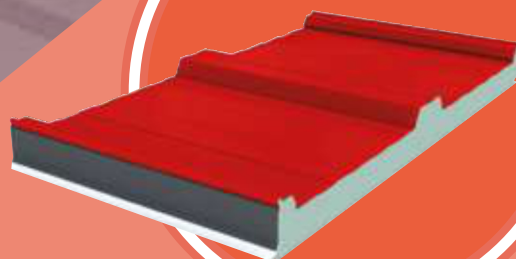




**HP-PUR CT**

**PANELPAN**



## PANELPAN



### HIGH INSULATION PANEL PERFORMANCES FOR ROOF

Rigid insulating core with high thermal performance (thermal conductivity as low as 0.0195 W/mK). Flashing to ensure complete watertightness.

Longitudinal joint design and hidden fixings during possibility of overlapping panels for roofs of more than 16 m of length. High mechanical resistance, with free spans between supports of up to 6.0 m. Structural steel sheets with different options of High durability coatings. Does not absorb water, maintaining its performance throughout the entire

its useful life, and it is not affected by biological agents.



## DESCRIPTION AND APPLICATIONS

Sandwich panel for roofs with insulating core rigid and outer faces of structural steel, profiled sheet metal.

Lightweight enclosure with high insulating power, its tongue-and-groove watertight joints guarantee the Total tightness of the enclosure. Broad range of skylights.

PUR foam can be used as insulating core.

Available in various thicknesses of steel, coatings and colors.

Covers thermally efficient, high value, aesthetic and fast elevation for building,

industrial, commercial, residential, agricultural sector and public centers.



## DIMENSIONS, WEIGHT AND THERMAL PERFORMANCES

Useful width	1000 m				
Manufacturing length	Standard:	2 a 16 m			
	Special:	13,5 a 16,0 m (special transport)			
Thermal conductivity	0,018W/mK				
Declared thermal conductivity 1	0,0195W/mK (considering aged core)				
Density of the insulating core	40 ± 5 kg/m³				
Insulating core thickness (A)	30	40	50	60	(mm)
Weight	12,5	12,8	13,8	14,3	(kg/m²)
Thermal transmittance 1 (PUR)	0,63	0,49	0,40	0,34	(W/m²K)
Thermal resistance 2 (PUR)	1,59	1,89	2,54	2,91	(m²K/W)
FactorR	10.26	13.11	15.96	18.81	(BTU hora pulg²)

NOTES: (1) Thermal transmittance determined according to the UNE-EN 14509 standard, considering the effect of aging of the insulating core.

(2) For 0.5mm sheets (int/ext).



## COMPONENTS

### Coatings

The HP-PUR-CT panel can be manufactured with various coatings to guarantee its maximum durability, depending on the environment and the anticipated conditions of use (see recovery table). brims available).

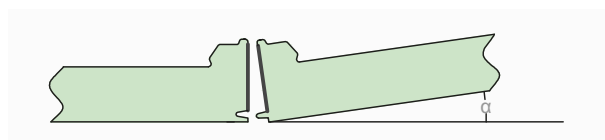
### Joint detail



## ASSEMBLY SUMMARY

### 1. Panel Assembly

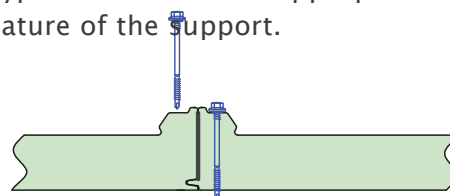
Mounting with a minimum slope of 4% (recommended 5%). Through a slight inclination, assemble the panels respecting the lateral tongue and groove.



### 2. Screwing panels to the structure

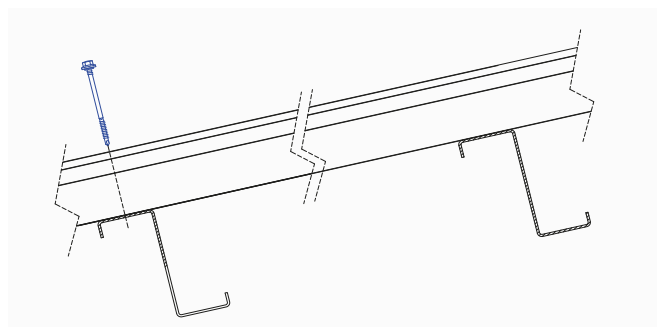
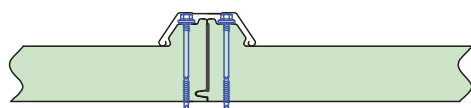
Once the panels are assembled, they are screwed to the supporting structure through the ridges adjacent to the tongue and groove.

The type of screw will be appropriate to the nature of the support.



### 3. Placement of joint covers

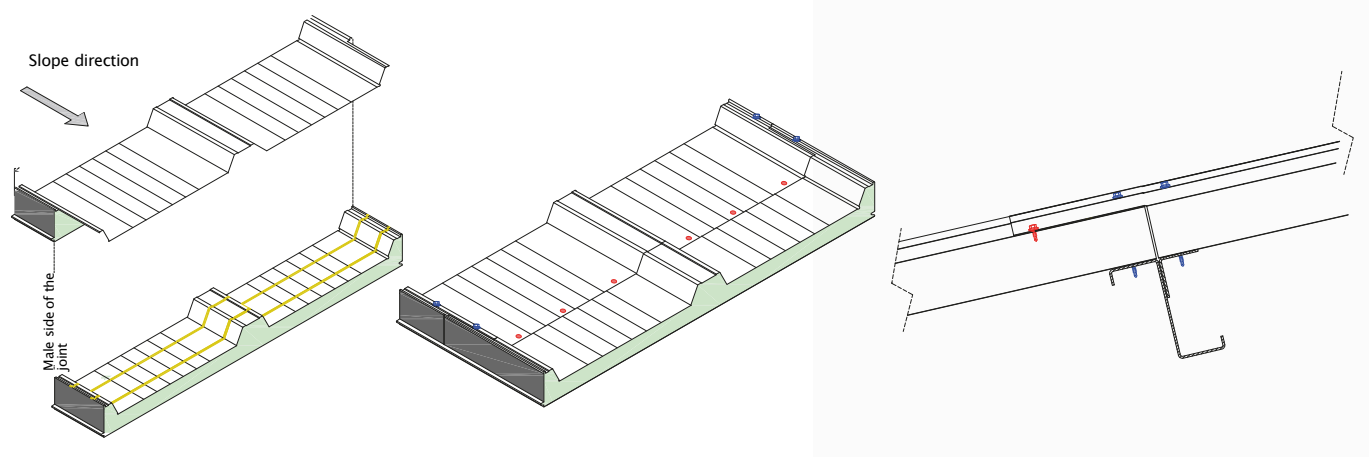
To ensure total sealing and hide the fixing screws, the flashing is installed under pressure that will prevent the passage of water to the joint.



## PANEL OVERLAP

The HP-CT panel can be longitudinally overlapped, on roofs with a minimum slope 7% (recommended 10%).

One time installed the bottom panel, prepare the top panel, butyl double seal applied and both panels are fixed. Finally it is sewn with 2 or 3 screws for the valley of the overlap plate with the panel bottom panel and flashings are blown.







## MORE INFORMATION ON ASSEMBLY PROCEDURES

The detailed assembly process can be consulted in the HP-CT panel assembly technical sheet.

## TABLES OF MAXIMUM LIGHTS BETWEEN SUPPORTS

The following tables indicate the maximum admissible distances between supports (m) in function of the thickness of the panel (mm) and the characteristic downward load (without factoring) evenly distributed (daN/m<sup>2</sup>). Consult us for the case of ascending loads.

USE TABLES (daN/m<sup>2</sup>)

 TWO SUPPORTS	THICKNESS (mm)	Burden (Kg/ m2)						
		40	75	100	125	150	175	200
 THREE SUPPORTS	30	3.40	2.90	2.50	2.10	2.00	1.80	1.70
	40	3.80	3.30	2.90	2.60	2.40	2.20	2.10
	50	4.10	3.60	3.20	2.90	2.70	2.50	2.40
	63.5	4.40	3.90	3.50	3.20	3.00	2.80	2.70
 THREE SUPPORTS	THICKNESS (mm)	Burden (Kg/ m2)						
		40	75	100	125	150	175	200
 THREE SUPPORTS	30	3.90	3.40	2.90	2.60	2.30	2.10	1.90
	40	4.30	3.80	3.30	3.00	2.70	2.50	2.30
	50	4.60	4.10	3.60	3.30	3.00	2.80	2.60
	63.5	4.90	4.40	3.90	3.60	3.30	3.10	2.90

## INSULATING PLATE

## Material Specifications

RIGID POLYURETHANE FOAM (PUR)(Core):

## PHYSICAL PROPERTIES

Average density: 38Kgs/ M3 with a structure of at least 90% closed cells, with conform to standards ASTM-D 1622 and ASTM-D - 2856

Self-extinguishing: This is how this cellular plastic is considered because it does not require additives

fire retardants to meet US building specifications from America.

## Thermal conductivity:

K= 0.14 BTU Inch. / (Hr.) (Foot2) (°F) at a temperature of 75° F (24°C) according to the Standard

ASTM-C-518

## Chemical resistance:

Excellent resistance to water, seawater, acid vapors, most solvents, hydrocarbons and mineral oils.

## Operating temperature:

Minimum: -40°C (Depending on the thickness of the panel and the coating on the plate)

Maximum: +120°C

## Mechanical properties

Compression stress: 1.42 Kg. / Cm2 (20 Lbs./Inch3) ASTM-D-1621

## OTHER FEATURES

### Resistance to biological agents

HUURRE panels, thanks to the structure closed of the insulating core, they are immune to attack fungi, molds and other biological agents deteriorating.

### Water absorption

The insulating core does not absorb water, keeping therefore its thermal performance throughout its entire useful life. Therefore, it can be installed in Adverse weather conditions.

### Tightness

The careful tongue-and-groove design of the concealed panel joints guarantee absolute waterproof against rainwater. As for the waterproofing requirement of the enclosures of the CTE, in sections 5.2.6, 5.2.7 and 5.2.8 of EN14509, it is determined that sandwich panels with metal faces are considered watertight water, air and steam, these being relevant parameters depending on the installation.

### Sustainability

Both steel and its metallic coatings and organic are free of SVHC ("Substances extremely worrying"), in accordance with the requirements of the European regulation REACH. The insulating core of the panel is injected by a process that does not release HCFC-type gases.

## Prepainted –PP

### GENERAL DESCRIPTION

HURRE PANAMÁ® manufacturer products using prepainted steel, specifically designed by Hurre Panamá S.A. to provide a high durability, premier cladding and roofing material for general use.

### TYPICAL USES

Roofing and accessories, wall cladding, rain water goods. For material selection advice, please contact Hurre Panamá technical department

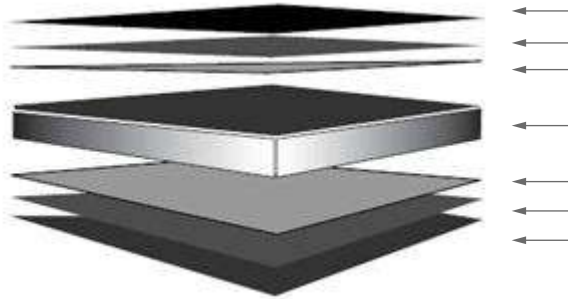
### U.S.A STANDARDS

Substrate –ASTM A 792 –G50

Paint Coating –ASTM D 4214

### PREFERRED SUBSTRATES

Steel Sheet, 55% Aluminum–ZincAlloy–Coated by the HotDip Process



### AVAILABLE STEEL SHEET THICKNESS

Gauge –28

Gauge –26

Gauge –24

### ATTRIBUTES TESTED DURING MANUFACTURE

Property	Test & Evaluation Method(s)	Results
<b>Adhesion</b>		
Reverse Impact	ASTM D 2794	≥10joules
T-bend	ASTM D 4145	Maximum 6T
<b>Hardness</b>		
Pencil	ASTM D 3363	HB or harder
<b>Specular gloss</b>		
60° meter	ASTM D523	Nominal ±10 units



## PRODUCT ATTRIBUTES

Property	Test & Evaluation Method(s)	Results
<b>Flexibility</b>		
T-bend	ASTM D4145	Maximum 10T(no cracking).
<b>Resistance to abrasion</b>		
Scratch	ASTM G171-03	Typically 2000g
<b>Adhesion</b>		
Natural well washed exposure (10 yrs)	ASTM D 3330; D 3359 – 97	No flaking or peeling.
<b>Resistance to humidity</b>		
Cleveland (500 hours)	ASTM D4545	Blister density: $\leq 3$ . Blister size: $\leq S2$ . No loss of adhesion or corrosion.
<b>Resistance to corrosion</b>		
Salt spray (1000 hours)	ASTM B117	Blister density: $\leq 2$ . Blister size: $\leq S3$ . Undercut from score: $\leq 2$ mm. No loss of adhesion or corrosion.
Kesternich (SO <sub>2</sub> ) (50 cycles)	DIN 50018	Edge creep: $< 4$ mm.
<b>Resistance to colour change</b>		
Natural well washed exposure (10 yrs)	ASTM D2244 (Colour)	$\Delta E$ cielab 2000: Light colour: $\leq 4$ units; Intermediate colour: $\leq 6$ units; Dark colour: $\leq 10$ units.
QUV (2000 hours)	ASTM G154 & ASTM D2244 (Colour)	$\Delta E$ cielab 2000: Intermediate colour : $\leq 5$ units
<b>Resistance to chalking</b>		
Natural well washed exposure (10 yrs)	ASTM D4214	Chalk rating: $\leq 4$ .
QUV (2000 hours)	ASTM G154	Chalk rating: $\leq 4$
<b>Resistance to Solvents</b>		
Exposure	ASTM D1308 (3.1.1) & ASTM D2244 (Colour); ASTM D714 (Blisters)	No discolouration or blistering.
<b>Resistance to acids</b>		
Exposure	ASTM D1308 (3.1.1) & ASTM D2244 (Colour); ASTM D714 (Blisters)	No discolouration or blistering.
<b>Resistance to alkalis</b>		
Exposure	ASTM D1308 (3.1.1) & ASTM D2244 (Colour); ASTM D714 (Blisters)	No discolouration or blistering.
<b>Resistance to fire</b>		
Exposure	ASTM E108	Ignitability index: 0 rating in scale of 0–20 Spread of Flame index: 0 rating in scale of 0–10 Heat evolved index: 0 rating in scale of 0–10 Smoke evolved index: 0–1 rating in scale of 0–10
<b>Resistance to heat</b>		
Exposure 100°C continuous (500 hrs)	ASTM D2244 (Colour)	Colour change $\Delta E$ cielab 2000: $\leq 3$ units



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[www.huurrepanama.com](http://www.huurrepanama.com)