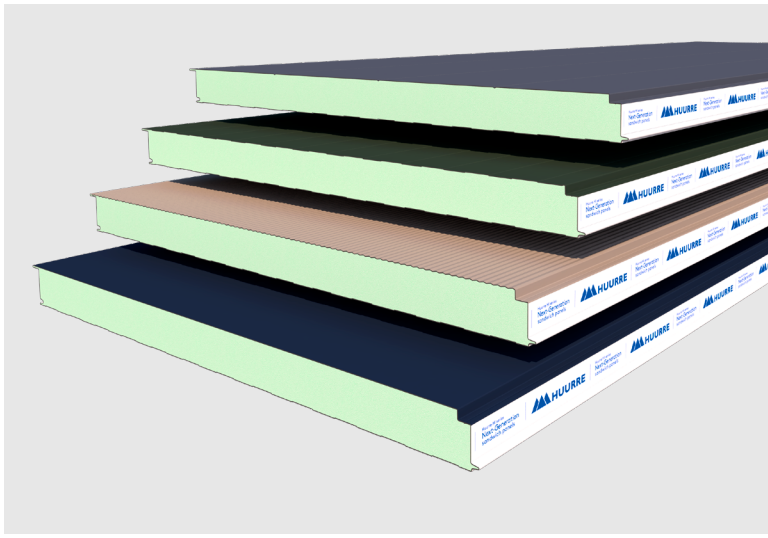
HI-ST Architectural panel range

DATA SHEET

High-performance insulating panels for facades and partitions, with various finishing options



- Rigid insulating core with high thermal performance (declared thermal conductivity of only 0.022 W/mK).
- Lightweight enclosure with the possibility of vertical or horizontal mounting. Also suitable for ceilings and partitions.
- Structural steel sheets with four available finishes and different highly durable coating options.
- Cerramiento ligero con posibilidades de montaje en vertical o en horizontal.
- No absorbe agua, manteniendo sus prestaciones a lo largo de toda su vida útil, y no se ve afectado por agentes biológicos.
- Calidad y seguridad, garantizada y certificada.

CE AENOR AISLANTE TÉRMICO 020/003381 020/003382

HUURRE

HI-ST Architectural panels

Insulating panels for facades and partitions

Description and applications

Sandwich panel with metal faces and rigid insulating core.

Thanks to its hidden fastenings, it provides a finish with great architectural value.

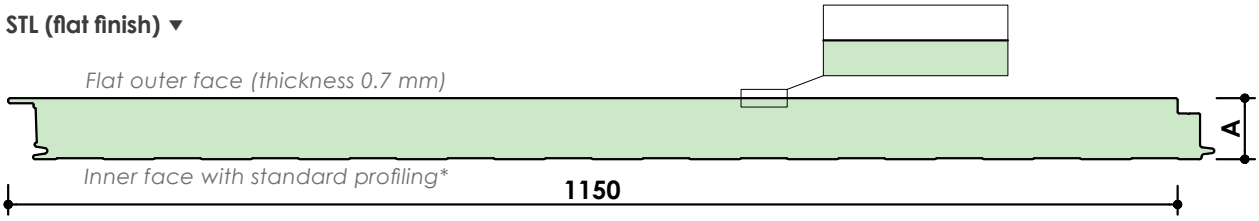
The HI-ST range of panels is available with two insulating cores: PIR (HI-PIR ST) or PIRM (HI-PIRM ST).

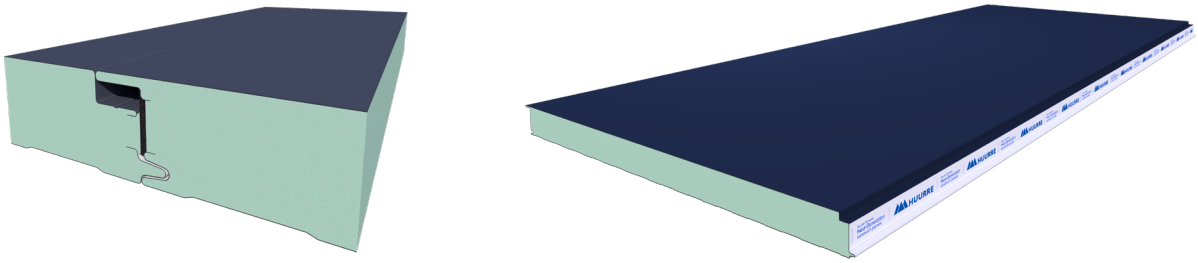
Available in four different finishes and various thicknesses, coatings and colors.

Insulating facades for industrial, residential, commercial buildings and sports facilities, as well as for ceilings and partitions.

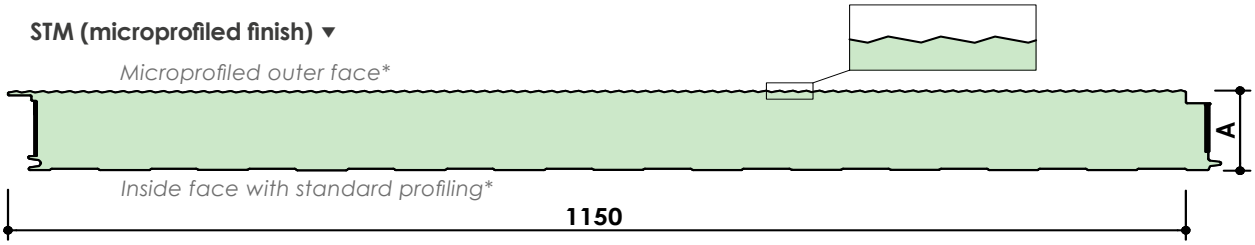
Finish options

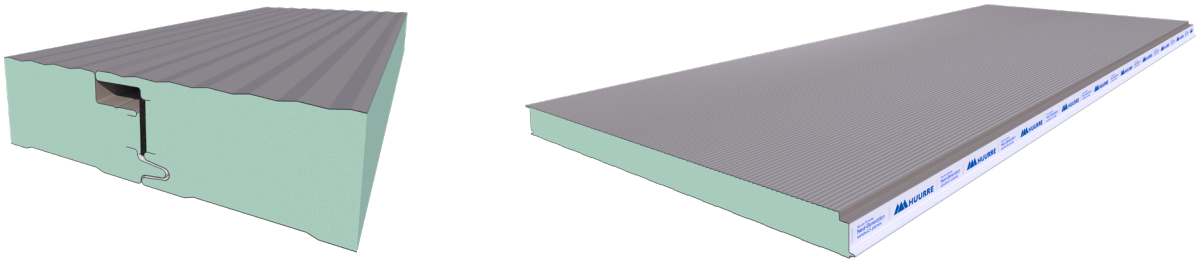
STL (flat finish) ▼





STM (microprofiled finish) ▼

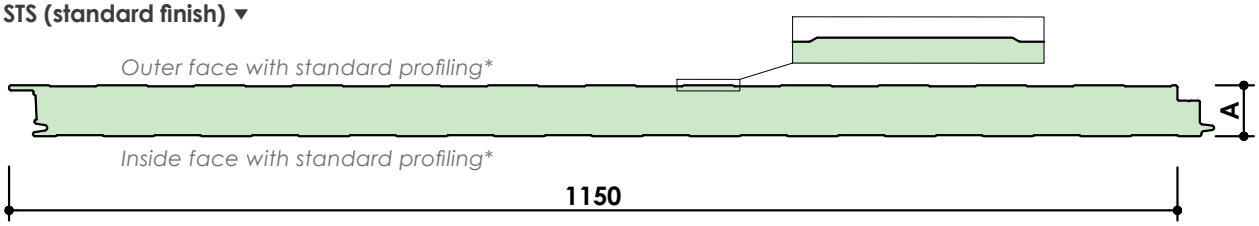


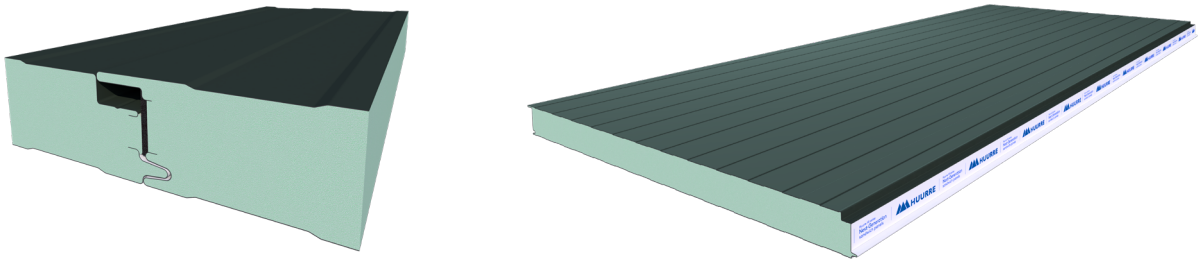


HI-ST Architectural panels

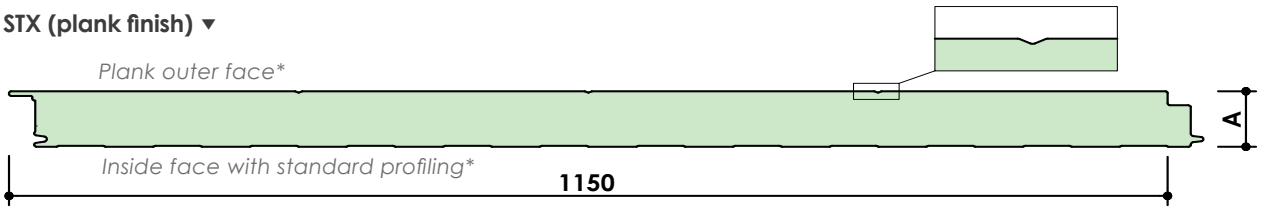
Insulating panels for facades and partitions

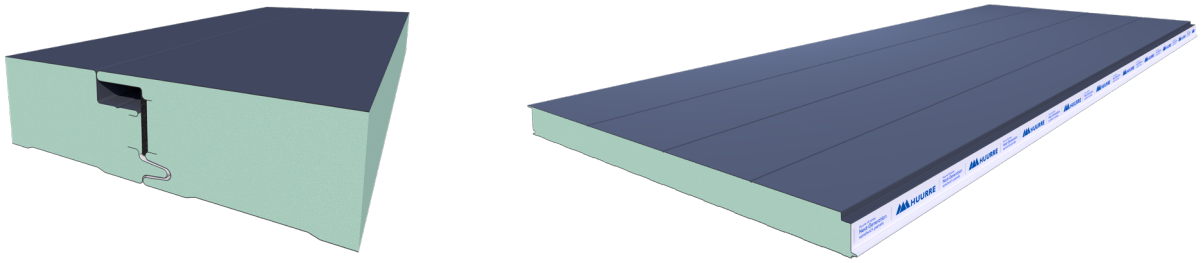
STS (standard finish) ▼





STX (plank finish) ▼





(*) Standard thickness 0.5 mm. Other thicknesses on demand.

Components

Insulating core

Rigid polyisocyanurate foam (PIR / PIRM) continuous injection.

Steel facing

Cold-profiled sheet from a reel of type S220GD structural steel of certified quality.

Flat outer face (STL), microprofiled (STM), standard profiling (STS) or plank (STX). All panels of the range have either standard profiling finish or flat finish in the inner face.

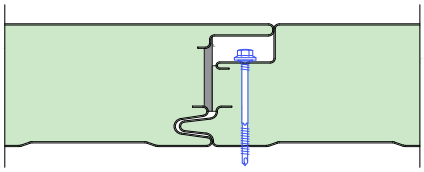
Standard sheet thicknesses: Flat outer face 0.7 mm for STL, and 0.5 mm for STM, STS and STX. Inner face 0.5 mm. Other thicknesses on demand.

Applicable standards

Hot-galvanised sheet according to EN 10346 and organic coatings according to EN 10169.

Hidden joint

Tongue and groove joint that hides the panel fastening to the load-bearing structure and protects the screw head and increases useful lifetime.



Water permeability*: Class A (watertight joints up to pressures of 1,200 Pa). Class A is the best classification according to EN 12865:2002 standard, for demanding applications with heavy rain and strong winds.

Air permeability*: Permeability of 0.00 $m^3/h \cdot m^2$ at 50 Pa for HI-PIR ST panels with seal and polyethylene foam.

(*) Applies to thicknesses equal to or greater than 60mm.

HI-ST Architectural panels

Insulating panels for facades and partitions

Dimensions, masse and thermal properties

Useful width	1.150 mm						
Manufacturing length	2.0 to 13.5 m						
	13.5 to 16 m (special transport)						
Fresh thermal conductivity	0.020 W/mK						
Declared thermal conductivity[1]	0.022 W/mK (considering an aged core)						
Insulating core density	PIR: 40 (± 5) kg/m³ | PIRM: 40 (-2/+5) kg/m³						
Thickness (A)	35	40	50	60	80	100	(mm)
Masse[2,3]	9.78	9.98	10.38	10.78	11.58	12.38	(kg/m²)
Thermal transmittance[1,2] **(PIR/PIRM)**	0.65	0.55	0.44	0.36	0.27	0.22	(W/m²K)
Thermal resistance[2,3] **(PIR/PIRM)**	1.72	1.94	2.40	2.85	3.76	4.67	(m²K/W)

NOTES: (1) Thermal transmittance determined according to UNE-EN 14509:2014 standard, considering the effect of aging of the insulating core, and certified by the AENOR N mark.
(2) For 0.5/0.5mm sheets (int/ext). Consult for other options.

Available coatings

Table of coatings choice to guarantee the maximum durability of the panel, considering the classification of CPI1 and RC1 suitable for healthy environments, and CPI5 and RC5 suitable for very aggressive environments.

	Outdoor environment								**Indoor environment**			
		Urban/ Industrial		**Marine**			**Resistance**		**Non-agressive environments**			
	Rural without pollution	Moderate	Severe	Between 3 and 20 km	< 3 km (1)	Mixed	Outdoor corrosion category	UV	Low humidity	Medium humidity	**Aggressive and/ or very humid environments**	**Resistance** Indoor corrosion category
E5001	⊗	⊗	⊗	⊗	⊗	⊗	NA	NA	✓	⊗	⊗	!
Polyester 25 µ	✓	✓	!	!	⊗	⊗	!	!	✓	⊗	Ai3[2]	CPI2
Polyester plus 25 µ	✓	✓	!	✓	⊗	⊗	RC3	RUV2	✓	✓	Ai3	CPI3
HDS 35 µ	✓	✓	!	✓	!	!	RC4	RUV4	✓	✓	Ai3	CPI4
PVDF 35 µ	✓	✓	!	✓	!	!	RC4	RUV4	✓	✓	Ai3	CPI4
HDX 55 µ	✓	✓	✓	✓	✓	!	RC5	RUV4	✓	✓	Ai3	CPI4
PET 50 µ	⊗	⊗	⊗	⊗	⊗	⊗	NA	NA	✓	✓	Ai5	CPI5

✓ Suitable coating ⊗ Unsuitable coating ! Check with HUURRE IBÉRICA (1) Please contact us for distances < 300 m. (2) Check conditions.

(NA) Non applicable. Consult with our Technical Department for other coatings.

HI-ST Architectural panels

Insulating panels for facades and partitions

Reaction to fire

Fire reaction classification

EUROCLASS B-s1,d0

B:	Very limited contribution to fire and will not lead to flashover[1]
s1:	Little or no smoke production
d0:	No flaming droplets / particles

(1) Best classification possible for an organic type of material.

Reaction to fire determined according to UNE-EN 13501:1-2019 standard. In the case of HI-PIRM ST thicknesses 35, 40 and 50mm, in accordance with UNE-EN 13501-1:2017+A1:2010 standard (tested under the name "HI-PIR ST").

Fire certified according to FM APPROVALS standard 4880 (only HI-PIRM ST panels)

FM APPROVED

FM 4880 Class 1* Fire resistance of building panels or interior finishing materials

The FM 4880 test program ensures good fire performance of the HI-PIRM ST panel in interior partition applications. It does not include the requirements for facades according to the FM 4881 standard.

(2) Subject to installation conditions. Consult coating conditions with our technical department.

Environmental Product Declaration

The HI-ST panel has an environmental product declaration according to the European standard EN 15804:2012+A2:2019/AC:2021.

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Table of maximum spans

The following tables indicate the maximum distance between supports (m) depending on the thickness of the panel (mm) and the characteristic uniformly distributed pressure load (without factoring) in daN/m². Tables calculated according to the European Standard EN 14509:2013 for SLS and ULS. Consult us in case of upward loads (suction).

TWO SUPPORTS

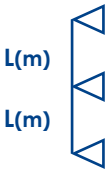
L(m)

Thickness	Pressure loads (daN/m²) 50	75	100	125	150	175	200
35	3.74	3.22	2.84	2.55	3.32	2.06	1.80
40	3.81	3.60	3.17	2.84	2.59	2.31	2.02
50	4.72	4.28	3.76	3.39	3.10	2.86	2.56
60	5.59	4.91	4.33	3.90	3.58	3.31	3.09
80	7.15	6.04	5.23	4.68	4.27	3.95	3.70
100	8.39	6.99	6.06	5.42	4.94	4.58	4.28

HI-ST Architectural panels

Insulating panels for facades and partitions

THREE SUPPORTS



Thickness	Pressure loads (daN/m²)						
	50	75	100	125	150	175	200
35	2.76	2.47	2.29	2.15	2.05	1.97	1.80
40	3.43	3.02	2.77	2.59	2.43	2.31	2.02*
50	4.25	3.70	3.33	3.07	2.87*	2.72*	2.56*
60	4.92	4.22	3.77	3.47	3.25*	3.07*	2.93*
80	6.17	5.21	4.65	4.26*	3.98*	3.76*	3.58*
100	8.05	6.75	5.97*	5.42*	4.94*	4.58*	4.28*

1 daN/m² ≈ 1 kp/m²

NOTES: Support width = 50mm. (*) Support width > 50mm.
Tables for dark-coloured panels. Consult for light-colored panels. Minimum external temperature considered -10ºC.

Manufacturing quality and standards

The HI-ST panel range is manufactured using top-quality raw materials, together with automatic CIM production lines, which are continually monitored and subject to strict quality assurance controls to guarantee compliance with all HUURRE's high quality standards. The panel undergoes tests for bending, compression and traction, thermal conductivity, core density, accelerated ageing, and dimensional checks, among others.

HI-PIR ST and HI-PIRM ST panels certifications

CE marking according to UNE-EN 14509 standard.

Product certified with the "N" quality assurance stamp of AENOR. (Certificate 020/003381 for PIR and 020/003382 for PIRM).

Avis Technique d'Application CSTB- HI-ST 2.3/18-1795_V2, under the name "Facadiso / HI-PIR ST".

Applies to HI-PIR ST in thicknesses 40, 60, 80 and 100mm. Please consult conditions.

Certifications for HI-PIRM ST - FM APPROVALS

Las homologaciones de aseguradoras son regímenes de pruebas a gran escala que proporcionan pruebas objetivas realizadas por terceros, respaldadas por auditorías de vigilancia de fábrica periódicas para verificar el cumplimiento. Las homologaciones de las aseguradoras están sujetas al grosor del panel, el método de montaje y el revestimiento de acero.

Additional features

Resistance to biological agents

HUURRE panels, thanks to the closed structure of the insulating core, are resistant to attack by fungi, moulds and other deteriorating biological agents.

Water absorption

The insulating core in the panel does not absorb water and thus maintains its performance throughout its lifetime. For this reason, they can be installed in adverse weather conditions.

Water-tightness

The careful tongue-and-groove design of the panel's hidden joints is certified by an external laboratory. Regarding the impermeability requirement of CTE enclosures, in sections 5.2.6, 5.2.7 and 5.2.8 of EN 14509:2013, it is determined that sandwich panels with metal faces are considered watertight, air-tight and water vapor tight.
These parameters are only relevant for joints and fixings depending on the installation.

Sustainability

Both the steel and their metallic and organic coatings are free of SVHC (Substances of Very High Concern), in conformity with the requirements of the European REACH regulation. The insulating core of the panel is injected using a process that does not release HCFC type gases.

Warranty

HUURRE's HI-ST panel range is guaranteed for up to 25 years for the operational performance of the panel and up to 35 years for its coatings. Conditions apply.

Guaranteed and certified quality

HUURRE's Integrated Quality Management System, in accordance with ISO 9001, is certified by AENOR and IQNet (certificate ER-0947/1998).

HUURRE's Environmental Management System, in accordance with ISO 14001, and the Occupational Health and Safety System, in accordance with ISO 45001, are certified by AENOR and IQNet (certificates GA2003/0091 and ES-SST-0035/2010 respectively).

The Compliance Management System, in accordance with ISO 37301:2021, is certified by Advanced Certification Ltd.

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