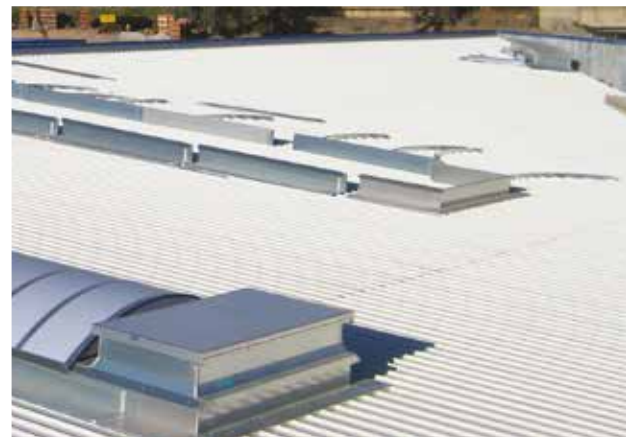




Kingspan Ecofil Data Sheet

Aluminium frame arcade rooflight



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





Kingspan Ecofil

Description

The Kingspan Ecofil rooflight gives designers tremendous architectural freedom. This curved aluminium frame continuous overhead lighting system is custom made with different glazing options for a wide range of requirements. The Ecofil arcade rooflight complies with the EN-14963 European standard.

Ideal for bringing natural light into your premises. Dimensions are made to measure.



Advantages

- Ecofil is the ideal solution to reduce building energy consumption and boost occupant comfort.
- It meets the requirements of the 2012 Thermal Regulations (RT 2012), the French Labour Code and the High Environmental Quality approach (HQE). In addition, the arcade rooflights used offer 1200 Joule resistance.
- Ecofil is designed to "Make savings in electrical power use by improving natural lighting in buildings" as described in the RT 2012 regulations: Access to natural lighting / the "Bbio" coefficient enhances the bioclimatic design of the building.
- An essential solution in Industrial and Commercial Public Buildings (EPIC) : "As much as possible, work premises must provide sufficient natural lighting". (Labour Code art. R 4223-2).
- "The lighting obligation is no longer limited to enclosed spaces designated as workplaces...and lighting conditions are not only a matter of workplace safety and circulation, but also visual comfort." (circular of 11.04.1984).
- Ecofil offers better "energy management" and provides better "visual comfort" in buildings. These are two vital components of the High Environmental Quality (HEQ) approach (Low energy building objectives, HQE® approach).



Standard description

Natural lighting in the building will be provided by Ecofil arcade rooflights supplied by the Kingspan Light + Air establishments, comprising a, self-supporting rough extruded or varnished aluminium frame: load-bearing profiles curved in workshops and closers, fastenings protected against corrosion. Conformity with EN 14963. Glazing: 10 mm or 16 mm UV-resistant multi-wall polycarbonate; minimum span: 500 mm, maximum span: 5500 mm. (Spans > 5500 mm: Consultation necessary at the Design Office).

Ecofil Description

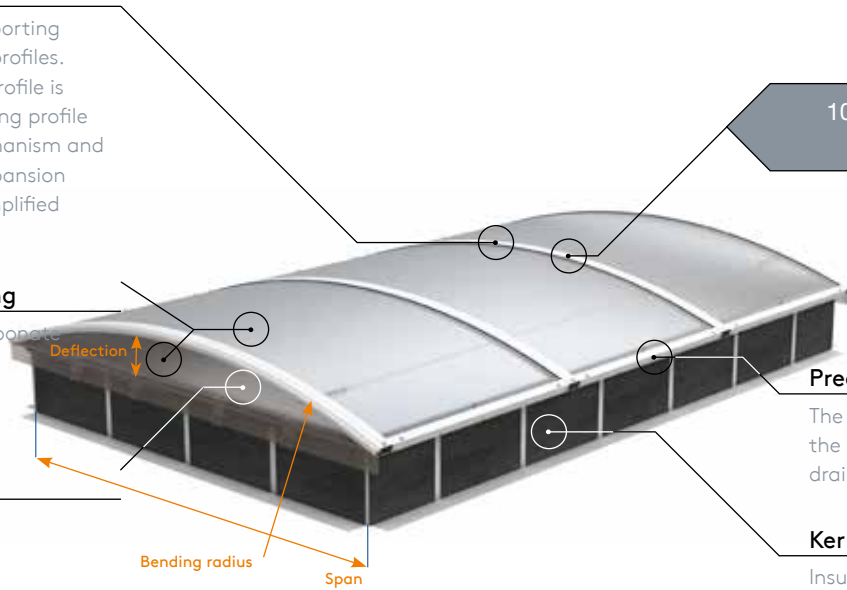
Glazing stop profile

Extruded self-supporting aluminium joiner profiles. The glazing stop profile is fixed to the receiving profile by a clipping mechanism and allows thermal expansion of the glazing. Simplified assembly.

Synthetic glazing

Multi-wall Polycarbonate (MWPC). See table below.

Spandrel



10-year manufacturer guarantee

Predrilled closer

The closer secures the edge of the glazing and allows water to drain away.

Kerb

Insulated steel kerb (15 mm) or adaptative upstand.

Type of glazing	Minimum bending radius
MWPC 10 mm	1,500 mm
MWPC 16 mm	2,400 mm
MWPC 16 mm + AeroTech®	2,800 mm

Span (S) (min: 500 mm; max: 7000 mm ⁽¹⁾)	MWPC	
	10 mm	16 mm
S < 1000 mm	Radius = 1500 mm	Radius = 2400 mm
1000 < S < 1800 mm	Deflection = 1/6 Span	Radius = 2400 mm
S > 1800 mm	Deflection = 1/6 Span	Deflection = 1/6 Span ⁽²⁾

⁽¹⁾ Maximum span with AeroTech® MWPC sheet: 3450 mm

⁽²⁾ As soon as the span is sufficient.

ISO+ range

The ISO+ reinforced insulation range limits heat loss: 20% gain compared to a standard fixture.

Glazing

Different glazing options available for a wide range of requirements such as heat, sound or lighting - Multi-Wall Polycarbonate (MWPC) or polymethylmethacrylate (PMMA) panels. The Ecofil rooflights are glazed with polycarbonate or PMMA panels on the worksite. The panels can thermally expand in their frames.

Ecofil ISO+ Description

Glazing

16 mm Multi-Wall Polycarbonate (MWPC) or AeroTech® 16 mm MWPC

Covering of glazing stops

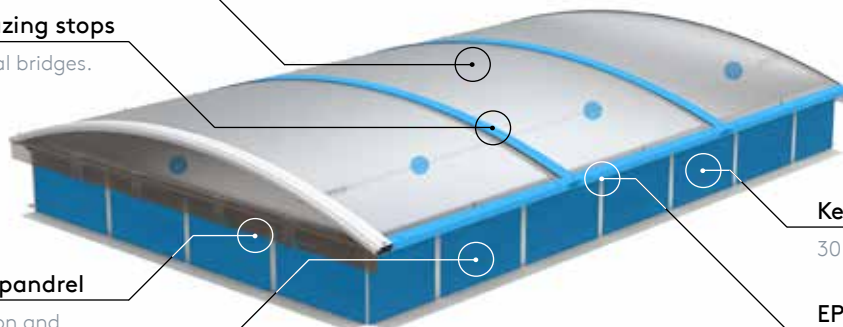
Eliminates thermal bridges.

Foam seal on Spandrel

Increases insulation and airtightness.

Kerb

Steel kerb.



ISO+ range

“Improved thermal performances” thanks to reinforced insulation of the arcade rooflight.

Kerb insulation

30 or 50 mm of insulation.

EPDM seal

Thermal insulation between the kerb and the Ecofil aluminium structure.

Insulation supplements (20% gain compared to a standard fixture)

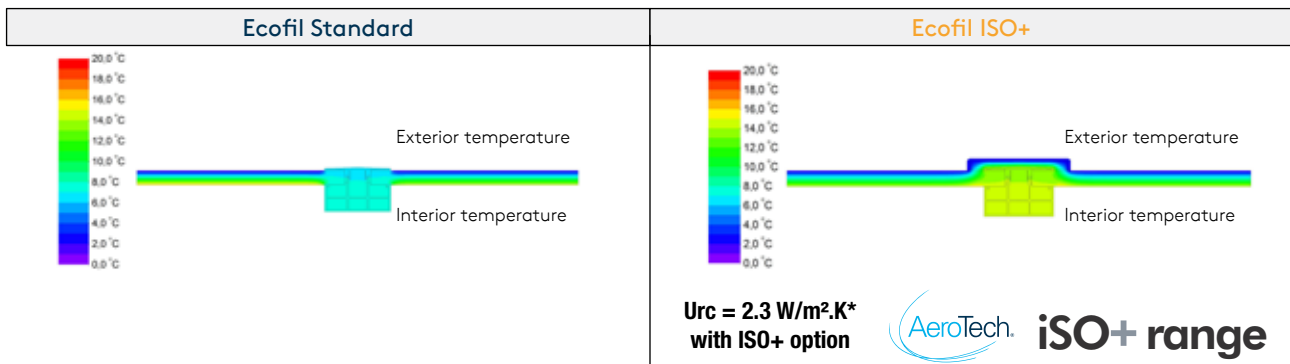
Thermal performance of Ecofil Standard and Ecofil ISO+

1. Reference Urc values

To be found in the Declaration of Performance (DOP) according to standard EN 14963.

Type: Ref300 - for arcade rooflight dimensions 2000 x 5000 mm	Urc: Thermal transmittance coefficient of the device (in W/m ² .K)
Ecofil - MWPC 16/5 - 15 mm insulation	2.7
Ecofil - MWPC 16/7 - 15 mm insulation	2.6
Ecofil - MWPC 10/4 - 15 mm insulation	3.5
Ecofil ISO+ - MWPC 16/7 - 30 mm insulation	2.2
Ecofil ISO+ - MWPC 16/7 - 50 mm insulation	1.9
Ecofil ISO+ - AeroTech MWPC 16/3 - 30 mm insulation	1.9
Ecofil ISO+ - AeroTech MWPC 16/3 - 50 mm insulation	1.6

2. Comparison of isotherm curves



*Urc = 2.3 W/m².K for an Ecofil ISO+ arcade rooflight, dimensions 5000 x 2000 mm, with 16 mm AeroTech® MWPC and 30 mm kerb insulation, or 16 mm 7P MWPC and 50 mm insulation



Options

1. Smoke ventilation / Natural ventilation

We offer several openings to be integrated into the arcade rooflights, compliant with NF S 61-937 and EC-certified, for smoke ventilation and natural ventilation of your buildings:

Ecobac DV 110 for arcade rooflight:

This double flap pneumatic skylight is aesthetically attractive in the closed position, and fits onto rooflights with a constant radius of 2800 mm, for spans up to 5500 mm. Ideal for large volume buildings with its 3.20 m² of geometric opening area.



Ecobac 160 PN for arcade rooflight:

Adaptable up to a 4 m span, ideal for buildings corresponding to the French Labour Code with its 3.00 m² of geometric opening area.



Upstand in arcade rooflight:

Compliance retrofit, without modification to existing waterproofing.



2. Kingspan Light + Air AeroTech®

Kingspan Light + Air AeroTech® uses the Cabot Aerogel aerogel technology. When injected into multi-wall polycarbonate cells, it improves light transmission, thermal insulation and sound-proofing. Available in standard and ISO+ versions.



3. Ventilation only

Standard Ecofil skylight for ventilation:

Invisible in the closed position, good aesthetics and economical. Several possible operation systems: mechanical, pneumatic or electrical (programmable opening angle).



4. 1200 Joule system

Additional cable system offering 1200 Joule resistance to prevent persons falling off the roof. (VERITAS CERT. No.LYN11499068A ATT1)

5. 1200 Joule bars

Aluminium anti-intrusion and fall-arrestor bars made from 15x15 mm square section tubes, with 155 mm spacing. (VERITAS certificate no.LYN11403145A)



6. Solar protection

Ecosun Sunshade provides a sustainable and economical solution to the problem of overheating in buildings. It is a high performance aluminium system, combined with the multi-wall polycarbonate glazing in our rooflights. CSTB tests show that the energy transmission factor is only 15%.



7. Varnishing

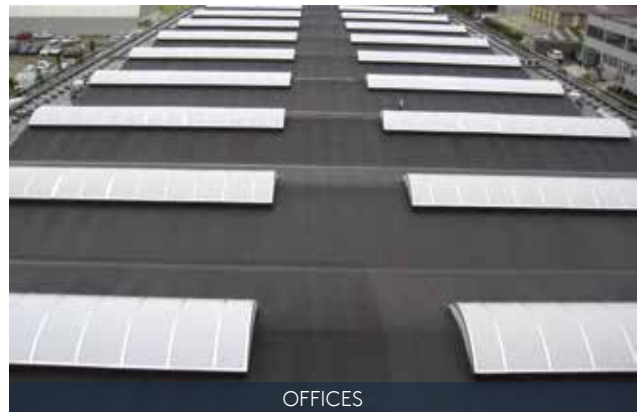
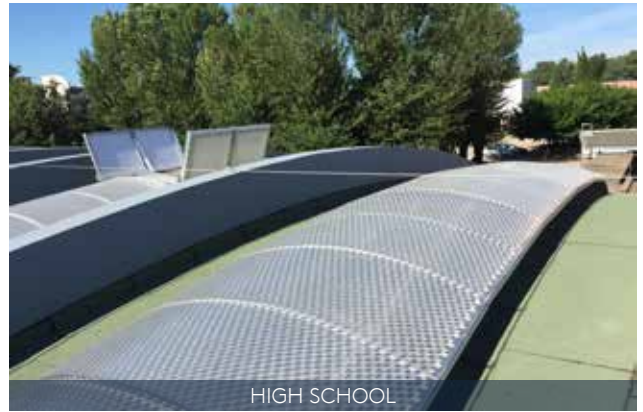
We can varnish or anodise all aluminium parts. RAL colours are available on request.



8. Detachable version

Makes it possible to occasionally uncover a large roof opening to pass through parts or machines. Tailored design, contact us.

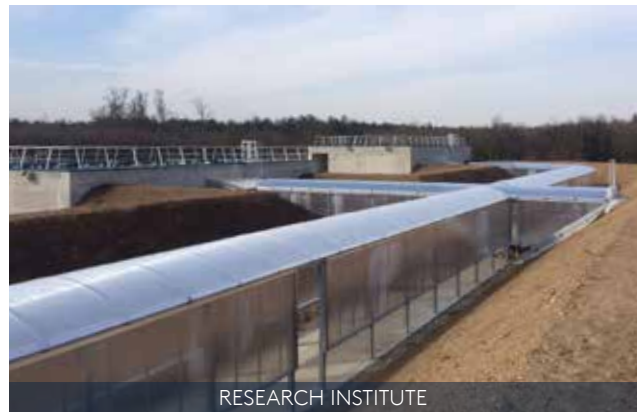
All types of roof structures



Covered passageways and porch roofs



SHOPPING CENTRE



RESEARCH INSTITUTE



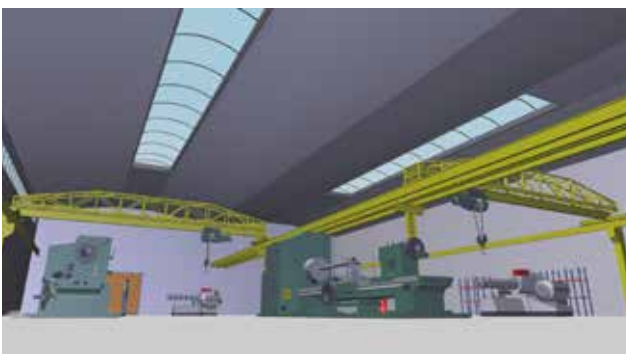
SHOPPING CENTRE



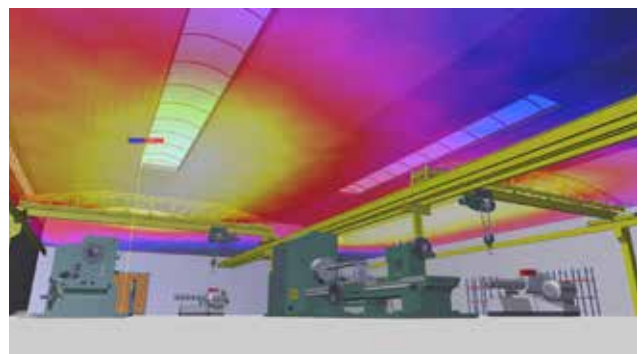
TRAINING INSTITUTION

Light assessment

Using our measurement, computation and light simulation tools, we carry out a comprehensive assessment and suggest the best solutions incorporating smart control systems, in compliance with the applicable standards (EN 12464, Labour Code, etc.). We calculate the costs and return on investment for each zone and include running costs, to help you make the right investment decisions.



Industrial building with Ecofil arcade rooflights



Provision of natural light via Ecofil arcade rooflights in an industrial building

Certifications



INTERNATIONAL

Kingspan Light + Air

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www.kingspanlightandairinternational.com

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

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