

Insulated Roof & Wall Panels

Product Data Sheet



Slate & Tile Support
KS1000/2000 TS

KS1000/2000 TS Slate & Tile Support

Product Data Sheet

Applications

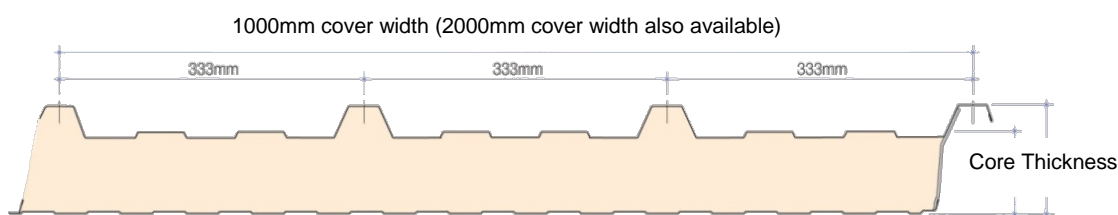
The KS1000/2000 TS is an advanced insulated roof panel roof that has been designed to support slate and tile roofing systems. This system provides all of the advantages of insulated panel technology with the aesthetic appeal of a traditional vernacular roof finish, making it suitable for any project where this appearance is required. A wide range of slates and tiles can be installed in conjunction with the system. For minimum roof pitch consult with slate/tile manufacturer.



Available Lengths

Standard Lengths	1.8 - 12m
Longer Lengths (non-standard)	12 – 29.3m*
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). * Maximum length is 20.5m for a 2 metre panel.



Dimensions, Weight & Thermal Performance

Core Thickness (mm)	40	50	60	70	80	100	115	120	137	150
U-value (W/m ² K)	0.46	0.38	0.35	0.30	0.25	0.20	0.18	0.16	0.15	0.14
Weight kg/m ² 0.5/0.4 steel	9.9	10.3	10.7	11.0	11.5	12.3	12.8	13.1	13.7	14.2

The KS1000/2000 TS insulated roof 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).

KS1000/2000 TS Slate & Tile Support

Product Data Sheet

Insulation Core

KS1000/2000 TS insulated roof 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. The panel is rated SAA when tested to BS 476: Part 3: 2004.

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*.

*LPCB is limited to a maximum tile weight of 54 kg/m².



Environmental

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

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)	20	18	20	24	20	29	39	47

* Frequency

The KS1000/2000 TS insulated roof panel has a single figure weighted sound reduction $R_w = 25$ 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, and Kingspan CLEANsafe: Material S220GD+ZA hot-dip zinc/aluminium Galvan coated steel to BS EN 10346: 2009 Standard external sheet thickness 0.5mm, standard internal sheet thickness 0.4mm.
- Bright White Polyester: Material Hot dip zinc coated to BS EN 10346: 2009, Standard internal steel thickness 0.4mm.
- Stainless Steel: Austenitic Grade 304 stainless steel to BS EN 10088: Part 2: 2005, thickness 0.4mm.

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.

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.

KS1000/2000 TS Slate & Tile Support

Product Data Sheet

Panel End Cut Back

Standard Cut Back Eaves	75mm
Standard Cut Back Endlap	150mm
Minimum Cut Back	20mm
Maximum Cut Back	300mm

Product Tolerance

Cut to Length	-0.05% +0.1%
Liner Sheet Length	-0.1% +0.1%
Cover Width	-0mm +3mm
Thickness	-2mm +2mm
End Square	-3mm +3mm

Handing

The KS1000/2000 TS insulated roof panel can be manufactured in both left to right handed (LH) and right to left handed (RH).

Seals

Factory applied side & end lap weather seals.

Quality & Durability

KS1000/2000 TS insulated roof 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.

Guarantee

Kingspan Total Panel Guarantee covering the structural and thermal performance for a period of up to 25 years.

Packing

KS1000 TS insulated roof 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)	40	50	60	70-80	100-120	137-150
No. of panels in Pack	17	15	13	11	7	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.

KS1000/2000 TS Slate & Tile Support

Product Data

Structural Tables

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

Tile Weight: Up to 15kg/m² (0.15kN/m²)

Single Span Condition

Panel Thickness (mm)	Load Types	Uniformly distributed loads kN/m ² Span L in metres							
		1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
40	Downwards	4.54	3.88	3.38	2.89	2.39	1.90	1.66	1.41
	Suction	5.17	4.59	4.26	3.98	3.67	3.36	3.13	2.90
50	Downwards	5.22	4.55	4.00	3.45	2.90	2.35	2.07	1.79
	Suction	5.92	5.32	4.99	4.67	4.34	4.01	3.72	3.42
60	Downwards	5.86	5.16	4.57	3.98	3.39	2.79	2.48	2.17
	Suction	6.63	6.02	5.67	5.33	4.98	4.64	4.29	3.95
70	Downwards	6.43	5.72	5.09	4.46	3.82	3.19	2.85	2.51
	Suction	7.32	6.71	6.35	5.99	5.64	5.28	4.88	4.48
80	Downwards	7.00	6.27	5.60	4.94	4.27	3.60	3.23	2.86
	Suction	7.98	7.36	6.99	6.63	6.26	5.89	5.44	5.00
100	Downwards	8.01	7.24	6.51	5.79	5.06	4.33	3.91	3.50
	Suction	8.96	8.35	7.86	7.38	6.89	6.41	6.02	5.63

Double Span Condition

Panel Thickness (mm)	Load Types	Uniformly distributed loads kN/m ² Span L in metres							
		1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
40	Downwards	4.11	3.38	3.06	2.75	2.42	2.11	1.93	1.76
	Suction	4.69	3.96	3.64	3.32	3.00	2.68	2.51	2.34
50	Downwards	4.34	3.60	3.26	2.94	2.60	2.27	2.09	1.91
	Suction	4.96	4.22	3.88	3.56	3.25	2.89	2.71	2.53
60	Downwards	4.56	3.80	3.45	3.11	2.76	2.42	2.23	2.04
	Suction	5.20	4.44	4.10	3.77	3.42	3.08	2.89	2.70
70	Downwards	4.74	3.96	3.61	3.25	2.90	2.54	2.34	2.15
	Suction	5.44	4.67	4.32	3.97	3.62	3.27	3.07	2.88
80	Downwards	4.92	4.13	3.76	3.40	3.03	2.67	2.46	2.26
	Suction	5.60	4.87	4.51	4.15	3.79	3.43	3.23	3.03
100	Downwards	5.23	4.42	4.04	3.66	3.28	2.89	2.67	2.46
	Suction	5.75	4.96	4.59	4.23	3.86	3.50	3.29	3.09

Tile Weight: Up to 45kg/m² (0.45kN/m²)

Single Span Condition

Panel Thickness (mm)	Load Types	Uniformly distributed loads kN/m ² Span L in metres							
		1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
40	Downwards	3.91	3.23	2.65	2.09	1.62	1.16	0.89	0.61
	Suction	5.33	4.79	4.45	4.11	3.81	3.52	3.26	2.99
50	Downwards	4.54	3.81	3.18	2.56	2.04	1.52	1.29	0.89
	Suction	6.08	5.53	5.17	4.82	4.50	4.18	3.92	3.50
60	Downwards	5.13	4.37	3.69	3.02	2.45	1.88	1.53	1.18
	Suction	6.79	6.23	5.85	5.48	5.14	4.81	4.41	4.01
70	Downwards	5.66	4.87	4.15	3.43	2.82	2.21	1.82	1.44
	Suction	7.48	6.92	6.53	6.15	5.80	5.45	4.99	4.54
80	Downwards	6.19	5.38	4.61	3.85	3.20	2.56	2.14	1.73
	Suction	8.14	7.57	7.17	6.78	6.42	6.06	5.56	5.07
100	Downwards	7.14	6.27	5.44	4.60	3.89	3.18	2.71	2.25
	Suction	9.91	8.35	7.71	7.07	6.52	5.98	5.62	5.27

Tile Weight: Up to 45kg/m² (0.45kN/m²) Cont.

Double Span Condition

Panel Thickness (mm)	Load Types	Uniformly distributed loads kN/m ² Span L in metres							
		1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
40	Downwards	3.62	2.97	2.62	2.27	1.97	1.67	1.48	1.29
	Suction	4.86	4.21	3.84	3.48	3.17	2.87	2.67	2.48
50	Downwards	3.84	3.17	2.80	2.44	2.12	1.81	1.61	1.42
	Suction	5.14	4.47	4.09	3.72	3.40	3.09	2.88	2.63
60	Downwards	4.04	3.35	2.97	2.59	2.26	1.94	1.73	1.53
	Suction	5.38	4.70	4.32	3.94	3.61	3.29	3.07	2.86
70	Downwards	4.21	3.51	3.11	2.72	2.38	2.05	1.83	1.62
	Suction	5.62	4.93	4.54	4.15	3.81	3.48	3.26	3.04
80	Downwards	4.38	3.66	3.26	2.85	2.51	2.16	1.94	1.72
	Suction	5.83	5.13	4.73	4.33	3.99	3.65	3.42	3.20
100	Downwards	4.67	3.93	3.51	3.09	2.72	2.36	2.12	1.88
	Suction	5.66	4.96	4.56	4.17	3.83	3.50	3.28	3.06

Tile Weight: Up to 90kg/m² (0.90kN/m²)

Single Span Condition

Panel Thickness (mm)	Load Types	Uniformly distributed loads kN/m ² Span L in metres							
		1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
40	Downwards	4.59	3.38	3.02	2.22	1.57	0.93	-	-
	Suction	6.47	5.76	5.27	4.79	4.43	4.07	-	-
50	Downwards	5.21	4.40	3.55	2.71	1.99	1.28	-	-
	Suction	7.25	6.53	6.03	5.53	5.15	4.78	-	-
60	Downwards	5.79	4.96	4.06	3.17	2.39	1.62	-	-
	Suction	7.98	7.25	6.74	6.23	5.84	5.45	-	-
70	Downwards	6.33	5.48	4.54	3.60	2.77	1.94	-	-
	Suction	8.68	7.95	7.43	6.92	6.52	6.12	-	-
80	Downwards	6.86	5.99	5.01	4.04	3.16	2.28	1.64	1.00
	Suction	9.34	8.61	8.09	7.57	7.16	6.75	6.40	6.06
100	Downwards	7.81	6.92	5.86	4.81	3.85	2.89	2.18	1.47
	Suction	10.09	9.38	8.86	8.35	7.66	6.98	6.48	5.98

Double Span Condition

Panel Thickness (mm)	Load Types	Uniformly distributed loads kN/m ² Span L in metres							
		1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
40	Downwards	4.44	3.52	2.94	2.36	1.97	1.58	-	-
	Suction	6.27	5.36	4.78	4.24	3.82	3.43	-	-
50	Downwards	4.67	3.73	3.13	2.53	2.12	1.72	-	-
	Suction	6.58	5.65	5.06	4.47	4.07	3.67	-	-
60	Downwards	4.89	3.92	3.30	2.69	2.26	1.84	-	-
	Suction	6.85	5.90	5.30	4.70	4.29	3.88	-	-
70	Downwards	5.08	4.09	3.45	2.82	2.38	1.95	-	-
	Suction	7.10	6.15	5.54	4.93	4.51	4.09	-	-
80	Downwards	5.26	4.26	3.61	2.96	2.51	2.06	1.73	1.40
	Suction	7.33	6.36	5.74	5.13	4.70	4.27	3.96	3.65
100	Downwards	5.58	4.55	3.87	3.20	2.73	2.26	1.91	1.56
	Suction	7.16	6.20	5.58	4.96	4.54	4.12	3.81	3.50

Notes:

1. Values have been calculated using the method described in BS EN 14509: 2013, for medium and light coloured panels.
2. For each value individual and combined load cases with appropriate load factors and temperatures have been considered.
3. The Table is for medium and light coloured panels, as recommended by Kingspan for roofs.
4. The following deflection limits have been used: Downward loading L/200 - Suction loading L/150
5. For intermediate values linear interpolation may be used.
6. The actual wind suction load resisted by the panel is dependent on the number of fasteners used and the material of the purlin. The fastener calculation should be carried out in accordance with the appropriate standard. For further advice please contact Kingspan envirocare Technical Services.
7. The allowable steelwork tolerance between bearing planes of adjacent purlins is ± 5 mm. For panel span for the 115mm, 120mm, 137mm and 150mm thick KS1000 TS insulated roof panels, please contact Kingspan envirocare Technical Services on 0800 587 0090.

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.com

Registered Office at Greenfield Business Park No.2, Greenfield, Holywell, Flintshire, N. Wales CH8 7GJ. Company Reg. No. 1037468