

# Architectural Wall Panels (KS1000 AWP) Data Sheet



## Product overview

Available in a range of locally manufactured profiles and three alternative colour palettes, Kingspan's wall portfolio combines aesthetics with performance. Specifically engineered joint details ensure an absolute weather tight building envelope. They are suitable across a broad number of applications and environments adding texture and depth to the building envelope.



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



## Application

Kingspan architectural wall panel systems are suitable for most building applications as an external façade element in either horizontal or vertical applications. A choice of exterior and interior finishes caters for a range of colours and coatings in standard and high humidity environments.

## Panel Properties and Thermal Performance

Core Thickness (mm)	50	80	100	140
R-value (m <sup>2</sup> K/W)	2.65	4.15	5.15	7.15
U-value (W/m <sup>2</sup> K)	0.38	0.24	0.19	0.14
Weight kg/m <sup>2</sup> –				
0.5mm Ext. Steel/	11.2	12.4	13.2	14.8
0.4mm Int. Steel				

## Available Lengths

Standard Lengths	2.0m – 13.7m
Longer Lengths*	13.7m – 16.1m
Shorter Lengths*	0.5m – 1.99m
Transported by Rail	12.0m
Export from Australia	11.8m

Notes: \* Additional costs and transport restrictions will apply for non-standard lengths.

## Insulation Core

The core of the KS1000 AWP panel is an environmentally sustainable ECOsafe and FIREsafe Polyisocyanurate (PIR) insulation which is not-deleterious with zero Ozone Depletion Potential. The rigid PIR insulation is closed cell and CFC/HCFC-free.

The core is auto adhesively bonded to the external and internal faces during manufacture providing strength and rigidity to the panels.

# Architectural Wall Panels (KS1000 AWP) Data Sheet



## Product Tolerances

Length	±5mm
Width	±2mm
Thickness	±2mm
Squareness	±3mm
Flatness	±2mm

## Biological

Kingspan insulated wall panels are normally immune to attack from mould, fungi, mildew, and vermin. No urea formaldehyde is used in the construction, and the panels are not considered deleterious to health.

## Environmental

Kingspan has undertaken a Life Cycle Assessment of the KS1000 AWP, and have published an Environmental Product Declaration (EPD) on their performance. The results document that the Architectural Wall Panels are listed as a Type 3 Ecolabel with the Australian EPD Programme. The KS1000 AWP is certified with Ecospecifier Global Green Tag as a Greentag Gold Plus with a GreenRate Level A rating.

## FM Approval

Kingspan Architectural Wall (KS1000 AWP) 50mm, 80mm & 100mm systems are available with FM Global FMRC 4880 Approved Unlimited Height and FM Global 4881 Approved Class 1 Exterior Wall System Certifications.

## Fire Performance

Kingspan products have an extensive fire testing background, which covers both insurance and regulatory areas. When tested to AS/NZS 1530.3 for fire hazards, Kingspan panels achieved the fire hazard results as outlined in the below table.

<b>Ignitability Index</b>	<b>0</b>
Spread of Flame Index (SFI)	0
Heat Evolved Index	0
Smoke Development Index (SDI)	2

The Kingspan Architectural Wall Panel Systems meet the requirements of the BCA Specification C1.10a as a Group 2 product, when tested to ISO9705.

When tested to AS1530.4 Kingspan panels achieved the following Fire Resistance Level (FRL) results:

<b>Thickness (mm)</b>	<b>FRL</b>
80	-/60/28
100	-/132/28

FRL performance: Structural Adequacy/Integrity/Insulation

Installation as outlined in the firewall model specifications.

## Acoustic Performance

For sound transmission reduction, Kingspan panels typically have a single figure weighted sound reduction index (SRI) of  $R_w = 24$ dB. For specific acoustic solutions contact Kingspan Technical Services.

<b>Frequency (Hz)</b>	<b>SRI (dB)</b>
63	13
125	17
250	21
500	26
1000	26
2000	26
4000	42
8000	52
$R_w$	24

## Quality & Durability

Kingspan KS1000 AWP panels are manufactured from the highest quality materials, using state of the art production equipment to rigorous quality standards, ensuring long-term reliability and service life. The manufacturing plant where the products are made is fully compliant with ISO 9001 (Quality), ISO 14001 (Environmental) and OHSAS 18001 (Health and Safety).

## Insulated Roof & Wall Panels

### Cyclonic Applications

A significant part of the Australian coastline is deemed to be in a cyclonic region. As a result of this Kingspan have carried testing out on the KS1000 AWP in accordance with the requirements of the BCA B1.2 for low-high-low performance requirements.

For further details please contact Kingspan Technical Services.

### Seals

All panel joints have a factory applied weather seal fitted into the panel groove to automatically seal the joint between panels.

### Site Installation Procedure

Site assembly instructions are available from Kingspan Technical Services. Kingspan recommend that the appointed contractor attend the appropriate product installation training course prior to installation, which is provided by Kingspan Field Services.

### Accreditations



Quality  
ISO 9001  
SAI GLOBAL



Environment  
ISO 14001  
SAI GLOBAL



Health & Safety  
OHSAS 18001  
SAI GLOBAL



\* FM Approval does not apply on 140mm thick panels

# Architectural Wall Panels (KS1000 AWP) Data Sheet

### Materials

#### Exterior Weather Sheet

Substrate to be minimum 0.5mm thick steel coated steel to AS 1397

#### Internal Liner Sheet

Substrate to be minimum 0.4mm thick steel coated steel to AS 1397.

- CLEANSafe15 – The coating has been developed for use as the internal lining of insulated panels. Standard colour is “bright white” with an easily cleaned surface.

- AQUAsafe- The Kingspan AQUAsafe range has been specifically developed for applications that require long term corrosion resistance and durability, in facilities such as washrooms/fabric manufacturing, agricultural and livestock facilities
- AQUAsafe55- The Kingspan AQUAsafe55 range has been specially developed for swimming pools and leisure centres that require long term corrosion resistance and durability
- Other finishes are available on a project specific bases.



Bendigo TAFE

# Architectural Wall Panels (KS1000 AWP) Data Sheet



## Spans

Span capability of composite systems can depend on a number of external factors. The following table is based on medium colour panels. For darker colours contact Kingspan Technical Services.

### NOTES:

- The published span table is calculated using methods described in BS EN 14509:2013, taking imposed load and temperature into account. Values are assessed for compliance with the loading requirements of AS/NZS 1170.0:2002, AS/NZS 1170.1:2002 and AS/NZS 1170.2:2011.
- Uniform distributed load given in the span table refers to the wind load acting on the panel.
- Values have been calculated for medium coloured panels.
- The serviceability limit state is defined by local buckling, bending or crushing failure at an intermediate support or the exceedance of a specified deflection limit.
- Deflection limit for pressure and suction loading is L/100.
- The allowable steelwork tolerance between bearing planes of adjacent supports is  $\pm 5$  mm.
- The wind suction load resisted by the panel is also dependant on the number and type of fasteners used, and the supporting element. For further information contact Kingspan Technical Services.
- Span table values have been calculated based on a support width of 60 mm.

Care has been taken to ensure that the contents of this publication are accurate, but Kingspan Insulated Panels Pty Ltd and its subsidiary companies do not accept responsibility for errors or for information that is found to be misleading. Suggestions for, or descriptions of, the end use or application of products or methods of working are for information only and Kingspan Insulated Panels Pty Ltd and its subsidiaries accept no liability in respect thereof.

## Australia

### Kingspan Insulated Panels Pty Ltd

38-52 Dunheved Circuit, St Marys

NSW 2760 Australia

Tel +61 (02) 8889 3000

Fax +61 (02) 8889 3099

Email [info@kingspanpanels.com.au](mailto:info@kingspanpanels.com.au)

Web [kingspanpanels.com.au](http://kingspanpanels.com.au)

## Span Table External Sheet: 0.5mm Steel/Internal Sheet 0.4mm

Single Span Condition												
Panel Thickness (mm)	Load Type	Span, L (m)										
		2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
<b>Uniformly distributed loads (kN/m<sup>2</sup>)</b>												
Ultimate Limit State												
50	Pressure	4.45	3.56	2.97	2.42							
	Suction	3.74	2.39	1.66	1.22							
80	Pressure	7.04	5.63	4.69	3.68	2.82	2.23	1.80				
	Suction	6.03	3.86	2.68	1.97	1.51	1.19	0.96				
100	Pressure	8.70	6.96	5.80	4.46	3.42	2.70	2.19	1.81	1.52	1.29	
	Suction	7.59	4.86	3.37	2.48	1.90	1.50	1.12	1.00	0.84	0.72	
140	Pressure	8.84	7.07	5.89	5.05	4.41	3.49	2.83	2.34	1.96	1.67	1.44
	Suction	8.84	6.85	4.76	3.49	2.68	2.11	1.71	1.42	1.19	1.01	0.87
Serviceability Limit State												
50	Pressure	3.80	2.23	1.49	0.99							
	Suction	3.26	1.90	1.15	0.65							
80	Pressure	7.10	4.69	3.22	2.27	1.64	1.22	0.92				
	Suction	6.50	4.19	2.79	1.92	1.35	0.96	0.70				
100	Pressure	8.97	6.15	4.36	3.17	2.35	1.78	1.37	1.07	0.85	0.68	
	Suction	8.37	5.63	3.91	2.78	2.02	1.49	1.12	0.85	0.66	0.50	
140	Pressure	11.40	8.24	6.14	4.68	3.62	2.85	2.27	1.82	1.48	1.22	1.01
	Suction	10.87	7.75	5.70	4.28	3.27	2.53	1.98	1.57	1.26	1.01	0.82
<b>Double Span Condition</b>												
Panel Thickness (mm)	Load Type	Span, L (m)										
		2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
<b>Uniformly distributed loads (kN/m<sup>2</sup>)</b>												
Ultimate Limit State												
50	Pressure	4.45	3.56	2.97	2.42	1.86						
	Suction	3.74	2.39	1.66	1.22	0.94						
80	Pressure	7.04	5.63	4.69	3.68	2.82	2.23	1.80	1.49			
	Suction	6.03	3.86	2.68	1.97	1.51	1.19	0.96	0.80			
100	Pressure	8.70	6.96	5.80	4.46	3.42	2.70	2.19	1.81	1.52		
	Suction	7.59	4.86	3.37	2.48	1.90	1.50	1.21	1.00	0.84		
140	Pressure	8.84	7.07	5.89	5.05	4.41	3.49	2.83	2.34	1.96	1.67	1.44
	Suction	8.84	6.85	4.76	3.49	2.68	2.11	1.71	1.42	1.19	1.01	0.87
Serviceability Limit State												
50	Pressure	3.41	1.91	1.22	0.85	0.63						
	Suction	3.85	2.80	1.67	1.10	0.78						
80	Pressure	5.77	3.58	2.19	1.48	1.07	0.81	0.64	0.51			
	Suction	5.47	4.31	3.30	2.16	1.48	1.07	0.81	0.63			
100	Pressure	6.31	4.94	3.02	2.00	1.42	1.06	0.83	0.66	0.54		
	Suction	5.98	4.69	3.87	3.00	2.07	1.47	1.09	0.84	0.67		
140	Pressure	6.15	4.80	3.92	3.32	2.30	1.67	1.27	1.00	0.81	0.67	0.56
	Suction	5.80	4.52	3.70	3.13	2.72	2.41	1.93	1.45	1.12	0.90	0.73