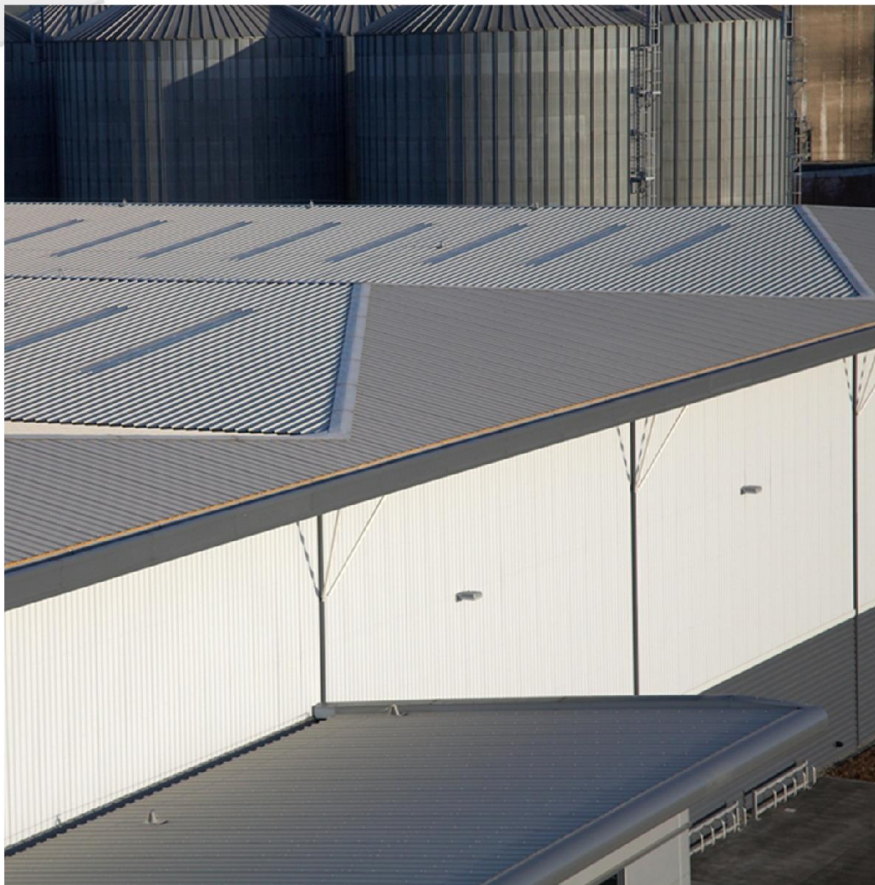




QuadCore Trapezoidal Roof Panel (RW)

KS1000 RW

Data Sheet



QuadCore™ RW Trapezoidal Roof Panel

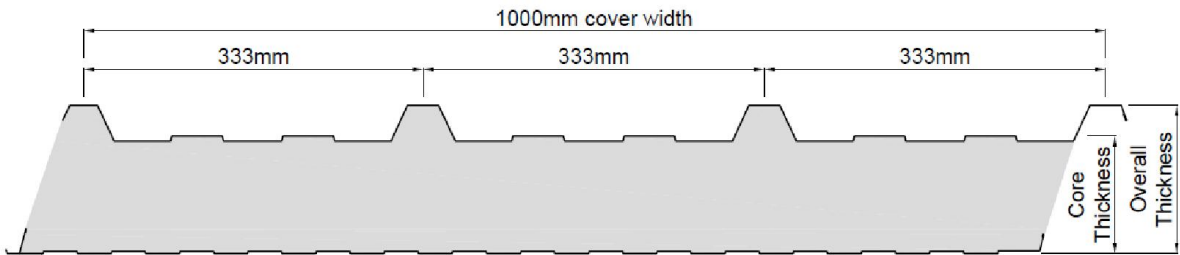
Applications

The KS1000 RW is a through-fix trapezoidal profiled insulated roof panel which can be used for building applications with roof pitches of 4° or more after deflection.

Available Lengths

Standard Lengths	1.8 – 14.5m
Longer Lengths (non-standard)	14.5 – 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).



Dimensions, Weight & Thermal Performance

Core Thickness (mm)	40	53	60	73	80	91	100	115	120	137	150
Overall Thickness (mm)	71	84	91	104	111	122	131	146	151	168	181
U-value (W/m²K)	0.47	0.35	0.31	0.25	0.23	0.20	0.18	0.16	0.15	0.13	0.12
Weight kg/m² 0.5/0.4 Steel	9.8	10.4	10.6	11.2	11.4	11.9	12.2	12.8	13.0	13.7	14.2
Weight kg/m² 0.7/0.5 Alum	5.5	6.0	6.3	6.8	7.1	7.6	7.9	8.5	8.7	9.4	9.9

The KS1000 RW 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 RW insulated roof panels are manufactured with an HCFC, CFC and HFC free QuadCore insulation core.

Fire

Reaction to Fire

- Classified B-s1,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
- B_{ROOF} (t4) to BS EN 13501-5:2016

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
- FM 4471 Class 1 panel roofs*
- FM 4880 Class 1 fire rating of building panels or interior finish materials, unlimited height
- FM 4882 Class 1 interior wall panels in smoke sensitive occupancies (pharmaceutical manufacturing & storage areas, and food preparation & storage areas or similar occupancies)

*1.5m maximum span only. Please contact [Technical Services](#) for more information.



LPS 1181 : Issue 1.2
Cert. No: 260f & 186f

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)	20	18	20	24	20	29	39	47

* Frequency

The KS1000 RW insulated roof panel has a 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 EN 10346:2015.thickness 0.4mm
- Stainless Steel: Austenitic Grade 316 stainless steel to BS EN 10088: Part 2: 2014, thickness 0.4mm.
- Aluminium: Please contact Kingspan envirocare Technical Services.

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

- Kingspan 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

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

Product Tolerance

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

Handling

The KS1000 RW 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 RW 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. The KS1000RW roof panels are CE marked to BS EN 14509: 2013.



Guarantee

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

Packing

KS1000 RW 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	53	60	73-80	91	100	137
No. of panels in Pack	17	15	13	11	9	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 Technical Services.

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Structural Tables

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	3.2
40	Pressure	3.24	2.68	2.26	1.93	1.50	1.17	0.91	0.71	0.56	-
	Suction	4.34	3.63	3.09	2.67	2.33	1.92	1.57	1.30	1.09	-
53	Pressure	3.86	3.27	2.80	2.43	2.04	1.63	1.31	1.06	0.86	0.69
	Suction	5.23	4.46	3.87	3.39	2.99	2.58	2.15	1.80	1.53	1.31
60	Pressure	4.21	3.60	3.11	2.71	2.34	1.89	1.54	1.26	1.03	0.85
	Suction	5.72	4.92	4.29	3.78	3.35	2.85	2.41	2.07	1.78	1.53
73	Pressure	4.85	4.19	3.67	3.23	2.87	2.38	1.97	1.64	1.37	1.15
	Suction	6.65	5.80	5.12	4.55	3.88	3.23	2.73	2.34	2.04	1.79
80	Pressure	5.19	4.52	3.98	3.52	3.13	2.67	2.22	1.86	1.56	1.32
	Suction	7.15	6.27	5.56	4.96	4.12	3.43	2.90	2.49	2.16	1.90
91	Pressure	5.69	5.00	4.43	3.94	3.53	3.11	2.62	2.22	1.88	1.60
	Suction	7.94	7.03	6.27	5.43	4.43	3.69	3.12	2.68	2.33	2.05
100	Pressure	6.14	5.42	4.83	4.32	3.87	3.49	2.96	2.52	2.15	1.85
	Suction	8.60	7.65	6.81	5.84	4.77	3.97	3.37	2.89	2.52	2.21
115	Pressure	6.86	6.11	5.48	4.93	4.44	4.01	3.52	3.03	2.61	2.26
	Suction	9.61	8.42	7.49	6.36	5.20	4.34	3.68	3.17	2.75	2.42
120	Pressure	7.09	6.33	5.68	5.12	4.62	4.18	3.71	3.20	2.77	2.40
	Suction	9.61	8.42	7.49	6.59	5.39	4.50	3.82	3.28	2.86	2.51
137	Pressure	7.87	7.08	6.39	5.78	5.24	4.76	4.32	3.80	3.31	2.90
	Suction	9.61	8.42	7.50	6.76	5.86	4.90	4.16	3.58	3.11	2.74
150	Pressure	8.47	7.64	6.93	6.29	5.71	5.19	4.73	4.27	3.74	3.29
	Suction	9.62	8.43	7.50	6.76	6.15	5.20	4.41	3.80	3.31	2.91

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	3.2
40	Pressure	3.24	2.68	2.24	1.85	1.56	1.34	1.16	1.02	0.90	0.80
	Suction	4.07	3.27	2.71	2.29	1.98	1.74	1.54	1.38	1.25	1.14
53	Pressure	3.81	3.02	2.46	2.05	1.74	1.50	1.30	1.15	1.02	0.91
	Suction	4.24	3.43	2.86	2.43	2.11	1.86	1.66	1.49	1.35	1.24
60	Pressure	3.97	3.15	2.58	2.15	1.83	1.58	1.38	1.22	1.08	0.97
	Suction	4.32	3.50	2.92	2.50	2.17	1.91	1.71	1.54	1.40	1.28
73	Pressure	4.23	3.38	2.77	2.33	1.99	1.72	1.50	1.33	1.18	1.06
	Suction	4.45	3.63	3.04	2.61	2.27	2.01	1.80	1.63	1.48	1.36
80	Pressure	4.38	3.51	2.88	2.42	2.07	1.79	1.57	1.39	1.24	1.11
	Suction	4.50	3.68	3.09	2.65	2.32	2.05	1.84	1.66	1.52	1.39
91	Pressure	4.60	3.70	3.05	2.57	2.20	1.91	1.68	1.49	1.33	1.19
	Suction	4.47	3.67	3.09	2.66	2.32	2.06	1.85	1.68	1.53	1.41
100	Pressure	4.78	3.85	3.18	2.69	2.30	2.00	1.76	1.56	1.40	1.26
	Suction	4.60	3.78	3.19	2.75	2.41	2.14	1.92	1.74	1.59	1.46
115	Pressure	5.06	4.09	3.40	2.87	2.47	2.15	1.89	1.68	1.50	1.35
	Suction	4.65	3.83	3.24	2.80	2.46	2.18	1.96	1.78	1.63	1.50
120	Pressure	5.15	4.17	3.46	2.93	2.52	2.19	1.93	1.72	1.54	1.39
	Suction	4.64	3.83	3.25	2.80	2.46	2.19	1.97	1.79	1.63	1.51
137	Pressure	5.45	4.44	3.70	3.14	2.70	2.36	2.08	1.85	1.66	1.49
	Suction	4.65	3.85	3.27	2.83	2.48	2.21	1.99	1.81	1.66	1.53
150	Pressure	5.68	4.63	3.86	3.28	2.83	2.47	2.18	1.94	1.74	1.57
	Suction	4.63	3.84	3.26	2.82	2.48	2.21	1.99	1.81	1.66	1.53

- Values have been calculated using the method described in BS EN 14509 2013, for medium coloured panels.
- The following deflection limits have been used:
 - Pressure loading L/200
 - Suction loading L/150
- All panel thicknesses have been calculated with a minimum support width of 50mm. Larger support widths are possible.
- 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.

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03/2020