

# The technical characteristics of special refrigerated joint panel (FRIGOPAP)

## MAIN CHARACTERISTICS - REFRIGERATED

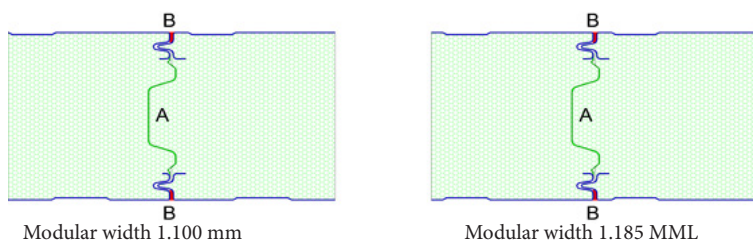
Our Insulated Panel has been specially designed to get the best results in COLDSTORE construction. It is manufactured in a continuous line production. The special joint design guarantees the best results. FRIGOPAP Insulated Panel is produced by PAP Paneles S.L., and belongs to PAP Group, located in MONTALBO (Cuenca), Spain.



Its special refrigerator joint design offers three dovetail finishes

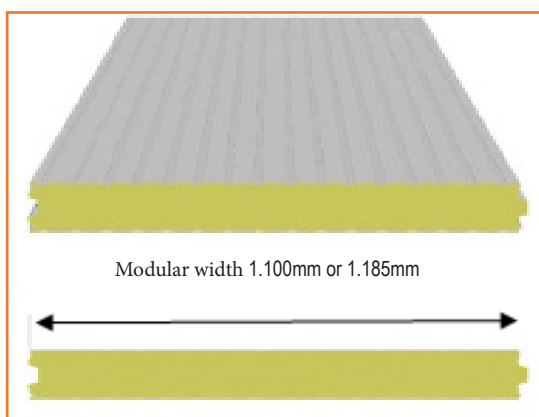
- **A.-** The joint or central dovetail (Polyisocyanurate with Polyisocyanurate) joins panels of 1.185 mm or 1.100 mm. It guarantees the continuity of the insulation itself.
- **B.-** On each side of the panel, two dovetail joints, made of Steel sheet are built to offer resistance to any mechanical effort.

## DETAIL OF SPECIAL REFRIGERATED JOINT PANEL



Modular width 1.100 mm

Modular width 1.185 MML



Modular width 1.100mm or 1.185mm

- Usable width: 1.100 mm. or 1.185 mm.
- Available thicknesses: from 40 mm to 200 mm.
- Maximum length: 15,10 m. (depending on transport)
- Minimum standard length: 2,00 m.
- Density:
  - The density of polyisocyanurate **PIR** is of 40 kg/m<sup>3</sup>, 38 kg/m<sup>3</sup>, according to the accredited CE
- Thermal conductivity of the polyisocyanurate foam  $\lambda = 0,020 \pm 0,003$  W/mk.
- Thermal dimensional stability at 80 °C < to 2% in volume. According to the rule UNE-EN 1604.
- Thermal dimensional stability at -20 °C < to 2% in volume. According to the rule UNE-EN 1604.

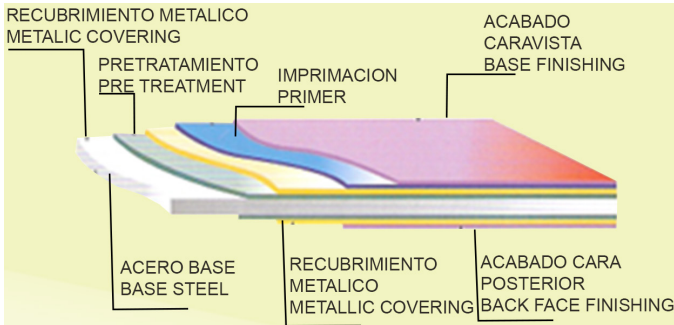
### - Panel Insulation:

- Polyisocyanurate **PIR**. Classification of Fire Reaction: **(B-s1,d0)**, According to the rule UNE-EN 13.501-1: 2007 + A1:2009. **NEW** 200 mm panel. **EI/60'**
- In the 200 mm panel. Classification of Fire Reaction **EI60**. Its function is to resist fire due to its integral thermal insulation characteristics as specified in section 5 of the rule UNE EN 13501-2: 2009 + A1:2010.

• Our insulated panel has obtained the fm approval according the standards 4880 (**FM GLOBAL**), and fire rating **B-s1,d0** according UNE-EN 13501-1:2007 + A1:2010 certified by **AFITI-LICOF**.



**STEEL SHEET CHARACTERISTICS FINISHES/VENEERS**



**Tratamiento superficial de planchas**

Acero galvanizado EN 10142 y 10147. Bajo consulta otros soportes (ZA,AZ,Al). El recubrimiento estándar de la cara posterior es apto para la adherencia de espumas de poliuretano habituales.

Sheet thicknesses 0,5 mm. or 0,6 mm

- Galvanized steel coated in ZN = 100-225 g/m<sup>2</sup>, with coloured polyester lacquered coating (rule UNE-EN 10169-1). Thickness of the coating: 25 μ (±2).

- The Steel Sheet used is defined in the UNE EN 10346 rule, and so its dimensional tolerances and shape in the UNE-EN 10143 rule.

- Elastic limit of the steel sheet: ≥ 220 N/mm<sup>2</sup>

OTHER FINISHED STEEL SHEET CAN BE MANUFACTURED ON REQUEST:

- Polyester Lacquering (minimum quality we offer for the surface treatment of the steel and in white color)

- PVC of 110 micras (certified bs1,d0), PVC of 200 micras, PET....

- Stainless Steel (Quality 304 and 316)

- PVDF, HDX, .....

- Other finishes and colors on request, depending on availability of the steel company

STREAMLINED:

- Smooth
- Striated.
- Corrugated.
- Micro-striated

**LOADING AND TECHNICAL TABLES**

K	WEIGHT	PANEL THICKNESS	Load on TWO support points as arrowsflecha ≤ L/200 (1kgf-0,98daN) Panel with 0,5/0,5 mm. thickness sheet				
			60	80	100	120	150
U(W/m <sup>2</sup> k)	Kg./m <sup>2</sup>	mm.					
0,52	10,10	40	3,10	2,90	2,70	2,50	2,20
0,35	11,00	60	3,80	3,55	3,30	3,00	2,60
0,27	11,90	80	4,50	4,00	3,70	3,35	2,90
0,21	12,80	100	4,90	4,45	4,10	3,75	3,20
0,18	13,40	120	5,50	4,90	4,50	4,10	3,60
0,14	14,70	150	6,20	5,55	5,10	4,60	3,95
0,12	16,00	180	6,90	6,50	6,00	5,50	4,60
0,11	16,80	200	7,20	6,80	6,50	5,50	5,00

K	WEIGHT	PANEL THICKNESS	Load on THREE support points as arrowsflecha ≤ L/200 (1kgf-0,98daN) Panel with 0,5/0,5 mm. thickness sheet				
			60	80	100	120	150
U(W/m <sup>2</sup> k)	Kg./m <sup>2</sup>	mm.					
0,52	10,10	40	3,40	3,20	3,00	2,80	2,50
0,35	11,00	60	4,40	4,10	3,75	3,45	3,00
0,27	11,90	80	5,20	4,65	4,25	3,90	3,35
0,21	12,80	100	5,80	5,15	5,75	4,30	3,70
0,18	13,40	120	6,40	5,70	5,25	4,75	4,05
0,14	14,70	150	7,00	6,25	5,75	5,20	4,45
0,12	16,00	180	7,50	7,10	6,10	5,70	5,00
0,11	16,80	200	7,80	7,25	6,25	5,50	4,95

**LOSS ABACUS FOR THERMAL POLYURETHANE PANEL BY THICKNESSES THERMICAL LOSS Q (W M<sup>2</sup>)**

