Pre-insulated Sandwich Panels

Alatassi, an ISO 9001 certified Company, proudly presents its pre-insulated sandwich panels manufactured as per the highest international standards.

Applications:
Since the polyurethane is an excellent thermal and moisture insulation material in addition to being repulsive to bacteria, rodents, and insects, it is used effectively in Chicken Houses, Slaughter Plants, Dairy Plants, Fish Processing , Poultry Plants, Blast and Freezer rooms ; as well as cold rooms for vegetables and fruits.

Sandwich Panel:
It consists of two sheets of galvanized steel, stainless steel, or aluminum with injected Polyurethane between them. Panels are divided into wall panels and ceiling panels:

. Ceilingpanelsare available with two total thicknesses of 80 mm and 100 mm -
. Wallpanels are available with a thickness of 5, 6, 8,10,12,15, and 20 cm -

Technical Specifications of the steel:
The steel is galvanized, covered from the outside with a base layer and a second layer of thermal Polyester powder coat.

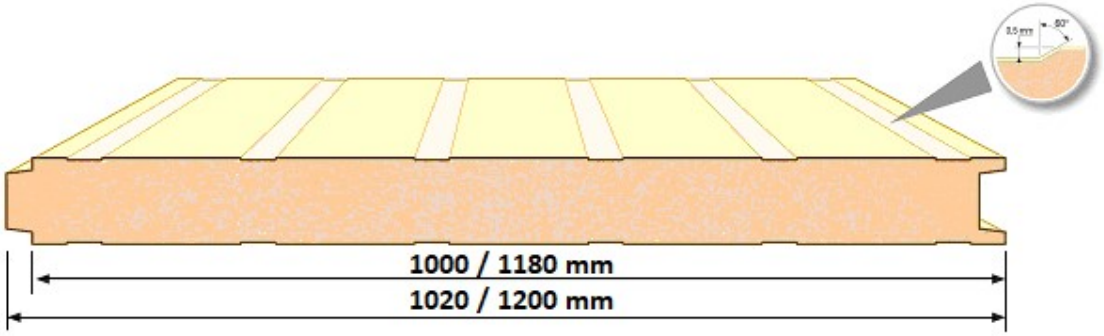
- Standard color is RAL 9016 (other colors are available on request).
- The inner side of the steel is galvanized and coated with an Epoxy layer to make steel and foam stick together.

Technical Specifications of polyurethane:

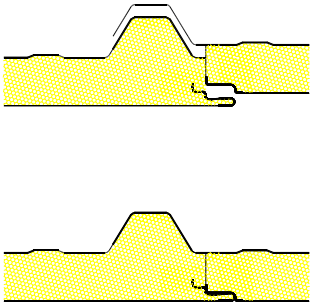
- Density: (40 ± 2) kg/m^3 according to DIN EN 845 which is the optimum density for the highest level of insulation.
- Fire rating :

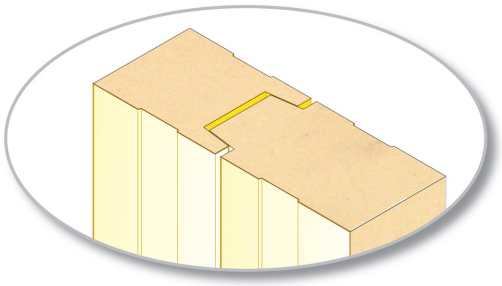
Class B2 or Class B3 or Class B1 (PIR) that classify polyurethane as non- combustible and that it's self extinguished automatically as soon as the source of flame is cutout.

- A thickness of 40 mm of polyurethane is equivalent in heat insulation to about 72 mm of polystyrene , 90 mm of glass wool , 178 mm of wood, and 310 mm of concrete blocks.

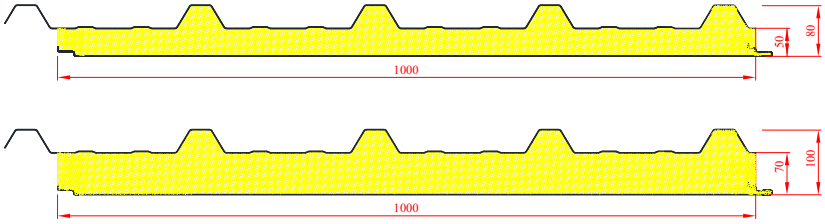


Wall panel





Overlap of Ceiling and Wall Panels



Ceiling Panel Profile

Heat Transmission Table according to temperature difference between inside and outside of cold store

Panel Thickness mm		40	50	60	80	100	120	140	200
Thermal energy Transmission (W/m² K)		0.5750	0.4600	0.3833	0.2875	0.2300	0.1917	0.1643	0.1150
ΔT	°C								
10	°C	5.750	4.600	3.833	2.875	2.300	1.917	1.643	1.150
15	°C	8.625	6.900	5.750	4.313	3.450	2.875	2.464	1.725
20	°C	11.500	9.200	7.667	5.750	4.600	3.833	3.286	2.300
25	°C	14.375	11.500	9.583	7.188	5.750	4.792	4.107	2.875
30	°C	17.250	13.800	11.500	8.625	6.900	5.750	4.929	3.450
35	°C	20.125	16.100	13.417	10.063	8.050	6.708	5.750	4.025
40	°C	23.000	18.400	15.333	11.500	9.200	7.667	6.571	4.600
45	°C	25.875	20.700	17.250	12.938	10.350	8.625	7.393	5.175
50	°C	28.750	23.000	19.167	14.375	11.500	9.583	8.214	5.750
55	°C	31.625	25.300	21.083	15.813	12.650	10.542	9.036	6.325
60	°C	34.500	27.600	23.000	17.250	13.800	11.500	9.857	6.900
65	°C	37.375	29.900	24.917	18.688	14.950	12.458	10.679	7.475
70	°C	40.250	32.200	26.833	20.125	16.100	13.417	11.500	8.050
75	°C	43.125	34.500	28.750	21.563	17.250	14.375	12.321	8.625
80	°C	46.000	36.800	30.667	23.000	18.400	15.333	13.143	9.200
85	°C	48.875	39.100	32.583	24.438	19.550	16.292	13.964	9.775
90	°C	51.750	41.400	34.500	25.875	20.700	17.250	14.786	10.350
95	°C	54.625	43.700	36.417	27.313	21.850	18.208	15.607	10.925
100	°C	57.500	46.000	38.333	28.750	23.000	19.167	16.429	11.500

Lambda Value = 0.023 W / m K