

HUURRE PANAMÁ

# FACADE

## INSUPANEL® PIR FR

Innovative solutions, tailored to you.

**The INSUPANEL® PIR FR from Huurre Panama offers excellent performance for energy savings and fire resistance.**

It is certified for use both indoors and outdoors and for applications that require high thermal insulatio.

The INSUPANEL® PIR FR has been specifically developed to offer the greatest safety against fire in applications that they also require a high degree of isolation.

The polyisocyanurate insulating core of 35-42 kg/cm$^3$ of nominal density, injected between two structural steel sheets with a rived or smooth surface.

Its excellent fire performance and high insulating capacity are due to the use of the high polyisocyanurate core index and with highly cross-linked cyclic structure, developed and marketed exclusively by HUURRE.

## DIMENSIONS, WEIGHT AND THERMAL PERFORMANCE

Useful width: 1m

Length of manufacture: 3 to 16m

Type of joint: CS

Thermal conductivity: 0.018 W/mk

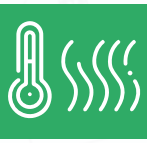
Declared thermal conductivity 1: 0.0195 W/mk (considering aged core)

Insulation core density: 40 ± 5 kg/m$^3$

| Thickness Insulating core (A) | 40 | 50 | 75 | 100 | (mm) |
|---|---|---|---|---|---|
| Weight | 12,5 | 13,0 | 14,0 | 15,0 | (kg/m$^2$) |
| Value U | 0,52 | 0,39 | 0,26 | 0,20 | (W/m$^2$K) |
| Value R | 11,21 | 14,01 | 21,36 | 28,48 | (BTU hour inch$^2$) |

NOTES: (1) Thermal conductivity determined according to standard UNE-EN 14509, considering the effect of aging.
(2) For 0.45/0.45mm sheets (int/ext)

## ADVANTAGES OF THE POLYISOCYANURATE (PIR) NUCLEUS



**Excellent thermal efficiency**

The polyisocyanurate insulating core has excellent thermal performance, with a thermal conductivity of only 0.019 W/M²K
*Aged core*

**High protection against the fire**

It has a high resistance to fire, providing high safety in cases of fires. Its composition doesn't allow the spread of fire and does not emit toxic smoke.

**High Resistance and Durability**

By being resistant to the humidity, the functional performance of the PIR Core does not diminish over time, ensuring a high resistance.

**Modern finish**

The variety of colors allows you to obtain an excellent aesthetic in the projects, combined with the security that only the INSUPANEL® PIR from Huurre Panama offers.

## Resistance to biological agents

The INSUPANEL® PIR FR from HUURRE is immune to the attack of fungi, molds and other biological agents thanks to the closed structure of the insulating nucleus. Therefore, they are suitable for applications that require a high degree of hygiene and health (agri-food sector, laboratories, etc.

## Self-protected insulating core

In contact with fire, the polyisocyaninate core generates a carbonization layer that acts as a protective barrier and limits the advance of the flames to inner layers.

## SEGURIDAD ANTE EL FUEGO

The INSUPANEL® PIR FR has been tested according to ASTM E84 and NFPA 286 standards

## MECHANICAL RESISTANCE AND USE TABLES (daN/m²)

The INSUPANEL® PIR FR is suitable for use in walls, ceilings and exterior enclosures of facades, thanks to its high rigidity, impact resistance and high durability.
The following tables indicate the maximum permissible distances between supports (m) depending on the thickness of the panel (mm) and the characteristic pressure load (without increasing) evenly distributed (daN/m²).
Tables calculated according to the European Standard EN 14509 for both ELS and ELU. Consult us for the case of suction loads

### UTILIZATION TABLES (daN/m²)

The following tables show the maximum uniformly distributed load (daN/m²) permissible depending on the thickness of the insupanel (mm) and the distance between supports (m).

**TWO SOPPORTS**

| THICKNESS (mm) | LOAD (Kg / m²) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 40 | 75 | 100 | 125 | 150 | 175 | 200 |
| 40 | 3.60m | 3.15m | 2.85m | 2.65m | 2.50m | 2.40m | 2.25m |
| 50 | 3.90m | 3.40m | 3.10m | 2.85m | 2.70m | 2.44m | 2.45m |
| 75 | 4.27m | 3.75m | 3.38m | 3.14m | 2.95m | 2.86m | 2.67m |
| 100 | 6.00m | 5.40m | 4.70m | 4.20m | 3.85m | 3.55m | 2.85m |

**THREE SOPPORTS**

| THICKNESS (mm) | LOAD (Kg / m²) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 40 | 75 | 100 | 125 | 150 | 175 | 200 |
| 40 | 4.20m | 3.65m | 3.30m | 3.10m | 2.90m | 2.75m | 2.65m |
| 50 | 4.50m | 3.95m | 3.60m | 3.30m | 3.10m | 2.95m | 2.85m |
| 75 | 5.25m | 4.60m | 4.20m | 3.90m | 3.65m | 3.75m | 3.20m |
| 100 | 6.50m | 6.00m | 5.50m | 4.90m | 4.50m | 4.15m | 3.85m |

Calculation made according to the European Standard 14509 for ELS.

### GENERAL CHARACTERISTICS OF THE INSUPANELES® OF HUURRE PANAMÁ:

- Length 3mts - 16mts
- Useful Width 1.00 mts
- Thermal and acoustic insulation
- Energy Savings
- Guaranteed Quality

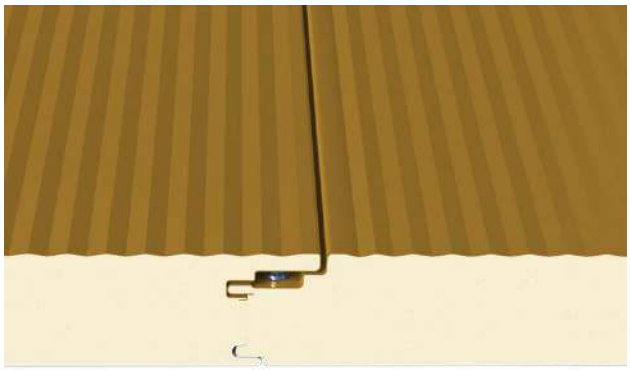
## Specific characteristics of INSUPANEL® PIR FR Facade

Available thicknesses: 40, 50, 75 and 100mm.
Ideal architectural design for applications of Façade in buildings, cellars and more.
High mechanical strength that allows greater separation between supports.
Design for horizontal or vertical mounting.

### HIDDEN JOINT

Joint that hides the fixing of the panel from the supporting structure, which protects the head of the screw and increases its durability.

### EASY ASSEMBLY



## PHYSICAL PROPERTIES

### Core specifications
Polyisocyanurate rigid foam (PIR)

### Average density
35-42Kgs/$M^3$ with a structure of at least 90% closed cells, in accordance with ASTM-D 1622 and ASTM-D 2856 standards.

### Thermal conductivity
K=0.14 BTU inch. / (Hr.) (foot$^2$) (°F) ) at a temperature of 75°F (24°C) in accordance with ASTM-C 518.

### Resistance to chemicals
Excellent resistance to water, sea water, acid vapors, most solvents, hydrocarbons and mineral oils.

### Service temperature
Minimum: -70°C (Depending on the thickness of the panel and the coatings of the plate).
Maximum: +120°C.

### Mechanical Properties
Compression effort: 1.42Kg. / $Cm^2$ (20 Lbs. /$Inch^3$) ASTM-D 1621

## OTHER FEATURES

### MECHANICAL STRENGTH BENEFITS

The INSUPANEL® PIR FR Facade is ideal for use as an exterior enclosure of the facades, thanks to its rigidity, impact resistance and durability.

The INSUPANEL® PIR FR Facade is safe to use in areas of high seismicity (see details of assemblies)

### AVAILABLE THICKNESS OF SHEETS

| | |
|---|---|
| Gauge 22 | 0.71mm |
| Gauge 24 | 0.55mm |
| Gauge 25 | 0.50mm |
| Gauge 26 | 0.45mm |
| Gauge 27 | 0.40mm |

### NORTH AMERICAN STANDARDS

ALUZINC – ASTM A 792
Steel sheet, 55 aluminum and zinc alloy under a hot dip coating process.
AZ150/200

ZINC - ASTM A 653 under a hot deep coating process.
Z180/275
25µm + 5µm epoxy premier PET immersion paint.

### TYPICAL USES

Places that require thermal insulation. For more information about its uses, please contact the technical department of Huurre Panama.

HUURRE PANAMÁ

+(507) 203-0310 / 394-2049
huurre@huurrepanama.com
www.huurrepanama.com