



A Unit of Pre-fabricated Buildings

*We thrive and survive*





# Director's message

We at "Cactus Profiles" believe in delivering the best to our valued customers. We believe in sustainable innovation and try to keep level with the ongoing changes in the market and remain updated. Our products are for the sustainable development of the economy.

We are committed to total customer satisfaction by identifying their specific needs, translating them into Quality products and providing dependable after-sales- services. This commitment is the corner stone of our Quality Policy and we strive to achieve it by putting into place a Quality System, which adheres to the ISO 9001 Quality Standard, and an environmental management system which adheres to the ISO 14001:2015 EMS standard.

We plan to achieve company's objective through our strength by harnessing long term relationship with our customers and our employees.

I take this opportunity to thank our valued customers, whose continued patronage and confidence in our products inspires us to extend the best of services and enables us to provide value for their money.



# About us

Cactus Profiles Pvt Ltd., is one the leading manufacturer of Insulated panels. We undertake turn-key projects from design, engineering, manufacturing and installation for Pre- Fabricated Buildings, Homes, Cold Rooms.

Our company is part of the AKG group of companies based out of New Delhi, India. The company was incorporated in 2003.

Integrity, Resourcefulness, transparency, dedication and Innovation are the pillars of our company. We have presence in all the major cities across India. Our sheer commitment towards sustainability makes it not optional but business imperative for us.

## Our product range:

- PUF panels
- Rockwool Panels
- Cold Storages / Cold Rooms
- Insulated Refrigerated Container
- Insulated Water Tank
- Pre-fabricated Buildings
- EPC Civil Contracts for Buildings
- Pre-fabricated Homes
- Building Insulation
- Mobile/ Community Toilets
- Insulated Roof Panel
- Clean Rooms
- Cold Room Doors
- Inverter Room
- Defense Shelter
- Site Office
- Pre-engineered Buildings
- LGFS Buildings
- Meat Processing Plants
- Security / Guard Cabins
- Banana Ripening Chambers
- Pasteurized Milk Chambers
- Pre-fabricated Relay Huts
- Tool Booths
- Information Kiosks
- Railway Shelters
- Control Room

## Some of our clients

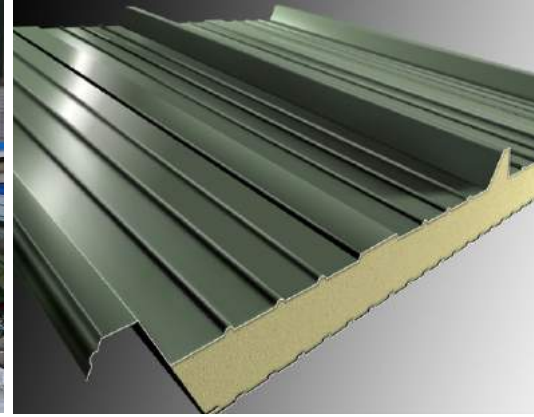
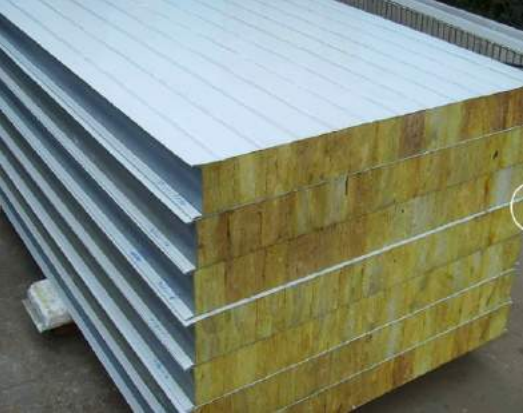


# PUF (Polyurethane Foam) Panels

PUF Sandwich Panel are typically factory made units which consists of an insulating layer of rigid PUF between two layers of metal sheet. It is highly suitable for faster construction, energy saving and economical in cost.



- Available in 40/50/60/80/100/120/150 & 200 mm thickness.
- The core of panel is rigid foam which is formed by a controlled reaction between two ingredients i.e. an ISO cyanate and a polyol.
- Manufactured through high pressure injection process in automatic hydraulic press.
- Injected polyurethane insulation average density 40kg/m<sup>3</sup>. "The joint of the two panels is sealed with a bead of silicone."
- High load bearing capacity at low weight.
- Absolute water and vapour barrier.
- Easy repair and replacement in case of damage.
- Withstands heavy rain/heavy snow and high wind pressure.
- Have low thermal conductivity which minimizes the rise and fall of the inside temperature.









## Rockwool Panels

This insulation is fire proof and perfect for acoustic insulations. Insulation dramatically reduces the levels of external noise entering homes, offices and commercial buildings, allowing for quiet and peaceful living and working environments. Due to their unique fibrous structure, the insulation provides dual benefits of thermal and acoustic insulation. Since they are made up of rock and sand, it is non-combustible and they do not produce toxic fumes and acts as fire barriers.

This product is also counted among green products and relevant for certified green buildings from GRIHA, Indian Green Building Council (IGBC) which promotes working towards sustainable development and a healthy environment.

- Available in 60/80/100/120/150 & 200 mm thickness.
- The density of Rockwool vary from 40kg/m<sup>3</sup> to 120kg/m<sup>3</sup>.
- High load bearing capacity at low weight.
- Absolute water and vapour barrier.
- High durability and very low maintenance cost.
- Withstands heavy rain/heavy snow and high wind pressure.
- Withstands extreme cold and hot weather.
- Rockwool can withstand at least 1000°C according to ASTM E749.
- It also provides the highest Euro fire A-1 rating.
- It is proven as the ideal acoustics insulation material to provide excellent sound insulation and reduced impact noise for flat roof constructions.

Illustrated below is a list of comparative insulation values for different kinds of insulation materials

50 mm of PUF	
80 mm EPS	
90 mm mineral wool	
100 mm cork	
130 mm woodfiber	
200 mm softwood	
760 mm light concrete	
1720 mm Brick	



## PU Panel Properties

Characteristic	Value
Temperature Range	-40° to 80°C
Density	40 ± 2 kg/m <sup>3</sup>
Compressive Strength	110 - 210 kPa
Adhesion Strength	110 - 210 kPa
Tensile Strength	370 kPa
Water Absorption	0.2% max. at R.H 98%

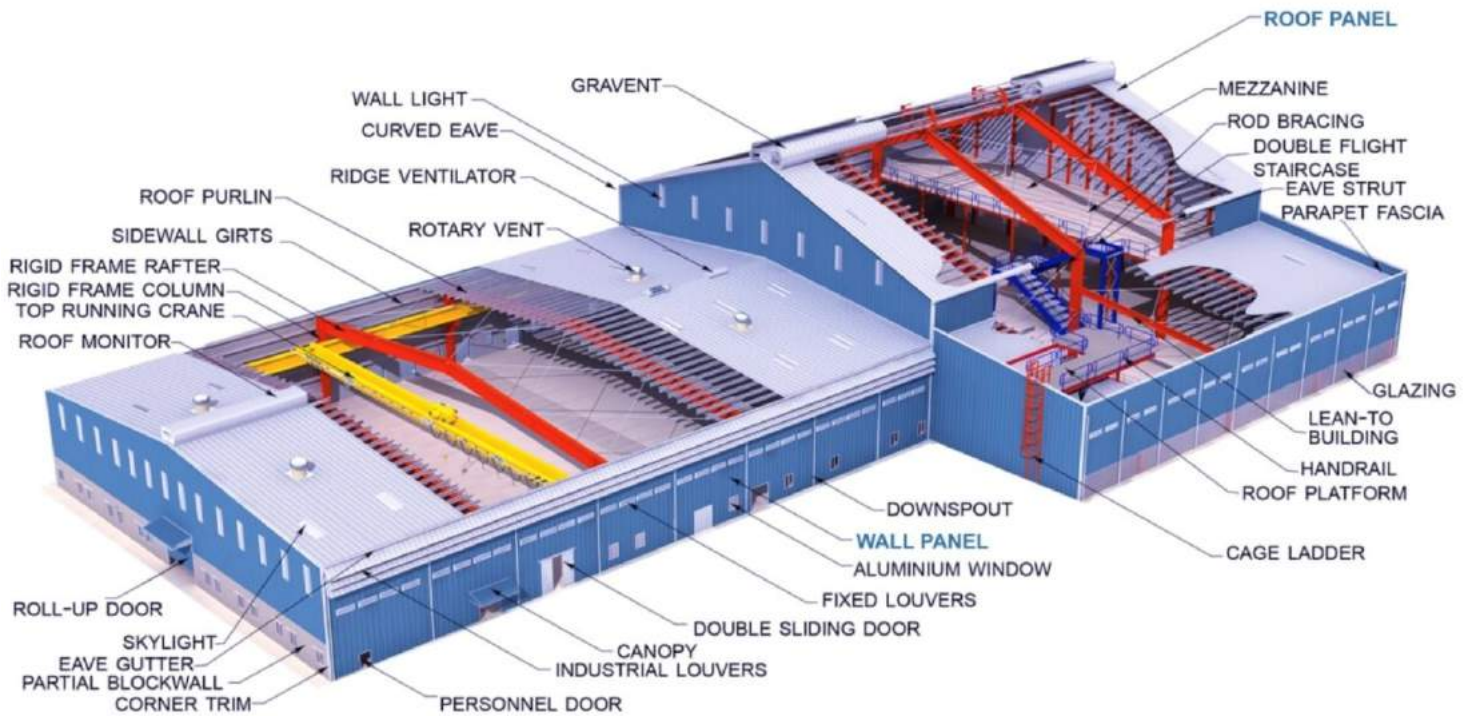
Characteristic	Value
Water Vapour Permeability	5.5ng/nasm
Thermal Conductivity	≤0.02 W/m.K at 23°C
Fire Property	Self Extinguishing*
Dimensional Stability	0.1% at -30°C
Closed Cell Content	>95%
Shear with Metal Sheet	160 kPa

## Rockwool Properties

Characteristic	Value
Bulk Density	160 ± 10% Kg/m <sup>3</sup>
Moisture Content	2.0 Max %
Moisture Absorption	2.0 Max %
Water Absorption	0.5 Kg/m <sup>3</sup>
Incombustibility (%) Loss	3.0 Max %
Service Temperature	750°C
Alkalinity (PH)	7.10
Shot Contents	

Characteristic	Value
Over 250 microns	15.0 Max %
Over 300 microns	5.0 Max %
Chloride Content	0.0020 Max %
Recovery after Compression	Min 90 %
Sulphur Content	Min 90 %
Resistance to	
Vibration Settlement	1.0 Max %
Jolting Settlement	3.0 Max %

# Pre-Engineered Buildings



## Features:

- Strong and light weight
- Exceptional thermal and sound insulation properties
- Consistent quality
- Quick to install
- Option of joint-less single panel
- Option of future expansion
- Option of colour range and design
- Fire resistant/retardant
- Versatility in design and fabrication
- Modular in nature
- Easy maintenance
- Designed to suit varying climate
- Withstands extreme weather conditions
- Economical and cost effective
- Durable and re-locatable

# Cold Storages

Depending on the size and use of the cold room, cold rooms can be broadly classified as walk-in cold rooms and warehouse cold stores. Cold rooms are built by Cactus to maintain a temperature range of 15°C to -40°C.

Walk in cold rooms are smaller in size compared to the large warehouse cold stores and are used primarily by the retail industry to store goods with fast shelf replenishment rate. These large cold room stores are in most cases fitted with more than one refrigeration unit.

Cactus Cold Rooms are used in:

**Butchery**

**Food Services**

**Dairy**

**Processing Area**

**Restaurants**

Our panels can be customized according to the needs and specific requirements of our customers. Our expertise in this field has been for more than 15 years.

Cold room walls, ceilings and floor are assembled by joining together insulated panels in required lengths. The panels are tightly joined by cam lock system for good structural stability.





## Sliding Cold Room Doors

- PU insulation available between 60mm to 150mm for different conditions
- Manufacturing technique guarantee extreme rigidity
- Modular panel system i.e. easily replaceable
- Quality of highest standard
- Different skin options available such as SS 304, PPGI, GRP, Aluminum also.
- Easily replaceable EPDM gaskets.
- Unique rail system



## Hinged Doors

- Various types such as single leaf or double leaf, overlapping or flush
- Doors always open in the outward direction
- Standard size of doors 900 mm x 2100 mm
- Insulated with CFC free PU of density 40kg/m<sup>3</sup>
- Durable hardware
- Aluminum or SS railings for high durability
- Door heater wire option also available.

### Thickness of Door varies as per Requirement :

- For Chiller Application temperature upto +20<sup>o</sup>C - **60mm**
- For Freezer/Blast Freezer with temperature upto -30<sup>o</sup>C application - **100mm /120mm**
- For Blast Freezer with temperature below -40<sup>o</sup>C application - **150mm/200mm**

With pre coated sheet of specified thickness on both sides. S.S. 304 Sheet /Al. sheet can be provided on request.

# Insulated Vehicles

These vehicles are used in the case of pallets, flowers, fresh produce, ice cream, piece of meat hanging, health or pharmaceutical products. Whether its mono or multi temperature, our technical solutions includes removable or fixed partitions, sliding ramps or retractable tailgates etc.

Our company employs most modern construction techniques based on proven research to manufacture reliable insulated vehicle bodies. The panels are reinforced to give maximum strength and durability.

Our company takes prides in being one of the very few companies in India to build truck bodies using only 6 panels, one for each side of the body. All the corners and edges of the vehicle body are protected using specially extruded aluminum profiles or Fiber reinforced plastics.

The insulated body is built to hold temperature ranging from  $+15^{\circ}\text{C}$  to  $-25^{\circ}\text{C}$ . The base structure is made out of rolled hollow sections for both transverse and longitudinal members.

The doors of the insulated container can be double leaf or single leaf as per requirement. We use special twin gaskets, which ensures optimum temperature holding and quality.

M.S Gussets placed at critical joints for additional strength and durability without adding unwanted weight to the container

PUF Panels made of PPGI/GRP with 60mm to 200mm PUF insulation purged at a density of  $40\text{kg}/\text{cm}^3$



Heavy duty mudguards and tail light guards with ISMA 40 x 40 ensuring maximum strength and durability.

M.S subframe with ISMC 125 x 75 x 5 mm thick placed at designed intervals as per load capacity of vehicle.



Features of Refrigerated Container:

- The vehicle strictly contains 0 % HCFC.
- The panels are made with both insulating and structural elements that are highly resistant to compression. They are totally sealed during the fabrication process, there is no risk of water infiltration in the walls.
- Our technology gives you high quality insulation, protecting the transported commodities and prolonging the refrigeration units while lowering the Co2 emissions.
- Easy maintenance, washable with high-pressure water and detergent without any risk of corrosion. No infiltration risk between the panels.
- Different kinds of doors, double or triple leaf doors, single leaf doors or side hatches are manufactured individually within our factory.



# Pre-Fabricated Building Solutions

A pre fabricated house is one that is built in a factory with advanced plant and machinery. Factory built components of house are known as panels. These panels are then transported to the construction site to form a strong structural unit. Since modular homes are built in a factory setting, they can be completed in a matter of few weeks as opposed to months.

We at Cactus provide full turnkey solutions of the same and these buildings or homes are fully customizable as per customer demands. Our insulation offers R- value of over 7/inch, which if given in a comparative means our 2inch thick panel provides thermal insulation equivalent to that of a 3 feet thick concrete wall, thus saving huge energy cost throughout its life

## Why PREFAB Buildings?

- Prefabricated Houses are structures ready for construction and first degree earthquake resistant.
- Prefabricated houses are flexible and light buildings. They only shake and do not get torn down even in strong earthquakes.
- Mounting period of prefabricated houses are much shorter than concrete buildings. Besides these dwellings can be demounted and mounted time and again.
- The ready for construction houses we mentioned can be produced with heating and static calculations proper to all kinds of climate conditions.
- The houses do not corrode, deform and can be used securely for many years, because the whole load-bearing system is made from high density galvanized steel.



## Features

- Entire structure is light In weight
- Easy future expansion/modification
- Lesser foot print area of walling system
- Weather proof
- No fire hazards / Fire rated insulation
- International Quality Standards
- Seismic & wind pressure resistant structures
- Quality design, manufacturing and erection
- Architectural versatility
- Quick delivery and quick turn-key construction
- Energy efficient roof/wall system using many types of insulation
- Low maintenance
- Environment friendly - Recyclable
- Easily re-locatable designs possible



## Applications :

Houses / Hub / High altitude houses

Ware houses

Hangars

Workshops

Specialized buildings for cotton  
ginning and pressing plants

Cold storage

Factory sheds

Power plants

Multi storied buildings



We support the Green buildings, as energy efficient buildings have become a necessity in today's changing time, with the further depletion of the ozone layer, steps have to be undertaken to reduce the total consumption of energy by a building, for a better and sustainable future of the planet.

There are numerous benefits of green buildings, though the construction of a green building is estimated to be 10-15% higher as compared to a normal conventional building, but this additional cost is more than compensated over the period of life cycle.

The materials used in the green building project help reduce the environmental impacts associated with the extraction of the building industry source materials.

We offer best insulation solutions for your projects, be it any kind of structure as follows:

### PUF Insulation

Through the portable PUF dispensing machines. The density of PUF is 40 kg/m<sup>3</sup>. The available thickness of slabs can be from 40mm to 150mm.

Polyurethane foam is helpful in providing insulation over the deck and under the deck.

### EPS Insulation (Expanded Polystyrene Sheet)

It is a high-performance building material equipment engineered to deliver long term, reliable energy efficiency. EPS is an ideal choice for green building design, offering numerous environmental advantages, including reduced energy consumption, recycled content. EPS is similar to XPS but does not have closed cell structure.

### Rockwool Insulation

Due to their unique fibrous structure, the insulation provides dual benefits of thermal and acoustic insulation. This product is made up of rock and sand, also counted among green products and relevant for certified green buildings from GRIHA.

Rockwool comes in various thickness and density ranging from 40kg to 200kg.

### XPS Insulation (Extruded Polystyrene Sheets)

It is a rigid foam board having closed cell structures. It enhances the life of the building by providing protective insulation and thereby preventing the formation of cracks due to thermal expansion- contraction. Its density is around 45kg and thickness varies from 25mm to 100mm having the edge profile in a shiplap position. It is a non-flammable product.

## Benefits of constructing with Pre-Fab

Factor	Improvement	Economic Benefit
Speed of construction	30 to 40% reduction in construction time relative to site-intensive construction, depending on the scale of the project.	The economic benefit depends on the business operation. In terms of overall building cost, a saving of 1% in interest charges, and 2% in early rental or use of the space is predicted.
Site management costs	Site management costs are reduced because of the shorter construction period, and the packaged nature of the construction process	Site management costs can be reduced by 20 to 30% which can lead to a 3 to 4% saving in terms of overall building cost.
Foundations	Steel construction is less than half the weight of an equivalent concrete structure, which is equivalent to a 30% reduction in overall foundation loads.	Foundation costs depend on the sub-structure and factors such as underground services and represent up to 5% of the building cost . A 30% reduction in foundation loads can lead to a significant overall saving in terms of construction cost.
Column free space	Long span steel construction provides more flexible use of space	A large column in the middle of the space leads to a loss of space of approximately 1m <sup>2</sup> , which represents about 1% of the floor area, and may lead to an equivalent loss of rental income.



# Portable Toilets

Acknowledging the urgent need for high sanitation levels, portable toilets in India are gaining popularity. Comfort, smart practicality and efficient durability come together to create unique sanitary solutions at Cactus Profiles.

We well understand the requirement for portable restrooms in public areas to meet basic health and hygiene standards.

We hold years of experience in manufacturing an extensive range of Portable Toilets. These are manufactured in strict tandem with the set industry guidelines using high grade raw material. To ensure that the products we manufacture are defect-free and durable, these are tested stringently by our quality auditors.

These are easy to install and highly portable. We use PUF panel and doors to manufacture the body for these Portable Toilets, making it highly customizable.

## Features:

- 100% rust and corrosion proof
- Lightweight
- Easy to install
- Tough and durable
- Easy to clean and maintain
- 100% portable





# PUF Insulated Tanks



Our PUF insulated PVC water tank, is one of a kind in water tank category. Since global warming is a major concern these days, these insulated tanks help to maintain the temperature levels of water.

These insulated water tanks are 100 % leak proof and can give significant temperature differences of matter. The insulation will be of 75mm or 100mm to attain maximum R-value for Water tank. Our tanks come in either 500 liters or 1000 liters storage capacity.

## Features of the tank:

- A grade PVC tank on the inside with 75mm or 100mm insulation in between with another PVC tank on the outside.
- HDPE pipe extrusion on the below of the tank for the release of the sedimentation in due time and for release of the water and over flow.
- A perfect substitute for costly Stainless Steel Insulated tanks.
- Hygienic and clean interior
- These insulated tanks are perfect for harsh climatic conditions.
- Provides sense of relief for the family.
- Quality levels are maintained at the highest levels.
- Density maintained at +40kg/m<sup>3</sup>.

# Our projects



NTPC, Telangana



NTPC, Assam



Army, Siliguri



National Games Village, Kerala



Merino, Haryana



ONGC, Orissa

# Industries we cater:



Refrigerated Warehouse



Cold storage (Fruits and vegetables)



Dairy Industry



Floriculture Industry



Sea Food Industry



Meat and Poultry Industry



Food Processing Industry



Pharmaceuticals Industry



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