



KingZip IP Standing Seam Insulated Panel

KS500/1000 ZIP IP

Data Sheet



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KingZip IP

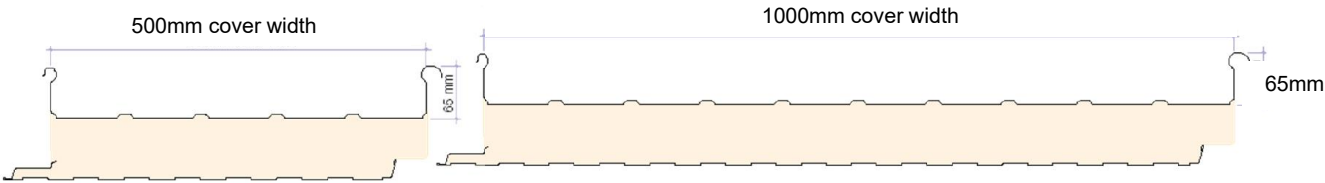
Applications

The KS500/1000 ZIP IP is a unique insulated standing seam roof panel, which give a secret-fix appearance unrivalled in the composite panel market. The panel can be used on roofs with pitches of 1.5° or more after deflection.

Available Lengths

Standard Lengths	1.8 – 14.5m
Longer Lengths (non-standard)	14.5- 25.7m
Shorter Lengths (non-standard)	Below 2.3m

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)	45	90	110	124	147
Overall Thickness (mm)	110	155	175	189	212
U-value (W/m²K)*	0.45	0.25	0.20	0.18	0.15
KS500 ZIP					
Weight kg/m² 0.5 Steel/0.4 Steel	11.1	12.9	13.7	14.3	15.2
Weight kg/m² 0.9 Alum/0.4 Steel	9.1	10.9	11.7	12.3	13.2
KS1000 ZIP					
Weight kg/m² 0.5 Steel/0.4 Steel	10.0	11.8	12.6	13.2	14.1
Weight kg/m² 0.9 Alum/0.4 Steel	8.3	10.1	10.9	11.4	12.4

The KS500/1000 ZIP IP standing seam systems 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

KS500/1000 ZIP IP standing seam systems are manufactured with an ECOsafe and FIREsafe polyisocyanurate (PIR) core

Fire

Reaction to Fire

Classified B-s2,d0 according to the European Reaction to Fire classification system (Euroclasses) BS EN 13501-1:2007+A1:2009 when tested on the internal liner. Please contact Technical Services for information relating to the external face

The panel is rated F.AB when tested to BS 476: Part 3: 2004

Insurer Approvals

LPS 1181 Part 1: Issue 1, series of fire growth tests for LPCB approval and is certified to LPS 1181 Grade EXT-B (147mm panel LPCB certification pending)



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 3m³/hr/m² 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)	19	18	19	20	17	35	38	44

* Frequency

The KS500/1000 ZIP IP standing seam system has a single figure weighted sound reduction $R_w = 23\text{dB}$.

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.
- Aluminium: Grade 300. Standard external sheet 0.9mm

Coatings - External Weather Sheet

- Kingspan XL Forté: consists of a multi-layer organic coating, embossed with a traditional leather-grain finish.
- Kingspan Spectrum: Consists of a coated semi-gloss finish with slight granular effect.
- Aluminium: Mill finish Stucco Embossed with lacquer.
- PVDF: 25 micron thick stoved fluorocarbon coating which has excellent colour stability even at temperatures as high as 120°C.
- ARS Abrasion Resistant: 28 micron thick polyester or polyurethane resin reinforced with polyamide high durability coating with exceptionally good handling characteristics.

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

End Lap	200mm
Eaves	100mm

Note: Where an end lap is used the flush end of the down slope panel has a factory fitted end lap stitching plate.

Product Tolerance

Cut to Length	-5mm +5mm
Cover Width	-0mm +3mm
Thickness	-2mm +2mm
End Square	-3mm +3mm

Handling

The KS500/1000 ZIP IP standing seam system can be manufactured in both left to right handed (LH) and right to left handed (RH).

Seals

Factory applied side lap and anti-condensation tape. End laps site applied sealant.

Quality & Durability

KS500/1000 ZIP IP standing seam systems 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.



Warranty

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

- 25 year thermal performance warranty;
- 25 year structural performance warranty;
- Up to 40 year external coating warranty.

Packing

KS500/1000 ZIP IP standing seam systems are stacked interleaved weather sheet to weather sheet/liner to liner. The top, bottom, sides and ends are protected with foam and timber packing and the entire pack is wrapped in plastic.

Core Thickness (mm)		45	90	110	124
KS500 ZIP IP					
No. of panels in Pack		28	16	16	12
KS1000 ZIP IP					
No. of panels in Pack		14	8	8	6

Note: Applies to UK pack sizes. Please contact Kingspan Technical Services for export information. Quantities are reduced for exceptionally long panels.

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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Notes:

1. Values have been calculated using the method described in BS EN 14509 2013, for medium coloured panels.
2. The following deflection limits have been used:
 - Pressure loading L/200
 - Suction loading L/150
3. All panel thickness have been calculated with a minimum support width of 50mm. larger support widths are possible.
4. The actual wind suction resisted by the panel is dependent upon the number of fasteners and the material of the supporting element.
5. The fastener calculation should be carried out in accordance with the appropriate standards.
6. For intermediate values linear interpolation may be used.
7. The allowable steelwork tolerance between bearing planes of adjacent supports is +/- 5mm

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Structural Tables

KS500 KingZip External Sheet 0.5mm (Steel), Inner Sheet 0.4mm (Steel)

Unfactored load/span table (to be compared against calculated design wind load values unfactored)

Single Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²								
		Span, m								
		1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
45	Pressure	4.04	3.23	2.65	2.22	1.89	1.62	1.41	1.23	1.09
	Suction	4.52	3.65	3.03	2.57	2.22	1.93	1.71	1.52	1.36
90	Pressure	5.47	4.61	3.97	3.47	3.07	2.74	2.46	2.22	2.01
	Suction	5.99	5.23	4.55	4.02	3.59	3.24	2.94	2.62	2.25
110	Pressure	5.78	5.05	4.47	4.01	3.64	3.29	2.98	2.71	2.47
	Suction	5.99	5.26	4.68	4.22	3.85	3.53	3.27	3.02	2.60
124	Pressure	5.78	5.04	4.47	4.01	3.63	3.32	3.05	2.83	2.63
	Suction	6.00	5.26	4.69	4.23	3.85	3.54	3.27	3.05	2.85
147	Pressure	5.77	5.03	4.46	4.00	3.62	3.31	3.05	2.82	2.62
	Suction	6.00	5.27	4.69	4.23	3.86	3.54	3.28	3.05	2.85

Double Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²								
		Span, m								
		1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
45	Pressure	2.92	2.55	2.27	2.05	1.86	1.62	1.41	1.23	1.09
	Suction	3.25	2.87	2.57	2.34	2.15	1.93	1.71	1.52	1.36
90	Pressure	2.83	2.45	2.16	1.94	1.75	1.60	1.48	1.37	1.28
	Suction	3.23	2.83	2.53	2.29	2.10	1.94	1.81	1.69	1.59
110	Pressure	2.81	2.42	2.13	1.90	1.72	1.57	1.44	1.34	1.24
	Suction	3.23	2.83	2.53	2.29	2.09	1.93	1.79	1.68	1.58
124	Pressure	2.80	2.41	2.11	1.88	1.70	1.55	1.42	1.31	1.22
	Suction	3.24	2.83	2.53	2.28	2.09	1.92	1.79	1.67	1.57
147	Pressure	2.78	2.39	2.09	1.86	1.67	1.52	1.39	1.28	1.19
	Suction	3.25	2.84	2.53	2.28	2.08	1.92	1.78	1.67	1.57

Notes:

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KS1000 KingZip External Sheet 0.5mm (Steel), Inner Sheet 0.4mm (Steel)

Unfactored load/span table (to be compared against calculated design wind load values unfactored)

Single Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²								
		Span, m								
		1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
45	Pressure	2.29	1.85	1.53	1.29	1.10	0.95	0.83	0.73	0.64
	Suction	2.61	2.14	1.81	1.55	1.36	1.20	1.07	0.96	0.86
90	Pressure	3.60	3.10	2.73	2.42	2.17	1.95	1.77	1.60	1.46
	Suction	4.12	3.60	3.20	2.88	2.61	2.38	2.17	2.00	1.84
110	Pressure	4.21	3.69	3.29	2.97	2.69	2.45	2.23	2.04	1.87
	Suction	4.82	4.28	3.86	3.48	3.17	2.92	2.70	2.51	2.32
124	Pressure	4.64	4.11	3.66	3.28	2.97	2.72	2.50	2.31	2.15
	Suction	4.94	4.34	3.86	3.49	3.18	2.92	2.70	2.52	2.35
147	Pressure	4.73	4.13	3.65	3.28	2.97	2.71	2.49	2.30	2.14
	Suction	4.95	4.34	3.87	3.49	3.18	2.93	2.71	2.52	2.36

Double Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²								
		Span, m								
		1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
45	Pressure	2.29	1.85	1.46	1.19	0.98	0.83	0.71	0.61	0.53
	Suction	2.61	2.14	1.81	1.55	1.36	1.20	1.07	0.96	0.86
90	Pressure	2.26	1.96	1.73	1.47	1.24	1.05	0.91	0.79	0.70
	Suction	2.63	2.31	2.07	1.87	1.71	1.54	1.38	1.25	1.15
110	Pressure	2.24	1.93	1.69	1.51	1.35	1.15	1.00	0.87	0.77
	Suction	2.64	2.31	2.06	1.86	1.70	1.57	1.46	1.37	1.26
124	Pressure	2.23	1.91	1.67	1.49	1.34	1.21	1.05	0.92	0.81
	Suction	2.64	2.31	2.06	1.86	1.70	1.57	1.46	1.36	1.28
147	Pressure	2.21	1.89	1.65	1.46	1.31	1.18	1.08	1.00	0.89
	Suction	2.65	2.31	2.06	1.85	1.69	1.56	1.45	1.35	1.27

Notes:

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KS500 KingZip External Sheet 0.9mm (Aluminium), Inner Sheet 0.4mm (Steel)

Unfactored load/span table (to be compared against calculated design wind load values unfactored)

Single Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²								
		Span, m								
		1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
45	Pressure	4.41	3.57	2.96	2.49	2.13	1.83	1.43	1.13	0.90
	Suction	4.92	3.95	3.26	2.75	2.36	1.97	1.40	0.98	0.67
90	Pressure	5.81	5.07	4.50	4.04	3.66	3.3	2.91	2.43	2.03
	Suction	5.98	5.24	4.66	4.20	3.83	3.44	2.89	2.46	2.13
110	Pressure	5.80	5.06	4.49	4.03	3.65	3.34	3.08	2.85	2.62
	Suction	5.98	5.24	4.67	4.21	3.83	3.52	3.26	2.86	2.47
124	Pressure	5.80	5.06	4.48	4.02	3.65	3.34	3.07	2.84	2.65
	Suction	5.99	5.25	4.67	4.21	3.84	3.53	3.26	2.99	2.59
147	Pressure	5.79	5.05	4.48	4.02	3.64	3.33	3.06	2.84	2.64
	Suction	5.99	5.25	4.68	4.22	3.84	3.53	3.27	3.04	2.84

Double Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²								
		Span, m								
		1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
45	Pressure	2.83	2.49	2.22	2.01	1.84	1.69	1.57	1.41	1.25
	Suction	2.65	2.36	2.14	1.96	1.82	1.70	1.50	1.33	1.19
90	Pressure	2.71	2.35	2.08	1.86	1.69	1.55	1.44	1.34	1.25
	Suction	2.46	2.16	1.93	1.76	1.62	1.51	1.42	1.34	1.28
110	Pressure	2.67	2.31	2.03	1.82	1.65	1.51	1.39	1.29	1.21
	Suction	2.42	2.10	1.86	1.70	1.56	1.45	1.36	1.29	1.22
124	Pressure	2.66	2.29	2.01	1.79	1.62	1.48	1.36	1.26	1.18
	Suction	2.39	2.00	1.75	1.58	1.47	1.39	1.33	1.25	1.19
147	Pressure	2.64	2.26	1.97	1.75	1.58	1.44	1.32	1.22	1.14
	Suction	2.28	1.87	1.60	1.42	1.30	1.22	1.16	1.13	1.10

Notes:

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KS1000 KingZip External Sheet 0.9mm (Aluminium), Inner Sheet 0.4mm (Steel)

Unfactored load/span table (to be compared against calculated design wind load values unfactored)

Single Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²								
		Span, m								
		1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
45	Pressure	2.61	2.14	1.79	1.52	1.31	1.13	0.93	0.72	-
	Suction	2.69	2.19	1.83	1.52	1.30	1.02	0.66	0.40	-
90	Pressure	4.41	3.85	3.40	3.03	2.71	2.44	2.20	1.93	1.62
	Suction	4.92	4.32	3.84	3.44	3.09	2.80	2.54	2.21	1.87
110	Pressure	4.76	4.15	3.68	3.30	2.99	2.74	2.52	2.33	2.17
	Suction	4.93	4.32	3.85	3.47	3.16	2.90	2.69	2.50	2.27
124	Pressure	4.76	4.15	3.68	3.30	2.99	2.73	2.51	2.33	2.17
	Suction	4.93	4.32	3.85	3.47	3.17	2.91	2.69	2.50	2.34
147	Pressure	4.75	4.14	3.67	3.29	2.98	2.72	2.51	2.32	2.16
	Suction	4.94	4.33	3.86	3.48	3.17	2.91	2.70	2.51	2.35

Double Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m ²								
		Span, m								
		1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
45	Pressure	2.29	2.01	1.79	1.51	1.27	1.08	0.94	0.82	0.72
	Suction	2.11	1.48	1.11	0.88	0.72	0.62	0.55	0.49	0.46
90	Pressure	2.15	1.86	1.65	1.48	1.34	1.23	1.14	1.06	0.98
	Suction	1.83	1.59	1.44	1.15	0.93	0.78	0.68	0.61	0.56
110	Pressure	2.12	1.82	1.60	1.43	1.28	1.18	1.09	1.01	0.95
	Suction	1.65	1.39	1.24	1.14	1.06	0.88	0.76	0.68	0.62
124	Pressure	2.10	1.80	1.57	1.40	1.26	1.15	1.06	0.98	0.92
	Suction	1.55	1.28	1.11	1.01	0.95	0.92	0.82	0.73	0.66
147	Pressure	2.07	1.76	1.53	1.36	1.22	1.11	1.02	0.94	0.87
	Suction	1.43	1.13	0.95	0.84	0.77	0.74	0.72	0.71	0.71

Notes:

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- The actual wind suction resisted by the panel is dependent upon the number of fasteners and the material of the supporting element.
- The fastener calculation should be carried out in accordance with the appropriate standards.
- For intermediate values linear interpolation may be used.
- The allowable steelwork tolerance between bearing planes of adjacent supports is +/- 5mm

UK

Kingspan Limited
Greenfield Business Park No. 2,
Greenfield, Holywell, Flintshire,
North Wales, CH8 7GJ
T: +44 (0) 1352 716100
F: +44 (0) 1352 710161
www.kingspanpanels.co.uk

For the product offering in other markets
Please contact your local sales representative
or visit www.kingspanpanels.com

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