

Insulated Panels
UK & Ireland



QuadCore[®] AWP Wall Panel Product Data Sheet









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QuadCore[®]
TECHNOLOGY



Product Data

QuadCore® AWP Panel Range

The QuadCore® AWP Panel range is available in nine distinct profiles; far more than the two or three styles previously available to architects on the market.

Profile Options	Coating Options			Non-standard Cover Widths
	XL Forté	Spectrum	Altaris	
Convex KS600-1000 CX 	✓	✓	✓	600-1000mm in 66.66mm increments
Euro-Box KS600-1000 EB 	✓	✓	✓	600-1000mm in 100mm increments
Flat KS600-1000 FL / Flat-Stucco KS600-1000 FL-S 	✓ Flat	✓ Flat-Stucco	✓ Flat-Stucco	600-1000mm in 1mm increments
Mini-Micro KS600-1000 MM 	✓	✓	✓	600-1000mm in 8.33mm increments
Micro-Rib KS600-1000 MR 	✓	✓	✓	600-1000mm in 20mm increments
Plank KS600-1000 PL 	✓	✓	✓	600-1000mm in 100mm increments
Tramline KS1000 TL 	✓	✓	✓	1000mm only
Wave KS600-1000 WV 	✓	✓	✓	600-1000mm in 100mm increments

Applications

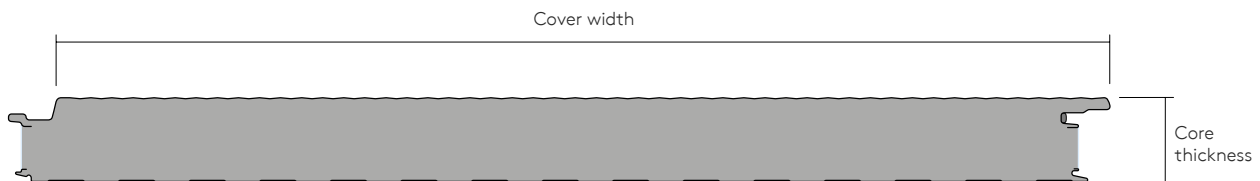
QuadCore® Wall Panel is a range of secret-fix wall panels that offer freedom of design and high performing insulated panel solutions to architects. The wide range of profiles on offer go beyond traditional insulated panel designs. The QuadCore® AWP Wall Panel range is available in nine distinct profiles, in a variety of panel widths and can be installed both horizontally and vertically.



Available Lengths

Standard Lengths (m)	1.8 - 14.5
Longer Lengths (non-standard) (m)	14.5 - 17.5
Shorter Lengths (non-standard) (m)	Below 1.8

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

	Convex, Euro-Box, Flat, Flat-Stucco, Mini-Micro, Micro-Rib, Plank, Tramline & Wave										
Core Thickness (mm)	45	54	60	70	74	80	88	100	120	140	150
U-Value (W/m²K)	0.46	0.35	0.32	0.27	0.25	0.23	0.21	0.19	0.15	0.13	0.12
Weight steel external sheet (kg/m²)	8.7	9.1	9.3	9.7	9.8	10.1	10.4	10.8	11.6	12.4	12.7

The QuadCore® insulation used in QuadCore® AWP Wall Panel has a Thermal Conductivity (λ) of 0.018W/m.K

QuadCore® AWP Wall Panel has a Thermal Transmittance (U-Value), calculated using the method required by the Building Regulations Part L2 (England & Wales), Building Standards Section 6 (Scotland), Part L (Republic of Ireland) and Part F2 (Northern Ireland).

Insulation Core

QuadCore® AWP Wall Panel is manufactured with an HCFC, CFC and HFC free QuadCore® insulation core.

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Certification and Testing

Reaction to Fire

QuadCore® AWP Wall Panel is classified B-s1,d0, when tested on the internal face of the product, according to the European Reaction to Fire classification system (Euroclasses) EN 13501-1:2018 under the certified name AWP Product Family 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.

Insurer Approvals

QuadCore® AWP Wall Panels are tested to:

- LPS 1181 Part 1: Issue 1.2 Requirements and tests for built-up cladding and sandwich panel systems for use as the external envelope of buildings certified to:
 - LPS 1181-1 Grade EXT-B under the certified name Kingspan QuadCore® KS600 – 1200 AWP, MR, FL, FL-S, EB, WV, MM, CX, PL, KS1000 TL for thicknesses 45 – 150mm.
 - LPS 1181-1 Grade EXT-A30 under the certified name Kingspan QuadCore® KS1000 AWP for thicknesses 80 – 150mm.
- FM 4880 approval standard for class 1 fire rating of building panels or interior finish materials for thicknesses 45 – 150mm and panel widths of 900mm and 1000mm.
- FM 4881 approval standard for class 1 exterior wall systems for thicknesses 45 – 150mm and panel widths of 900mm and 1000mm.
- FM 4882 approval standard for class 1 interior wall and ceiling materials or systems for smoke sensitive occupancies for thicknesses 45 – 150mm and panel widths of 900mm and 1000mm.

FM approvals are subject to the following certified names:

- For 1000mm widths: KS1000 AWP, KS1000 MR, KS1000 MM, KS1000 EB, KS1000 TL, KS1000 PL, KS1000 FL, KS1000 FL-S, KS1000 CX, KS1000 WV.
- For 900mm widths: KS900 AWP, KS900MR, KS900MM, KS900 EB, KS900 TL, KS900 PL, KS900 FL, KS900 FL-S, KS900 CX, KS900 WV.

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.



LPS 1181-1: Issue 1.2
Cert: 186f & 260f
LPCB Ref: 260f/02



LPS 1181-1: Issue 1.2
Cert: 186f & 260f
LPCB Ref: 260f/07 & 260f/08

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 have Environmental Product Declarations in accordance with the requirements of EN 15804:2012+A1: 2013 for 100mm thickness.

All Kingspan Insulated Panels manufacturing facilities across the UK and Ireland are 100% Net Zero Energy. In addition, facilities located in Kingscourt, Holywell and Sherburn generate renewable energy onsite which contributes to that sites energy mix.

Kingspan Insulated Panels procure steel that is made from 15 – 25% recycled content. 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.

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

Acoustic

Sound Reduction Index (SRI)

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
SRI (dB)	20	15	17	23	18	25	40	46

QuadCore® AWP Wall Panel has a single figure weighted sound reduction $R_w = 24$ dB. Results are based on panels of similar profile and core material.

Materials

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 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.
- 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 internal liners please see Certification and Testing section.

Product Tolerances

Cut to Length	± 5mm
Cover Width	± 2mm
Thickness (Core ≤ 100mm)	± 2mm
Thickness (Core > 100mm)	± 2%
End Squareness	± 3mm

Seals

Factory applied side joint seals. All side joints have a factory applied seal fitted into the groove to automatically seal the joint between panels.

Quality & Durability

QuadCore® AWP Wall Panel is 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 and Occupational Health and Safety Certification BS EN ISO 45001. QuadCore® AWP Wall Panel is CE marked to BS EN 14509: 2013.



Warranty

QuadCore® Assured Panel Warranty

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

QuadCore® Assured System Warranty

- 25 years insurance backed thermal performance
- 25 years insurance backed fire performance
- 25 years structural performance
- 25 years environmental performance
- Up to 40 years coating performance
- 25 years warranty on system accessories*

*Please contact Kingspan Tech-eXchange or refer to the 'QuadCore® Assured' brochure for a list of accessories covered by Kingspan.

Packing

QuadCore® AWP Wall Panel is 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)	45	54	60	70	74	80	88	100	120	140	150
No. of Panels per Pack	25	20	18	16	15	13	12	11	9	6	5

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

Product Data

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.

Site Installation Procedure

Site assembly instructions are available from Kingspan Technical Services.

Product Data

Load / Span Tables

Structural Tables: QuadCore® AWP Wall Panel KS1000 MR Micro-Rib

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

Single Span

Core Thickness (mm)	Load Type	Span (m)										
		Uniformly distributed imposed load (kN/m ²)										
		2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0
45	Pressure	2.40	2.09	1.72	1.43	1.20	1.01	0.85	-	-	-	-
	Suction	2.17	1.74	1.41	1.14	0.93	0.77	0.62	-	-	-	-
54	Pressure	2.88	2.62	2.35	1.97	1.67	1.42	1.21	1.04	0.90	-	-
	Suction	2.88	2.43	2.00	1.65	1.37	1.14	0.96	0.81	0.68	-	-
60	Pressure	3.20	2.91	2.67	2.35	2.00	1.71	1.47	1.27	1.10	0.96	0.84
	Suction	3.20	2.91	2.42	2.02	1.69	1.42	1.20	1.02	0.87	0.74	0.63
70	Pressure	3.73	3.39	3.11	2.87	2.59	2.23	1.93	1.68	1.46	1.28	1.13
	Suction	3.73	3.39	3.05	2.60	2.24	1.92	1.64	1.40	1.21	1.04	0.90
74	Pressure	3.95	3.59	3.29	3.04	2.82	2.45	2.12	1.85	1.62	1.42	1.25
	Suction	3.95	3.59	3.21	2.74	2.36	2.06	1.81	1.57	1.35	1.17	1.02
80	Pressure	4.27	3.88	3.56	3.28	3.05	2.78	2.42	2.12	1.86	1.63	1.44
	Suction	4.27	3.88	3.45	2.94	2.54	2.21	1.94	1.72	1.54	1.37	1.20
88	Pressure	4.69	4.27	3.91	3.61	3.35	3.13	2.84	2.49	2.19	1.93	1.71
	Suction	4.69	4.27	3.77	3.21	2.77	2.41	2.12	1.88	1.67	1.50	1.36
100	Pressure	5.33	4.85	4.44	4.10	3.81	3.56	3.33	3.07	2.72	2.41	2.15
	Suction	5.33	4.85	4.23	3.60	3.11	2.71	2.38	2.11	1.88	1.69	1.52
120	Pressure	6.40	5.82	5.33	4.92	4.57	4.27	4.00	3.76	3.56	3.26	2.92
	Suction	6.40	5.82	4.97	4.23	3.65	3.18	2.79	2.47	2.21	1.98	1.79
140	Pressure	6.40	5.82	5.33	4.92	4.57	4.27	4.00	3.76	3.56	3.37	3.20
	Suction	6.40	5.82	5.33	4.83	4.16	3.63	3.19	2.82	2.52	2.26	2.04
150	Pressure	6.40	5.82	5.33	4.92	4.57	4.27	4.00	3.76	3.56	3.37	3.20
	Suction	6.40	5.82	5.33	4.92	4.41	3.84	3.38	2.99	2.67	2.40	2.16

- 1 Values have been calculated using the method described in BS EN 14509: 2013, for dark coloured panels.
- 2 The following deflection limits have been used:
 - Pressure loading $L/100$.
 - Suction loading $L/100$.
- 3 All panel thicknesses 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.

Product Data

Load / Span Tables

Structural Tables: QuadCore® AWP Wall Panel KS1000 MR Micro-Rib

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

Double Span

Core Thickness (mm)	Load Type	Span (m)										
		Uniformly distributed imposed load (kN/m ²)										
		2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0
45	Pressure	2.40	2.18	2.00	1.85	1.71	1.57	1.35	1.17	1.02	0.90	0.81
	Suction	2.40	2.18	2.00	1.72	1.48	1.29	1.13	1.00	0.89	0.80	0.72
54	Pressure	2.88	2.62	2.40	2.22	2.06	1.92	1.66	1.43	1.25	1.10	0.98
	Suction	2.88	2.62	2.39	2.04	1.76	1.53	1.35	1.19	1.06	0.96	0.86
60	Pressure	3.20	2.91	2.67	2.46	2.29	2.13	1.87	1.61	1.41	1.24	1.10
	Suction	3.20	2.91	2.64	2.25	1.94	1.69	1.49	1.32	1.18	1.05	0.95
70	Pressure	3.73	3.39	3.11	2.87	2.66	2.47	2.24	1.92	1.67	1.46	1.30
	Suction	3.63	3.28	2.99	2.60	2.24	1.95	1.72	1.52	1.36	1.22	1.10
74	Pressure	3.91	3.53	3.21	2.95	2.72	2.53	2.37	2.05	1.78	1.56	1.38
	Suction	3.73	3.36	3.06	2.74	2.36	2.06	1.81	1.60	1.43	1.28	1.16
80	Pressure	4.06	3.66	3.33	3.05	2.82	2.62	2.45	2.24	1.94	1.70	1.50
	Suction	3.86	3.49	3.18	2.92	2.54	2.21	1.94	1.72	1.54	1.38	1.24
88	Pressure	4.26	3.84	3.49	3.20	2.96	2.75	2.57	2.41	2.16	1.89	1.66
	Suction	4.05	3.65	3.33	3.05	2.77	2.41	2.12	1.88	1.67	1.50	1.36
100	Pressure	4.56	4.11	3.73	3.42	3.16	2.93	2.74	2.57	2.42	2.29	2.17
	Suction	4.34	3.91	3.55	3.26	3.01	2.71	2.38	2.11	1.88	1.69	1.52
120	Pressure	4.58	4.12	3.74	3.43	3.16	2.94	2.74	2.57	2.42	2.29	2.17
	Suction	4.34	3.90	3.54	3.25	3.00	2.79	2.61	2.45	2.21	1.98	1.79
140	Pressure	4.60	4.14	3.76	3.44	3.17	2.94	2.74	2.57	2.42	2.29	2.17
	Suction	4.33	3.89	3.54	3.24	2.99	2.78	2.59	2.43	2.29	2.17	2.04
150	Pressure	4.61	4.14	3.76	3.44	3.17	2.94	2.74	2.57	2.42	2.28	2.16
	Suction	4.33	3.89	3.53	3.23	2.98	2.77	2.59	2.43	2.28	2.16	2.05

- 1 Values have been calculated using the method described in BS EN 14509: 2013, for dark coloured panels.
- 2 The following deflection limits have been used:
 - Pressure loading $L/100$.
 - Suction loading $L/100$.
- 3 All panel thicknesses 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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For the product offering in other markets please contact your local sales representative or visit www.kingspanpanels.com

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