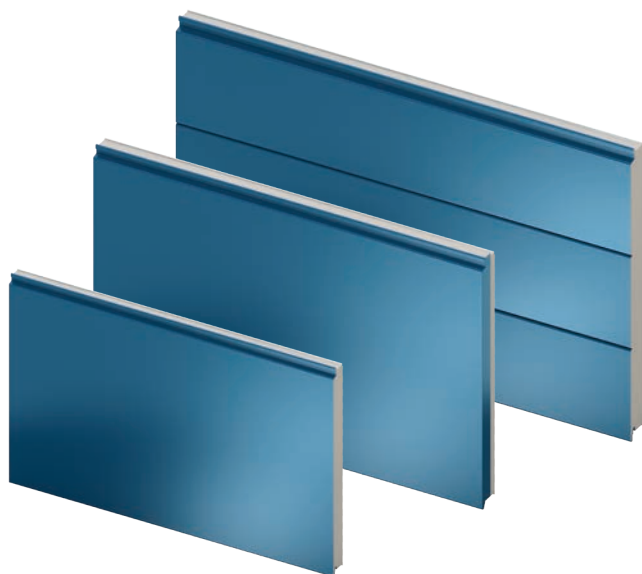
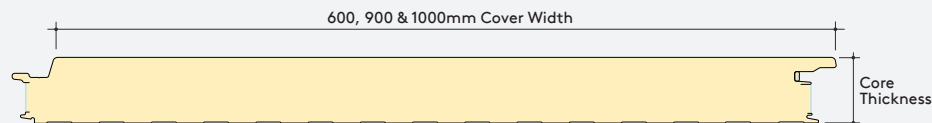


Product overview

The perfect solution for a minimalist facade effect, our flat insulated panel comes in a wide range of colours. Evolution can be laid horizontally or vertically and can integrate easily with other Kingspan products for enhanced design flexibility. Sleek and flawless in appearance, Evolution is available in modules of 600, 900 and 1000mm. The system has a hidden joint detail which conceals fasteners from view.



Panel Properties

Core Thickness (mm)	50	80	100	140
Weight kg/m ² 0.7mm Ext. Steel / 0.4 Int. Steel	12.7	13.9	14.7	16.3

Application

Evolution represents a dramatic breakthrough in pre-engineered insulated wall panels delivering a clean, smooth and aesthetically appealing modern solution. The system has a hidden joint detail which conceals fasteners from view and is available in various widths to suit any design.

Insulation Core

The core of the BENCHMARK Evolution 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.

Thermal Performance

Declared Thermal Conductivity (λ Value) 0.022W/m.K @23°C

Panel Nominal Thickness (mm)	Total R-Value (m ² K/W)		Declared @23°C	
	Heat Flow Out (Winter)	Heat Flow In (Summer)	Product R-Value (m ² K/W) at 23°C	Product U-Value (W/m ² K) at 23°C
50	2.50	2.31	2.24	0.45
80	4.01	3.70	3.68	0.27
100	4.98	4.59	4.61	0.22
140	6.92	6.38	6.47	0.15

The R-Values shown are 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. Europanel is manufactured, tested and packaged in conformance with AS/NZS 4859.1:2018

Declared Product R-Value is calculated in accordance with AS/NZS 4859.1:2018 as required for compliance to the National Construction Code 2019.

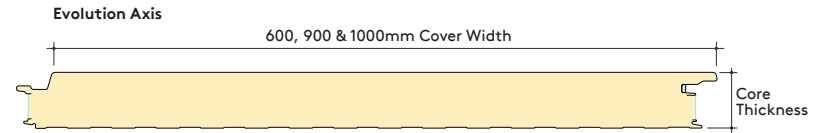
KS1000 Evolution



Evolution Axis

Evolution Axis is a highly streamlined, sleek, unprofiled insulated panel system; the perfect solution if you are looking to achieve a minimalist facade on buildings with large, flat surface areas.

Length: 2.0 - 13.7 m
Width: 600/900/1000 mm



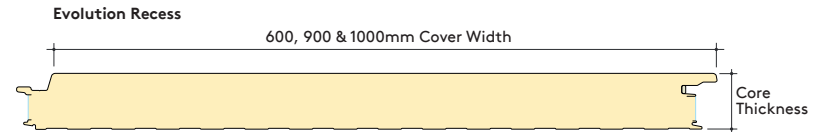
KS1000 EG



Evolution Recess

Evolution Recess features depth and dimension through the folding of the panel edge and the insertion of a 10mm or 20mm gasket between the panels, creating a unique 3D effect.

Length: 2.0 - 7.0 m
Width: 600/900/1000mm



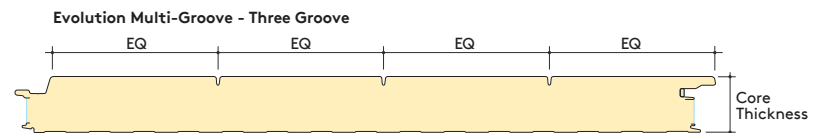
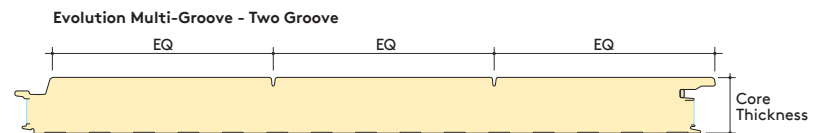
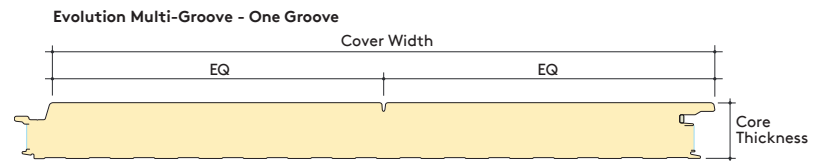
KS1000 Q2



Evolution Multi-Groove

Evolution Multi-Groove is a premium flat panel that has one, two or three grooves engineered into its surface, creating subtle shadow lines on the building's facade and an illusion of smaller panel widths without the installation time constraints.

Length: 2.0 - 13.7 m
Width: 900/1000 mm



Fire Performance

Kingspan systems are widely recognised by investors, property insurers, designers and constructors for their superior fire performance and reducing fire risk. 'Product Name' is tested and demonstrates compliance to all relevant Australian Standards.

AS5113 Classified Kingspan Insulated Panel Solutions

Tested Build-up	140mm thick PIR Insulated Architectural wall panel Light Weight Steel Frame No lining / No Cavity Barriers Used
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Test Report BS 8414-2:2015 – P109234-1000

Classification Report JV18-00218

BS8414 Tested System

Tested Build-up	150mm thick PIR Insulated Evolution Vertical hot rolled hollow sections. No lining / No Cavity Barriers Used
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Test Report BS 8414-2:2005 – 293939

Classification Report BR135:2013 Annex B – 289585



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.

Ignitability Index	0
Spread of Flame Index (SFI)	0
Heat Evolved Index	0
Smoke Development Index (SDI)	2

The Kingspan Evolution panels meets the requirements of the BCA Specification C1.10 AS 5637.1 as a Group 2 product, when tested to ISO 9705.

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

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

FRL performance: Structural Adequacy/Integrity/Insulation

Installation as outlined in the firewall model specifications are available on request from Kingspan Technical Services.

FM Approval

BENCHMARK Evolution systems are available with FM Global FMRC 4880 Approved Unlimited Height and FM Unlimited Height and FM Global 4881 Approved Class 1 Exterior Wall System Certifications.

Acoustic Performance

For a sound transmission reduction, Kingspan panels have a weighted sound reduction index (SRI) of RW =24-26 depending on panel thickness. For specific acoustic solutions contact Kingspan Technical Services.

Frequency (Hz)	SRI (dB)
63	13
125	17
250	21
500	26
1000	26
2000	26
4000	42
8000	52
Rw	24

Product Tolerances

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

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 of Australia	11.8m

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

Environmental

Kingspan has undertaken a Life Cycle Assessment of the BENCHMARK Evolution, and have published an Environmental Product Declaration (EPD) on their performance. The results document that the panels are listed as a Type 3 Ecolabel with the Austrian EPD Programme.

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.

Quality & Durability

Kingspan BENCHMARK Evolution 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).

Seals

All panel joints have a factory applied weather seal fitted into the panel groove to automatically seal the joint between 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 panelised facades in accordance with the requirements of the BCA B1.2 for low-high-low performance requirements. For further details please contact Kingspan Technical Services.

Site Installation Procedure

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.

Materials

Exterior Weather Sheet

Substrate to be minimum 0.7mm 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.

Accreditations



Maritime Museum, Sydney

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 of 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 ± 5 mm.
- The wind suction load resisted by the panel is also dependent 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

Web kingspanpanels.com.au

Span Table – External Sheet 0.7mm 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	7.5
Uniformly distributed loads (kN/m ²)												
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

Double 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	7.5
Uniformly distributed loads (kN/m ²)												
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	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	3.41	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