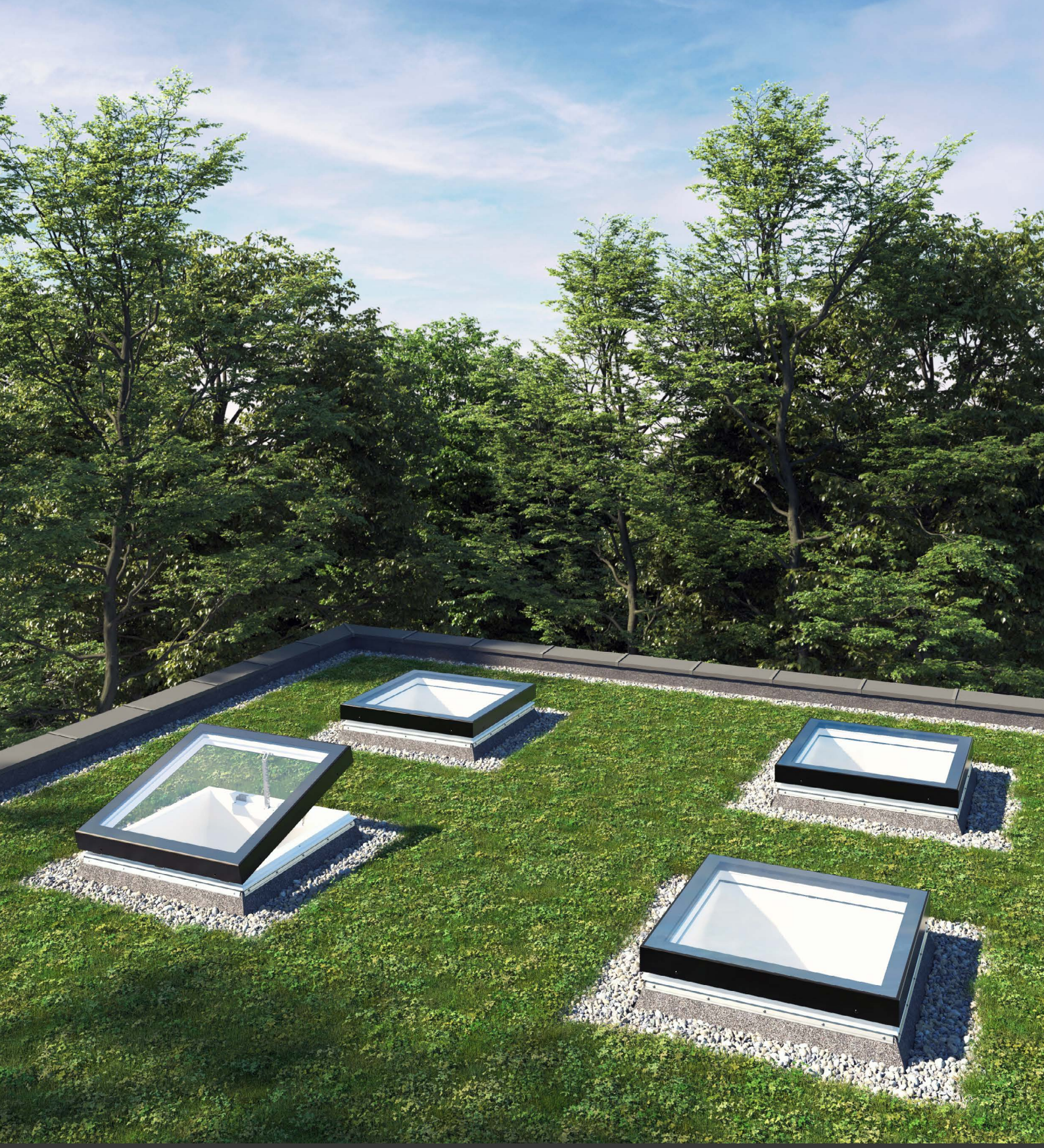


Top 100 Glass

Daylight solutions for public, commercial and industrial buildings

VELUX® Commercial

veluxcommercial.com

Serving your daylighting needs every step of the way

VELUX Commercial offers daylighting and ventilation solutions for public, commercial and industrial buildings. Our domes, rooflights and glazing systems provide plenty of daylight and fresh air, transforming the indoor spaces into inspiring and productive places.

With us as your partner, you have installation and technical expertise close at hand. Together, we can develop long-lasting and high-quality results for your building.

We are here to support you throughout the building project, from specification and design to installation and maintenance. We will carefully listen to your specific needs and help you select the best possible solution.

As part of the VELUX Group, we draw on 80 years of expertise in daylighting solutions. Today, we are a team of 1,100 people working within manufacturing, sales and global support functions in 15 countries.

VELUX Commercial offers solutions in following categories:

Domes and flat roof windows
Our complete range of prefabricated, ready-to-install domes and flat roof windows provide single sources of daylight and fresh air as well as smoke and heat exhaust ventilation.

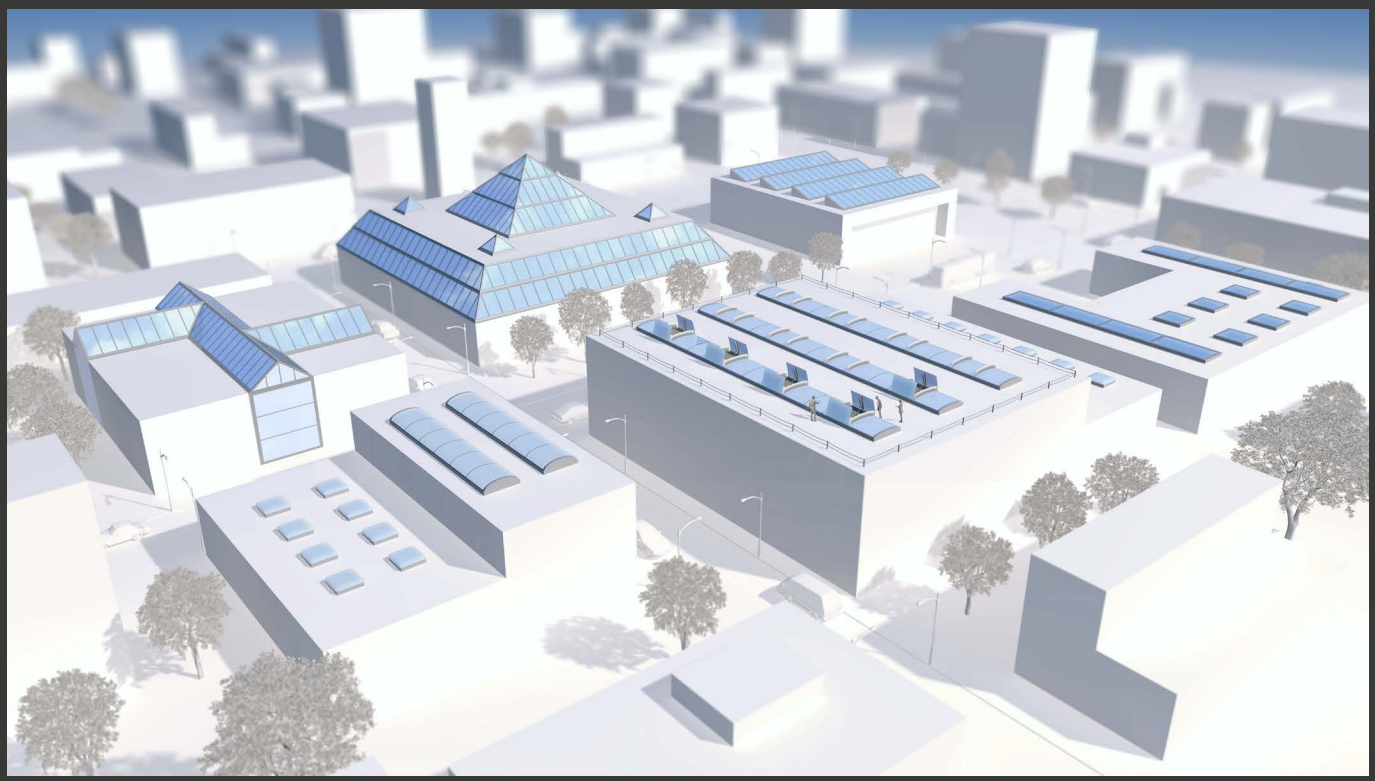
Continuous Rooflights
Our economic continuous rooflight systems provide large areas of natural, diffused light as well as comfort and certified smoke and heat exhaust ventilation options in a lightweight construction.

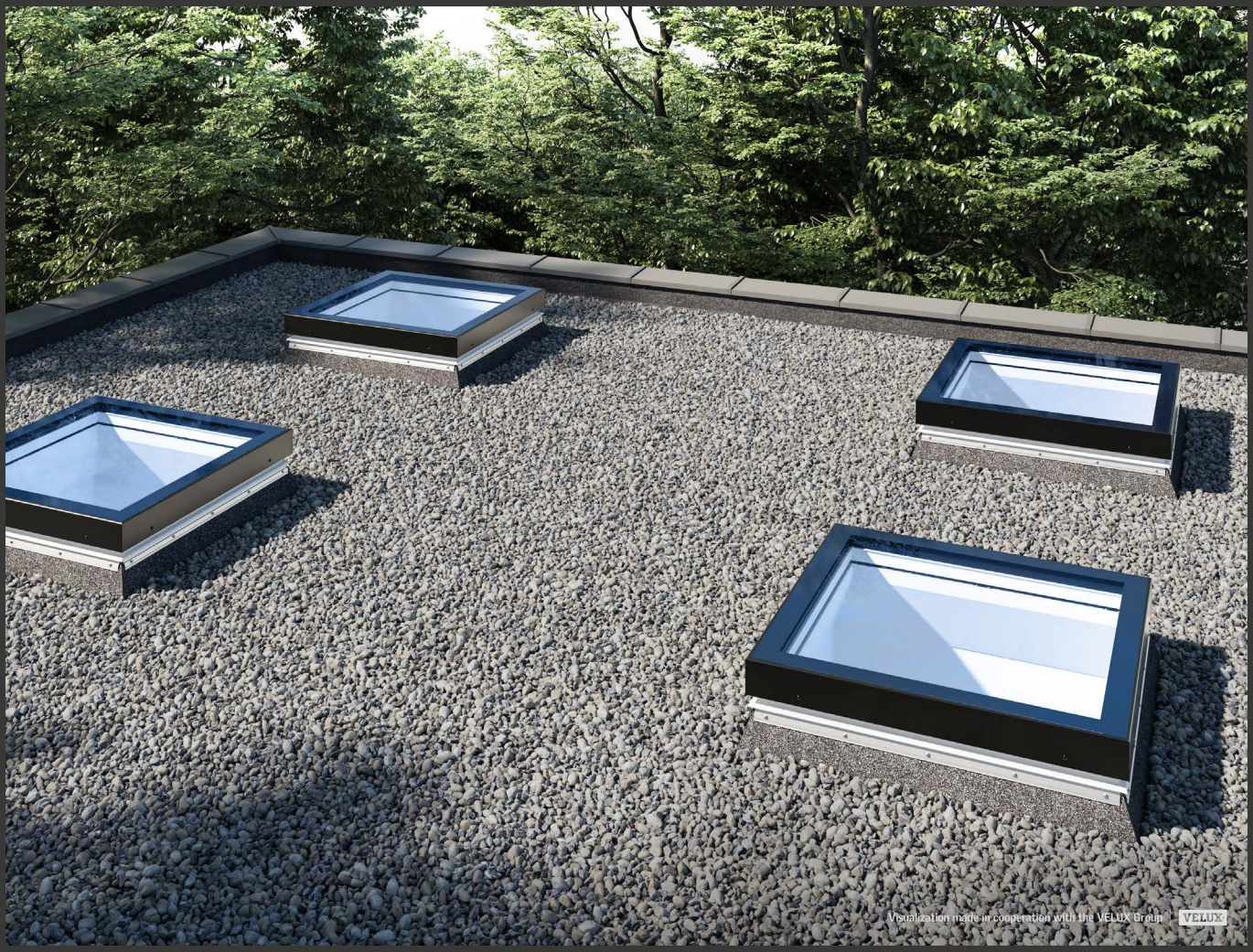
GRILLODUR®
This lightweight, fiberglass solution provides glare-free and shadow-free illumination, along with fall-through safety and options for comfort and smoke and heat exhaust ventilation.

Glass systems
Our reliable glass systems with design flexibility enable you to produce a building with optimal daylight and fresh air as well as smoke and heat exhaust ventilation to support occupant wellbeing.

Smoke exhaust and comfort ventilation
Our solutions for smoke and heat exhaust ventilation, comfort ventilation and daylight and heat control ensure safety and occupant wellbeing.

Support
We offer a wide range of support in the design, specification and installation phases, as well as, service and maintenance. For easy specification, download our detailed 2D illustrations and technical drawings or our detailed 3D CAD/BIM objects.





Improving well-being and comfort

With people spending up to 90% of their time indoors, designing with daylight becomes increasingly important to enhance well-being. Innovative daylight design connects the inside of buildings to the world outside. Natural light helps stimulate the mind and creates comfortable environments for work, study, and leisure. When thermal control is combined with natural light and fresh air, comfort and well-being are maximised.

Daylight and ventilation with additional comfort features

VELUX Commercial offers several unique features to help create grand daylight designs. The availability of sun protection and opening modules for ventilation help reduce heat and glare exposure, providing climate control.

Daylight and artificial light

A key difference between daylight and artificial light is daylight's evolving light levels, color, and direction throughout the day. The direction in which light falls is also dependent on the location of windows and lighting fixtures. Daylight penetrating through façade windows and rooflights provide an evolving light direction, while electric lights in the ceiling provide vertical illumination. Try our Daylight Visualizer tool for a precise and visual daylight analysis of any given rooflight installation.

Smoke ventilation

Skylights play a major role in keeping the building and its occupants safe by removing toxic smoke in the event of a fire. To make sure people are safe, our innovative rooflight solutions can be complemented with accessories that provide several benefits. Smoke ventilation systems channel the smoke and heat through the roof and are designed to facilitate the safe escape of people. The type of fire ventilation that VELUX Commercial provides is natural fire ventilation.

Our products can be configured to automatically open and close according to changes within the building environment. VELUX Commercial offers a wide range of natural comfort ventilation and natural smoke and heat exhaust ventilation rooflights. Changes to the environment such as building temperature or smoke detection can trigger your building management system to adjust hinges, opening rooflight panels in order to help to control indoor comfort or ventilate smoke in the event of a fire.

Safety on the roof

To ensure safety during installation, maintenance and inspection, VELUX rooflights can be offered with a range of metal fall-through protection systems that can be either pre-installed or installed on-site. Whether a warehouse, factory, or an office building – VELUX Commercial can help you select the safest solution.

Top 100 Glass

Top 100 Glass is a sash-frame constructed flat roof window with a insulating glazing unit, that brings in natural light through the roof in single spots. The module is made up of a glass top unit in aluminium and a prefabricated upstand which is either metal or GRP (glass fibre reinforced plastic). Both upstand variants provide a straightforward and simple installation process.

The modules are available in both fixed and venting variants. The venting modules can be used for comfort ventilation.

It can be installed in flat and pitched roofs from 0-15°. A minimum 3° pitch on the module installation is recommended to avoid ponding water on the glass surface. Venting modules must be installed as top hung. A lateral pitch is not allowed for venting modules.

All modules are produced offsite at our factory, meaning every single component is rigorously tested and integrated in a controlled environment. Each component is also of the highest premium quality and is built to stand the test of time.

Top 100 Glass have a reference service life of 30 years in accordance with EN 17213.

Key benefits

Flush glazing design
The top unit has a flush transition between the glazing unit and the frame profiles, minimising the risk of dirt on the glass by allowing the water to run off.

Good sound insulation
The new flat roof window provides enhanced sound insulation ensuring more peace and comfort.

Renovation option
Top 100 Glass are typically supplied as complete units, but it is also possible to specify top unit only for fixing directly to a builder's upstand for instance for renovation.

Durable and robust
The durable glazing not only offers hail resistance but also outperforms traditional skylights in terms of longevity – providing a consistently reliable solution.

Permanent fall-through safety
The Top 100 Glass is permanently fall-through safe according to DIN 18008-6 and CSTB Cahier 3228 1200J. No additional safety systems are required.

Insulated metal upstand

Fixed

Venting

Insulated GRP upstand

Fixed

Venting

Module construction

Insulated metal upstand

A splayed upstand prepared with a white inner lining in RAL 9002 and 9010 (optional), eliminating the need for an inner lining. Available in an 7° pitched option for installation in 0° roofs, see page 9.

1 **Aluminium frame (height depends on the glazing unit)**
Pre-assembled corners and powder coated aluminium frame in black, RAL 9005.

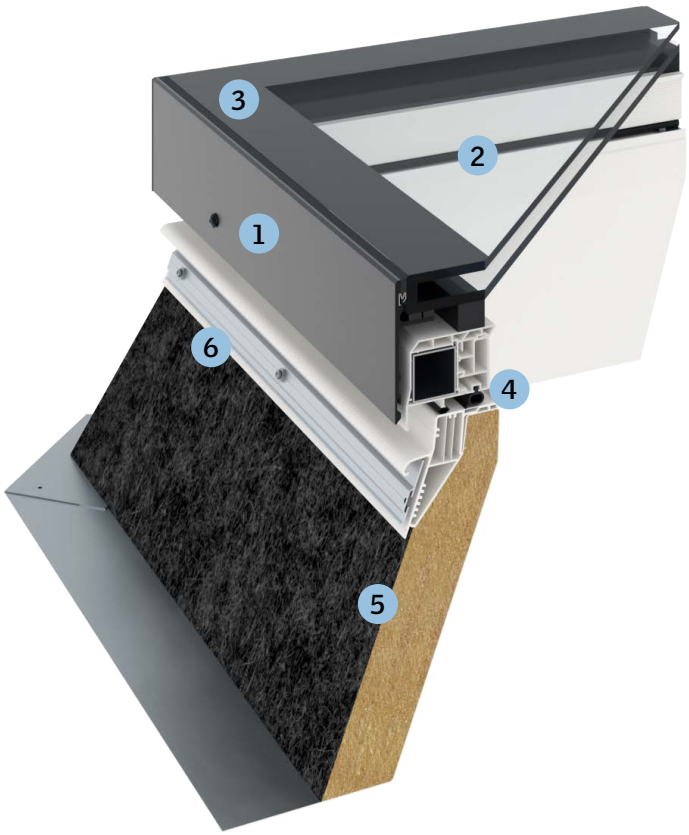
2 **Insulating glass unit (IGU)**
Available in double and triple glazing with LowE coating or with additional sun protection.

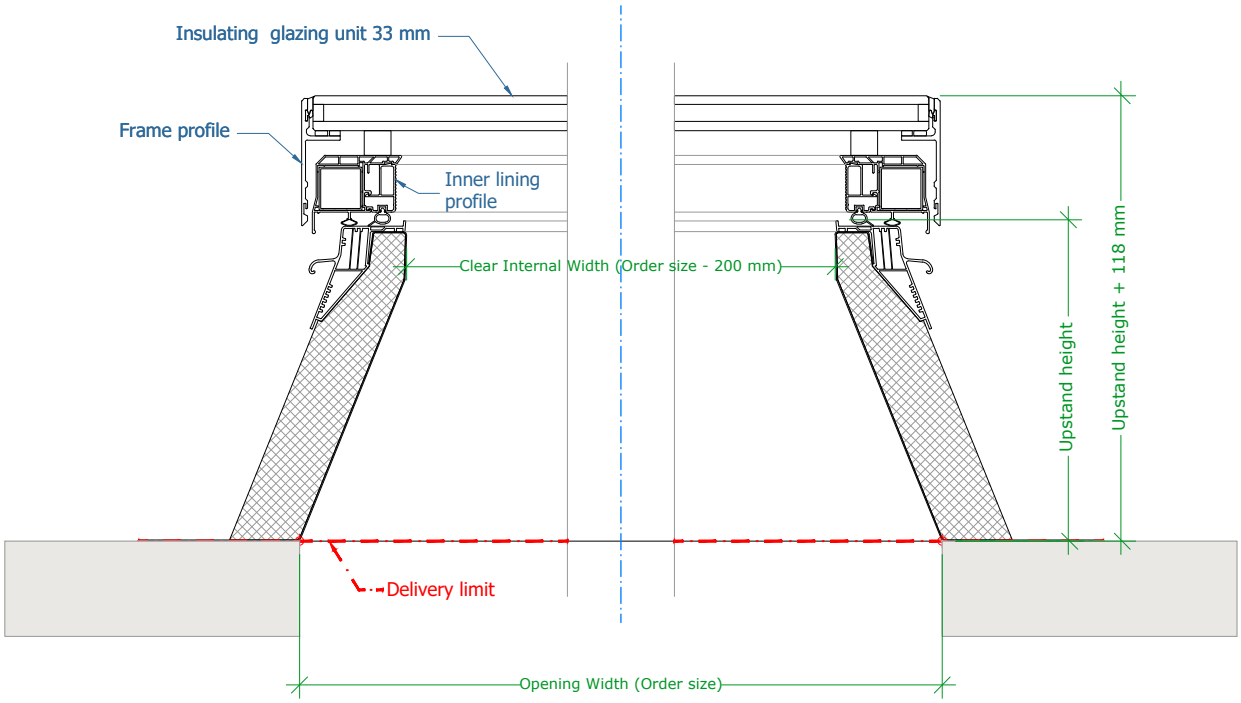
3 **Silk screen print**
The silk screen print gives a nice finish as well as UV protection to the gaskets and the underlying construction.

4 **Double gaskets**
The two gaskets between the upstand and the top unit provide a watertight interface.

5 **Insulated metal upstand - Iso Therm**
Thermal bridge-free splayed upstand made of insulated metal sheets. Available in heights 300, 400, 500 and 600 mm.

6 **Aluminium profile**
A simple aluminium profile ensures easy, fast, and safe mechanical fastening of the roofing membrane, when needed.





Insulated GRP upstand

A splayed upstand prepared with a white inner lining in RAL 9010, eliminating the need for an inner lining.

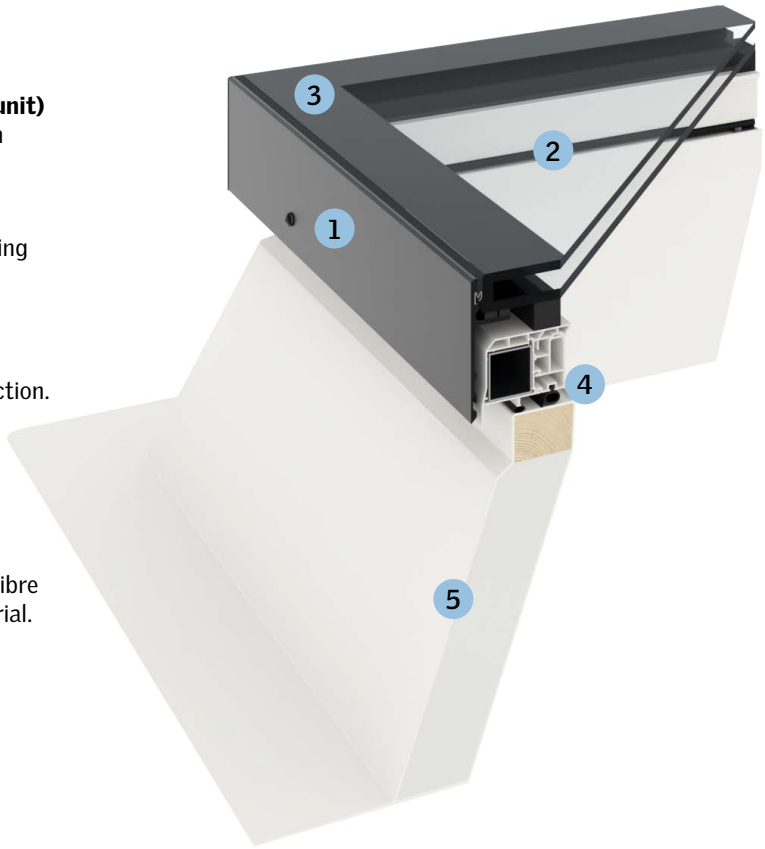
1 **Aluminium frame (height depends on the glazing unit)**
Pre-assembled corners and powder coated aluminium frame in black, RAL 9005.

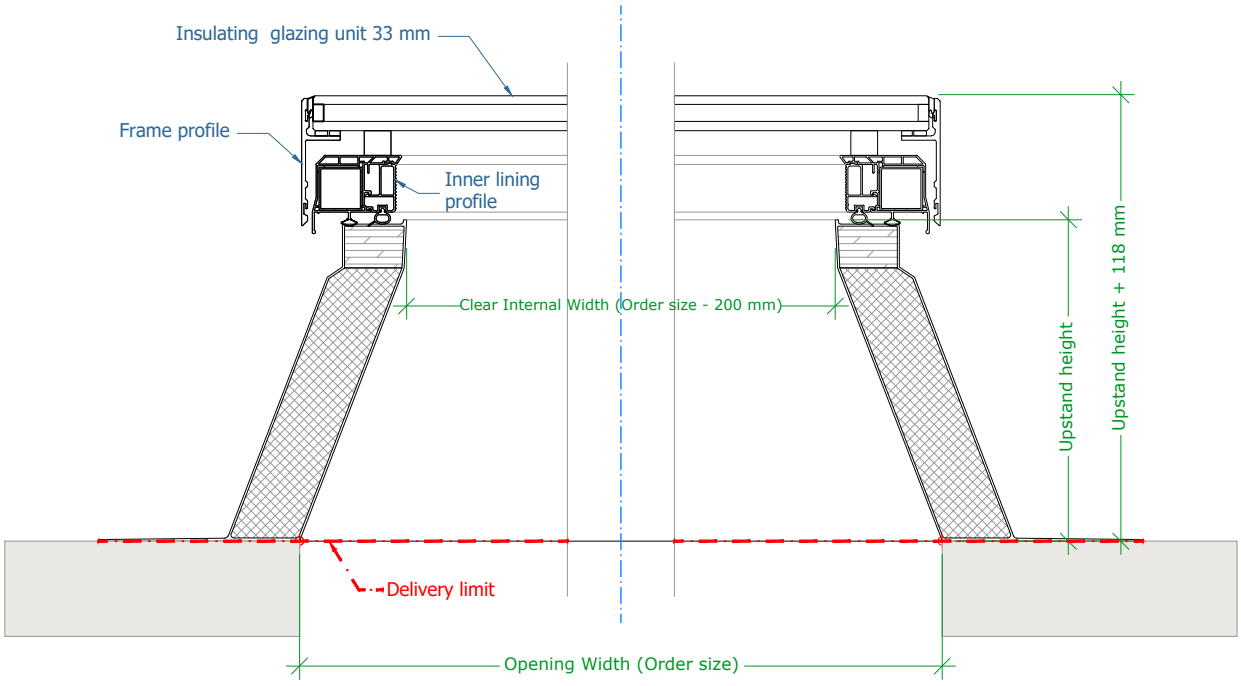
2 **Insulating glass unit (IGU)**
Available in double and triple glazing with LowE coating or with additional sun protection.

3 **Silk screen print**
The silk screen print gives a nice finish as well as UV protection to the gaskets and the underlying construction.

4 **Double gaskets**
The two gaskets between the upstand and the top unit provide a watertight interface.

5 **Insulated GRP upstand - AKi**
Thermal bridge-free, splayed upstand made of glass fibre reinforced plastic (GRP) with 60 mm insulation material. Available in heights 150, 300 and 500 mm.





Size grid

Fixed or comfort venting

Metal upstand

mm	800	900	1000	1100	1200	1300	1400	1500
600		■			■			
700								
800	■							
900		■			■			
1000			■					■
1100								
1200					■			■
1300								
1400								
1500								■

Upstand height [mm]

150	300	400	500	600
	■	■	■	■

GRP upstand

mm	800	900	1000	1100	1200	1300	1400	1500
600		■			■			
700								
800	■							
900		■			■			
1000			■					■
1100								
1200					■			■
1300								
1400								
1500								■

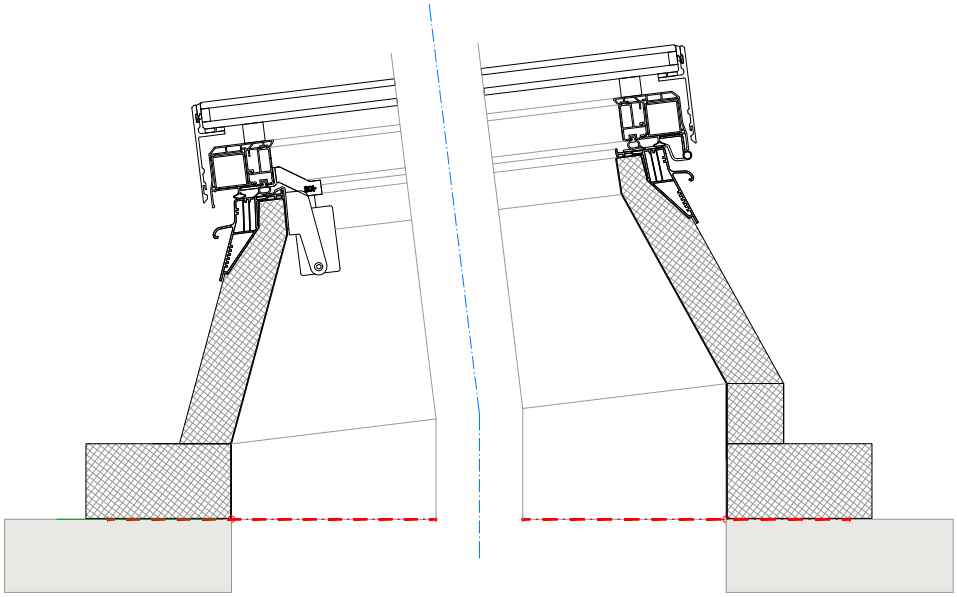
Upstand height [mm]

150	300	400	500	600
■	■		■	

Additional products

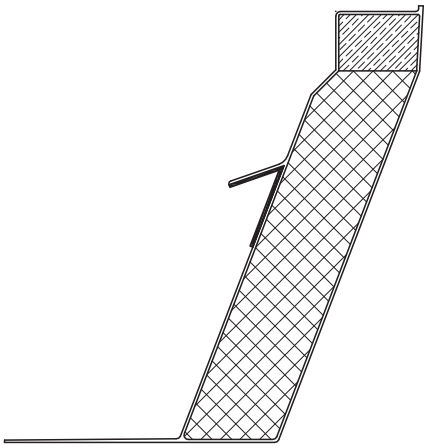
Metal upstand - Iso Therm 7°

- Integrated inclination of 7°
- Optimised water drainage on glass unit
- Upstand heights 400, 500 and 600 mm



GRP upstand - AKi

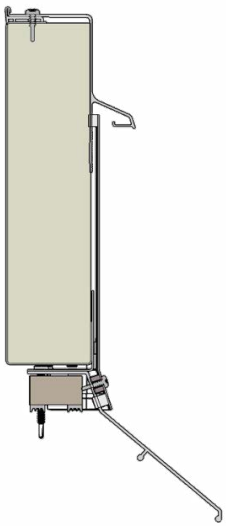
- Overhanging profile
- Insulation flange



Insulation 60 mm and overhanging profile

Renovation upstand - SAR

- Complete renovation set
- Compatible with various upstand constructions*
- Easy installation without roofer possible*



*For replacement installations on an existing upstand or installations on constructions that may cause changes to the declared performance, it is the responsibility of the building owner to validate the applicability of the products and their characteristics in the specific situation.

Glazing information

Top 100 Glass features low emissivity double or triple glazing with foil-laminated inner layers for enhanced safety. These units are available with two coating options, optimised to achieve desired levels of solar heat gain, sun protection, light transmittance and colour rendering.

DG = Double glazing TG = Triple glazing	IGU	Coating	Construction (outside - inside)	Thermal transmittance [U_g]	Light transmittance [τ_v]	Solar factor [g]	Color rendering index [R_a]
				[W/m²K]	[%]	[%]	
DG	20VS	LowE	8H - 16 Argon - 8.76F LowE (44.2)	1.1	80	61	97
DG	21VS	Sun1	8H Sun1 - 16 Argon - 8.76F LowE (44.2)	1.0	61	33	91
TG	30VS	LowE	8H - 18 Argon - 6H LowE - 18 Argon - 10.76F LowE (55.2)	0.5	71	53	95
TG	31VS	Sun1	8H Sun1 - 18 Argon - 6H - 18 Argon - 10.76F LowE (55.2)	0.5	55	30	90

DG = Double glazing TG = Triple glazing	IGU	Coating	Construction (outside - inside)	UV transmittance [τ_{uv}]	Total solar energy absorbtion [a]	Sound reduction performance [R_w]	Psi-Value [ψ]
				[%]	[%]	[dB]	[W/mK]
DG	20VS	LowE	8H - 16 Argon - 8.76F LowE (44.2)	0.4	24	37	0.055
DG	21VS	Sun1	8H Sun1 - 16 Argon - 8.76F LowE (44.2)	0.2	36	37	0.055
TG	30VS	LowE	8H - 18 Argon - 6H LowE - 18 Argon - 10.76F LowE (55.2)	0.3	31	45	0.075
TG	31VS	Sun1	8H Sun1 - 18 Argon - 6H - 18 Argon - 10.76F LowE (55.2)	0.1	38	45	0.075

Weight

Order size	Weight of top units [kg]		Total weight [kg] *
	DG	TG	
600 x 900	25.3	36.4	64.7
600 x 1200	33.2	48.0	84.1
800 x 800	29.5	42.7	73.6
900 x 900	36.8	53.4	89.5
900 x 1200	48.4	70.5	114.3
1000 x 1000	44.9	65.4	106.6
1000 x 1500	66.2	96.8	150.9
1200 x 1200	63.5	92.9	144.4
1200 x 1500	78.7	115.3	174.5
1500 x 1500	97.4	143.1	210.1

* Example total weight for reference including triple glazing (TG), actuator, ventilation frame and insulated metal upstand height 600 mm.

Triple glazing

Technical values

All prefabricated Top 100 Glass flat roof windows are tested and CE marked in accordance with EAD 220062-00-0401. Furthermore, products can be tested for other commonly-used parameters customers may require. All products are manufactured, assembled and delivered from the same heavily-controlled production line, leading to components with identical properties.

Essential performance characteristics

Parameter	Metal upstand	GRP upstand
Reaction to fire, EN 13501-1	Class E	Class E
Resistance to external fire, EN 13501-2	B_{ROOF}(t1)	B_{ROOF}(t1)
Watertightness, EN 12208	9A	9A
Resistance to windload, EN 12210, EN 12211	Class C3	Class C3
Impact resistance, EN 13049	Class 4	Class 4
Thermal transmittance upstand height 300 mm (U_{up} [W/m²K])	0.77	0.68
Thermal transmittance DG ($U_{RC,300}$ [W/m²K])*	1.4	1.4
Thermal transmittance TG ($U_{RC,300}$ [W/m²K])*	1.1	1.1

Chain actuators

Parameter	Comfort ventilation	
Nominal voltage	230 V AC	24 V DC
Tractive force	500-1000 N	1000 N
Chain stroke	300-350 mm	300 mm
Note		Requires additional power supply unit

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