Light + Air
International

Kingspan Arcilite

Thermally broken modular glass roof structure Data Sheet

Modular glass roof structure under a pitch of 15°, 30° or 45°

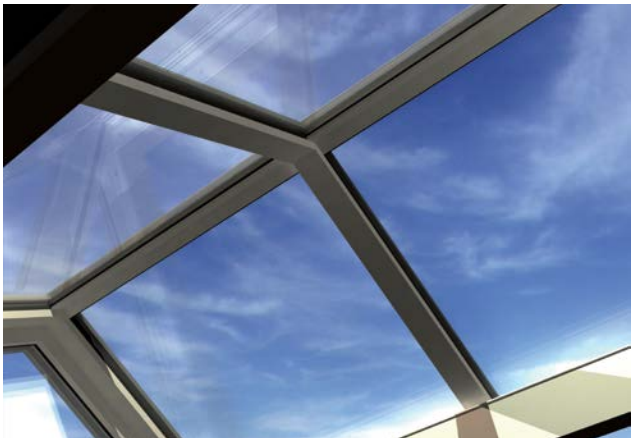
Daylighting Solutions
Natural Ventilation Solutions
Smoke Management Solutions
Service & Maintenance
Building Automation

Application

The thermally broken Arcilite glass roof structure is specially developed for standard forms such as pyramid, single pitch and double pitch with an angle of 15°, 30° or 45°. It is an easy glass structure with a self-supporting ridge structure combining durability, attractive pricing and easy assembly. What's more, it allows for the trouble-free and aesthetic integration of smoke and heat exhaust ventilation windows and ventilators.

High insulation value

The Arcilite is a fully thermally broken system. This thermal separation is realised not only by a thermal separator in the screw ducts, but also by the fact that there is no inside/outside connection for the ridge and bottom edge. This, combined with high-efficiency glass, ensures outstanding insulation values.



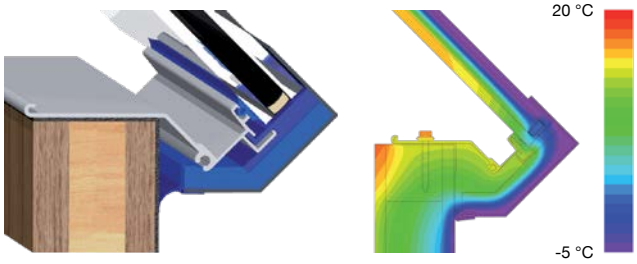
Integration smoke & heat exhaust / natural ventilation

The Arcilite glazing system is ideal for the aesthetic integration of Kingspan Light+Air casement windows, whether or not EN 12101-2 certified. Both high-quality systems are perfectly coordinated and provide an optimal result in terms of daylight ingress, ventilation and fire safety.

Technical Specifications

Energy efficient

The Arcilite system is designed with completely thermally broken profiles. This system provides a uniform heat flow spread without significant local differences, thereby excluding the chance of condensation under normal conditions.



++ Plus points Arcilite system ++

- Thermally broken glass roof structure under a pitch of 15, 30° or 45°
- Trouble-free integration of smoke & heat exhaust windows and / or ventilation hatches
- Flexible dimensions, models and colours
- Favourable pricing
- Short delivery times
- Easy assembly

The illustration shows the heat flow with a temperature curve of -5 °C outdoors to 20 °C indoors.

Technical Specifications

1) Different specifications for snow load, wind suction, glass weight and / or grid size lead to a different glass roof configuration.
2) Reactive forces per cross bar are determined based on your specific project data.

Roof forms Arcilite

Double pitch 15°/30°/45° [1)]

Pitch	Width roof-lights = Outside width builders up-stand	Snow load (N/m²)	Wind suction (N/m²)	Glass weight (kg/m²)	Standard modular dimensions: (mm)	Reactive forces per cross bar [2)]	
						Horz. (KN)	Vert. (KN)
15°	**4500**	750	1500	35	900	Available on request	
30°	**4300**	750	1500	35	900		
	4500	750	1500	35	*800*		
45°	**3400**	750	1500	35	900		
	3600	750	1500	35	*800*		

Technical Specifications

1) Different specifications for snow load, wind suction, glass weight and / or grid size lead to a different glass roof configuration.
2) Reactive forces per cross bar are determined based on your specific project data.

Roof forms Arcilite

Double pitch with hip ends 15°/30°/45° [1)]

Pitch	Width roof-lights = Outside width builders up-stand	Snow load (N/m²)	Wind suction (N/m²)	Glass weight (kg/m²)	Standard modular dimensions: (mm)	Reactive forces per cross bar [2)]	
						Horz. (KN)	Vert. (KN)
15°	**4500**	750	1500	35	900	Available on request	
30°	**4300**	750	1500	35	900		
	4500	750	1500	35	*800*		
45°	**3400**	750	1500	35	900		
	3600	750	1500	35	*800*		

Pyramid 15°/30°/45° [1)]

Pitch	Width roof-lights = Outside width builders up-stand	Snow load (N/m²)	Wind suction (N/m²)	Glass weight (kg/m²)	Number of segments	Standard modular dimensions: (mm)	Reactive forces per cross bar [2)]	
							Horz. (KN)	Vert. (KN)
15°	**4500**	750	1500	35	5	900	Available on request	
	5000	750	1500	35	7	*714*		
30°	**4500**	750	1500	35	5	900		
	5000	750	1500	35	7	*714*		
45°	**4500**	750	1500	35	7	*643*		

Technical Specifications

1) Different specifications for snow load, wind suction, glass weight and / or grid size lead to a different glass roof configuration.
2) Reactive forces per cross bar are determined based on your specific project data.

Roof forms Arcilite

Single pitch 15° - 60° [1)]

Variable pitch	Width roof-lights = Outside width builders up-stand	Snow load (N/m^2)	Wind suction (N/m^2)	Glass weight (kg/m^2)	Standard modular dimensions: (mm)	Reactive forces per cross bar [2)]	
						Horz. (KN)	Vert. (KN)
15°	**2500**	750	1500	35	900	Available on request	
30°	**2500**	750	1500	35	900		
45°	**2400**	750	1500	35	900		
60°	**2400**	750	1500	35	900		

North light 60°- 30° [1)]

Pitch	Width roof-lights = Outside width builders up-stand	Snow load (N/m^2)	Wind suction (N/m^2)	Glass weight (kg/m^2)	Standard modular dimensions: (mm)	Reactive forces per cross bar [2)]	
						Horz. (KN)	Vert. (KN)
60° - 30°	**2600**	750	1500	35	900	Available on request	

North side - Multifunctional

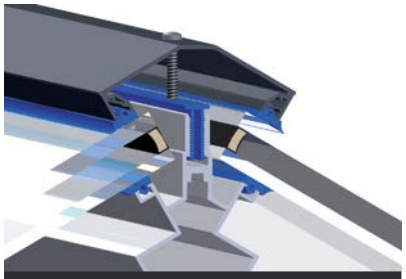
- Daylight ingress
- Daily ventilation
- Smoke and heat exhaust

South side - Sustainable

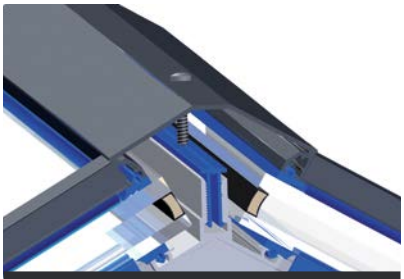
- High insulation value
- Energy savings by shading
- Energy generation through solar panels

Technical Specifications

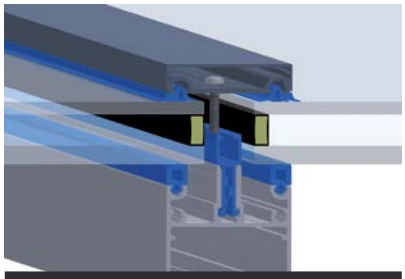
Details Arcilite



hip rafter detail



rod detail



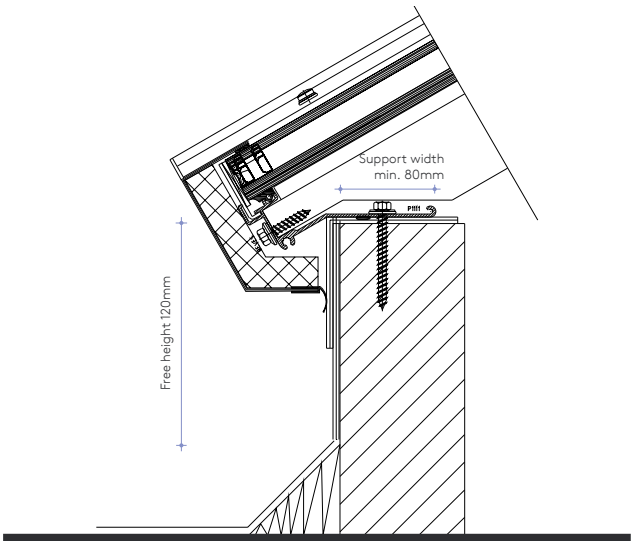
ridge detail

Glass options

The Arcilite system is suitable for both single and energy efficient double and triple glazing varying in a glass thickness of 8 to 45 mm and weighing up to 35 kg/m^2. Consult the sales department in case of deviation in glass thickness and glass weight (up to 45 kg/m^2).

Example glazing

	Double glazing	Triple glazing
Glass composition	6-15-4.4.2 + coating	6-12-4-12-4.4.2 + coating
Glass thickness	30 mm	43 mm
Glass weight	35 kg/m^2	45 kg/m^2
U-value glazing for vertical use	1.0 W/m^{2}K	0.7 W/m^{2}K



Foot edge

Options

- Ideal for combination with EN 12101-2 certified smoke & heat exhaust windows, ventilation hatches or louvred ventilators.
- Surface treatment:
  - RAL colour single layer 60µ; optional double layer 110µ (Qualicoat);
  - Anodic treatment blank 20µ, optional 25µ (Qualanod).
- End pieces can also be supplied in (enamelled) sandwich panels.
- Perpendicular wall connection possible.

Fall protection

- Arcilite system provides fall protection SB1200 in accordance with EN 14963:2004
- CWCT Class 2 non-fragility

Base structure requirements

- Can be assembled on wooden or steel builders upstand.
- The upstand must be able to withstand thrust forces set out in the corresponding table in accordance with EN 1873 classification.

Test results

- Air permeability: EN 1026: 600 Pa, EN 12207: Class 4
- Water tightness: EN 1027: 900 Pa, EN 12208: Class E900
- Resistance to varying wind loads: Class B5, 1000 Pa (= P2) deflection < 1/200 in accordance with EN 12210 / EN 12211
- Impact resistance: SB1200 in accordance with EN 14963:2004
- CWCT Class 2 non-fragility

Project Imagery

INTERNATIONAL

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

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