



# QuadCore Topdek Single Ply Membrane Roof Panel

KS1000 TD

## Data Sheet



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## Applications

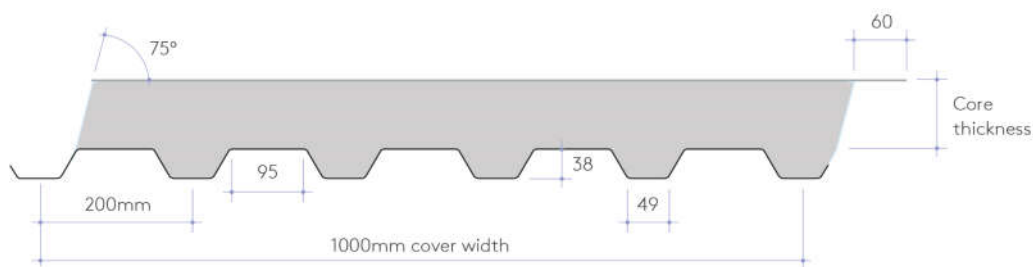
The KS1000 TD Topdek is a single component, factory pre-engineered roof deck, comprising a high performance single-ply PVC membrane with insulation and a trapezoidal steel deck, which is suitable for flat and pitched roofs above 1:80 (0.72°) after deflection. It is also suitable for curved roof applications with a convex curve (45m radius) and concave curve (50m radius).



## Available Lengths

Standard Lengths	2m - 14.5m
Longer Lengths (non-standard)	14.5m - 16m
Shorter Lengths (non-standard)	Below 2m

Shorter Lengths (non-standard) below 2m  
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	71	91	100	120	140
Overall Thickness (mm)	72	109	129	138	158	178
U-value (W/m²K)	0.43	0.23	0.19	0.17	0.14	0.12
Weight kg/m² 0.5mm Deck	9.0	10.5	11.3	11.7	12.5	13.3

The KS1000 TD 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).

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## Insulation Core

KS1000 TDSK and KS1000 TDAR insulated wall panels are manufactured with an HCFC, CFC and HFC free QuadCore insulation core.

## Fire

The internal face 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 IKO membrane has BROOF(t4) classification to BSEN13501-5: 2016.

The Sika membrane is FAB rated to BS476: Part 3 2004. The Topdek roof panel with the Quadcore insulation has passed all the requirements of LPS 1181: 2005: Part 1: Issue 1.1, ceiling lining tests by the Loss Prevention Certification Board (LPCB).

\*Final certification pending.

## Environmental

Kingspan Insulated Panels produced in the UK are certified to BES 6001 (Framework Standard for the Responsible Sourcing of Construction Products) 'Very Good'. Quadcore Insulated Panel systems' Environmental Product Declaration is in accordance with the requirements of EN 15804:2012+A1:2013. All Kingspan manufacturing facilities across the UK and Ireland are powered by 100% renewable energy.

Kingspan Insulated Panels directly contribute to BREEAM/LEED credits.

## Air Leakage

An air leakage rate of 3m<sup>3</sup>/hr/m<sup>2</sup> at 50Pa or less can be achieved when using Kingspan insulated roof and wall panels.

## Acoustic

Sound Reduction Index (SRI)

Hz*	125	250	500	1K	2K	4K
SRI (dB)	18	18	17	23	30	40

\* Frequency

The KS1000 TD insulated roof panel 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

- CLEANsafe 15: S220GD+ZA hot dip zinc alloy coated to BS EN 10346: 2009, Standard internal sheet thickness 0.5mm.
- Membrane: Standard external membrane thickness: 1.5mm.

Coatings - External Weather Membrane

- High performance PVC single ply membrane from one of the following manufacturers: Armourplan (IKO) or Sika (Trocral).

Coatings - Internal Deck

- 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.

## Panel End Cut Back

Standard Cut Back	60mm
Flush	One end flush

## Product Tolerance

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

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## Handing

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

## Quality & Durability

KS1000 TDSK and KS1000 TDAR 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 15 years and membrane guarantee for a period of up to 15 years (subject to project specific information).

## Packing

KS1000 TD 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. The number of panels in each pack depends

on panel thickness, as shown in the table. Typical pack height is 1100mm.

Core Thickness (mm)	34	71	91	100	120	140
No. of panels in Pack	20	12	10	10	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.

# QuadCore™

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### Structural Tables

#### KS1000 TD

External sheet membrane, Internal sheet 0.5mm (steel)

(Unfactored Load/Span tables (to be compared against calculated design wind load values unfactored))

#### Single Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m <sup>2</sup>											
		Span, m											
		1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2
34	Pressure	6.59	4.55	2.92	1.93	1.33	0.94	0.69	0.51	0.38	0.29	0.22	0.16
	Suction	5.65	3.94	2.91	2.25	1.79	1.46	1.17	0.92	0.74	0.61	0.51	0.44
71	Pressure	6.58	4.54	2.91	1.92	1.31	0.93	0.67	0.50	0.37	0.27	0.20	0.15
	Suction	5.66	3.95	2.92	2.25	1.80	1.47	1.18	0.93	0.75	0.63	0.53	0.45
91	Pressure	6.58	4.54	2.90	1.91	1.31	0.92	0.67	0.49	0.36	0.27	0.20	0.14
	Suction	5.67	3.96	2.93	2.26	1.80	1.47	1.19	0.94	0.76	0.63	0.54	0.46
100	Pressure	6.57	4.53	2.90	1.90	1.30	0.92	0.66	0.48	0.36	0.26	0.19	0.14
	Suction	5.67	3.96	2.93	2.26	1.80	1.48	1.19	0.94	0.77	0.64	0.54	0.46
120	Pressure	6.56	4.52	2.89	1.90	1.29	0.91	0.65	0.48	0.35	0.25	0.18	0.13
	Suction	5.68	3.97	2.94	2.27	1.81	1.48	1.20	0.95	0.77	0.65	0.55	0.47
140	Pressure	6.56	4.52	2.89	1.90	1.29	0.91	0.65	0.48	0.35	0.25	0.18	0.13
	Suction	5.68	3.97	2.94	2.27	1.81	1.48	1.20	0.95	0.77	0.65	0.55	0.47

#### Double Span

Core Thickness (mm)	Load Type	Uniformly distributed imposed load, kN/m <sup>2</sup>											
		Span, m											
		1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2
34	Pressure	4.00	2.96	2.28	1.81	1.46	1.21	1.01	0.85	0.73	0.63	0.54	0.47
	Suction	6.74	4.70	3.47	2.67	2.12	1.73	1.44	1.22	1.05	0.91	0.80	0.71
71	Pressure	4.79	3.48	2.63	2.06	1.63	1.31	1.06	0.88	0.73	0.62	0.53	0.45
	Suction	6.74	4.70	3.47	2.68	2.13	1.74	1.45	1.23	1.06	0.92	0.81	0.72
91	Pressure	5.11	3.68	2.75	2.08	1.63	1.30	1.06	0.87	0.73	0.61	0.52	0.45
	Suction	6.75	4.71	3.48	2.68	2.13	1.74	1.45	1.23	1.06	0.93	0.82	0.73
100	Pressure	5.23	3.75	2.75	2.08	1.62	1.29	1.05	0.87	0.72	0.61	0.52	0.44
	Suction	6.75	4.71	3.48	2.68	2.14	1.75	1.46	1.24	1.06	0.93	0.82	0.73
120	Pressure	5.46	3.77	2.74	2.07	1.62	1.29	1.04	0.86	0.72	0.60	0.51	0.44
	Suction	6.76	4.72	3.49	2.69	2.14	1.75	1.46	1.24	1.07	0.93	0.82	0.73
140	Pressure	5.46	3.77	2.74	2.07	1.62	1.29	1.04	0.86	0.72	0.60	0.51	0.44
	Suction	6.76	4.72	3.49	2.69	2.14	1.75	1.46	1.24	1.07	0.93	0.82	0.73

- 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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