Advantages of FIBRA houses

ADVANTAGES

- SIMPLE AND QUICK ASSEMBLY
- LIGHT AND EASY TO TRANSPORT
- MINIMAL POLLUTION DURING PRODUCTION
- MORE ECONOMICAL THAN COMPARABLE HOUSES
- EASY TO EXTEND OR SCALE DOWN IN SIZE
- MAINTENANCE FREE AND LAST FOR CENTURIES
- FREE OF FUNGUS, MOLD AND MILDEW
- 15 YEAR GUARANTEE AGAINST LEAKS
- ENERGY SAVING HOUSE OF THE FUTURE

FIBRA

FIBRA is an innovation project that has received grants to research and develop a new type of buildings and construction from fiberglass with a rockwool center (composites).

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FIBRA

Energy saving house of the future

FIBRA

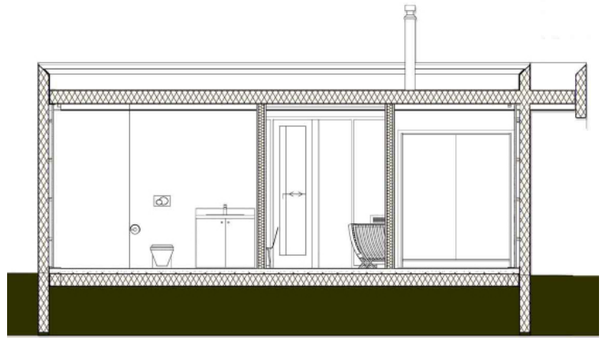
• FIBRA houses are made of closed units consisting of rockwool and fiberglass (composites). Internal structure is also made of fiberglass.
The units have undergone various tests at Reykjavik University and the Innovation Center Iceland; passing them all with flying colours. Icelandic technology review from ICI will be official in July 2017.

• ROOF has a free span of at least 10 meters, giving users total freedom of all interior design. The roof is fundamentally the same as the walls, only thicker, with about 22 cm thick rockwool and fiberglass on both sides. In between are structural beams made of composites. The roof units are fastened to the exterior walls, much like a deck is fastened to the hull of a ship made from composites. These manufacturing methods have all been tried and tested in the shipbuilding industry for decades. FIBRA is using a proven methoud successfully preventing any leaks at the seams.

• FLOORS AND FOUNDATION can either be made of concrete or from the same composites as the house itself. A ditch is made and the walls lowered 80-100 cm on to a concrete foundation. Specially designed anker fastens the house to its foundation, secured with sand and gravel. If a concrete foundation is preferred the walls have fasteners for that.

• WINDOWS The glass is fitted directly between the units. It is glued directly to the edges of the unit making wood- or aluminum frames unnecissary. In order to increase varieties a FIBRA window is being developed.

FIBRA house with FIBRA floor



PRICE

Several factors influence the final price; e.g. whether it is built on a concrete slab or has a FIBRA floor, the finishing of windows etc. The price of a FIBRA house will be lower than that of a conventional house on the market. One of FIBRA´s great advantages is the possibility of extension, making is easy to start with a small house and then extending or scaling down as needed. It is a common misunderstanding that fiberglass materials need additional strength from steel or concrete. The truth is that materials made from composites are stronger than conventional building materials; making multiple story FIBRA houses just around the corner.

FIBRA

• EARTHQUAKES No building material matches the bending strength of composites. The FIBRA units are 6 to 7 times stronger than building regulations require. During testing at Reykjavík University the fasteners didn´t give until the pressure had exceeded the requirements sixfold. Furthermore the same unit was tested again and showed hardly any signs of weakening despite the enormous pressure it had previously endured. It proved almost as strong as before, six times stronger than building regulation require. The back of the test unit was fully intact and showed no signs of the hardship it had been put through.

• FIRE PROTECTION Around 70% of the FIBRA unit are minerals, i.e. rockwool and glass fibers. The outer layer of the houses are made of gelcoat and resin; fire retardant materials. Interior panelling is gypsum panels fulfilling fire requirements. By developing FIBRA units with increased fire retardants we aim to have units that fulfill the fire requirements of class 1.

• MOLD AND MILDEW can usually be found in damp and humid surroundings where moisture has been able to penetrate the exterior skin. Concrete and wood are not watertight, thus needing vapour barrier. Fiberglass is totally watertight; making it the perfect building material for boats, yachts and ships. The built-in vapour barrier keeps all moisture out of the building and away from the insulation in the building units. This is a unique quality of the building material.

• LEAKING AND INSULATION The FIBRA house is absolutely water- and airtight making it necessary to conciously stear all air ventilation. Traditional house are not airtight so they constantly lose heat, this is not the case with FIBRA houses so there is no thermal bridge where roof and walls meet.

• TOXIC FUMES All FIBRA units are post cured in an oven, eliminating all smells and preventing any evaporation. On the inside the walls are gypsum cladded and painted the traditional way.

• MICE AND RODENT Fiberglass is commonly used to prevent and stop the intrusion of rodents making the FIBRA house an invincible fort to mice and other rodents.