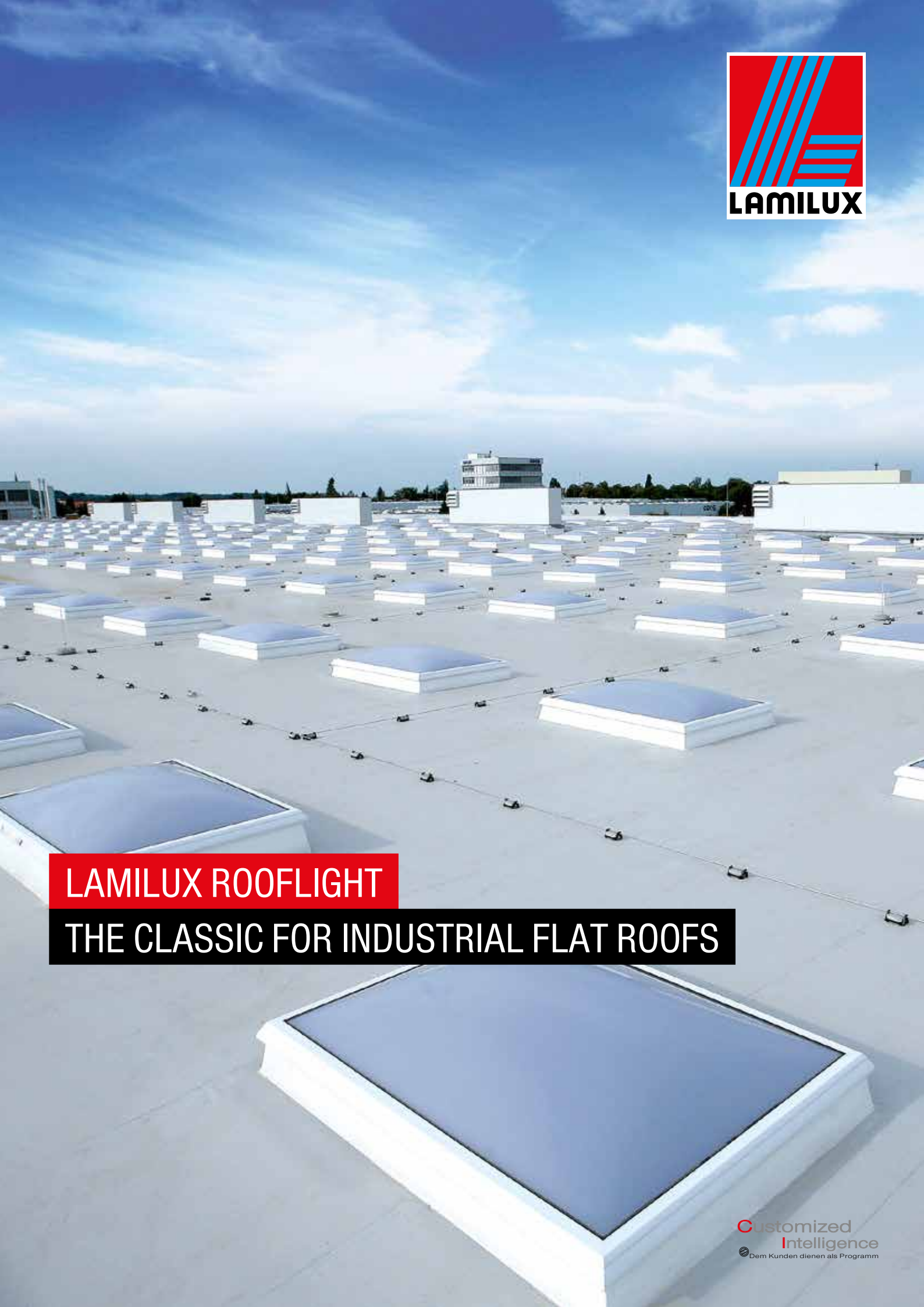


LAMILUX ROOFLIGHT

THE CLASSIC FOR INDUSTRIAL FLAT ROOFS

Customized Intelligence
Dem Kunden dienen als Programm

THE CLASSIC FOR INDUSTRIAL FLAT ROOFS REINVENTED

"Rooflight domes – the classic solution for flat roofs in industrial buildings. We have been planning, manufacturing and installing this daylight system for over 70 years and have been constantly improving ever since – in terms of every process step, quality and performance. Today, a rooflight dome offers much more than just an increase in daylight. It is a real energy and safety system. You should thus work with professionals."

David Plaetrich Sales Director Daylight Systems



The LAMILUX CI philosophy

Customer benefit alone defines our raison d'être and is the focus of our actions. This requires unity, identity and correspondence between customer benefit and company orientation.

LAMILUX describes these guiding principles of our entrepreneurial activities and our daily relationship with our customers in our corporate philosophy:

Customized Intelligence – serving the customer as a programme:
For us, this means top performance and performance leadership in all areas that are relevant to the customer, especially as a:

- Quality leader – the greatest benefit for the customer
- Innovation leader – a step ahead technologically
- Service leader – fast, uncomplicated, reliable and friendly
- Competence leader – the best technical and commercial consultation
- Problem-solving leader – individual, customised solutions



CONTENT

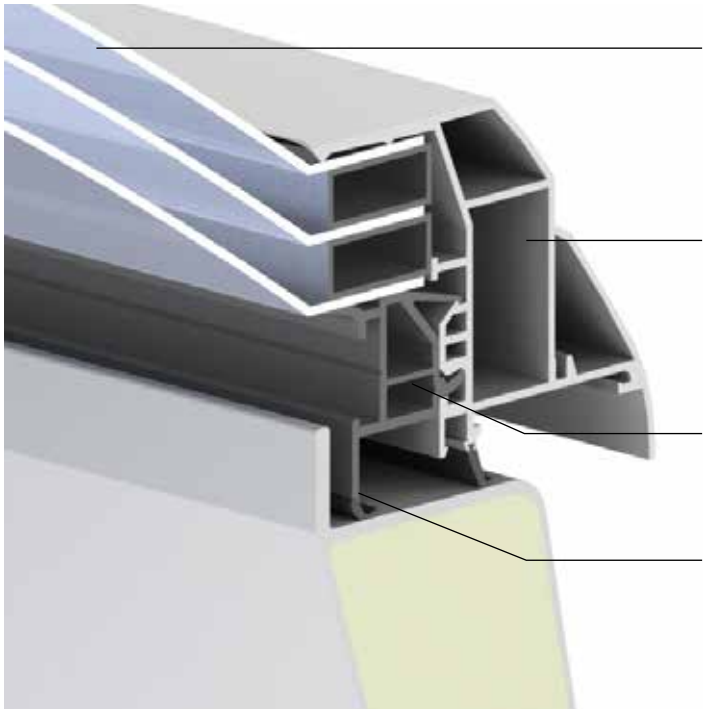
LAMILUX Rooflight F100

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LAMILUX
ROOFLIGHT F100

The rooflight dome is the ideal skylight for the flat roofs of production buildings, warehouses, and sports and exhibition halls. It not only brings daylight and fresh air into the building but also provides smoke and heat exhaust ventilation for the safety of people and goods. Thanks to a multi-layered sealing system and quadruple composite glazing, the rooflight dome has now become a real energy miracle.

The innovative, warp-resistant frame and thermally insulated upstand made from glass fibre reinforced plastic also contribute to its high thermal insulation performance. The rooflight dome is available in both fixed and ventilated versions with sizes up to 3 x 3 metres as standard. Further dimensions are also available on request.



Variety – Individual glazing systems for the optimum use of daylight
Your benefit: Increase in the well-being of building users thanks to natural daylight and reduction in electricity costs for electrical lighting

Stability – Partial long-fibre reinforcement for warp-resistant edging profiles
Your benefit: Increased stability and safety in extreme weather conditions and long service life

Flexibility – Composite glazing bead with surrounding functional groove
Your benefit: Simple retrofitting of fitting components possible at any time

Energy efficiency – Multi-layered sealing system for compact system tightness
Your benefit: Savings in heating costs and minimised condensation risk thanks to excellent thermal insulation of the edging frame (U_f = 0.76 W/(m²K))





ENERGY EFFICIENCY

All-round optimum thermal insulation with a reduced risk of condensation thanks to the design, which is completely free of thermal bridges

Thermal energy retained in the building thanks to the internal, multi-layered sealing system

Fully thermally insulated upstand made from glass fibre reinforced plastic, optionally with thermally insulated base flange

Rooflight dome with good life cycle assessment and comprehensive Environmental Product Declaration in accordance with ISO EN 14025 and EN 15804 (EPD - Modules A1 - D)

FUNCTIONALITY DURING EXTREME WEATHER EVENTS

Certified watertightness in heavy rain and during storms (Driven Rain Index DRI up to 14.7 m^2/s)

High level of stability in heavy rain and during storms

High resistance to wind loads up to UL 1780 according to EN 1873

Hail resistance according to VKF test regulation No. 10

COMFORT & SAFETY

Easy installation thanks to completely pre-assembled delivery of the skylight

Standard ventilated interlock with the option of retrofitting ventilation drives at any time

Preventive fire protection: Compliance with DIN 18234 to prevent fire spread on the roof without additional measures

Available as a smoke and heat exhaust ventilation device in accordance with DIN 12101-2







THE EDGING FRAME:
ENERGY EFFICIENCY, STABILITY, DESIGN

The unobtrusive design and high level of stability are the hallmarks of our material-optimised edging frame. The arrangement of the seals is of great importance for the thermal insulation and thus the energy efficiency of the rooflight dome. Due to their distribution, they form four separate insulating chambers in the transition from the rooflight dome to the upstand.

- High stability thanks to innovative partial reinforcement of the frame profile with long-fibre reinforced composite
- Possibility of convenient retrofitting with easy attachment of fitting components thanks to the glazing bead with safety snap arms and a surrounding functional groove
- Excellent thermal insulation thanks to the multi-layered sealing system
- Secure anchoring of load-bearing fitting components thanks to axial screw channels
- Greater stability due to the inclusion of additional steel profiles for large frame dimensions thanks to surrounding profile chamber
- Minimisation of dirt deposits thanks to coextruded laminated lip between the transition of the frame profile to the glazing



Frame profile with patented glass fibre reinforcement

Long-fibre reinforcement, which was awarded the JEC Paris Innovation Award, is partially integrated in the upper and lower areas of the profile (upper and lower rail) in the edging frame. With this system, manufactured using a patented process, we achieve a very high level of stability in the frame profile.

Your benefit:

- Despite significant loads due to wind forces, the entire top section remains tightly closed on the upstand thanks to its high level of air tightness.
- Thanks to the long-fibre reinforcement, which absorbs tensile stress, the profile is extremely rigid.

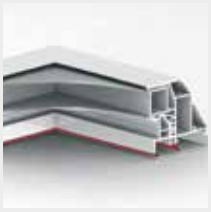


Glazing bead

A profiled, composite glazing bead provides a form- and force-fitted load transfer element.

Your benefit:

- As the glazing features a floating construction without screws, the glazing is protected against tension cracks.
- A surrounding functional groove makes it easy to attach fitting components.



Multi-layered sealing system

The frame profile has a glazing bead that features coextruded gaskets which seal to the upstand. The inside sealings overlap in a T-shape at the corner joints.

Your benefit:

- Four thermally sealed sealing chambers increase the insulating effect of the system.
- The entire system has good sound insulation properties and high stability in heavy rain and storms.



Comfort and appearance

The edging frame features a prominent stepped seam, a bi-convex, curved, external contour and finished welded connections.

Your benefit:

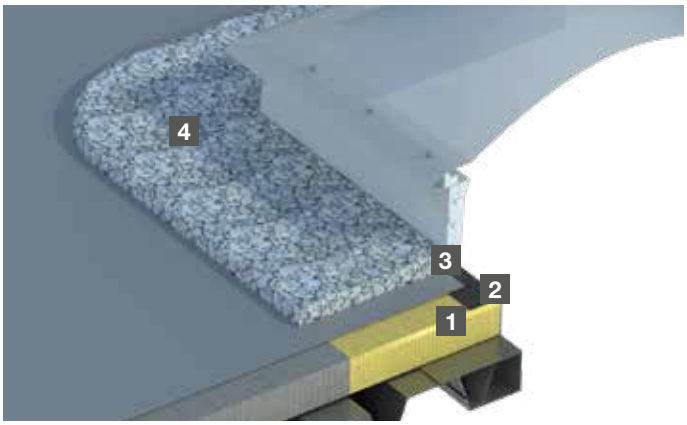
- The water flow is optimised with good self-cleaning properties.
- The design of the edging frame ensures a visually appealing overall system.

SAFETY
IN THE EVENT OF FIRE

DIN 18234 is fast becoming the established standard for flat roofs. We offer standard solutions to prevent fire spread on your flat roof.
In recent years, its scope of application has expanded considerably. Building regulations now require it not only for industrial buildings but also for assembly and sales areas. It limits the spread of fire on extensive roofs when exposed to fire from below.

The measures defined in the standard include material and implementation specifications regarding the individual layers of the roof structure and their combination. There are further specifications for roof penetrations such as rooflight domes and continuous rooflights. LAMILUX Rooflights with GRP upstands are particularly suitable for roofs in accordance with DIN 18234 and require hardly any additional measures.
In this way, we are making a considerable contribution to providing a safe roof in the event of a fire. Building operators also have a great chance of lowering their insurance premiums.

Design according to DIN18234-4 without raised roof sheeting
Increased expenditure using the example of a PVC upstand:



1 Thermal insulation in accordance with DIN 18234-3,4.1

2 Sheet metal edging of the thermal insulation

3 Thermal bridge

4 Heavy surface protection, e.g. gravel filling

LAMILUX solution:



1 GRP upstand with thermally insulated base flange and rigid PVC connecting rail

- No thermal bridge
- No gravel filling
- No special insulation
- No additional edging



LAMILUX
ROOFLIGHT F100 CIRCULAR

Legal regulations, health regulations and industrial requirements demand individual, customised solutions, especially in production facilities. The LAMILUX Rooflight F100 Circular guarantees pleasant and healthy working conditions, especially in company buildings. Double or triple-glazed, the round version also ensures infinitely variable water drainage. The curved composite edging frame is unique offering not only an optimum room climate but also an equally special design. Even in extreme weather conditions, the rooflight dome functionally protects the building.

- Innovative design
- Infinitely variable water drainage
- Available up to a standard size of 180 cm (Other sizes on request)
- Rigid or ventilated design
- 24V staircase SHEV
- Glazing types: Double-glazed, triple-glazed and solid insulation panel
- Upstand heights: 30, 50, 70 cm
- EPDM sealing profiles







METRO SIMMERING, VIENNA

Project:

Construction of a new warehouse. A total of 125 LAMILUX Rooflights F100 and five LAMILUX Continuous Rooflights B ensure optimum daylight inside the warehouse as well as daily ventilation. These are also designed as natural smoke and heat exhaust ventilation (NSHEV).

Systems:

- 125 LAMILUX Rooflights F100 in various dimensions
- Rooflight domes with double composite glazing
- In addition, five LAMILUX Continuous Rooflights B installed
- Continuous rooflights with two PC panels on top of each other (10 mm each) for excellent thermal insulation



GROB, MINDELHEIM

Project:

Construction of a new production hall. The daily aeration and ventilation is realised using cylinders with a spring force connection, the SHEV and ventilation function is controlled with just one pipeline.

Systems:

- 493 LAMILUX Rooflights F100 in 180 x 240 cm
- Partial version as LAMILUX Smoke Lift Rooflight F100
- With CO_2 alarm cabinet



VAUDE, TETTNANG

Project:

New construction of a company and office building. 30 LAMILUX Rooflights F100 and ten LAMILUX Smoke Lifts Rooflight F100 provide a pleasant and safe atmosphere for the sports equipment manufacturer Vaude thanks to their generous daylight incidence and their functionality as smoke and heat exhaust ventilation. All daylight elements are equipped with the LAMILUX Reflective accessory, a highly reflective aluminium material on the inside of the upstand. This results in dazzle-free illumination with luminous values increased by up to 50 per cent.

Systems:

- 30 LAMILUX Rooflights F100, 120 x 120 cm
- Ten LAMILUX Smoke Lifts Rooflight F100 in 120 x 120 cm
- LAMILUX Reflective coating on the inside of the upstand



PNK LOGISTIKPARK, VALISCHEVO

Project:

New construction of an 18,000 m² logistics centre for a Russian pharmaceutical manufacturer. 300 LAMILUX Smoke Lift Rooflights F100, which are used to naturally illuminate the building and as smoke and heat exhaust ventilation in the event of fire, are installed on the large roof area of the warehouse complex near Moscow.

Systems:

- 300 LAMILUX Smoke Lifts Rooflight F100 in 120 x 150 cm
- With CO_2 alarm cabinet

LAMILUX SMOKE LIFT ROOFLIGHT F100

LAMILUX Smoke Lifts meet the legal and normative requirements for fast and efficient smoke and heat exhaust ventilation (SHEV). However, individual requirements are also met with an economical solution – either pneumatic or electric, precisely tailored to the client's needs.

The LAMILUX Smoke Lift Rooflight F100 consists of an upstand for the roof connection and the top section of the rooflight dome. The natural smoke and heat exhaust ventilation device (NSHEV) offers great variety and flexibility: With our extensive range of accessories, we adapt the LAMILUX Smoke Lift Rooflight F100 to suit the respective individual requirements and wishes of the customer as well as the structural conditions. In doing so, we pay particular attention to the maximum safety and reliability of our NSHEVs in the event of a fire!

Test 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 a high smoke release volume	Flow rate coefficient C_v from 0.60 to 0.75 Aerodynamically effective opening surface A_a from 0.6 m² to 4.05 m²
 ... after endurance testing (1,000 times in SHEV position and 10,000 times in ventilation position)	RE 50/1000 | Ventilation 10,000
 ... under snow load	SL 500 to SL 2400
 ... in indoor temperatures as low as -15°C	T(-15)
 ... after suction loads caused by wind (up to 1,500 N/m²)	WL 1500
 ... when exposed to fire	B 300

Your advantage

- Tested according to DIN EN 12101-2
- The LAMILUX Smoke Lift Rooflight F100 does not hit the roof and also does not need to be replaced even in the event of tests and false signal releases.
- Combination with natural ventilation function (30/50 cm stroke)
- CO_2 cartridges in the NSHEV are not damaged during manual triggering and maintenance
- Complies with DIN 18234 at no extra cost (see page 10)
- Pneumatic and/or electric remote triggering



LAMILUX
RENOVATION SOLUTIONS

Renovations can be carried out for a wide variety of reasons. For example, to replace a damaged top section or to better insulate the roof. LAMILUX offers customised solutions for this – as well as for all other renovation cases.

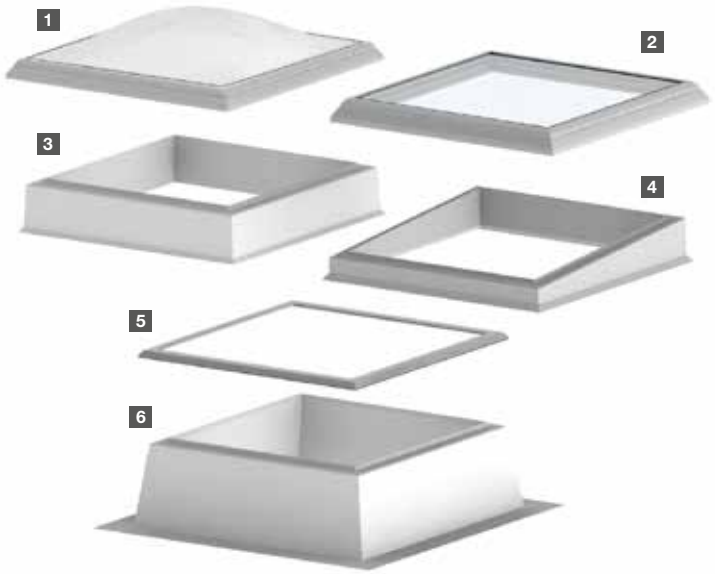
These include, for example, the renovation frame for the simple replacement of skylights. If the roof is also renovated for energy efficiency, this usually involves an elevation of the roof structure. In this case, the additional extension elements are the right choice: Existing upstands can thus be easily extended. Thanks to the customised renovation solutions, we at LAMILUX can fit onto any existing upstand. Most important of all: Personal consultation on an individual basis.

LAMILUX Rooflight and Glass Skylight

Optional extension element

Renovation frame

Existing upstand on site



1 LAMILUX Rooflight F100

2 LAMILUX Glass Skylight F100

3 GRP Heightening Element

4 GRP Heightening Element 5°

5 Renovation Frame 1 or 11

6 Existing upstand on site

LAMILUX UPSTAND: IDEAL STRUCTURAL ATTACHMENT

The upstand is an essential component of the entire rooflight dome system. Permanently further developed with regard to its stability and thermal insulation properties, it forms the base for the construction. It provides the ideal thermal connection to the building structure.

The upstands are available in GRP (glass fibre reinforced plastic), aluminium and steel sheet. The installer has a great advantage here due to the complete pre-assembly of our delivered products. This saves time during installation on the roof and ensures fast closing of the roof opening. In addition, our GRP upstands offer many possibilities for individual roof connections.



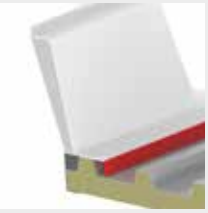
Thermally insulated base flange

The base flange made from glass fibre reinforced plastic and thermally insulated with PU foam is characterised by very good insulating properties and can be individually adapted to the height of the roof insulation. This upstand offers the possibility of connecting bitumen roof sheeting directly to the base flange in a system-compatible manner, so that time-consuming raising of the roof sheeting at the upstand is no longer necessary. The thermally insulated base flange is also available in combination with the hard PVC connecting rail.



Hard PVC connecting rail

The hard PVC connecting rail is laminated onto the base flange at the factory and seal-welded in the corners. This upstand offers the possibility of welding PVC roof sheeting directly to the PVC connecting rail at the base flange. In this way, a material-to-material bonded, tight connection with the upstand is guaranteed all the way round. The hard PVC connecting rail is also available without a thermally insulated base flange.

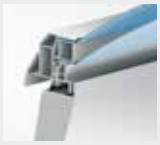


Bevelled base flange

A version of the GRP upstand with a base flange bevelled on both sides is available for connecting to profile roofs. It is also available in a four-sided bevelled version for further requirements, for example an on-site upstand.

Glazing types

Standard glazing



Double-glazed opal/opal

U_g value:	approx. 2.7 W/(m²K)
Noise insulation level:	approx. 20 dB
Light transmittance:	approx. 70%
Energy transmission:	approx. 70%



Triple-glazed opal/opal/opal

U_g value:	approx. 1.8 W/(m²K)
Noise insulation level:	approx. 22 dB
Light transmittance:	approx. 59%
Energy transmission:	approx. 59%



Quadruple-glazed opal/clear/clear/opal

U_g value:	approx. 1.5 W/(m²K)
Noise insulation level:	approx. 22 dB
Light transmittance:	approx. 63%
Energy transmission:	approx. 63%



Double-glazed + PC16

U_g value:	approx. 1.3 W/(m²K)
Noise insulation level:	approx. 25 dB
Light transmittance:	approx. 22%
Energy transmission:	approx. 39%

Special glazing:

For your safety: The rooflight domes with composite glazing are normally flammable and has no burning droplets. For further requirements, there are shells made from GRP that are resistant to flying sparks and radiant heat (hard roofing) according to EN13501-1. For even better fire protection, flame-retardant and non-drip shells are used.
All special glazing, such as increased resistance to hail or PC multi-wall sheets, is available on request.

Opening types



230 volt spindle drive

- Voltage: 230 V
- Stroke length: 300, 500 mm



24 volt spindle drive

- Voltage: 24 V
- Stroke length: 300, 500 mm



Pneumatic cylinder

- Required operating pressure: 8 bar
- Stroke length: 300, 500 mm



24 volt / 230 volt chain drive motor

- Voltage: 24 V /230 V
- Stroke length: 300, 500 mm



Manual opening

- Stroke length: 280 mm
- Available hand crank lengths: 150, 200, 175 to 300 and 250 to 400 cm



Concealed cable routing

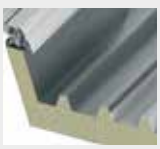
- Cable routing integrated invisibly into the upstand from the inside

Special upstands



Steel sheet upstand

- Reduction of thermal bridges due to composite outer frame



Aluminium upstand*

- Building-specific production of special aluminium upstands for metal roofs
- Individual adjustment to the profile of the base flange

* Aluminium upstands are only suitable for buildings without thermal requirements. Condensation may form on the inside.

Accessories



Spot-welded grid
- Permanently fall-through proof according to the GS-Bau 18 standard
- Pre-assembled into the upstand at the factory
- No reduction of the aerodynamically free smoke ventilation area



Safety Net
- Permanently fall-through proof according to EN 1873 and the GS-Bau 18 standard
- Permanent integration into the top section
- Pre-assembled into the top section at the factory
- Easy handling in the event of renovation



Laser mesh
- For direct installation onto load-bearing sub-structures
- Permanently fall-through proof according to the GS-Bau 18 standard
- Delicate appearance



Laser mesh retrofit kit
- Retrofittable solution to ensure fall-through protection
- Installation in a suitable on-site reveal
- Permanently fall-through proof according to the GS-Bau 18 standard



Roof access hatch
- Access to the roof from inside the building – especially for roofing, maintenance or chimney sweep work



Openable fall-through protection
- Hinged fall-through protection for rooflight domes with roof access hatch function
- Permanently fall-through proof according to the GS-Bau 18 standard



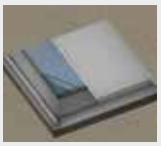
Anti-burglary grid
- Intrusion-resistant according to ENV 1627
- Permanently fall-through proof according to the GS-Bau 18 standard



Sun protection with deciduous tree effect
- A grid sheet for natural shade effect, hail protection and fall-through protection



Insect protection screen
- Integration into the upstand
- Prevention of insects from entering the building when the rooflight dome is open



Controllable sun protection system
- Attachment of the electrically operated shutter to the inner sides of the upstand



Wind and rain sensor set
- For automatic closing in wind and rain
- For group and individual operation
- Pre-assembled onto the edging frame at the factory



Reed contact
- Integration of the magnetic switch in the frame profile
- Signalling of the opening position by a contactless switching process



Small space ventilator
- Integration into upstands with a height of 30, 40, 50 cm
- Flow volume: 170 m³/h



Ventilator
- Integration into upstand with a height of 50 cm
- With weather protection hood
- Flow volume: 840 m³/h



Reflective
- Increase in light transmission by up to 50 per cent thanks to the protected principle of lining with highly reflective aluminium material

Accessories

Smoke extraction



LAMILUX SHEV staircase set

For ventilated rooflight dome consisting of:

- SHEV control panel with emergency power supply
- 24 volt drive with 500 mm upstroke
- Two SHEV buttons
- One fan button

Quality

- Certified watertightness in heavy rain and during storms (Driven Rain Index DRI up to 14.7 m²/s)
- Tested and classified in accordance with DIN EN 1873 - 2014 (first European product standard for rooflight domes) – e.g. in terms of wind and snow load capacity
- Preventive fire protection: Compliance with DIN 18234 to prevent fire spread on the roof without additional measures
- Meets the requirements of DIN EN 12101-2 for smoke and heat exhaust ventilation devices as Smoke Lift
- Meets all requirements of EnEV 2014/16 and the current draft of GEG 2019 (Energy Saving Ordinance – max. U values regulated by law)
- Comprehensive Environmental Product Declaration in accordance with ISO EN 14025 and EN 15804 (EPD - Modules A1 - D)
- Version for fall-through protection according to the GS-Bau 18 standard

Important dimensions



Available sizes

LAMILUX Rooflight F100

Roof opening size in cm	Standard opening position	Light surface in m²	A_a value in m²*	Roof opening size in cm	Standard opening position	Light surface in m²	A_a value in m²*
50/100		0.26		125/250		2.48	2.03
50/150		0.42	—	135/230		2.48	—
60/60		0.18	—	140/140		1.49	1.25
60/90		0.30	—	150/150		1.74	1.46
60/120		0.43	—	150/180		2.14	1.76
70/135		0.61	—	150/200		2.40	1.95
80/80		0.38	—	150/210		2.53	2.05
80/150		0.82	—	150/240		2.93	2.34
90/90		0.52	—	150/250		3.06	2.44
90/120		0.73	—	150/270		3.33	2.63
90/145		0.91	—	150/300		3.72	2.93
100/100		0.67	0.60	180/180		2.62	2.11
100/150		1.08	0.90	180/240		3.60	2.81
100/200		1.49	1.30	180/250		3.76	2.93
100/240		1.82	1.56	180/270		4.08	3.26
100/250		1.90	1.63	180/320	—	4.89	—
100/300		2.31	1.95	200/200		3.31	2.60
120/120		1.04	0.94	200/250		4.22	—
120/150		1.35	1.17	225/225	—	4.28	—
120/180		1.65	1.40	250/250	—	5.38	—
120/240		2.26	1.87	250/270	—	5.85	—
120/250		2.37	1.95	270/270	—	6.35	—
120/270		2.57	2.11	300/300	—	7.95	—
125/125		1.15	1.02				

* Different smoke extraction values for electric NSHEVs
Upstands with steep geometry for increased smoke extraction values with an identical top edge of the ceiling opening on request

LAMILUX Rooflight F100 Circular

Roof opening size in cm	Light surface in m²	Roof opening size in cm	Light surface in m²
60	0.23	120	0.82
80	0.30	150	1.37
90	0.41	180	2.06
100	0.53		

Scan this to learn more about LAMILUX skylights!


ROOFLIGHT F100


GLASS SKYLIGHT F100


GLASS SKYLIGHT FE


GLASS ARCHITECTURE


RENOVATION


MIROTEC STEEL CONSTRUCTIONS


CONTINUOUS ROOFLIGHT B


CONTINUOUS ROOFLIGHT S


CONTINUOUS ROOFLIGHT W|R


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.

LAMILUX

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