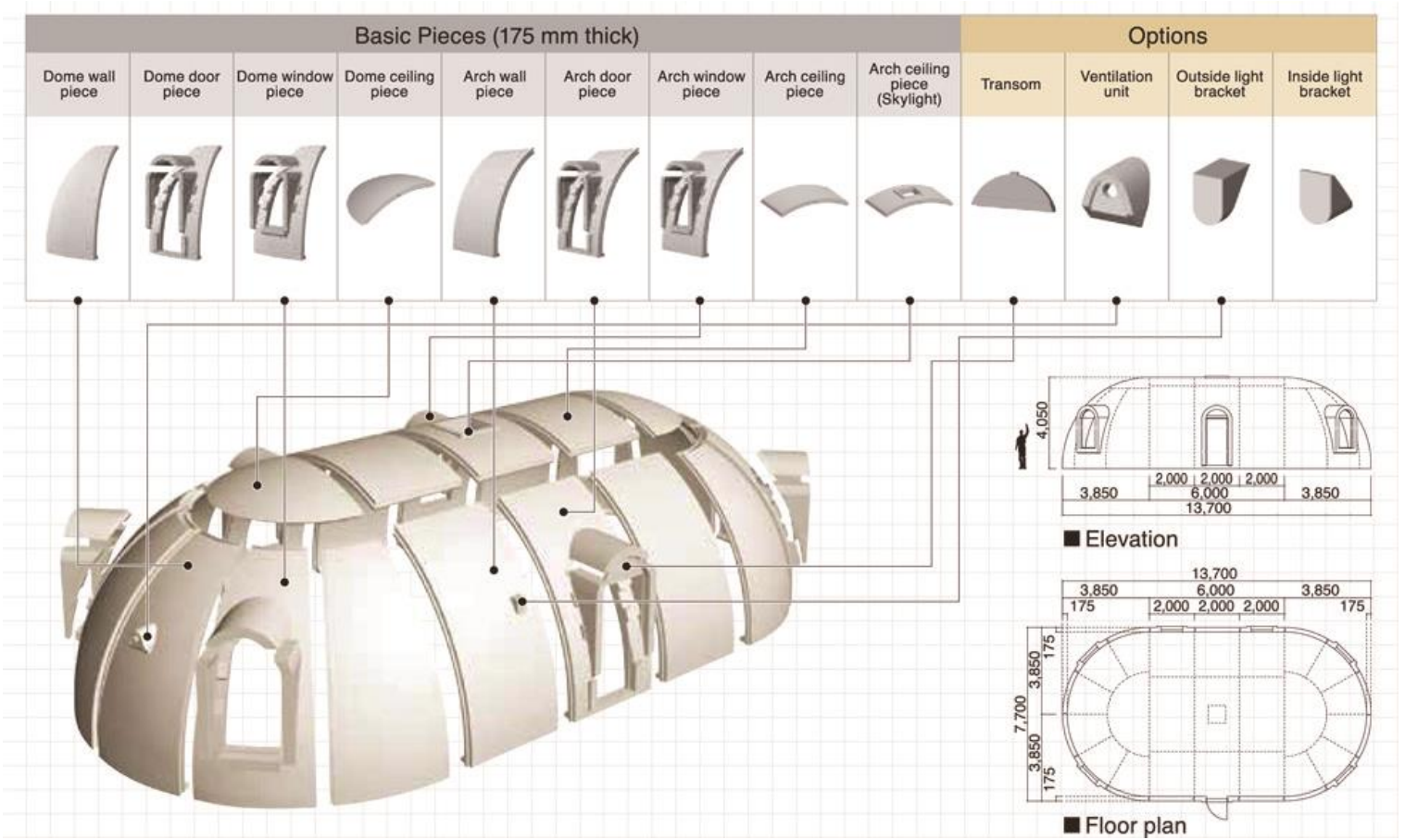
Long Dome No.3 (Model 7700)

The Dome House is assembled from parts called pieces (about 70 kg each), and various shapes can be made depending on how they are assembled.
The Model 7700 arch can be extended in 2 m increments, and not only is the size freely adjustable but also the number and position of windows and doors.For example, combining the Model 7700 Dome and two arch pieces produces the Long Dome No. 2, and combining it with three arch pieces produces the Long Dome No. 3.
Being able to create custom spaces according to use and land conditions is another one of the Dome House's most attractive features.

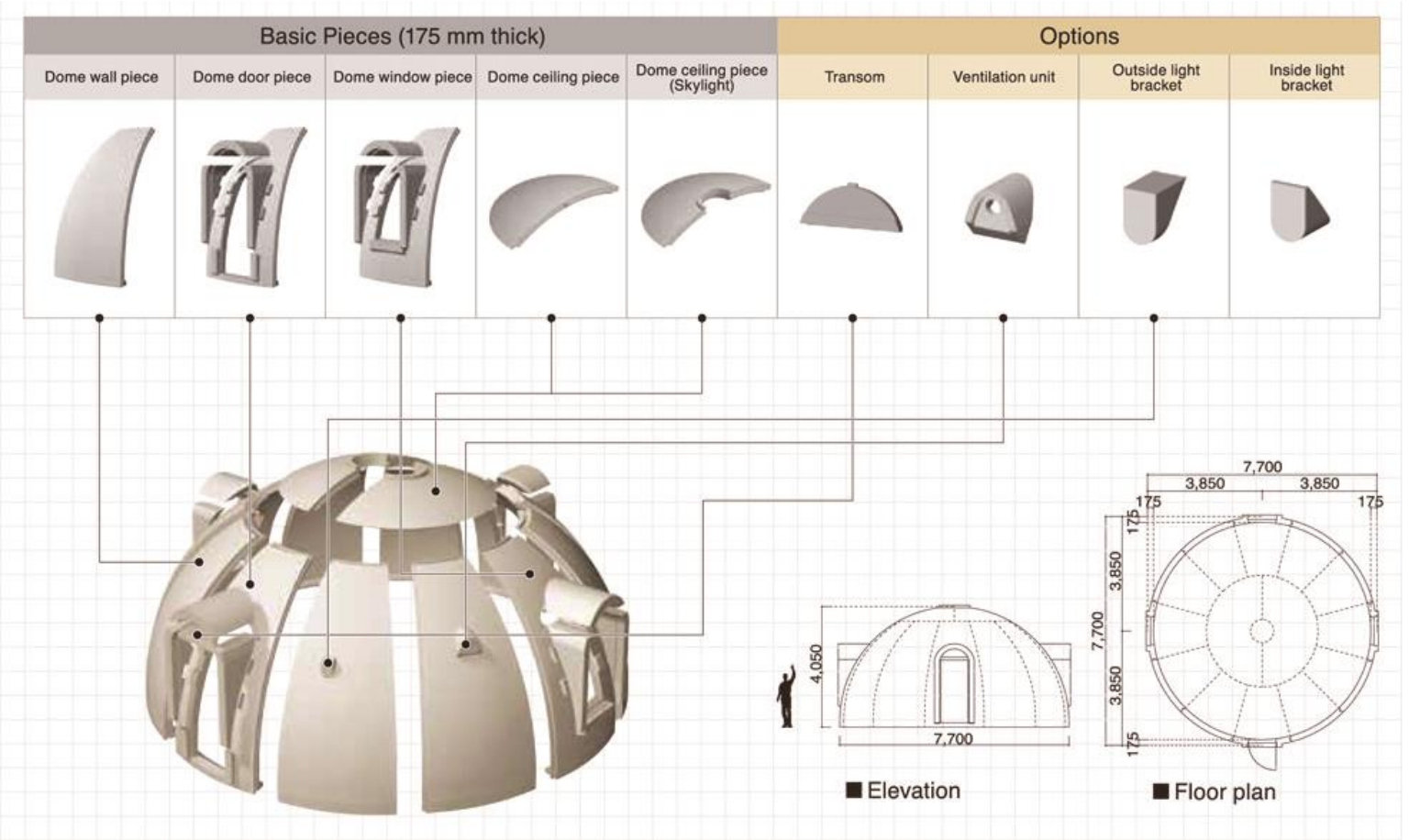
Structure of Dome House



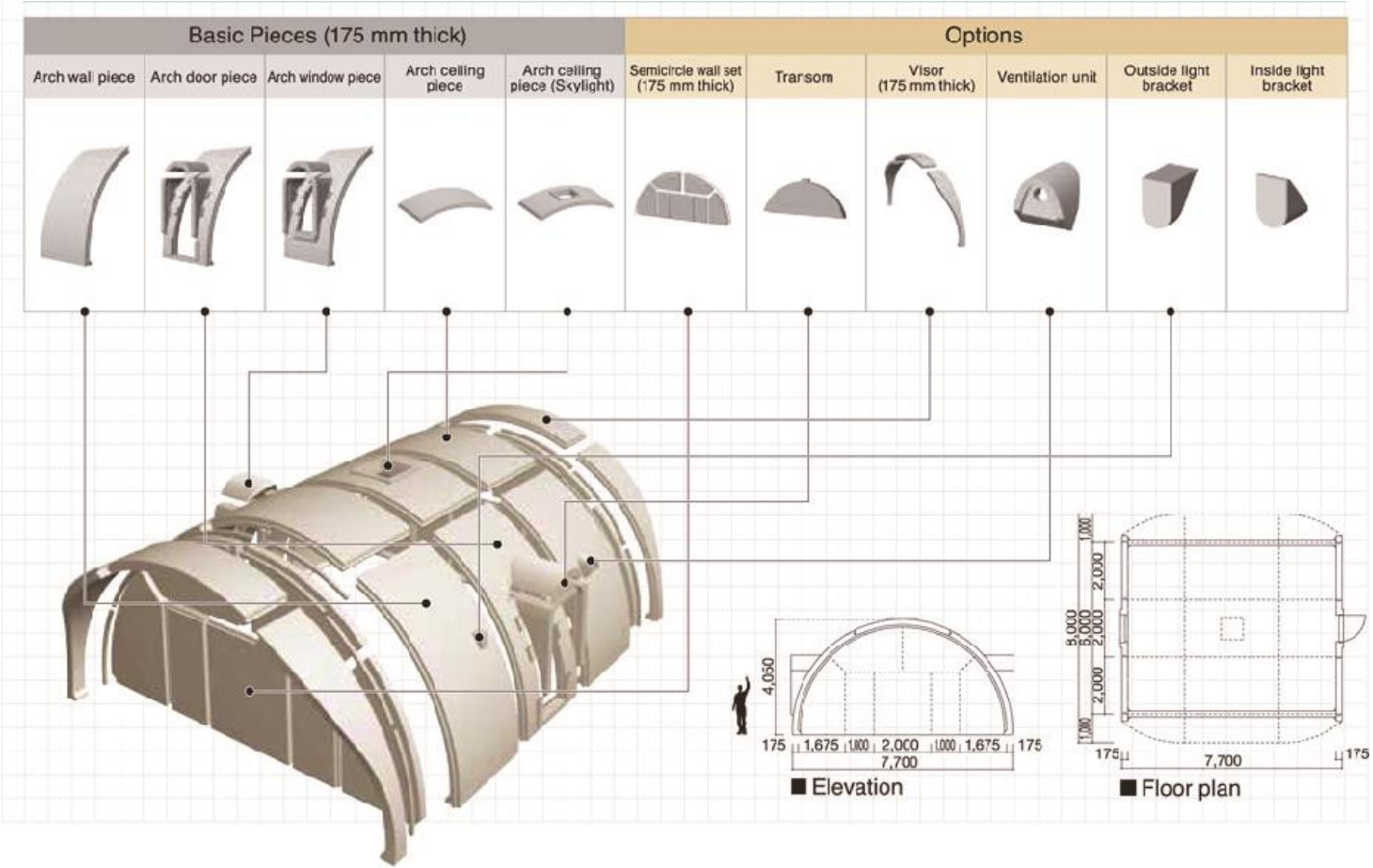
Structure of Dome House



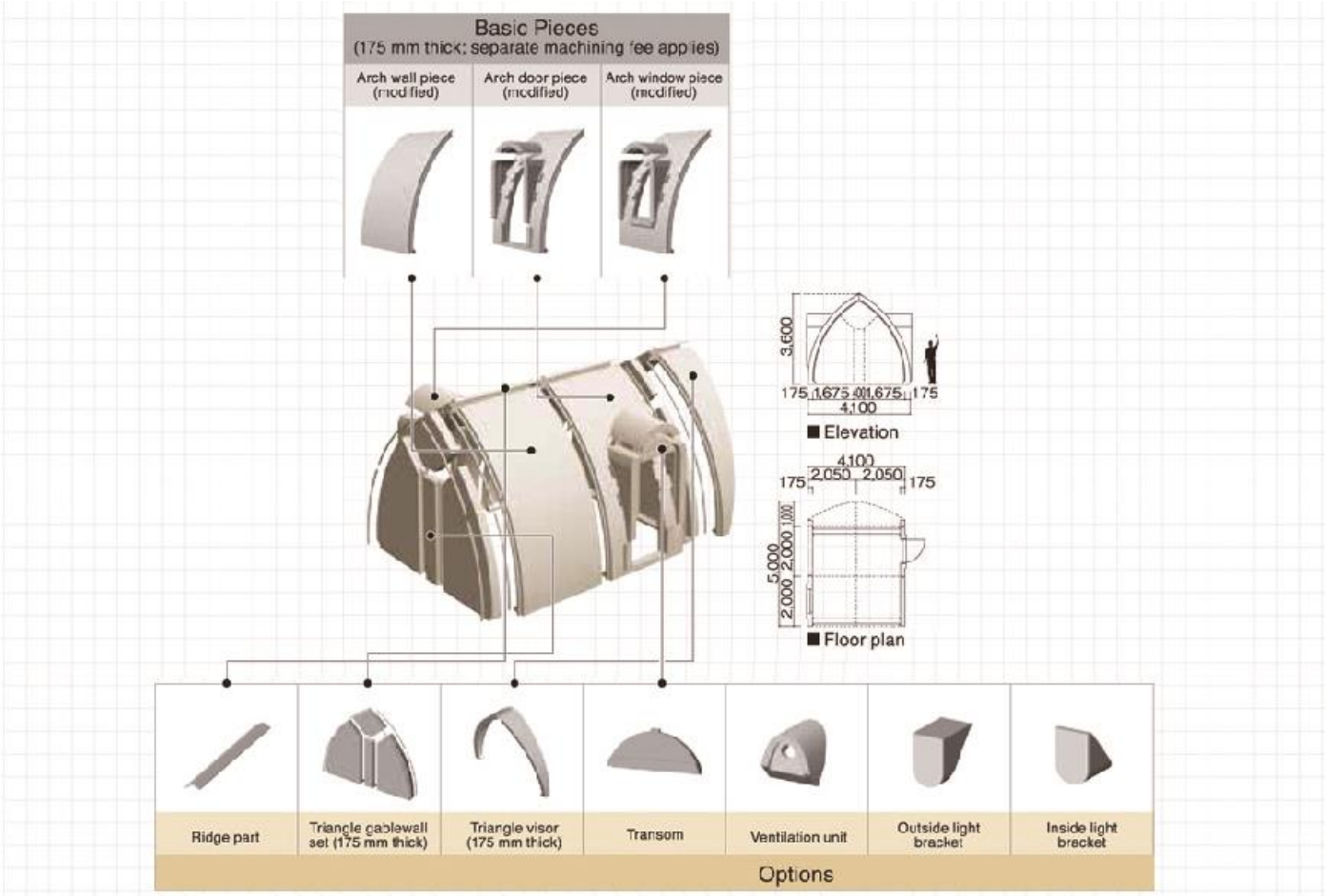
Structure of Dome House



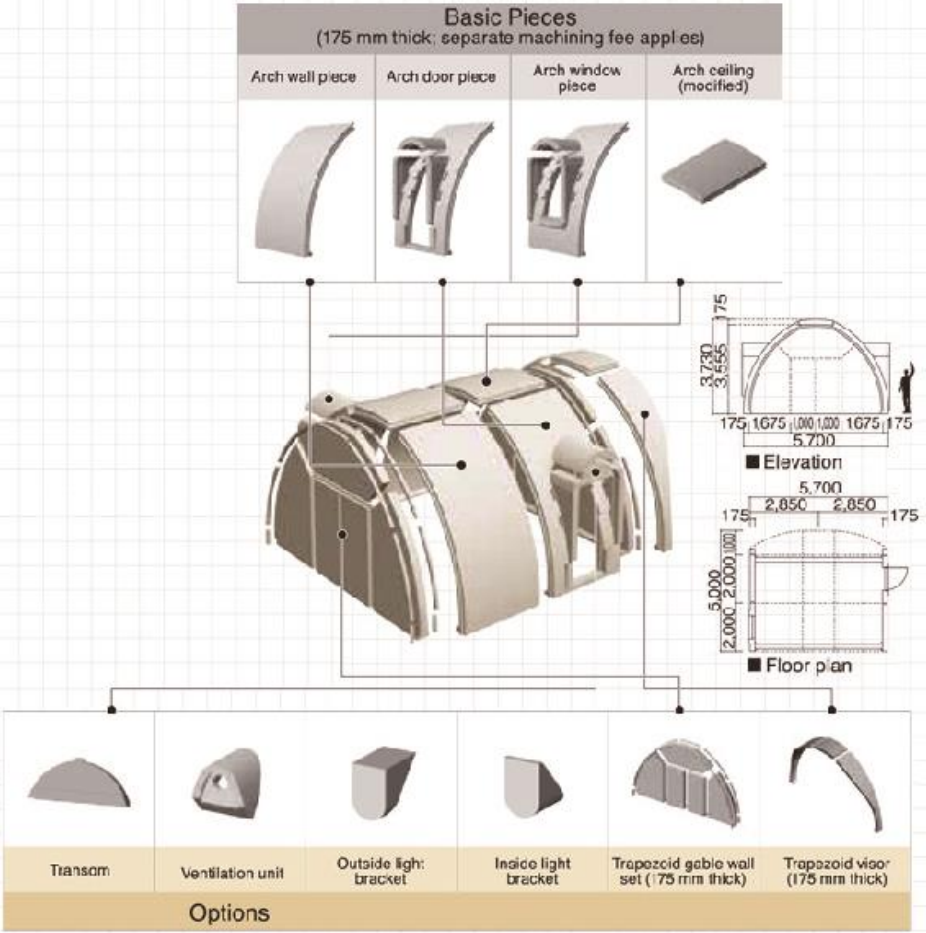
Structure of Dome House



Structure of Dome House



Structure of Dome House



Construction Process

How it is constructed for short term.

04

Construction Process

Ministry of Land, Infrastructure, Transport and Tourism Certified

Up until recently in Japan, no other materials besides wood, iron and concrete have been recognized as building materials. For expanded polystyrene to be approved, it had to pass strict requirements for withstanding various conditions of use like regular building materials. Thanks to our own R&D over many years, we were able to obtain certification from the Ministry of Land, Infrastructure, Transport and Tourism for our dome-shaped building constructed of expanded polystyrene.

Construction Process

Meeting to

1. Consultation
2. Design
3. Construction

Construction Process

Process Outline




Base Construction → Dome Assembling → Painting Coating → Interior Finishing → Exterior Finishing




Construction Process

Base Construction

Construct a flat, level foundation following the drawings and construction manual. Also do the plumbing and electrical work.

Construction Process

Assembling dome pieces

Assemble a total of 12 wall, door and window pieces and 2 ceiling pieces for the dome.

Construction Process

Fitting and outer wall work

Seal the joints and apply the waterproof treatment, and then attach the fittings and skylight. Finally, paint the exterior.

Construction Process

Inside wall and Interior work

Construct the floor, partitions, lighting fixtures, air conditioning and other equipment according to the individual specifications.

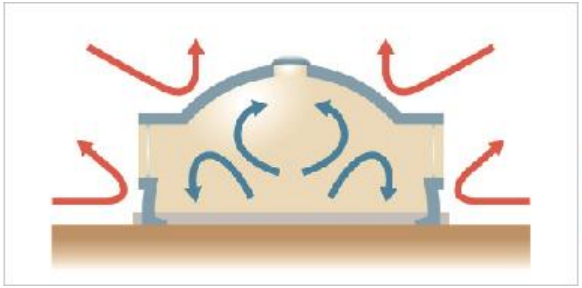
High Durability

The Dome House is Resistant and fit in any environment in the world.

05

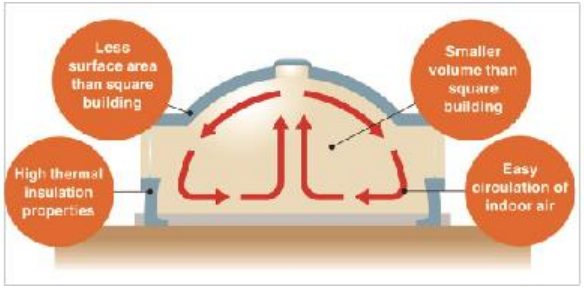
High Durability

Superior Thermal Insulation



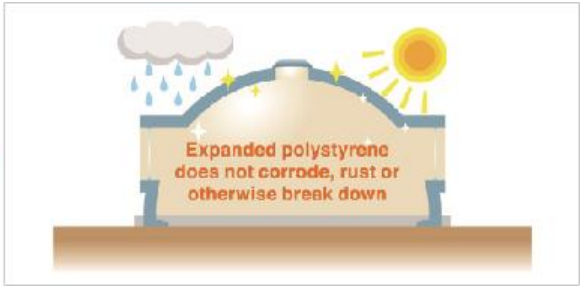
Expanded polystyrene contains a large amount of air, giving it superior thermal insulation properties. The Dome House is made from special expanded polystyrene that is 17.5 cm thick, so it keeps outside heat from getting in and does not let cool or warm indoor air escape.

Energy Saving Building



The high thermal insulation properties protect it from the impact of outside temperatures, so it has the energy-saving effect of allowing indoor temperature control with less energy. Moreover, the dome shape makes heat loss very small, further increasing the energy-saving effect.

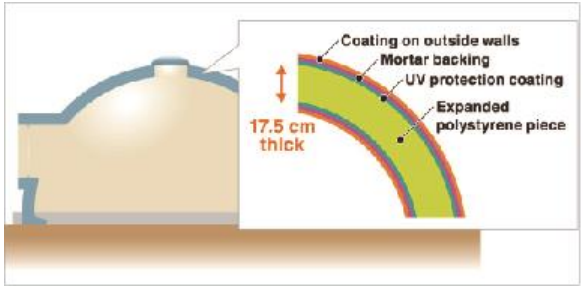
Superior Durability



Domes are the most structurally stable shape. On top of that, without the impact of UV rays, chemicals, heat, etc., expanded polystyrene does not rust or corrode, so it is a semi-permanent material.

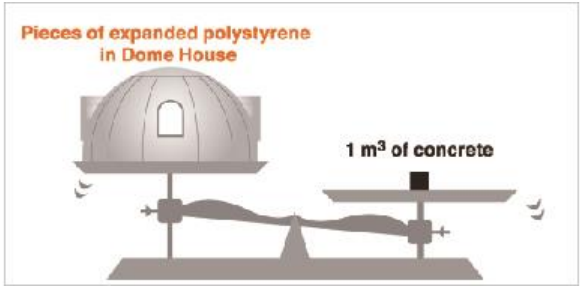
High Durability

Surface Treatment



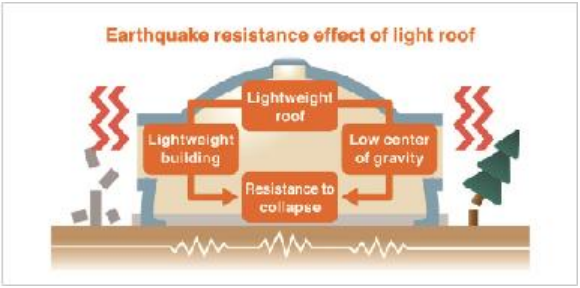
The expanded polystyrene is 17.5 cm thick, giving it sufficient strength.Additionally, it is surface treated with UV protection coatings and other treatments to prevent degradation, further improving its durability.

Super Lightweight Material



The Dome House is made by assembling pieces of expanded polystyrene.The weight of the amount of expanded polystyrene used in a single structure is only around 850 kg. Because it is lightweight, it is advantageous for transport, construction and earthquake resistance.

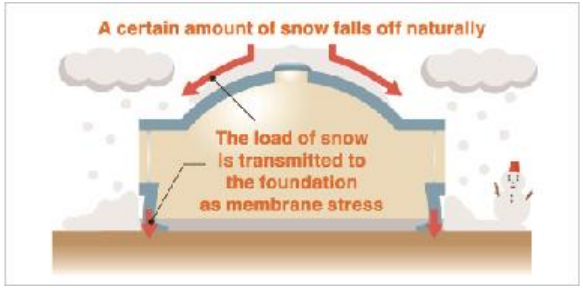
Earthquake Resistant



The Dome House is extremely lightweight and has a low center of gravity, so it is much less likely to collapse than regular buildings. Additionally, the simple structure has no columns, so the roof will not cave in. Even in heavy tremors, the space inside remains safe.

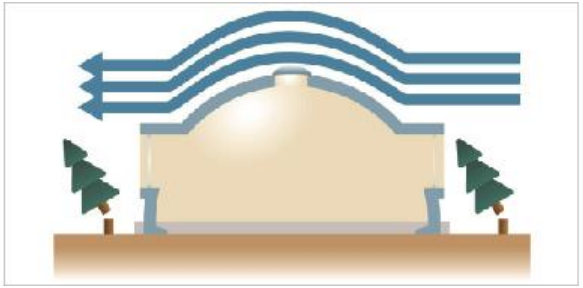
High Durability

Resistance to Snow Accumulation



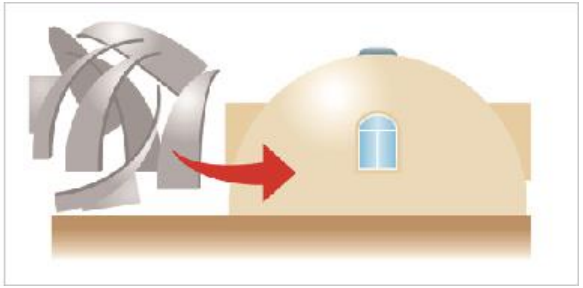
One of the characteristics of expanded polystyrene is its high resistance to compressive force. On top of that, the solid dome structure and round shape give it excellent adaptability when it comes to snow accumulation.

Resistance to Strong Winds



The streamlined shape of the dome protects it from direct wind. Moreover, the legs of the pieces are buried securely in the foundation, so it can withstand even very violent typhoons.

Extremely Fast Construction



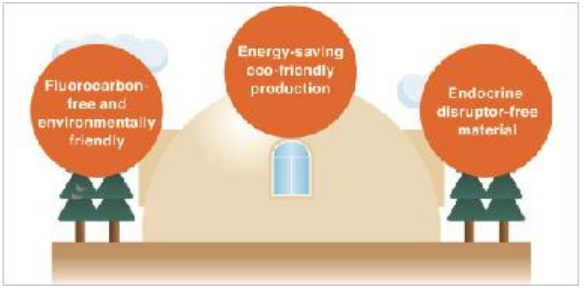
The Dome House is constructed by assembling the pieces. Each piece weighs only 70 kg, so the work is easy and can be accomplished in about seven days by three or four people. (Construction time will vary depending on location and weather.)

High Durability

Low Cost

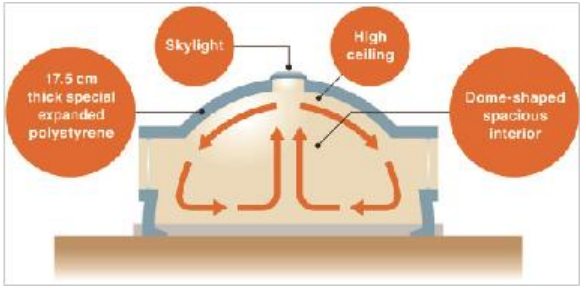
The Dome House is made of prefabricated pieces, so it is a simple structure with a small number of parts. The parts are lightweight and easy to transport, so it can easily be assembled even in narrow spaces. Construction can be completed in a very short period of time by a small number of people.

Environmental Measures



The Dome House is made of expanded polystyrene. This material is comprised solely of carbon and hydrogen and is formed in a very clean, energy-saving process. The house is friendly to both those who live in it and the global environment.

Tranquil Spacen



The interior of the Dome House is more spacious than you would imagine from the compact exterior, and the cornerless space provides a sense of tranquility. It's also a safe space protected from various aspects of the external environment.

THANK YOU

Contact
J-JOBS Co.,Ltd.
Email furukawa@j-jobs.biz
TEL +81(0)11 218 6000