Fabrications, Safety & Lighting Solutions | Product Data Sheet

Kingspan Day-Lite Architectural
KS1000 DLAWP

Kingspan®
Insulated Panels

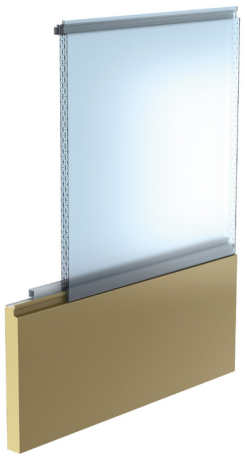
Kingspan Day-Lite Architectural

Product Data Sheet

Applications

Kingspan Day-Lite Architectural is a secret-fix, translucent polycarbonate wall light system suitable for both vertical and horizontal applications. The system is fully compatible with all Architectural Wall Panel (AWP) and Optimo wall panels.

The system is suitable for all building applications, except where the occupants or processes add significant quantities of water to the air, or where there are internal environments with low temperatures.



Available Lengths

Kingspan Day-Lite Architectural is available in standard lengths of 1.2m to 8m. Longer lengths are available upon request.

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

Dimensions, Weight & Performance

Product Reference	Thickness (mm)	Weight (kg/m^2)	U-value (W/m^2K)	Light Transmission (%)	Solar Heat Gain Coefficient
KS1000 DLAWP Clear	38	4.7	1.3	55	0.58
KS1000 DLAWP Opal	38	4.7	1.3	50	0.55
KS1000 DLAWP Blue	38	4.7	1.3	18	0.48
KS1000 DLAWP Green	38	4.7	1.3	43	0.51
KS1000 DLAWP Purple	38	4.7	1.3	13	0.48
KS1000 DLAWP Red	38	4.7	1.3	25	0.52
KS1000 DLAWP Orange	38	4.7	1.3	33	0.50
KS1000 DLAWP Yellow	38	4.7	1.3	55	0.56
KS1000 DLAWP IR Green	38	4.7	1.3	35	0.40
KS1000 DLAWP IR Blue	38	4.7	1.3	19	0.36

Notes:
The U-value has been calculated using the method required by the appropriate National Building Regulations.
Light transmission, according to BS EN 410, is as measured on 600mm x 600mm samples.
Solar Heat Gain Coefficient (SHGC), according to BS EN 410, is the total solar energy that enters the interior of a building. Please contact the Kingspan Technical Services Department for more information.

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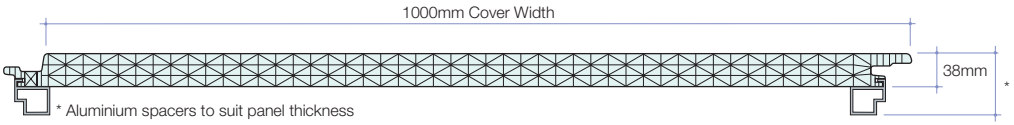

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Fire

Kingspan Day-Lite products fully satisfy the internal and external requirements of the National Building Regulations, achieving:

- Euro Class B (internal);
- National Class AA and Euro Class BROOF(t4) (external).

All products achieve a minimum classification of B-s2,d0 when tested to EN 13501-1: 2007.

For more information on fire performance please contact the Kingspan Technical Services Department.

Properties

- Weighted sound reduction: 25dB(A).
- Building air leakage: Less than $3m^3/m^2/hr$ at 50Pa for complete envelope.

Air Permeability & Weather Performance

	Standard	Result Classification
Air Permeability	BS EN 12152	Class A4 (600Pa)
Watertightness	BS EN 12154	Class R7 (600Pa)
	BS EN 14963	Pass

Biological

Kingspan Day-Lite Architectural wall light panels are resistant to attack from mould, fungi, mildew and vermin. No urea formaldehyde is used in their manufacture, and the panels are not considered deleterious.

Material

$4.7kg/m^2$ multi-wall polycarbonate sheet with a 38mm wall structure x 1000mm cover width with an external flat profile. The external face has a proprietary UV protection surface.

Spacers

Extruded mill-finished aluminium spacers are factory adhered to the Kingspan Day-Lite Architectural system at tongue-and-groove joints between the wall lights, and also at tongue-and-groove interfaces with insulated panels. White polyethylene foam fillers are used to close off behind the ends of wall lights against supports.

Fillers & Seals

Factory-applied breather tape reduces the risk of condensation and prevents ingress of moisture and insects during transportation and delivery, keeping wall lights clean and optimising performance. If these tapes become damaged, or if panels are cut to length on site, they should be renewed prior to installation.

All side joints have a factory-applied seal fitted into the groove, to automatically seal the joints between panels.

All site-applied seals are to be polycarbonate compatible. All flashings to the Kingspan Day-Lite Architectural wall light, and all adjoining and / or local insulated panels sharing a wall light flashing, are to be ‘double-sealed’ with one run of butyl rubber sealant and one run of gun-applied polycarbonate-compatible sealant. Please contact the Kingspan Technical Services Department for more information.

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Product Tolerance

Cover Width	-2mm	+2mm
Thickness	-1mm	+1mm
Weight	-0.3kg/m^2	+0.3kg/m^2
Length	-5mm	+5mm
End Squareness	-4mm	+4mm

Quality & Durability

Kingspan Day-Lite Architectural is manufactured from the highest quality materials, using state-of-the-art production equipment to rigorous quality control standards; ensuring long term reliability and service life. Kingspan Day-lite Architectural is fully compliant with ISO 9001 (Quality), ISO 14001 (Environmental), ISO 50001 (Energy) and OHSAS 18001 (Health & Safety).

The polycarbonate material is treated with a barrier to prevent stress cracking when subjected to stress and temperature when in contact with plastisol.

Guarantee

The Kingspan Guarantee covers the structural and thermal performance for a period of up to 25 years.

Packing

Kingspan Day-Lite Architectural is stacked horizontally. 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 length and weight. Typical pack height is 1100mm, maximum pack weight is 1500kg.

Overall Thickness (mm)	60	70	80	100
No. in Pack	14	12	11	10

Safe Storage

To ensure that Kingspan Day-Lite Architectural wall light panels remain in prime condition while stored on site, the following precautions should be taken:

- Allocate a safe, trade-free area;
- Prevent personnel from walking over the packs;
- All packs must be kept in packaging and covered with a non-transparent waterproof sheet, to protect from direct sunlight and water ingress, at all times prior to installation (at both ground and roof level);
- Store Kingspan Day-Lite Architectural on a slight slope, ensuring any penetrating rainwater drains off.

Sea Freight

Fully timber crated packs are available on projects requiring delivery by sea freight shipping, at additional cost. 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 the Kingspan Field Services Department.

Notes:
Like most daylight solutions, it is common for some condensation to form within Kingspan Day-Lite products during the construction phase, in particular as a result of a rise in humidity levels following the pouring of concrete slabs.

Condensation will typically disappear following a full annual temperature cycle, but can be kept to a minimum by following Kingspan's recommendations for safe storage of polycarbonate products on site, ensuring breather tapes are kept in place and undamaged, maintaining air tightness and allowing the building to dry out thoroughly. For more information please contact the Kingspan Technical Services Department.

Cleaning

Periodic cleaning, using the correct procedure, is recommended to prolong service life. For small surfaces, gently wash sheet with a solution of mild soap and lukewarm water using a soft, grid-free cloth or sponge to loosen any dirt or grime. Do not use any corrosive materials or chemicals.

Structural Tables

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

Single Span Condition

Panel Thickness (mm)	Load Type	Uniformly Distributed Loads (kN/m²) Span L in Metres									
		1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
60	Pressure	1.39	1.05	0.70	0.49	0.36	0.27	0.21	0.16	0.13	0.11
	Suction	1.39	1.05	0.70	0.49	0.36	0.27	0.21	0.16	0.13	0.11
70	Pressure	2.39	2.04	1.72	1.21	0.88	0.66	0.51	0.40	0.32	0.26
	Suction	1.78	1.71	1.65	1.21	0.88	0.66	0.51	0.40	0.32	0.26
80	Pressure	3.28	2.64	2.15	1.72	1.26	0.94	0.73	0.57	0.46	0.37
	Suction	1.78	1.72	1.65	1.59	1.26	0.94	0.73	0.57	0.46	0.37
100	Pressure	4.25	3.26	2.58	2.09	1.72	1.42	1.09	0.86	0.69	0.56
	Suction	1.78	1.72	1.66	1.60	1.54	1.42	1.09	0.86	0.69	0.56

Double Span Condition

Panel Thickness (mm)	Load Type	Uniformly Distributed Loads (kN/m²) Span L in Metres									
		1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
60	Pressure	0.99	0.94	0.84	0.74	0.65	0.57	0.50	0.39	0.32	0.26
	Suction	0.99	0.94	0.84	0.74	0.65	0.57	0.50	0.39	0.32	0.26
70	Pressure	1.73	1.62	1.44	1.26	1.10	0.96	0.85	0.75	0.67	0.60
	Suction	1.73	1.62	1.44	1.26	1.10	0.96	0.85	0.75	0.67	0.60
80	Pressure	2.72	2.29	1.92	1.62	1.38	1.18	1.03	0.90	0.79	0.70
	Suction	1.78	1.72	1.65	1.59	1.38	1.18	1.03	0.90	0.79	0.70
100	Pressure	3.91	3.05	2.44	1.99	1.65	1.39	1.19	1.03	0.90	0.79
	Suction	1.78	1.72	1.66	1.60	1.54	1.39	1.19	1.03	0.90	0.79

Notes:

1. Deflection limit for pressure loading is L/100, and for suction loading is L/100.
2. The actual wind suction load resisted by the panel is dependant on the number of fasteners used and the support thickness, as well as the fastener material.
3. The fastener calculation should be carried out in accordance with the appropriate standards. For further information please call the Kingspan Technical Services Department.
4. The allowable steelwork tolerance between bearing planes of adjacent supports is -/+5mm.

Kingspan Limited
Sherburn, Malton, North Yorkshire, YO17 8PQ
t: +44 (0) 1944 712444 f: +44 (0) 1944 710830 www.kingspanpanels.co.uk

Carrickmacross Road, Kingscourt, Co Cavan, Ireland
t: +353 (0) 42 96 98500 f: +353 (0) 42 96 98572 www.kingspanpanels.ie

For the product offering in other markets please contact your local sales representative or visit www.kingspanpanels.com

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