Insulated Panels
UK & Ireland

Protected by Kingspan QuadCore® Assured

QuadCore KS1000RW Roof Panel

Product Datasheet



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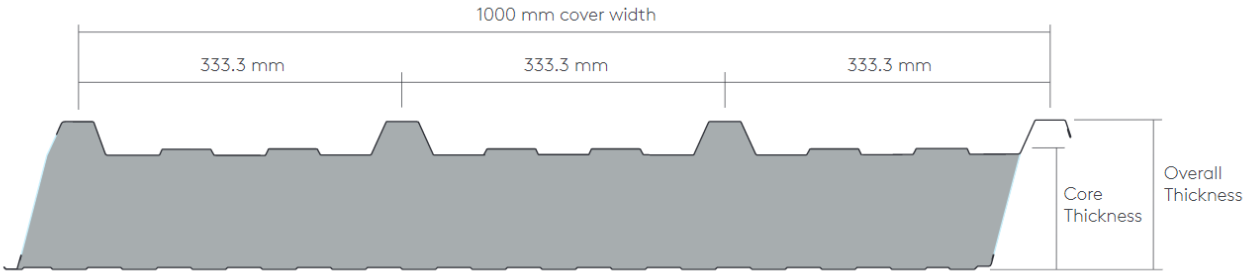
Kingspan®



Application

QuadCore® KS1000RW Roof Panels are through-fix, trapezoidal profiled, insulated roof panels which can be used for building applications with roof pitches of 4° or more after deflection.

Panel Cross Section



Dimensions, Weight and Thermal Performance

Core Thickness [mm]	40	53	60	73	80	91	100	115	120	137	150	167
Overall Thickness [mm]	71	84	91	104	111	122	131	146	151	168	181	198
Weight [kg/m²]	8.8	9.3	9.5	10.0	10.3	10.7	11.0	11.6	11.8	12.4	12.9	13.6
U-value [W/m²·K]	0.46	0.35	0.30	0.25	0.23	0.20	0.18	0.16	0.15	0.13	0.12	0.11

The QuadCore® insulation used in QuadCore® KS1000RW Roof Panels has a Thermal Conductivity (λ) of 0.018 0.018 W/m·K
The Thermal Transmittance (U-Value) for the panels has been calculated using the method outlined in EN 14509, which takes in to account the panel longitudinal side joints.

Certification and Testing

Reaction to Fire

QuadCore® KS1000RW Roof Panels are classified B-s1, d0 , when tested on the internal face of the product, according to the European Reaction to Fire classification system (Euroclasses) BS EN 13501-1: 2018 under the certified name QuadCore® KS1000RW when using the following internal liners:

- CLEANsafe 15, CLEANsafe 25, CLEANsafe 55, CLEANsafe 120 and AQUAsafe 55.

Please contact Kingspan Tech-eXchange for information relating to the external face.

Fire Resistance

Fire resistance classifications are subject to panel thickness, orientation, method of assembly, and steel coating.

Please contact Kingspan Tech-eXchange for project specific details.

Roof Applications

QuadCore® KS1000RW Roof Panels are tested to:

- Broof(t4) to BS EN 13501-5: 2016 under the certified name KS1000RW for panel thicknesses 40 - 167 mm and roof pitch of 0° - 10°.
- Broof(t4) to BS EN 13501-5: 2016 under the certified name KS1000RW for panel thicknesses 40 - 167 mm and roof pitch of >10°.

Insurer Approvals

Insurer approvals are large scale testing regimes that provide objective third-party testing, which is underpinned by quarterly, bi-annual and annual factory surveillance audits (depending on the region) to verify compliance. Insurer approvals are subject to panel

thickness, cover width, orientation, method of assembly, steel coating and manufacturing facility.

Please contact Kingspan Tech-eXchange for further information.

Cover Width [mm]	Core Thickness [mm]	LPS 1181-1	FM Approval
1,000	40	EXT-B	4880, 4882, 4471
	53	EXT-B	4880, 4882, 4471
	60	EXT-B	4880, 4882, 4471
	73	EXT-B	4880, 4882, 4471
	80	EXT-B	4880, 4882, 4471
	91	EXT-B	4880, 4882, 4471
	100	EXT-B	4880, 4882, 4471
	115	EXT-B	4880, 4882, 4471
	120	EXT-B	4880, 4882, 4471
	137	EXT-B	4880, 4882, 4471
	150	EXT-B	4880, 4882, 4471
	167	-	4880, 4882, 4471

Loss prevention standard (LPS)	Issue Number	Certificate Number	LPCB Ref No.
LPS 1181-1	Jan 2014 (Issue 1.2)	186f Issue 07	186f/01
LPS 1181-1	Jan 2014 (Issue 1.2)	260f Issue 08	260f/01

FM APPROVED

Available Lengths

Shorter lengths	500-1799 mm
Standard lengths	1800-14500 mm
Longer lengths (non-standard)	14501-29200 mm

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

Product Tolerances

Dimension	Tolerance [EN 14509]
Length tolerance, L≤3m, -	5 mm
Length tolerance, L≤3m, +	5 mm
Length tolerance, L>3m, -	10 mm
Length tolerance, L>3m, +	10 mm
Cover width tolerance, -	2 mm
Cover width tolerance, +	2 mm
Thickness tolerance, D≤100mm, -	2 mm
Thickness tolerance, D≤100mm, +	2 mm
Thickness tolerance, D>100mm, -	2 %
Thickness tolerance, D>100mm, +	2 %
End squareness	0.006 x w
Deviation from straightness (on length)	1mm/m, maximum 5 mm/m
Deviation from flatness, L = 200mm	0.6 mm
Deviation from flatness, L = 400mm	1.0 mm
Deviation from flatness, L > 700mm	1.5 mm

Materials

Insulation Core

QuadCore® KS1000RW Roof Panels are manufactured with an HCFC, CFC and HFC free QuadCore® insulation core.

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Substrate

Metallic protected steel to BS EN 10346: 2015.

Please contact Kingspan Tech-eXchange for information on other substrates.

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.

For Reaction to Fire performance of external weather sheets please contact Kingspan Tech-eXchange.

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 CLEANsafe 120: The coating has been developed for use as then 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.

• Kingspan AQUAsafe 55: The coating has been developed for use as the internal lining of insulated panels to swimming pool internal environments.

For reaction to fire performance of panels with above internal liners please see Certification and Testing section.

Seals

An optional factory applied weather seal (FAWS) can be supplied by Kingspan on request (this must be specified at order stage and is subject to additional charge).

Air Leakage

An air leakage rate as low as 3m³/h/m² @ 50 Pa can be achieved when using Kingspan insulated roof and wall panels.

For information on detailing required to achieve lower air leakage rates please contact Kingspan Tech-eXchange

Acoustic Performance

QuadCore® KS1000RW Roof Panels have a single figure weighted sound reduction Rw = 24 dB . Results are based on panels of similar profile and core material.

Sound Reduction Index (SRI)

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
SRI (dB)	15.4	16.8	19.4	22	16.8	38	40.9	48.9

Environmental

Kingspan Insulated Panels produced in the UK and Ireland are certified to BES 6001 (Framework Standard for the Responsible Sourcing of Construction Products) 'Good'. QuadCore® Insulated Panel systems have Environmental Product Declarations in accordance with the requirements of EN 15804 + A2: 2019.

In addition, facilities located in Kingscourt, Holywell and Sherburn generate renewable energy onsite which contributes to that sites energy mix.

Recycled content calculations are available for all QuadCore® products via technical services. Kingspan insulated panels can directly contribute to BREEAM® / LEED® credits.

Handing

QuadCore® KS1000RW Roof Panels can be manufactured in both left to right handed (LH) and right to left handed (RH).

Quality & Durability

QuadCore® KS1000RW 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, Energy Management System Certification BS EN ISO 50001, Occupational Health and Safety Certification BS EN ISO 45001 and Compliance Management Systems BS EN ISO 37301.

QuadCore® KS1000RW Roof Panels are CE marked to BS EN 14509: 2013.

Packing

QuadCore® KS1000RW Roof Panels are stacked weather sheet to weather sheet (to minimise pack height). The top and sides are protected by either cardboard or polystyrene and spiral wrap stretch polyfilm. The number of panels in a pack will vary depending on thickness.

Core Thickness [mm]	40	53	60	73	80	91	100	115	120	137	150	167
No. of Panels Per Pack (max)	19	15	17	12	11	9	9	8	8	6	6	7

Note: Applies to UK pack sizes. Please contact Kingspan Tech-eXchange for export information.

Delivery

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

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.

Panel End Cut Back

For further information in relation to end laps please contact Kingspan Tech-eXchange.

Cut back standard lengths	50 mm, 75 mm, 100 mm
Water permeability, applicable end lap(s)	75 mm, 150 mm

Site Installation Procedure

Site assembly instructions are available from Kingspan Tech-eXchange.

Warranty

QuadCore® Assured Panel Warranty

- 25 years thermal performance
- 25 years fire performance
- 25 years structural performance
- 25 years environmental performance
- Up to 40 years coating performance

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