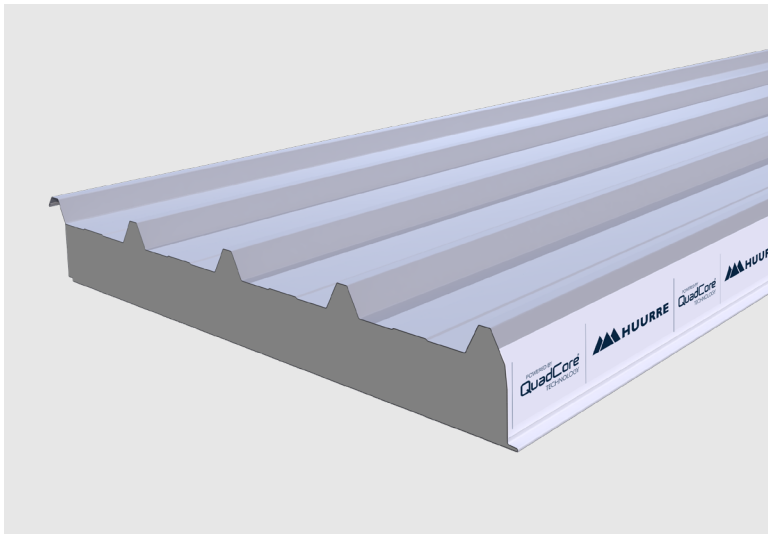
HI-QuadCore 2.0 XT

DATA SHEET

QuadCore® 2.0 high-performance roof insulation board and insulation core

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.
- Panel with quick-assembly longitudinal overlapping joint design ensures a high level of watertightness.
- Possibility of overlapping panels for roofs longer than 16 m.
- 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.

CE

HUURRE

HI-QuadCore 2.0 XT

High-performance insulation panel

Description and applications

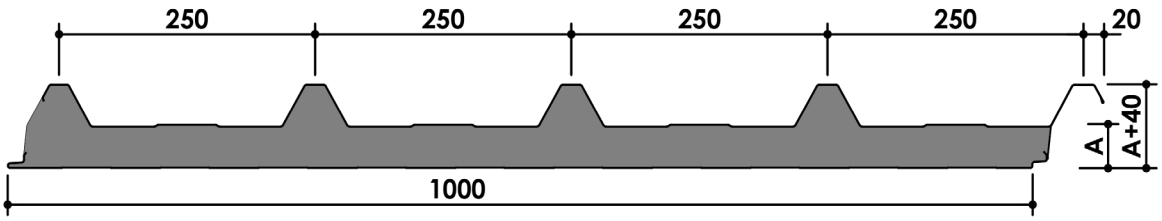
Sandwich panel for roofs with QuadCore® 2.0 rigid insulating core and external faces of structural steel profiled sheet.

Lightweight enclosure with high insulating power, its interlocking joints and overlapping of the top sheet guarantee a high watertightness of the enclosure.

Available in various steel thicknesses, coatings and colours.

Thermally efficient roofs, of high aesthetic value and quick execution for industrial, commercial, residential, agricultural and public buildings.

Dimensions, mass and thermal performance



Useful width	1.000 mm							
Production length	2,0 a 13,5 m							
	13,5 a 16,0 m (special transport)							
Declared thermal conductivity[1]	0.019 W/mK (in view of the ageing core)							
Insulation core thickness (A)	30	40	50	60	80	100	120	(mm)
Mass[2]	9,64	10,04	10,44	10,84	11,64	12,44	13,24	(kg/m^2)
Thermal transmittance[1,2]	0,56	0,44	0,35	0,30	0,23	0,18	0,15	(W/m^{2}K)
Thermal resistance[2]	1,80	2,33	2,85	3,38	4,43	5,49	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 0.4/0.5 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 leads 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.

Reaction to fire according to the <FM Approvals> standard (only for the HI-QuadCore 2.0 XT panel)

FM APPROVED

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

FM 4471 Class 1* Panel roofs

Test programme FM 4880 assess the fire performance of HI-QuadCore 2.0® XT panel against the highest fire protection requirements.

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

Components

Insulating core

QuadCore® 2.0 rigid foam with microcells, injected continuously, using an HCFC-free process.

Outer sides

Cold-formed sheet metal from structural steel coil type S220GD, certified quality.top side ribbed, bottom side slightly profiled.standard sheet thicknesses: standard 0.5/0.4mm (ext/int)

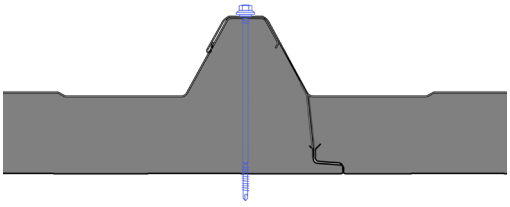
Implementing legislation

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

Coatings

The HI-QuadCore 2.0 XT 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



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Mechanical resistance and usage tables

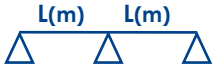
The following tables show the maximum permissible distances between supports (m) depending on the thickness of the panel (mm) and the uniformly distributed characteristic pressure or suction load (daN/m2). Tables calculated according to EN 14509:2013, both for SLS and ULS in wall position. Consult us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

TWO SUPPORTS

Thickness	Pressure loads (daN/m²) 50	75	100	125	150	175	200
30	3.09	2.53	2.17	1.92	1.74	1.59	1.48
40	3.49	2.83	2.41	2.12	1.90	1.72	1.59
50	3.92	3.17	2.69	2.34	2.08	1.88	1.72
60	4.37	3.54	2.99	2.60	2.30	2.07	1.88
80	5.10	4.30	3.64	3.17	2.80	2.50	2.26
100	5.82	5.04	4.30	3.75	3.32*	2.98*	2.69*
120	6.51	5.76	4.93*	4.32*	3.85*	3.47*	3.14*

1 daN/m² ≈ 1 kg/m²

THREE SUPPORTS



Thickness	Pressure loads (daN/m²) 50	75	100	125	150	175	200
30	3.10	2.53	2.17	1.92	1.74*	1.59	1.48*
40	3.49	2.83	2.41	2.12*	1.90*	1.72*	1.59*
50	3.92	3.18*	2.69*	2.34*	2.08*	1.88*	1.72*
60	4.08	3.35*	2.88*	2.56*	2.30*	2.07*	1.88*
80	4.37	3.58*	3.08*	2.73*	2.46*	2.26*	2.10*
100	4.64*	3.79*	3.25*	2.88*	2.60*	2.38*	2.21*
120	4.85*	3.97*	3.42*	3.02*	2.73*	2.49*	2.31*

1 daN/m² ≈ 1 kg/m²

NOTES: No minimum support width is taken into account.
(*) Support width > 50 mm
Tables valid for light-coloured panels. Please consult us in the case of dark panels.
Minimum outdoor temperature considered -10°C.

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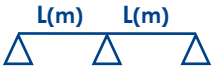
High-performance insulation panel

TWO SUPPORTS

Thickness	Suction loads (daN/m²) 50	75	100	125	150	175	200
30	3,91	3,20	2,66	2,30	2,04	1,85	1,70
40	4,37	3,68	3,03	2,60	2,29	2,05	1,87
50	4,86	3,96	3,45	2,95	2,58	2,29	2,07
60	5,17	4,17	3,61	3,25	2,90	2,57	2,31
80	5,81	4,65	4,00	3,58	3,28	3,05	2,86
100	6,41	5,10	4,38	3,90	3,56	3,30	3,10
120	6,97	5,52	4,72	4,20	3,83	3,55	3,32

1 daN/m² ≈ 1 kg/m²

THREE SUPPORTS



Thickness	Suction loads (daN/m²) 50	75	100	125	150	175	200
30	4,16	3,20	2,66	2,30	2,04	1,85	1,70
40	4,60	3,47	2,86	2,48	2,22	2,03	1,87
50	4,89	3,68	3,01	2,60	2,31	2,10	1,94
60	5,17	3,89	3,16	2,71	2,40	2,18	2,00
80	5,81	4,30	3,46	2,94	2,59	2,34	2,14
100	6,41	4,71	3,75	3,17	2,78	2,49	2,27
120	6,97	5,10	4,03	3,39	2,96	2,65	2,41

1 daN/m² ≈ 1 kg/m²

NOTES: No minimum support width is taken into account.
(*) Support width > 50 mm
Tables valid for light-coloured panels. Please consult us in the case of dark panels.
Minimum outdoor temperature considered -10°C.

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High-performance insulation panel

Quality and manufacturing standards

HI-QuadCore 2.0 XT certified panel

CE marked in accordance with EN 14509:2013.

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 insulation core formulation incorporates approximately 30% post-consumer PET recycled plastic. This means that for every m3 of Quadcore 2.0 foam manufactured, Huurre recycles the equivalent of 120 1.5 litre RPET recycled plastic bottles.

Warranty

The HUURRE HI-QuadCore 2.0 XT panel is guaranteed for up to 25 years for the functional performance of the panel and up to 35 years for its coatings. Please consult conditions.

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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