
ADR
BREVETTATO
ADR
CE

ADR VENTILATORS

VERTICAL OPENING SKYLIGHTS

Skylights from the ADR series are the jewel in the crown of Basso Lucernari productions and represent the top of the market for opening skylights. They guarantee optimal illumination for the environment and favour constant ventilation against any excess of smoke, heat, or odour.

THE BEST SKYLIGHTS FOR VENTILATION ENVIRONMENTS

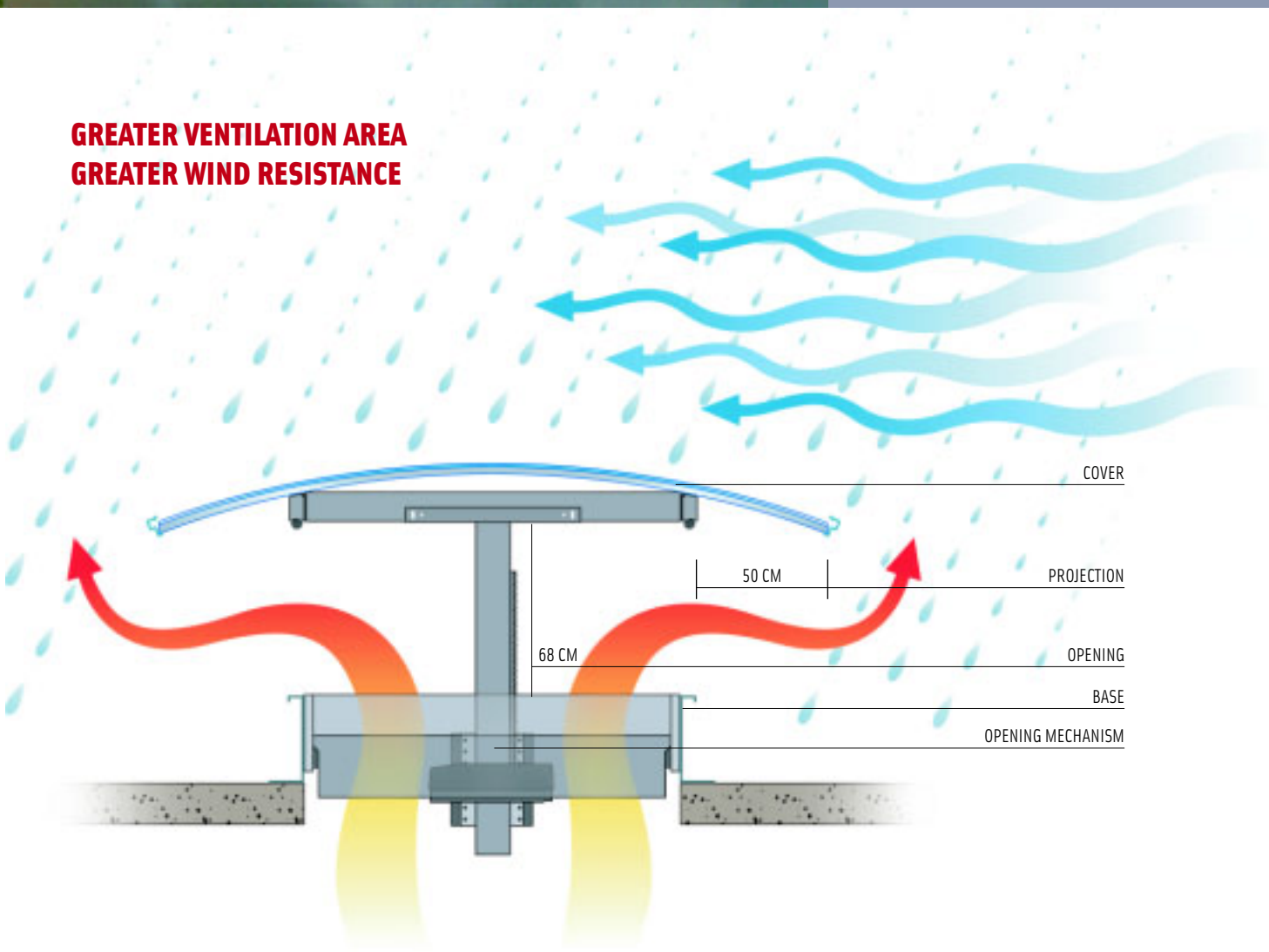
Thanks to its particular opening system and working design, the ADR model offers many more advantages than traditional systems, those with lateral or 'protruding' opening (shed skylights).

The vertical raising of the cover, freeing the vent on all 4 sides, ensures a greater ventilation area and better wind resistance.

The lateral projection, compared to the base vent, makes it possible to open the ventilator even when raining.

A solid structure formed by sections in steel and aluminium, designed and planned by Basso Lucernari, guarantee maximum strength.

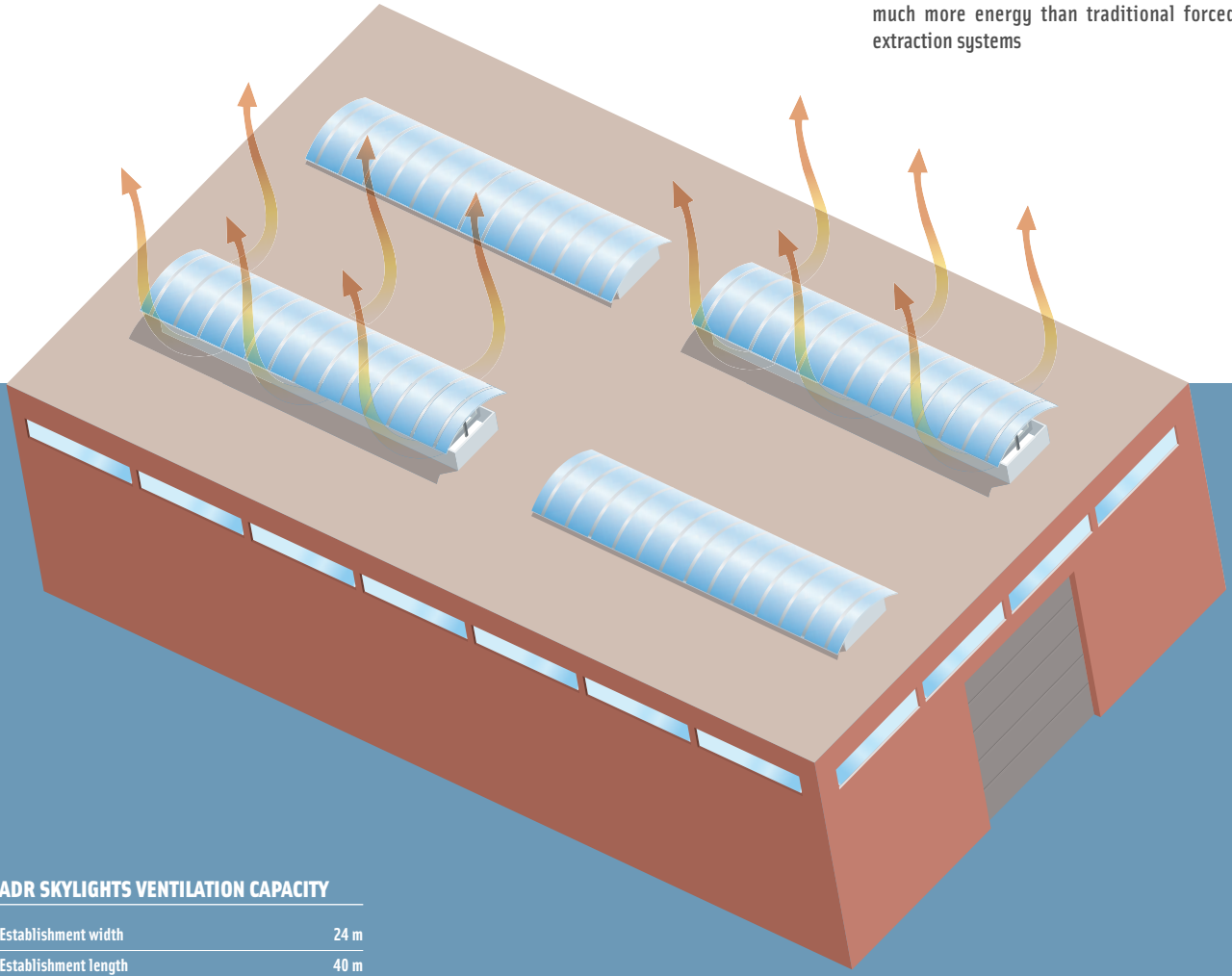
GREATER VENTILATION AREA
GREATER WIND RESISTANCE



OUR TESTS

GUARANTEED VENTILATION

Our studies show that, in an area of around 1,000 m2, with 4 6 x 1.5m ADR skylights, making use of the natural air flow, the air renewal rate will be 1.02/hour.
ADR skylights do not need maintenance and save much more energy than traditional forced extraction systems



ADR SKYLIGHTS VENTILATION CAPACITY

Establishment width	24 m
Establishment length	40 m
Establishment height	7 m
Skylights	4 ADR internal dimensions 6 x 1.5 m
External temperature	5°C
Internal temperature	18°C

COEFFICIENT OF OUTFLOW 0,6

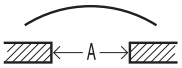
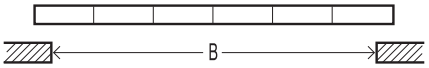
OPENING OF SKYLIGHT ONTO ROOF DECK

	ADR
Ventilation capacity (m2/second of flow)	0.476
Air renewal rate per hour	1.02

ADR VENTILATORS

EXAMPLE OF POSSIBLE DIMENSIONS

ADR skylights are made to measure. Some of the possible sizes are given in the following table from a minimum to a maximum.

WIDTH (VENT)	LENGTH (VENT)											
												
(meters)	3	4	5	6	7	8	9	10	11	12	13	14	15
da 0.8 a 2.5	●	●	●	●	●	●	●	●	●	●	●	●	●
da 2.5 a 6	●	●	●	●	●	●	●	●	●	●			

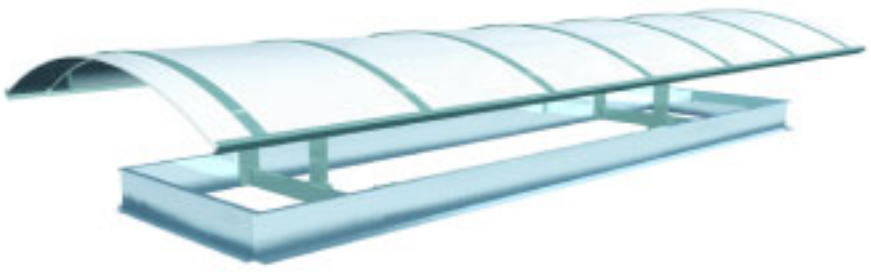
Recommended size ●

TECHNICAL CHARACTERISTICS

Years of continuous research have made it possible to create a simple and very resistant structure (the product is installed on the roof and becomes an integral and permanent part).
The opening system does not need maintenance due to the use of high quality components and to the use of Teflon runners which ensure long life.
A geared motor acts on a transmission shaft (in drawn steel); with rack gears (width 40mm M4) which make it possible to raise the cover up to 68cm (with variations on request).
The whole system is supported by a steel structure of 2-3mm thickness.

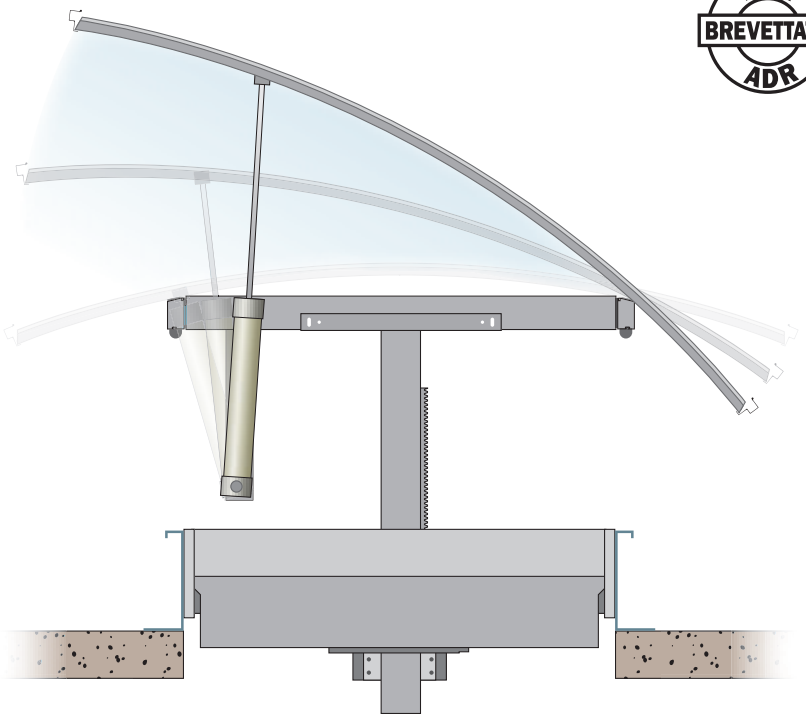
ADR VENTILATION SYSTEM

UPSTAND	Galvanized steel White grey steel Other materials available on request
OPENABLE FRAME	Natural aluminium alloy UNI 6060
OPENING SYSTEM	Tubular in galvanized steel Moulded galvanized
MOTORIZATIONS	24-220-380 Volt/pneumatic
COVER	Alveolar polycarbonate Reinforced alveolar polycarbonate Other materials available on request



ADR VENTILATORS

ADR SYSTEM
OTHER VARIETIES



DOUBLE OPENING: VERTICAL OR TO ONE SIDE

To further increase the area of ventilation the skylights can be setup for double opening: vertical raising and opening to one side.

NETS

Mosquito net to prevent the entrance of insects.
Metal net with small holes to prevent the entrance of birds or flying objects.
Anti-break-in net used for safety reasons

LAYERED DOUBLE GLAZING

ADR skylights are also available with glass covers guaranteeing optimum thermal insulation.

LARGE SIZE ADR SYSTEMS

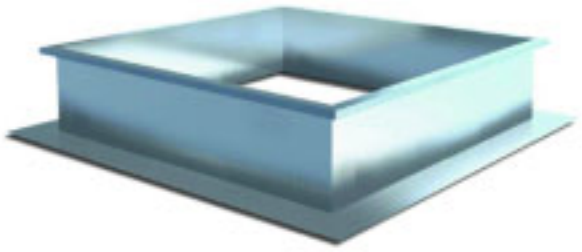
For particular needs Basso Lucernari can plan and create large size ADRs for any type of roofing.

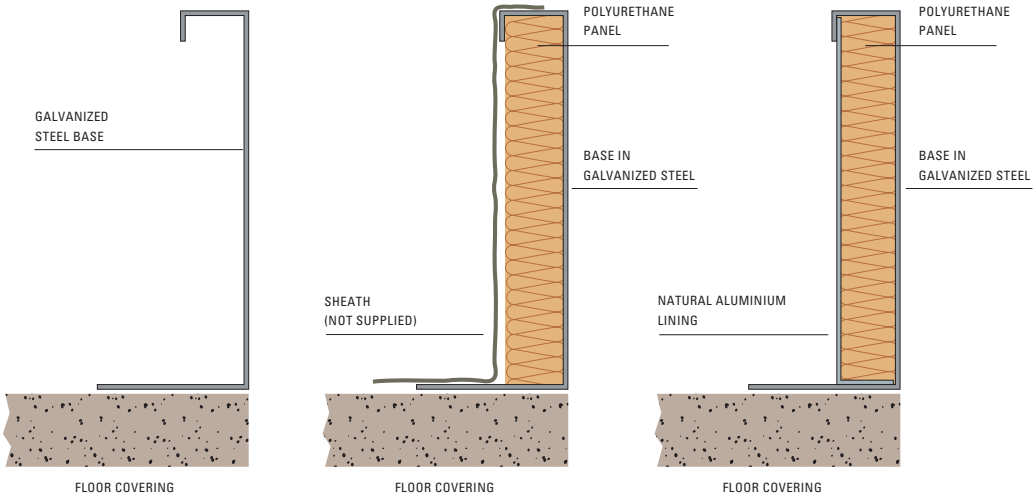
The photos here show the various stages of installation of three double layer ADRs (internal dimensions: 10 x 4.2m), with a single lateral motor with six thrust points.

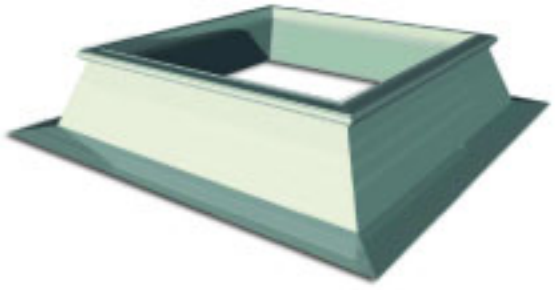
The skylights are assembled on the ground and raised by crane to make installation easier.

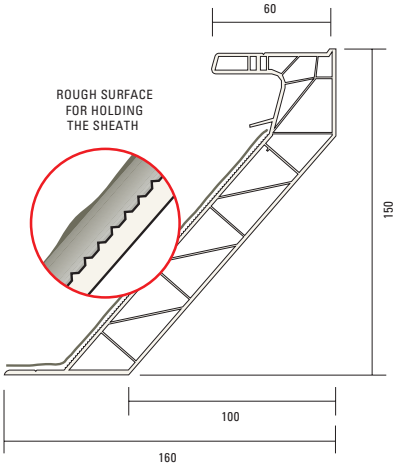
GALVANIZED STEEL BASES

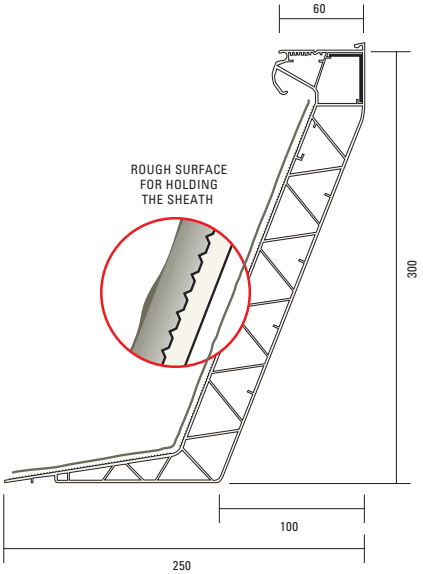
To guarantee suitable insulation, the bases are insulated with auto-extinguishing expanded polyurethane panels with a thickness of 3-4 cm. Assembly and positioning is fast and easy: each base comes provided with all metal anchoring devices and positioning instruction manual.





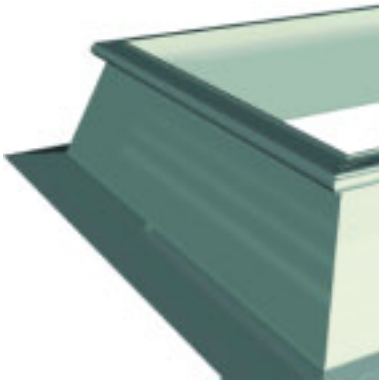






PVC BASE

The shape of the base is reamed to allow better diffusion of light. The metallic bases, in galvanized sheet or other chosen metal, can have vertical or reamed sides and be opportunely shaped to guarantee a perfect anchoring and support base for the whole skylight.



AN APPROPRIATE BASE FOR EACH SKYLIGHT

BASES
(FOR SKYLIGHTS)

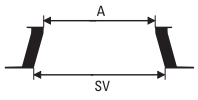
Different bases are available for each type of skylight, varying in shape and material.
The choice is aimed at the best installation and performance of the product.
Basso Lucernari has a warehouse with a wide choice of bases: in steel, PVC and with square or rectangular base.

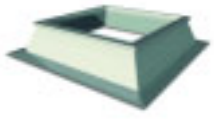
BASES
(FOR VENTILATION)

The metallic base for natural ventilation consists of extruded aluminium modular slats of 15 cm, 30 cm, and 45 cm height.
The particular shape of the slats allows suitable ventilation, preventing the entrance of water via the base.

BASE DIMENSIONS

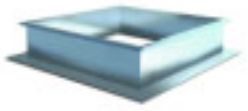
PVC





H:15cm SV 10+10	H:30cm SV 10+10
Square base: **A:** from 60 cm to 200 cm	**Square base:** **A:** from 60 cm to 200 cm
Rectangular base: **A:** from 60x90 cm to 160x280 cm	**Rectangular base:** **A:** from 60x90 cm to 160x280 cm

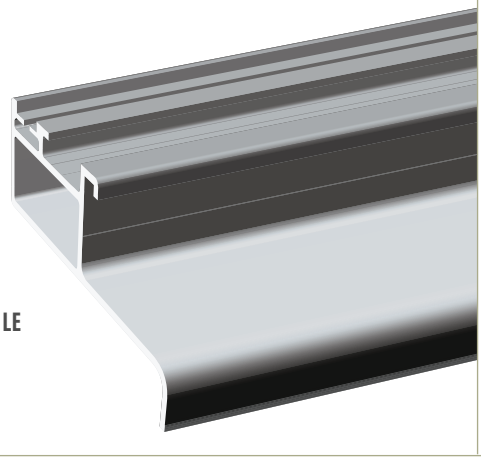
GALVANIZED STEEL



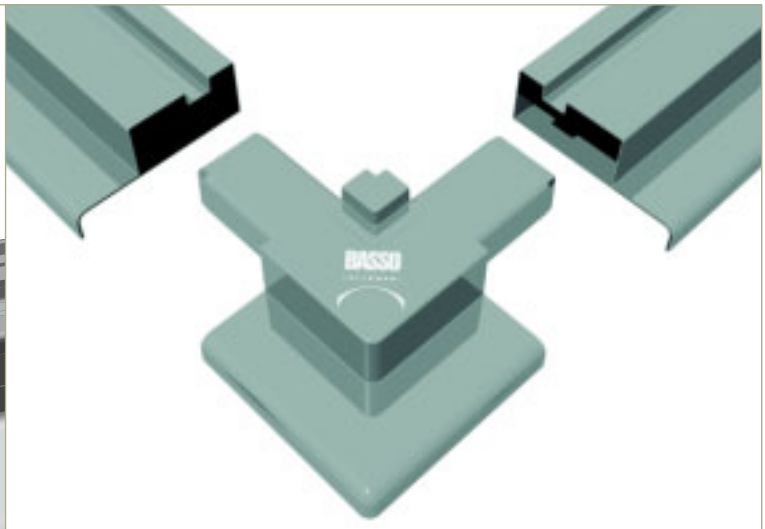
Galvanized sheet bases can be made to measure.

OUR PROFILES

BASSO LUCERNARI have planned a wide range of profiles in natural or anodized aluminium, with designed sections which vary depending on the type of skylight.



PROFILE



ANGULAR

To avoid welding the frames BASSO LUCERNARI have patented graft pressure-cast corners with the aim of avoiding caulking which can result from infiltrated water.

EXTERNAL DIMENSIONS PANE THICKNESS

The table on the right shows the external dimensions of the skylight related to the thickness of the polycarbonate panes.

ADR

ACL

PANE THICKNESS	EXTERNAL SUPPORT (meters)									
	0,6	0,8	1	1,2	1,3	1,5	1,7	2	2,5	2,75
6mm										
8mm										
10mm										
10mm REINFORCED										
16mm										
8+2mm										

COVERING MATERIALS

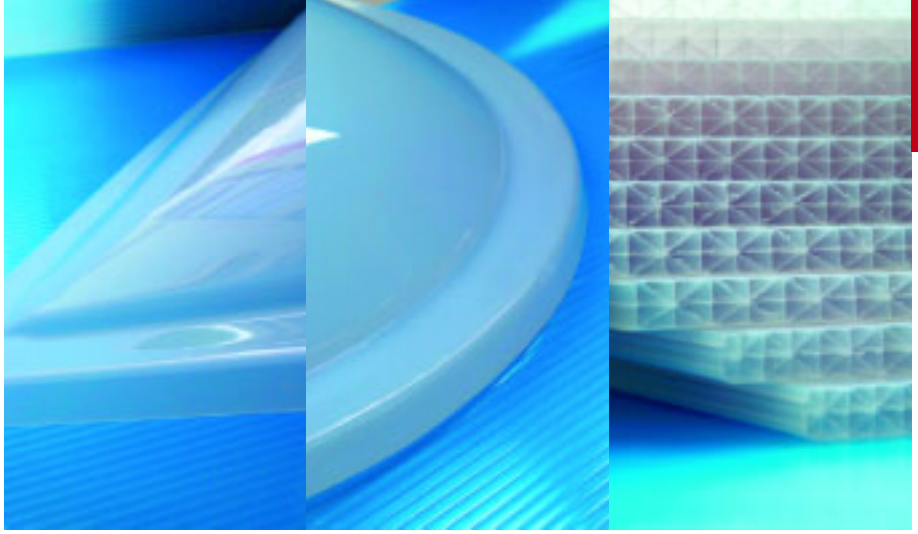
Auto-extinguishing alveolar polycarbonate panes Euro class B, external protection from UV rays.

PANE SECTIONS IN ALVEOLAR POLYCARBONATE

Thickness 6mm 1.3kg/mq		Thickness 10mm Reinforced 3.1kg/mq	
Thickness 8mm 1.5kg/mq		Thickness 16mm 2.7kg/mq	
Thickness 10mm 1.7kg/mq		Thickness 8+2mm 3.9kg/mq	

Compact polycarbonate

Alveolar polycarbonate



MATERIAL TECHNICAL CHARACTERISTICS

METHACRYLATE PMMA

Compact methacrylate (PMMA) flat panes guaranteed synthesis original, as the material is of the highest quality, exempt from recovery monomers. The optical and physical-mechanic properties typical of pure polymer are guaranteed to be unchangeable; normally exposed to the outside for ten years with total protection from UV rays, with the following technical characteristics.

TECHNICAL CHARACTERISTICS	REFERENCE REGULATION	METHACRYLATE PMMA
Apparent specific weight	DIN 53479	GR/cm² 1.19
Resistance to bending	ISO 178	N/mm² 105
Resistance to knocks with Charpy intaglio	ISO 180/1A	Kj/m² 1.6
Temperature of softening	ISO 306	°C 102
Coefficient of linear extension	VDE 0304/1	mm/m °C 0.07
Transmission of light Trans.+Trans.	DIN 5036	90%
Transmission of light Trans.+Opal	DIN 5036	73%
Transmission of light Opal+Opal	DIN 5036	62%
Reaction to fire	DIN 4102	Class B2

COMPACT POLYCARBONATE PC

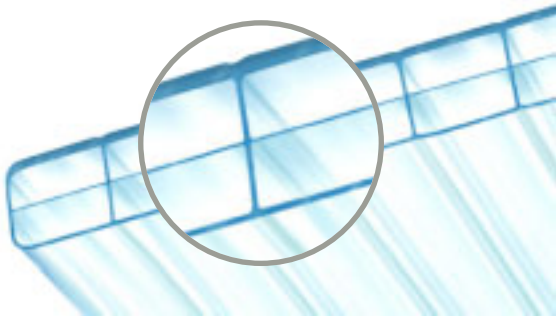
Compact polycarbonate (PC) flat panes are guaranteed auto-extinguishing with certification of proof "Class 1A" of reaction to fire and synthesis original as the material is of the highest quality and is exempt from recovery monomers. Anti-breaking and the optical and physical-mechanic properties typical of pure polymer are guaranteed to be unchangeable; normally exposed to the outside for ten years with total protection from UV rays, with the following technical characteristics.

TECHNICAL CHARACTERISTICS	REFERENCE REGULATION	METHACRYLATE PCC
Apparent specific weight	DIN 53479	GR/cm² 1.20
Resistance to bending	ISO 178	N/mm² 90
Resistance to knocks with Charpy intaglio	ISO 180/1A	Kj/m² 10
Temperature of softening	ISO 306	°C 145
Coefficient of linear extension	VDE 0304/1	mm/m °C 0.07
Transmission of light Trans.+Trans	DIN 5036	84%
Transmission of light Trans.+Opal	DIN 5036	67%
Transmission of light Opal+Opal	DIN 5036	56%
Reaction to fire	DIN 4102	Class B1

REINFORCED ALVEOLAR POLYCARBONATE

Double chamber 10mm panes, which combine the resistance of the compact pane to the insulation properties of the alveolar pane. The higher external side has a reinforced thickness of 1.5 mm. and offers excellent protection against hail (resistance 11 times higher than that of normal alveolar polycarbonate).

TECHNICAL CHARACTERISTICS	
Thickness	DIN 53479
Ext. reinforcement	ISO 178
Weight	ISO 180/1A



STAGES OF INSTALLATION

The sequence of photos shows the ascending moments of installation of skylights on the roofing of industrial warehouses: from mounting the frame to the roof to the final application of silicon to the skylights.

Photo 1: *Lorry equipped with basket for safer and quicker access to the roofing.*

Photo 2: *Lorry equipped with tow and crane, with an arm of 27mt for raising the material.*

photo. 1

photo. 2

INSTALLATION

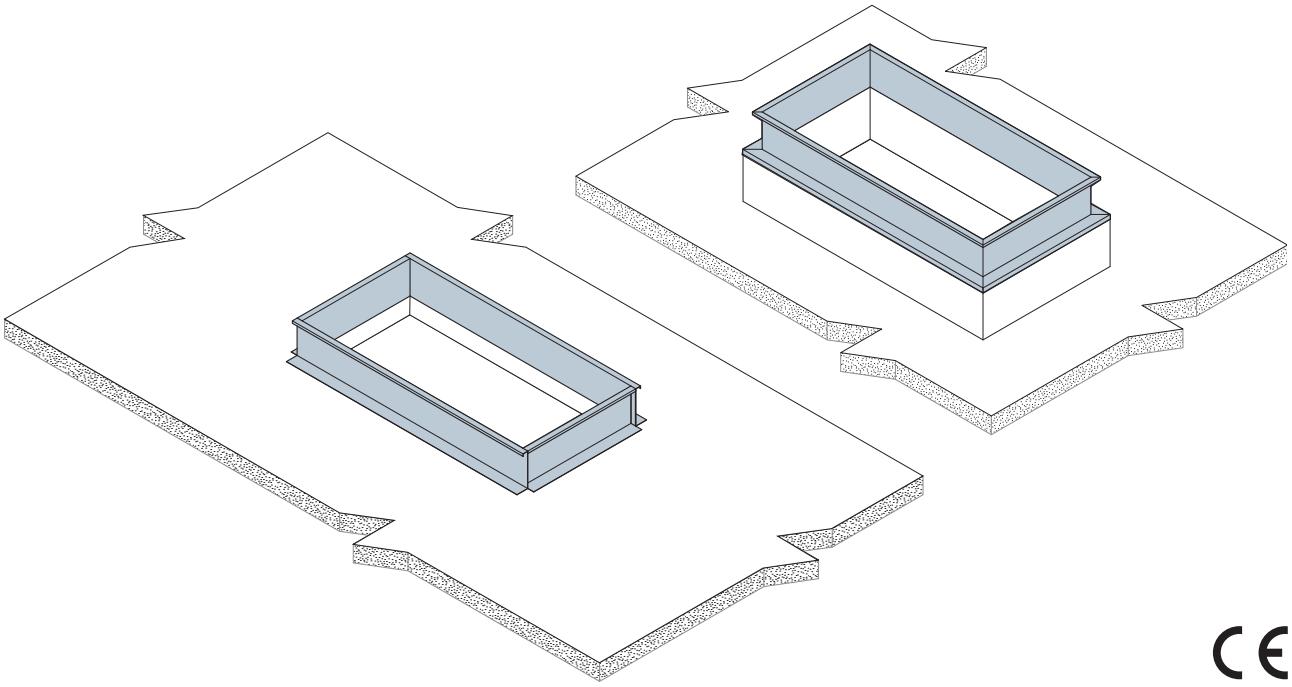
A TEAM JOB FOR ACCURATE INSTALLATION

Basso Lucernari places a lot of attention on the most delicate stage of delivery: installation. They have various assembly teams in the company, well-prepared people who are able to carry out each stage of installation according to active regulations.

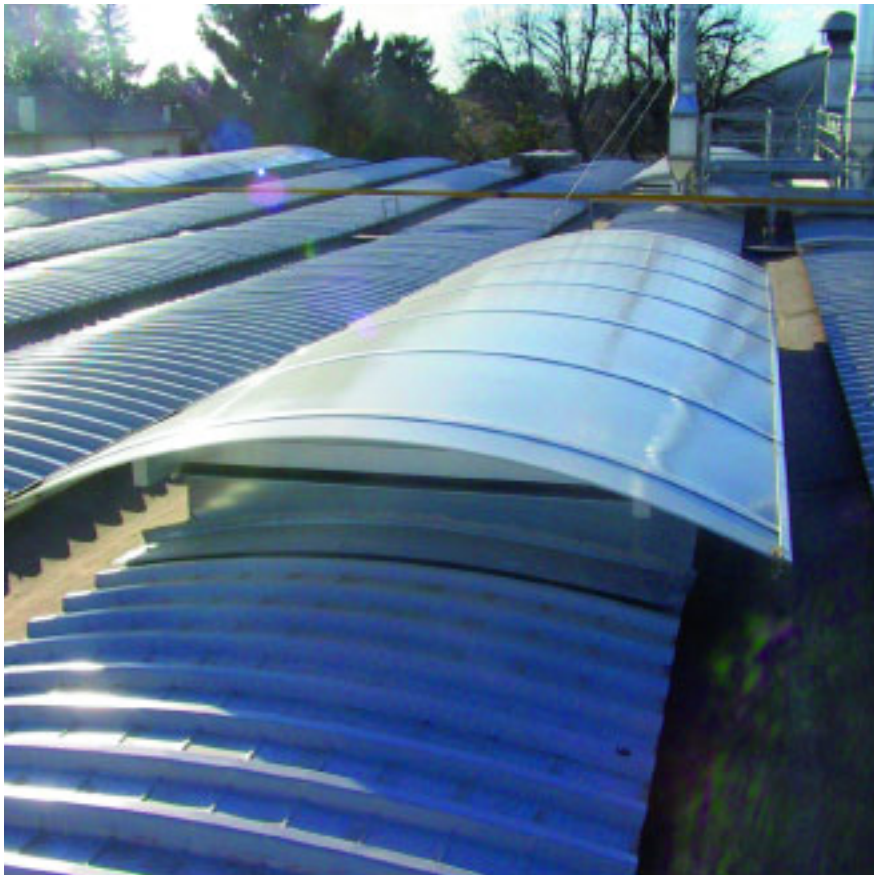
- INSTALLATION ON ROOF DECK
- INSTALLATION ON ROOFING WITH A "Y" BEAM
- INSTALLATION ON CURVED ROOFING
- INSTALLATION ON SLOPED SURFACE
- INSTALLATION ON THE ROOF TOP

INSTALLATION ON ROOF DECK

The base has an inferior edge for attachment to the roof deck, with vertical sides for the possible insertion of insulation.

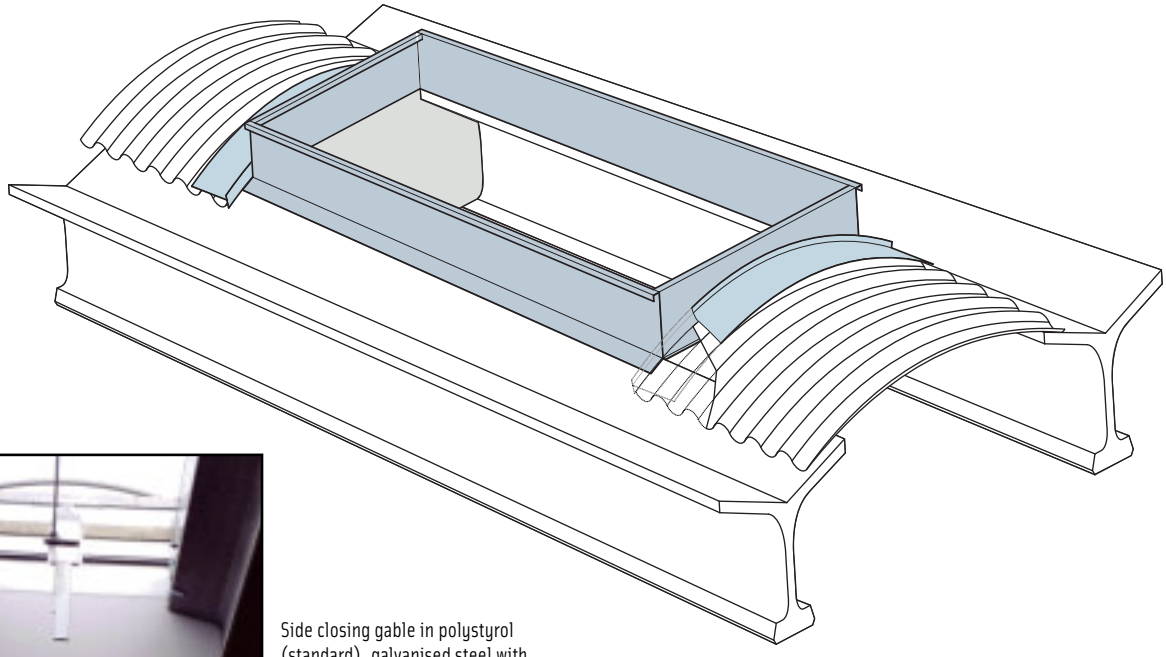


CE



INSTALLATION ON ROOFING WITH A "Y" BEAM

A valley gutter is fixed and applied with silicon at the contact point between the base and the roofing mantle (to the sides of the base). The space between the false ceiling and the base is closed with a moulded panel in the form of a beam. The fixing of the base to the beam is carried out using steel brackets.

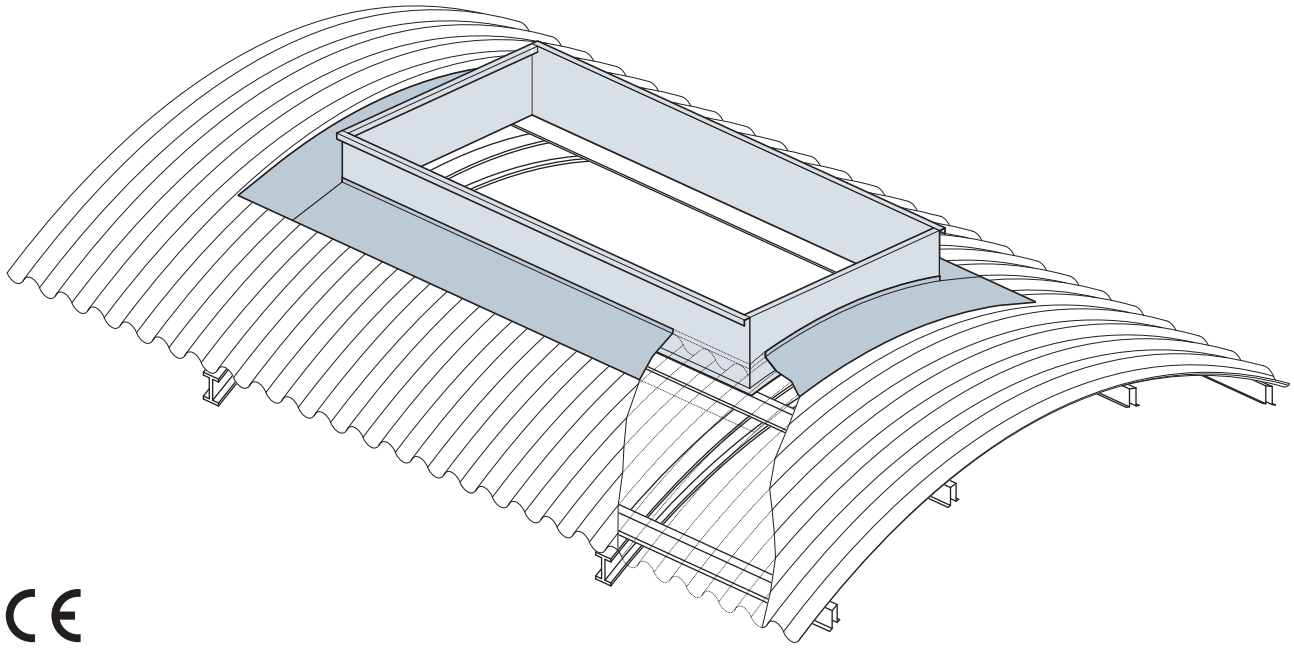


Side closing gable in polystyrol (standard), galvanised steel with white grey finishing, stainless steel, and aluminium.

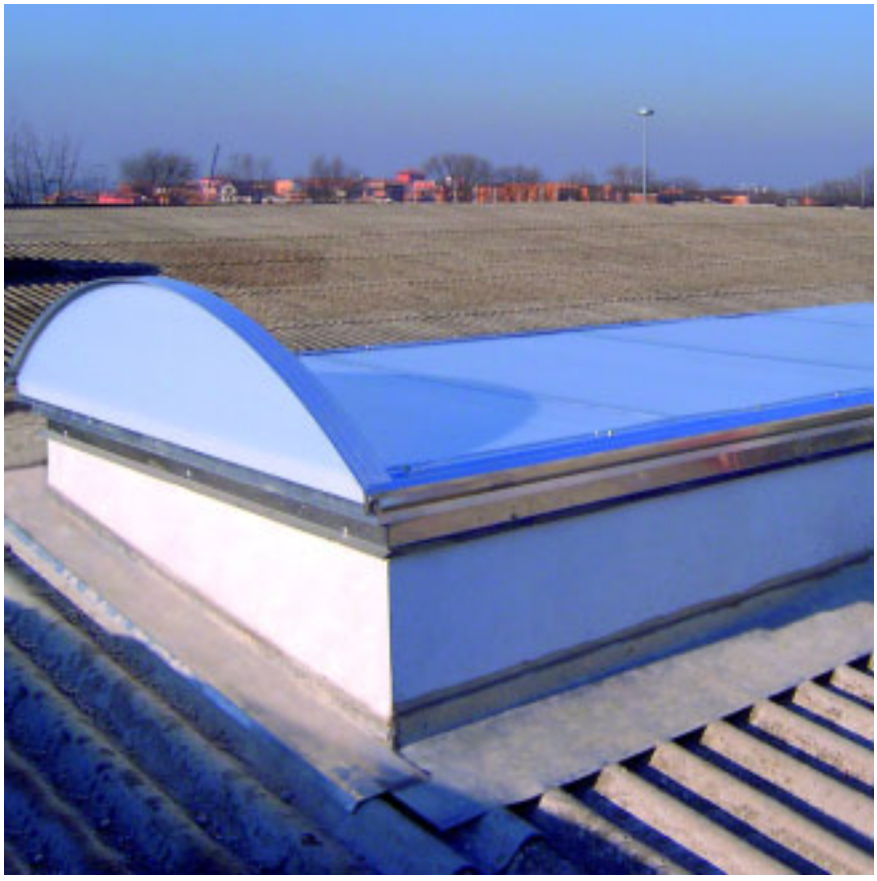
CE

INSTALLATION ON CURVED ROOFING

A galvanized steel valley gutter is fixed and applied with silicon at the contact point between the base and the roofing mantel of the building. The longer sides have an edge for the support and fixing of the base to the purlins.

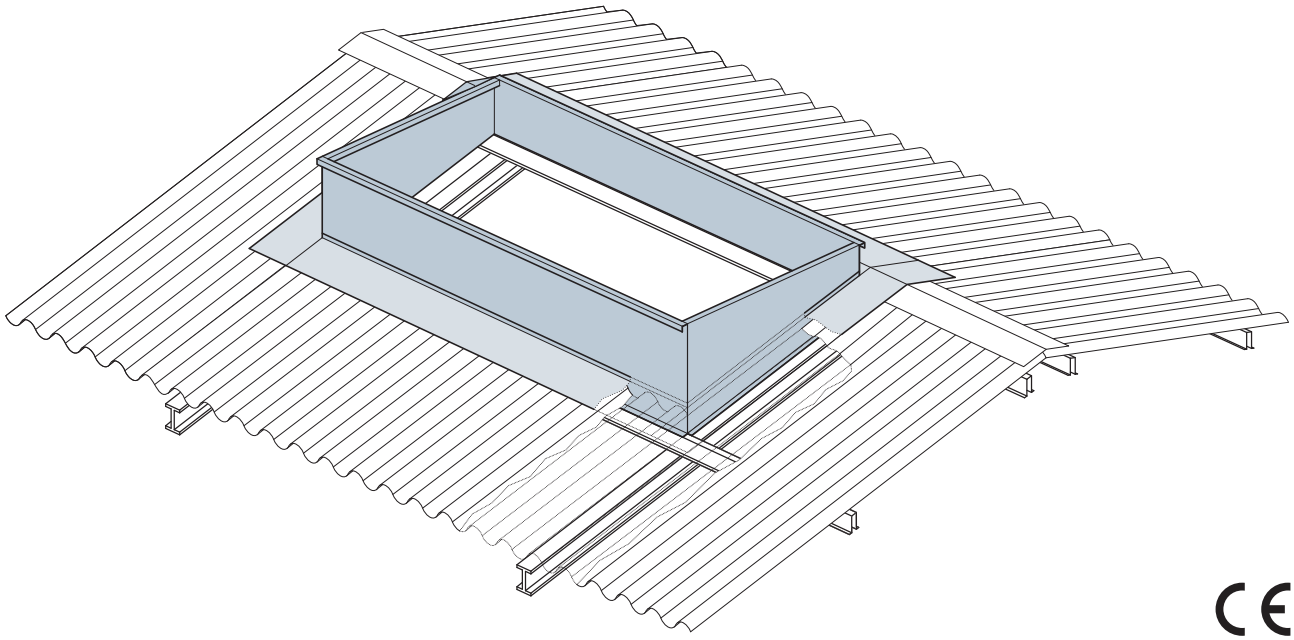


CE



INSTALLATION ON SLOPED SURFACE

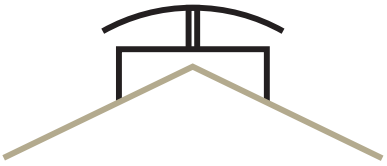
The base is made in counter slope and has a channel for the collection of water carried in the roofing.

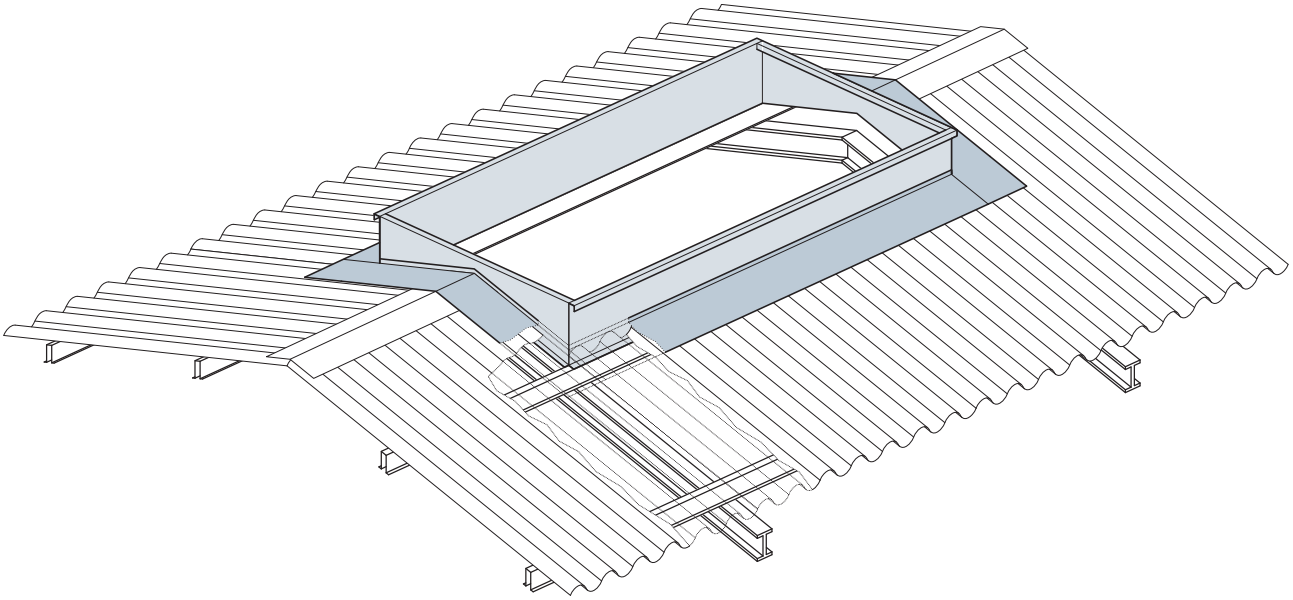


CE

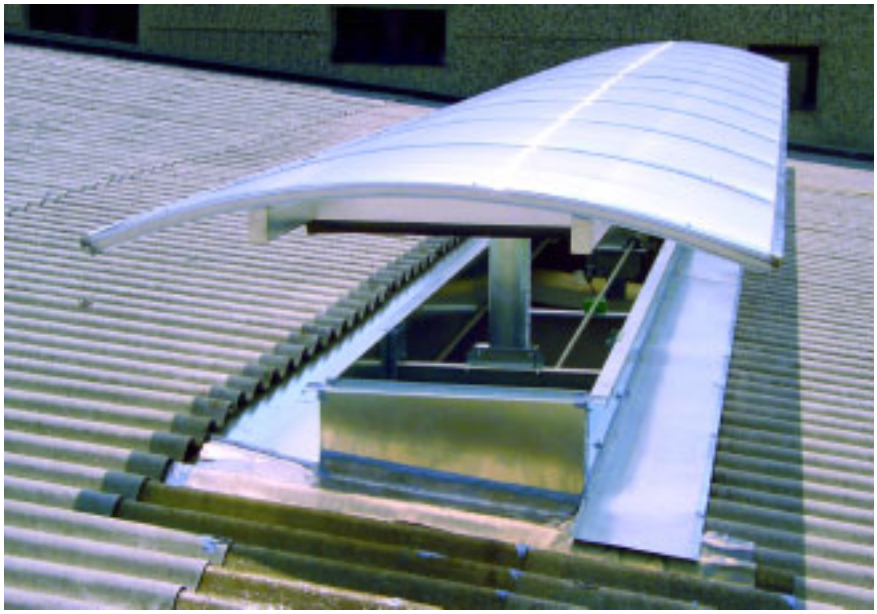
INSTALLATION ON THE ROOF TOP

A galvanized steel valley gutter is fixed and applied with silicon at the contact point between the basement and the roofing mantel of the building along the whole perimeter.
The longer sides have an edge for the support and fixing of the base to the purlins.



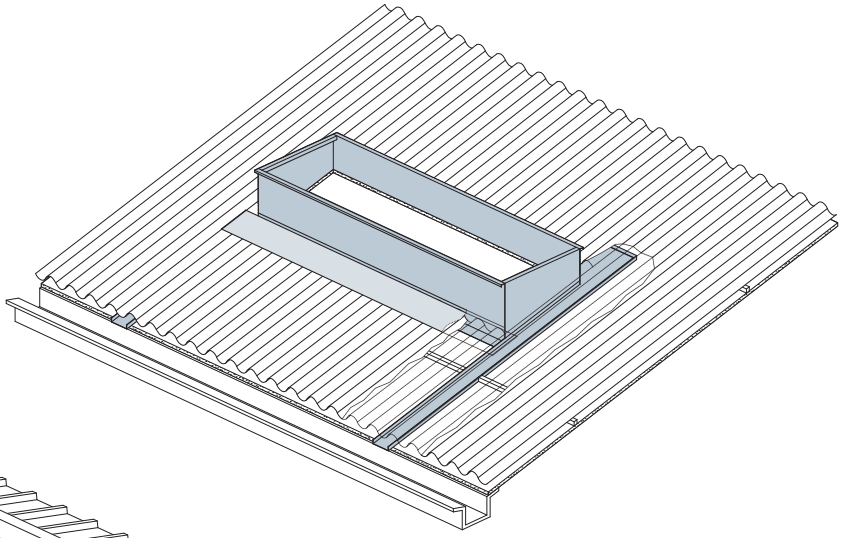


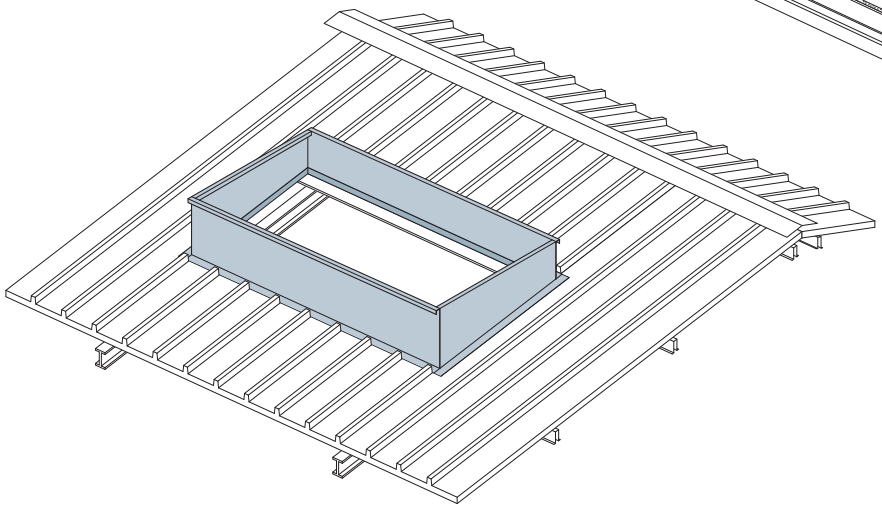
CE



INSTALLATION ON SLOPED SURFACE

The base is made in counter slope and has a channel for the collection of water carried to the gutter.





CE