



Box Profiled Insulated Wall Panel KS1000 FC Data Sheet



KS1000 FC Box Profile

Applications

The KS1000 FC is a through-fix recurring box profile insulated wall panel that integrates seamlessly with Kingspan Sol-Air, an intelligent solar air heating insulated panel system.

Available Lengths

Standard Lengths	1.8 – 14.5m
Longer Lengths (non-standard)	14.5- 15m
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)	34	100
Overall Thickness (mm)	72	138
U-value (W/m ² K)*	0.46	0.19
Weight kg/m ² 0.5/0.4 Steel	10.2	12.9

The KS1000 FC insulated wall panels have a Thermal Transmittance (U value), calculated using the method required by the Building Regulations Part L2 (England & Wales) and Building Standards Section 6 (Scotland)

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Insulation Core

KS1000 FC insulated wall panels are 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 LPS1181: 2005: Part 1: Issue 1.2, ceiling lining tests by the Loss Prevention Certification Board (LPCB) certified to LPS 1181 Grade EXT – B and achieves periods of fire resistance (EXT-A), for further information please contact Kingspan envirocare Technical Services. Reaction to fire classification according to BS EN13501-1:2007+A1:2009: B-s1,d0.



LPS 1181 : Issue 1.2
Cert No: 260a & 186a

Environmental

Kingspan Insulated Panels produced in the UK are certified to BES 6001 (Framework Standard for the Responsible Sourcing of Construction Products) 'Very Good'. Kingspan Insulated Panels directly contribute to BREEAM/LEED credits.

Air Leakage

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

Acoustic

The KS1000 FC insulated wall panel has a predicted single figure weighted sound reduction $R_w = 25\text{dB}$.

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.

Materials

Substrate

- Kingspan XL Forté, Kingspan Spectrum, Kingspan AQUAsafe, Kingspan AQUAsafe55 and Kingspan CLEANsafe: Metallic protected steel to BS EN 10346:2015.thickness 0.5mm.
CLEANsafe 15: Metallic protected steel to BS EN10346:2015.thickness 0.4mm.
- Stainless Steel: Austenitic Grade 316 stainless steel to BS EN 10088: Part 2: 2014, thickness 0.4mm.

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

- CLEANsafe 15: 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.
- Kingspan AQUAsafe 55: The coating has been developed for use as the internal lining of insulated panels to swimming pool internal environments.
- Kingspan CLEANsafe 120: 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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Panel End Cut Back

Minimum Cut Back	25mm
End Lap horizontally laid	n/a
End Lap vertically laid	100mm

Product Tolerance

Length	-5mm +5mm
Width	-2mm +2mm
Thickness	-2mm +2mm
Squareness	-3mm +3mm

Handling

The KS1000 FC insulated wall panel can be manufactured for vertical application in either left to right handed (LH) and right to left handed (RH). For horizontal applications, contact Kingspan envirocare Technical Services.

Quality & Durability

KS1000 FC insulated wall panels are 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. The KS1000FC wall panels are CE marked to BS EN 14509: 2013.



Warranty

Kingspan Panel warranty covering the following subject to project specific information:

- 25 year thermal performance warranty;
- 25 year structural performance warranty;
- Up to 30 year external coating warranty.

Packing

KS1000 FC insulated wall panels are stacked weather sheet to weather sheet (to minimise pack height). The top, bottom, sides and ends are protected with foam and timber packing and the entire pack is wrapped in plastic.

Core Thickness (mm)	34	100
No. of Panels in Pack	14	6

Note: Applies to UK pack sizes. Please contact Kingspan Technical Services for export information.

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 0.5mm (Steel), Inner Sheet 0.4mm (Steel)

Single Span Condition

Panel Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²											
		Span L in metres											
		2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2
34	Pressure	4.99	4.25	3.66	3.19	2.80	2.39	2.00	1.68	1.43	1.22	1.05	0.90
	Suction	4.05	4.05	3.49	3.04	2.51	2.04	1.68	1.39	1.16	0.97	0.82	0.70
100	Pressure	7.67	6.86	6.18	5.58	5.06	4.61	4.21	3.85	3.53	3.25	3.00	2.77
	Suction	8.90	7.98	7.17	6.47	5.74	4.95	4.31	3.79	3.36	3.00	2.69	2.41

Double Span Condition

Panel Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²											
		Span L in metres											
		2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2
34	Pressure	4.99	4.25	3.66	3.16	2.80	2.48	2.20	1.97	1.78	1.61	1.46	1.33
	Suction	4.05	3.42	2.93	2.55	2.24	1.98	1.77	1.59	1.44	1.31	1.20	1.10
100	Pressure	6.56	5.67	4.97	4.40	3.93	3.54	3.21	2.93	2.69	2.48	2.29	2.13
	Suction	4.39	3.76	3.26	2.87	2.55	2.28	2.06	1.87	1.71	1.57	1.45	1.34

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 resisted by the panel is dependent upon the number of fasteners and the material of the supporting element.
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 specification not shown are available from Kingspan envirocare Technical Services.

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