HI-QuadCore 2.0 FK DUAL

DATA SHEET

High-performance insulating panel with QuadCore 2.0 insulating core for partitioning

POWERED BY QuadCore™ TECHNOLOGY

- High fire resistance, suitable as a fire compartmentation element in negative temperature chambers or chambers with high temperature gradients.
- High mechanical resistance performance and suitable for outdoor use.
- New joint design, which provides better panel and installation performance.
- Four finish options and a wide range of coatings for high durability.
- No water absorption, maintains its performance throughout its useful life, and it is not affected by biological agents.

CE

HUURRE

HI-QuadCore 2.0 FK DUAL

Insulating panel for compartmentalisation

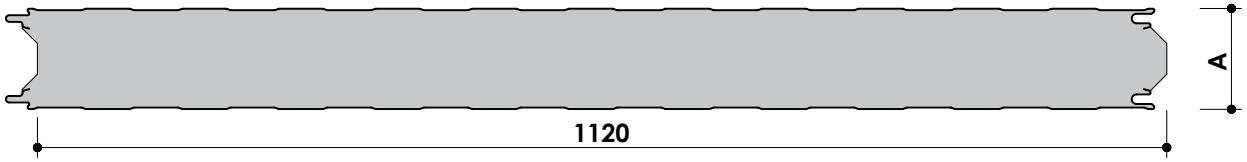
Description and applications

Insulating panel with new QuadCore 2.0 rigid insulation core, which provides high thermal insulation, high fire resistance and durability.

Certified panel for use both indoors and outdoors, designed for applications requiring a high degree of insulation and watertightness: food industry, cold storage rooms, laboratories, clean rooms, etc.

The HI-QuadCore 2.0 FK DUAL panel is suitable as a fire compartmentation element in case of fire in freezing and refrigeration facilities, logistics and food industry. The fire resistance achieved depends on the thickness of the panel.

Dimensions, mass and thermal properties



Useful width		1,120 mm				
Manufacturing lenght	**Standard**	2.0 a 13.5 m				
	Special	13.5 a 18 m (special transport)				
Type of joint		FK				
Declared thermal conductivity		0.019 W/mK (considering an aged core)				
Total thickness (A)	80	100	150	200	230	(mm)
Mass[1]	12.40	13.34	15.69	18.04	19.45	(kg/m^2)
Thermal transmittance[1,2]	0.24	0.19	0.13	0.09	0.08	(W/m^2K)
Thermal resistance[2]	4.33	5.38	8.01	10.64	12.22	(m^2K/W)

NOTE: (1) For 0.5/0.5mm (int/ext) and 1,120 mm wide sheets. Please consult us for other options.

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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 thermal efficiency

The QuadCore 2.0 core has a higher fire performance, providing a better protection in case of fire.

High environmental sustainability

The use of Huurre's range of HI-QuadCore 2.0 panels can enable reduce operational enery loss and reduces associated transport emissions.

High durability

By not absorbing moisture, the performance of the panel does not diminish over time, providing high durability.

Components

Panel facings

Cold profiled sheet from structural steel coil type S220GD, of certified quality, hot galvanized according to EN 10346 and EN 10169. Standard sheet thicknesses: 0.5/0.5 mm (interior/exterior).

It is essential to respect the orientation of the panel faces: outer face with transparent film, inner face with blue film.

Insulating core

Rigid QuadCore foam, injected continuously, through a process that does not release HCFC-type gases.

Finishes

Manufacture with four finishing options: standard in slightly corrugated finish, or smooth, semi-smooth or micro-profiled.

Fire safety

Reaction-to-fire classification

EUROCLASS B-s1,d0

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

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

Reaction to fire determined according to UNE-EN 13501-1:2019.

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Fire resistance EI (1) (min)

Fire resistance table, prepared in accordance with classification standard EN 13501-2:2023, with no need for additional sealing at the joint, unless specifically indicated (*). Consult the specific installation conditions for each solution.

Panel thickness (mm)	Construction unit (panel orientation)	Fire resistance classification	Integrity (E) / thermal insulation (I)	Maximum span (m)
80-230	Wall (Panel in vertical orientation)	EI 30	46/35	3
80-230		EI 20	46/35	7,5[1]
100-230		EI 30	39/35	4
150-230		EI 60	67/67	4
150-230		EI 45	67/67	7,5[1]
200-230		EI 90	93/92	4
200-230		EI 60	93/92	7,5[1]
230		EI 120*	245/136	3
100	Self-supporting roof	EI 30	32 / 32	4
150		EI 45	69 / 58	8

(1) With extension of the application of results in accordance with the EXAP EN 15254-5:2018 standard.

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 load (daN/m2). Tables calculated according to EN 14509:2013, both for SLS and ULS in wall and ceiling position. Please consult our technical department for further information.

Panel in vertical wall position

TWO SUPPORTS

L(m) / Thickness	Pressure loads (daN/m²)						
	50	75	100	125	150	175	200
80	6,55	5,35	4,63	4,14	3,78	3,50	3,28*
100	7,67	6,27	5,43	4,85	4,43	4,10*	3,84*
150	10,37	8,47	7,33*	6,56*	5,99*	5,23*	4,58*
200	11,17	9,12*	7,89*	7,06*	6,45*	5,97*	5,58*
230	11,41	9,32*	8,07*	7,22*	6,59*	6,10*	5,71*

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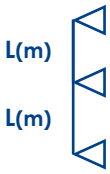
Insulating panel for compartmentalisation

THREE SUPPORTS



Thickness	Pressure loads (daN/m²) 50	75	100	125	150	175	200
80	6,34	5,35*	4,63*	4,14*	3,78*	3,50*	3,28*
100	7,14	6,04*	5,39*	4,85*	4,43*	4,10*	3,84*
150	8,86	7,50*	6,69*	6,14*	5,73*	5,23*	4,58*
200	9,83*	8,34*	7,46*	6,85*	6,41*	5,97*	5,58*
230	10,27*	8,73*	7,82*	7,20*	6,59*	6,10*	5,71*

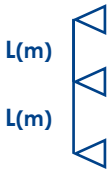
1 daN/m² ≈ 1 kg/m²

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.

TWO SUPPORTS

Thickness	Suction loads (daN/m²) 50	75	100	125	150	175	200
80	5,78	4,72	4,09	3,66	3,34	3,09	2,89
100	6,53	5,33	4,62	4,13	3,77	3,49	3,27
150	8,17	6,67	5,78	5,17	4,72	4,37	4,09
200	9,22	7,53	6,52	5,83	5,32	4,93	4,61
230	9,74	7,95	6,89	6,16	5,62	5,21	4,87

THREE SUPPORTS



Thickness	Suction loads (daN/m²) 50	75	100	125	150	175	200
80	5,78	4,72	4,09	3,66	3,34	3,09	2,89
100	6,53	5,33	4,62	4,13	3,77	3,49	3,27
150	8,17	6,67	5,78	5,17	4,72	4,37	4,09
200	9,22	7,53	6,52	5,83	5,32	4,93	4,61
230	9,74	7,95	6,88	6,16	5,62	5,21	4,87

1 daN/m² ≈ 1 kg/m²

NOTES: No minimum support width is taken into account.
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Panel in ceiling position

TWO SUPPORTS

Thickness	Pressure loads (daN/m²) 50	75	100	125	150	175	200
80	4,32	3,76	3,36	3,02	2,72	2,48	2,27
100	5,14	4,50	4,03	3,61	3,27	2,99	2,75
150	6,97	6,15	5,50	4,95	4,52*	4,16*	3,85*
200	8,57	7,61	6,80*	6,15*	5,64*	5,21*	4,85*
230	9,39	8,37*	7,43*	6,75*	6,23*	5,79*	5,39*

1 daN/m² ≈ 1 kg/m²

THREE SUPPORTS

Thickness	Pressure loads (daN/m²) 50	75	100	125	150	175	200
80	5,47	4,47	3,80	3,31*	2,93*	2,63*	2,39*
100	6,46	5,36	4,58*	4,00*	3,56*	3,21*	2,92*
150	7,88*	6,95*	6,32*	5,60*	5,00*	4,40*	3,93*
200	8,48*	7,67*	7,01*	6,52*	6,13*	5,71*	5,16*
250	8,67*	7,92*	7,30*	6,75*	6,23*	5,81*	5,47*

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 -10ºC.

TWO SUPPORTS

Thickness	Suction loads (daN/m²) 50	75	100	125	150	175	200
80	5,59	4,55	3,89	3,39	3,01	2,72	2,48
100	6,77	5,50	4,66	4,08	3,64	3,29	3,01
150	9,19	7,19	6,11	5,40	4,89	4,50	4,20
200	10,57	8,21	6,95	6,13	5,55	5,11	4,75
230	11,38	8,77	7,40	6,52	5,89	5,42	5,04

1 daN/m² ≈ 1 kg/m²

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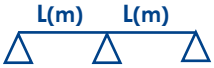
THREE SUPPORTS



Thickness	Suction loads (daN/m²)						
	50	75	100	125	150	175	200
80	6,33	5,01	4,27	3,79	3,30	2,93	2,63
100	7,20	5,68	4,84	4,29	3,89	3,58	3,23
150	9,19	7,19	6,11	5,40	4,89	4,50	4,20
200	10,57	8,21	6,95	6,13	5,55	5,11	4,75
250	11,38	8,77	7,40	6,52	5,89	5,42	5,04

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.

Quality and manufacturing standards

HI-QuadCore 2.0 FK DUAL panel certificates

CE marked according to EN 14509:2013.

Tables of energy loss through the enclosure

The following table shows the energy losses through the cladding (W/m²), depending on the thickness of the panel and the temperature gradient between the two sides of the panel.

Panel thickness (mm)		80	100	150	200	230
U (W/m² °C)		0.25	0.20	0.13	0.10	0.08
Temperature gradient between the two enclosure faces (°C)	10	2.37	1.90	1.26	0.90	0.83
	15	3.56	2.85	1.89	1.35	1.25
	20	4.74	3.80	2.52	1.80	1.66
	25	5.93	4.75	3.15	2.25	2.08
	30	7.11	5.70	3.78	2.70	2.49
	35	8.30	6.65	4.41	3.15	2.91
	40	9.48	7.60	5.04	3.60	3.32
	45	10.67	8.55	5.67	4.05	3.74
	50	11.85	9.50	6.30	4.50	4.15
	55	13.04	10.45	6.93	4.95	4.57
	60	14.22	11.40	7.56	5.40	4.98
	65	15.41	12.35	8.19	5.85	5.40
	70	16.59	13.30	8.82	6.30	5.81
	75	17.78	14.25	9.45	6.75	6.23
	80	18.96	15.20	10.08	7.20	6.64

NOTE: In blue colour, maximum recommended losses through the enclosure in negative chambers (max. 6 W/m²)
In yellow colour, maximum recommended losses through the enclosure in positive chambers (max. 8 W/m²)

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Available coatings

Table of coatings to guarantee a high 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		Healthy Environments			
	Rural without pollution	Moderated	Severe	Between 3 and 20 km	< 3 km (1)	Mixed	External corrosion category	UV	Low humidity	Medium humidity	Aggressive and/ or very humid	Resistance Indoor corrosion category
E5001	⊗	⊗	⊗	⊗	⊗	⊗	NA	NA	✓	⊗	⊗	!
Polyester 25 µ	✓	✓	!	!	⊗	⊗	!	!	✓	⊗	Ai3 (2)	CPI2
Polyester plus 25 µ	✓	✓	!	✓	⊗	⊗	RC3	RUV2	✓	✓	Ai3	CPI3
PVDF 35 µ	✓	✓	!	✓	!	!	RC4	RUV4	✓	✓	Ai3	CPI4
HDX 55 µ	✓	✓	✓	✓	✓	!	RC5	RUV4	✓	✓	Ai3	CPI4
PET 50 µ	⊗	⊗	⊗	⊗	⊗	⊗	NA	NA	✓	✓	Ai5	CPI5
INOX	⊗	⊗	⊗	⊗	⊗	⊗	NA	NA	✓	✓	Ai5	Exc (2)
INOX PVC + PET	⊗	⊗	⊗	⊗	⊗	⊗	NA	NA	✓	✓	Ai6	Exc (2)

✓ Suitable coating ⊗ Unsuitable coating ! Consult HUURRE IBÉRICA (1) Consult for distances <300m (2) Check conditions
(NA) Not applicable (Exc.) Excelent. For other coatings, consult our Technical Department.

Additional features

Resistance to biological agents

HUURRE HI-QuadCore 2.0 FK DUAL panels, thanks to the closed structure of the insulating core, are resistant to attack by fungi, moulds and other deteriorating biologcal agents.

They are therefore suitable for applications requiring a high degree of hygiene and sanitation (food industry, laboratories, etc.).

Water absorption

The QuadCore 2.0 hybrid insulation core does not absorb water, and maintains its insulating capacity throughout its lifetime. It can therefore also be installed in adverse weather conditions.

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 HCFCs.

The QuadCore® 2.0 insulating core contains 8.30% post-consumer recycled plastic (rPET) in its formulation.

This is equivalent to the reuse of approximately 126 1.5-litre rPET plastic bottles per cubic metre (m³) of insulating core manufactured, based on an average 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 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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