

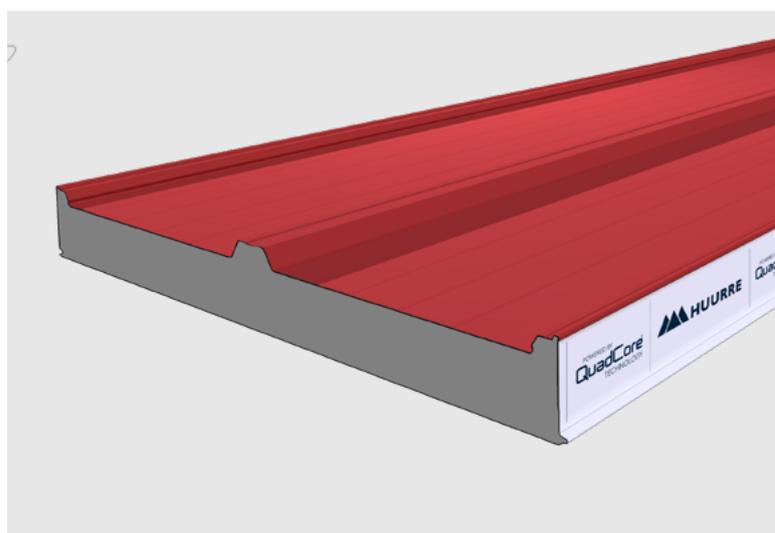
HI-QuadCore 2.0 CT

Placa de isolamento para telhados de alto desempenho com junta oculta e núcleo isolante QuadCore® 2.0



POWERED BY
QuadCore™
TECHNOLOGY

- ▶ High thermal efficiency. The QuadCore® 2.0 insulation core has a high thermal performance, with an old thermal conductivity of just 0.019 W/mK.
- ▶ The HI-QuadCore 2.0 CT range of panels is FM Approved certified, demonstrating limited fire spread and contribution in the event of a fire, meaning that special protection such as sprinklers may not be required, provided that occupancy allows.
- ▶ Design of longitudinal joints and concealed fixings by means of flashings to guarantee a high level of watertightness.
- ▶ Possibility of overlapping panels for roofs over 16 metres long.
- ▶ Structural steel sheets with different coating options for high durability.
- ▶ It does not absorb water, maintaining its performance throughout its useful life, and is not affected by biological agents.
- ▶ Quality and safety, guaranteed and certified.



CE

 **HUURRE**

HI-QuadCore 2.0 CT

Roof insulation panel with concealed joint



Description and applications

Sandwich panel for roofs with QuadCore® 2.0 rigid insulating core and external faces of structural steel profiled sheet.

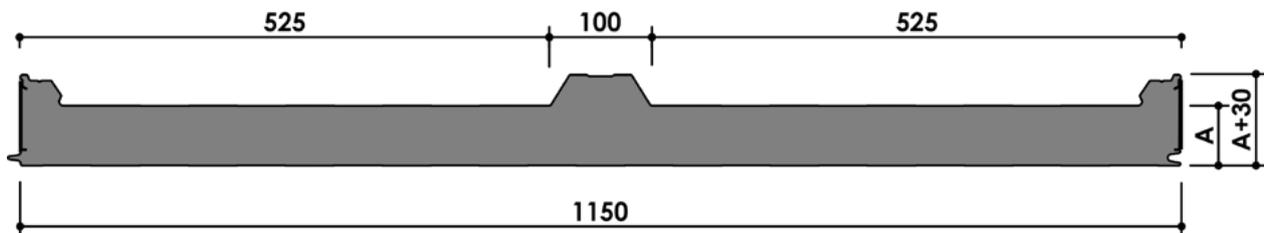
Lightweight enclosure with high insulating power, its tongue and groove sealing joints guarantee the high watertightness of the enclosure.

Integrated skylights available: COMPLET and TZ-CLIC. The fire performance of the entire HI-QuadCore® 2.0 CT panel range is certified by FM Approvals in accordance with FM 4471.

Thermally efficient roofing solutions with high aesthetic value and fast installation, suitable for industrial, commercial, residential, agricultural buildings and public facilities.



Dimensions, Mass and thermal performance



Useful width	1,150 mm						
Production length	2.0 a 13.5 m 13.5 a 16.0 m (special transport)						
Declared thermal conductivity¹	0.019 W/mK (in view of the ageing core)						
Insulation core thickness (A)	30	40	50	60	80	120	(mm)
Mass²	9.81	10.21	10.61	11.01	11.81	13.41	(kg/m ²)
Thermal transmittance^{1,2}	0.56	0.44	0.35	0.30	0.23	0.15	(W/m ² K)
Thermal resistance²	1.80	2.33	2.85	3.38	4.43	6.54	(m ² K/W)

NOTES: (1) Thermal transmittance determined according to UNE-EN 14509:2014, considering the effect of the ageing of the insulation core.

(2) For 0,0/0,5 mm sheets (int/ext).

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The QuadCore® 2.0 core benefits



High thermal efficiency

The QuadCore® 2.0 insulation core has a high thermal performance, with an aged thermal conductivity of only 0.019W/mK.



High fire protection

The QuadCore® 2.0 core has an efficient fire performance, providing increased protection in case of fire.



High environmental sustainability

The use of Huurre's HI-QuadCore 2.0 range of panels reduces operational energy losses and reduces transport emissions to the environment.



High durability

As it does not absorb moisture, the performance of the panel does not diminish over time, providing high durability.

Reaction to fire

Reaction to fire classification

EUROCLASS B-s1,d0

B: Very limited contribution to the fire and does not lead to flashover ¹

s1: Reduced or no smoke generation

d0: No inflamed droplets / particles

(1) Best possible classification for an organic type material.
Reaction to fire determined in accordance with UNE-EN 13501:1-2019.

Classified as Broof (t1, t2, t3) according to standard according to UNE-EN 13501-5:2019, which classifies construction products with regard to non-fire spread and behaviour in the event of an external fire.

International FM Approvals Certification

The HI-QuadCore 2.0 CT panel range is FM APPROVED in accordance with the following standard, indicating high performance and limited fire spread in the event of a fire.

FM 4471 Class 1* – Panel Roofing Systems

Achieving the FM 4471 certification requires successfully passing fire performance tests of the roof panel system from both the internal and external sides, together with mechanical and functional resistance tests.

The HI-QuadCore 2.0 CT panel is listed in RoofNav, certifying that the roofing solution meets the stringent FM Approvals requirements for fire performance, wind uplift, loads and hail resistance.

(*) Subject to installation conditions and coatings. Please consult our technical department.

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Components

Insulating core

Espuma rígida QuadCore® 2.0 con microceldas, inyectada en continuo, mediante un proceso libre de gases tipo HCFCs.

Outer sides

Cold-formed sheet from structural steel coil type S220GD, certified quality.

Top side ribbed, bottom side with standard profiling. Standard sheet thickness: 0.5 mm (other thicknesses on request).

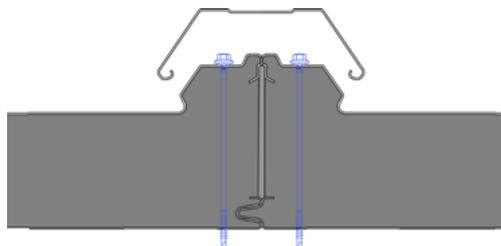
Implementing legislation

Hot-dip galvanised sheet metal according to EN 10346. Organic coatings according to EN 10169.

Coatings

The HI-QuadCore 2.0 CT panel can be manufactured with various coatings to ensure maximum durability, depending on the intended environment and conditions of use (see coatings datasheet).

Joint detail



Quality and manufacturing standards

FM APPROVED Mark, by FM Approvals



FM APPROVED certifications, issued by FM Approvals, are based on small- and large-scale tests conducted under reference scenarios, supported by periodic factory surveillance audits to verify consistent compliance with regulatory requirements.

These certifications are subject to factors such as installation instructions, accessories, coatings and panel orientation. Please consult the conditions of each certification with our technical department.



CE marked in accordance with EN 14509:2013.

HI-QuadCore 2.0 CT

Roof insulation panel with concealed joint



Mechanical resistance and usage tables

The following tables show the maximum permissible distances between supports (m) depending on the thickness of the panel (mm) and the uniformly distributed characteristic pressure or suction load (daN/m²). Tables calculated according to EN 14509:2013, both for SLS and ULS in wall position. Consult us for the case of suction loads.

TWO SUPPORTS

		Pressure loads (daN/m ²)						
		50	75	100	125	150	175	200
Thickness	30	2,35	1,89	1,59	1,39	1,25	1,13	1,05
	40	2,83	2,25	1,88	1,61	1,42	1,27	1,16
	50	3,35	2,66	2,21	1,89	1,64	1,46	1,31
	60	3,88	3,10	2,58	2,20	1,91	1,68	1,50
	80	4,77	3,97	3,34	2,87	2,51	2,21	1,97
	120	6,30	5,52	4,72	4,14	3,68	3,31	3,00

1 daN/m² ≈ 1 kg/m²

THREE SUPPORTS

			Pressure loads (daN/m ²)						
			50	75	100	125	150	175	200
Thickness	30	2,35	1,89	1,59	1,39	1,25	1,13	1,05	
	40	2,61	2,15	1,86	1,61	1,42	1,27	1,16	
	50	2,75	2,26	1,95	1,73	1,57	1,45	1,31	
	60	2,87	2,36	2,03	1,80	1,63	1,50	1,40	
	80	3,10	2,54	2,19	1,94	1,75	1,61	1,49	
	120	3,47	2,86	2,46	2,18	1,97	1,80	1,66	

1 daN/m² ≈ 1 kg/m²

NOTES: According to EN 14509, Combination coefficients Table E.6. Load factors Table E.8.

HI-CT (0.5/0.5) – External roof 0°.

Very light colours: Text Summer = +55 °C; Tint Summer = +25 °C; Text Winter = -10 °C; Tint Winter = +20 °C.

The tables provide allowable spans in metres.

Fixings are not considered.

Support width is not considered.

Support width > 50 mm.

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Roof insulation panel with concealed joint



TWO SUPPORTS

		Suction loads (daN/m ²)						
		50	75	100	125	150	175	200
Thickness	30	3,23	2,52	2,04	1,71	1,51	1,35	1,23
	40	3,77	3,13	2,51	2,10	1,81	1,58	1,42
	50	4,33	3,60	3,04	2,54	2,17	1,89	1,67
	60	4,90	4,06	3,54	3,00	2,58	2,25	1,98
	80	6,03	4,97	4,28	3,78	3,38	2,99	2,66
	120	7,80	6,16	5,26	4,66	4,24	3,91	3,65

1 daN/m² ≈ 1 kg/m²

THREE SUPPORTS

			Suction loads (daN/m ²)						
			50	75	100	125	150	175	200
Thickness	30	3,02	2,26	1,88	1,64	1,47	1,35	1,23	
	40	3,31	2,44	2,00	1,73	1,55	1,41	1,30	
	50	3,60	2,61	2,12	1,83	1,62	1,47	1,36	
	60	3,88	2,78	2,25	1,92	1,70	1,54	1,41	
	80	4,43	3,12	2,49	2,11	1,86	1,67	1,52	
	120	5,48	3,74	2,95	2,47	2,16	1,92	1,74	

1 daN/m² ≈ 1 kg/m²

NOTES: According to EN 14509. Combination coefficients Table E.6. Load factors Table E.8.

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The tables provide allowable spans in metres.

Fixings are not considered.

Support width is not considered.

Support width > 50 mm.

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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 does not absorb water, thus maintaining its thermal performance throughout its useful life. It can therefore be installed in adverse weather conditions.

Watertightness

The careful tongue and groove design of the panel's concealed joints guarantees absolute watertightness against rainwater. With regard to the watertightness requirement of the CTE, 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, airtight and water vapourtight, these parameters being relevant only in the joints and fixings depending on the installation.

Sustainability

Both the steel and its metallic and organic coatings are free of SVHC ('Substances of Very High Concern'), in compliance with the requirements of the European REACH regulation.

The insulating core of the panel is injected using a process that does not release HCFCs.

The QuadCore® 2.0 insulating core contains 7.90% post-consumer recycled plastic (rPET) in its formulation. This is equivalent to the reuse of approximately 105 rPET plastic bottles of 1.5 litres per cubic metre (m³) of insulating core manufactured, based on a reference weight of 31 g per standard non-reusable bottle.



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 ESSST-0035/2010 respectively).

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



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