

The background of the advertisement is a photograph of a large, flat roof covered with a light blue-grey membrane. Several large, curved, translucent rooflight panels are installed on the roof. The panels are made of multiple segments held together by metal frames. The sky is clear and blue, and a line of green trees is visible in the distance. In the far distance, a white industrial building with a tall chimney is visible on the horizon.

## LAMILUX CONTINUOUS ROOFLIGHT SYSTEMS

### CONTINUOUS DAYLIGHT



# CUSTOM-FIT DAYLIGHT AND SAFETY FOR INDUSTRY

“Anyone wishing to achieve top performance in a production hall or warehouse requires an optimal environment and suitable conditions. With this goal in mind, we have developed continuous rooflights that can be customised for every application situation. As systems completely free of thermal bridges, they bring lots of daylight and healthy fresh air into a hall as well as safety in the event of a fire. Getting such optimum performance out of the large roof surfaces is precisely our trade“.

**Sören Winkler** Sales Manager Daylight Systems



## The LAMILUX CI Philosophy

Customer value is the reason we exist – and the focus of our activities. This requires harmony, identity and a balance between customer value and company strategy.

The principles that guide our company's actions and customer relations are set out in LAMILUX's company philosophy:

### **Customized Intelligence – serving customers is our first priority:**

This requires outstanding performance and leadership in all areas relevant to customers, particularly in the role of:

- A leader in quality – optimum benefit for customers
- A leader in innovation – at the cutting edge of technology
- A leader in service – fast, uncomplicated, reliable and friendly
- A leader in expertise – optimum sales and technical advisory services
- A leader in solving problems – customised, made-to-order solutions





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# LAMILUX CONTINUOUS ROOFLIGHTS

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**NEW** First continuous rooflight on the market with tested airtightness up to class A according to ETA 09/0347

**Every employee and managing director is grateful for an abundant intake of daylight in industrial halls or warehouses. With regard to buildings with flat roofs, large skylight solutions such as continuous rooflights are especially suitable. They direct healthy daylight into the interior of the building, lower energy costs and serve both as natural ventilation as well as smoke and heat exhaust ventilation (SHEV).**

At LAMILUX, we have decades of experience in the construction and installation of continuous rooflights. Our products also have excellent thermal insulation and are structurally safe even under heavy wind and snow loads. The overall system consists of numerous coordinated individual components. This results in innovative and customised skylight solutions - even in three variants: the arched Continuous Rooflight B, the even more energy-efficient Continuous Rooflight B Passivhaus variant and the saddleback roof-shaped Continuous Rooflight S.



**LAMILUX Continuous Rooflight B**  
on the industrial hall of Bang Kransysteme in Oelsnitz



**LAMILUX Continuous Rooflight S**  
on the industrial hall of Kemper GmbH in Olpe











# ALL ADVANTAGES AT A GLANCE

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## Energy efficiency

- Tested and certified heat insulation values (ETA – European technical assessment)
- Optimisation of isothermal characteristics and rebate base ventilation as well as minimisation of the condensate risk due to thermal separation on all construction components
- Optimal insulating effect and air-tightness for the overall structure, suitable for air-tight shells of buildings (blower door)
- Customised intake of daylight and solar heat input thanks to object-specific composite glazing with heat transmission coefficients of up to  $1.0 \text{ W}/(\text{m}^2\text{K})$



## Functionality in extreme weather conditions

- Durability thanks to the active expansion absorber as optimal protection of the construction in the event of snow, ice, wind and excessive heat
- High level of stability and safety under wind and snow loads thanks to the dynamic torque control in the flaps
- Resistance to hail tested as per VKF Bern guidelines and tested watertightness in heavy rain and during storms (DRI  $3.0 \text{ m}^2/\text{s}$ )
- Impervious to driving rain thanks to welded sealing frames for flap systems and certified airtightness for the overall system



## Safety

- Preventive fire protection according to DIN 18234: Prevention of fire spreading on the roof as a result of the Linear Burn-through Protection
- Melt-out of the glazing in the event of a fire to ensure heat extraction
- Integration of natural smoke and heat exhaust ventilation devices (NSHEV) and smoke and heat exhaust control systems for smoke removal from the building in the event of a fire
- Glazing types that are resistant to flying sparks and radiating heat



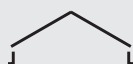


# ALL LAMILUX CONTINUOUS ROOFLIGHTS AT A GLANCE

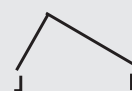
## SHAPES



Arched shape



saddleback roof-shaped

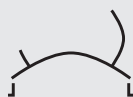


shed design

## OPENING / VENTILATION / SHEV FOR ARCH FORM



Single flap

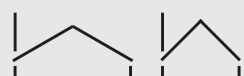


asymmetric double flap

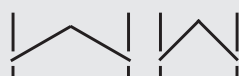


symmetric double flap

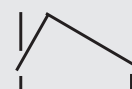
## OPENING / VENTILATION / SHEV FOR PITCHED ROOF AND SHED FORM



30° / 45° single flap or combination flap

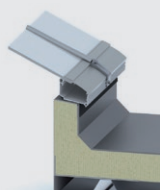


30° / 45° double flap or combination flap

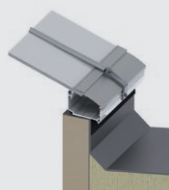


shed single flap

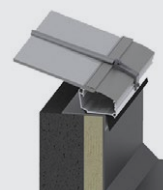
## FRAME



Installation on steel sheet upstand

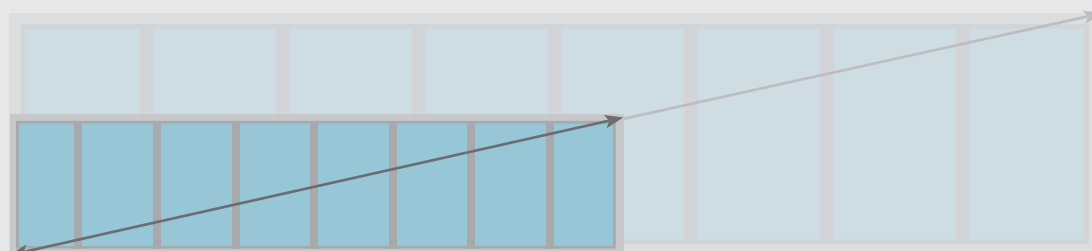


Installation on wooden upstand



Installation on concrete upstand

## SIZE GRID



Width: from 0.8 m up to 6.0 m  
Length: no limit

## OPENING VARIANTS

### Pneumatic cylinder\*

Lifting heights: 300 mm, 500 mm, 700 mm

\*suitable for SHEVS

### Spindle drive\* 24 V/230 V

Lifting heights: 300 mm, 500 mm, 750 mm

\*suitable for SHEVS (24 V and 48 V)

### Chain drive 24V/230 V

Lifting heights: 300 mm, 500 mm

## FALL-THROUGH PROTECTION

### Fall-through protection grid

Spot welding grid made of steel or steel mesh

### Safety Stripes

Safety strips made of steel for fastening to support profiles

### Sun protection

Metal screen with deciduous tree effect

## U-VALUES OF THE GLAZING

### Arched shape

$U_t = 1.0$  to  $2.5 \text{ W/(m}^2\text{K)}$

different types of glazing depending on requirements

### Saddleback roof-shaped

$U_t = 1.2$  to  $2.5 \text{ W/(m}^2\text{K)}$

different types of glazing depending on requirements

### Shed design

$U_t = 1.2$  to  $2.5 \text{ W/(m}^2\text{K)}$

different types of glazing depending on requirements



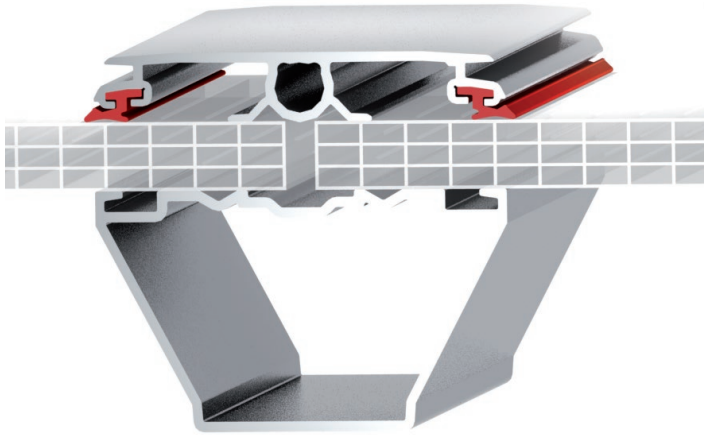




# LAMILUX CONTINUOUS ROOFLIGHTS – CHARACTERISTICS

## ABSOLUTELY TIGHT – EVEN IN EXTREME WEATHER

Active expansion absorber



The active expansion absorber ensures a permanently tight, flush joint between the cover strips and the glazing. It also prevents the seals from slipping in the area of the glazing bars – even in the event of wind suction forces and high snow loads.

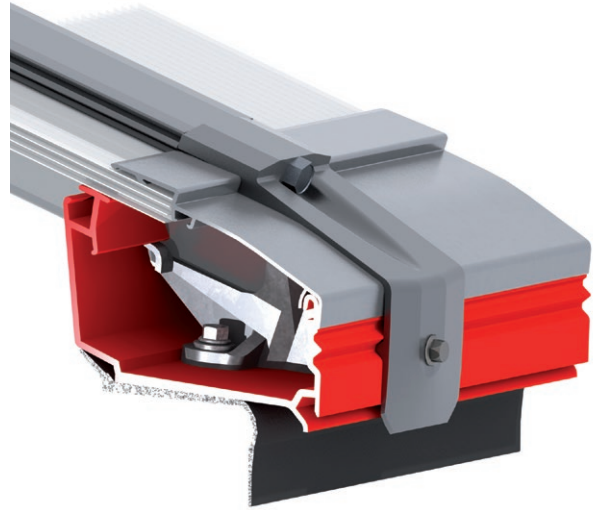
The active expansion absorber compensates the tension and expansion which occurs when under loads. This is achieved through the continuous, shear-resistant connection between the seals and the cover strips – optimal protection of the construction in the event of snow, ice, wind and excessive heat.

### Safety aspects in detail

- + The glazing is watertight and is positively fitted to the cover strips and glazing bars.
- + The cover strips have integrated guide rails for mounting fittings, sun protection devices and maintenance equipment.
- + The clamp is made even safer through an extended adhesive area.

## SAFE FROM FLASHOVER

Linear burn-through protection



Material components that are perfectly coordinated with each other in the base profile of the continuous rooflight prevent fire from spreading on the roof if there is a fire inside the building – tested as per DIN 18234. Without any need for costly additional measures, such as gravel fill, the Linear Burn-through Protection prevents the „fuse effect“ in the vicinity of the skylight opening thereby stopping the flames striking from inside and spreading to the roofing membrane.

In most cases, the roofing membrane, which is attached to a substructure such as a frame, is pulled up to the upstand and is fed under the base profile of the Continuous Rooflight. In the event of a fire inside the building, this means that the roofing membrane on the inside of the upstand will catch fire and will tend to burn like a “fuse” to the outside of the roof.

Linear Burn-through Protection can be understood as an intelligent system, which restricts the spread of the fire at the roof penetrations. The base profile of the Continuous Rooflight plays an essential role: It is made of a thermoplastic composite which softens on the upstand in the event of high temperatures and spreads directly over the burning roofing membrane. This process seals the burning joints, cutting off the supply of oxygen and smothering the fire in the area. This prevents burn-through to the roof exterior.

### Sophisticated fire protection technology

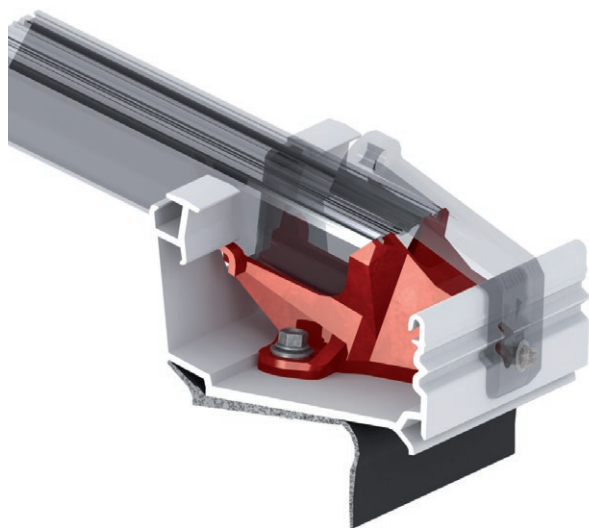
- + The patented technology prevents fire from spreading onto the roof through roof penetrations in accordance with specifications in DIN 18234 Part 4.
- + The Linear Burn-through Protection renders heavy gravel fills around the Continuous Rooflights unnecessary.



**NEW** Rated snow load up to 4.4 kN/m<sup>2</sup>

## CLEVER POWER TRANSMISSION

### Isothermal load converter



The isothermal load converter channels the load on the continuous rooflight into the supporting structure. Since this frees the base profile from loads and tension, there is no need for any further heat-conducting, metallic components in the base profile.

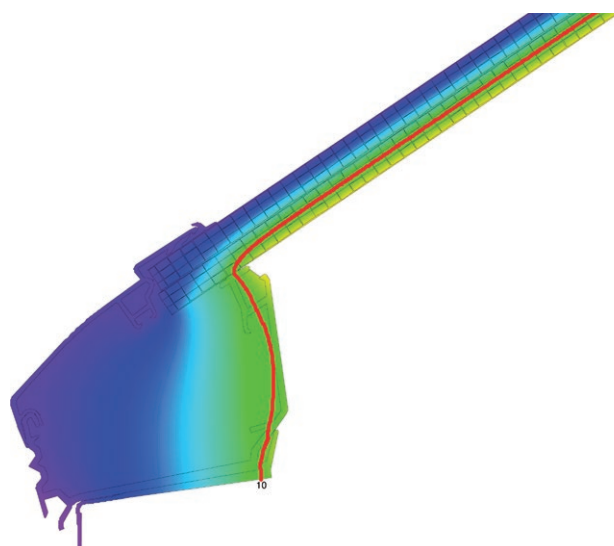
High-quality composite with very good heat insulation values can therefore be used for the base profile. This achieves optimised isothermal lines running continuously through the construction and prevents thermal bridges.

### Benefit from optimum energy efficiency

- + The base profile exhibits excellent heat insulation.
- + The risk of condensation is significantly reduced.
- + The rebate base ventilation is optimised.
- + The interior has a smooth appearance thanks to fewer edges which ensures less dirt and grime.

## ENERGY EFFICIENT

### Isothermal characteristics without weak spots



We require our products to make the greatest possible contribution to the optimised energy performance of buildings. We give this the utmost consideration in the LAMILUX Continuous Rooflight systems.

### Optimised isothermal lines

Isothermal lines describe lines of equal temperature. With regard to LAMILUX Continuous Rooflights, these lines run continuously in the construction. This results in a significantly minimised risk of condensation formation on the inside of the construction.

### This is how the isothermal lines are determined and defined

- Standard conditions have been established to quantify the risk of condensation. According to DIN 4108-2 „Thermal insulation and energy economy in buildings“, these conditions are: inside temperature of 20°C, outside temperature of -5°C, 50% relative humidity.
- Temperatures within the construction can be mapped by what are known as isothermal lines.
- If we adopt the standard conditions, condensate always forms on the inner face of the Continuous Rooflights if its temperature falls below 10°C. Condensate leads to a risk of mould and frost and thus potentially causes damage to the building structure.
- The better the Continuous Rooflight structure is, the less cold air is let into the building and the warmer the surface on the inside of the Continuous Rooflight is.
- The course of the 10°C isothermal line (red line in the diagram) provides information on where condensate can be expected to form on the inside face of the Continuous Rooflight: Namely, wherever the 10°C isothermal line emerges from the construction. As can be seen in the diagram, the 10°C isothermal line runs completely within the construction in all LAMILUX Continuous Rooflights.

# LAMILUX CONTINUOUS ROOFLIGHTS – PRODUCT VARIANTS

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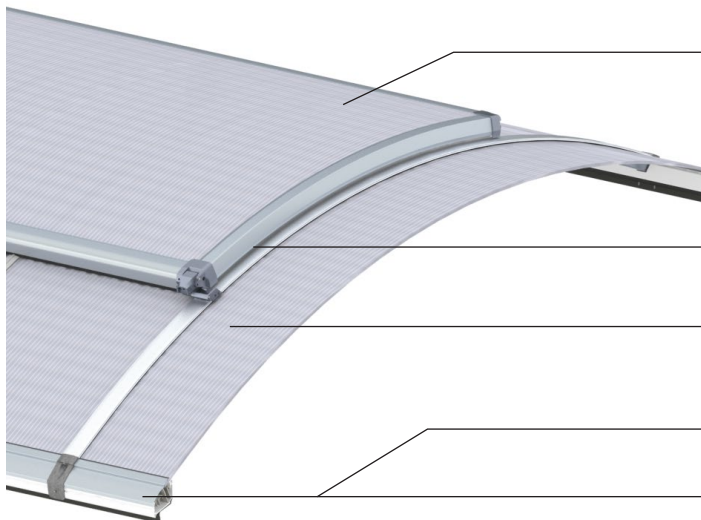
# LAMILUX

## CONTINUOUS ROOFLIGHT B

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Our LAMILUX Continuous Rooflight B is a pioneering daylight system in terms of energy and structure. To be specific, this means: It is an arched, modular skylight system with an optimised energy balance thanks to its complete thermal separation. Optimum smoke removal and ventilation solutions for the property for almost every use case as a result of the extensive range of ventilation and smoke and heat exhaust flaps that can be integrated into the Continuous Rooflight.

The LAMILUX Continuous Rooflight B is optimally suitable for using daylight to provide extensive illumination in halls and for using as an extensive heat exhaust system with melt-out glazing types in the event of a fire. The system is optimised for use as an inexpensive solution in industrial halls and warehouses as standard, but can also be manufactured for installation in sports halls and sales outlets by using glazing with improved heat insulation properties, for example.



**Arched flap** as ventilation or qualified smoke and heat exhaust ventilation **with optimised Uf values**, excellent thermal separation and perfected flap adjustment system

**Tension bar with active expansion absorber**

**Wide range of variants for polycarbonate glazing** for every use case

**Isothermal Load Converter**

**Base profile: Effective prevention of fire spreading on the roof as per DIN 18234**

# LAMILUX

## CONTINUOUS ROOFLIGHT B PASSIVHAUS

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**Anyone also wishing to build large hall complexes in an especially energy-efficient manner is making a good decision with our Passivhaus-certified Continuous Rooflight. The overall system has a heat transmission coefficient of only 0.95 W/(m²/K). This enables an overall construction free of thermal bridges with flawless isothermal lines.**

Metallic components on the inside and outside are completely thermally separated from each other. The isothermal load converter enables the use of materials with excellent heat insulation properties in the base, while the additional glazing also contributes to the considerable heat insulation properties of the overall system. This makes it the first Continuous Rooflight system in the world to be certified to the Passivhaus standard.



Passivhaus-appropriate polycarbonate glazing

Thermally optimised base profile







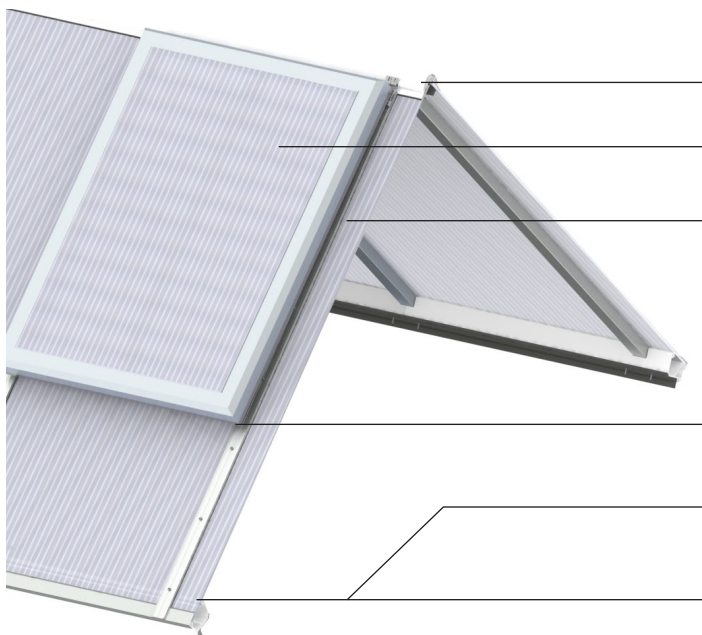


# LAMILUX

## CONTINUOUS ROOFLIGHT S

The LAMILUX Continuous Rooflight S is a modular, ridged roof Continuous Rooflight system and can be fitted with a range of composite glazing types according to requirements. Its completely thermally separated profile system ensures optimum thermal protection and minimises the risk of condensation on the construction's surfaces compared with conventional, non-thermally separated structures.

Combined with the frame system, which has been optimised for the construction, ideally matched solutions are possible without additional upstands provided by the client. Optimum smoke removal and ventilation/aeration solutions for the property for almost every use case as a result of ventilation and smoke and heat exhaust flaps that can be integrated.



**Ridge cover profile**

**Flap** as ventilation or certified smoke and heat exhaust ventilation

**Wide range of variants for polycarbonate glazing** for every use case

**Tension bar with active expansion absorber**

**Isothermal Load Converter**

**Base profile: Effective prevention of fire spreading on the roof as per DIN 18234**

# FLEXIBILITY IN MODERN CONSTRUCTION AND RENOVATION

**Energy efficiency and modern design as well as the use of sustainable construction elements dominate the new construction and renovation of industrial halls, warehouses and exhibition halls. Architectural flexibility in aesthetic and functional planning is offered by the three variants of the LAMILUX Continuous Rooflight S.**

## **LAMILUX Continuous Rooflight S 30°**

The Continuous Rooflight ridged design features a 30 degree inclination at the base. This variant blends perfectly into the roofscape. This Continuous Rooflight offers many variations for integrating the modular, combinable flap systems for SHEV and ventilation. The LAMILUX Continuous Rooflight S 30° can be built up to a width of six metres.



## **LAMILUX Continuous Rooflight S 45°**

The 45 degree variant of the ridged roof offers great flexibility for integrating SHEV devices. The steeper design creates a larger area for installing flap systems and, consequently, a greater smoke extraction area. The LAMILUX Continuous Rooflight S 45° can be built up to a width of 4.75 metres.



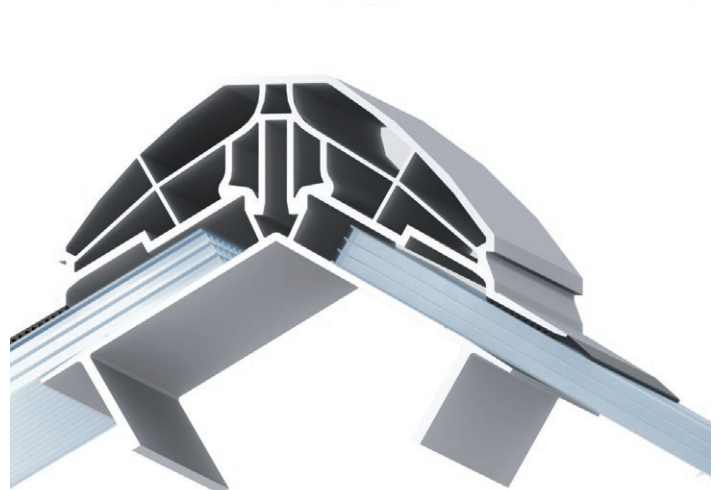
# DYNAMIC TENSIONING TECHNOLOGY

**The dynamic tensioning technology is a structural design principle in the ridged section of Continuous Rooflight constructions with a ridged roof design. It provides flexible force/tension compensation in the event of heavy loads on the overall construction. The technology is based on nature's ability to create integrative form and function.**

In areas which consist of several materials in a hybrid construction, there are ridged, elastic and semi-elastic sections in the ridge. In addition to clamps and static latches, the components are also connected by friction fasteners, for example. The result is a lasting elastic and positive locking construction. In the event of vertical and horizontal compressive and tensile loads, the components are prevented from drifting apart or pushing together excessively with the result that they remain connected within defined movement and displacement boundaries. The Continuous Rooflight system will remain torsion-resistant and therefore watertight and secure even in the event of high wind and snow loads.

## **Flexible force/tension compensation**

- + The ridged section is positively connected by means of rigid, elastic and semi-elastic zones.
- + The design principle is bionic thanks to integrative form and function.
- + The Continuous Rooflight system can withstand very strong wind and snow loads.





## LAMILUX CONTINUOUS ROOFLIGHT S SHED

The shed-roof design of the Continuous Rooflight, with an inclination angle of 30 and 60 degrees, makes it possible to integrate photovoltaic systems. Photovoltaic modules can be mounted on the broad shed rear thanks to the highly stable supporting structure. The LAMILUX Continuous Rooflight S Shed can be built up to a width of four metres.







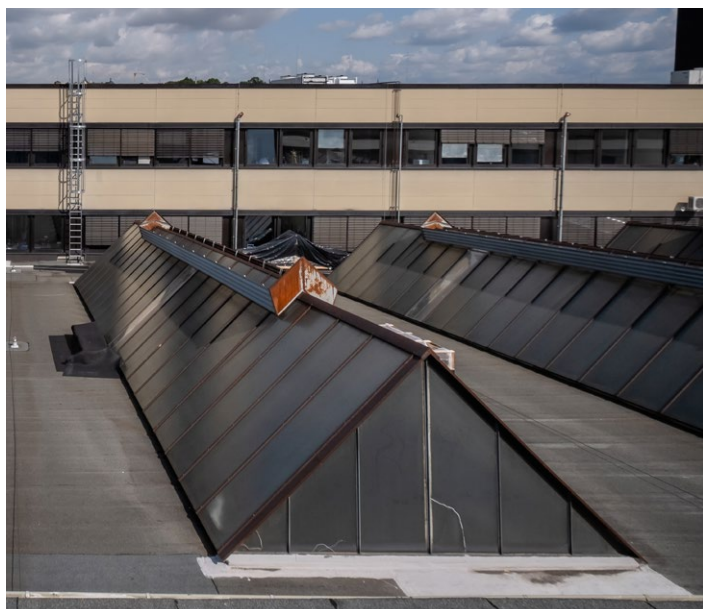


# RENOVATION OF CONTINUOUS ROOFLIGHT SYSTEMS

**This is what renovation of continuous rooflight systems with LAMILUX means for you: All processes run smoothly and primarily have a single focus: Comprehensive and optimum service for the customer – from planning to installation, all from a single source. To this end, we record all the requisite parameters involved in the renovation using a detailed checklist before putting the clearly regulated steps into practice by the given deadline.**

We have been renovating daylight systems throughout Europe in this way for decades. You benefit from this experience, from our product diversity and our focus on customer-specific projects. For it is our goal to develop and implement a technically impressive, innovative, sophisticated and, at the same time, cost-efficient solution for you.

## RENOVATION EXAMPLE: WEGMANN GRUNDBESITZ GMBH, KASSEL



### Before the renovation

The old shed roofs were renovated with modern arched rooflights. This improved both the climate and energy conditions in the hall as well as the top view.



### After the renovation

- Twelve LAMILUX Continuous Rooflights B with thermally separated frame profiles in an insulation chamber
- Restriction of fire spreading as per the requirements of DIN 18234 by means of an integrated safety package with Linear Burn-through Protection
- Twelve Smoke Lifts Continuous Rooflight B as smoke and heat exhaust ventilation devices and an opener for an additional ventilation function

# REFERENCES

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## HEIDELBERGER DRUCKMASCHINEN, HEIDELBERG

**Project:**

Renovation of the roof of production hall 6 at Heidelberger Druckmaschinen in Wiesloch. The 620 metre long hall has a roof area of 77,000 square metres

**Systems:**

- 4.2 kilometres of LAMILUX Continuous Rooflights B
- ventilation and smoke and heat extraction flaps





## MAN, MUNICH

### Project:

Renovation of the roof surface of a production facility belonging to the car manufacturer.

### Systems:

- 24 LAMILUX Continuous Rooflights B with varying lengths of 45, 35, 32 and 29 metres
- Equipped with fall-through protection LAMILUX Safety Stripes
- 48 LAMILUX Smoke Lifts Continuous Rooflight B as asymmetric double flaps



## HANGAR 10, MUNICH AIRPORT

### Project:

Renovation of 38 Continuous Rooflights on the flat roof of Hangar 10 at Munich Airport

### Systems:

- 38 LAMILUX Continuous Rooflights B incl. fall-through protection grille
- 38 LAMILUX Smoke Lift Continuous Rooflight B



## EVENTS HALL, WURZEN

### Project:

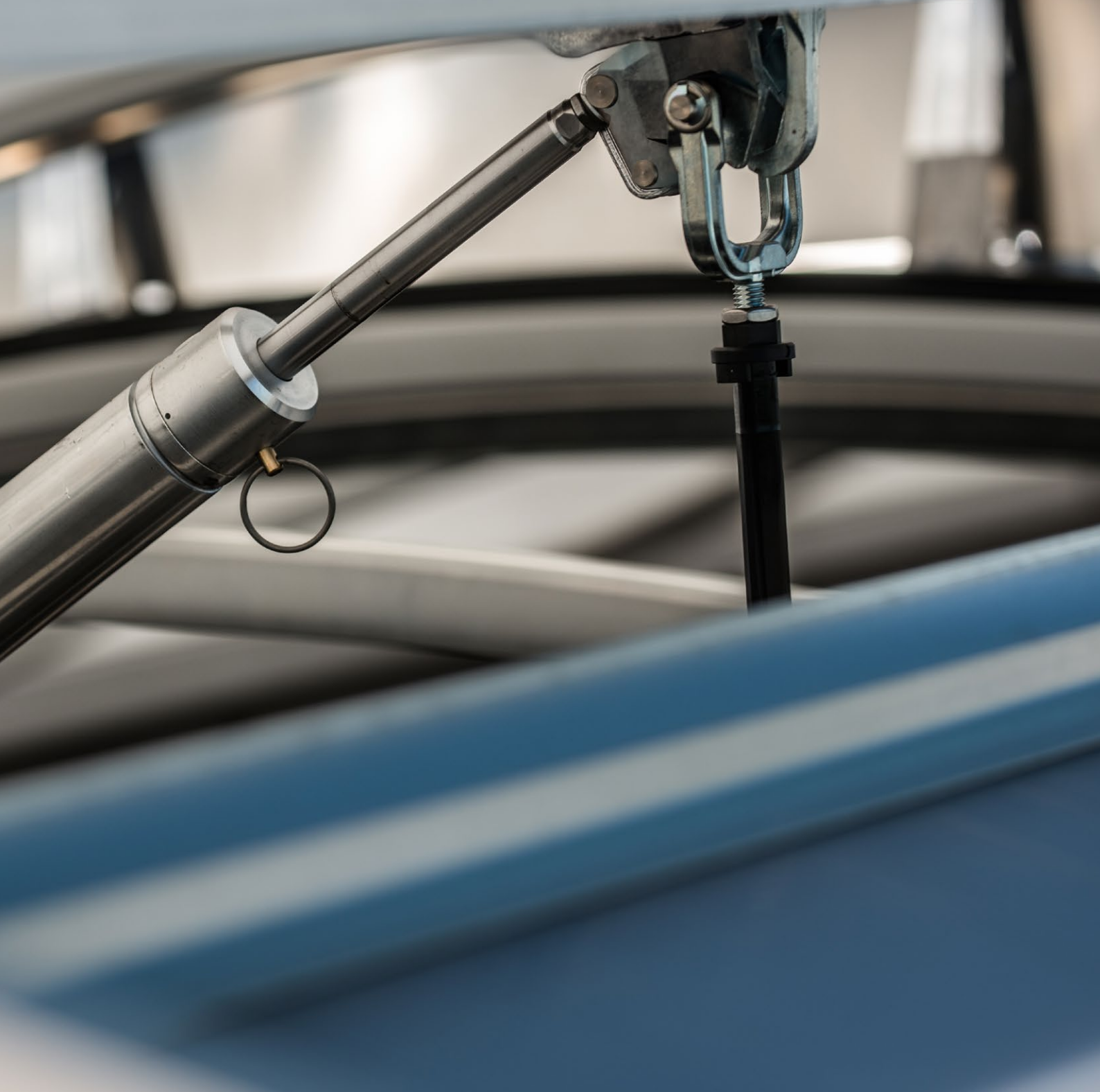
Renovation and conversion of a former production hall into an events hall.

### Systems:

- 21 LAMILUX Continuous Rooflights S 30° with lengths of up to 28 metres
- Eight LAMILUX Smoke Lifts Continuous Rooflight S

# NATURAL VENTILATION

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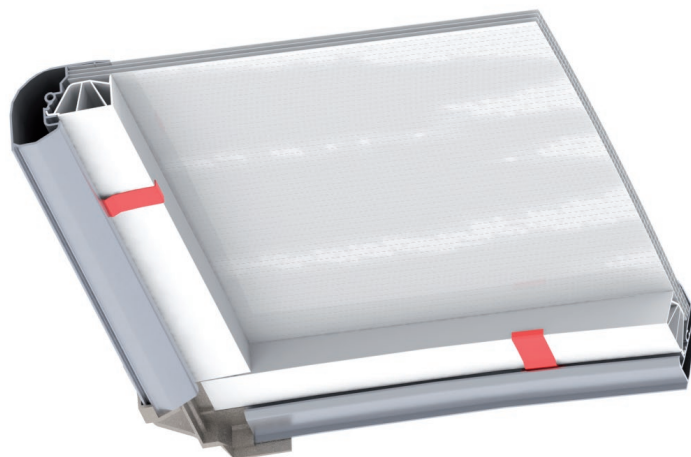
## PROTECTION IN THE EVENT OF HEAVY WIND LOADS

Another innovative component in the construction of LAMILUX Continuous Rooflights – dynamic torque control – optimises the tension of the glazing in the flap systems and ensures that the glazing is firmly secured. This results in a high level of stability in the event of wind loads.

Integrated suspension beneath the glazing bead in the mounting frame ensures that the glazing is secured in position by a specific holding force even when subjected to load. In this way, the glazing remains tension-optimised in all situations. As a result, the acting loads are optimally cushioned and absorbed by the mounting frame.

### Dynamic torque control

- + The flaps have a high level of stability even when they are open.
- + The anchorage of the polycarbonate glazing is optimised.
- + Spring-mounted multiple-joint traverses provide additional protection for the flap systems.



## NATURAL VENTILATION AND AERATION

Daylight is one thing, fresh air is the other you gain with a Continuous Rooflight. Flap systems with automated actuation that can be integrated make a considerable and economically attractive contribution to an optimal building climate. Like the construction itself, they are thermally decoupled and, together with their welded sealing frame, they provide a compact, closed sealing layer.

The flap systems can be combined in various ways to create ideally dimensioned opening areas as per the property-specific requirements. Fair weather ventilation and night-time cooling can also be automatically mapped in the control matrix: With an additional wind and rain sensor set as well as other control components.



LAMILUX Ventilation Flap Continuous Rooflight B



LAMILUX Ventilation Flap Continuous Rooflight S

# LAMILUX SMOKE LIFT CONTINUOUS ROOFLIGHT B & S







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In the event of a fire, smoke levels in escape routes must be kept low for as long as possible. LAMILUX Smoke Lifts Continuous Rooflight B and S with standard-compliant triggering achieve this thanks to their effective smoke vent effect. This allows people to escape from inside the building and allows the fire brigade to enter it to extinguish the fire. In their function as natural smoke and heat exhaust ventilation devices, LAMILUX Smoke Lift Continuous Rooflight B and S meet all requirements of DIN EN 12101-2.

**Temperature parameters according to DIN EN 12101-2 and test results**  
Our NSHEVs reliably open into the SHEV position in less than 60 seconds...

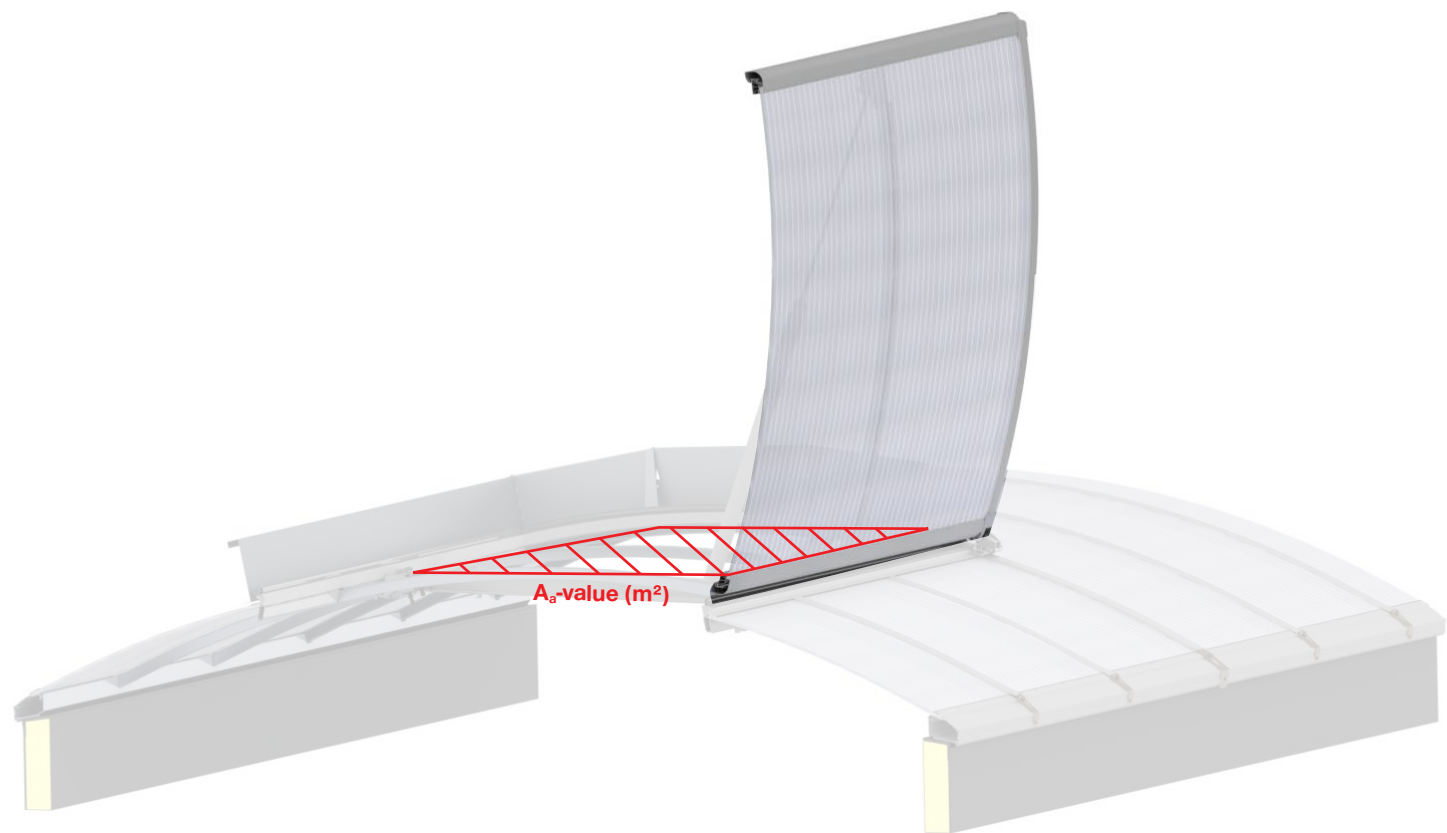
	... and ensure high smoke discharge volumes	Flow rate coefficient $C_v$ between 0.50 and 0.77
	Aerodynamically effective opening area $A_{a0}$ :	Continuous Rooflight B: from 0.59 m <sup>2</sup> to 7.65 m <sup>2</sup> Continuous Rooflight S: from 0.32 m <sup>2</sup> to 7.49 m <sup>2</sup>
	... after endurance test (1,000 times in SHEV position and 10,000 times in ventilation position)	RE 1000   Ventilation 10,000
	...under snow load	SL 200 to SL 2780
	... in indoor temperatures as low as -25 °C	Continuous Rooflight B: T(-5) T(-15) T(-25) Continuous Rooflight S: T(-5) T(-15) T(-25)
	... after exposure to wind suction (up to 3,000 N/m <sup>2</sup> )	WL 1500 to WL 5100
	...when exposed to fire	B 300



Our flap systems enable large-scale aerodynamic smoke extraction surfaces and large-scale full ventilation. Even with large dimensions, the flaps of the smoke lift prove to be an extremely stable overall system, even when open and under strong wind loads. In the event of a fire, they are opened quickly via thermal release or CO<sub>2</sub> or electrical remote release. If additional opening drives are used, our NSHEVs can be used for daily ventilation.

OVERVIEW OF THE AERODYNAMICALLY  
EFFECTIVE OPENING AREA OF THE FLAPS  
DEPENDING ON THE WIDTH OF THE ROOFLIGHT

LAMILUX SMOKE LIFT CONTINUOUS ROOFLIGHT B

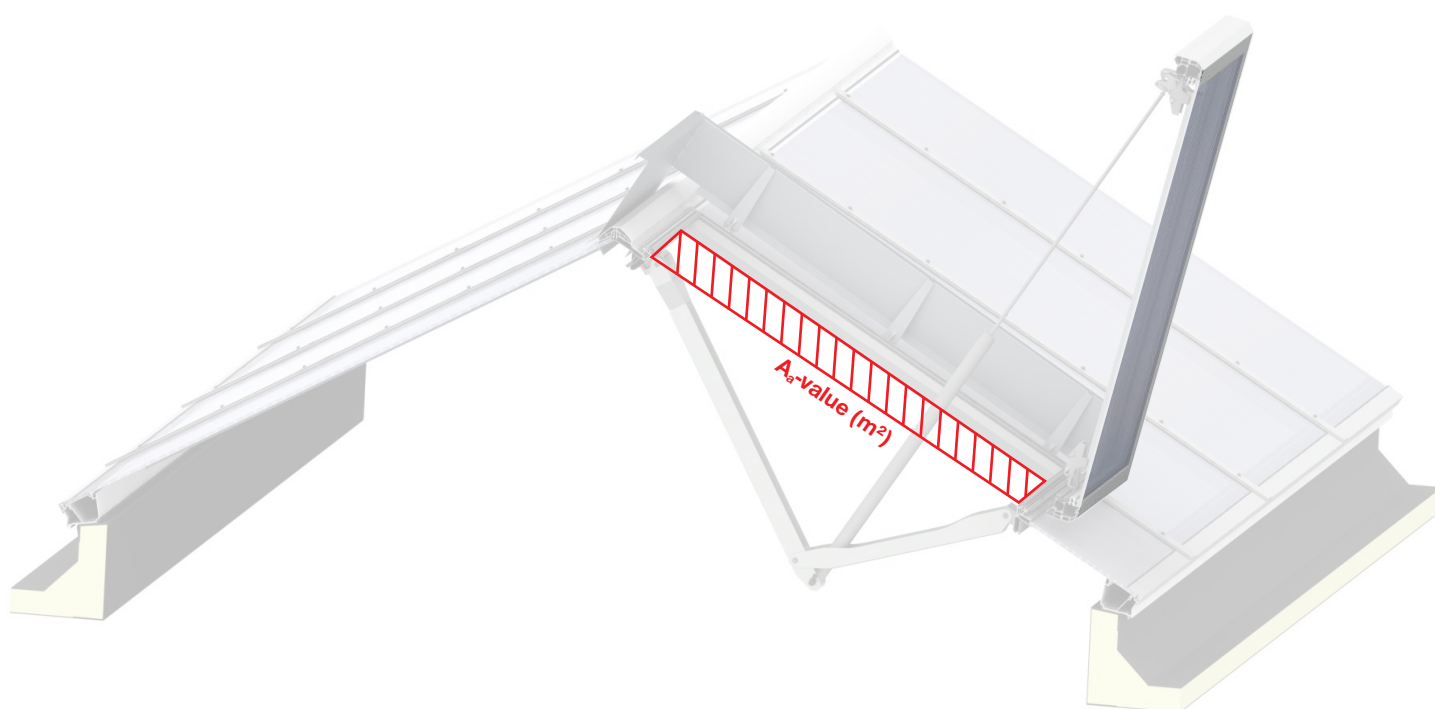


Continuous Rooflight B

From width of Continuous Rooflight (m)	A <sub>a</sub> -values (m²)	
	Standard flap	Tandem Seriell
1.0	1.27	2.53
1.25	1.60	3.18
1.5	1.96	3.83
1.75	2.28	4.68
2.0	2.61	5.34
2.5	3.26	6.37
3.0	3.91	7.4



# LAMILUX SMOKE LIFT CONTINUOUS ROOFLIGHT S



## Continuous Rooflight S 30°/30°

### A<sub>s</sub>-values (m²)

From width of Continuous Rooflight (m)	Single flap	Double flap	Double flap Tandem Seriell
1.0	0.64	1.25	2.37
1.5	0.99	1.88	3.43
2.0	1.30	2.54	4.91
2.5	1.61	3.18	6.45
3.0	1.91	3.81	7.49

## Continuous Rooflight S 45°/45°

### A<sub>s</sub>-values (m²)

From width of Continuous Rooflight (m)	Single flap	Double flap	Double flap Tandem Seriell
1.2	0.99	1.82	3.49
1.6	1.30	2.43	4.33
2.0	1.61	2.67	4.99
2.4	1.91	3.00	5.59

## Continuous Rooflight SHED

### A<sub>s</sub>-values (m²)

From width of Continuous Rooflight (m)	Single flap	Double flap Tandem Seriell
0.6	0.64	1.21
1.0	0.99	1.88
1.3	1.30	2.49
1.6	1.61	3.03
2.0	1.91	3.59

# FLAP SYSTEM FOR VENTILATION AND SHEVS

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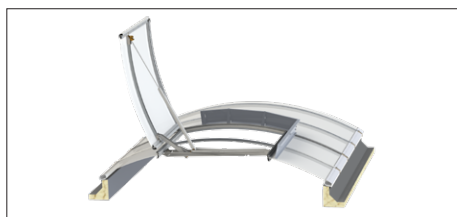
The combination flap for the Continuous Rooflight S enables effective ventilation, while optimising smoke extraction in the case of fire.



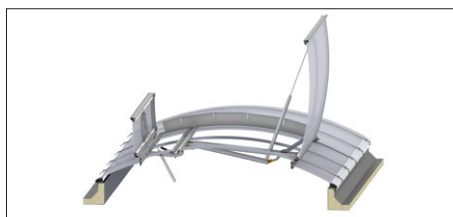


All smoke lift systems can be integrated as a single flap or as opposing double flaps. Similarly, it is possible to combine two flaps by arranging them directly next to each other. This flap combination acts as a natural smoke and heat exhaust ventilation device with a higher aerodynamic smoke extraction area, which is referred to as a tandem-serial single or double flap.

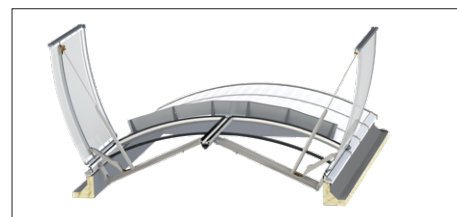
#### LAMILUX Smoke Lift Continuous Rooflight B



As single flap



As asymmetric double flap

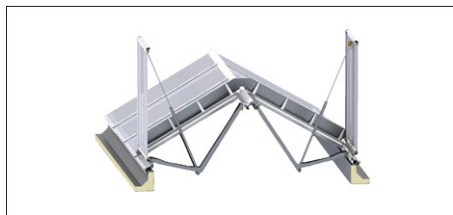


As symmetric double flap

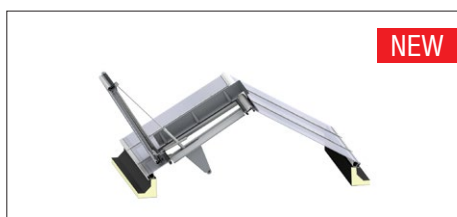
#### LAMILUX Smoke Lift Continuous Rooflight S



As single flap



As double flap



As combi flap



As combi flap

# VENTILATION TECHNOLOGY WITH RODA

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## RODA & LAMILUX – A WELL-ESTABLISHED TEAM

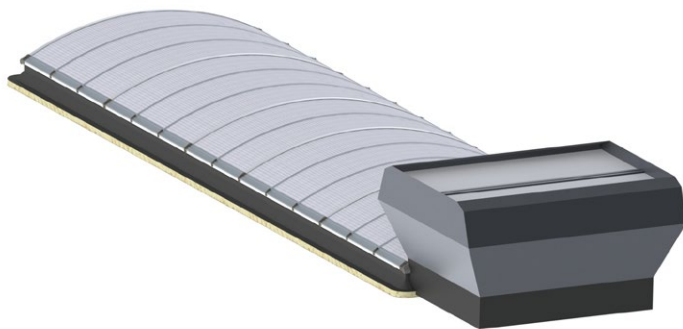
**roda Licht- und Lufttechnik GmbH has been part of the LAMILUX Group since January 2018. The subsidiary's product portfolio covers four core competences: smoke and heat exhaust ventilation, industrial ventilation, daylight technology and translucent facade technology. roda takes care of all project planning up to on-site acceptance. In addition, roda offers maintenance for SHEV systems of all manufacturers as well as renovations within the scope of the four stated core competences.**

**LAMILUX and roda work together very closely in both development and sales. The benefit for you as a customer: One central contact, no interfaces, a larger product portfolio and a broader range of services.**

The first collaborative product is a thermally separated Continuous Rooflight with rainproof ventilation: The connection between the LAMILUX Continuous Rooflight B and the MEGAPHÖNIX double flap from roda. The element guarantees all-weather ventilation through its weather-resistant side opening flaps. These open automatically as soon as the top-mounted flaps close when it begins to rain.

The MEGAPHÖNIX can be mounted directly on the Continuous Rooflight frame with a continuous rooflight width of up to three metres. From a Continuous Rooflight width of more than three metres, the MEGAPHÖNIX is mounted as a „rider“ directly on the glazing bars of the Continuous Rooflight without interruptions.

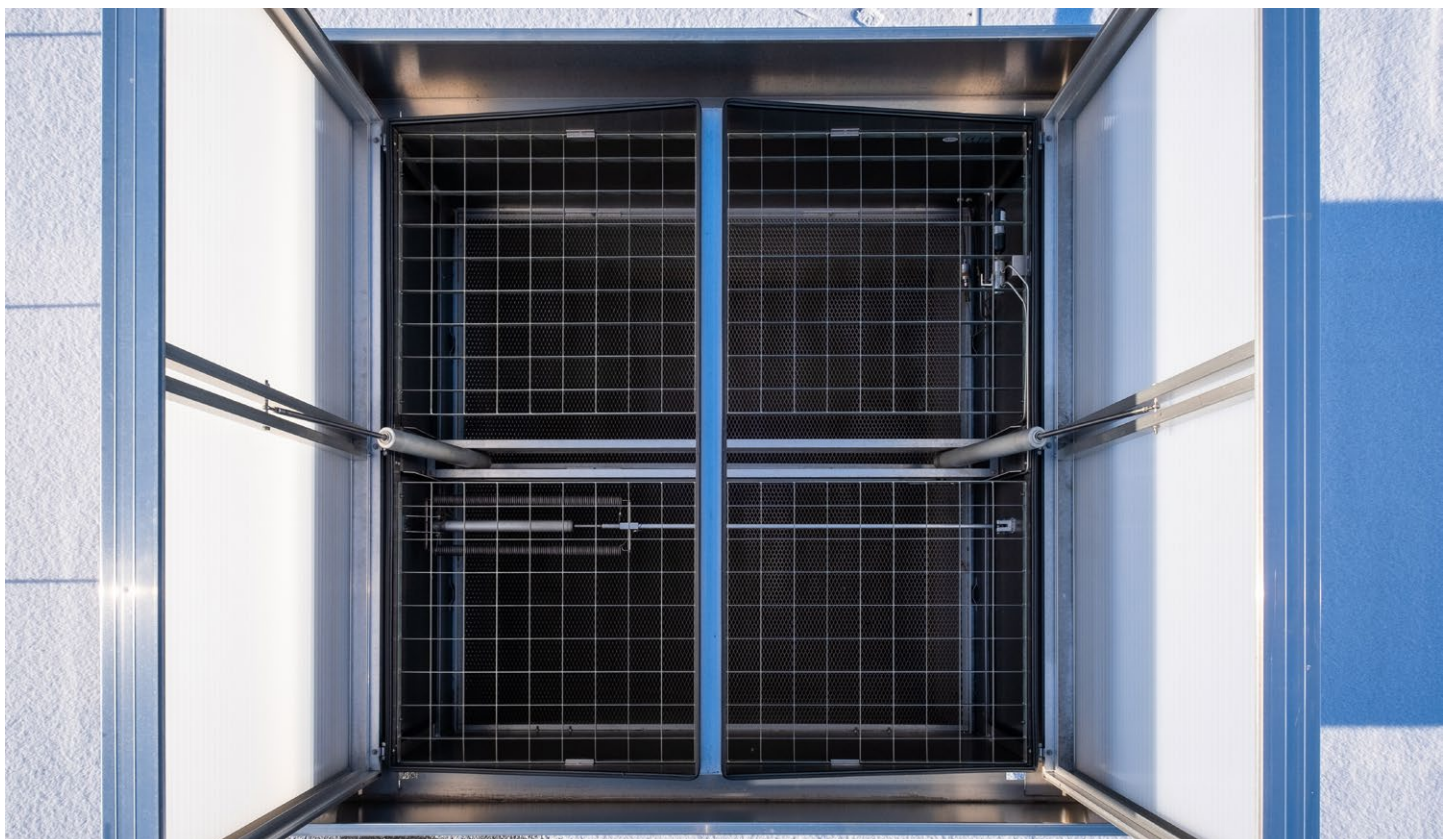
Another collaborative solution is the integration of roda's louvered ventilators into the LAMILUX Continuous Rooflight S.



roda MEGAPHÖNIX on the frame of the LAMILUX Continuous Rooflight B



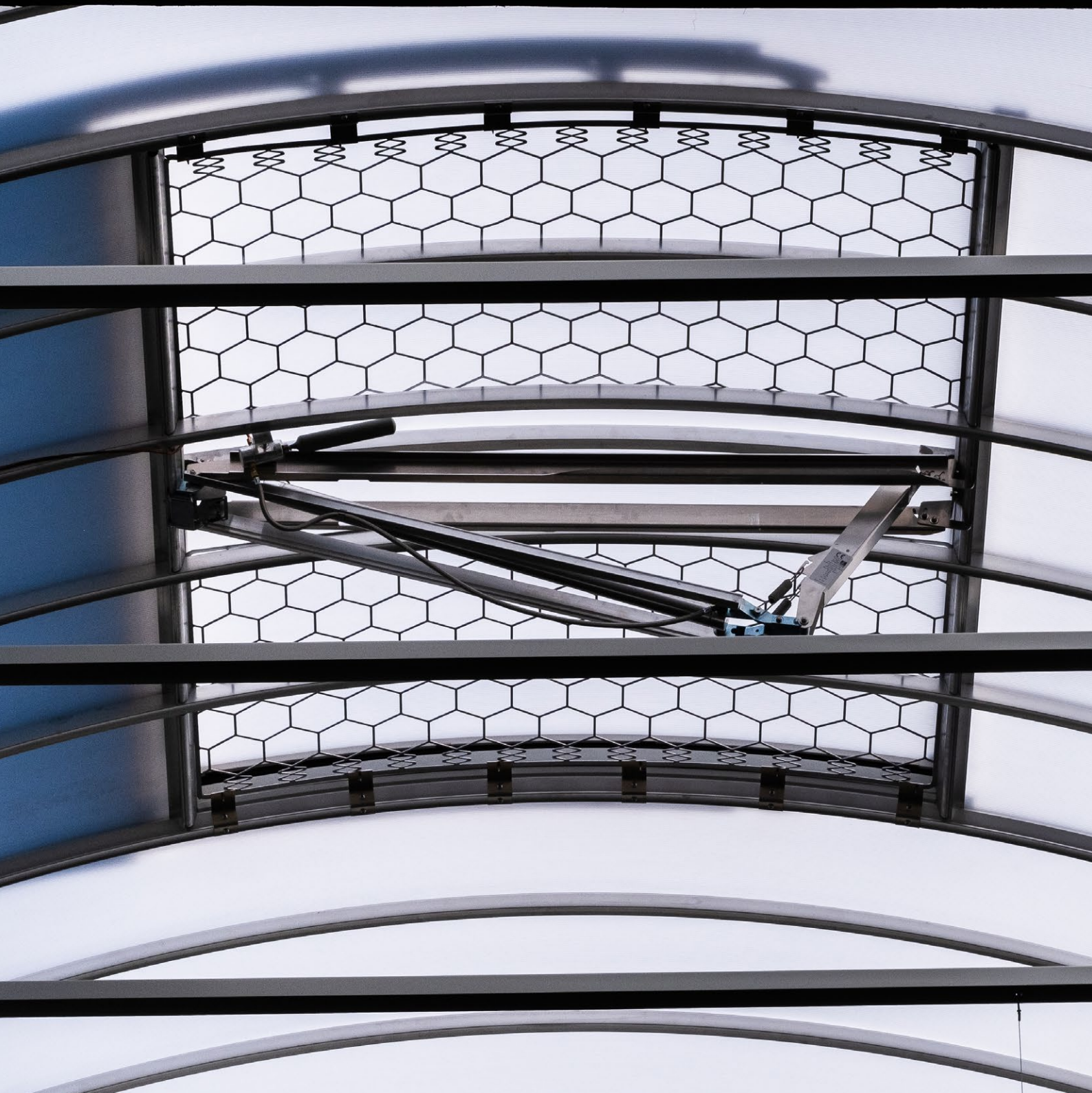
roda MEGAPHÖNIX on the glazing bar of the LAMILUX Continuous Rooflight B





# FEATURES

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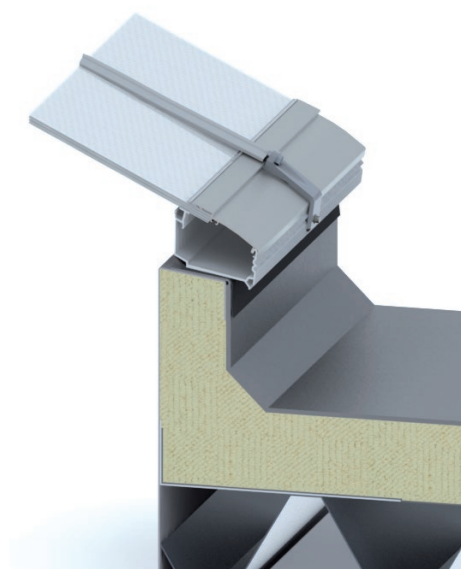
## SOLUTIONS FOR OPTIMUM STRUCTURAL ATTACHMENT

**Roof mounting options include mounting on steel sheeting upstands, on wooden upstands or reinforced concrete upstands. We always adapt our Continuous Rooflight systems to local structural conditions on an individual basis. We will be happy to give you comprehensive advice in this regard.**

**NEW**

with our GFUP glazing, a composite material made of glass fibres and polyester resin, we achieve hail resistance class HW5 in accordance with the VKF guideline

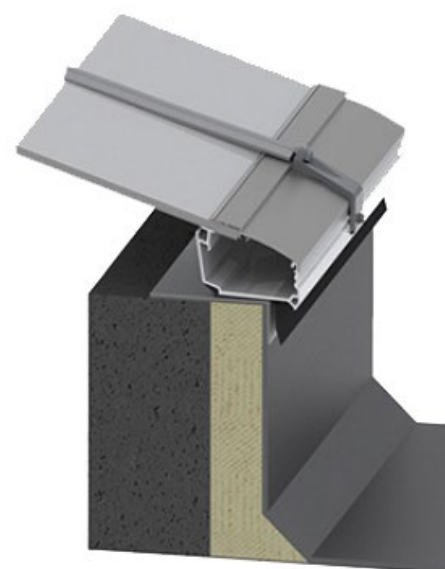
Stability is of primary concern with our own sheet steel upstands. LAMILUX complies with the requirements of the German Institute for Building Technology (Deutsches Institut für Bautechnik), according to which sheet steel upstands must be manufactured using high steel grades S 280 GD + Z 275 or S 320 GD + Z 275.



Installation on steel sheet upstand



Installation on wooden trusses



Installation on concrete upstand

## GLAZING MADE OF GLASS-FIBRE REINFORCED COMPOSITE – GRP

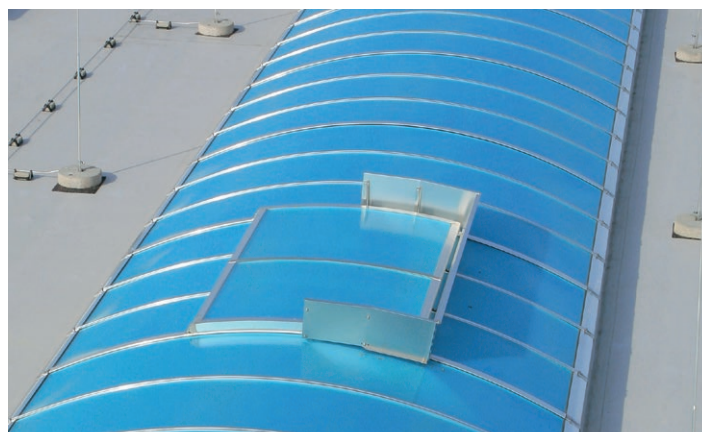
**Every LAMILUX Continuous Rooflight comes with the optimum glazing for its intended location on the roof. Alongside traditional solutions, there are also options for special energy efficiency, sound and hail protection as well as special corrosion-resistant variants. Sun protect glazing types are also possible for some of these variants. So the hard roofing variation which is resistant to flying sparks and radiating heat.**

Glazing made of glass fibre-reinforced polyester is especially resistant. Thanks to special material properties, it also manages to hold fast in the event of strong UV radiation and weathering. This glazing was developed for production areas with heightened requirements vis-à-vis the corrosion resistance of installed components. The reason for this could be chemically aggressive emissions from evaporating cooling lubricants in machining, for example. Brittleness or cracks, which chemically aggressive materials could cause in polycarbonates, also do not occur in the material in the long term.

**NEW:** with our GFUP glazing, a composite material made of glass fibres and polyester resin, we achieve hail resistance class HW5 in accordance with the VKF guideline

### Glazing made of glass-fibre reinforced composite – GRP

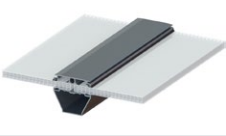
- + The glazing is highly resistant to UV radiation and weathering.
- + Increased resistance to chemically aggressive emissions.
- + HW5 hail resistance



**NOTE:** The mounting systems shown in the diagrams are concept drawings for guidance purposes only. The roofing specialist must comply with the applicable professional rules of the roofing trade and standards when planning and carrying out waterproofing work.

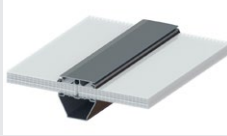
# GLAZING TYPES: CONTINUOUS ROOFLIGHT B

## Standard



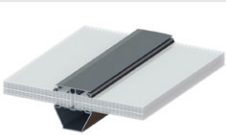
**PC10**

U <sub>g</sub> value	2.5 W/(m²K)
Sound-proofing value	17 dB
Fire behaviour	B-s1, d0
Translucency	Approx. 61 %



**PC10 + PC6**

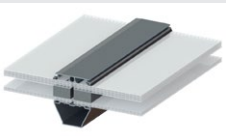
U <sub>g</sub> value	1.8 W/(m²K)
Sound-proofing value	18 dB
Fire behaviour	B-s1, d0
Translucency	Approx. 44 %



**PC10 + PC10**

U <sub>g</sub> value	1.6 W/(m²K)
Sound-proofing value	24 dB
Fire behaviour	E-d0
Translucency	Approx. 39 %

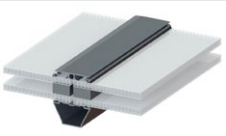
## Energy efficiency



**PC10 + PC6 thermal composite 16**

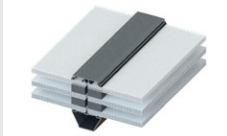
U <sub>g</sub> value	1.4 W/(m²K)
Sound-proofing value	17 dB
Fire behaviour	B-s1, d0
Translucency	Approx. 44 %

Thermal Composite 32 mm is LAMILUX's own development! This glazing offers low flammability combined with excellent thermal insulation.



**PC10 + PC10 thermal composite 16**

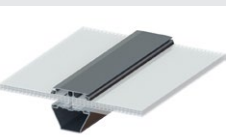
U <sub>g</sub> value	1.2 W/(m²K)
Sound-proofing value	18 dB
Fire behaviour	E-d0
Translucency	Approx. 39 %



**PC10 + PC 6 + PC10 2x tc 5**

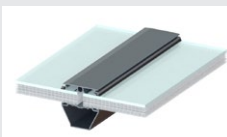
U <sub>g</sub> value	1.0 W/(m²K)
Sound-proofing value	18 dB
Fire behaviour	E-d0
Translucency	Approx. 27 %

## Sound insulation



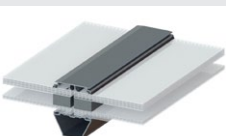
**16 mm soundproof glazing 31dB**

U <sub>g</sub> value	2.3 W/(m²K)
Sound-proofing value	31 dB
Fire behaviour	E-d0
Translucency	Approx. 54 %



**20 mm soundproof glazing 25dB**

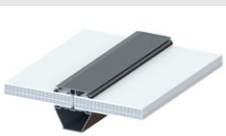
U <sub>g</sub> value	1.8 W/(m²K)
Sound-proofing value	25 dB
Fire behaviour	E-d0
Translucency	Approx. 39 %



**36 mm soundproof glazing 26dB**

U <sub>g</sub> value	1.3 W/(m²K)
Sound-proofing value	26 dB
Fire behaviour	E-d0
Translucency	Approx. 39 %

## Corrosion resistance\*



**20 mm GRP Composite**


U <sub>g</sub> value	1.8 W/(m²K)
Sound-proofing value	20 dB
Fire behaviour	E-d0
Translucency	Approx. 31 %

\* see page 35




## GLAZING TYPES: CONTINUOUS ROOFLIGHT S

### Standard



**PC10**


U <sub>g</sub> value	2.5 W/(m²K)
Sound-proofing value	17 dB
Fire behaviour	B-s1, d0
Translucency	Approx. 61 %



**PC10 + PC6**


U <sub>g</sub> value	1.8 W/(m²K)
Sound-proofing value	18 dB
Fire behaviour	B-s1, d0
Translucency	Approx. 44 %

### Energy efficiency



**PC10 + PC6 thermal composite 16**

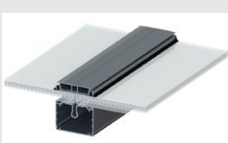
U <sub>g</sub> value	1.4 W/(m²K)
Sound-proofing value	17 dB
Fire behaviour	B-s1, d0
Translucency	Approx. 44 %



**PC32-5**

U <sub>g</sub> value	1.2 W/(m²K)
Sound-proofing value	18 dB
Fire behaviour	B-s1, d0
Translucency	Approx. 32 %

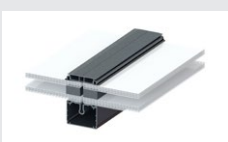
### Sound insulation



**16 mm soundproof glazing 31dB**

U <sub>g</sub> value	2.3 W/(m²K)
Sound-proofing value	31 dB
Fire behaviour	E-d0
Translucency	Approx. 54 %

### Corrosion resistance\*




**32 mm GRP Composite**

U <sub>g</sub> value	1.3 W/(m²K)
Sound-proofing value	17 dB
Fire behaviour	E-d0
Translucency	Approx. 26 %

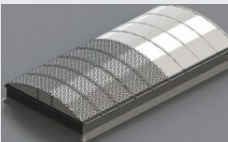
## ADDITIONAL EQUIPMENT VARIANTS

### “Hard roofing”



The Continuous Rooflight B and S glazing meets the conditions for “hard roofing” and “melt-out area” (DIN 18230-1) at the same time – or comply with these two characteristics separately. It thus fulfils the DIN 13501-5 requirements for resistance to flying sparks and radiated heat – as confirmed by MFPA Leipzig GmbH.

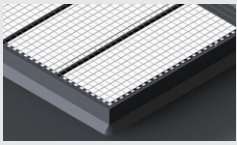
### “sun protect“



The glazing of Continuous Rooflight B and S can be combined with a louvre sheet in any desired RAL colour. This sheet provides a natural shade effect with a deciduous tree effect and at the same time protects against hail and UV radiation. It also ensures permanent fall-through protection.

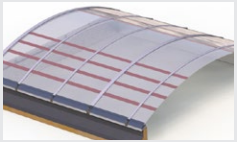
# ACCESSORIES

## Fall-through protection grating



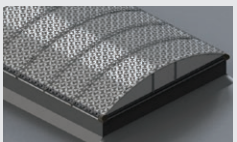
Fall-through protection grids are permanently fall-through proof in compliance with GS-Bau 18 for widths of between 0.80 metres and 6.00 metres. The grid is fastened to specially manufactured stainless steel retaining plates, which in turn are screwed onto the supporting structure, e.g. sheet steel frame or wooden upstand.

## LAMILUX Safety Stripes



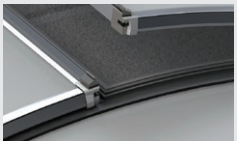
LAMILUX Safety Stripes are fastened directly to the support profiles of the Continuous Rooflight. With a discreet visual appearance, they offer permanent fall-through protection as per GS-Bau 18 even before the glazing is mounted. Filigree laser grids are used in the flap area. These ensure reliable fall-through protection even when the flaps are open, e.g. during maintenance work.

## Sun protection



A metal screen coated in the RAL colour you require and featuring a deciduous tree effect for natural shade. Deciduous tree effect screens fulfil GS-Bau 18 requirements with regard to continuous fall-through protection. The perforated steel sheet also provides protection against hail and incidental UV light.

## Insect protection grating



The insect protection grid is integrated into the flap systems. No insects can enter the building interior when the flaps are open.

## Gable wall ventilator



All ventilators have an electric cover flap. Installation is dependent on some parameters, such as the Continuous Rooflight width and the installation position.

## Smoke seal



The smoke seal consists of an internal polycarbonate sheet and external aluminium plates. It is used for the compartmentalisation of fire sections whereby the polycarbonate of the Continuous Rooflight glazing melts and the smoke seal further restricts the fire section.

## Anchor point for PPE



The anchor point for PPE is mounted on LAMILUX Continuous Rooflight frames prepared for such purposes and serves as an anchor point for personal protective equipment to prevent falls. It is an anchor point for using a carabiner in conjunction with a safety harness (EN 361) and fall arrest system (EN 363). No more than three persons are permitted to attach themselves to the rotatable anchorage eye.

Other available features: Installation opening, roof exit hatch, blind connection, RAL colouring for the profiles



## COMFORT AND SAFETY

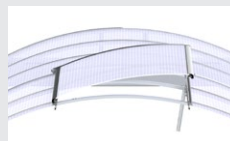
### Opener variants

**NEW** SHEV and ventilation drive  
now also available as a 48 V motor



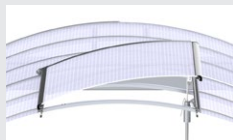
#### Pneumatic cylinder

- Lift heights: 300 mm, 500 mm, 700 mm



#### Spindle drive

- Voltage: 24 V
- Lift heights: 300 mm, 500 mm, 750 mm
- also suitable for SHEVS



#### Spindle drive

- Voltage: 230 Volt
- Lift heights: 300 mm, 500 mm, 750 mm

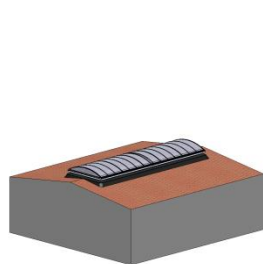


#### Chain drive

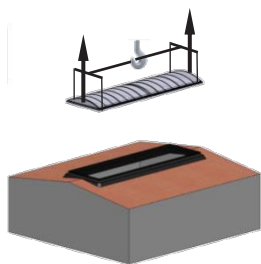
- Voltage: 24 Volt / 230 Volt
- Lift heights: 300 mm, 500 mm

## MOUNTING FRAME FOR LAMILUX CONTINUOUS ROOFLIGHTS

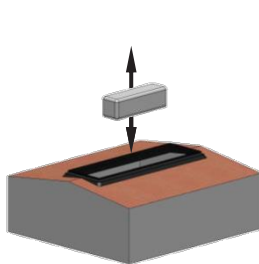
The mounting opening is used to lift large objects in and out through the roof.  
The following steps are necessary for this:



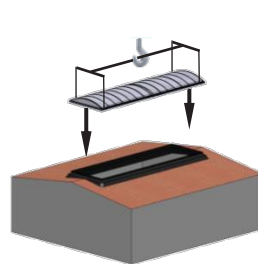
Unscrew the Continuous Rooflight from the frame



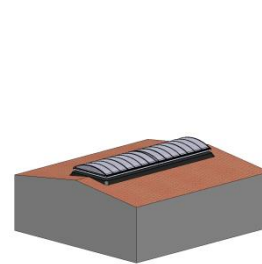
Lift the Continuous Rooflight



Lift objects in/out

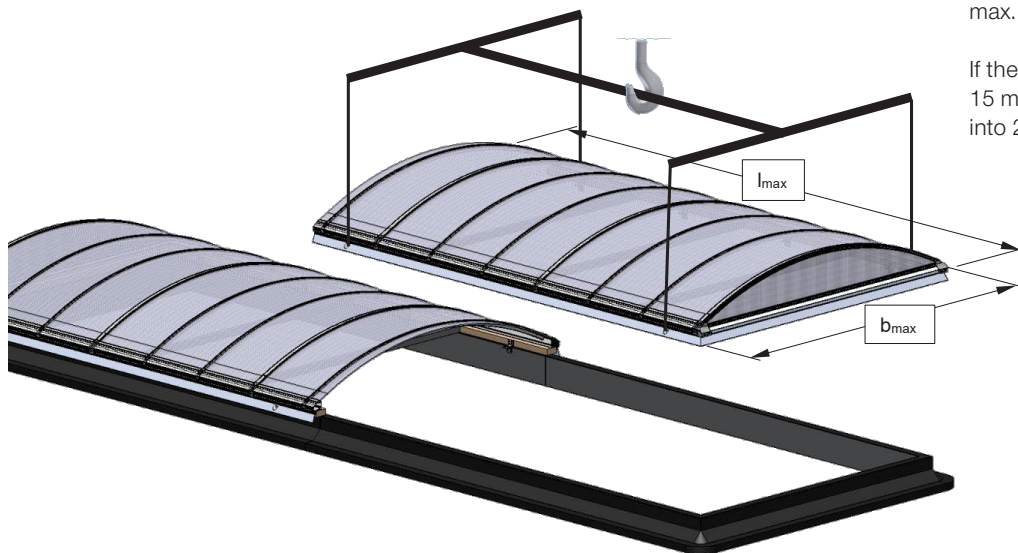


Position the Continuous Rooflight on the frame



Fasten the Continuous Rooflight to the frame again

## DESIGN



max. Continuous Rooflight length  $l_{\max\text{OKD}} = 5.7 \text{ m}$   
max. Continuous Rooflight width  $b_{\max\text{OKD}} = 5.45 \text{ m}$   
max. Continuous Rooflight area  $A_{\max\text{OKD}} = 15 \text{ m}^2$

If the length exceeds 5.7 m or the area exceeds 15 m<sup>2</sup>, the Continuous Rooflight must be divided into 2 parts.



## CONTINUOUS ROOFLIGHT WITH PHOTOVOLTAICS

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**With photovoltaic systems on roof surfaces, building owners can utilise a long-term, cost-effective source of energy. For newly constructed non-residential buildings, photovoltaics are already mandatory in many federal states.**

The Continuous Rooflights S from LAMILUX bring daylight and, in combination with a PV system, electricity into buildings.

The Continuous Rooflight S is designed as standard to support the loads of PV modules. This means that a photovoltaic system can be retrofitted at any time.





## **German General Technical Approval:**

The German General Technical Approval is issued by the German Institute of Building Technology (Deutsches Institut für Bautechnik – DIBt) for all German federal states. This certificate verifies that a construction product meets the technical requirements for its use.



## **European Technical Approval – ETA:**

An ETA is a recognised certificate valid in EU member states which attests the technical usability of a building product. The test assessment for the LAMILUX Continuous Rooflight B is based on the approval guidelines drawn up by European Organisation for Technical Approval (ETAGs). The approval issued to LAMILUX takes into account all key product features needed to comply with the building regulation requirements in individual EU countries.



## **Declaration of performance for building products:**

The declaration of performance states the performance of building products in relation to the key features of such products in accordance with the relevant harmonised technical specifications.





**The LAMILUX certificate of quality – a document regarding your safety:**

This document enables us to provide proof to our customers of the excellent quality of the supplied product each time we deliver a system. We thus submit evidence which confirms that our daylight systems are consistently manufactured and implemented in accordance with product approvals and the technical standards specified in the approvals.

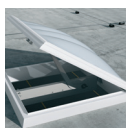


**Environmental product declarations for all systems:**

Environmental Product Declarations are issued as per the requirements of European standard DIN EN 15804 and DIN EN ISO 14025 and are an internationally recognised and accepted product eco-label, because: They make it possible to draw valid conclusions about the environmental impact of a product – from its manufacture, the raw materials used and resource consumption through the product life cycle until its dismantling and disposal.



Scan this to learn more about  
**LAMILUX skylights!**



ROOFLIGHT F100 W



GLASS SKYLIGHT F100



GLASS SKYLIGHT FE



GLASS ARCHITECTURE



RENOVATION



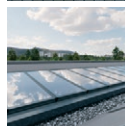
STEEL CONSTRUCTIONS



CONTINUOUS ROOFLIGHT B/S



FLAT ROOF HATCHES



MODULAR GLASS SKYLIGHT MS78



SMOKE AND HEAT EXHAUST  
VENTILATION SYSTEMS



BUILDING SMOKE EXTRACTION



RODA LIGHT AND AIR TECHNOLOGY

The technical data listed in this brochure correspond to the current status at the time of printing and are subject to change. Our technical specifications are based on calculations and supplier specifications, or have been determined by independent testing authorities within the scope of applicable standards.

Thermal transmission coefficients for our plastic glazing were calculated using the finite element method with reference values in accordance with DIN EN 673 for insulated glass. Taking into account practical experience and the specific characteristics of plastic, the temperature difference between the outer surfaces of the material was defined as 15 K. Functional values refer to test specimens and the dimensions used in testing only. We cannot provide any further guarantees of technical values. This particularly applies to changed installation conditions or if dimensions are re-measured on site.



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