

//engineering innovation

# Acustico

The tailored premium glass rooflight

[www.tageslichttechnik.at](http://www.tageslichttechnik.at)



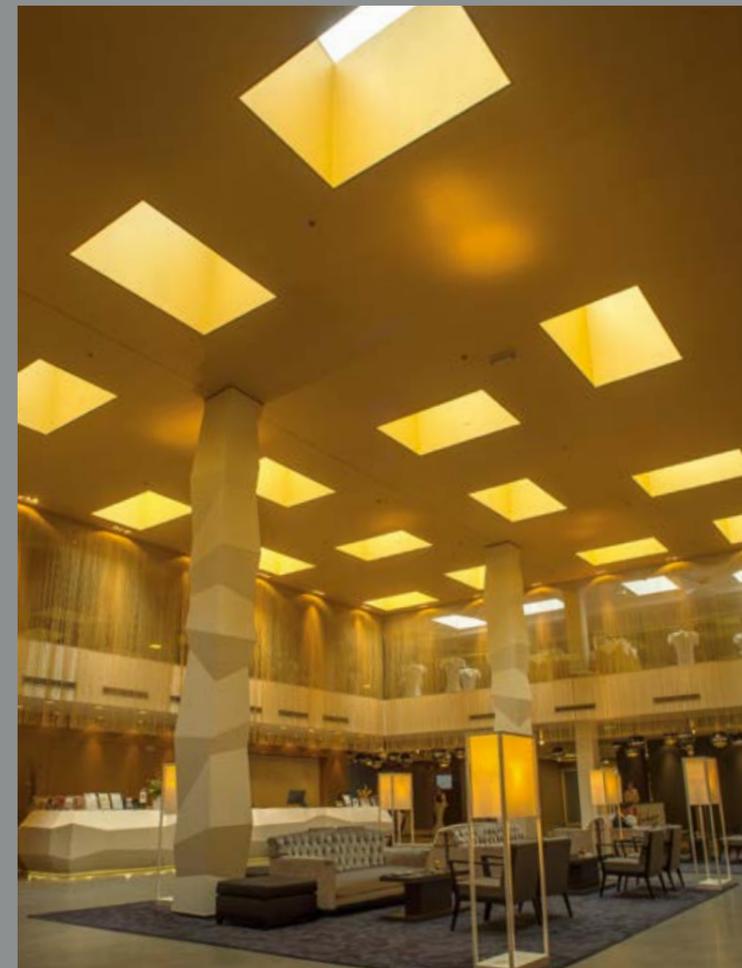
# Acustico – High-tech on the roof



We'd say this is as good as it gets – if we weren't constantly reinventing ourselves. Our flat roof masterpiece leaves nothing to be desired and shows just what Acustico can do. The multiple-dome glass structure with increased breaking strength not only achieves excellent sound insulation values of up to 38 dB but is also substantially hail and fall-through proof, with outstanding thermal performance of up to 0.6 W/m<sup>2</sup>K. And we set standards with maximum flexibility: Acustico is available in over 50 formats and all upstand heights. Created for a long service life and completely recyclable. **extraQuality** made in Austria.



# Diversity – in form and application



## The interplay of forms

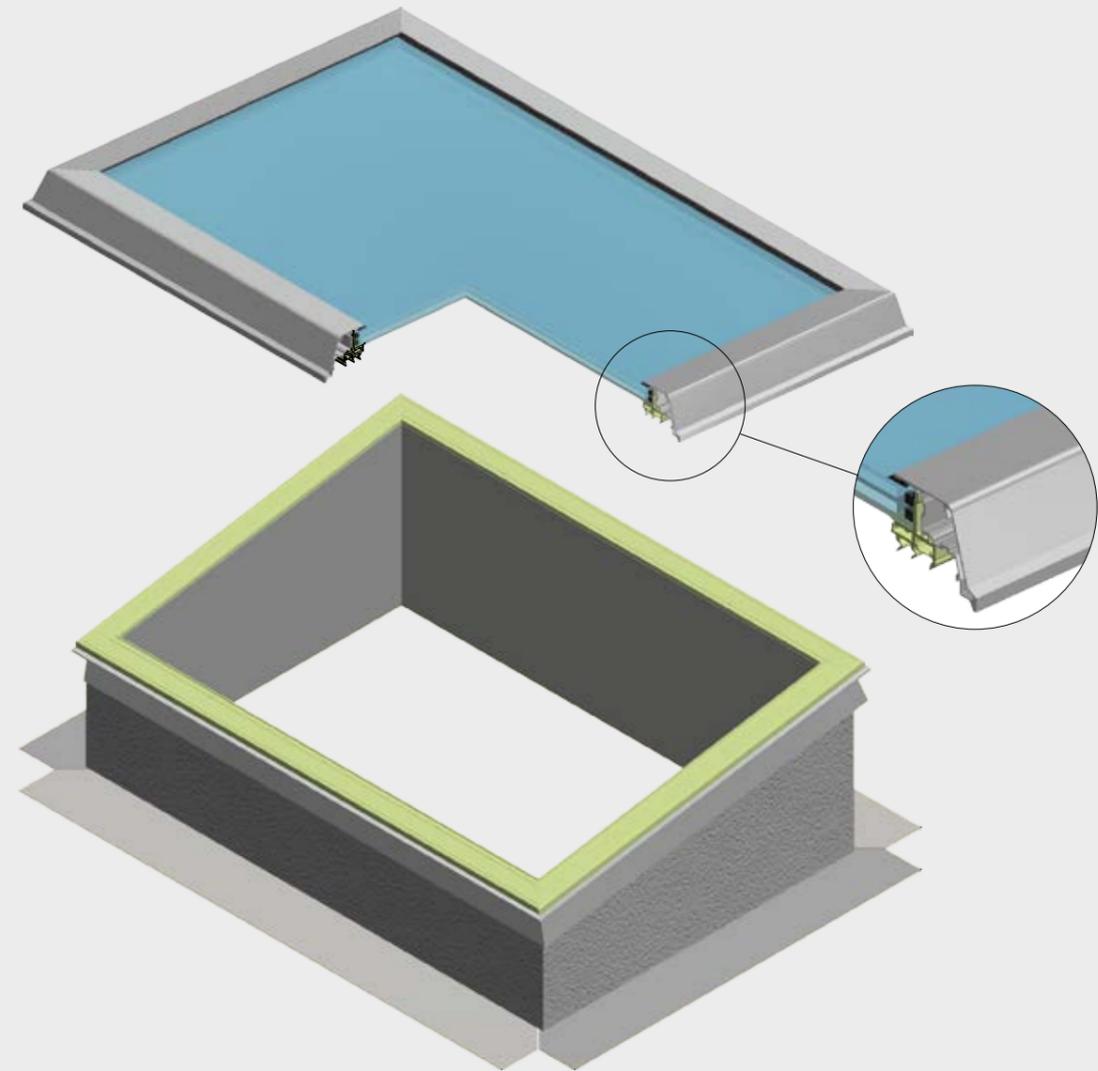
Acustico is versatile like no other rooflight. This makes it a popular flat roof design element. It can be used to provide stylish highlights both internally and externally. The incomparable variety of forms in sizes of up to 2 x 2 m (or rectangular formats even up to 3 m in length) kick starts the imagination and turns great ideas into reality.

## Glass and sun are a wonderful combination

Natural daylight creates better climate conditions in buildings but also has a positive impact on our well-being and performance. Acustico is made from glass and offers the maximum amount of light for the interior. It combines light transparency with the best physical properties like no other material.



# Acustico – the interplay of 4 elements

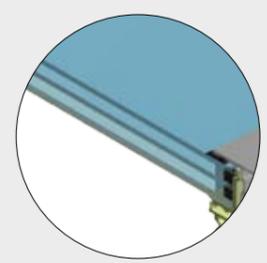


An unbeatable construction principle that makes all the difference.

The **construction principle of thermally separating** a structural load-bearing aluminium frame from the thermally separated and stress-free glass panes it holds is setting new standards on flat roofs. It provides **excellent physical properties** and makes Acustico a sophisticated and flexible system for daylight, daily ventilation and smoke and heat exhaust ventilation.

## 1 Glass

**For lots of light indoors.** Glass is a natural material with maximum daylight transparency and is characterised by a large number of outstanding physical properties. The double to triple glass pane designs have an excellent **thermal performance of up to 0.6 W/m²K** in winter and reduces the energy input by up to 70 % in summer. **Sound insulation values of up to 38 dB** offers excellent noise protection. Glass itself is **resistant to spreading fire** without any further treatment and is also **hail and break-proof** in many different formats.



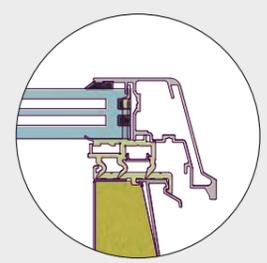
## 2 Aluminium frame

**For a striking roof design.** The structural load-bearing aluminium frame can be coated in **all RAL colours** and is the ideal technical solution for integrating the glass panes. These are mounted **free of stress and thermally separated**. The aluminium frame also prevents fire from spreading to the roof and offers **edge protection** for transport, assembly and integration into the roof cladding.



## 3 Three-lip seal

**Sealed in summer and winter.** The three-lip seal offers maximum sealing in all weather conditions, while simultaneously minimising the formation of condensate.  
**3 sealing lips = 6 x heat transfer resistance = 2 insulating chambers**  
This results in a lower heat loss across a large temperature gradient in a small space and an optimum isothermal curve.



## 4 Upstand: M type + S type

**Flexibility for optimum use.** The special interior contour of the **M type upstand** has an incident **light and air exchange surface that is 10 % larger** than conventional products. The **S type** offers maximum luminous efficiency and impresses with its interesting design. Both upstand types are available **not only flat but also inclined**, which tilts the glass panels by 7°. This produces the desired **self-cleaning effect**.



# If glass were just glass



Safety glass



Soundproofing values of up to **38 dB**

Thermal insulation value starting at **0.6 W/m<sup>2</sup>K**

Fall-through protection

## Plenty of light and the best physical properties

Glass is a natural material and is characterised by its high thermal performance and noise insulation values – with maximum light transparency. As safety glass, it is shatterproof. Additional fall-through protection is no longer required for almost all formats, which retains the beautiful glass design – clear or opal.

Colour coatings can also create special visual effects.

Double or triple-glazed glass of different thicknesses is used in Acustico – depending on technical requirements – with the glass panel facing the interior being made from laminated safety glass for increased security.

Natural daylight creates a better climate in buildings and has a positive impact on our well-being and performance. Light input and thermal regulation are closely linked, as interior light is converted into heat. The intelligent integration of sun protection into the structure is therefore essential to ensure that rooms do not heat up in an uncontrolled manner. Eberspächer has a range of solutions for this: Solar control coatings, sun glare protection systems and mechanical exterior sun protection.

# Lots of sun produces lots of warmth

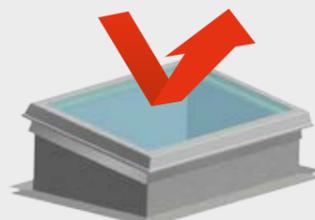


## Heat Block<sup>®</sup> solar control coating

### Light rooms without excessive heat input.

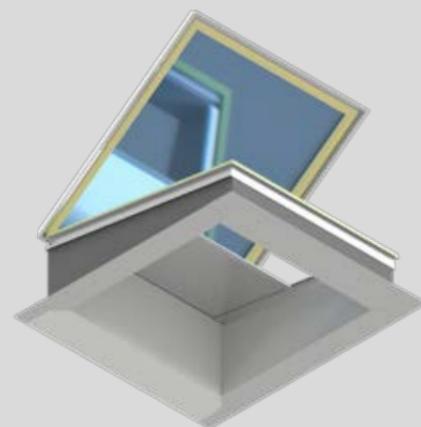
A special coating is applied to the outer glass pane to reduce the energy input from the solar radiation and effectively protect the interior spaces from an excessive build-up of heat.

The total energy transmission of global radiation can be reduced by up to two thirds with the Heat Block<sup>®</sup> solar control coating.

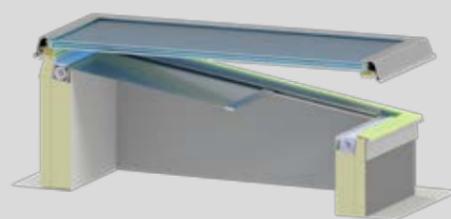


### Light transparency and total energy input with and without Heat Block<sup>®</sup> coating (triple glazing)

	without Heat Block <sup>®</sup>	with Heat Block <sup>®</sup>
Light transmission [%]	74	55
G-Value [%]	54	32



MULTIFILM<sup>®</sup> sun and glare protection system from the bottom



MULTIFILM<sup>®</sup> sun and glare protection system. Cross section

## MULTIFILM<sup>®</sup> sun and glare protection system

MULTIFILM<sup>®</sup> sun and glare protection systems are effective solutions for the thermal regulation of rooflights. They reduce the level of incident daylight and offer reliable protection against uncontrolled heating of the rooms. It still possible to see through the glass due to the transparency of the film. This means that you can save energy in summer and winter. The MULTIFILM<sup>®</sup> sun and glare protection system is mounted on the inside.

The multilayer film contains a very thin layer of aluminium. This layer acts like a mirror and reflects any solar energy to the outside before it can enter the building and be converted into heat. This method stops 88%<sup>1)</sup> of the incident solar energy from entering the room and prevents glare.

MULTIFILM<sup>®</sup> sun and glare protection systems help to save heating energy in winter. They improve the U-value of the glass by up to 31%. This is based on 3 effects:

- the insulating property of the blinds themselves
- the reflection of heat inwards through the aluminium coating
- the air cushion between the blind and window, which acts as an additional layer of insulation

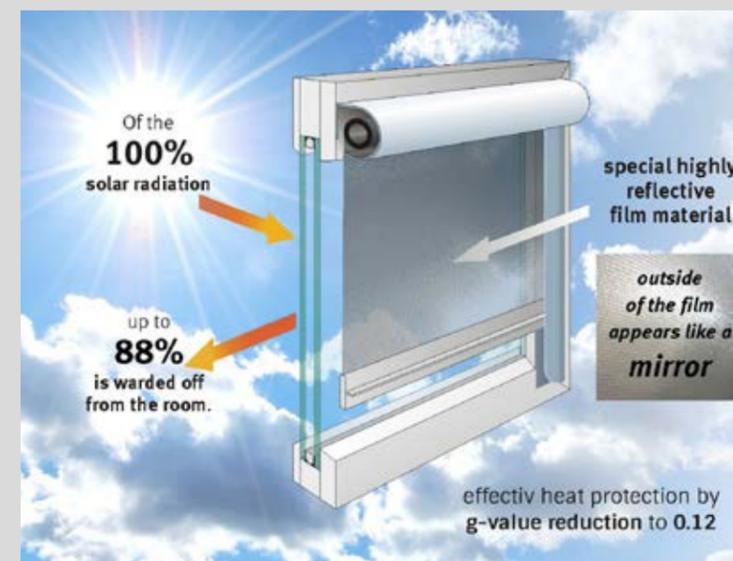
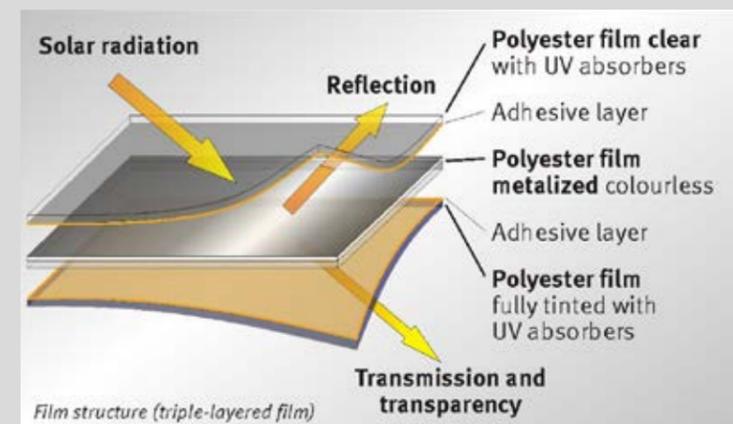
### Fly screens

MULTIFILM<sup>®</sup> films can also be used as fly screens.

## Mechanical sun protection

Blinds are also optionally available in the form of slats that are mounted to the outside of the rooflight.

1) Transparency film SIAt012 sunbelt polaris 65/34 reported by TU Berlin





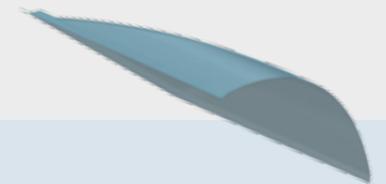
Upstands can be coated in all RAL colours.

# The upstand – impressive diversity

The Acustico upstand is not just the ideal link between the rooflight and the building structure in terms of thermal technology. It also forms a stable base for the entire structure, in which the brackets and fittings for ventilation devices, electric fans and Wemasmog smoke ventilation devices are mounted. The chain drive can be integrated into the upstand in a concealed manner to achieve an immaculate design.

## Materials

Eberspächer attaches great importance to Sustainability. The upstands are made from **galvanised and coated sheet steel** with **insulation made from dimensionally stable mineral wool panels**. These are **100% recyclable materials** and have the **highest fire resistant class**. A design made from **glass-reinforced polyester (GRP) with CFC-free rigid foam insulation** is possible as an alternative.

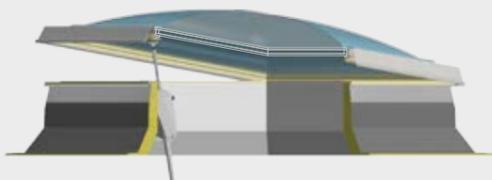


## Self-cleaning effect from 7°

Rooflights are exposed to environmental factors and dirt may remain stuck to flat surfaces if rain water is unable to run off. We have tested it out and years of experience have confirmed the following: The self-cleaning effect occurs from a gradient of 7°. This function can be achieved as follows:

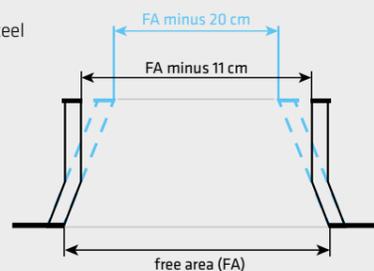
- The roof has a 7° gradient.
- The console type of the upstand generates a 7° gradient.
- A curved acrylic shell is also attached.

## M type Plano



The **M type Plano** upstand is provided with an additional polycarbonate dome on roofs without a gradient and with its special inner contour has an **incident light and air exchange surface which is 10% larger** than conventional products on the market.

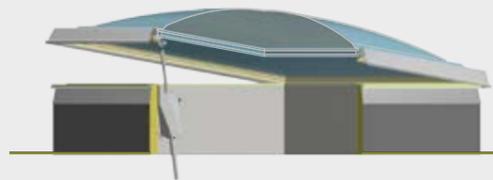
made of steel or GRP



M type Plano

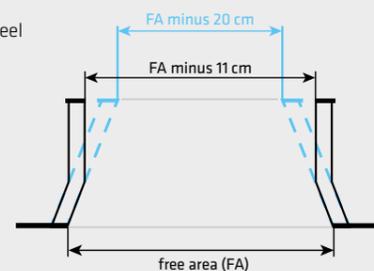
— Eberspächer upstand  
- - - conventional upstands

## S type Plano



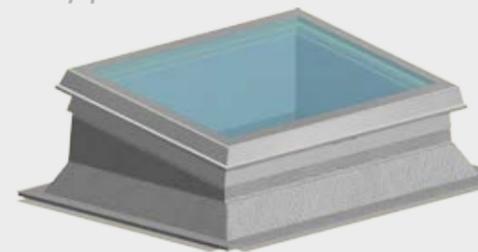
The **S type Plano** upstand is equipped with an additional polycarbonate dome on roofs without a gradient for the self-cleaning effect. Its **straight shape** ensures a **maximum incident light surface**.

made of steel or GRP



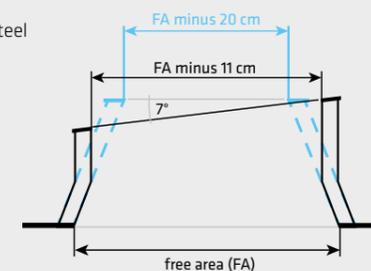
S type Plano

## M type Pult



The **M type Pult** upstand with an angled shape has an **incident light and air exchange surface which is 10% larger** than conventional products on the market. The **7° gradient** ensures the **self-cleaning effect**.

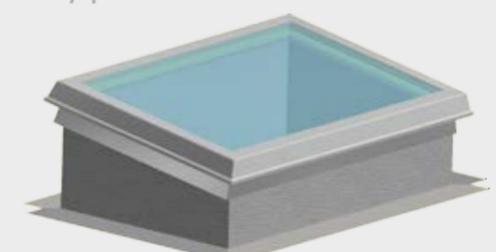
made of steel



M type Pult

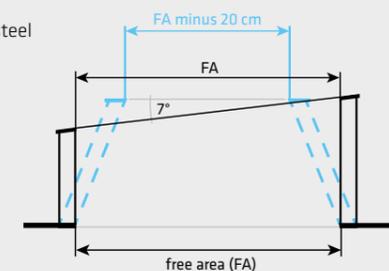
— Eberspächer upstand  
- - - conventional upstands

## S type Pult



The **S type Pult** upstand is characterised by **maximum light transparency** combined with the **integrated self-cleaning effect**.

made of steel

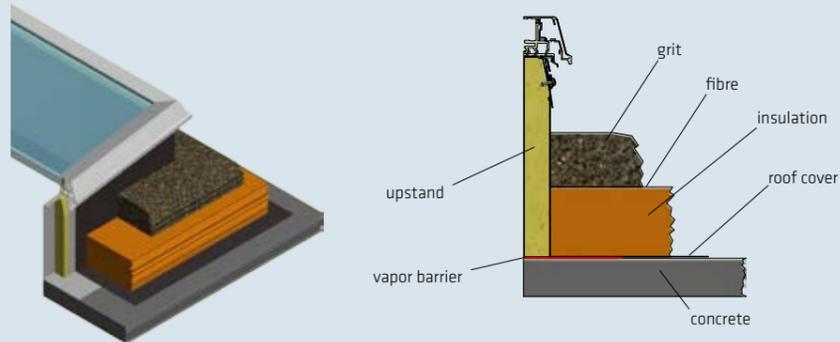


S type Pult

## Upstand installation variants

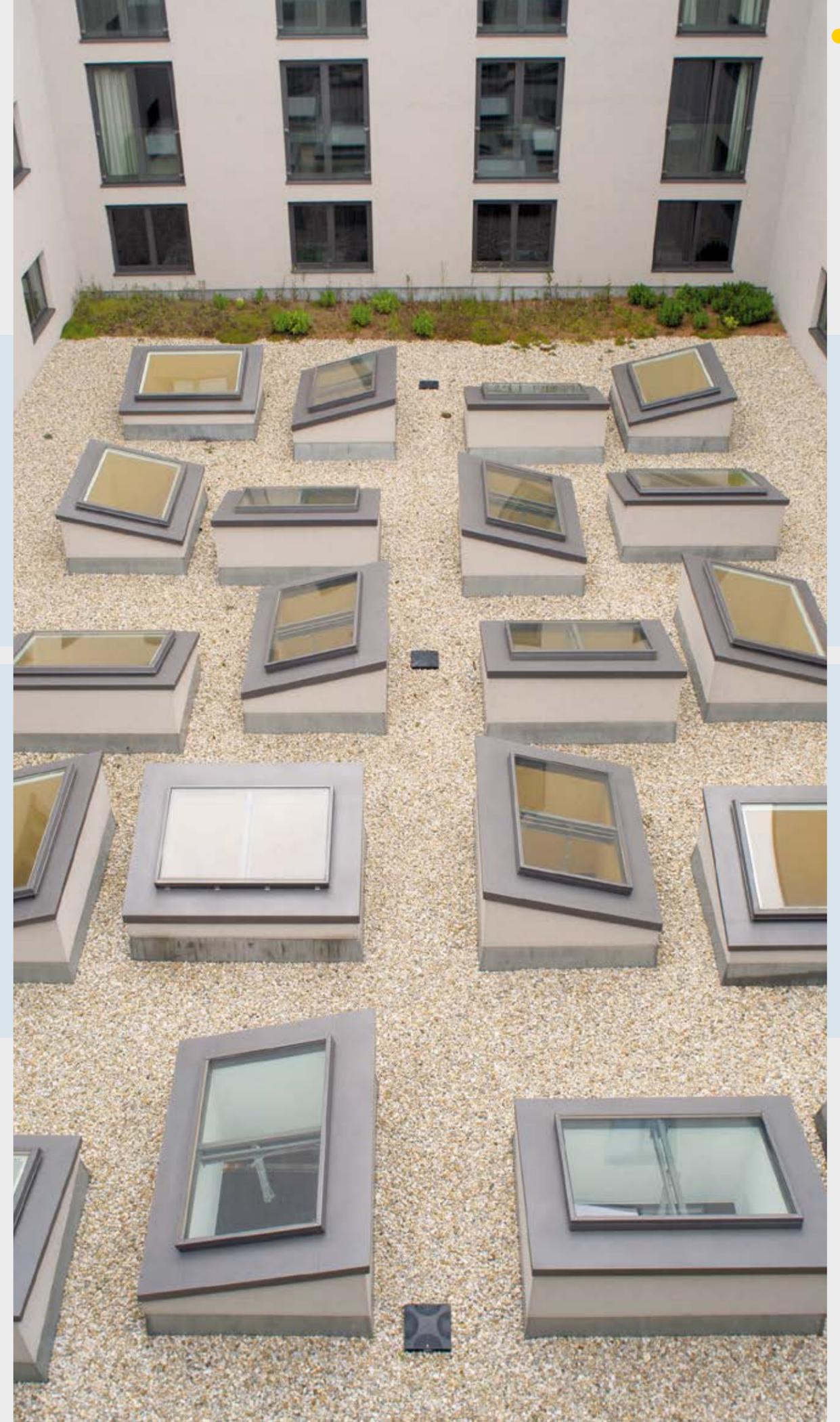
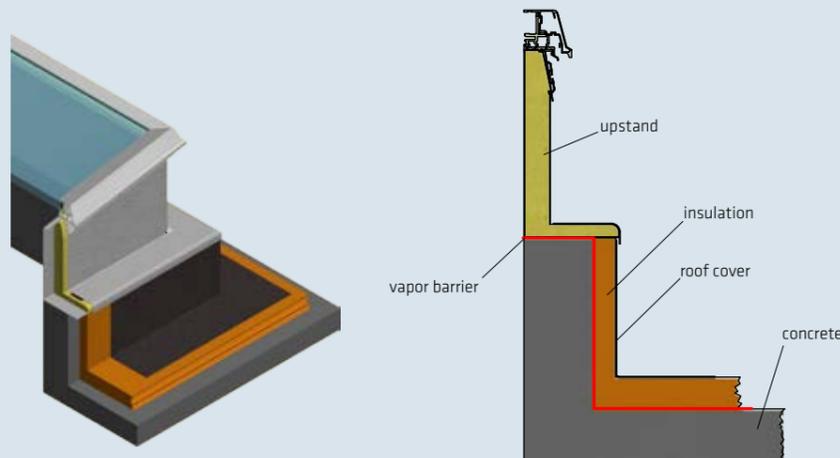
### Inverted roof

Installation on an inverted roof is the classic roofing in the home on a concrete ceiling. The upstand is placed on the raw ceiling. Upstand heights of up to 80 cm are possible.



### Cuff upstand

Installation on the upstand with a thermally insulated flange and drip edge has the benefit that the roof can be completed and then the complete, pre-assembled domelight unit moved into position.

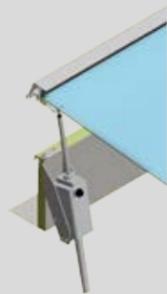


# Ventilation – for a perfect indoor climate

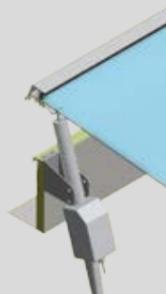
The regular exchange of air has a decisive impact on the **indoor climate** and on our **well-being**. It is important for there to be a supply of fresh air. The domelights can either be opened intelligently and in an automated manner using the central building control system or alternatively by switch

or wireless transmission. The Acustico has four types of opening and closing actuators for ventilation and the **L/EL-K type chain drive can be integrated directly into the upstand** – for a perfect and impeccable design.

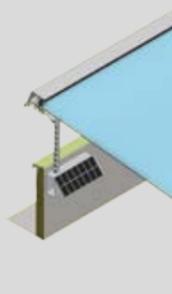
## Opening and closing mechanism



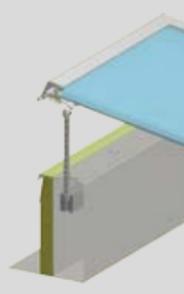
**Type L/EL**  
Spindle motor for daily ventilation.  
Driven by 230 VAC  
Stroke length from 300 mm up to 500 mm



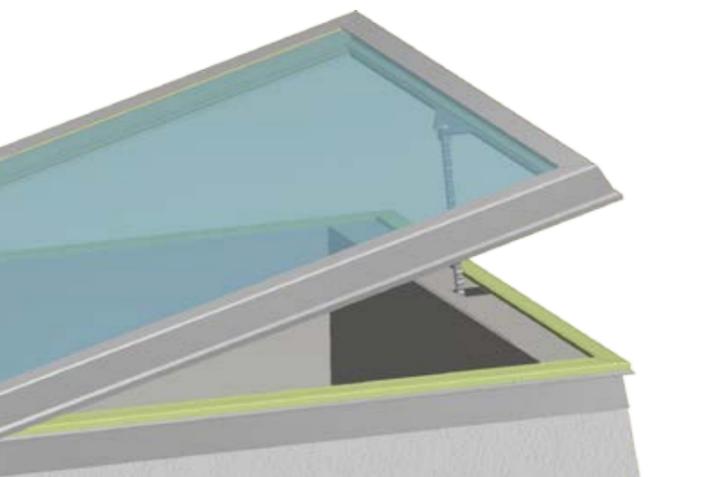
**Type L/EL-24**  
Spindle motor for daily ventilation.  
Driven by 24 VDC  
Stroke length from 300 mm up to 500 mm



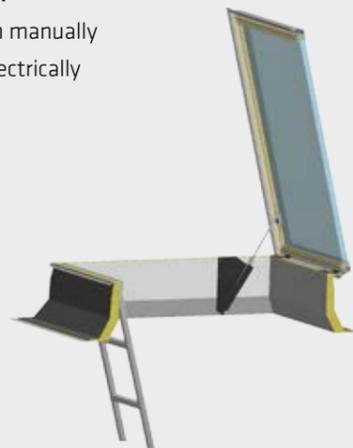
**Type L/EL-KS**  
Chain drive for daily ventilation.  
Driven by an integrated solar panel.  
Stroke length 300 mm.



**Type L/EL-K**  
Integrated chain drive for daily ventilation.  
Driven by 24VDC or 230VAC.  
Stroke length 500mm.



**Access hatch**  
Access hatch manually opened or electrically opened.



# Smoke ventilation – for safety in the case of a fire

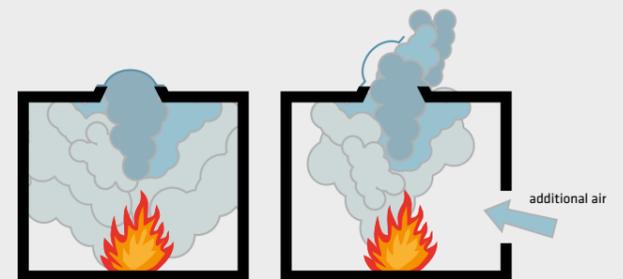
## Wemasmog

Natural smoke and heat exhaust ventilation devices (NSHEV) are fire protection safety appliances and are therefore mandatory in accordance with “fire prevention”. They protect human lives and material assets in the event of an emergency.

In the event of a fire, the rooflight is opened by the fume mechanisms, allowing the hot, toxic fumes to escape. A smoke-free layer above the floor is retained, allowing people to escape from the fire zone and giving the fire brigade access to extinguish the fire.

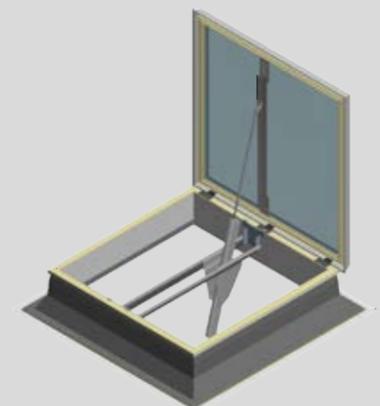
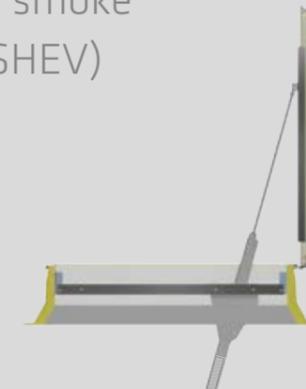
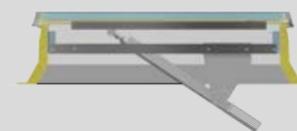
Wemasmog was developed by Eberspächer Tageslichttechnik especially for the additional weight load of glass with increased drive power and is manufactured in Austria.

Our devices are marked with the CE (Conformité Européenne) label with guarantees high safety, health and environmental protection requirements proofed by the European Union.



## Opening mechanism for smoke and heat ventilators (NSHEV)

**Opening angle > 90°. Free area of min. 1m<sup>2</sup>**



# Technical data

## Acustico sizes

		smallest size	biggest size
Acustico – square sizes		40 x 40 cm	200 x 200 cm
Acustico – rectangular sizes		40 x 60 cm	150 x 300 cm
Acustico – octagonal sizes		50 cm	220 cm

We are able to produce all sizes in between

## Acustico – building physics

Noise reduction (triple glazing)		38 dB
U-Value acc. EN: 675:2011		0.6 W/m²K
G-Value		54 %
G-Value with Heat Block® coating* 		32 %
Light transmission		74 %
Light transmission with Heat Block® coating* 		55 %

\*The Heat Block® solar control coating reduces the energy input from the incident sunlight and prevents the interior spaces from overheating. See page 10.



### R8 type

The Acustico is also available as R8 type for circular design highlights: circular on the inside and octagonal on the outside.



## extraQuality made in Austria

### extra**experienced**

Active for 40 years in Austria and Central Europe  
 Innovation and topic leader in Austria  
 Long-term relationships with key suppliers ensure the raw materials are always of consistently high quality  
 Detailed procedural know-how simplifies project acceptance tests

### extra**reliable**

Personal consulting and requirement analysis on site  
 Rapid and extensive initial information  
 Professional support for the implementation of special requests  
 High-quality physical and mechanical assembly by a highly trained team  
 Professional project management ensures that work is handled with utmost precision

### extra**efficient**

Modular system enables customised production according to individual requirements  
 EN 9001 ensures the highest quality for the entire service provision process  
 Special solutions for all purposes: hail-proof, fall-through proof, snow-load proof, etc.  
 In-house production in Austria

### extra**sustainable**

The permanent availability of spare parts ensures that the value of our customers investment for 100 % recyclable products is secured for decades  
 All integrated materials can be reused  
 The long-term corporate strategy secures qualified jobs for skilled workers and creates opportunities for the future of trainees.  
 Supporting social initiatives aimed at developing the region

### extra**innovative**

Own product development for the Central European market  
 Continuous improvements in energy saving and the prevention of condensate formation  
 Defined product categories simplify the optimum product selection  
 Certified smoke and heat exhaust ventilation devices also available for specific requirements  
 Stored data simplify planning



extra**Quality**  
made in Austria

//engineering innovation

*Eberspächer stands for the very best in daylight technology. With our decades of experience, significant technical expertise and state-of-the-art production systems, we develop high-tech solutions that deliver a lasting upgrade of working and living spaces. And we invest a great deal of time and energy into continuously improving our product range. We are therefore regularly setting new standards in modern daylight technology.*

#### Acustico

Arcolicht

Flatlux

Prismolux

R/R8 type

Tentolux

Toplicht

Wemaflap

Wemalux

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