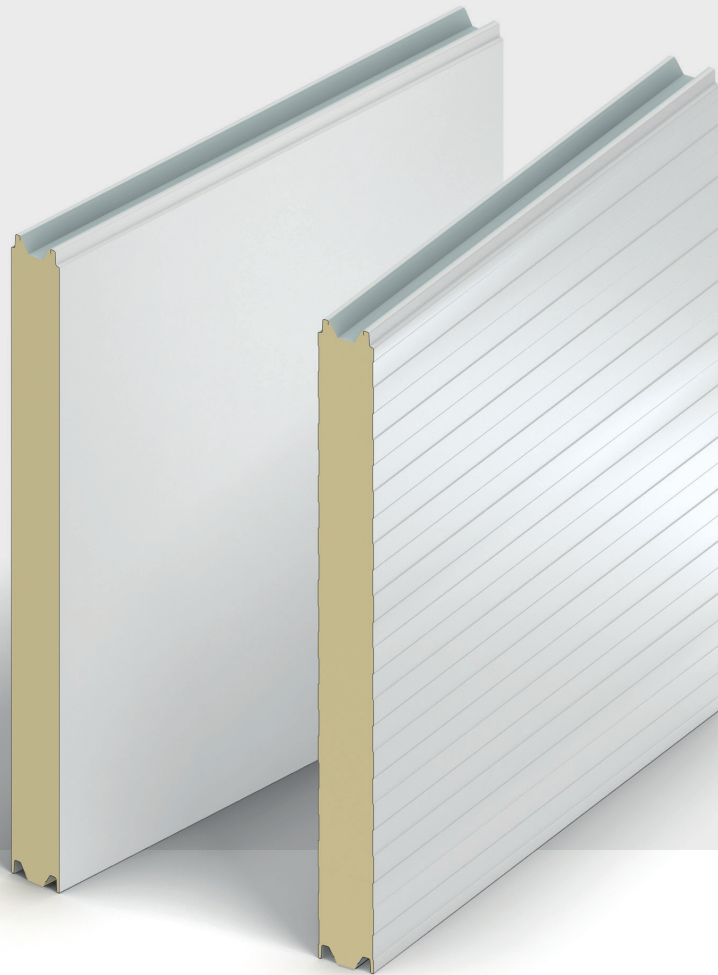


Insulated Panels  
Australia

# KS1100/1200CS Coldstore Panel Product Data Sheet



# Product Data

## Product Overview

KS1100/1200CS 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.

## Application

High-performance, through-fixed insulated panel systems suitable for internal and external walls and ceilings, including internal 'box within a box' applications. KS1100/1200CS Coldstore Panels can be installed vertically or horizontally.



## Dimensions, Thermal Performance & Weight

Panel Nominal Thickness (mm)	Product R-Value (m <sup>2</sup> K/W) at 23°C	Product U-Value (W/m <sup>2</sup> K) at 23°C	Total R-Value (m <sup>2</sup> K/W) Wall Application		Total R-Value (m <sup>2</sup> K/W) Ceiling Application		Weight* (kg/m <sup>2</sup> )
			Heat Flow Out (Winter)	Heat Flow In (Summer)	Heat Flow Out (Winter)	Heat Flow In (Summer)	
50	2.23	0.45	2.49	2.30	2.48	2.34	11.1
75	3.43	0.29	3.75	3.46	3.74	3.50	12.1
100	4.60	0.22	4.96	4.58	4.95	4.62	12.8
125	5.76	0.17	6.18	5.70	6.17	5.74	14.0
150	6.92	0.14	7.39	6.82	7.38	6.86	14.7
200	9.25	0.11	9.82	9.05	9.81	9.09	16.6

Declared Thermal Conductivity ( $\lambda$  Value) 0.022 W/mK @23°C.

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. KS1100/1200CS Coldstore Panels are manufactured, tested and packaged in conformance with AS/NZS 4859.1: 2018.

\* Actual weight subject to vary  $\pm 10\%$  due to manufacturing and raw material tolerances.

## Available Lengths

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

**Note:** Additional costs and transport restrictions may apply for non-standard lengths.

## Cover Widths

KS1100/1200CS Coldstore Panels are available in a choice of two cover widths.

KS1100CS	1100 mm
KS1200CS	1200 mm

## Fixing Method

Through-fix.

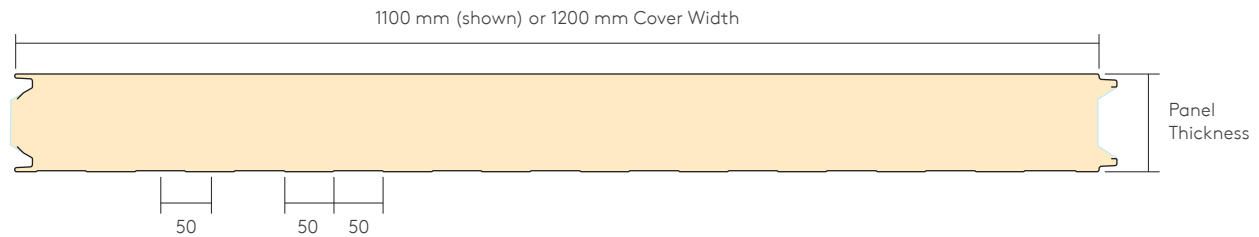
## Product Tolerances

Length < 3 m	$\pm 5$ mm
Length > 3m	$\pm 10$ mm
Cover Width	$\pm 2$ mm
Thickness < 100 mm	$\pm 2$ mm
Thickness > 100 mm	$\pm 2\%$
Squareness	$\leq 0.6\%$ of width
<b>Flatness*</b>	
L = 200 mm	0.6 mm
L = 400 mm	1.0 mm
L > 700 mm	1.5 mm
Bowing	2 mm per metre length upto maximum 20 mm

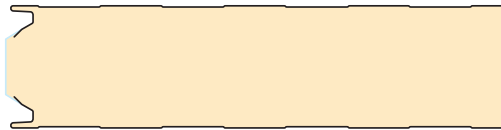
\* Flatness shall be measured at least 100 mm from the edge of panel and 200 mm from the end of panel.

## Profiles

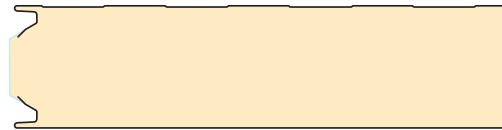
Rib Profile (Internal and External Facing), Flat Profile (Internal and External Facing).



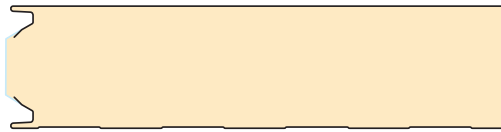
### Rib External / Internal Profile



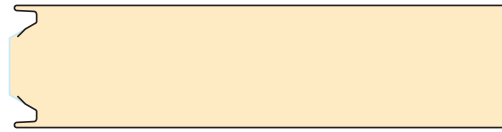
### Rib External / Flat Internal Profile



### 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.

## Insulation Core

KS1100/1200CS Coldstore Panels are manufactured with a polyisocyanurate (PIR) core.

## Structural Performance

Please contact Technical Services for project specific support on the spanning performance of the KS1100/KS1200CS Coldstore Panels.

## Certification and Testing

### Fire Performance

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
NCC Group Number in accordance with AS 5637.1: 2015	AS 5637.1: 2015 / ISO 9705 2003	Group 2
Smoke Growth Rate Index (SMOGR <sub>ARC</sub> ) (m <sup>2</sup> /S <sup>2</sup> x 1000)		< 100

## Insurer Approvals

KS1100/KS1200CS 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 1100 mm and 1200 mm.
- FM 4881 Class 1 exterior wall systems, unlimited height for thicknesses 50 mm to 200 mm and for panel widths of 1100 mm and 1200 mm.

FM approvals are subject to the following certified names:

- For 1100 mm widths: KS1100 CS.
- For 1200 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, Kingspan KS1100/1200CS Coldstore Panels have a weighted sound reduction index (SRI) of  $R_w = 24$ dB. 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	<b>24</b>

For specific acoustic information contact Technical Services.

## Materials

### External Weather Sheet and Internal Liner

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

## Coatings

### External Weather Sheet and Internal Liner

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

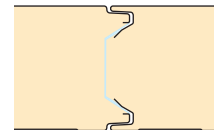
### Other Internal Coating Options\*

- 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.

## Panel Joint

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



## 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/m<sup>2</sup> heat gain. (See IACSC Code of Practice for the Design of Coldstore Envelopes).

Panel Thickness (mm)	Declared Product R-Value (m <sup>2</sup> K/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	2.23	4.4	6.6	8.8	<b>11</b>	13.2	15.4	17.6	19.8	22	24.2	26.4	28.6	30.8	33	35.2	37.4	39.6	41.8
75	3.43	2.93	4.40	5.87	7.33	8.80	<b>10.27</b>	11.73	13.20	14.67	16.13	17.60	19.07	20.53	22.00	23.47	24.93	26.40	27.87
100	4.60	2.20	3.30	4.40	5.50	6.60	7.70	8.80	9.90	<b>11.00</b>	12.10	13.20	14.30	15.40	16.50	17.60	18.70	19.80	20.90
125	5.76	1.76	2.64	3.52	4.40	5.28	6.16	7.04	7.92	8.80	9.68	<b>10.56</b>	11.44	12.32	13.20	14.08	14.96	15.84	16.72
150	6.92	1.47	2.20	2.93	3.67	4.40	5.13	5.87	6.60	7.33	8.07	8.80	9.53	<b>10.27</b>	11.00	11.73	12.47	13.20	13.93
200	9.25	1.10	1.65	2.20	2.75	3.30	3.85	4.40	4.95	5.50	6.05	6.60	7.15	7.70	8.25	8.80	9.35	9.90	<b>10.45</b>

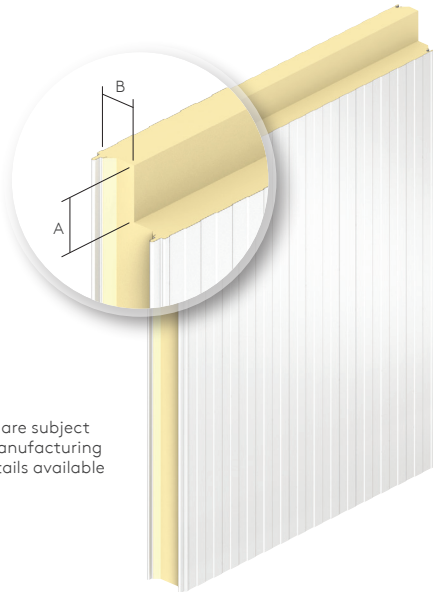
External Ambient Temp 20°C	Operating Temperature (°C)																	
	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	
50mm	•	•	•	•	•													
75mm	•	•	•	•	•	•	•	•	•	•								
100mm	•	•	•	•	•	•	•	•	•	•	•							
125mm	•	•	•	•	•	•	•	•	•	•	•	•	•					
150mm	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•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

## 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.

## Quality and Durability

KS1100/1200CS Coldstore Panels are manufactured from the highest 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 and Safety Certification ISO 45001.

## Packaging

KS1100/1200CS 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 1200 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.

KS1100/KS1200CS 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.

KS1100/KS1200CS Coldstore Panels is certified with a Global GreenTag GreenRate™ Level A certification to Version 4.0 of the Global GreenTag International Product Certification Standard, under the certified name Kingspan Controlled Environment Panels.

A GreenRate Level A license is the highest-ranking level in GreenTag's GreenRate program. As a result, KS1100/KS1200CS Coldstore Panels receives 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 a maximum commitment to 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 KS1100/1200CS Coldstore Panels are free from urea formaldehyde.

## Accreditations



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# Contact Details

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## Australia

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