Insulated Panels
Australia

K-PIR™ Coldstore Panel

Product Data Sheet



- Industry-Leading Thermal Performance*
- High Environmental Performance
- Industry-Leading Fire Performance*
- Structural and Thermal Performance Warranty

K-PIR™

Formerly known as KS1100/1200CS Coldstore Panel

Why the change? As part of our new K-PIR™ product branding, this product has been renamed. Performance claims have improved via expanded testing, the product remains the same.

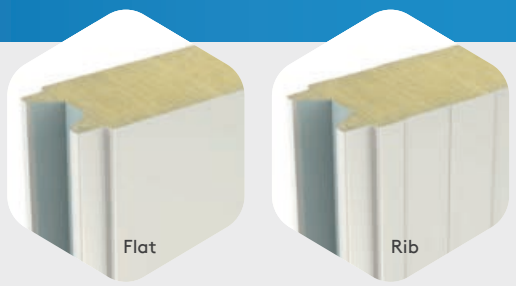
* Industry-leading thermal and fire performance claims are based on comparisons with other PIR foam-cored insulated panels. Performance varies by product, application and system configuration.

Kingspan®

Product Data

OVERVIEW

K-PIR™ Coldstore Panels are designed for use within temperature controlled and hygiene-safe environments such as food processing, deep freeze, cold / chill store and clean rooms for bio-technology and pharmaceutical industries.



APPLICATIONS

High-performance, through-fixed insulated panel systems suitable for internal and external walls and ceilings, including internal 'box within a box' applications. K-PIR™ Coldstore Panels can be installed vertically or horizontally.

- Commercial and logistics
- Data centres
- Industrial and manufacturing

DIMENSIONS, THERMAL PERFORMANCE & WEIGHT

Panel Nominal Thickness (mm)	Declared R-Value (m^2K/W) at 23°C	Product R-Value (m^2K/W) at 23°C	Product U-Value (W/m^2K) at 23°C	Total R-Value (m^2K/W) Wall Application		Total R-Value (m^2K/W) Ceiling Application		Weight* (kg/m^2)	
				Heat Flow Out (Winter)	Heat Flow In (Summer)	Heat Flow Out (Winter)	Heat Flow In (Summer)	1,100 mm cover width	1,200 mm cover width
50	2.20	2.21	0.452	2.47	2.28	2.46	2.32	10.0	10.5
75	3.45	3.46	0.289	3.77	3.48	3.76	3.52	11.0	11.5
100	4.70	4.74	0.211	5.11	4.71	5.10	4.75	11.75	12.5
125	6.00	6.04	0.166	6.47	5.97	6.46	6.01	12.75	13.5
150	7.35	7.37	0.136	7.86	7.25	7.85	7.29	13.75	14.5
200	10.05	10.08	0.099	10.69	9.85	10.68	9.89	15.75	16.5

Declared Thermal Conductivity (λ Value) 0.023 W/mK @23°C (thickness ≤ 50 mm)
Declared Thermal Conductivity (λ Value) 0.022 W/mK @23°C (thickness 75 mm)
Declared Thermal Conductivity (λ Value) 0.021 W/mK @23°C (thickness 100-150 mm)
Declared Thermal Conductivity (λ Value) 0.020 W/mK @23°C (thickness 200 mm)

Declared Product R-Value is calculated in accordance with AS/NZS 4859.1: 2018 as required for compliance to the National Construction Code. The R-Values shown above are the total R-Values for the building element as required by the Energy Provisions of the National Construction Code, calculated in accordance with AS/ NZS 4859.2: 2018. K-PIR™ Coldstore Panels are manufactured, tested and packaged in conformance with AS/NZS 4859.1: 2018.
* Actual weight subject to vary ±10% due to manufacturing and raw material tolerances. Values for standard skin thicknesses shown, for alternative skin thicknesses contact Kingspan.

COVER WIDTHS & AVAILABLE LENGTHS

K-PIR™ Coldstore Panels are available in a choice of two cover widths.

KS1100CS	1,100 mm
KS1200CS	1,200 mm

Standard lengths	2.0 m - 13.7 m
Longer lengths (non-standard)	13.7 m - 16.1 m*
Export of Australia / Sea freight to WA	11.8 m

Note: Additional costs and transport restrictions may apply for non-standard lengths.
* 16.1 m length is not available on 50 mm and 75 mm panels.

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PRODUCT TOLERANCES

Length < 3 m	± 5 mm
Length > 3m	± 10 mm
Cover Width	± 2 mm
Thickness < 100 mm	± 2 mm
Thickness > 100 mm	± 2%
Squareness	≤ 0.6% of width

Flatness

Flatness shall be measured at least 100 mm from the edge of panel and 200 mm from the end of panel.

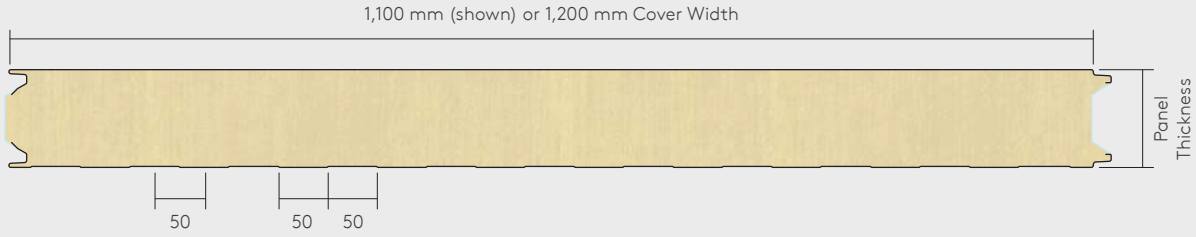
L = 200 mm	0.6 mm
L = 400 mm	1.0 mm
L = 700 mm	1.5 mm
Bowing	2 mm per metre length up to maximum 20 mm



Product Data

PROFILES

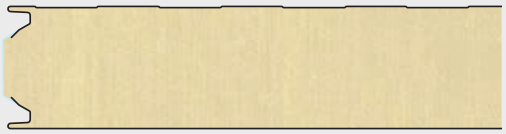
Rib Profile (Internal and External Facing), Flat Profile (Internal and External Facing).



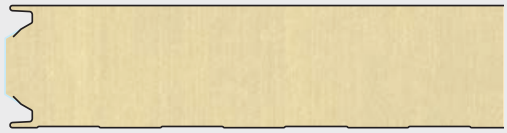
Rib External / Internal Profile



Rib External / Flat Internal Profile



Flat External / Rib Internal Profile



Flat External / Flat Internal Profile



Note: Dimensions are nominal. Actual dimensions will vary due to manufacturing tolerances. Precise dimensions must always be measured from actual samples.

FIXING METHOD

K-PIR™ Coldstore Panels are through-fix.

STRUCTURAL PERFORMANCE

Please contact Technical Services for project specific support on the spanning performance of the K-PIR™ Coldstore Panels.

INSULATION CORE

K-PIR™ Coldstore Panels are manufactured with a polyisocyanurate (PIR) core.

K-PIR™

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FIRE RESISTANCE LEVELS

K-PIR™ Coldstore Panels have been tested in accordance with AS 1530.4 for non-loadbearing walls. Fire Resistance Levels (FRL) are subject to panel thickness, width, orientation, distance between supports (span), method of assembly and detailing as outlined in the fire resistance report FAS251608.

Please contact Technical Services for further information.

Panel Thickness	Orientation	Joint Stitching	Span	FRL
150 mm and 200 mm	Vertical	5.5 x 25 mm self-drilling screws at max 250 mm centres, plus 6 mm bead of Sikaflex-400 within each joint	3.0 m	-/60/45
			6.0 m	-45/45
			7.5 m	-/30/30

Notes:
- Fire Resistance Level results apply to products with panel skins of 0.45 BMT and higher.
- Tables must be read in conjunction with relevant fire resistance report FAS251608.
- Tables provided above apply to the wall system exposed to fire from either direction, but not simultaneously.
- Maximum FRL distance between supports are confirming the maximum from a fire resistance perspective, additional loads anticipated from wind loads or other may result in reductions to maximum allowable distance between supports. Structure has not been included in the tables.

CERTIFICATION & TESTING

Fire Performance

Reaction to Fire

Test	Test Method	Result
Ignitability	AS/NZS: 1530.3: 1999	Ignitability Index: 0
Flame Spread		Spread of Flame Index: 0
Heat Release		Heat Evolved Index: 0
Smoke Release		Smoke Developed Index: 1

Test	Test Method	Result
NCC Group Number in accordance with AS 5637.1: 2015	AS 5637.1: 2015 / ISO 9705 2003	Group 1* - 1,200 mm Group 2 - 1,100 mm
Smoke Growth Rate Index (SMOGRA$_{RC}$) (m^2/S^2 x 1000)		< 100

*Group 1 applies where the panel's internal skin is 0.5 BMT or higher; otherwise Group 2

Insurer Approvals

K-PIR™ Coldstore Panels are tested to:

- FM 4880 Class 1 fire rating of building panels or interior finish materials, unlimited height for thicknesses 50 mm to 200 mm and for panel widths of 1,100 mm and 1,200 mm.
- FM 4881 Class 1 exterior wall systems, unlimited height for thicknesses 50 mm to 200 mm and for panel widths of 1,100 mm and 1,200 mm.

FM approvals are subject to the following certified names:

FM APPROVED

- For 1,100 mm widths: KS1100 CS.
- For 1,200 mm widths: KS1200 CS.

Insurer approvals are large scale testing regimes that provide objective third-party testing, which is underpinned by quarterly, half-yearly and yearly factory surveillance audits (depending on the region) to verify compliance. Insurer approvals are subject to panel thickness, width, orientation, method of assembly, steel coating and manufacturing facility.

Please contact Technical Services for project specific details.



Product Data

ACOUSTIC PERFORMANCE

For a sound transmission reduction, K-PIR™ Coldstore Panels have a weighted sound reduction index (SRI) of R_W = 24 - 26dB*.

Results are based on panels with a similar profile and core material.

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000	R_W
SRI (dB)	20	18	20	24	20	29	39	46	**24**

* Please contact Technical Services for project specific support and product specification where R_W = 26dB is required.

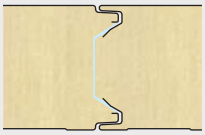
MATERIALS

External Weather Sheet

- G300S steel with Z275 metallic coating in accordance with AS 1397: 2021.
- Paint Coating in accordance with AS / NZS 2728: 2013.

PANEL JOINT

The tongue and groove joint achieves high thermal performance. The panel side joint can accommodate vapour or hygiene safe seals.



COATINGS

External Weather Sheet

- Standard: Coolroom White. Other colours are available on request. Please contact your local area sales manager for further information.

Other Internal Coating Options*

- Kingspan AQUAsafe: The coating has been developed for use as the internal lining of insulated panels to suit environments that require long term corrosion resistance and durability, facilities such as washrooms / fabric manufacturing, agricultural and livestock facilities.
- Kingspan AQUAsafe 25 and Kingspan AQUAsafe 55: The coating has been developed for use as the internal lining of insulated panels to swimming pool internal environments.

* Please contact Technical Services for further information regarding substrates and coatings. Internal coatings subject to availability and panel cover width.



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HEAT TRANSMISSION

A useful guide for panel selection based on the operating temperatures is given below.

Panel selection should be based on the worst case result from both tables. The recommended minimum insulation value for Coldstores is 10 W/m² heat gain.
(See IACSC Code of Practice for the Design of Coldstore Envelopes).

Panel Thickness (mm)	Product R-Value (m²K/W) at 23°C	Temp Difference (°C)																	
		10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
50	2.21	4.52	6.79	9.05	**11.31**	13.57	15.84	18.10	20.36	22.62	24.89	27.15	29.41	31.67	33.94	36.20	38.46	40.72	42.99
75	3.46	2.89	4.34	5.78	7.23	8.67	**10.12**	11.56	13.01	14.45	15.90	17.34	18.79	20.23	21.68	23.12	24.57	26.01	27.46
100	4.74	2.11	3.16	4.22	5.27	6.33	7.38	8.44	9.49	**10.55**	11.60	12.66	13.71	14.77	15.82	16.88	17.93	18.99	20.04
125	6.04	1.66	2.48	3.31	4.14	4.97	5.79	6.62	7.45	8.28	9.11	9.93	**10.76**	11.59	12.42	13.25	14.07	14.90	15.73
150	7.37	1.36	2.04	2.71	3.39	4.07	4.75	5.43	6.11	6.78	7.46	8.14	8.82	9.50	**10.18**	10.85	11.53	12.21	12.89
200	10.08	0.99	1.49	1.98	2.48	2.98	3.47	3.97	4.46	4.96	5.46	5.95	6.45	6.94	7.44	7.94	8.43	8.93	9.42

External Ambient Temp 20°C		Operating Temperature (°C)																	
		25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55
Panel Thickness (mm)	50	•	•	•	•	•	•											
	75	•	•	•	•	•	•	•	•									
	100	•	•	•	•	•	•	•	•	•	•	•						
	125	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
	150	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	200	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Difference		5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75

QUALITY & DURABILITY

K-PIR™ Coldstore Panels are manufactured from high quality materials using state-of-the-art production equipment to rigorous quality control standards, complying with ISO 9001 standard, ensuring long-term reliability and service life.

The panels are also being manufactured under Environmental Management System Certification ISO 14001 and Occupational Health, Safety Certification ISO 45001 and Compliance Management Systems ISO 37301.

Product Data


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FRAGILE
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FRAGILE

Product Data

PACKAGING

K-PIR™ Coldstore Panels are stacked horizontally. The entire pack is shrink wrapped.
The number of panels in each pack depends on panel length, weight, and thickness.
Typical pack height is 1,200 mm.

Other types of packaging are available upon request, please contact Kingspan Customer Service team for further information.

DELIVERY

All deliveries (unless indicated otherwise) are by flatbed road transport to project site.
Off loading is the responsibility of the client.

Export orders are transported in shipping containers. WA orders are transported in shipping containers, unless road freight is opted for.

ENVIRONMENTAL

Kingspan Insulated Panels manufacturing facility in Australia sources 100% certified renewable electricity and procures steel that is made from 15-25% recycled content.

K-PIR™ Coldstore Panels have Environmental Product Declarations in accordance with the requirements of ISO 14025 and EN 15804: 2012 + A2: 2019 for 50 mm to 200 mm thickness.

K-PIR™ Coldstore Panels is certified with a Global GreenTag GreenRate™ Level A certification to Version 4.1 of the Global GreenTag International Product Certification Standard.

A GreenRate Level A license is the highest-ranking level in GreenTag's GreenRate program. As a result, K-PIR™ Coldstore Panels receive the maximum recognition by the Green Building Council of Australia's Green Star® building rating tools scheme. The recognition provides assurance to green building projects that the product has demonstrated low toxicity, compliance to relevant social and environmental laws in the country of operation, fit for purpose certification, availability of replacement parts, a design for recycling and/or reuse and healthy VOC levels.

BIOLOGICAL

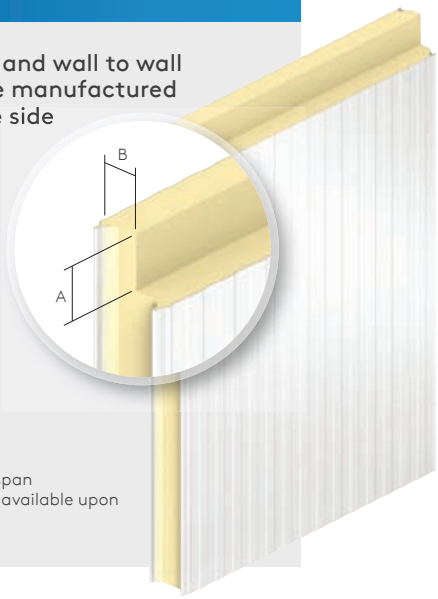
Kingspan PIR foam core used in the manufacture of K-PIR™ Coldstore Panels are free from urea formaldehyde.

PANEL REBATE

For panel wall to ceiling and wall to wall junctions, panels can be manufactured with a rebate cut to one side at one end if required (refer to order forms).

Dimension A: The depth can be 50 mm; 75 mm; 100 mm; 125 mm; 150 mm and 200 mm.

Dimension B: The depth will be the nominal 50% of the panel thickness (i.e. for 100 mm, panel it would be 50 mm).



Note: Rebates are subject to Kingspan manufacturing tolerances. Details available upon request.

ACCREDITATIONS

FM APPROVED

GLOBAL GREENTAG CERTIFIED
GreenRate | Level A
trust brands

FPA AUSTRALIA GOLD MEMBER Fire Protection Association Australia

Green Building Council Australia Member 2025–2026

100% We buy GreenPower®

AUSTRALASIA EPD® ENVIRONMENTAL PRODUCT DECLARATION

British Assessment Bureau UKAS MANAGEMENT SYSTEMS 8289
ISO 9001 QUALITY MANAGEMENT

British Assessment Bureau UKAS MANAGEMENT SYSTEMS 8289
ISO 14001 ENVIRONMENTAL MANAGEMENT

British Assessment Bureau UKAS MANAGEMENT SYSTEMS 8289
ISO 45001 HEALTH & SAFETY MANAGEMENT

Contact Details

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For the product offering in other markets please contact your local sales representative or visit www.kingspanpanels.com

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