VELUX®

Commercial

VELUX Glazing Panels

Bespoke daylight solutions for public and commercial buildings

Version 2.0

veluxcommercial.com

Front cover and this page: Dual pitched solution, Jakon Headquarters, Ballerup, Denmark.

Bespoke daylight solution in elegant design

VELUX Glazing Panels are bespoke glass rooflights with slim and shallow profiles for optimal daylight influx. They enable the creation of a wide range of rooflight designs from flush installations in a pitched roof to pyramids on a flat roof.

VELUX Glazing Panels are ideal for refurbishment projects of public and commercial buildings – for working, shopping and learning.

Mono pitched solution in saw tooth roofs, National College for Advanced Transport & Infrastructure, Doncaster, Great Britain.

Atrium mono pitched solution,
MT Højgaard, Søborg, Denmark
Certificate: DGNB Gold

Index

The benefits

Bespoke glass system with prefabricated panels

VELUX Glazing Panels are ideal for creating bespoke daylight solutions for public and commercial buildings as they are;

- **Flexible when designing**
- **Prefabricated yet bespoke**
- **Ideal for refurbishment**

VELUX Glazing Panels allow you to design almost anything, thereby creating your own bespoke glass system - ideal for creating special corner solutions, glass gables and pyramids. The elegantly designed aluminium profiles are thermally broken with a polyurethane core. The bespoke nature of panels makes them ideal for refurbishment projects as they can be designed to fit an already existing hole in the roof.

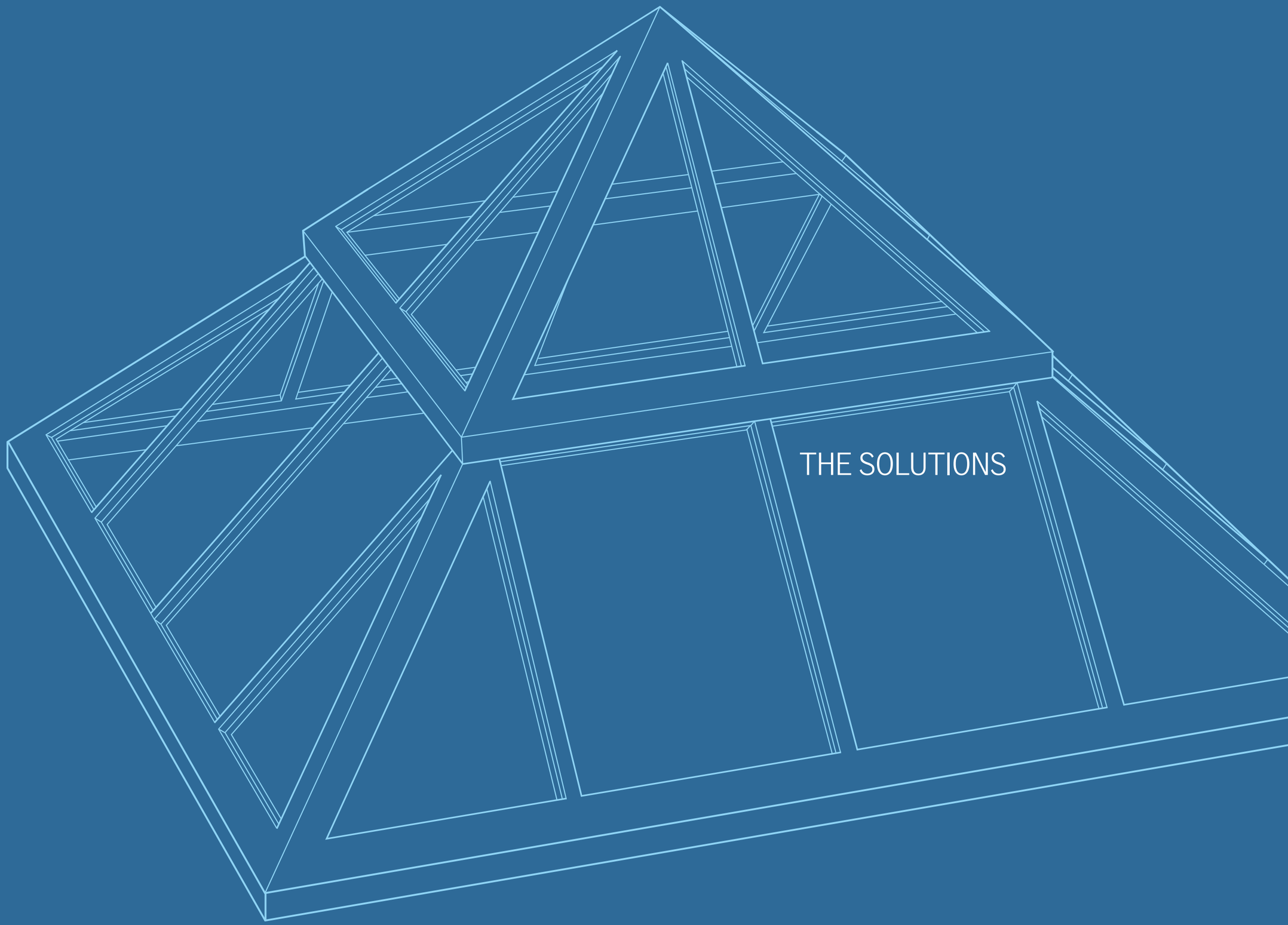
The individual panel is prefabricated off-site. It is delivered assembled with the glazing unit sealed into the frame, ready to be installed together with the accessories creating a high quality and weather-tight solution.

The benefits

VELUX Glazing Panels are available as fixed and venting panels and can be configured with either double glazing or triple glazing providing various design opportunities. All venting panels are top-hung and are available in comfort and smoke ventilation versions. In closed position, there is no visible difference between a fixed and a venting panel from the outside. Additionally, a fixed panel can easily be converted to provide ventilation by post-installing an actuator and a crossbar.

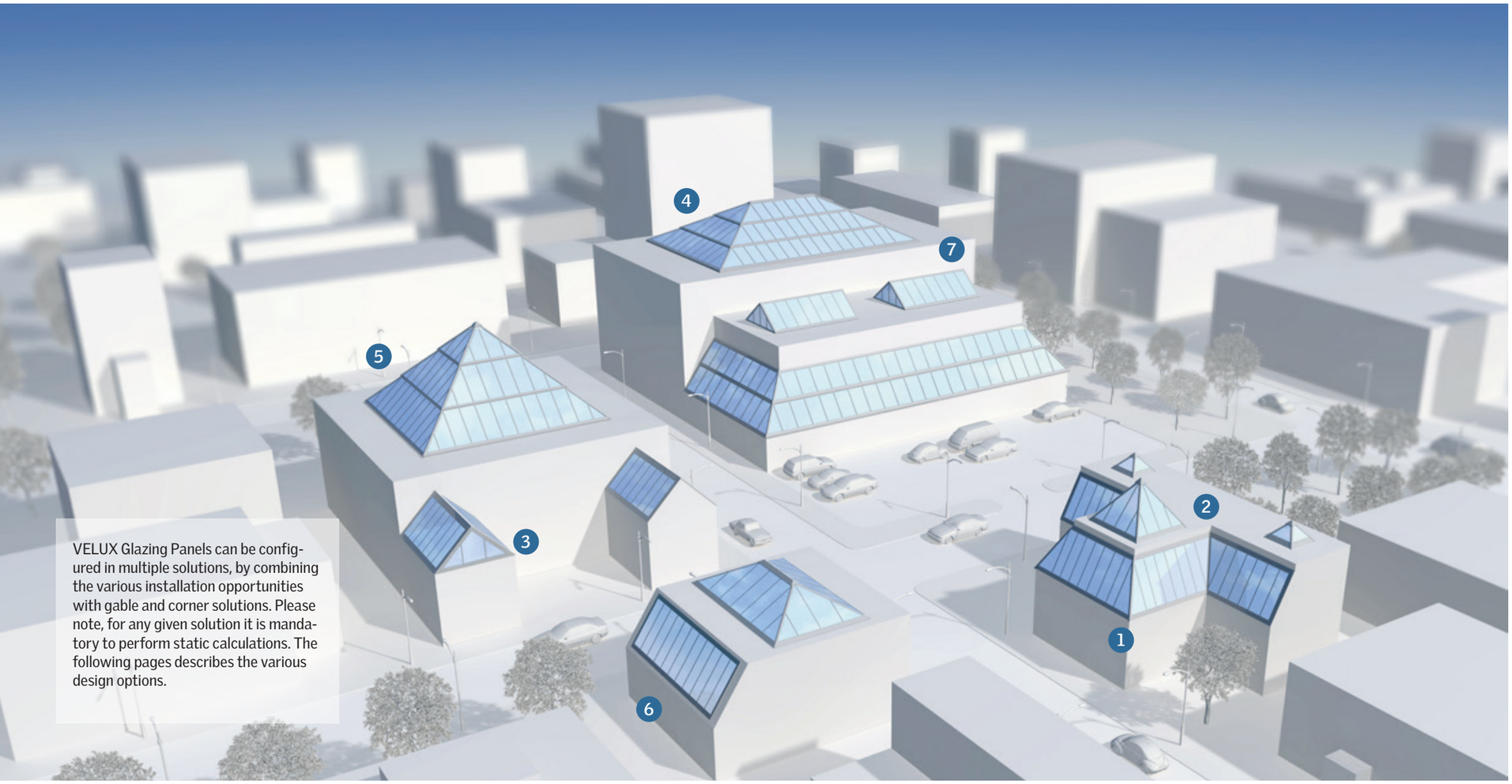
Dual pitched solution with photovoltaic panels, Ormiston, Great Britain

Mono pitched solution in saw tooth roofs, National College for Advanced Transport & Infrastructure, Doncaster, Great Britain.



THE SOLUTIONS

Solution descriptions



VELUX Glazing Panels can be configured in multiple solutions, by combining the various installation opportunities with gable and corner solutions. Please note, for any given solution it is mandatory to perform static calculations. The following pages describes the various design options.

1

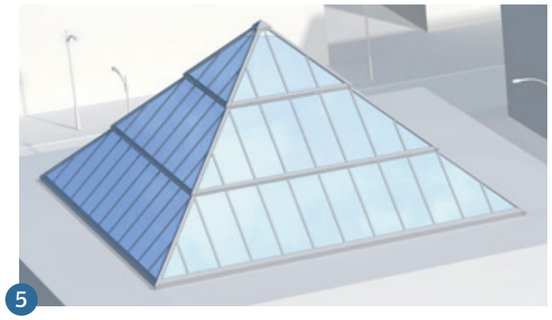
Hip
A hip is an external facing corner solution used to connect two adjacent sloping sides of a rooflight. It is commonly used to create hipped gables in dual pitched solutions.

2

Valley
A valley is an internal facing corner solution used in the intersection between two individual rooflights. It can be used to connect two adjacent rooflights.

3

Vertical glass gable
A vertical glass gable is a section of vertical glazing made up of one or more panels located at the end of a mono pitched solution or dual pitched solution.

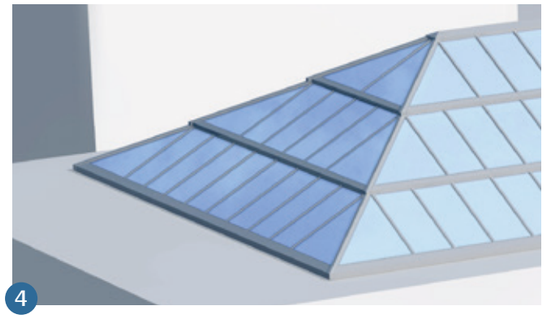


5

Pyramid solutions
A pyramid is comprised of multiple sides of panels connected using hipped corner solutions. For a small solution, it is possible to create a self-supporting pyramid, for bigger solutions, a support structure with hips and beams is required.

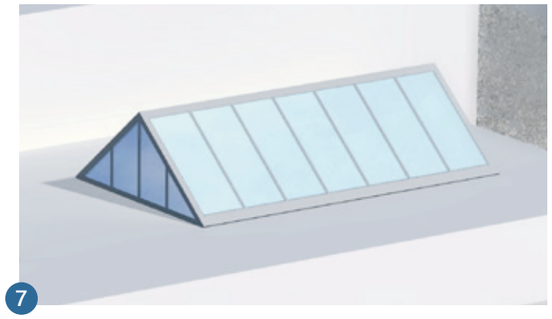
6

Mono pitched solutions
Mono pitched solutions are single rows of VELUX Glazing Panels installed between 15-90° on either an upstand (on a flat roof) or a non-protruding installation in a sloped roof. Solutions mounted against a vertical wall can be installed in pitches between 15-60°.



4

Step solutions
VELUX Glazing Panels can be configured in a step solution by installing multiple rows of panels on top of each other using a structural beam to connect the rows.

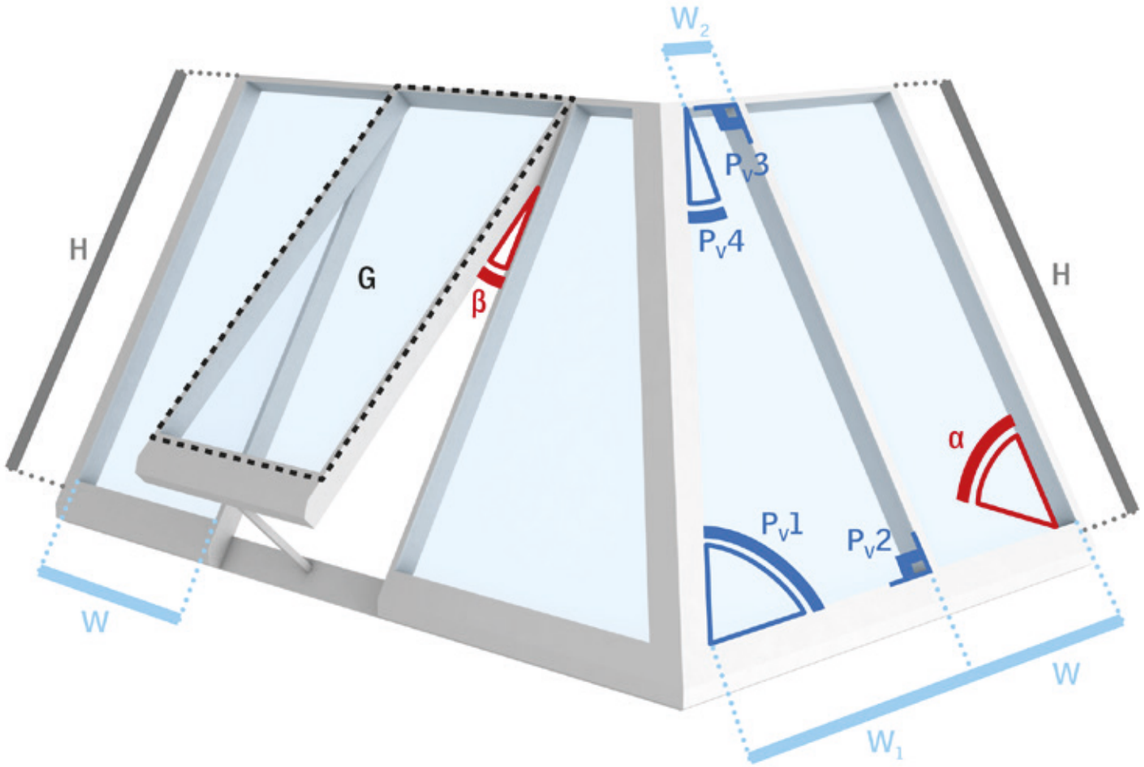


7

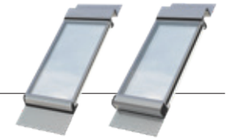
Dual pitched solutions
Dual pitched solutions are two rows of VELUX Glazing Panels connected at the top, creating a ridge. For self-supporting solutions, the installation pitch is between 25-60°. It is possible to create a supported dual pitched solution with pitches of 15° or above by introducing a girder at the ridge.

Panel design options

The tables to the right describe the limitations such as the size of the panels and installation pitch. To confirm the size of the panel, a static calculation incorporating snow and wind loads is required for the specific project.



Options and limitations



		Fixed and comfort venting panels	
		Double glazing	**Triple glazing**
W	Module width	264 mm – 1200 mm (fixed or crossbar solution)	256 mm – 1200 mm (fixed or crossbar solution) 651 mm – 1200 mm (hidden actuator)
	Panel width	Module width – 4 mm	Module width – 6 mm
W_{1-2}	Shaped panel	Measurement limitations per shaped type, please contact your local VELUX sales office	Measurement limitations per shaped type, please contact your local VELUX sales office
H	Panel height	260 mm – 2900 mm	250 mm – 3500 mm
	Ratio	W/H: 1:6 or 6:1	W/H: 1:6 or 6:1
G	Panel area**	max. 2 m^2	max. 3 m^2
β	Opening angles	0° – 45° (max. opening to horizontal)	0° – 45° (max. opening to horizontal)
P_v	Corner angles	Fixed panels 25° – 155°. Venting panels only with 90° corners.	Fixed panels 25° – 155°. Venting panels only with 90° corners.
α	Installation pitch	15° – 90° (ponding groove if pitch is under 25°)*	15° – 90° (ponding groove if pitch is under 25°)*

		Smoke venting panels, in accordance with EN 12101-2	
		Double glazing	**Triple glazing**
W	Module width	504 – 1200 mm (crossbar solution)	506 mm – 1200 mm (crossbar solution) 851 mm – 1200 mm (hidden actuator)
	Panel width	Module width – 4 mm	Module width – 6 mm
H	Panel height	600 mm – 2900 mm	500 mm – 3500 mm (crossbar solution) 500 mm – 2366 mm (hidden actuator)
	Ratio	W/H: 1:6 or 6:1	W/H: 1:6 or 6:1
G	Panel area**	max. 2 m^2	max. 2 m^2
β	Opening angle	0° – 45°	8° – 45°
α	Installation pitch	15° – 60° (ponding groove if pitch is under 25°)*	15° – 50° (ponding groove if pitch is under 25°)*
	Glazing weigth	max. 40 kg/m^2	max. 50 kg/ m^2
	Solutions	Be aware that the above guidance only applies to some solutions, please contact your local VELUX Sales office	Be aware that the above guidance only applies to some solutions, please contact your local VELUX Sales office

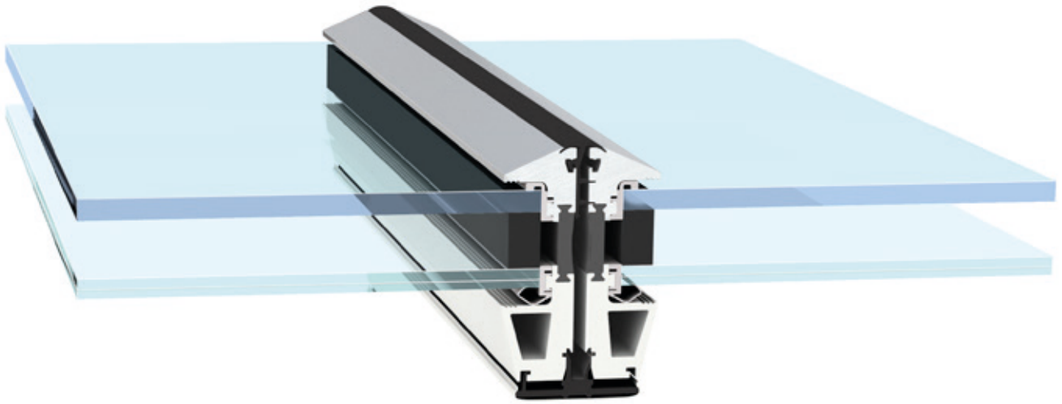
For more information regarding venting panels, see page 26.
* For more information regarding ponding groove, see page 25.
** Based on panel width x height.

Panels

The prefabricated panel consists of aluminium frame profiles with a glazing unit sealed into the frame. When the panels are joint together on-site, the outer gasket and an inside drainage profile must be mounted to secure drainage and a weather-tight solution.

Double glazing

Frame profile height: 74 mm
Panel joint height: 82 mm
Panel joint width: 50 mm



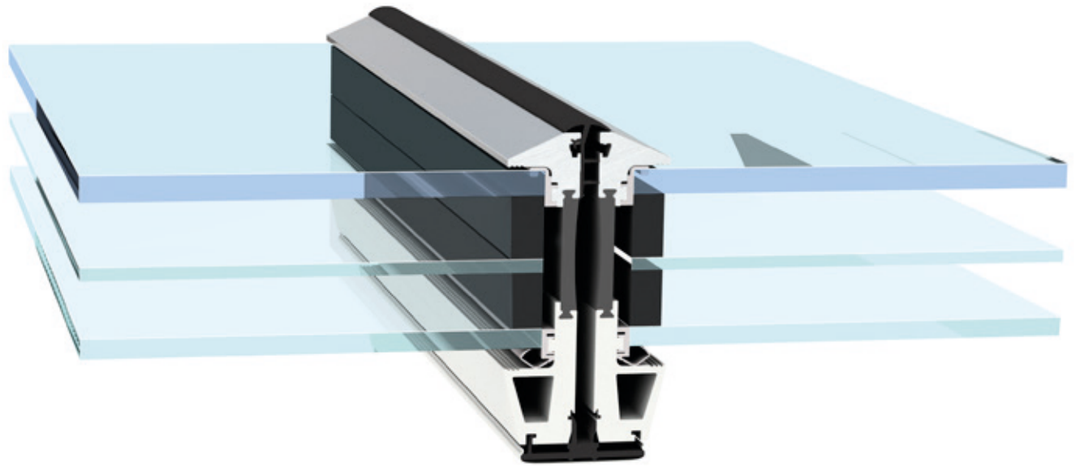
U-value

Thermal transmittance in accordance with EN 14351-1:

Panels with double glazing:
U_w = 1.7-1.8 W/m²K

Triple glazing

Frame profile height: 98 mm
Panel joint height: 106 mm
Panel joint width: 52 mm



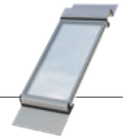
U-value

Thermal transmittance in accordance with EN 14351-1:

Panels with triple glazing:
U_w = 1.0-1.3 W/m²K

Glazing

Double glazing unit with sun protection coating



Spectral values (wave length in nm)

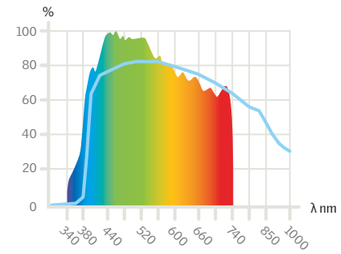
Visible daylight tau

All of the above mentioned values are in accordance with EN 410.

Glazing with low emissivity coating (LowE) for DG

Variant 40L

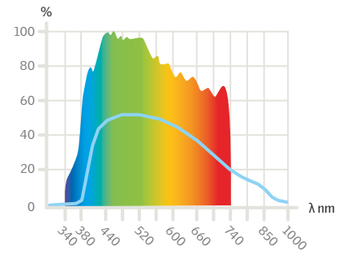
Light transmittance: τ_v-value = 80%
Solar factor: g-value = 64%
Colour rendering index: R_a = 97



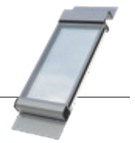
Glazing with light sun protection coating (Sun1) for DG

Variant 41L

Light transmittance: τ_v-value = 50%
Solar factor: g-value = 27%
Colour rendering index: R_a = 91



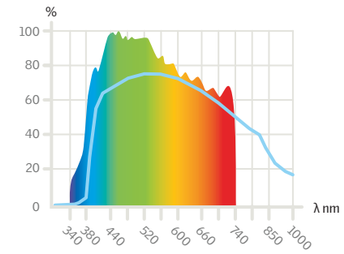
Triple glazing unit with sun protection coating



Glazing with low emissivity coating (LowE) for TG

Variant 46L

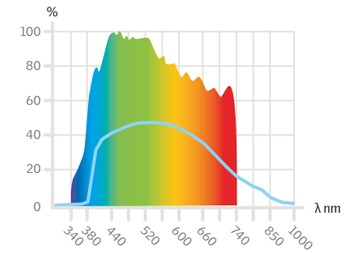
Light transmittance: τ_v-value = 73%
Solar factor: g-value = 53%
Colour rendering index: R_a = 96



Glazing with light sun protection coating (Sun1) for TG

Variant 47L

Light transmittance: τ_v-value = 47%
Solar factor: g-value = 26%
Colour rendering index: R_a = 83

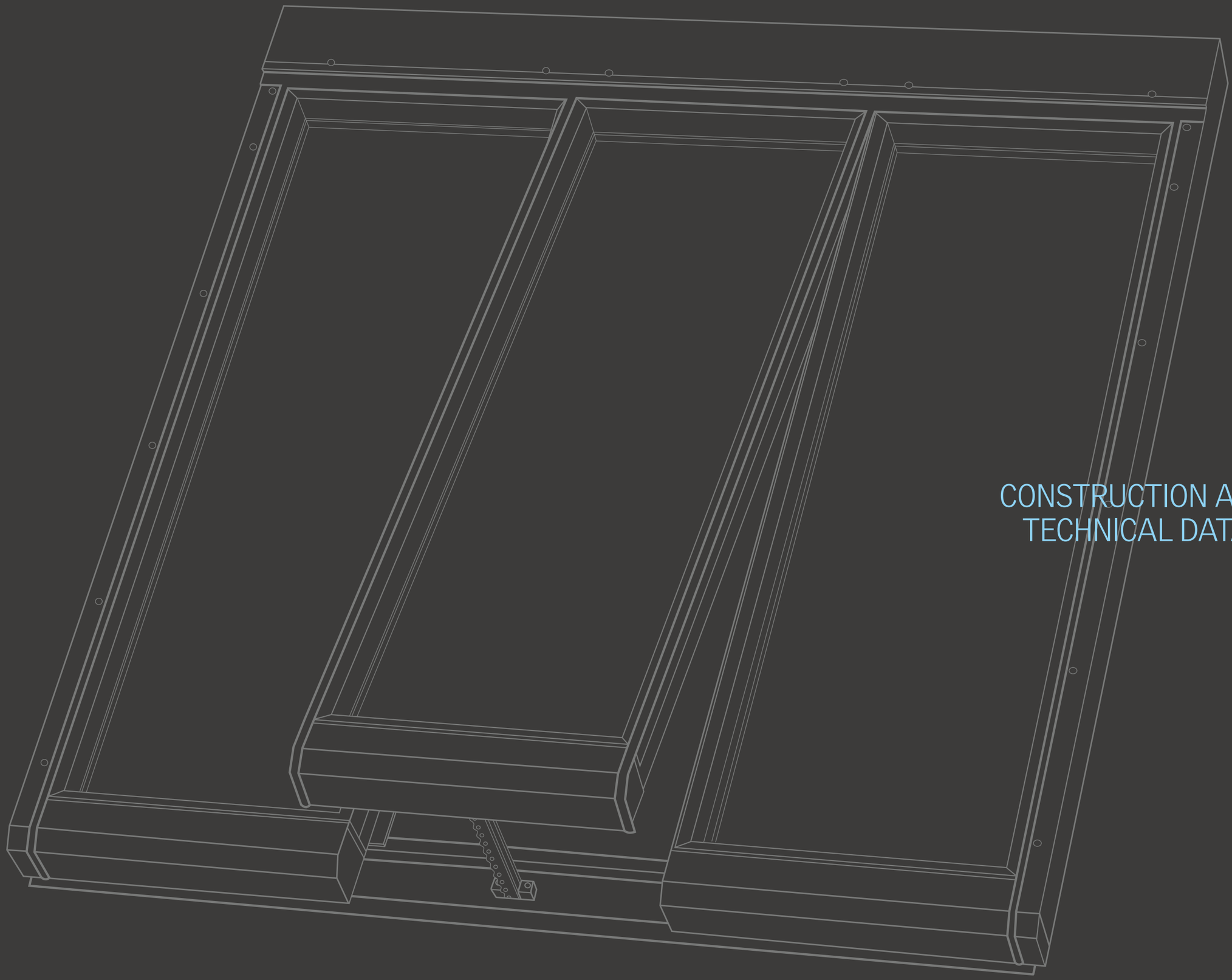


Colour simulation

Your choice in coating will affect the amount of penetrating light as well as the natural colouring of the interior.

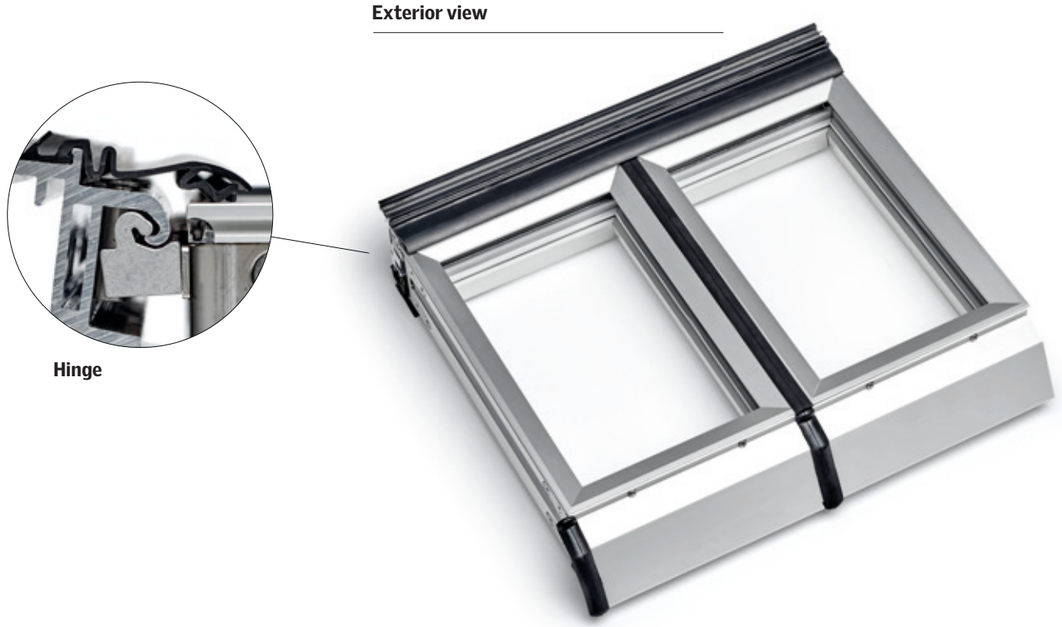
Glazing with low emissivity coating (LowE)

Glazing with light sun protection coating (Sun1)



CONSTRUCTION AND TECHNICAL DATA

Material descriptions for double glazing



Frame profile*

Material: Aluminium & polyurethane core
Surface: Nature anodized or polyester powder coated
Exterior colour: RAL 9010/9005/7016, gloss 30
Interior colour: Same as exterior or wet coloured painted RAL 9010

Front cover cap* & rubber plug

Material: Aluminium (2 mm), EPDM rubber plug & polystyrene insulation
Surface: Nature anodized or polyester powder coated
Colour: RAL 9010/9005/7016, gloss 30

Installation profile

Material: Aluminium, PVC & EPDM rubber gasket

Flashing*

Material: Aluminium (1 mm)
Surface: Nature anodized or pre-painted
Colour: RAL 9010/9005/7016, gloss 30

Side gable + fixing angle profile

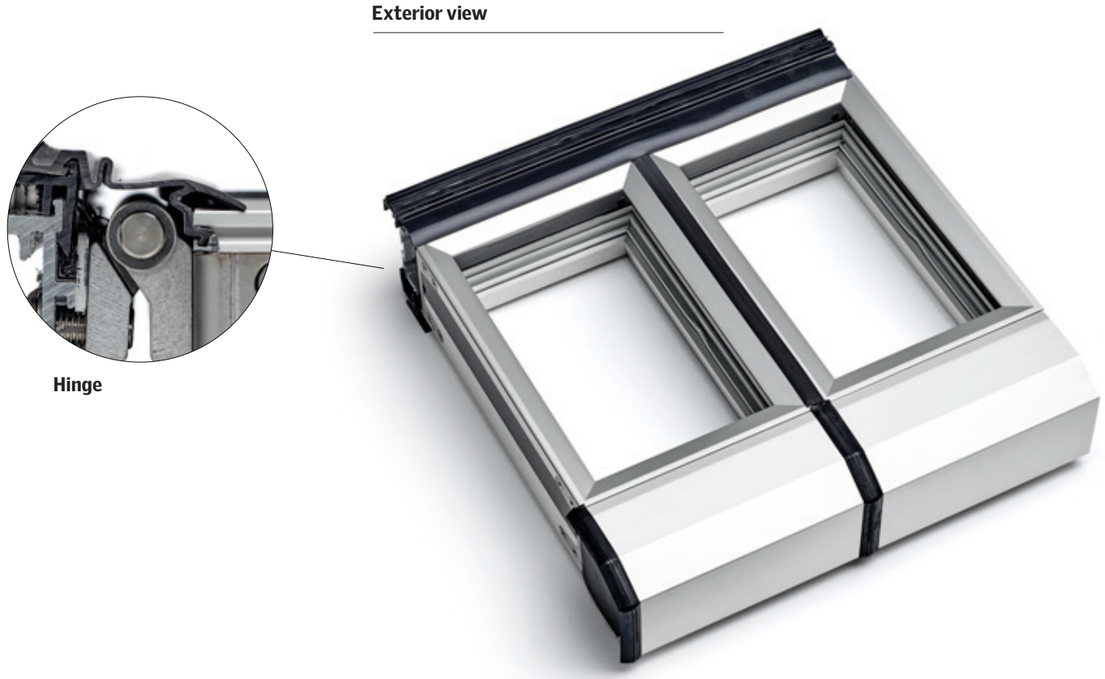
Material: Foamed PVC & aluminium, including a EPDM rubber plug.
NB: Can be delivered without a fixing angle profile depending on installation.

Cill gasket

Material: Black EPDM rubber

* Other RAL colours can be ordered at additional cost. Contact your local VELUX sales office for more information.

Material descriptions for triple glazing



Frame profile*

Material: Aluminium & polyurethane core
Surface: Nature anodized or polyester powder coated
Exterior colour: RAL 9010/9005/7016, gloss 30
Interior colour: Same as exterior or wet coloured painted RAL 9010

Front cover cap* & rubber plug

Material: Aluminium (2 mm), EPDM rubber plug & polystyrene insulation
Surface: Nature anodized or polyester powder coated
Colour: RAL 9010/9005/7016, gloss 30

Installation profile

Material: Aluminium, PVC & EPDM rubber gasket

Flashing*

Material: Aluminium (1 mm)
Surface: Nature anodized or pre-painted
Colour: RAL 9010/9005/7016, gloss 30

Side gable + fixing angle profile

Material: Foamed PVC & aluminium.
NB: Can be delivered without a fixing angle profile depending on installation.

Cill gasket

Material: Black EPDM rubber

* Other RAL colours can be ordered at additional cost. Contact your local VELUX sales office for more information.

Additional material description

Cover cap*

Material: Steel (0.5mm)
Surface: Polyester powder coated
Colour: Same as interior frame profile
NB: Nature anodized frame surface will be matched with a similar colour coating

Drainage profile

Material: Hard PVC with soft PVC gasket lips

Mounting bracket

Material: Steel (4 mm)

Top gasket

Material: Black EPDM rubber

Outer gasket

Material: 2 component TPE profile

Vapour barrier

Material: Bitumen-based membrane

Aluminium crossbar for double glazing panel
For comfort and smoke ventilation

Material: Aluminium square pipe (reinforced with steel u-profile for panel width > 700 mm)
Surface: Nature anodized or polyester powder coated
Colour: Same as interior frame profile

Steel crossbar for double glazing panel
For comfort ventilation

Material: Steel square pipe with aluminium cover
Surface: Nature anodized or polyester powder coated
Colour: Same as interior frame profile

Steel crossbar for triple glazing panel
For comfort and smoke ventilation

Material: Steel square pipe with aluminium cover
Surface: Nature anodized or polyester powder coated
Colour: Same as interior frame profile

Installation profile – dual pitched for double glazing panel

Material: Aluminium, PVC, EPDM rubber gasket & steel bracket

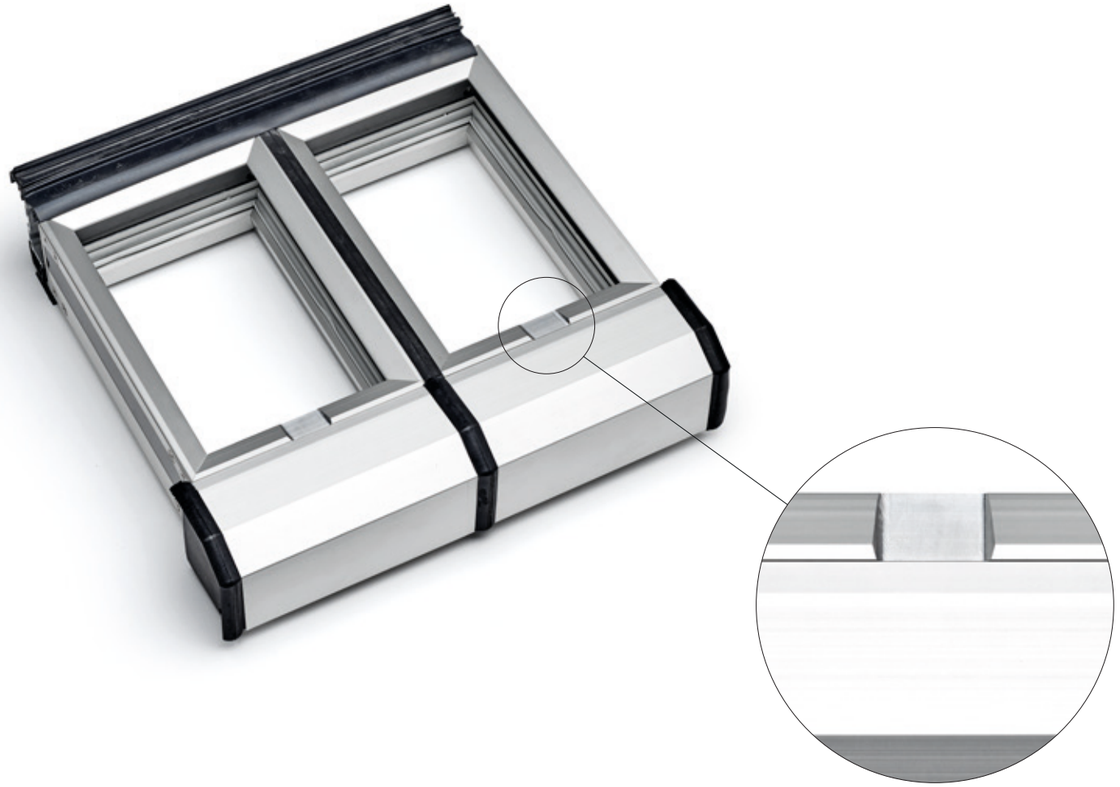
Installation profile – dual pitched for triple glazing panel

Material: Aluminium, PVC, EPDM rubber gasket & steel bracket

* Other RAL colours can be ordered at additional cost. Contact your local VELUX sales office for more information.

Ponding groove

When installing VELUX Glazing Panels below 25°, both double and triple glazing variants, the panels will be manufactured with a ponding groove in the bottom of the panels to minimise ponding water on the glazing.



Venting panels

For venting panels there are several options of actuators available. Double glazing panels have one configuration option; a visible actuator operating on a crossbar (see images 1 & 2 to the right) installed in the panel in parallel with the bottom frame profile.

Triple glazing panels have two configuration options; a hidden chain actuator (see image 3 to the right) only visible when the panel is open, or a visible actuator operating on a crossbar (see images 1 & 2 to the right) installed in the panel in parallel with the bottom frame profile.

For both double and triple glazing, the visible actuator is available as a spindle (1) or a chain (2) version. The chain stroke or spindle length depends on the size of the panel and installation pitch. In addition, it is possible to convert a rectangular fixed panel to a venting panel by post-installing a visible actuator and a crossbar. This will increase the ventilation flow in the building without opening up the building envelope again.

The venting panels must be controlled by a separate Open System ±24 V DC (OS ±24 V DC), which is not included in the VELUX delivery. Connection to a fieldbus system requires a separate control box between fieldbus system and actuator. For the OS ± 24 V DC, only the actuators are supplied by the VELUX Group.

Smoke ventilation

For some solutions a selection of the actuators can be configured for smoke ventilation in accordance with EN 12101-2. When using a smoke venting panel for comfort ventilation, it must be ensured that the panel, in open position, does not get above horizontal. The actuator stroke for comfort venting function must be limited accordingly by the control system time to maintain lifetime expectancy and guarantee of the actuator and for example can be done by limiting the drive time in most simple control setup. The maximum stroke length and drive time for comfort ventilation depend on the project specific panel size and installation pitch.

With or without wind deflector
Whenever it is required to obtain an aerodynamic free area (Aa), VELUX Group recommends to install a triple glazing venting panel with prefabricated wind deflector. The wind deflector is designed to change the wind profile over the glazing panels in open position, in order to minimise the risk of air intake and allow outtake of smoke even under unfavourable wind conditions.

The aerodynamic area has been declared in accordance with EN 12101-2, which means the products have been tested with and without side wind. The aerodynamic area expressed without deflector is wind sensitive which therefore, in connection with the design of the smoke ventilation system, means that steps must be taken to incorporate the products as part of a total solution that can be approved by the local fire authorities. This solution could consist of, for instance, a wind direction sensor, a wind deflector or another device that ensures a sufficient aerodynamic area at all times.

Please note that for double glazing venting panels a wind deflector is not available. This means that when choosing / designing with double glazing panels, the wind sensitivity of these smoke ventilators must be considered already in the design phase and addressed by other means.

Smoke ventilation systems
A smoke ventilation system always has a building specific design, incorporating smoke ventilators, controls, air inlets and mechanical ventilation. Designing a smoke ventilation system is therefore a rather complex matter, which must be addressed by skilled and authorized fire engineers in order to obtain an adequate level of performance and safety. The design covers all relevant parameters such as the location of the building, height and shape of the roof, position of ventilators on the roof, relative position to each other, facades and doors providing air intake, mechanical ventilation, evacuation plan and escape routes, and the natural and artificial wind obstacles in the surroundings of the building.

The VELUX Group provides the essential performance characteristics of each individual CE-marked VELUX Glazing Panels in accordance with EN 12101-2, but cannot validate the functionality and safety of the complete system.

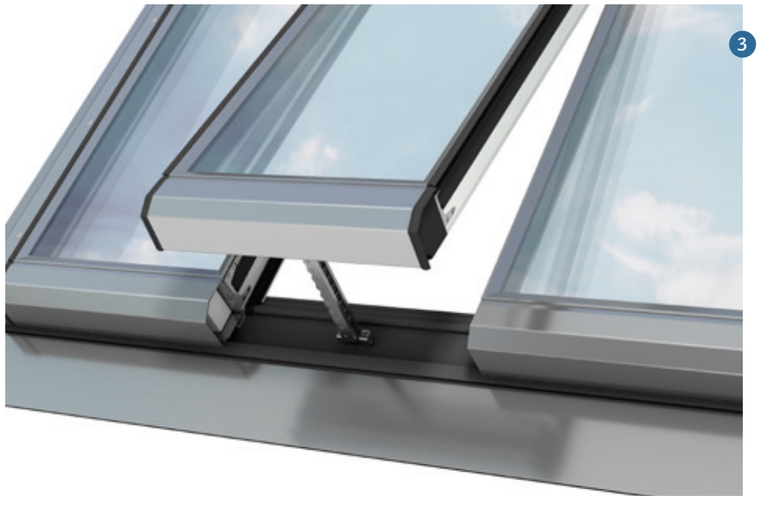
Please contact VELUX for detailed design possibility as to smoke ventilation with VELUX Glazing Panels. Furthermore, please be aware that it is the responsibility of the building owner – together with the local fire authorities, if necessary – to ensure the system is specified, installed and operated in accordance with current national legislation and requirements.

VELUX Glazing Panels have a recommended minimum installation height of 2.5 m above floor level (inside) and ground level (outside). In case of installation below that level, safety measures must be applied by the installer/user to prevent serious injury. No instruction or measure can eliminate the inherent hazards resulting from installation heights below 2.5 m.

The VELUX Group will not accept responsibility for damages, injury or death resulting from such installation. The installer/user is ultimately responsible for own omissions and actions. Measures could for instance be to install a motion sensor that is able to disconnect power from the control unit in case of any movement in the immediate vicinity of the VELUX Glazing Panels.

1 Spindle actuator with crossbar

2 Chain actuator with crossbar



3 Chain actuator hidden in front cover cap (only available for triple glazing)

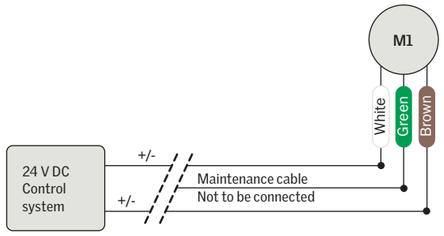
Electrical system

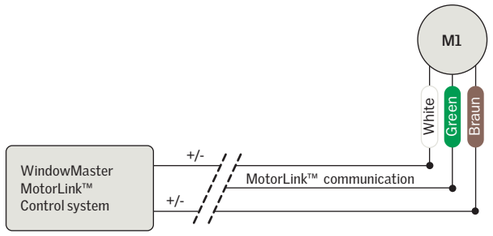
In the Open system ±24 V DC (OS ±24 V DC), the actuators are controlled by ±24 V DC. In addition, the actuator can be integrated in common building automation fieldbus systems, e.g. KNX, BACnet, LON and Modbus, through the integrated MotorLink™ technology.

Connection to a fieldbus system requires a separate control box between fieldbus system and actuator. For the OS ± 24 V DC, only the actuators are supplied by the VELUX Group.

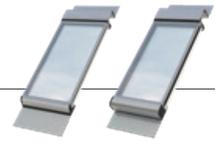
Planning for the electrical system:

- Control system is not a part of the VELUX Glazing Panels venting panels, but can for small stand-alone comfort venting systems be purchased separately
- Wiring between the control system and the actuator is not part of the VELUX delivery
- The actuator can be controlled by either ±24 V DC or WindowMaster MotorLink™





Electrical control components



VELUX can provide following components for comfort venting panels.

Control unit*	Control unit*	Control switch
		
WCC 103	**WCC 310/320**	**WSK 102/103**
WCC 103 0101 EU (3 Amp) WCC 103 0401 UK (3 Amp)	WCC 310 S 0410 (10 Amp) WCC 320 S 0810 (20 Amp)	WSK 102 (Fuga) WSK 103 N101 (Fuga)

* Choice of control unit depend on actuator type

Wind and rain sensor	Rain sensor	Control system – Inside and outside Rain, wind and temperature
		
WLA 330	**WLA 331**	**NV SOLO®**

Glazing Unit

Technical values

Double Glazing = DG Triple Glazing = TG	Coating		Construction	Light transmittance	Solar factor	Thermal transmittance	Thermal transmittance of the entire window in accordance with EN 14351-1	
							area > 2.3 m²	area ≤ 2.3 m²
		IGU	**Insulating Glass Unit (IGU)**	**τ_v**	**g**	**U_g**	**U_w**	**U_w**
		code	**(outside - inside)**	**%**	**%**	**W/m²K**	**W/m²K**	**W/m²K**
DG	**LowE**	40LF	6F LowE - 18 Argon - 6.76F (33.2)	80	61	1.1	-	1.7
DG	**LowE**	40L	6H - 18 Argon - 6.76F LowE (33.2)	80	64	1.1	-	1.7
DG	**LowE**	40LS	6H + HST - 18 Argon - 6.76F LowE (33.2)	80	64	1.1	-	1.7
DG	**LowE**	40LT	6H - 16 Argon - 8.76F LowE (44.2)	81	62	1.1	-	1.8
DG	**LowE**	40LST	6H + HST - 16 Argon - 8.76F LowE (44.2)	81	62	1.1	-	1.8
DG	**LowE**	40T	8H - 14 Argon - 8.76F LowE (44.2)	80	61	1.1	-	1.8
DG	**Sun1**	41L	6H Sun1 - 18 Argon - 6.76F LowE (33.2)	50	27	1.0	-	1.7
DG	**Sun1**	41LS	6H Sun1 + HST - 18 Argon - 6.76F LowE (33.2)	50	27	1.0	-	1.7
DG	**Sun1**	41LT	6H Sun1 - 16 Argon - 8.76F LowE (44.2)	50	27	1.0	-	1.7
DG	**Sun1**	41LST	6H Sun1 + HST - 16 Argon - 8.76F LowE (44.2)	50	27	1.0	-	1.7
DG	**Sun1**	41T	8H Sun1 - 14 Argon - 8.76F LowE (44.2)	49	27	1.0	-	1.7
TG	**LowE**	46LF	6F LowE - 20 Argon - 4F - 18 Argon - 6.76F LowE (33.2)	73	53	0.5	1.0	1.2
TG	**LowE**	46L	6H LowE - 20 Argon - 4H - 18 Argon - 6.76F LowE (33.2)	73	53	0.5	1.0	1.2
TG	**LowE**	46LS	6H LowE + HST - 20 Argon - 4H - 18 Argon - 6.76F LowE (33.2)	73	53	0.5	1.0	1.2
TG	**LowE**	46LT	6H LowE - 16 Argon - 6H - 18 Argon - 8.76F LowE (44.2)	72	53	0.5	1.0	1.2
TG	**LowE**	46LST	6H LowE + HST - 16 Argon - 6H - 18 Argon - 8.76F LowE (44.2)	72	53	0.5	1.0	1.2
TG	**LowE**	46T*	8H LowE - 16 Argon - 6H - 16 Argon - 8.76F LowE (44.2)	71	52	0.6	1.1	1.3
TG	**Sun1**	47L	6H Sun1 - 20 Argon - 4H - 18 Argon - 6.76F LowE (33.2)	47	26	0.5	1.0	1.2
TG	**Sun1**	47LS	6H Sun1 + HST - 20 Argon - 4H - 18 Argon - 6.76F LowE (33.2)	47	26	0.5	1.0	1.2
TG	**Sun1**	47LT	6H Sun1 - 16 Argon - 6H - 18 Argon - 8.76F LowE (44.2)	46	25	0.5	1.0	1.2
TG	**Sun1**	47LST	6H Sun1 + HST - 16 Argon - 6H - 18 Argon - 8.76F LowE (44.2)	46	25	0.5	1.0	1.2
TG	**Sun1**	47T*	8H Sun1 - 16 Argon - 6H - 16 Argon - 8.76F LowE (44.2)	46	25	0.5	1.0	1.2

* Cannot be used for smoke venting panels

Glazing unit construction	
IGU example (40LS)	6H + HST - 18 Argon - 6.76F LowE (33.2)
F	Float
H	Toughened
HST	Heat soak tested
33.2	Laminated glass, 3 mm float - 2 x 0.38 PVB foil - 3 mm float
LowE	Low-emissivity coating
Sun1	Light sun protection coating

Classifications

Essential characteristic

Essential characteristic performances according to EN 14351-1		
Essential characteristics	**Performance**	
Resistance to windload, EN12210	Class C4 [1]	
Watertightness, EN12208	Class E1200 [2]	
Thermal transmittance, EN ISO 10077-1, EN ISO 10077-2	Double glazing 1.7-1.8 W/m²K [3]	Triple glazing 1.0-1.3 W/m²K [3]
Air permeability, EN12207	Class 4 [2]	
Reaction to fire, EN13501-1	Class B, s1-d0	
Acoustic performance, EN ISO 140-3, EN ISO 717-1	NPD	

1) For panel width > 800 mm: NPD, for panel height > 2100 mm: NPD
2) For triple glazing panel > 2.52 m²: NPD
3) For specific type and size, see Glazing Unit table page 29.
NPD = No Performance Determined

Essential characteristic performances according to EN 12101-2		
Essential characteristics	**Performance (double glazing) ****	**Performance (triple glazing)**
Operational reliability	Re 50	Re 1000
Aerodynamic free area (A_a) [m²]	*	*
Resistance to heat	B 300	B 300
Opening under load	SL 800	SL 1000
Low ambient temperature	T(-05)	T(-15)
Stability under wind load	WL 1500	WL 3000 (hidden actuator) WL 2200 (crossbar)
Reaction to fire, EN13501-1	B-s1,d0	B-s1,d0

* A_a is project specific and must be calculated for each project.
** A VELUX wind deflector is not available for double glazing smoke venting panels.
NB: For smoke venting solutions, please consult with your local VELUX sales office.

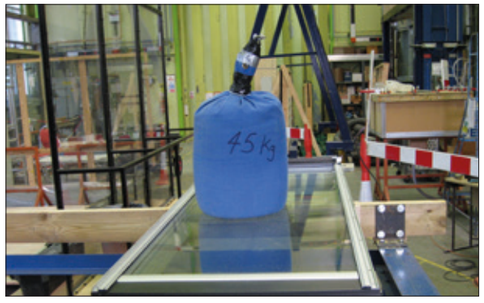
The tests we are conducting

Watertightness


Air permeability

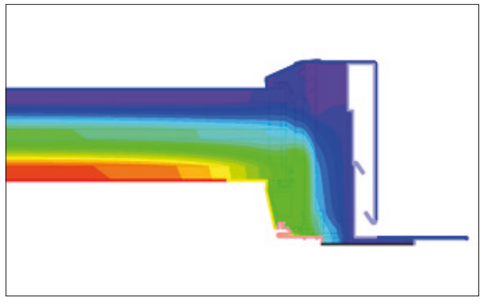
Resistance to wind load

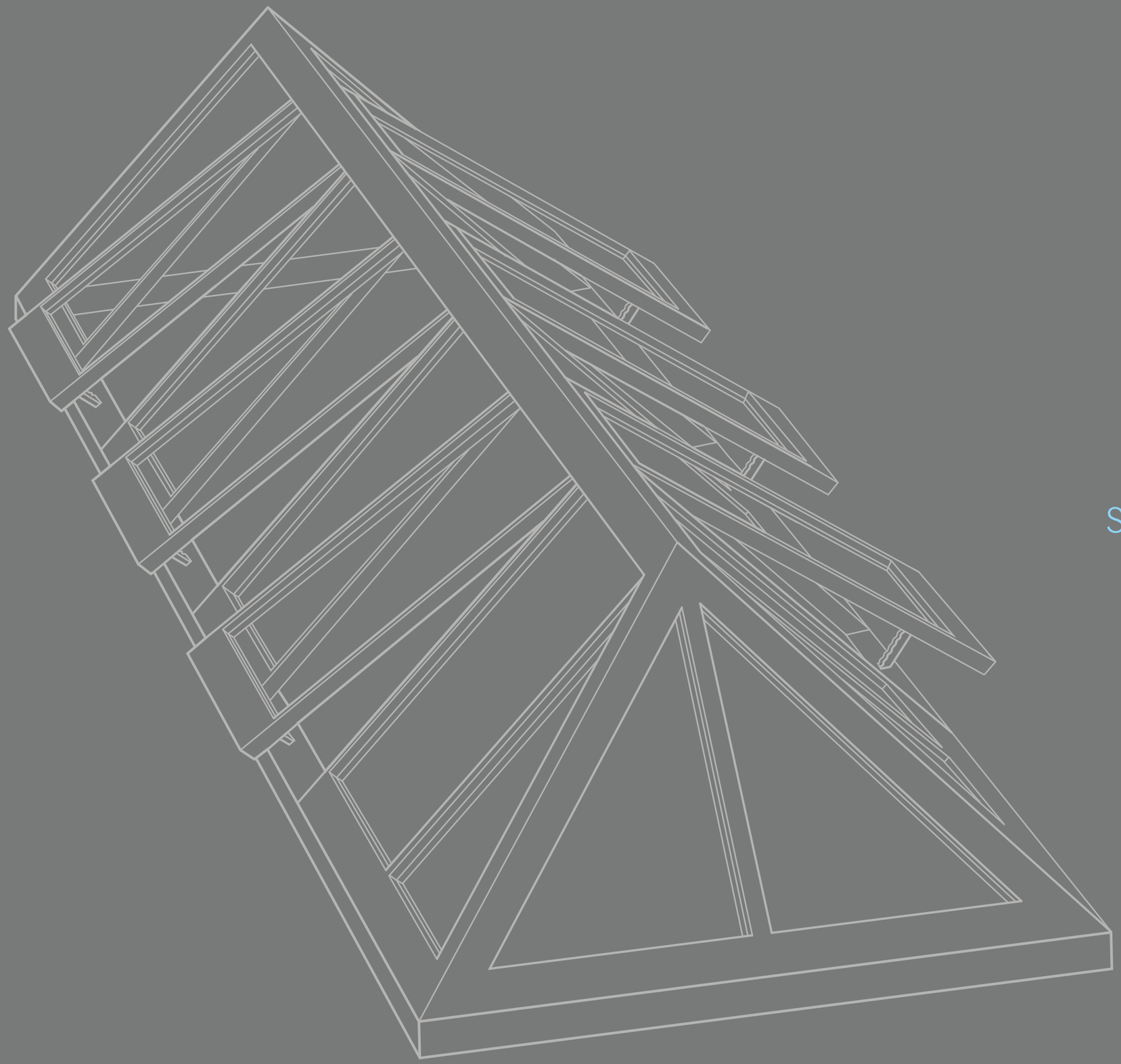

Reaction to fire



Opening under load


Resistance to heat

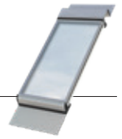

Thermal transmittance

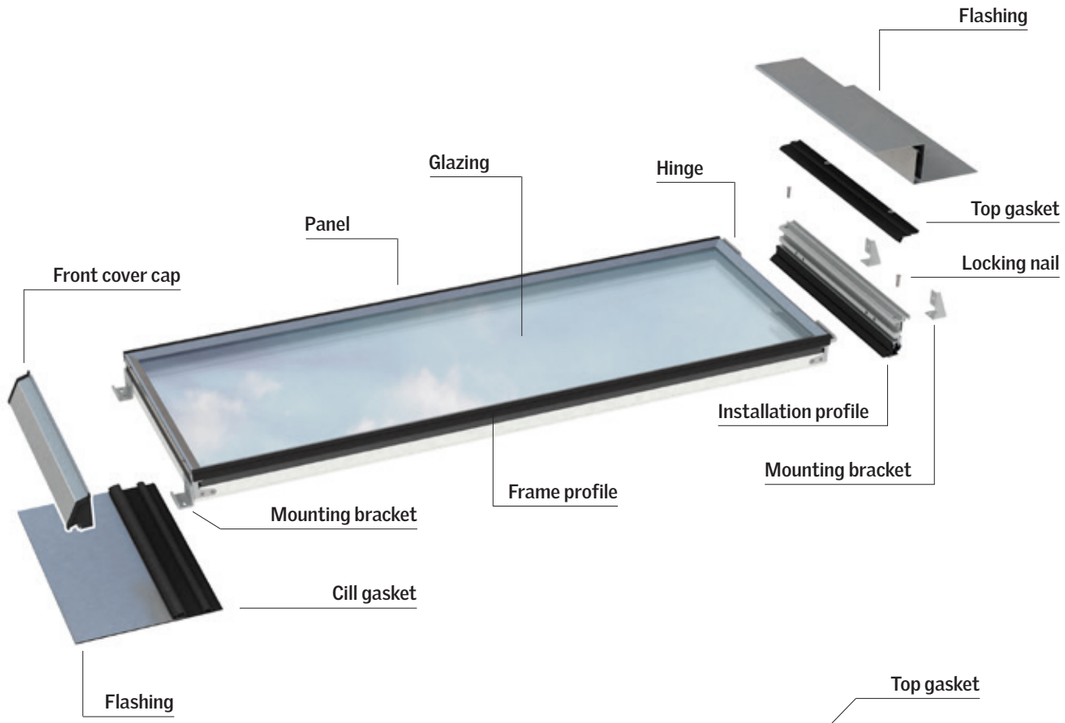


SUPPORT

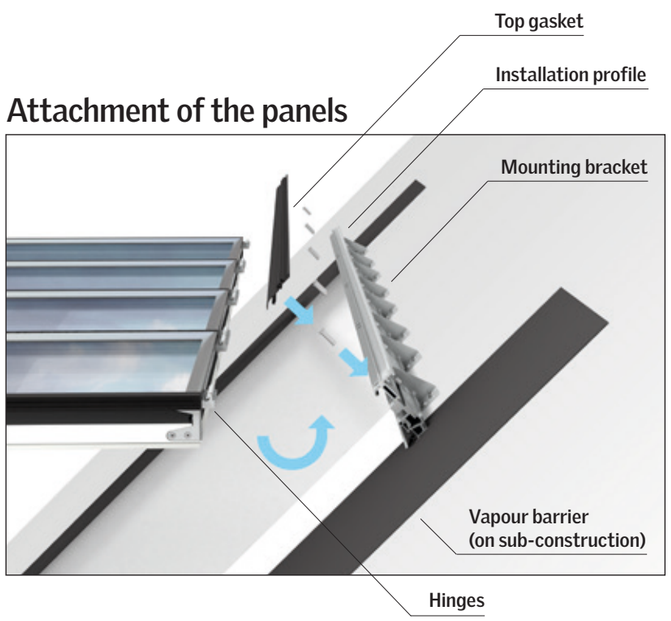
Main components and attachment to the roof

Double glazing

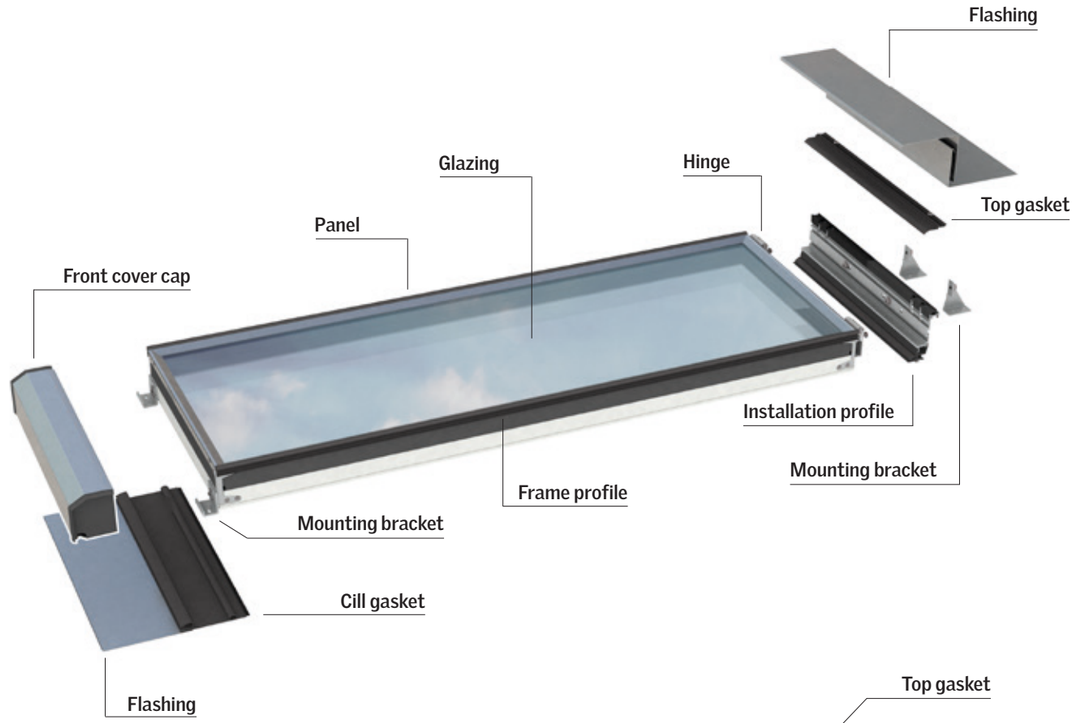




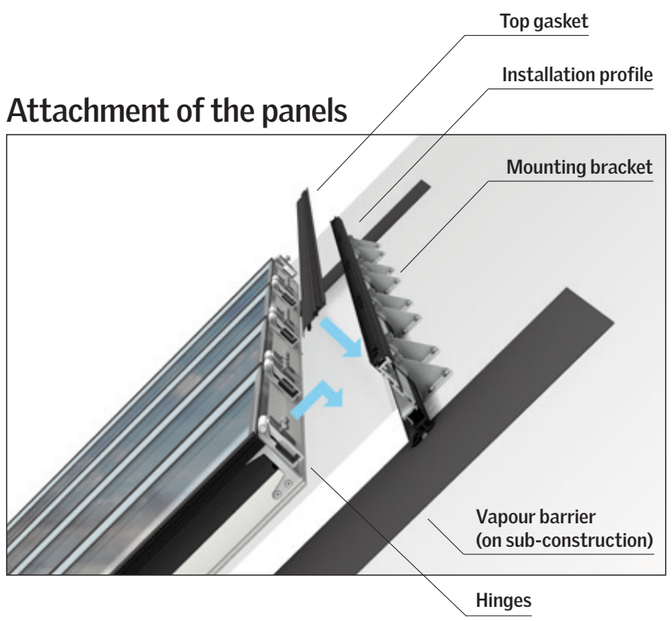
Attachment of the panels



Triple glazing



Attachment of the panels



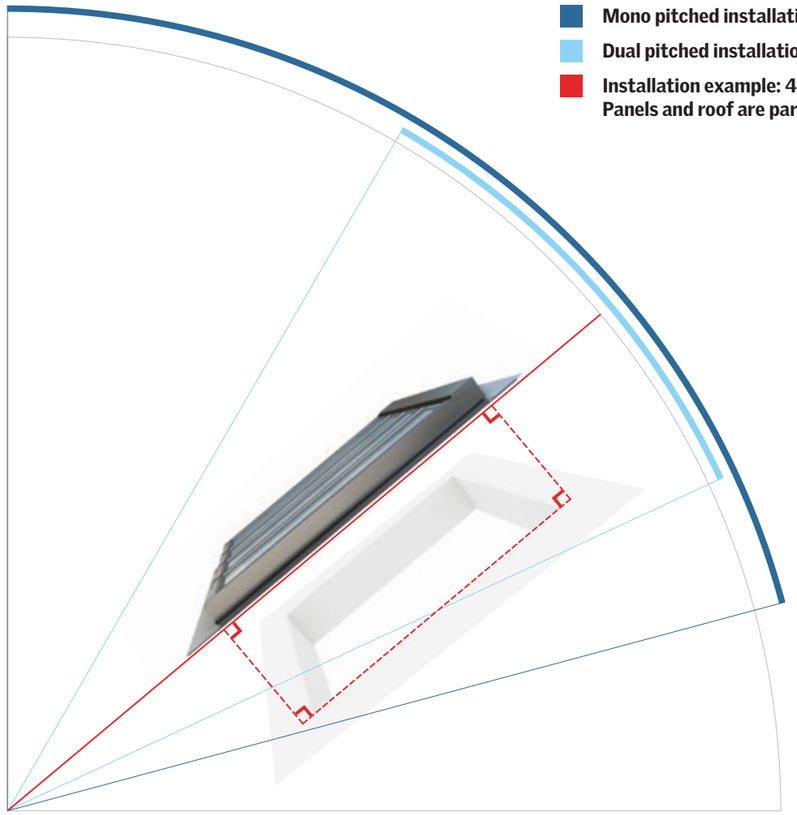
Sub-construction

VELUX Glazing Panels require an accurate, fixed and dimensioned sub-construction. The strength of the sub-construction must also be calculated for the individual project, based on the building design and application size. It is the responsibility of the customer to have a static calculation of the sub-construction done by a static engineer.

Consequently, the sub-construction is not a part of the bespoke panel system. The VELUX Group is not responsible for the sub-construction. All solutions are project specific, thus a general sub-construction document cannot be provided. For each project, a project specific sub-construction drawing will be prepared with measurements for the outer geometry of the sub-construction. Please note that there will be no indication or description for the composition of the sub-construction.

To be able to correctly install VELUX Glazing Panels, the sub-construction must be parallel to the panel itself.

Please observe that a lateral slope on the panels is NOT possible.



Mono pitched installation: 15°-90°

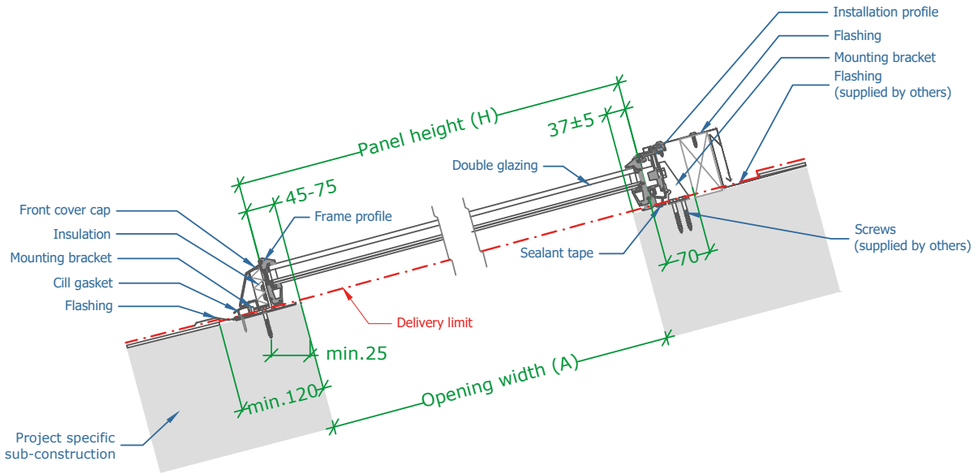
Dual pitched installations (self-supporting): 25°-60°

Installation example: 40°
Panels and roof are parallel

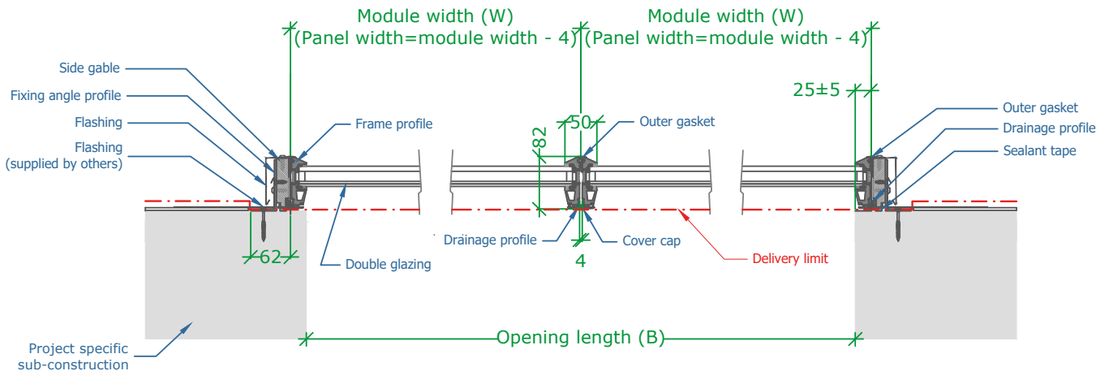
Sectional drawings

Mono pitched

Double glazing



Cross-section

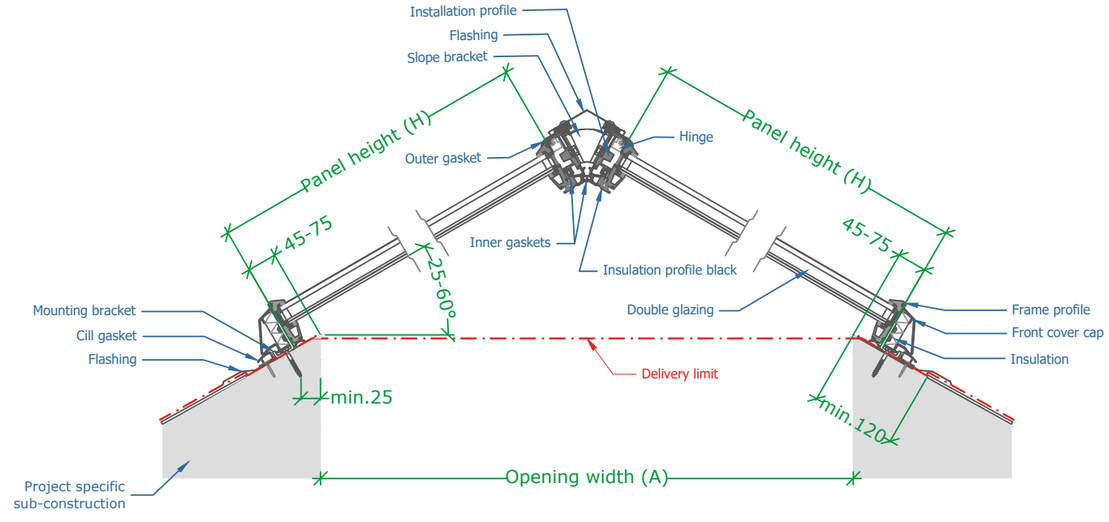


Longitudinal section

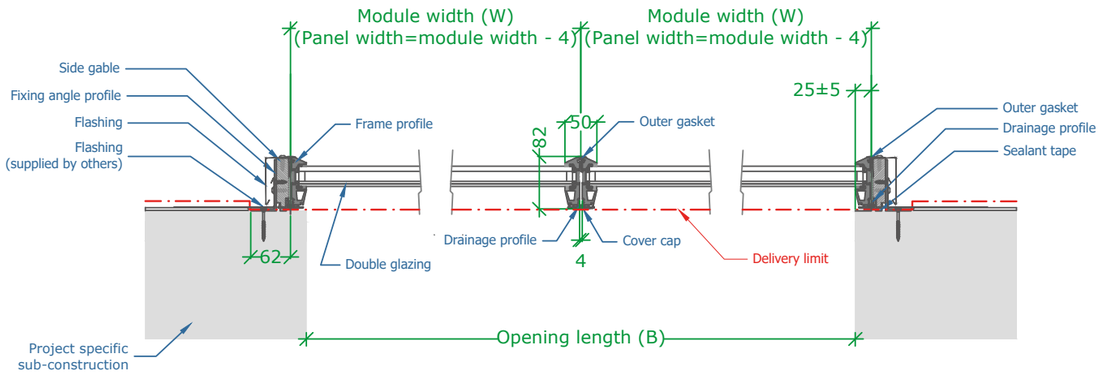
Please observe that a lateral slope on the panels is NOT possible.

Dual pitched

Double glazing



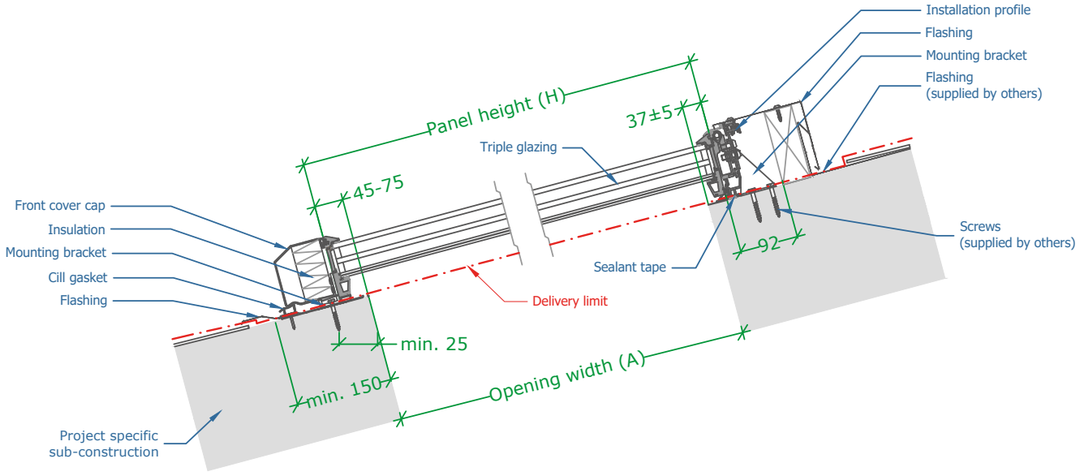
Cross-section



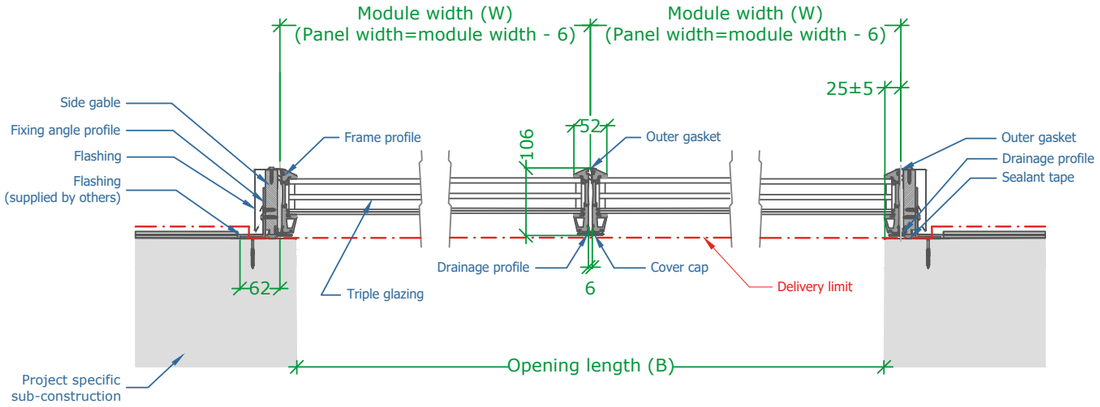
Longitudinal section

Mono pitched

Triple glazing



Cross-section

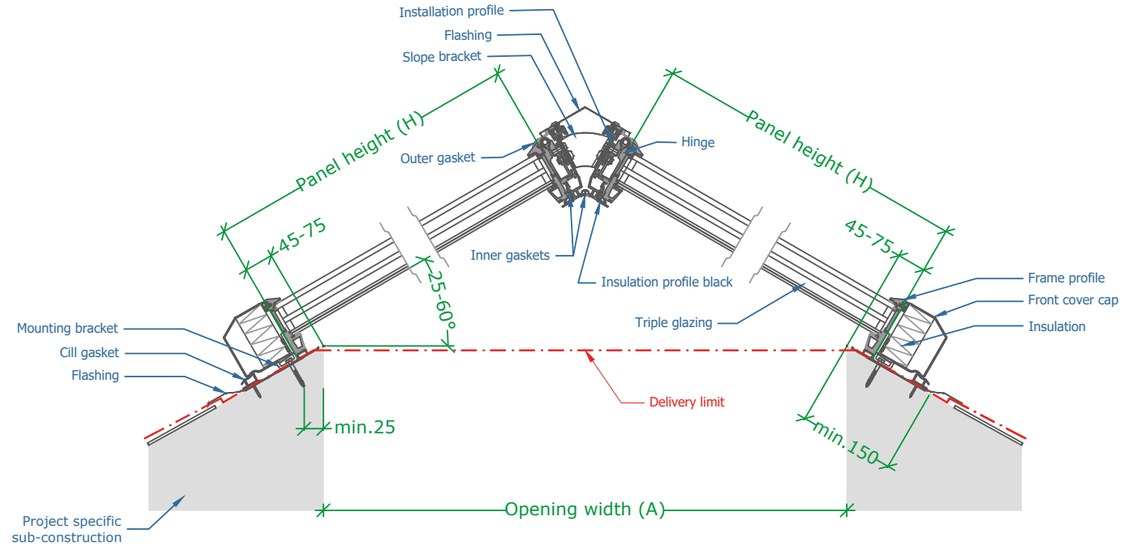


Longitudinal section

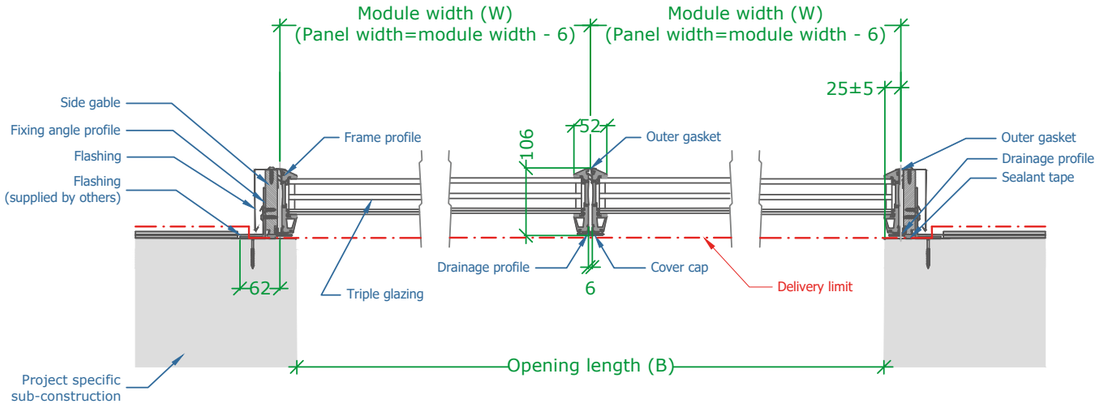
Please observe that a lateral slope on the panels is NOT possible.

Dual pitched

Triple glazing



Cross-section



Longitudinal section

Project support

Design phase

Consultancy
To help you get started, we offer expert guidance even before your project gets approved.

Technical documentation
For further technical information, contact your local VELUX sales office.

Specification
Our experienced building consultants stand ready to help you specify your projects.

Download detailed 2D illustrations and technical drawings

Precise and detailed AutoCAD material can be downloaded for immediate use, directly from our website. The drawings contain all relevant descriptions and measurements.

Go to the download section of CAD 2D drawings at your local VELUX Commercial website.

Daily operation

User guidance
To maximise performance output, we are there to guide you on the different components of the solutions and we offer training.

Product service
Should the system, for some reason, require professional service, our team of VELUX service technicians will do all they can to solve the problem to everyone's satisfaction.

Guarantee

10 years on the glazing panels

3 years on the actuators and electrical components

Our glazing panels and flashings are supported by a 10-year guarantee. Actuators and electrical components that are a part of the glazing panel system come with a 3-year guarantee.
The guarantee is subject to correct installation and usage. Guarantee conditions can be found at your local VELUX Commercial website.

Contact

Our aim is to provide all the tools and answers to make your project as simple and trouble-free as possible. Thus, we offer a wide range of expert support and consulting from before the project starts to well after its completion. To get in touch, please contact your local VELUX Commercial sales office.

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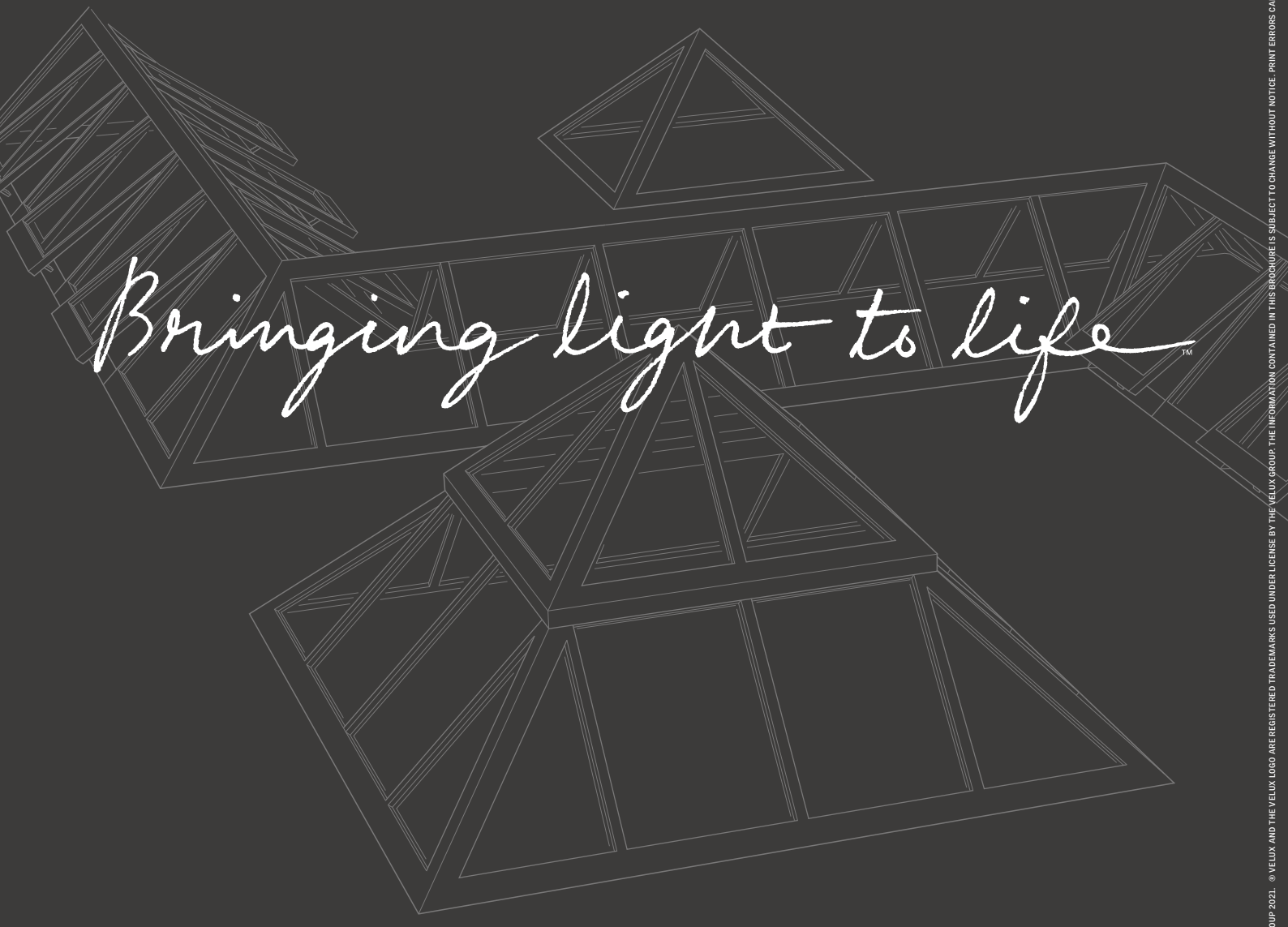

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Commercial