

Insulated Roof & Wall Panels

Product Data Sheet



Longspan Architectural Wall Panel Range
KS600-1000 LONGSPANCW, CX, EB, FL,
FL-S, LV, MM, MR, PL, TL, WV

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Longspan Architectural Wall Panel (AWP) Range

The Longspan AWP Range is available in eleven distinct profiles:

KS1000 LONGSPANCW (Curvewall)



Curvewall is only available in Kingspan Spectrum Silver in 1000mm cover width.

KS600-1000 LONGSPANCX (Convex)



Convex is available in Kingspan Spectrum and Kingspan XL Forté finishes with cover widths of 600-1000mm in increments of 66.66mm.

KS600-1000 LONGSPANEB (Euro-Box)



Euro-Box is available in Kingspan Spectrum and Kingspan XL Forté finishes with cover widths of 600-1000mm in increments of 100mm.

KS600-1000 LONGSPANFL / FL-S (Flat / Flat-Stucco)



Flat is available in Kingspan XL Forté only and Flat-Stucco is available in Kingspan Spectrum only. Both options are available in cover widths of 600-1000mm in increments of as low as 1mm.

KS1000 LONGSPANLV (Louvre)



Louvre is available in a 1000mm cover width. Its standard colours are Metallic Silver, Obsidian and Onyx from the Kingspan Spectrum range and Goosewing Grey and Bottle Green from the Kingspan XL Forté range.

KS600-1000 LONGSPANMM (Mini-Micro)



Mini-Micro is available in Kingspan Spectrum and Kingspan XL Forté finishes with cover widths of 600-1000mm in increments of 8.33mm.

KS600-1000 LONGSPANMR (Micro-Rib)



Micro-Rib is available in Kingspan Spectrum and Kingspan XL Forté finishes with cover widths of 600-1000mm in increments of 20mm.

KS1000 LONGSPANPL (Plank)



Plank is available in both Kingspan Spectrum and Kingspan XL Forté finishes in a 1000mm cover width.

KS1000 LONGSPANTL (Tramline)



Tramline is available in both Kingspan Spectrum and Kingspan XL Forté in 1000mm cover width.

KS600-1000 LONGSPANWV (Wave)



Wave is available in Kingspan Spectrum and Kingspan XL Forté finishes with cover widths of 600-1000mm in increments of 100mm.

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Applications

Longspan AWP is a long spanning range of secret-fix wall panel systems that offer unprecedented freedom of design and top-of-the-range performance to architects. The wide range of profiles allows architects to look beyond traditional insulated panel designs to create buildings with more inspiring façades within the same cost bracket. This range removes the need for secondary steelwork, such as sheeting rails, helping to speed up installation and time spent on site.

Available Lengths

Standard Lengths	1.8 - 12m
Longer Lengths (non-standard)	12 - 17m
Shorter Lengths (non-standard)	Below 1.8m

Note: Additional costs and transport restrictions may apply for non-standard lengths. All lengths may change for export (outside of the UK).



Dimensions, Weight & Thermal Performance

Core Thickness (mm)	80	100	120	140	150
U-value (W/m²K)*	0.26	0.21	0.18	0.15	0.14
Weight kg/m² 0.63/0.63 Steel*	14.2	15.0	15.8	16.6	17.0
KS1000 CW U-value (W/m²K)	0.23	0.19	0.16	0.14	-
KS1000 CW Weight kg/m²	15.1	15.9	16.7	17.5	-
KS1000 LV U-value (W/m²K)	0.25	0.20	0.17	0.15	-
KS1000 LV Weight kg/m²	15.7	16.5	17.3	18.1	-

The Longspan range has a Thermal Transmittance (U value), calculated using the method required by the Building Regulations Part L2 (England & Wales) and Building Standards Section 6 (Scotland).

* Excluding Curvewall and Louvre. These profiles are listed separately above.

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Insulation Core

The Longspan range is manufactured with an ECOsafe and FIREsafe polyisocyanurate (PIR) core.

Fire

The external and internal faces of the panel to be Class 0 in accordance with the Building Regulations when tested to BS 476: Part 6: 2009 and Part 7: 1997.

This FIREsafe system has passed all the requirements of LPS 1181: 2005: Part 1: Issue 1.1, ceiling lining tests by the Loss Prevention Certification Board (LPCB) certified to LPS 1181 Grade EXT – B.



Environmental

This ECOsafe range may achieve a Green Guide A+ rating and is subject to project specific assessments.

Air Leakage

An air leakage rate of $3\text{m}^3/\text{hr}/\text{m}^2$ at 50Pa or less can be achieved when using Kingspan insulated roof and wall panels.

Acoustic

Sound Reduction Index (SRI)

Hz*	63	125	250	500	1K	2K	4K	8K
SRI (dB)	20	15	17	23	18	25	40	46

* Frequency

The Longspan range has a single figure weighted sound reduction $R_w = 24\text{dB}$.

Biological

Kingspan 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.

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Materials

Substrate

- Kingspan XL Forté, Kingspan Spectrum, Kingspan AQUAsafe, and Kingspan CLEANsafe: Material S220GD+ZA hot-dip zinc/aluminium Galfan coated steel to BS EN 10346: 2009 Standard external sheet thickness 0.63mm, standard internal sheet thickness 0.63mm.
- Bright White Polyester: Material Hot dip zinc coated to BS EN 10346: 2009, Standard internal steel thickness 0.63mm.
- Stainless Steel: Please contact Kingspan envirocare Technical Services for details.
- Aluminium: Please contact Kingspan envirocare Technical Services for details.

Coatings - External Weather Sheet

- Kingspan XL Forté: Consists of multi-layer organic coating, embossed with a traditional leather-grain finish.
- Kingspan Spectrum: Consists of a coated semi-gloss finish with slight granular effect.

Coatings - Internal Liner Sheet

- Bright White Polyester: The coating has been developed for use as the internal lining of insulated panels. Standard colour is "bright white" with an easily cleaned surface.
- Kingspan AQUAsafe: The coating has been developed for use as the internal lining of insulated panels to suit high humidity internal environments (class 5 as defined by the Building Regulations).
- Kingspan CLEANsafe: The coating has been developed for use as the internal lining of insulated panels where a high level of cleanliness and hygiene is required, and the panels are to be cleaned down on a regular basis.
- Stainless Steel: The stainless steel liner has been developed for use as the internal lining of insulated panels in buildings with a very aggressive/corrosive internal environment.

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Product Tolerance

Length	-5mm +5mm
Width	-2mm +2mm
Thickness	-2mm +2mm
Squareness	-3mm +3mm
Flatness (per metre)	-2mm +2mm

Seals

Factory applied side joint seals. All side joints have a factory applied seal fitted into the groove to automatically seal the joint between panels.

Quality & Durability

The Longspan range is manufactured from the highest quality materials, using state of the art production equipment to rigorous quality control standards, complying with BS EN ISO 9001 standard, ensuring long term reliability and service life. The panels are also being manufactured under Environmental Management System Certification BS EN ISO 14001. Compliant to BS OHSAS 18001 Occupational Health and Safety.

Guarantee

Kingspan Total Panel Guarantee covering the structural and thermal performance for a period of up to 25 years and Kingspan Coating Guarantee for a period of up to 40 years (subject to project specific information).

Packing

The Longspan range panels are stacked with weather sheet upward. Removable hot melt adhesive is laid between each panel. The top, bottom, sides and ends are protected with polystyrene and timber packing and the entire pack is wrapped in polythene. The number of panels in each pack depends on panel thickness/length.

Core Thickness (mm)	80	100	120	140	150
No. of Panels in Pack	13	11	9	6	5

Sea Freight

Fully timber crated packs are available on projects requiring delivery by sea freight shipping, at additional costs. Alternatively, steel containers can be used. Special loading charges apply.

Delivery

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

Site Installation Procedure

Site assembly instructions are available from Kingspan envirocare Technical Services.

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Structural Tables

Unfactored load/span table (use unfactored calculated design wind load values).

Outer Sheet 0.63mm (Steel), Inner Sheet 0.63mm (Steel)

Single Span Condition

Panel Thickness (mm)	Load Types	Uniformly distributed loads kN/m ² Span L in metres										
		3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
80	Pressure	3.12	2.31	1.73	1.34	1.04	0.81	0.64	0.52	0.42	0.34	0.28
	Suction	2.75	1.98	1.44	1.08	0.81	0.61	0.44	0.31	0.22	0.15	0.10
100	Pressure	3.57	3.05	2.41	1.89	0.51	1.20	0.97	0.73	0.65	0.54	0.45
	Suction	3.55	2.78	2.10	1.61	1.26	0.98	0.77	0.61	0.48	0.37	0.28
120	Pressure	3.75	3.21	2.80	2.45	1.98	1.61	1.32	1.10	0.92	0.77	0.64
	Suction	3.75	3.21	2.68	2.12	1.72	1.36	1.10	0.88	0.73	0.59	0.49
140	Pressure	3.75	3.21	2.80	2.45	2.24	2.00	1.66	1.39	1.18	0.99	0.85
	Suction	3.75	3.21	2.80	2.34	1.90	1.56	1.31	1.12	0.96	0.81	0.68
150	Pressure											
	Suction											

Double Span Condition

Panel Thickness (mm)	Load Types	Uniformly distributed loads kN/m ² Span L in metres										
		3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
80	Pressure	3.57	3.05	2.47	1.97	1.60	1.29	1.04	0.87	0.74	0.63	0.54
	Suction	3.46	2.62	1.99	1.58	1.28	1.05	0.88	0.75	0.62	0.52	0.44
100	Pressure	3.57	3.05	2.67	2.37	2.02	1.61	1.29	1.07	0.90	0.77	0.66
	Suction	3.57	3.02	2.36	1.87	1.52	1.25	1.05	0.90	0.78	0.67	0.59
120	Pressure	3.75	3.21	2.80	2.50	2.24	1.91	1.53	1.26	1.05	0.89	0.76
	Suction	3.75	3.21	2.68	2.12	1.72	1.42	1.19	1.02	0.88	0.76	0.67
140	Pressure	3.75	3.21	2.80	2.50	2.24	2.04	1.77	1.39	1.20	1.01	0.86
	Suction	3.75	3.21	2.80	2.34	1.90	1.56	1.31	1.12	0.97	0.84	0.74
150	Pressure											
	Suction											

Notes:

1. Values have been calculated using the method described in BS EN 14509: 2013, for dark coloured panels.
2. Deflection limit for: pressure loading is L/100 and suction loading is L/100.
3. The actual wind suction load resisted by the panel is dependent on the number of fasteners used and the support thickness as well as the fastener material.
4. The fastener calculation should be carried out in accordance with the appropriate standards. For further advice please contact Kingspan envirocare Technical Services.
5. The allowable steelwork tolerance between bearing planes of adjacent supports is +/- 5mm.
6. Load span tables for the panel specifications not shown are available from Kingspan envirocare Technical Services.

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