



POLYURETHANE (PU) SANDWICH PANELS

Polyurethane (PU) Insulated sandwich panel is a composite building material. It is made up of a rigid core sandwiched between two metal sheets. Rigid polyurethane (PU) foam is the internationally recognized best construction material where heat insulation properties coupled with strength are



required, like in Pre-engineered buildings, warehouses and cold-chain solutions. PU panel has low thermal conductivity (R-value). R-value is an important measure of resistance to heat flow through a given thickness of material. R-value figures of PU panels are given in the table (The lower the better).



TTOP			polyurethane rigid foam							
thickness of the panel		(mm)	30	40	50	60	80	100	120	160
height of the rib		(mm)	38	38	38	38	38	38	38	38
thickness of the steel sheet	external	(mm)	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
	internal		0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
weight of the panel with 3 ribs *		(kg/m ²)	8,14	8,52	8,90	9,28	10,04	10,80	11,56	13,08
weight of the panel with 5 ribs *		(kg/m ²)	8,39	8,77	9,15	9,53	10,29	11,05	11,81	13,33
coefficient of thermal conduction **		U (W/m ² K)	0,68	0,52	0,43	0,36	0,27	0,22	0,19	0,14

* the weight of the panel is calculated for density of the polyurethane rigid foam 38 kg/m³

** λ = 0,023 W/mK

Sandwich Panels are typical single piece, modular, factory engineered units comprising of two metal faces sandwiching a highly efficient insulating materials like Polyurethane or Polystyrene. These are high performance building panels used for residential, commercial as well as industrial buildings. EKN Cooling System manufacturing wide range of Water Proof, Tamper Proof, Corrosion Resistant, Durable Coating and trustworthy Polyurethane (PU) & Expanded Polystyrene (EPS) Sandwich Panels, Cold Storage Room, Modular Portable Cabin, Pre Engineering Building and Industrial Fabrications both in Mild Steel & Food Grade Stainless Steel.

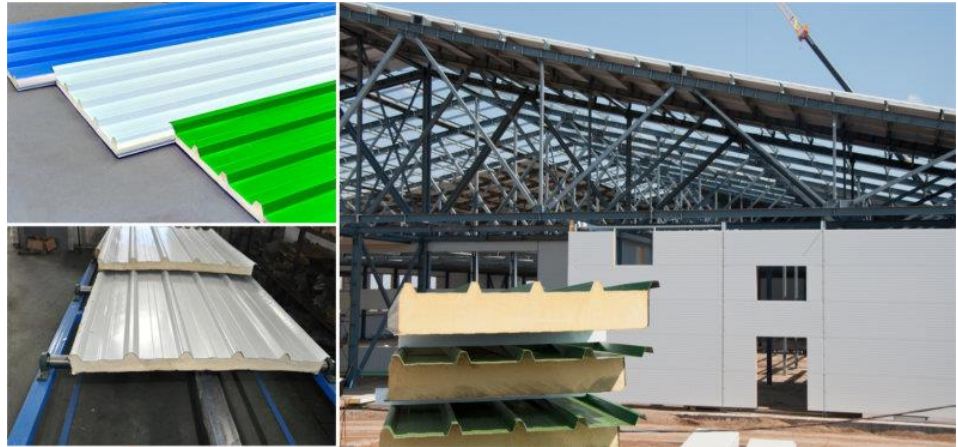
(K·m²/W) is the R-value, which is inverse of U in the table.

TFACE			polyurethane rigid foam																			
			through fixing												secret fixing							
thickness of the panel		(mm)	25	30	40	50	60	80	100	120	140	150	160	180	200	40	50	60	80	100	120	150
thickness of the steel sheet	external	(mm)	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,45	0,45	0,45	0,45	0,45	0,45	0,45
	internal		0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
weight of the panel *		(kg/m ²)	7,60	7,79	8,17	8,55	8,93	9,69	10,45	11,21	11,97	12,35	12,73	13,49	14,25	8,98	9,36	9,74	10,50	11,26	12,02	13,16
coefficient of thermal conduction **		U (W/m ² K)	0,80	0,68	0,52	0,43	0,36	0,27	0,22	0,19	0,16	0,15	0,14	0,13	0,11	0,52	0,43	0,36	0,27	0,22	0,19	0,15

* the weight of the panel is calculated for density of the polyurethane rigid foam 38 kg/m³

** λ = 0,023 W/mK

R-value is one of four other key parameters that determine the effectiveness of an insulation material, which are high heat resistance, good load bearing and high



bending strength. PU panel is non-absorbent, anti-rot and non-rusting. It's not moth eaten and rat bitten and has good fire resistance. Low thermal conductivity of PU panels also greatly reduces the peripheral thicknesses of the building wall-panel and roof-panel structures, thus effectively increasing the covered area of the building and savings in energy costs.

We have a range of core thicknesses, support finishing and panel joints to choose from. The panels can be assembled by vertical or horizontal disposition, and are suitable both for interior and exterior applications. Metallic sheet is placed on a specially-designed mold, and with the aid of a spraying device, polyurethane foaming agent is sprayed on the sheet. Computer control is used to make the foam formed between metal sheets, so that complete color steel sandwich PU panel with three layers is formed at one time.

Available Total Thickness Of Panel	40mm ~ 180mm
Prepainted GI Sheet Thickness (Each side)	0.40mm ~ 0.8mm
Colours	Any
Maximum Single Production Length	15 meters
Available Density	38 Kg/m ³ ~ 45 Kg/m ³
Type of Panels	Wall and Roof
Inter-Locking Arrangement	Male-Female, Cam Locks

