SANDWICH PANELS

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VITAPUR SANDWICH PANELS consists of exterior and interior facings of relatively thin metal sheets encasing a core of rigid polyurethane. The resultant sandwich panel has a load-bearing capability many times greater than that achieved by adding together the load-bearing capacities of the individual layers. As a result, these thin, relatively lightweight sandwich panels can safely bridge wide spans. For example, a panel just 100mm thick can easily bridge a clear span of some 6 meters.

Metal-faced polyurethane sandwich panels are the system of choice today for large industrial buildings, refrigerated warehouse, office blocks, exhibition halls, fair pavilions, schools and sports halls.

The aluminium or steel facings themselves are surface coated and can be manufactured with profiles of various depths leading to a higher load-bearing capabilities.

VITAPUR SANDWICH PANELS come complete with specially formed joints ensuring a perfect fit and maximum integrity. Assembly is fast, easy and cost effective.

Available as Polyurethene (PUF) and Poly Isocyanurate (PIR) foam.

THERMAL CONDUCTIVITY (K VALUE)

EXPANDEDCLAY	0.100
STRAW	0.090
WOOD WOOL	0.060
COCONUT FIBER	0.050
CORK SHEET	0.045
MINERAL WOOL	0.040
POLYSTYRENE	0.035
POLYURETHANE	0.024

*In Watts Per Meter and Kelvin (W/mk). The lower the value the better the insulation

SPECIFICATIONS

- Panel thickness available: 40mm to 150mm
- Panel width available: Up to1200mm
- Panel length available: Up to14700mm
- Average density: 40-42kg/ cubic meter (PUF)
  48-50KB/cubic meter (PIR)
- Thermal conductivity: -180 Deg C to +140 Deg C
- Type of foam: PUF or PIR
- Colour available: Off-White

TYPES OF INTERLOCK

Cam lock
PVC interlock
Tongue and groove

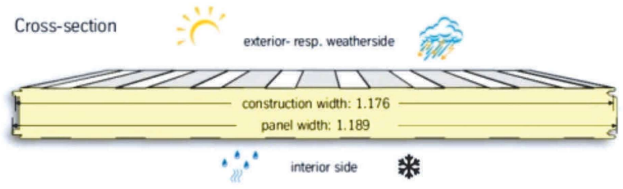
35 mm PUF is Equal to

- 50 mm EPS (Thermocol)
- 55 mm Glass wool
- 60 mm Mineral wool
- 80 mm Fiber board
- 175 mm Wood
- 475 mm concrete
- 1075 mm Thick Brick work

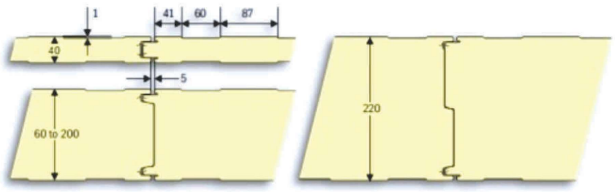
ADVANTAGES

- Fast and easy installation
- Light weight.
- Space Saving.
- Various designs/vivid colours.
- High Load bearing capacity at low weight.
- Excellent and durable thermal insulation.
- Capacity for rapid erection without lifting equipments.
- Easier installation in hostile weather conditions.
- Easy repair and replacement in case of damage.
- Long life and very low maintenance cost.
- Good sound insulation.
- Reasonable fire reaction and resistance.

Cross-section

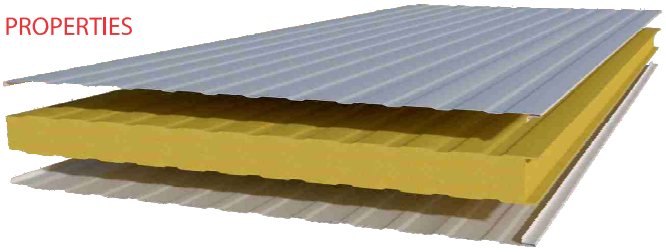


Lengthwise connection



All dimensions in mm

PROPERTIES



ENERGY EFFICIENT: With 80 mm thick sandwich panels polyurethane rigid foam, the U value is 0.0297 W/(mK). In comparison, a solid wall with 24 cm thick masonry and 2cm plaster walls has U value of 1.85 W/(m K).

CHEMICALLY INERT: VITRPUR sandwich panels are resistant to the chemicals typically used in construction and is compatible with most solvent-containing adhesives, paints and wood preservatives.

ENERGY SAVING: A rough estimate of what this difference means in terms of energy consumption can be made based on the example of a factory building. Assuming the building has a floor area of 40 x 20 square metres and 10 metres high, the annual amount of heating oil saved could be roughly 3,000 litres if both the walls and the roof are insulated with PU/PIR metal-faced sandwich panels rather than panels of the same thickness based on mineral wool.

EASE OF INSTALLATION: VITAPUR Sandwich Panels come complete with specially formed interlocks ensuring a perfect fit and maximum integrity. Assembly is fast and easy ensuring cost-effective, efficient construction.

THERMAL INSULATION: VITAPUR Sandwich Panels have extremely low thermal conductivity values making it an ideal insulation material.

LOAD-BEARINB CAPABILITIES: VITAPUR Sandwich Panels have a load-bearing capacity many times greater than that achieved by adding together the load-bearing capacities of the individual layers. As a result, these thin, relatively lightweight sandwich panels can safely bridge wide spans.

TEMPERATURE RANGE: -180Deg C to +140Deg C

APPLICATION

- Industrial Buildings
- Commercial Buildings
- Warehouses
- Cold Store/Blast Freezers
- Ultra clean rooms and Sterile
- Laboratories
- Air Handling Units
- Malls/Departmental Stores