

DIM Design & Installation Manual

Sunskin Roof Lap solar system

Half-cell modules
Type XL: 1940×857 mm
Type L: 1380×857 mm
Type M: 1010×857 mm



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Remark

This documentation provides information on the most important points regarding planning and execution.

For more information on

- General terms of delivery
- Indicative prices
- Maintenance and cleaning
- Range and colours

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Validity

The latest documentation at the time of execution applies, available at swisspearl.com

Description

The patented Sunskin Roof Lap photovoltaic in-roof system gives architects, planners and builders the opportunity to use photovoltaic modules individually in a functional and aesthetically pleasing manner.

With their frameless, flat shape, the Sunskin Roof Lap modules blend perfectly into the roof landscape. They are suitable for almost any roof shape and also prevent dirt from accumulating on the edges. The substructure is also extremely simple. It consists of three to five module holders per element and a high-quality joint profile, as well as a variety of end and ventilation panels and accessories.

Patent

European patent
EP 2 784 241 B1

Benefits

- High-quality and high-performance components
- Easy to install
- Competent advice with detailed solutions
- Complete system provider, everything from a single source

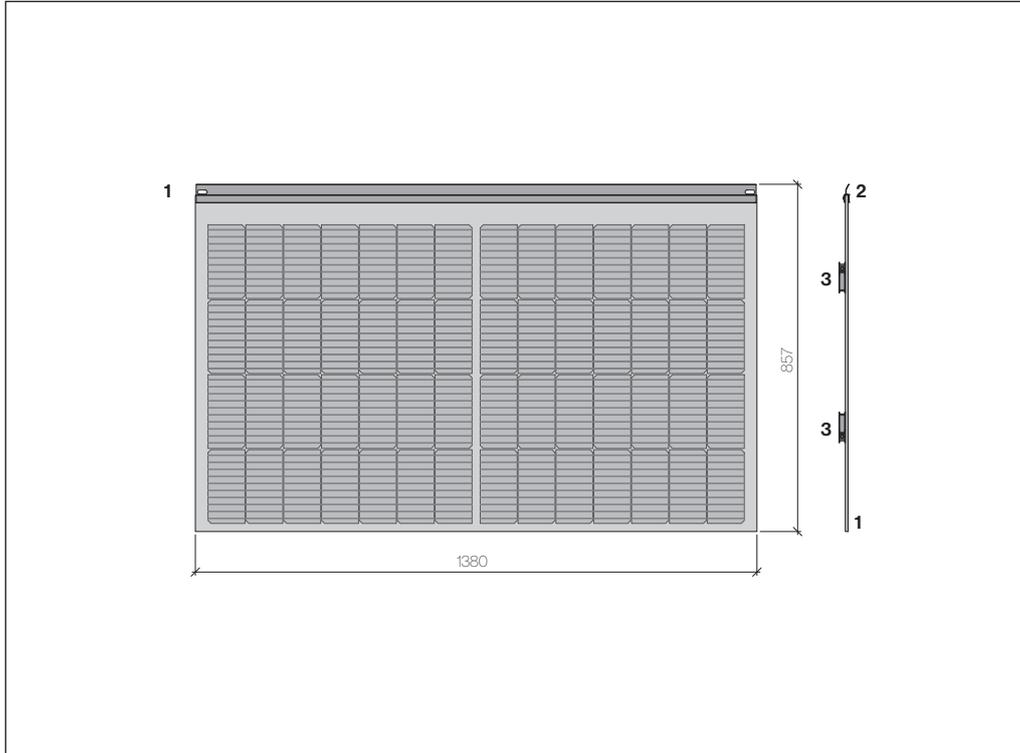
Ordering materials

Contractors are supplied with complete systems consisting of photovoltaic modules (Sunskin Roof Lap), Aura 2 extension panels and accessories.

Electrical installation

Follow local rules and regulations regarding electrical installations. A licensed electrician must always be used to connect and perform the electrical system.

Sunskin Roof Lap standard module type L, 1380×857 mm

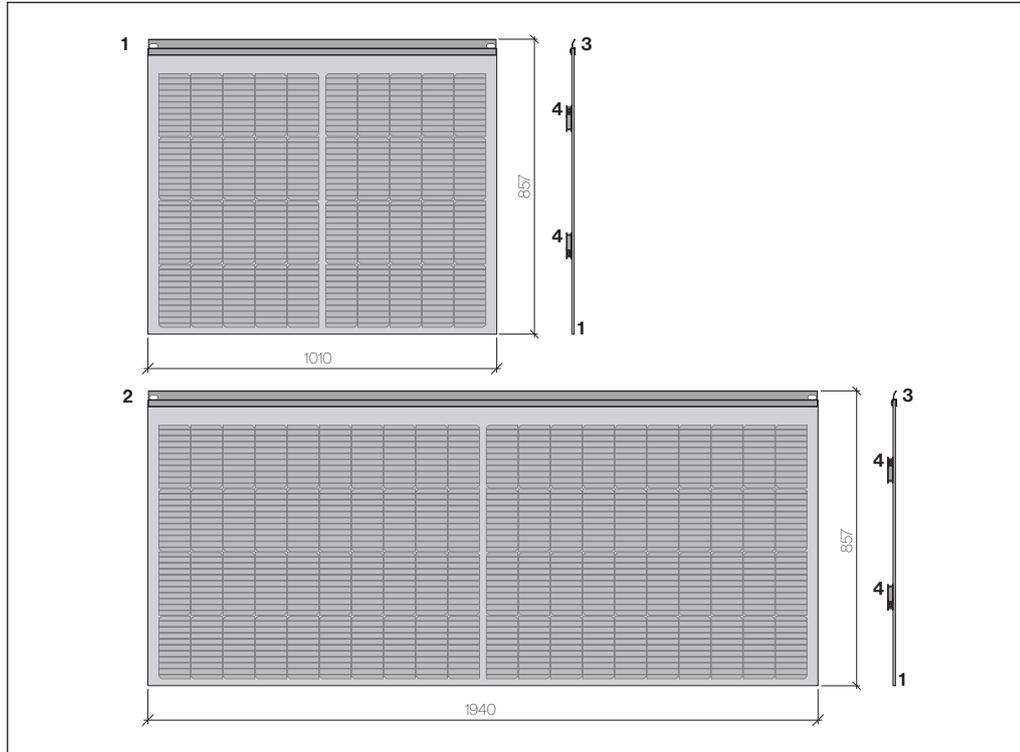


Standard module

- 1 Sunskin Roof Lap module type L, glass-glass 1380×857 mm
- 2 System profile
- 3 Junction box

For an overview of the technical specifications, see: "Sunskin Roof Lap Modules" data sheet.

Sunskin Roof Lap standard module, type M 1010 × 857 mm and XL 1940 × 857 mm



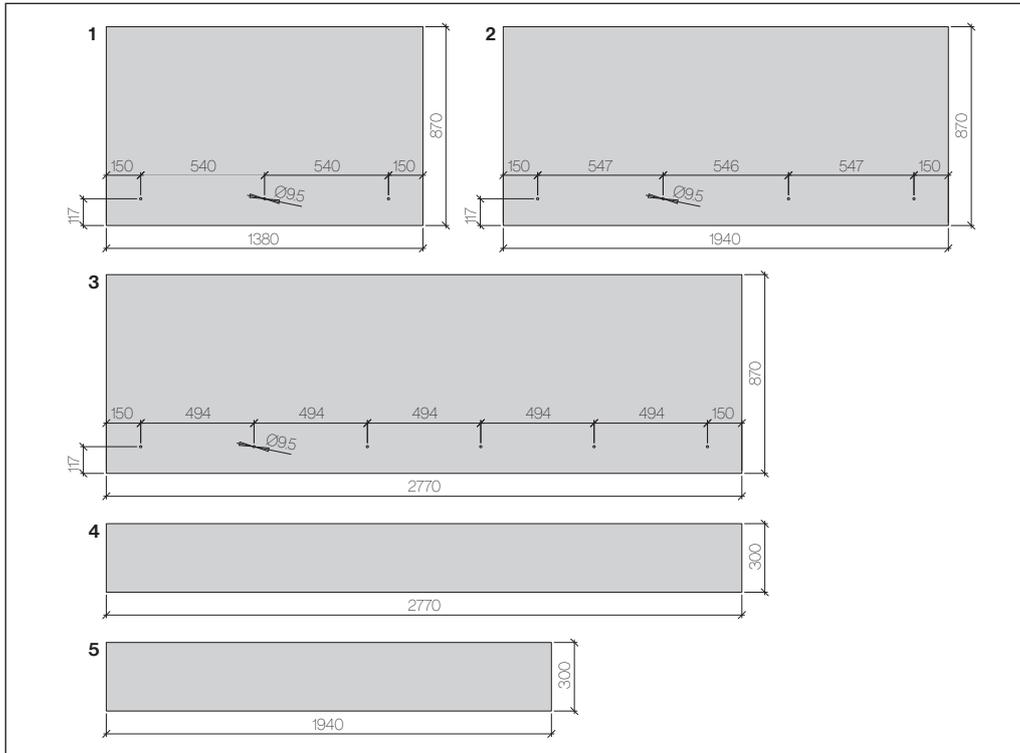
Standard modules

- 1 Sunskin Roof Lap module type M, glass-glass, 1010 × 857 mm
- 2 Sunskin Roof Lap module type XL, glass-glass, 1940×857 mm
- 3 System profile
- 4 Junction box

Other module formats on request. Contact Solar Technical Service (patrik.stromback@swisspearl.com).

For an overview of the technical specifications, see: "Sunskin Roof Lap Modules" data sheet.

Aura 2 extension panels to Sunskin Roof Lap photovoltaic modules



A white plug-in profile is attached to the top edge of each Aura 2 extension panel. The plug-in profiles serve as support and compensation levels.

Pre-drilling

The attachment points in the Aura 2 extension and ridge panels without perforation must be pre-drilled with $\varnothing 9.5$ mm. The lateral edge distance is 150 mm. The fixing distance must be max. 550 mm.

Edge panels

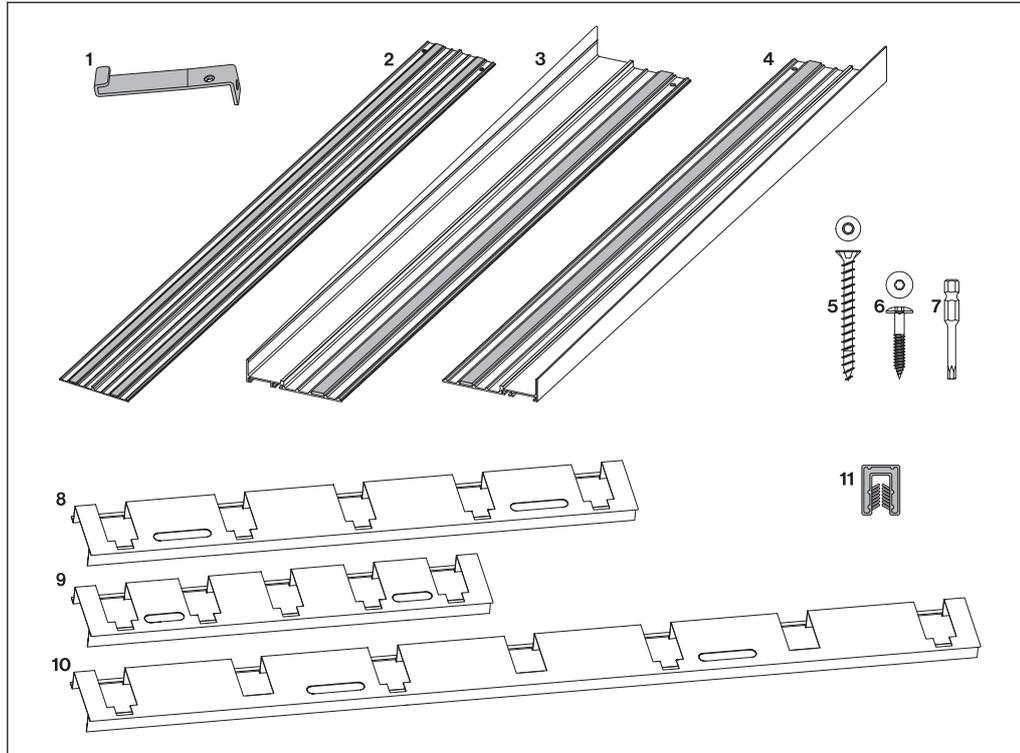
The minimum panel width/ panel height is 400 mm.

Edge impregnation

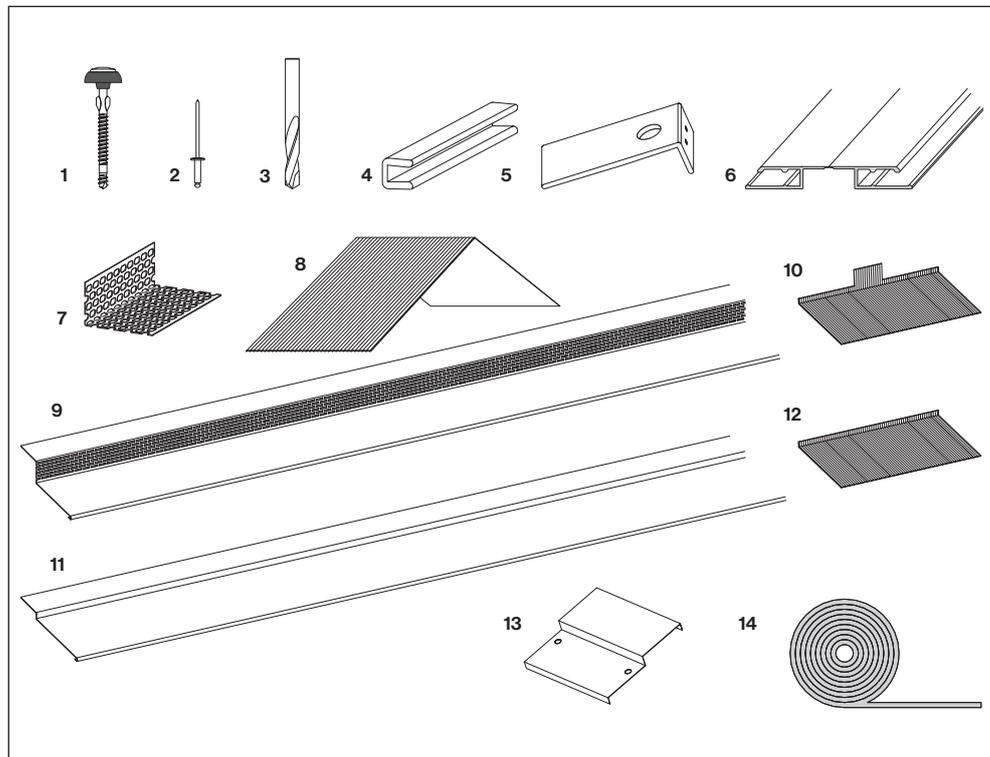
The edges of the Aura 2 extension panels are impregnated ex works. The cuts and cutouts on the construction site must be treated with Luko impregnation.

- 1 Aura 2 extension panel Solar 1380x870 mm, perforated or unperforated
- 2 Aura 2 extension panel Solar 1940x870 mm, perforated or unperforated
- 3 Aura 2 extension panel Solar 2770x870 mm, perforated or unperforated
- 4 Aura 2 ridge panel Solar 2770x300 mm, unperforated
- 5 Aura 2 ridge panel Solar 1940x300 mm, unperforated

System accessories

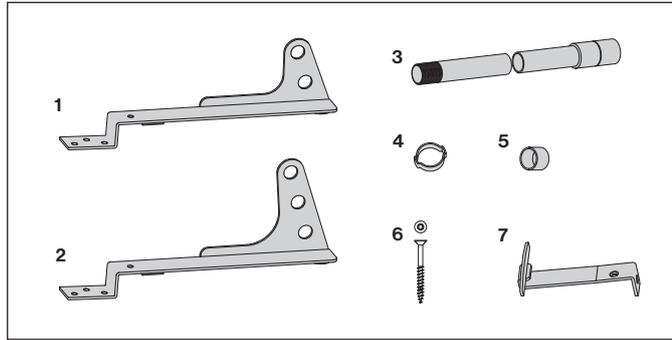


- 1 Module holder Sunskin Roof Lap, steel A2, plasticised
- 2 Joint profile, black anodised aluminium with EPDM sealing tape 150×870 mm
- 3 Side connection profile left, black anodised aluminium with EPDM sealing tape, 120×870 mm
- 4 Side connection profile right, black anodised aluminium with EPDM sealing tape, 120×870 mm
- 5 Screws for module holder, countersunk head T20 5.0×50 mm, steel A2 blank
- 6 Screws for joint and side connection profiles, round head T20 4.8×30 mm, steel A2 blank
- 7 Torx insert T20, blade length 50 mm
- 8 Assembly jig for mounting the module holders and panel supports for module type L
- 9 Assembly jig for mounting module holders and panel supports, module type M
- 10 Assembly jig for mounting the module holders and panel supports for module type XL
- 11 Spacer panels with slot, black 38×50×4 mm (prevents lateral displacement of the Sunskin Roof Lap modules protruding from the site formation)

System accessories

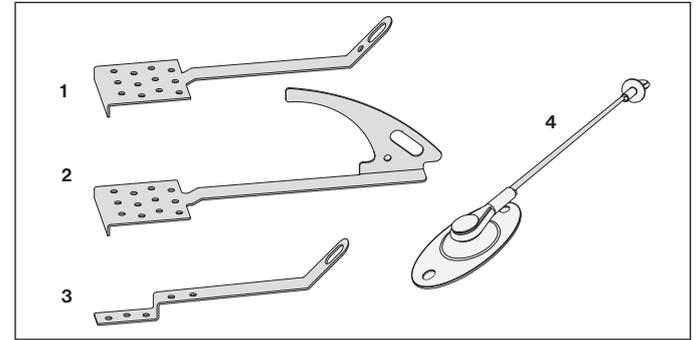
- 1 Wood screw T30, steel A2 coloured, SCFW-S-BAZ 6.5×77 mm, for fastening the Aura 2 extension panels
- 2 Rivet 4.0 ×15 K9, black (migration protection of the ridge profile)
- 3 Drill bits carbide equipped, Ø9.5 mm
- 4 Plug-in profile PP, white for Aura 2 extension panels
L= 1230 mm to 1380×870 mm panels
L= 2620 mm to 2770×870 mm panels
L= 1790 mm to 1940×870 mm panels
- 5 Panel supports, black polyamide
- 6 Ridge profile aluminium, black anodised, length 2770 mm and 1940 mm
- 7 Aluminium ventilation profile, 50×30, 70×30 mm black powder coated
Length 2500 mm
- 8 Ridge joint panel, aluminium ribbed, 200×310×310 mm, black powder-coated
- 9 Aluminium ridge connection panel, partially perforated, black, for ridge formation with Aura 2 ridge panels, length 2770 mm and 1940 mm
- 10 Joint panel 250×170×10/40 mm, aluminium black, ribbed to ridge connection panel
- 11 Aluminium ridge connection panel, black, for ridge formation with Aura 2 ridge panels, length 2770 mm and 1940 mm
- 12 Joint panel 250×185×10 mm, aluminium black, ribbed to ridge connection panel
- 13 Lightning protection Z-connector, raw aluminium for connecting the joint profiles as a natural conductor for lightning protection systems
- 14 Sealing tape, 20×5-12 mm

System accessories



Snow guards

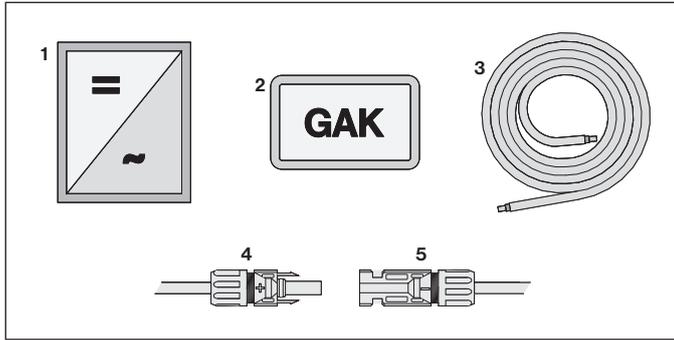
- 1 Snow guard support, offset, for 2 pipes, 1/2" chrome steel, black
- 2 Snow guard supports, offset, for 3 pipes, 1/2" chrome steel, black
- 3 Snow guard pipe with thread/sleeves 1/2", black powder-coated, length 6000 mm
- 4 U-bolt for snow guard pipe 1/2", black
- 5 Cover cap for snow guard pipe 1/2", black
- 6 Screws for snow guard supports T40 8.0x80mm, A2 blank
- 7 Sunskin Roof Lap snow retainer, steel A2, plasticised



Safety equipment

- 1 Roof securing hook TS DH EASY, chrome steel, black, incl. screws
- 2 Roof securing hook TS DHE PLUS, chrome steel, black, incl. screws
- 3 Safety hooks SDA/Solar chrome steel, black incl. screws (specify screw length!)
- 4 Anchor point with stainless steel cable (provided by customer)

Electrical system accessories



Different types and makes according to system design.

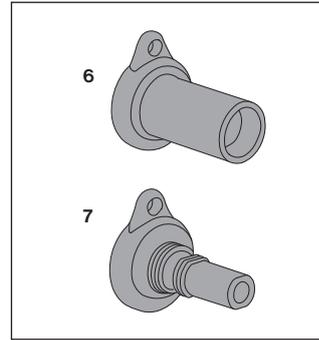
Wiring

The wiring of the individual module rows and the routing of the connecting cables should be carefully planned before the roof work begins. Precisely mark the individual cables during routing.

- 1 Inverter
- 2 Generator connection box (GAK) with surge arrester
- 3 Solar cables
- 4 Connectors, positive
- 5 Connectors, negative
- 6 Sealing caps (positive plug)
- 7 Sealing caps (negative plug)

Electrical installations must be carried out by a licensed electrician and performed in accordance with local rules and legal requirements. All materials used for connections must be CE marked and approved in accordance with building regulations.

Sealing caps



Temporary sealing caps

Temporary sealing caps

The DC plug contacts must be protected against moisture. The manufacturer-specific assembly instructions must be observed.

Potential equalisation

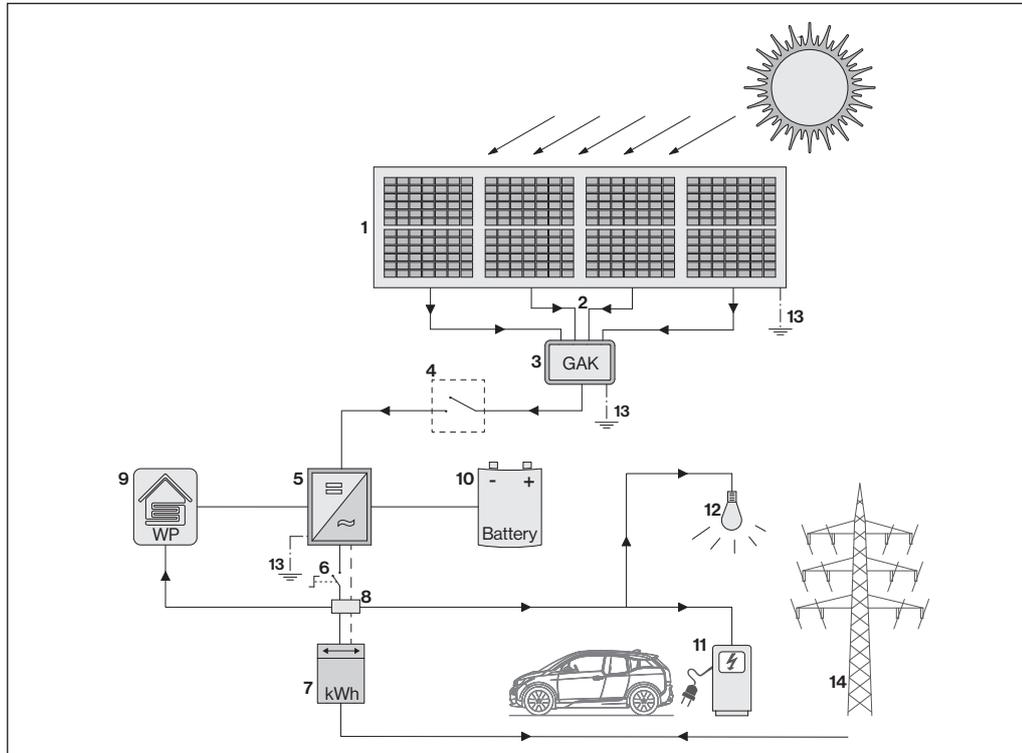
The ridge connection panel is connected to the equipotential bonding with the inlet panel and the gutter. No equipotential bonding is required if the inverter has galvanic isolation from the AC mains and the generator meets protection class II.

In the case of ridge connection and inlet panels, one potential equalisation connection per 15 running metres must be provided.

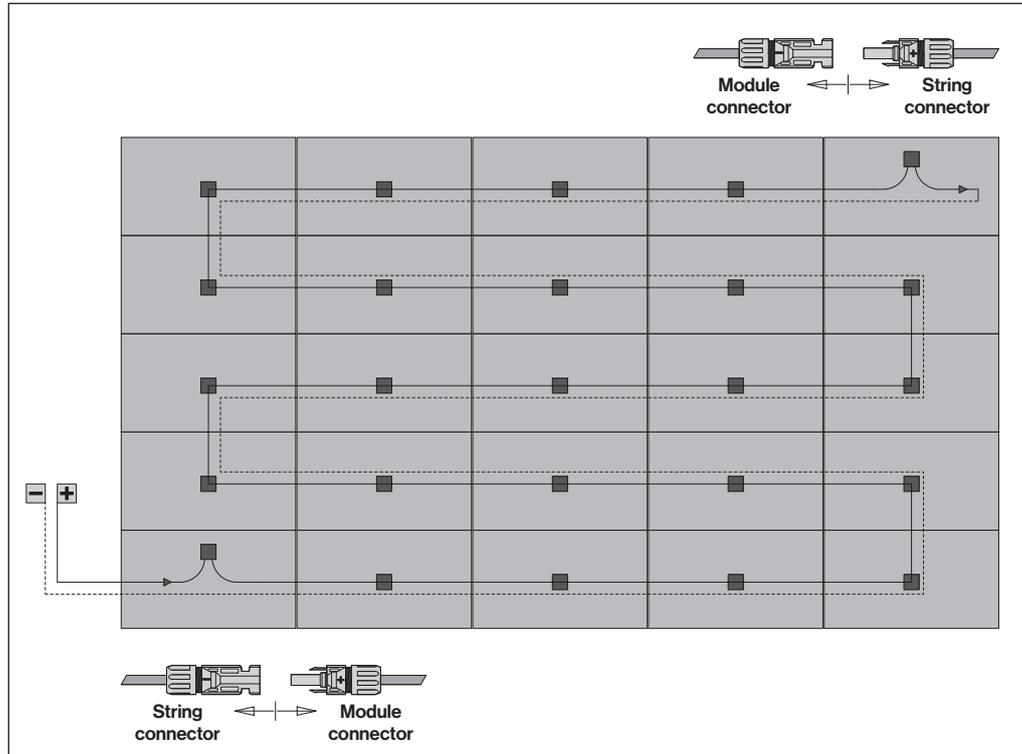
Versions that do not follow these specifications must be checked on a case-by-case basis.

The correct protection concept must be checked by the system builder and implemented in accordance with the applicable standards.

Installation drawing



- 1 Solar generator (all modules)
- 2 DC line (string lines)
- 3 Generator connection box (GAK) with overvoltage protection device
- 4 DC separation point (integrated in the inverter)
- 5 Inverter
- 6 Photovoltaic system switch
- 7 Bidirectional counter
- 8 Energy management
- 9 Heat pump
- 10 Solar battery
- 11 Electric car charging station
- 12 Loads
- 13 Protective potential equalisation line
- 14 Electricity grid (grid operator)

Cable routing

The module wiring and string cabling are created by the system planner according to the individual property specifications. (Example: string cable routing with positive and negative string plug)

Cable routing is particularly important due to lightning protection. In general, cable loops must be avoided so that no induction voltage can occur. It is therefore recommended to return the module wiring parallel to the module string after it has linked all modules connected in series. The module wiring should therefore re-enter the roof at the exit point. The installation of the DC and AC lines must comply with the Low Voltage Connecting solar panels with module connectors and string connectors can be done by an unlicensed electrician as it involves low voltage. All further connections must be made by a licensed electrician in accordance with local rules and requirements. The tested connector systems must be installed in accordance with the manufacturer's installation instructions. The plug connections must not be disconnected when they are under load.

Area of application of Sunskin Roof Lap modules

- Minimum roof pitch 15°
- Maximum roof pitch 60°
- Reference height up to 2000 m (modules 1940x857mm reference height ≤1400 m)

Reference heights above 2000 m are possible. However, these require clarification with Swisspearl Sweden technical team.

Application area of the Aura 2 extension panel

Panel format	Max. reference height
2770x870 mm	≤1000 m
1940x870 mm	≤1400 m
1380x870 mm	≤1400 m

Soiling

Soiling must be avoided through design measures. Higher roof surfaces must be drained separately.

Subroof

It is a requirement to have an under-roof made of 22x95mm wood planks with tongue and groove. On top of the planks, there should be a waterproof membrane.

Substructure

The construction structure is similar to that of other scaled roof coverings and consists of counter battens and roof battens starting from the subroof.

Ventilation openings

Ventilation openings must meet the increased requirements for integrated Sunskin Roof Lap modules. The free cross-section must be at least half of the ventilation cross-section (counter batten height) and must be evenly distributed over the eave and ridge length. Reductions in cross-section due to perforated inlet panels or insect screens must be taken into account. For roof penetrations such as roof windows or other structural reduction of the rear ventilation, the interrupted ventilation space must be diverted using structural measures.

Wind load

Follow local regulations regarding wind load.

Aluminium

Untreated aluminium must not be used on a Sunskin Roof Lap roof system. All metal fittings, profiles, etc. must have a surface treatment. The concealed lightning protection Z-connectors are an exception. The most common methods are anodizing or powder coating.

The minimum layer thickness is:

- for anodizing
≥ 20 µm
- for powder coating
≥ 70 µm

Assembly of joint and side connection profiles

In the event of construction or delivery delays, we recommend installing the joint and side connection profiles immediately (max. 8 weeks) before covering the Sunskin Roof Lap modules and Aura 2 extension panels, as deformation of the profiles and possible detachment of the sealing strips can otherwise not be ruled out.

If you have any questions, please contact Swisspearl Sweden technical team

Glare and reflection:

Reflections can cause disturbing glare depending on the orientation and inclination of the roof.

It is therefore always advisable to briefly check whether glare interference could occur in the vicinity of the planned solar system.

Possible disturbances are generally highly seasonal due to the strongly varying sun levels between the seasons.

Height of ventilation space, counter battens

Roof pitch	15° to <20°		20° to <25°		> 25°	
Reference height h_0 [m]	<800	>800	<800	>800	<800	>800
Bar length	min. ventilation space height [mm]					
<5 m	80	80	80	80	80	80
5 to <8 m	80	100	80	80	80	80
8 to <15 m	100	120	80	100	80	100
>15 m	120	140	100	120	80	120

We recommend the values in the table for the minimum height of the ventilation space between the subroof and roof covering, depending on rafter length, roof pitch and reference height

Roof batten

The batten width is 45 mm and 70 mm. The batten height depends on the reference height. Due to the loss of inclination, the batten thickness of the centre support must be adapted. The roof battens must be calibrated due to the system.

Roof battens calibrated

Calibrated (thickness planed)	
45×45	two-sided
28×70	one-sided (28 mm)

Base panel

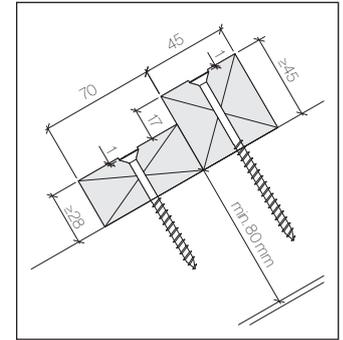
The roof battens must be mounted on a level surface.

Wood quality

The roof battens must meet the following requirements:

- Wood moisture max. 20%

Fastening the roof battens



To avoid injuries to the Sunskin Roof Lap modules, all fasteners must be sunk 1 mm into the battens and must never protrude. Battens must be fastened with galvanised wood screws, screw diameter min. 6 mm.

Guideline values for maximum usage heights of Sunskin Roof Lap module types

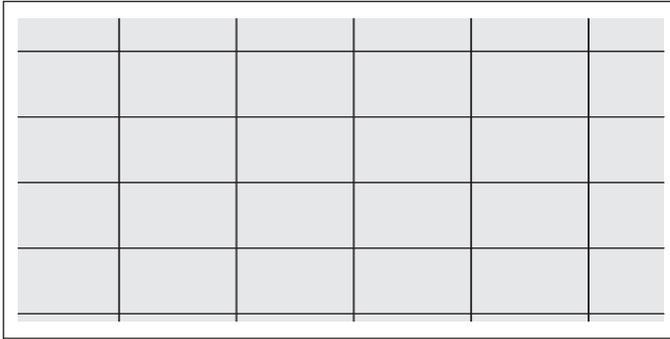
Maximum reference height H_0 [m]	Minimum roof pitch	Number of module holders per module	Batten dimensions in [mm]			Maximum counter batten distance in [mm]	Snow load on roofs	
			Butt battens	Intermediate batten module	Intermediate batten Aura 2		Characteristic value q_k [kN/m ²]	Rated value q_d [kN/m ²]
≤1400	15°	3 Type L 3 Type M 4 Type XL	45×45 28×60	1×36×60	* 2×28×70	600	5.4	8.1
≤1600	15°	5 Type L 3 Type M	50×45 33×60	1×40×60	no Aura 2	600	7.0	10.5
≤2000	15°	5 Type L 4 Type M	60×45 43×60	1×50×60	no Aura 2	550	10.8	16.2

Normal wind exposure $C_e = 1$ /roof shape coefficient 0.8/spatial load of 3 kN/m³

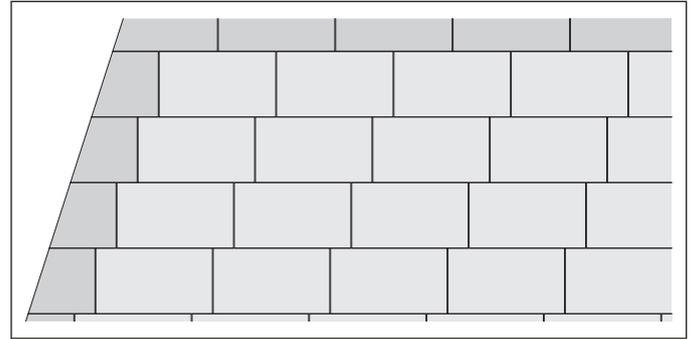
- * Place 6 mm under the upper intermediate batten and 12 mm under the lower one.
The minimum batten length consists of three counter batten sections with four fixing points.

Sunskin Roof Lap module type XL (maximum reference height H_0 1400 m)

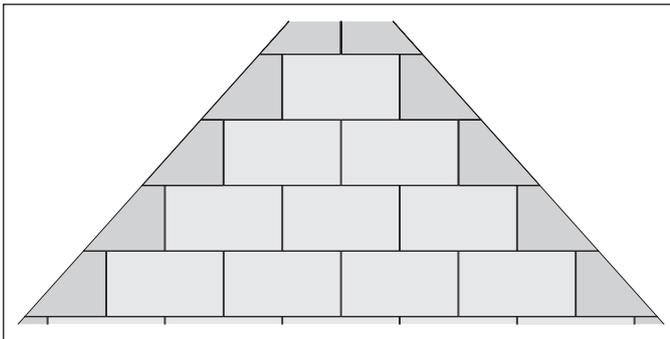
Continuous joints



Joints unevenly offset

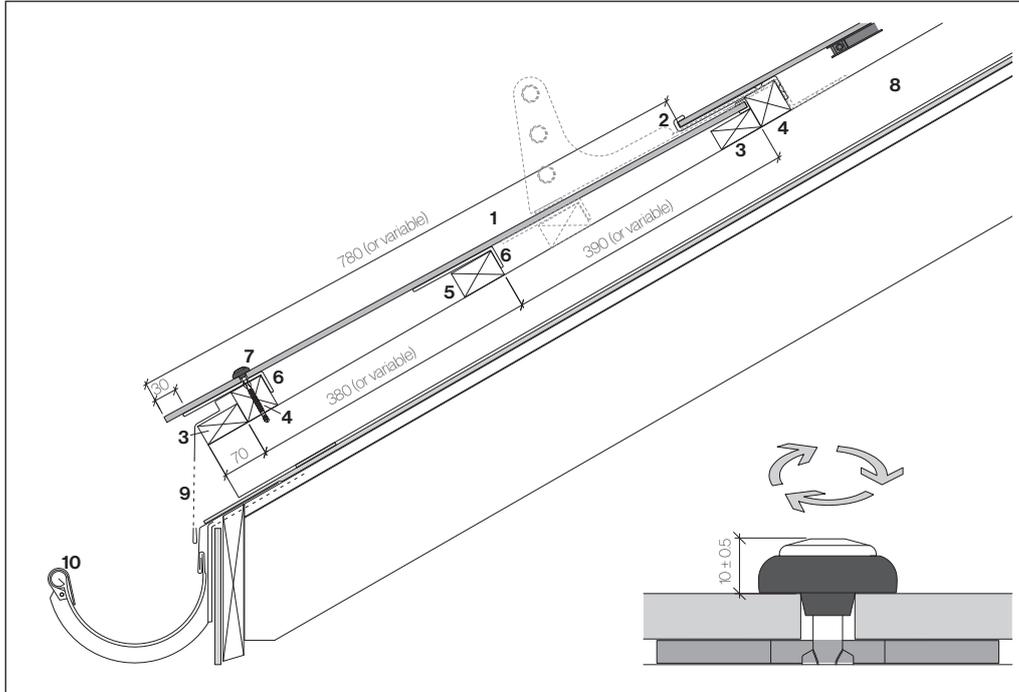


Joints 1/2 offset



The free arrangement (offset) of the Sunskin Roof Lap modules makes it possible to optimise the design of roof shapes such as tent and hipped roofs. With offset installation, lightning protection can no longer be integrated (see chapter «Lightning protection»).

Batten division with Aura 2 extension panels up to 1000 m reference height



The batten distance may vary depending on the Aura 2 panel height. If the panel height of 870 mm is reduced by adjustments, the layering of the intermediate batten must be adjusted due to the loss of inclination. The maximum height for extension panels without intermediate battens is 460 mm.

Panel support

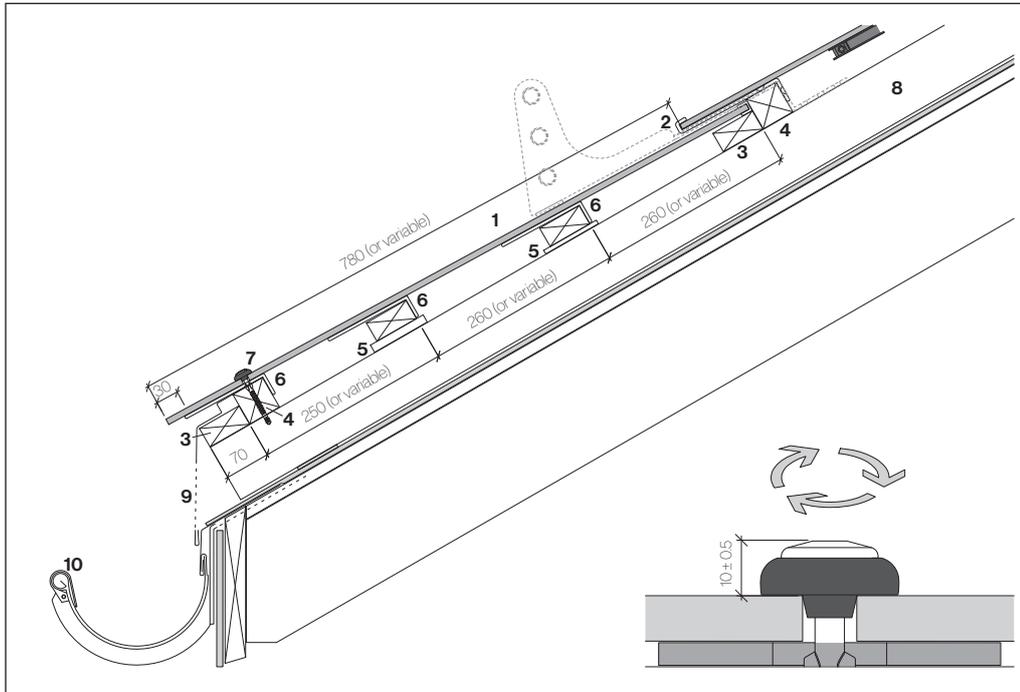
The panel supports (6) are pre-assembled under the fixing points of the Aura 2 extension panel. Panel supports must also be attached to the intermediate batten.

Number of panel supports [pcs]		
Panel width	Fixing points	Intermediate batten
2770 mm	6	5
1380 mm	3	2
1940 mm	4	3

The batten division on this side also corresponds to the batten division in the roof area.

- 1 Aura 2 extension panel with plug-in profile PP, white
- 2 Module holders
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Intermediate batten 28×70 mm with jack rafter underlay
- 6 Panel supports
- 7 Screw T30 SCFW-S-BAZ 6.5×77 mm
- 8 Counter battens
- 9 Inlet panel with ventilation min. 400 cm²/m
- 10 Gutter

Batten division with Aura 2 extension panels 1000 m to 1400 m reference height



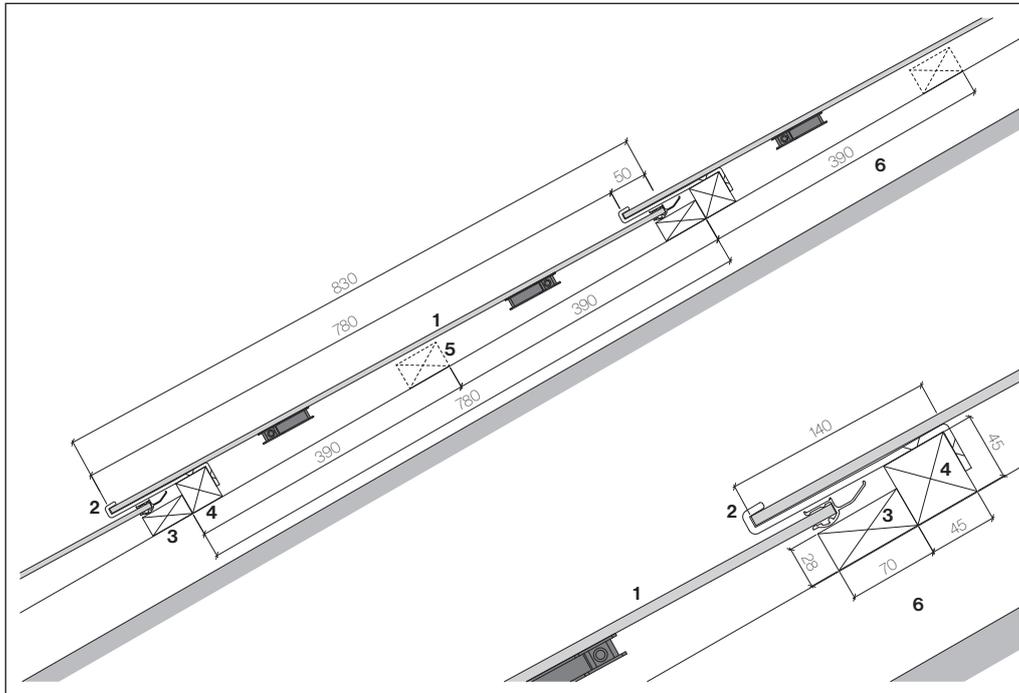
Panel support

The panel supports (6) are pre-assembled under the fixing points of the Aura 2 extension panel. Panel supports must also be attached to each intermediate batten.

Number of panel supports [pcs]		
Panel width	Fixing points	Intermediate batten
1380 mm	3	4 (2×2)
1940 mm	4	6 (2×3)

- 1 Aura 2 extension panel with plug-in profile PP, white
- 2 Module holders
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Intermediate batten 28×70 mm with jack rafter underlay
- 6 Panel supports
- 7 Screw T30 SCFW-S-BAZ 6.5×77 mm
- 8 Counter battens
- 9 Inlet panel with ventilation min. 400 cm²/m
- 10 Gutter

The batten distance may vary depending on the Aura 2 panel height. If the panel height of 870 mm is reduced by adjustments, the layering of the intermediate battens must be adjusted due to the loss of inclination. The maximum height for extension panels without intermediate battens is 400 mm. The maximum height for extension panels with an intermediate batten is 640 mm. The batten division on this side also corresponds to the batten division in the roof area.

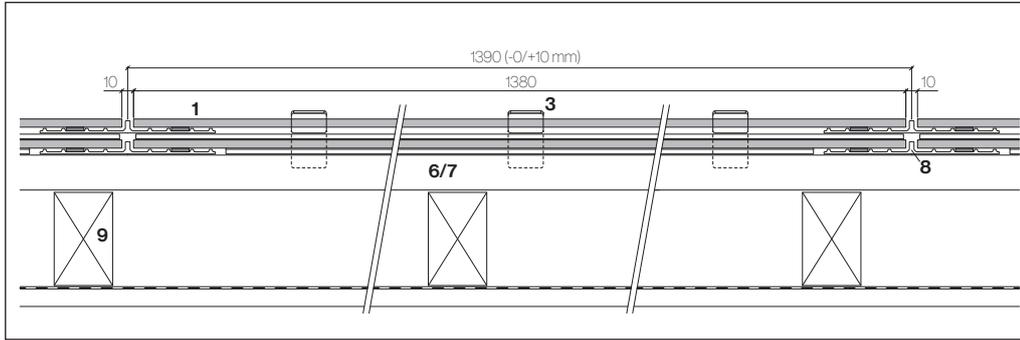
Batten division of the Sunskin Roof Lap modules

Note:
The module connection cables must be routed under the battens.

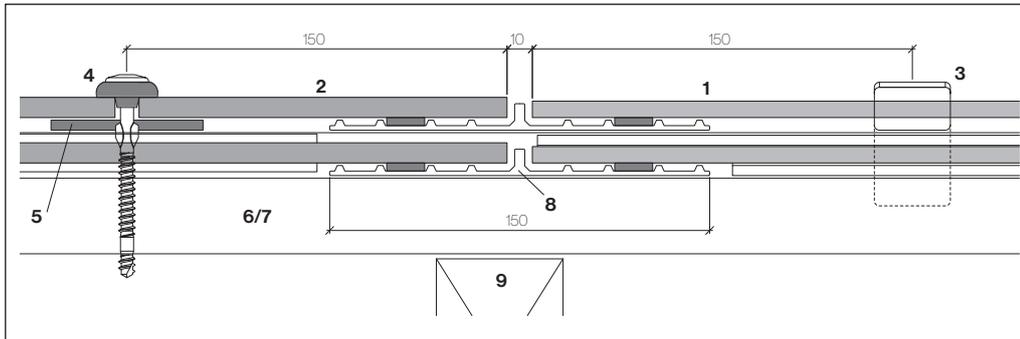
- 1 Sunskin Roof Lap module
- 2 Module holders
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Intermediate batten 28×70 mm with Reference height > 1000 m to ≤1400m
- 6 Counter battens

The batten thicknesses on this side are based on a reference height of up to 1400 m. For higher layers, use the batten thickness according to the table “Guide values for maximum usage heights” on page 16. The Sunskin Roof Lap modules up to 1000 m reference height do not require intermediate battens. The tolerance of the lacing distances is ± 2 mm per Sunskin Roof Lap module (780 mm ± 2 mm).

Width division model L



For the width division, a crack is created at an angle of 90° to the battens.



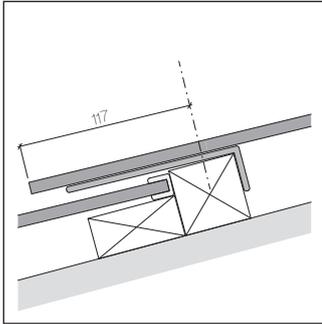
Axle dimensions

Module type	Axle dimensions [mm]	Tolerance [mm]
Type L	1390	(-0/+10)
Type M	1020	(-0/+10)
Type XL	1950	(-0/+10)

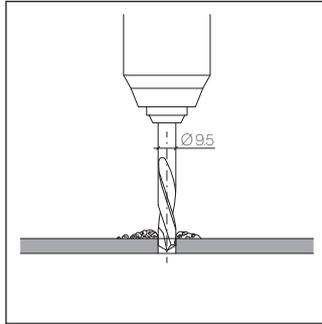
- 1 Sunskin Roof Lap module
- 2 Aura 2 extension panel with plug-in profile, white
- 3 Module holders
- 4 Screw T30 SCFW-S-BAZ 6.5×77 mm
- 5 Panel supports
- 6 Roof battens (28×70 mm)
- 7 Roof battens (45×45 mm)
- 8 Joint profile
- 9 Counter battens

In the case of unperforated extension panels or in the case of cuts, these must be pre-drilled with Ø9.5 mm (remove drilling dust). The module holders are mounted using the assembly jig.

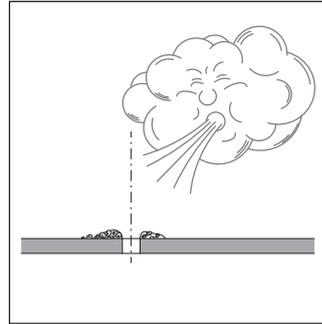
Fastening, Aura 2 extension panel



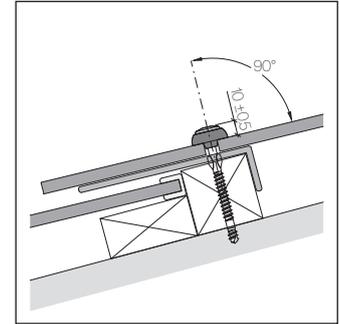
Additional drill hole from lower edge of panel 117 mm



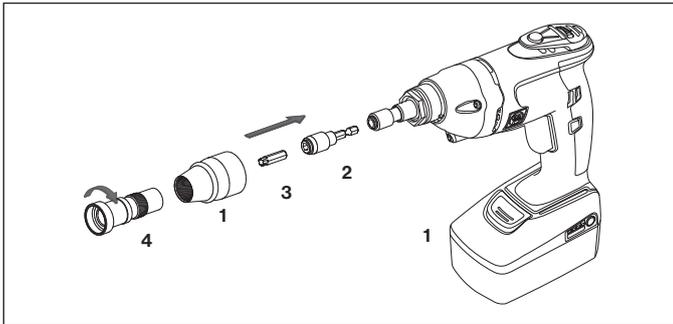
Drill panel Ø 9.5 mm



Remove drilling dust

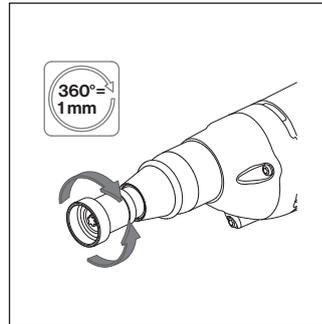


Set screw at right angles
Setting depth 10.0 ± 0.5 mm

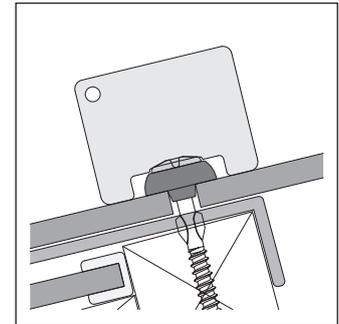


1 Fine ASCS 6.3
2 Magnetic bit holders,
length 50 mm

3 Torx insert T30, length 25 mm
4 Fine stop sleeve
Part no. 32127021061

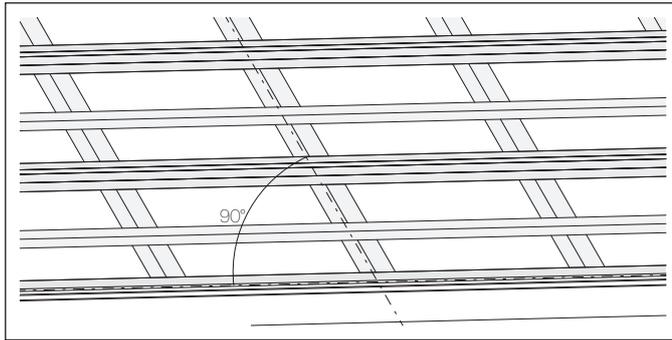


Depth stop adjustment

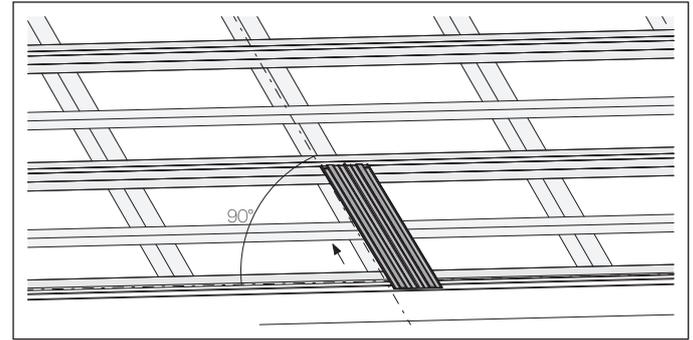


Check with Swisspearl
screw gauge

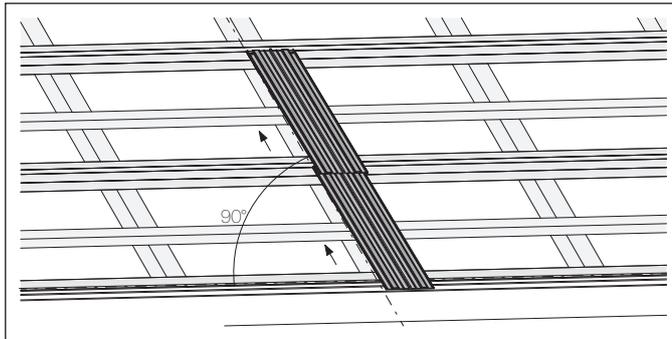
Assembly of joint profile



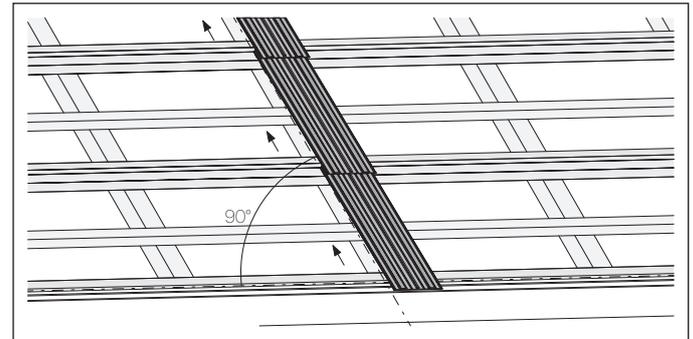
Create a crack at an angle of 90° to the battens.



Fasten the joint profiles with two fastening screws T20 4.8×30 mm.

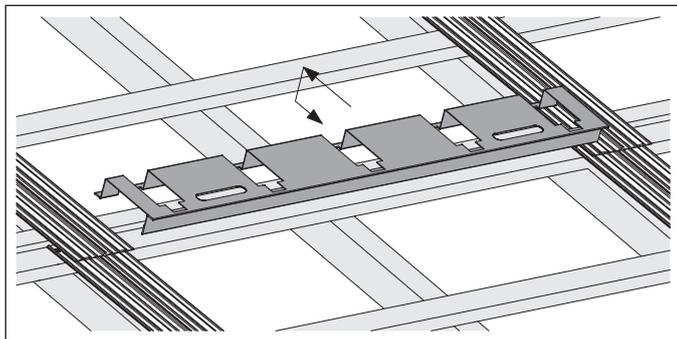


Install joint profiles from bottom to top.

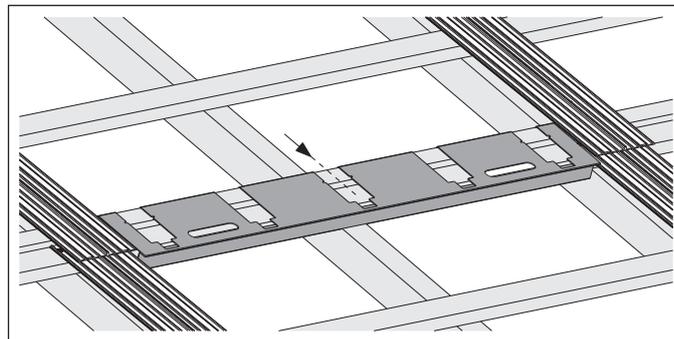


Note: first place the snow guard support before mounting the upper joint profiles

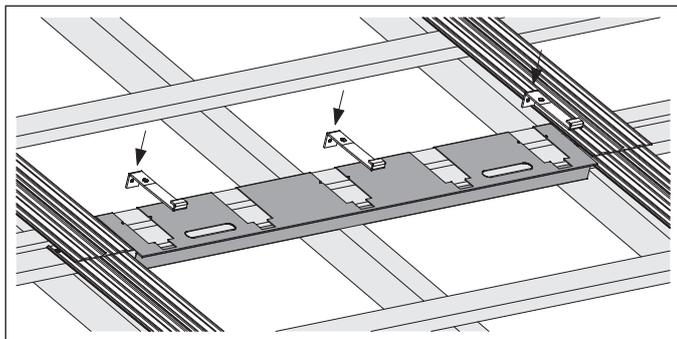
Assembly of module holder for Sunskin Roof Lap modules, type L with 3 module holders



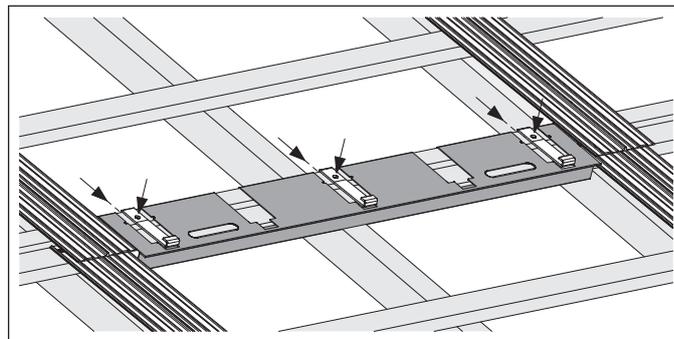
Attach assembly jig to roof battens.



Align assembly jig between joint profiles.

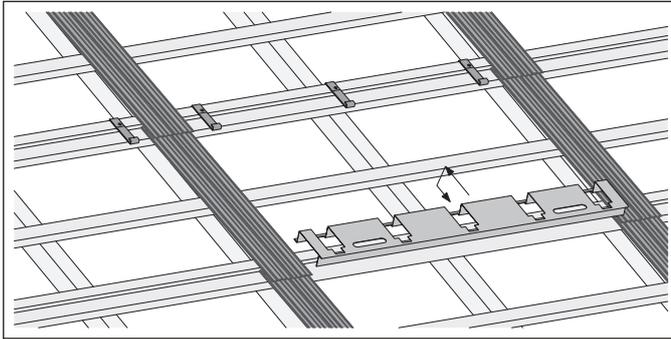


Insert the module holder.

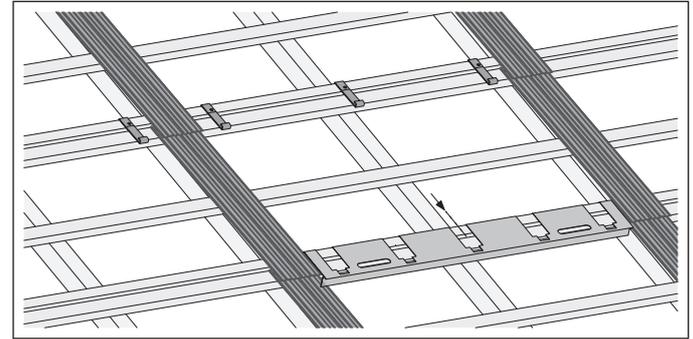


Fasten the module holder with two fastening screws 5.0×50 mm each.

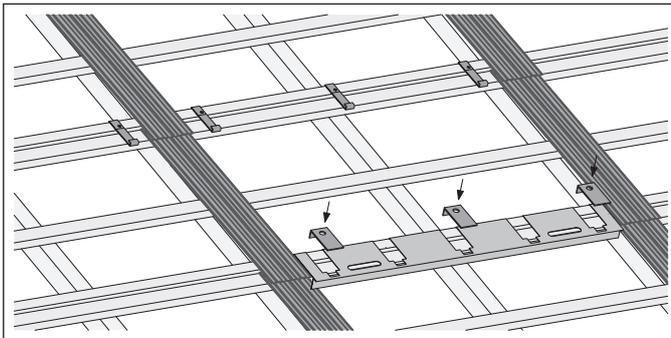
Panel support assembly for Aura 2 extension panels 1380×870 mm



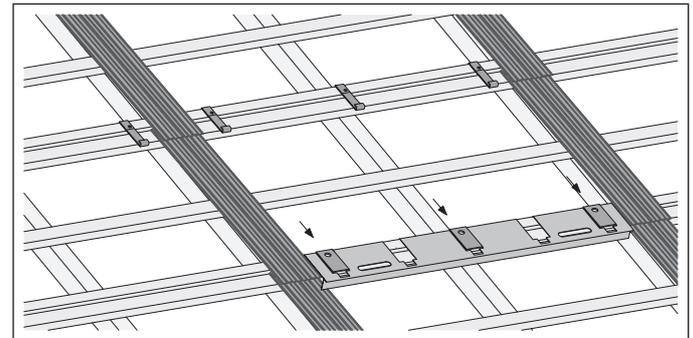
Attach assembly jig to roof battens.



Align assembly jig between joint profiles.

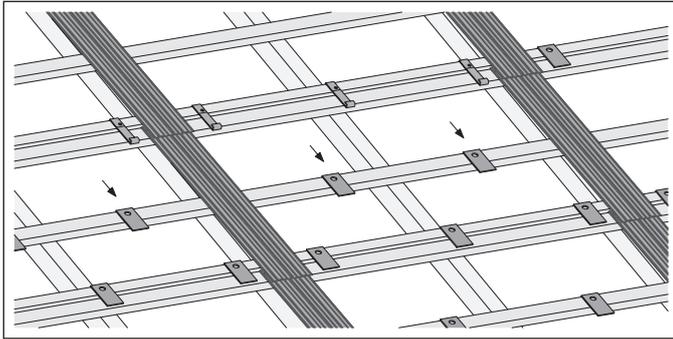


Insert the panel support.

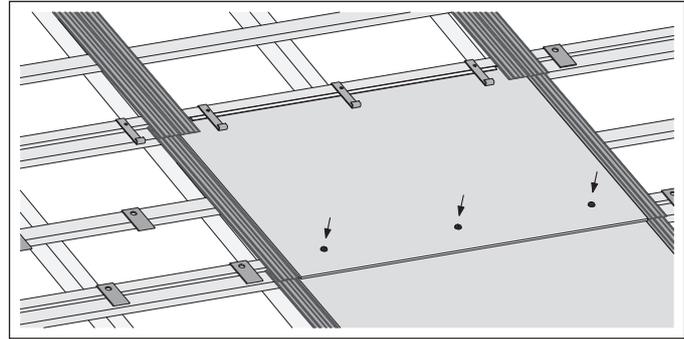


Fasten panel support with nails 2.5×35 mm.

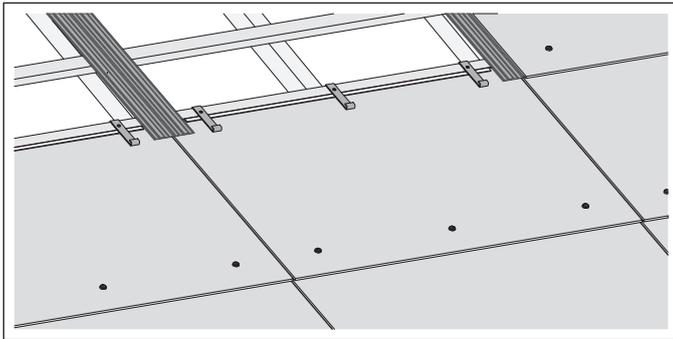
Panel support assembly for Aura 2 extension panels 1380×870 mm



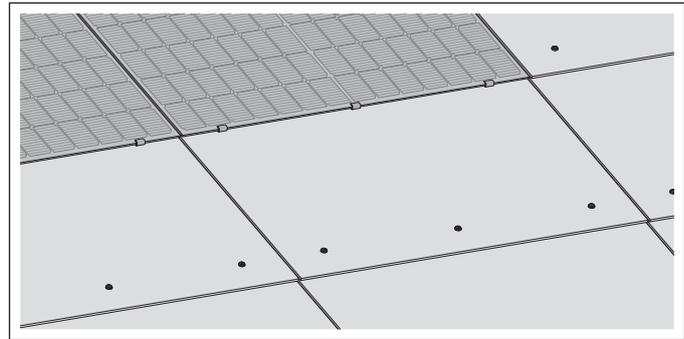
Mount two panel supports on each intermediate batten (also in the version with two intermediate battens).



Fasten Aura 2 extension panels with wood screws T30-6.5×77 mm.

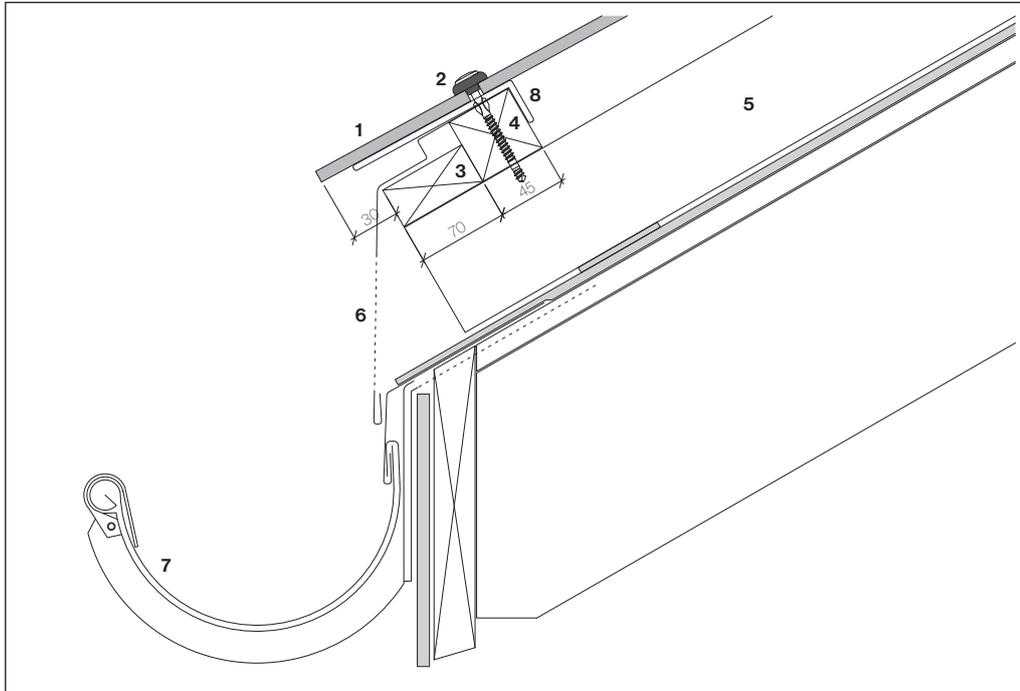


Install Aura 2 extension panels.



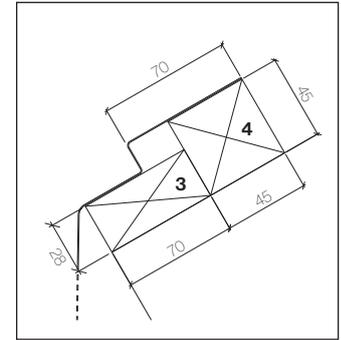
Mount Sunskin Roof Lap modules from top to bottom.

Eaves formation



The ventilation openings must meet the increased requirements for integrated Sunskin Roof Lap modules. The free cross-section must be at least half of the ventilation cross-section (counter batten height). Cross-section reductions of the perforated inlet panels must be taken into account.

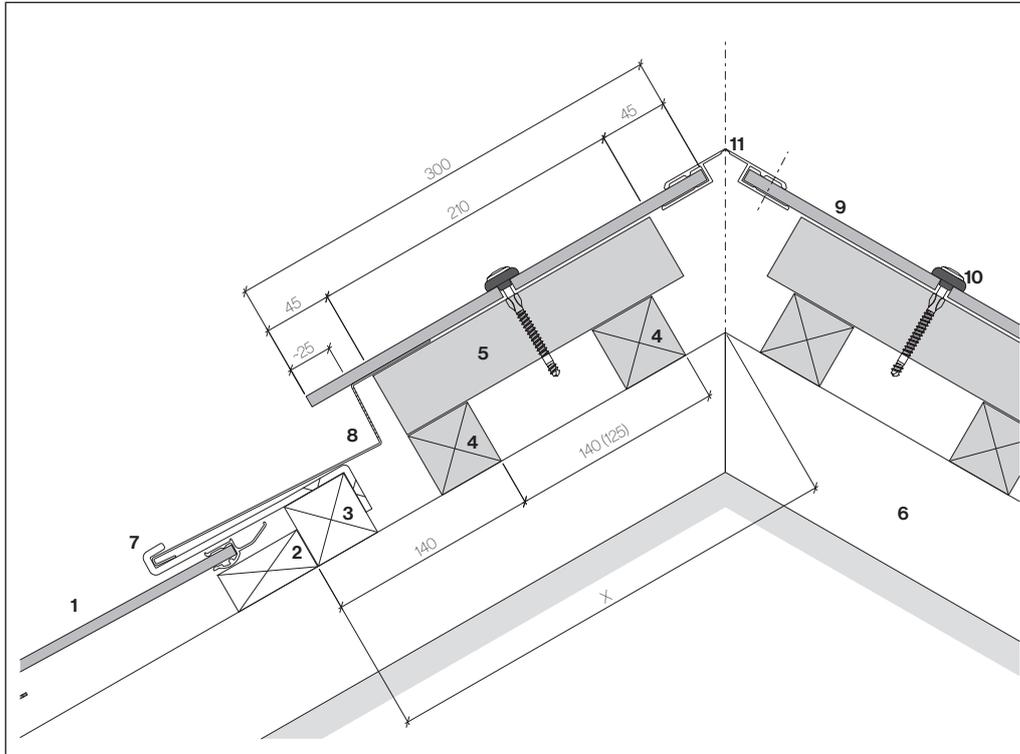
Inlet panel



In order to use inlet panels as natural conductors for lightning protection systems, the upper contact surface must be at least 70 mm. Seal the side joints of the inlet panels.

- 1 Aura 2 extension panel with plug-in profile, white
- 2 Screw T30 SCFW-S-BAZ 6.5×77 mm
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Counter battens
- 6 Inlet panel with ventilation min. 400 cm²/m
- 7 Gutter
- 8 Panel supports

Ridge design with ridge panel and ridge connection panel, perforated



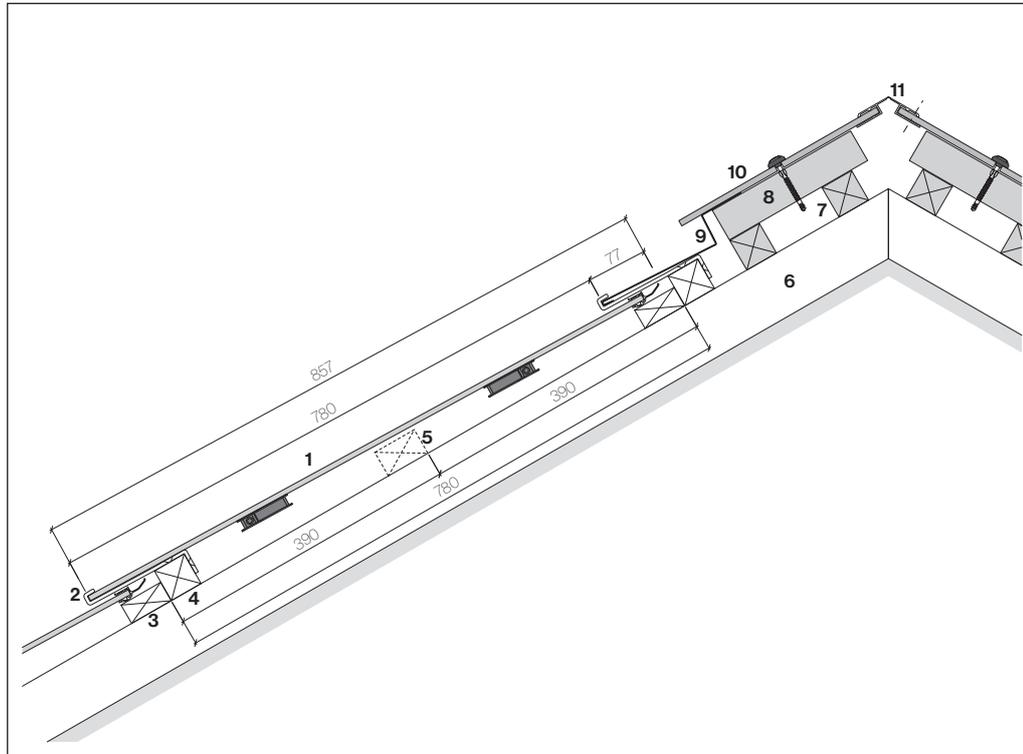
Inclination	Mass X
15°	340
20°	330
25°	320
30°	310
35°	300
40°	280

At an inclination of 45°, the dimension X is 265 mm. The distance of the upper ridge ventilation batten (4) must be reduced from 140 mm to 125 mm. The dimension of the lower ridge ventilation batten (4) remains 140 mm to the batten 28 × 60 mm.

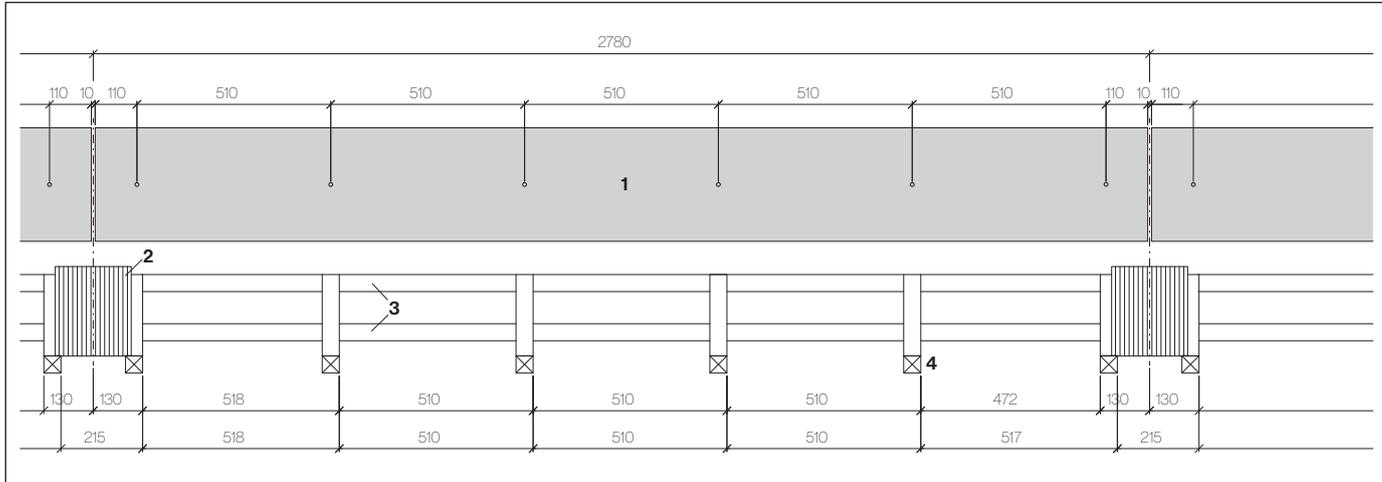
- 1 Sunskin Roof Lap module
- 2 Roof battens 28×70 mm
- 3 Roof battens 45×45 mm
- 4 Ridge ventilation battens 45×45 mm
- 5 Ridge ventilation wood 45×45×210 mm
- 6 Counter battens
- 7 Module holders
- 8 Perforated ridge connection panel
- 9 Ridge panel
- 10 Screw T30 SCFW-S-BAZ 6.5×77 mm
- 11 Ridge profile, with migration protection (one rivet 4.0×15 K9 mm per profile)

The ridge ventilation battens must be cut to size and pre-drilled. The unperforated ridge panels are pre-drilled with 9.5 mm (remove drilling dust). The minimum ridge opening angle is 90°.

Ridge design with ridge panel and ridge connection panel, perforated



- 1 Sunskin Roof Lap module
- 2 Module holders
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Intermediate batten 36×60 mm
- 6 Counter battens
- 7 Ridge ventilation battens 45×45 mm
- 8 Ridge ventilation wood 45×45×210 mm
- 9 Perforated ridge connection panel
- 10 Ridge panels
- 11 Ridge profile, with migration protection (one rivet 4.0×15 K9 mm per profile)

Arrangement ridge formation with ridge panel 2770×300 mm

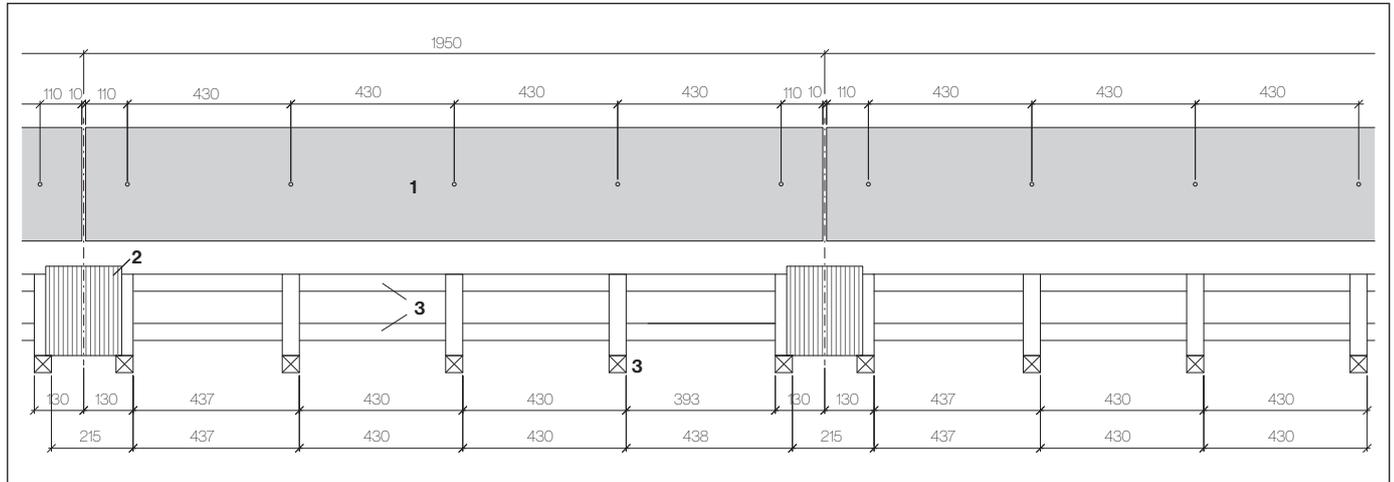
The Aura 2 ridge panel can be used up to a reference height of 1400 m. From a reference height of 1400 m with a roof pitch of min. 15°, use the Strackort ridge for snowy areas. The unperforated ridge panels are pre-drilled with 9.5 mm (remove drilling dust).

Burr formation

The ridge solution with Aura 2 ridge panels must not be used for burr formation! In the case of a roof formation with burr, the ridge or burr formation can be created with a universal Strackort.

- 1 Ridge panel 2770×300 mm
- 2 Ridge joint panel
- 3 Ridge ventilation battens 45×45 mm
- 4 Ridge ventilation wood 45×45×210 mm

Arrangement ridge formation with ridge panel 1940×300 mm, reference height ≤1000 m



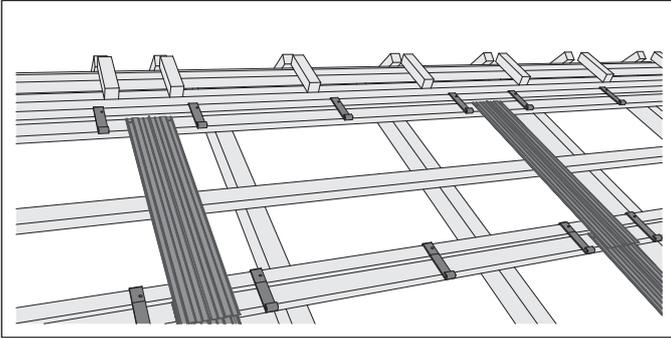
The unperforated ridge panels are pre-drilled with 9.5 mm (remove drilling dust).

Burr formation

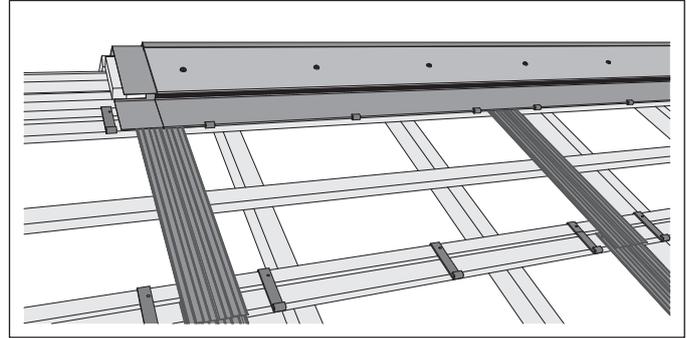
The ridge solution with Aura 2 ridge panels must not be used for burr formation!
 In the case of a roof formation with burr, the ridge or burr formation can be created with a universal Strackort.

- 1 Ridge panel 1940×300 mm
- 2 Ridge joint panel
- 3 Ridge ventilation battens 45×45 mm
- 4 Ridge ventilation wood 45×45×210 mm

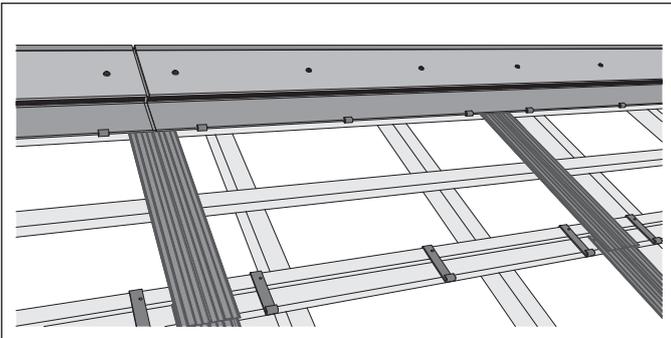
Assembly ridge connection panel



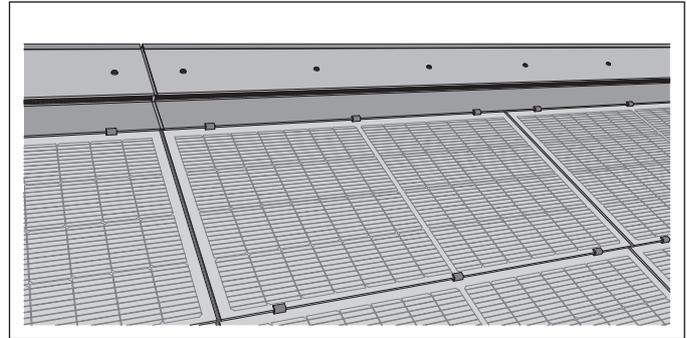
Mount the module holder for ridge connection panel.



Hook the ridge connection panels onto the module holder and fasten to the battens.

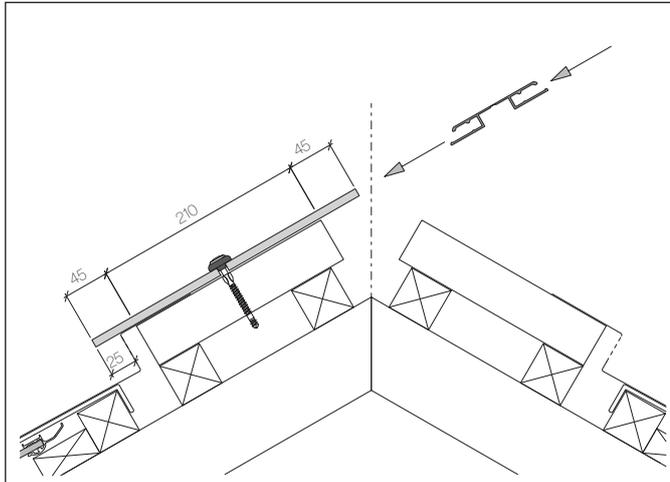


Pre-drill and mount ridge panels.

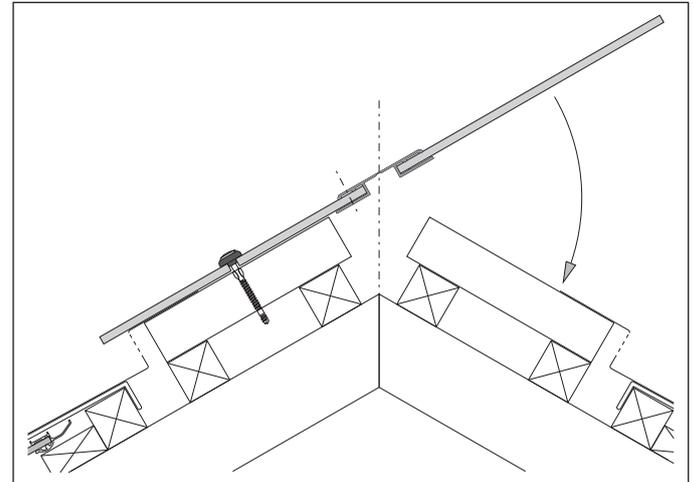


Mount Sunskin Roof Lap modules from top to bottom.

Assembly ridge profile

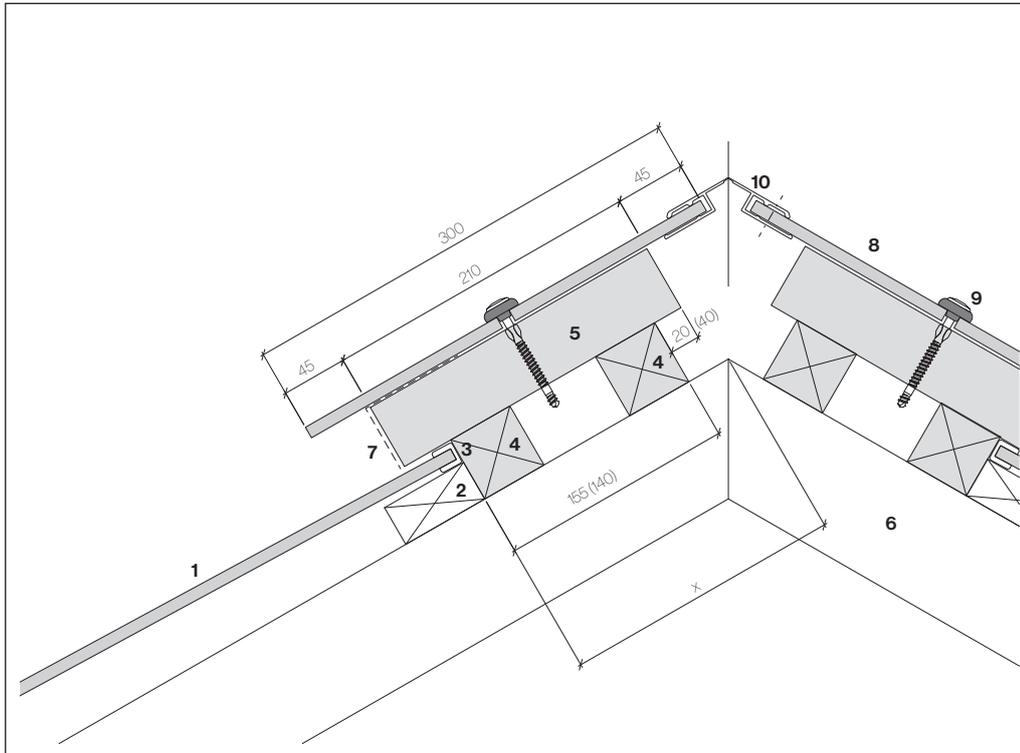


1. Position ridge joint panels and mount ridge panels on one side, panel joint 10 mm.
2. The projection above the ridge wood is 45 mm.
3. Attach the ridge profile.
4. Slide the ridge panel into the ridge profile on the opposite side and bend it.
5. Fasten the ridge panel.
6. Secure ridge profile against shifting with one 4.0x15 K9 rivet per ridge profile.



For ridge formation with Aura 2 ridge panels, the panel joints must run on both sides (in mirror image) over the ridge. The profile length always corresponds to the panel width. Pre-drill Aura 2 ridge panels with 9.5 mm and remove drill dust.

Ridge formation with ridge panel on Aura 2 extension panel



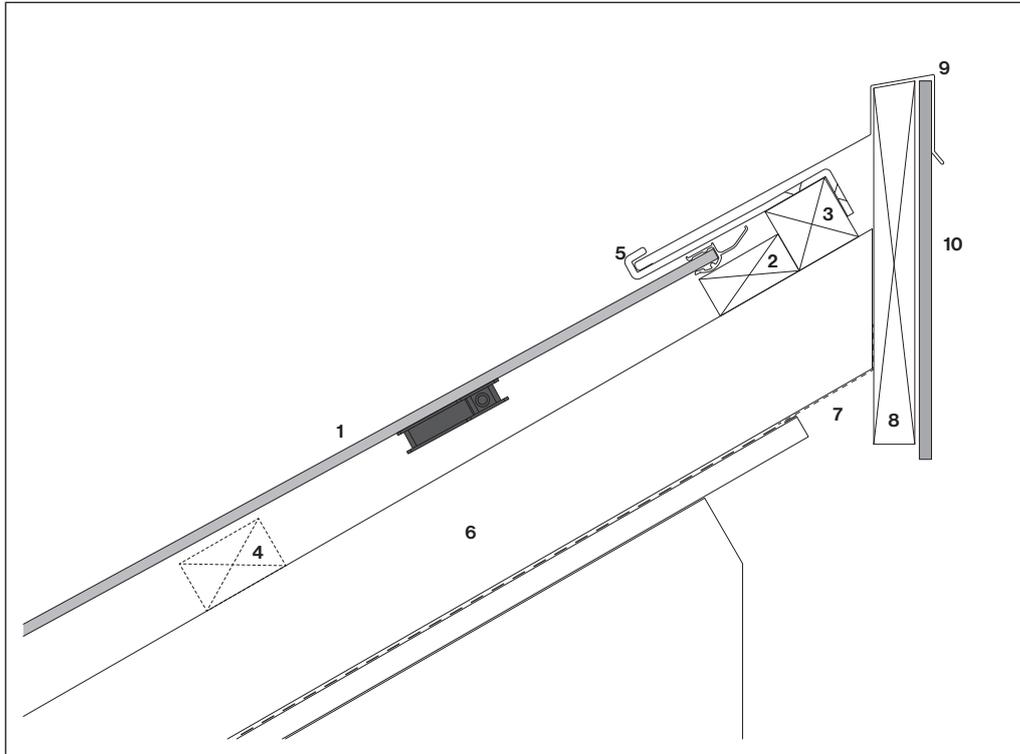
Inclination	Mass X
15°	215
20°	205
25°	195
30°	185
35°	170
40°	155

At an inclination of 45°, the distance of the ridge ventilation batten (4) must be reduced from 155 mm to 140 mm. The protrusion of the ridge ventilation wood (5) is increased from 20 to 40 mm.

- 1 Aura 2 extension panel
- 2 Roof battens 28x70 mm
- 3 Plug-in profile PP, white
- 4 Ridge ventilation battens 45x45 mm
- 5 Ridge ventilation wood 45x45x210 mm
- 6 Counter battens
- 7 Ventilation profile
- 8 Ridge panel
- 9 Screw T30 SCFW-S-BAZ 6.5x77 mm
- 10 Ridge profile with migration protection (one rivet 4.0x15 K9 mm per profile)

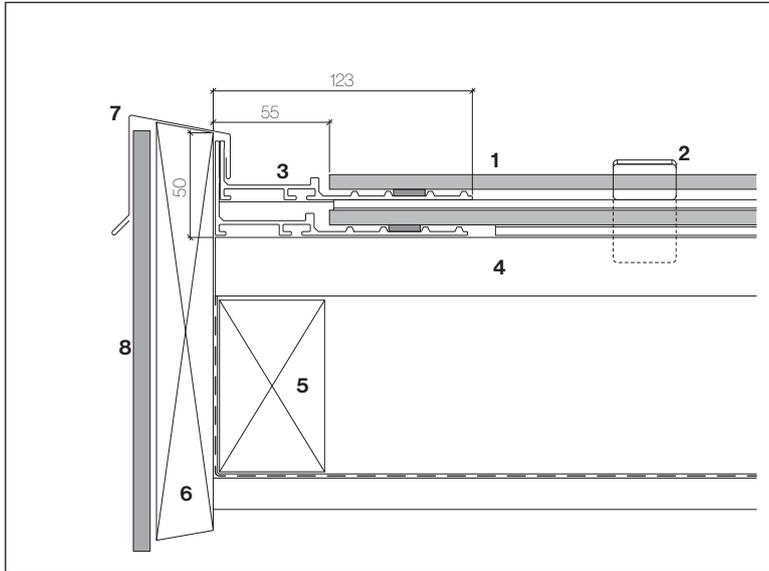
The ridge ventilation battens must be cut to size and pre-drilled. The unperforated ridge panels are pre-drilled with 9.5 mm (remove drilling dust). The minimum ridge opening angle is 90°.

Pent roof with sheet metal cover



- 1 Sunskin Roof Lap module
- 2 Roof battens 28×70 mm
- 3 Roof battens 45×45 mm
- 4 Intermediate batten 36×60 mm
- 5 Module holder
- 6 Counter battens
- 7 Ventilation profile
- 8 Front panel
- 9 Sheet metal cover
- 10 Largo or Plancolor 8 mm

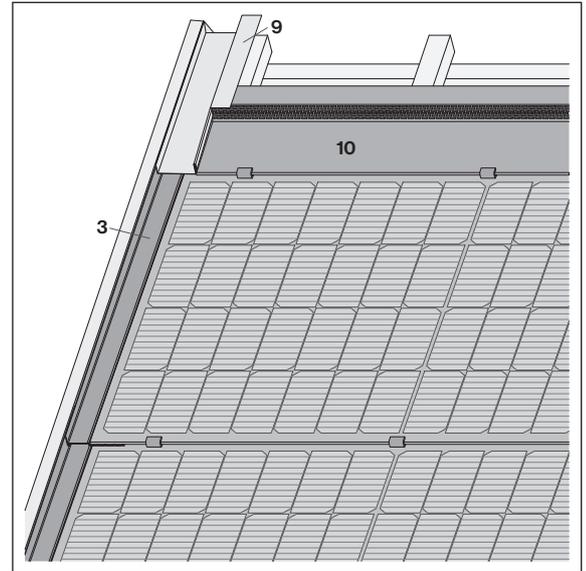
On-site training with side connection profile, Sunskin Roof Lap



Due to the overlap, the side connection profiles are installed with an inclination of ~2 mm.

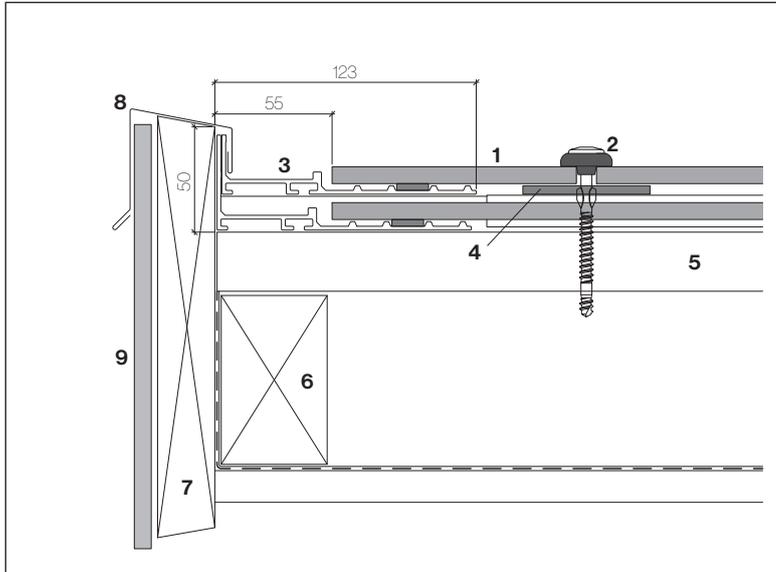
- | | |
|---------------------------|--|
| 1 Sunskin Roof Lap module | 7 Sheet metal cover |
| 2 Module holders | 8 Largo or Plancolor 8 mm |
| 3 Side connection profile | 9 Ridge end panel, customisation by customer |
| 4 Roof batten 28×70 mm | 10 Perforated ridge end panel |
| 5 Counter battens | |
| 6 Location board | |

Ridge end panel provided by customer



Example: Ridge end panel for transition from side connection profile to ridge connection panel (customised by customer).

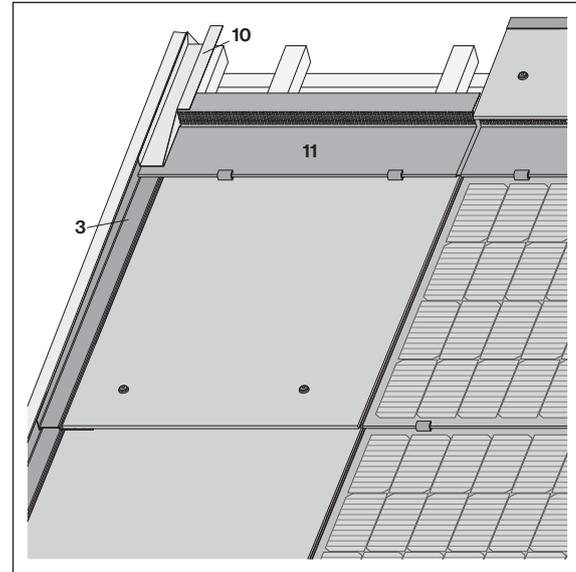
Site formation with side connection profile, Aura 2 extension panel



Due to the overlap, the side connection profiles are installed with an inclination of ~2 mm.

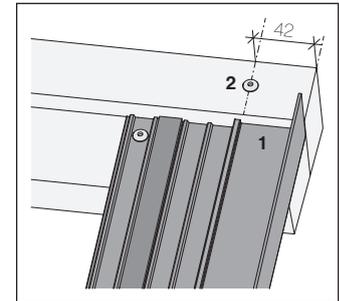
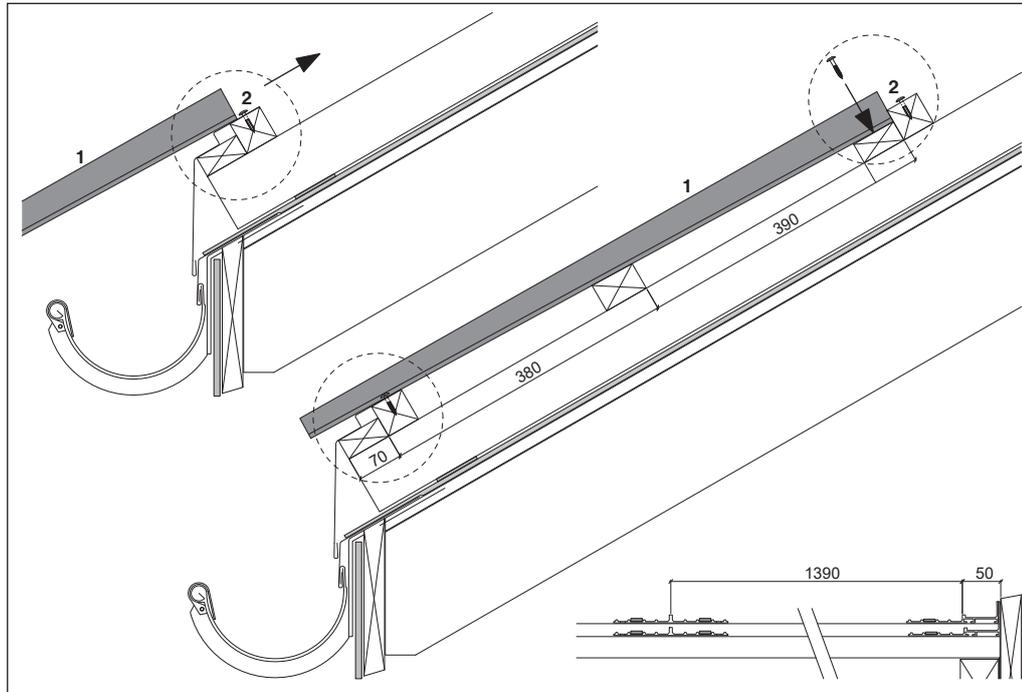
- | | |
|---------------------------|--------------------------------------|
| 1 Aura 2 extension panel | 7 Location board |
| 2 Screw T30 | 8 Sheet metal cover |
| SCFW-S-BAZ 6.5×77 mm | 9 Largo or Plancolor 8 mm |
| 3 Side connection profile | 10 Ridge end panel, customisation |
| 4 Panel supports | by customer |
| 5 Roof batten 28×70 mm | 11 Perforated ridge connection panel |
| 6 Counter battens | |

Ridge end panel provided by customer

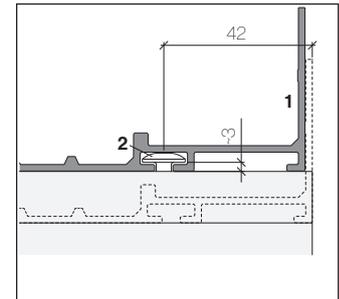


Example: Ridge end panel for transition from side connection profile to ridge connection panel (customised by customer).

Installation of side connection profile



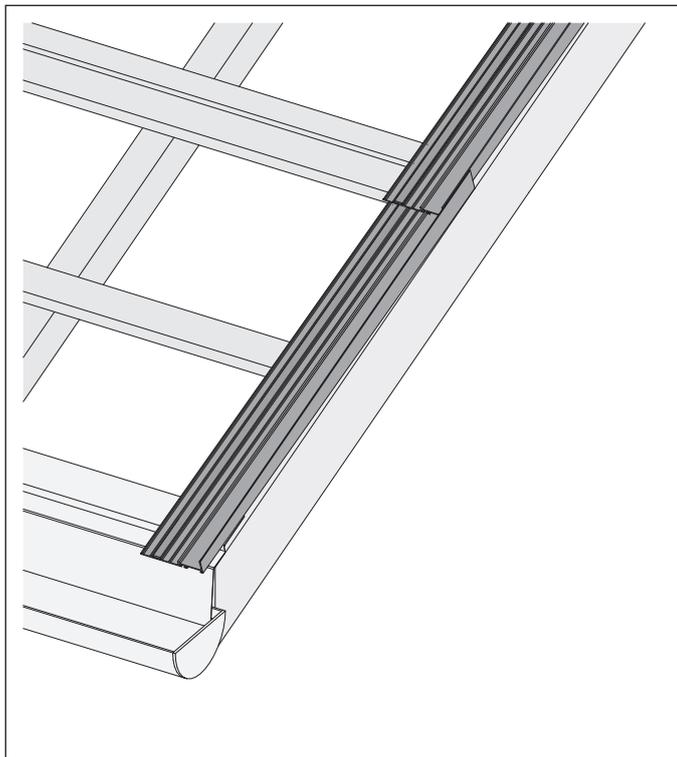
The lateral fastening distance is 42 mm.



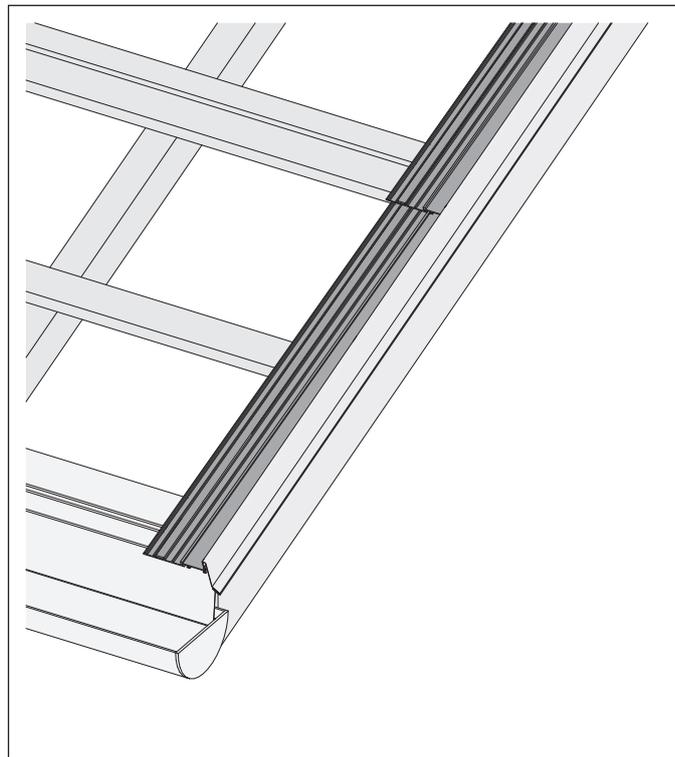
- 1 Side connection profile
- 2 Fastening screws
T20 4.8x30 mm

For the bottom fastening of the side connection profiles, a screw is pre-installed in the middle of the 45 ×45 mm batten. The lateral distance is 42 mm. The screw head protrudes over the batten by approx. 3 mm. Pull the side connection profile up through the screw guide and fasten it through the hole provided.

On-site training with side connection profile

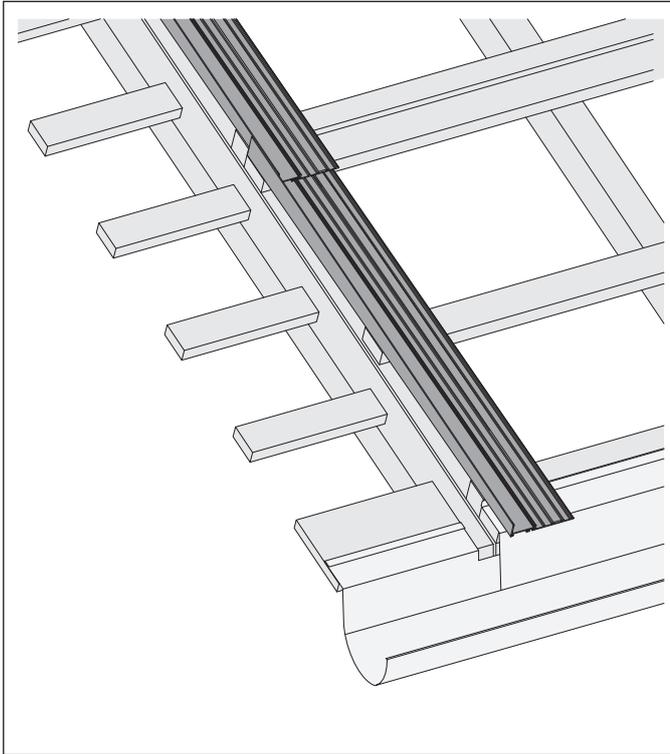


Due to the overlap, the side connection profiles are installed with an inclination of ~ 2 mm.

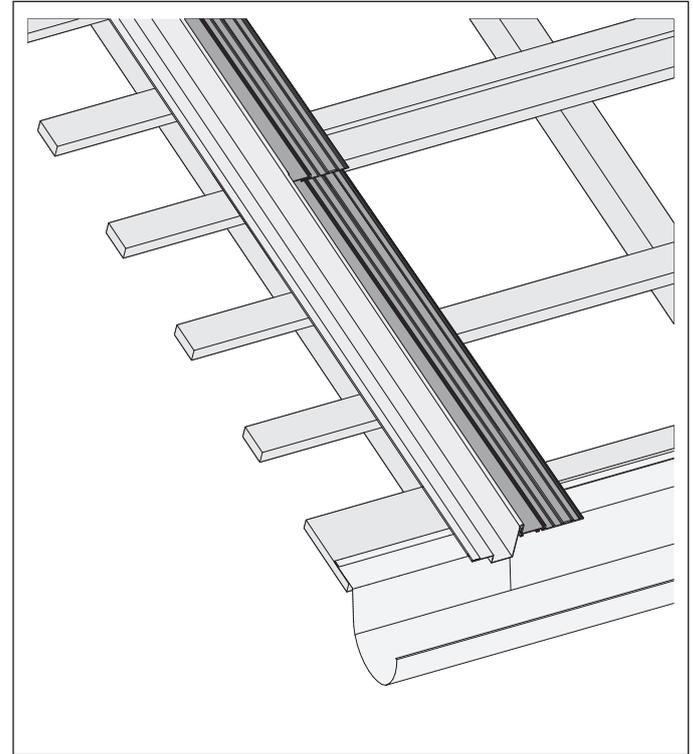


Mount the site termination/drip panel on the side connection profile (from the customer).

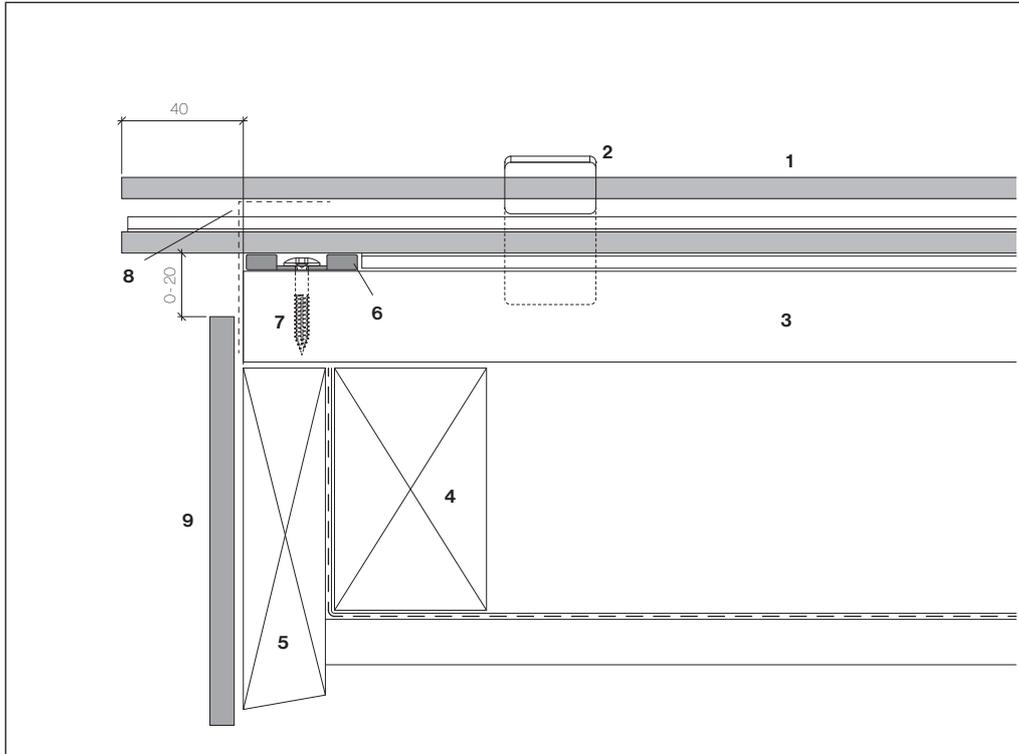
Side connection profile as transition to other covering materials



Due to the overlap, the side connection profiles are installed with an inclination of ~ 2 mm.



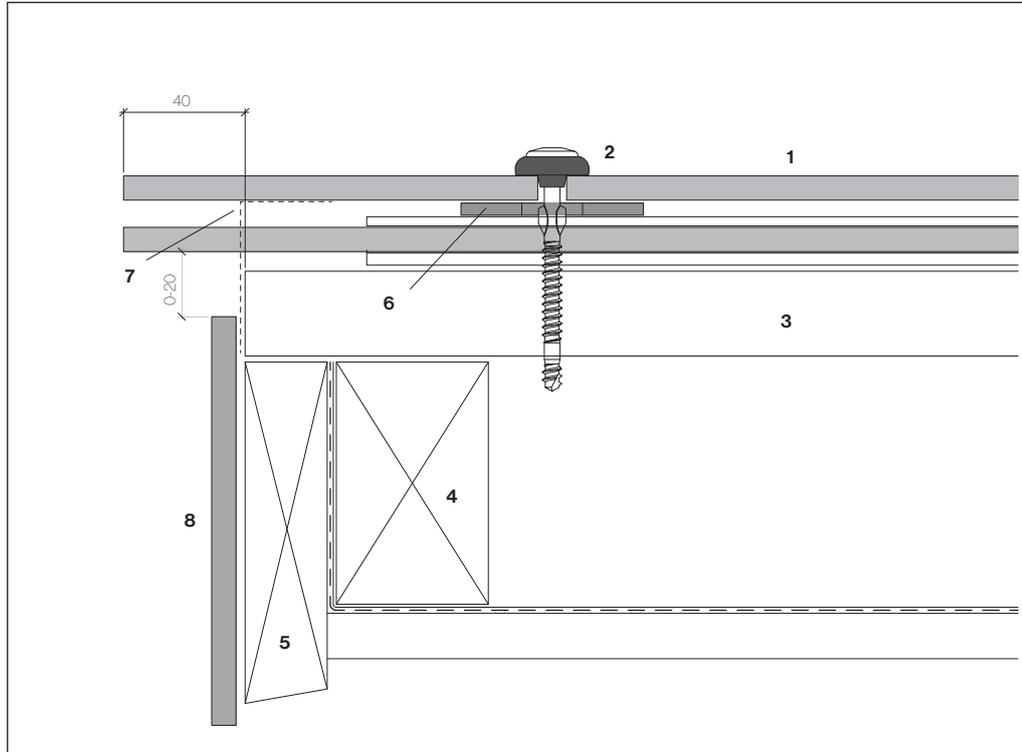
Mount the transition panel on the side connection profile (from the customer).

Site formation overhanging, with site ventilation, with Sunskin Roof Lap**Site ventilation**

Install the ventilation profiles continuously during the installation of the Sunskin Roof Lap modules (mounting path). Alternatively, the ventilation profiles can also be inserted from the side. The length of the ventilation profiles is min. 785 mm.

- 1 Sunskin Roof Lap module
- 2 Module holders
- 3 Roof battens 28×70 mm
- 4 Counter battens
- 5 Location board
- 6 Spacer panels with black slot, 38×50×4 mm, prevent the Sunskin Roof Lap modules from sliding sideways
- 7 Fastening screws T20 4.8×30 mm
- 8 Ventilation profile
- 9 Largo or Plancolor 8 mm

Site formation overhanging, with on-site ventilation, with Aura 2 extension panels

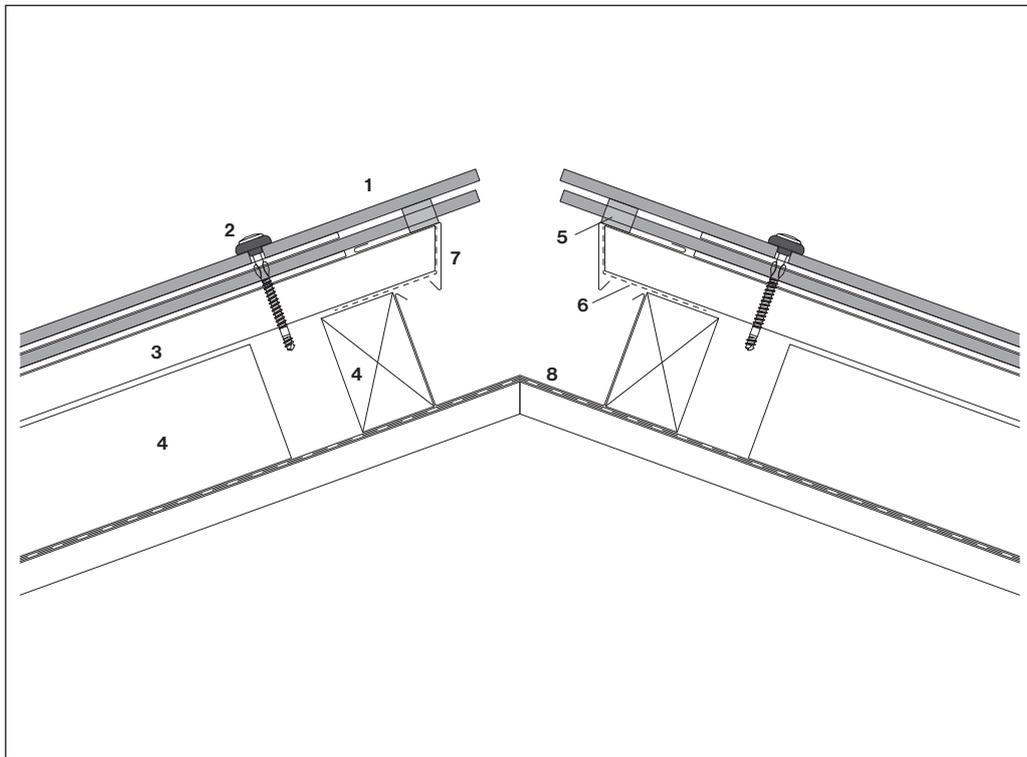


Site ventilation

The ventilation profiles can be mounted before mounting the Aura 2 extension panels. The length of the ventilation profiles is min. 785 mm.

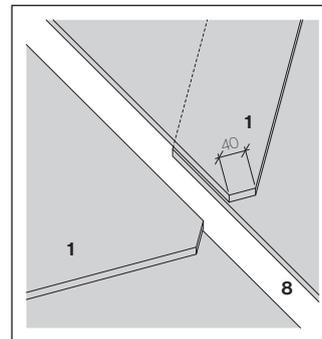
- 1 Aura 2 extension panel
- 2 Screw T30
SCFW-S-BAZ 6.5×77 mm
- 3 Roof battens 28×70 mm
- 4 Counter battens
- 5 Location board
- 6 Panel supports
- 7 Ventilation profile
- 8 Largo or Plancolor 8 mm

Burr formation with gutter



The 45 × 45 mm roof battens are notched out in the area of the batten protection panels at the height of the 28 × 70 mm roof battens.

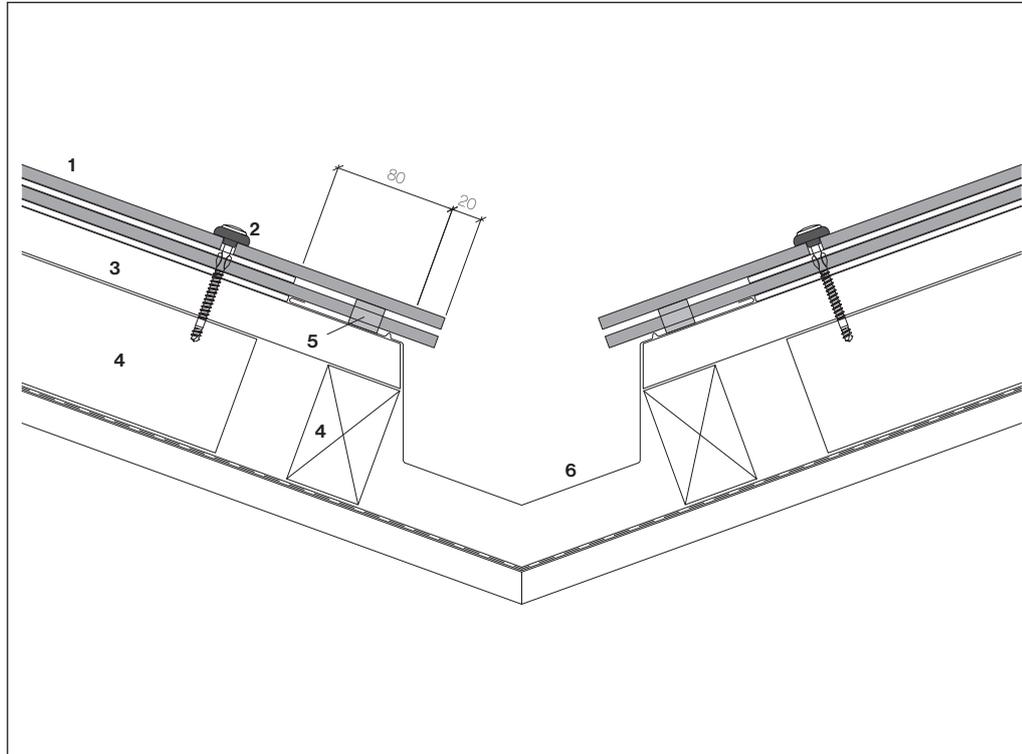
Cutting back bottom corner



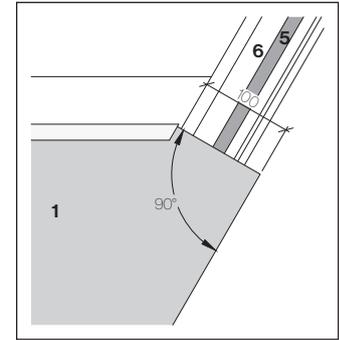
Cut back the cut burr panel at the bottom corner (40 mm). The upper panel width must be at least 200 mm. If this is not possible, the last whole panel must be cut back by the missing dimension.

- 1 Aura 2 extension panel
- 2 Screw T30
SCFW-S-BAZ 6.5×77 mm
- 3 Roof battens 28×70 mm
- 4 Counter battens
- 5 Sealing tape, 20×5-12 mm
- 6 Ventilation profile
- 7 Batten protection panel
- 8 Burr gutter

Gutter formation



Cutting back top corner

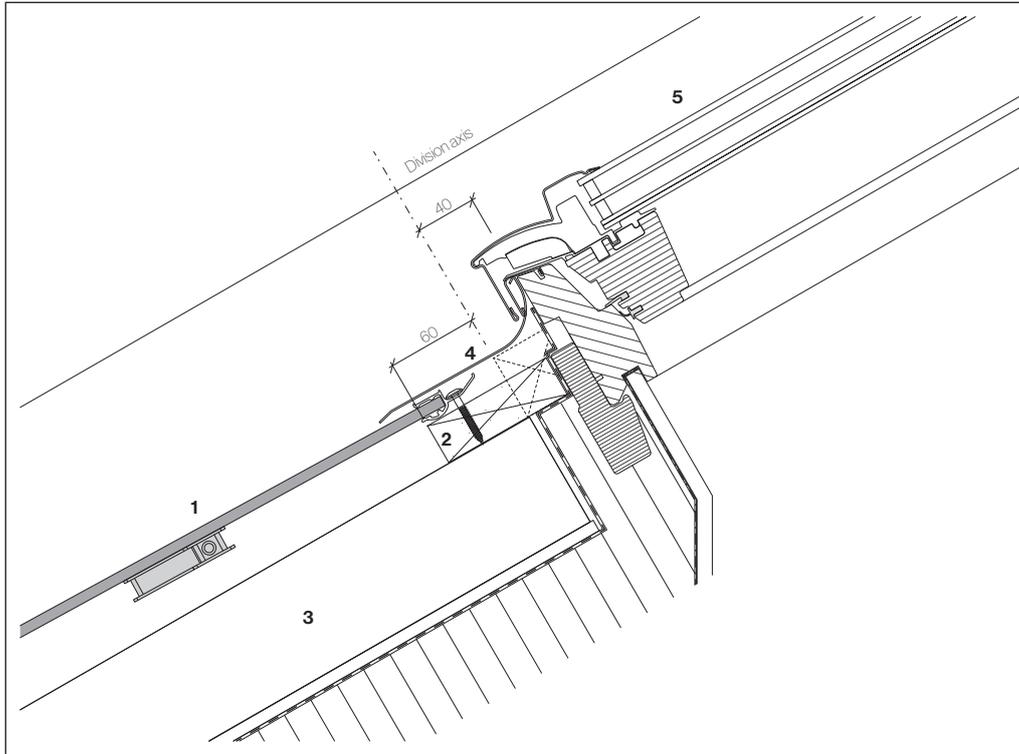


Cut back the cut gutter panel at the upper corner at an angle of 90° to the gutter. The lower panel width must be at least 200 mm. If this is not possible, the last whole panel must be cut back by the missing dimension.

- 1 Aura 2 extension panel
- 2 Screw T30
SCFW-S-BAZ 6.5×77 mm
- 3 Roof battens 28×70 mm
- 4 Counter battens
- 5 Sealing tape, 20×5-12 mm
- 6 Gutter

The 45×45 mm roof battens are notched out in the area of the gutter trough at the height of the 28 ×70 mm roof battens.

Roof window, vertical cut, bottom connection



The Sunskin Roof Lap modules must also be fastened at the top. Use screws with seal. Minimum roof pitch according to roof window supplier. On the drawing the VELUX roof window is shown as an example.

Velux**Type SK25, 114x55 cm
(Standard installation height)**

- Adapted flashing
XCH PV EDL SK25 EL
with special sheeting for
the Sunskin Roof Lap

**Type SK06, 114x118 cm
(Standard installation height)**

- Adapted flashing
XCH PV EDL SK06 EL
with special flashing for
the Sunskin Roof Lap

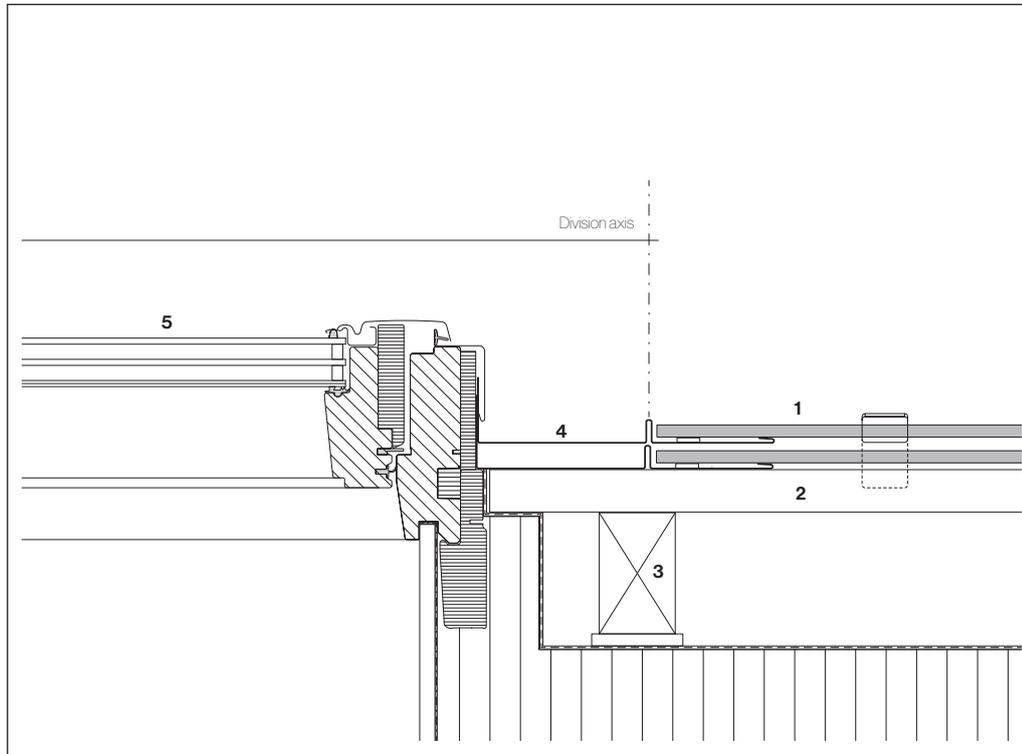
**Type SK06 (114x118 cm)
(recessed installation)**

- Adapted flashing
XCH PV EDN SK06 EL
with special flashing for
the Sunskin Roof Lap.

www.velux.ch/pv

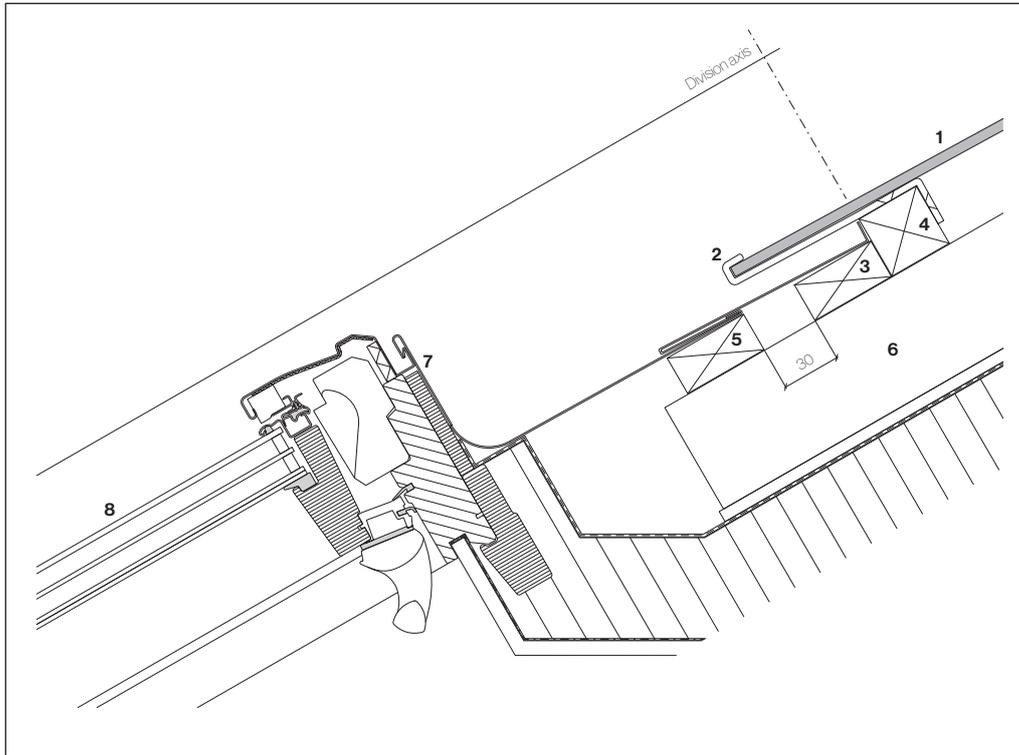
- 1 Sunskin Roof Lap module
- 2 Roof batten 28x95 mm
- 3 Counter battens
- 4 Cover frames
- 5 Roof windows

Roof window, horizontal cut



- 1 Sunskin Roof Lap module
- 2 Roof battens 28×70 mm
- 3 Counter battens
- 4 Cover frames
- 5 Roof windows

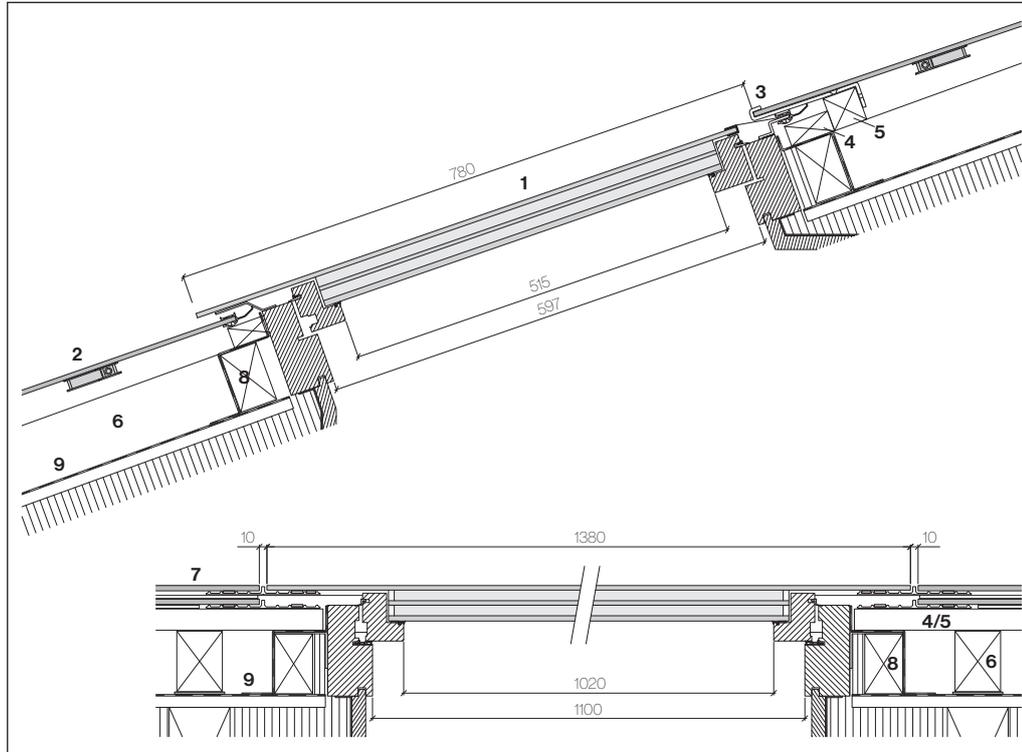
Roof pitch $\geq 15^\circ$, with side adapter panels for Sunskin Roof Lap modules. Minimum roof pitch according to roof window supplier. On the drawing the VELUX roof window is shown as an example.

Roof window, vertical cut, top connection

- 1 Sunskin Roof Lap module
- 2 Module holders
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Pressure batten 28×70 mm
- 6 Counter battens
- 7 Flashing with extension panel
- 8 Roof windows

Minimum roof pitch according to roof window supplier. On the drawing the VELUX roof window is shown as an example.

Wenger roof window for the Sunskin Roof Lap type L in-roof system

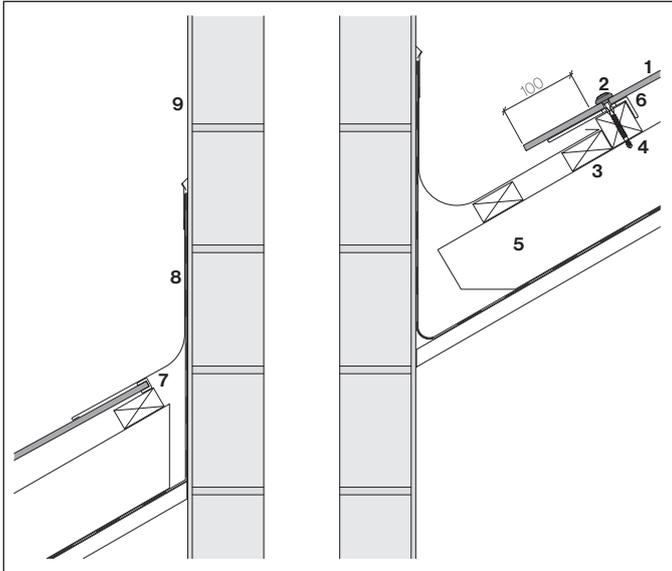


For advice on specifications, design options and sales, please contact:

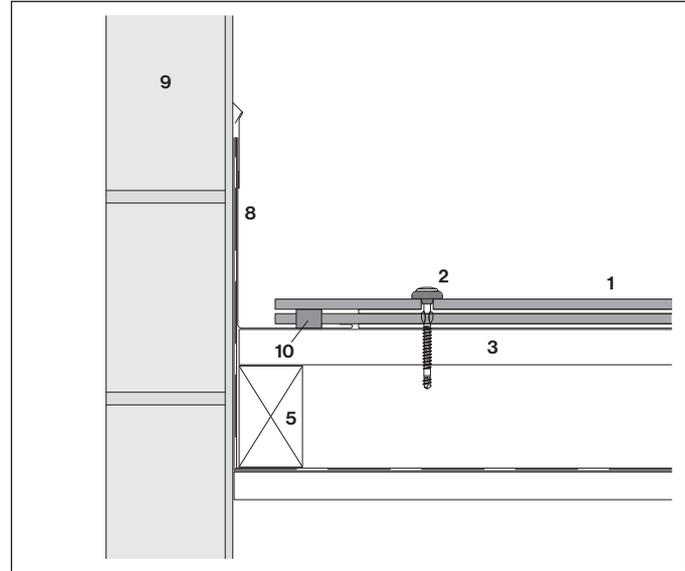
Wenger Fenster AG
 Chrümigstrasse 32
 3752 Wimmis

- 1 Roof windows
- 2 Sunskin Roof Lap module
- 3 Module holders
- 4 Roof battens 28×70 mm
- 5 Roof battens 45×45 mm
- 6 Counter battens
- 7 Joint profile
- 8 Roof window auxiliary frame
- 9 Subroof

Chimney connection, vertical cut



Chimney connection, horizontal cut



For larger extensions, the lower Aura 2 extension panels must also be fastened.

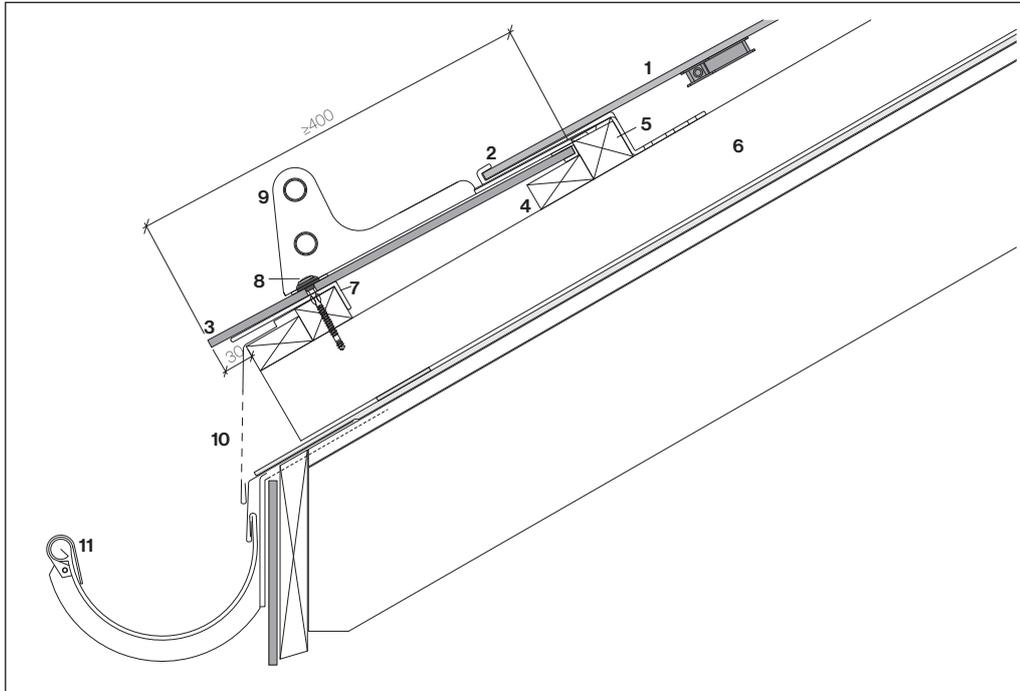
Cut back top corners on Aura 2 extension panels.

- 1 Aura 2 extension panel
- 2 Screw T30
SCFW-S-BAZ 6.5×77 mm
- 3 Roof battens 28×70 mm

- 4 Roof battens 45×45 mm
- 5 Counter battens
- 6 Panel supports
- 7 Plug-in profile

- 8 Metal edging
- 9 Chimney
- 10 Sealing tape, 20×5-12 mm

Snow guard at inclination $\geq 15^\circ$, vertical cut mounted on Aura 2 extension panels



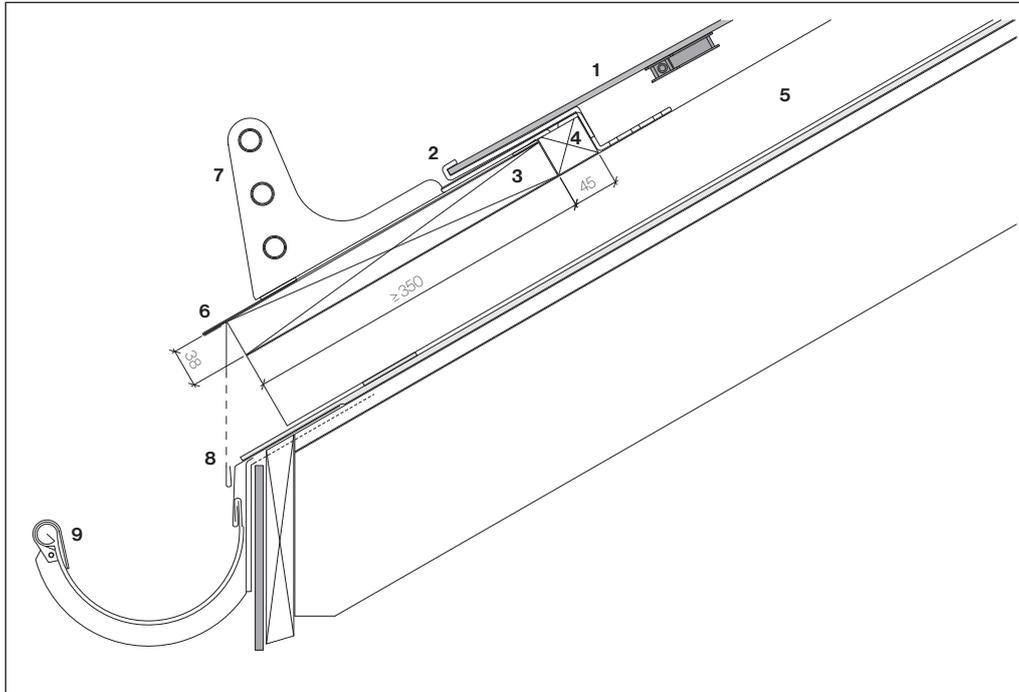
Fasten the snow guard support with four countersunk head screws 8.0×80 mm. Unclip the 45×45 mm batten and the plug-in profile at the attachment point! The minimum height of the Aura 2 extension panel is 400 mm.

Snow clearance

If the calculated snow load is reached or exceeded, a roof must be cleared. As a rule, it is advisable to relieve the load on both sides of the roof as evenly as possible and remove the snow in sections and alternately between the sides of the roof. The applicable safety regulations must be observed.

A panel support must be mounted under each snow guard support for pressure safety.

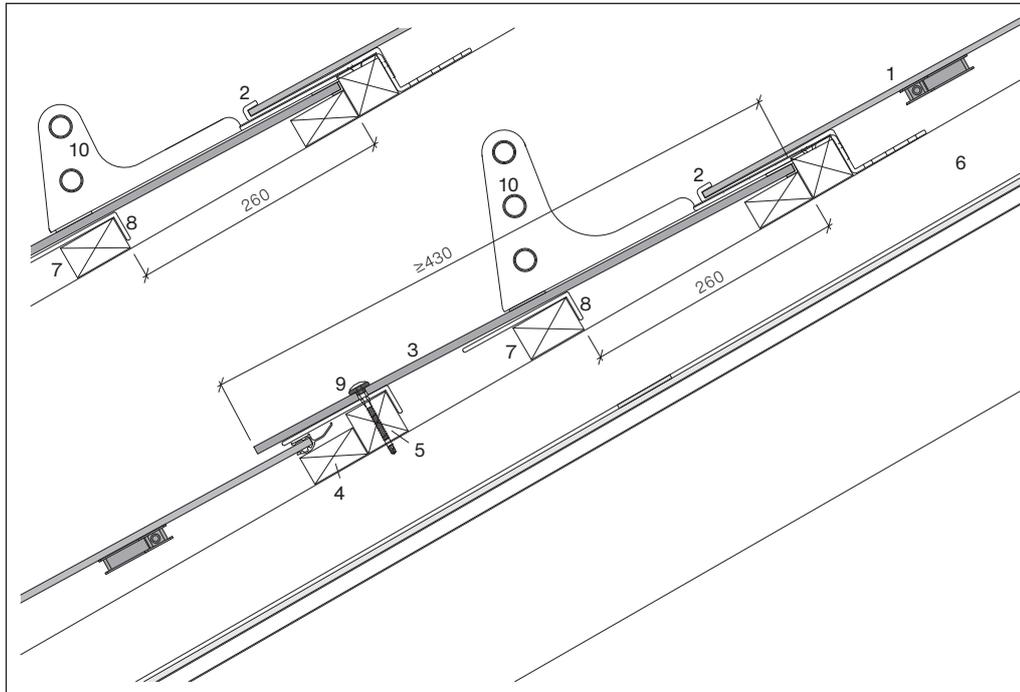
- 1 Sunskin Roof Lap module
- 2 Module holders
- 3 Aura 2 extension panel
- 4 Roof batten 28×70 mm
- 5 Roof batten 45×45 mm
- 6 Counter battens
- 7 Panel supports
- 8 Screw T30
SCFW-S-BAZ 6.5×77 mm
- 9 Snow guard support, offset,
for 2 pipes, 1/2", chrome steel,
black powder coated
- 10 Inlet panel with ventilation
min. 400 cm²/m
- 11 Gutter

Snow guard at inclination $\geq 25^\circ$, vertical cut mounted on inlet panel

- 1 Sunskin Roof Lap module
- 2 Module holders
- 3 Base board, thickness 38 mm
- 4 Roof battens 45×45 mm
- 5 Counter battens
- 6 Sheet metal, provided by customer
- 7 Snow guard support, offset, for 3 pipes, 1/2", chrome steel, black powder coated
- 8 Inlet panel with ventilation min. 400 cm²/m
- 9 Gutter

Fasten the snow guard support with four countersunk head screws 8.0×80 mm. Unclip the 45×45 mm batten at the attachment point!

Snow guard, vertical cut in the roof surface

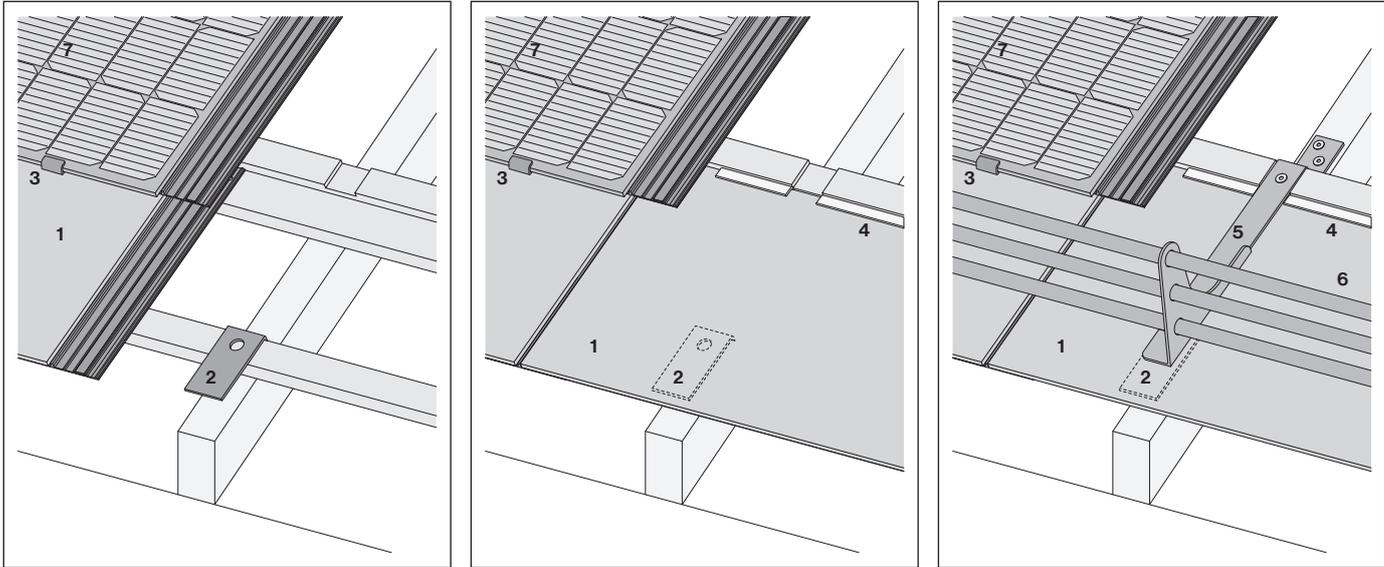


The batten distance may vary depending on the height of the Aura 2 extension panels. If the panel height of 870 mm is reduced by adjustments, the layering of the intermediate batten/pressure batten must be adjusted due to the loss of inclination.

- 1 Sunskin Roof Lap module
- 2 Module holders
- 3 Aura 2 extension panel
- 4 Roof batten 28×70 mm
- 5 Roof batten 45×45 mm
- 6 Counter battens
- 7 Pressure batten 28×70 mm, adjust the batten height depending on the panel format
- 8 Panel supports
- 9 Screw T30 SCFW-S-BAZ 6.5×77 mm
- 10 Snow guard support, offset, for 2 or 3 pipes, 1/2", chrome steel, black powder coated

Fasten the snow guard support with four countersunk head screws 8.0×80 mm. Unclip the 45×45 mm batten and the plug-in profile at the attachment point! The minimum height of the Aura 2 extension panel is 430 mm.

Snow guard, horizontal cut

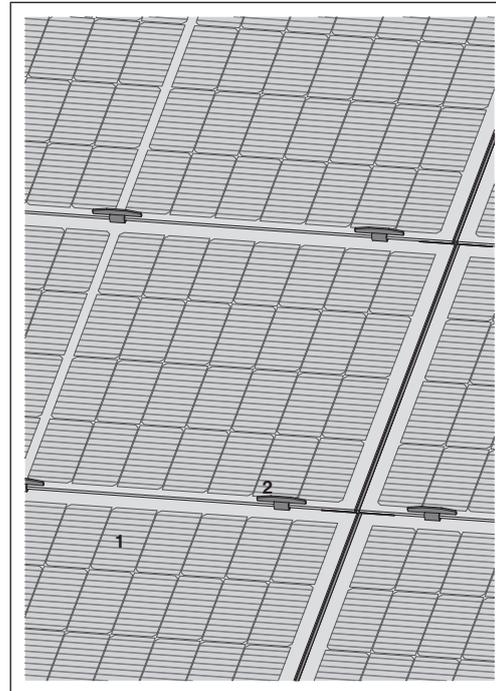
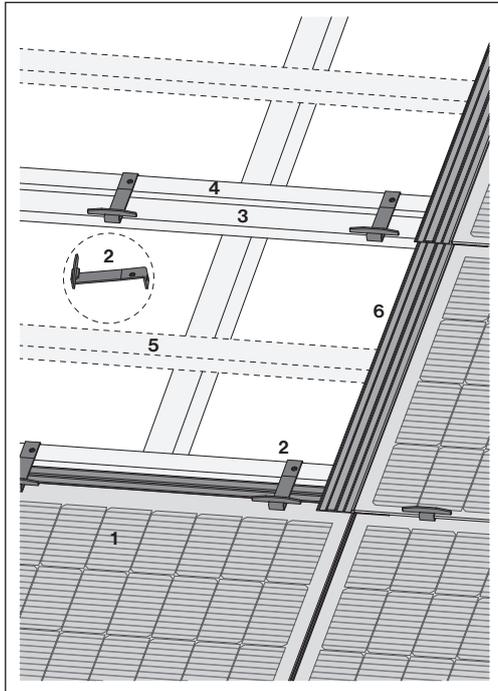


Unclip the batten and the plug-in profile at the attachment point of the snow guard support. A panel support must be mounted under each snow guard support for pressure safety.

- | | |
|--------------------------|------------------------------|
| 1 Aura 2 extension panel | 5 Snow guard support, offset |
| 2 Panel supports | 6 Snow guard pipe |
| 3 Module holders | 7 Sunskin Roof Lap module |
| 4 Plug-in profile | |

The snow guard supports must be installed before the upper joint profiles are installed.

Sunskin Roof Lap snow retainer



On request:
Solar Technical Service
(solar@ch.swisspearl.com).

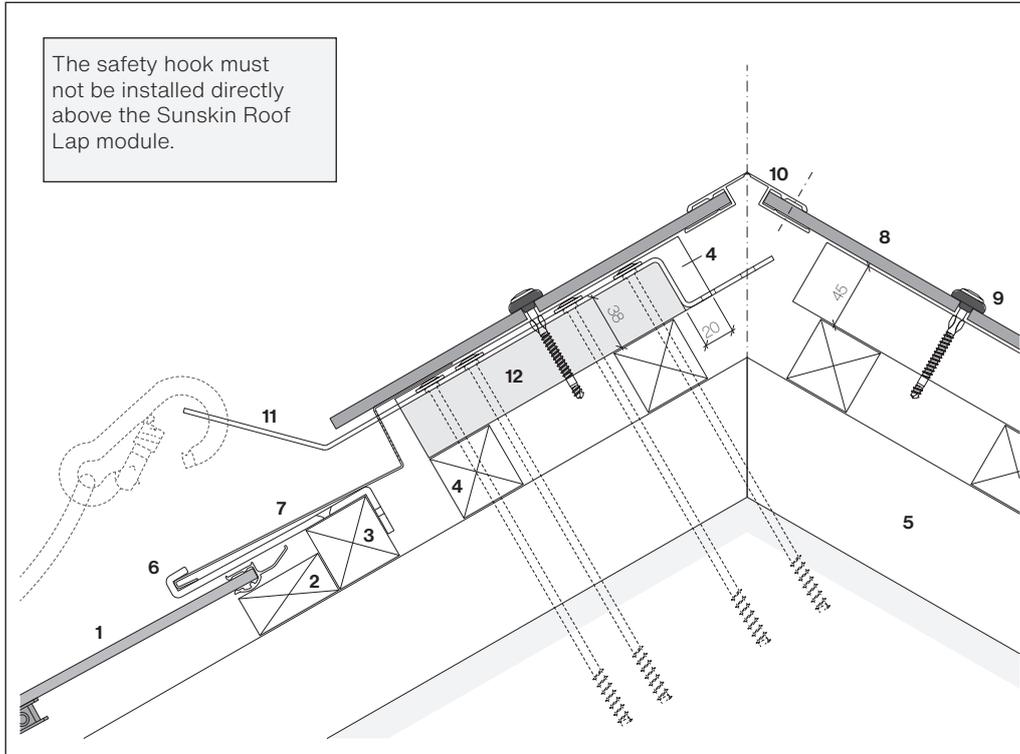
Sunskin Roof Lap snow retainer reduces slipping, an additional snow guard is required on large snow surfaces.

- 1 Sunskin Roof Lap module
- 2 Sunskin Roof Lap snow retainer
- 3 Roof batten 28x70 mm
- 4 Roof batten 45x45mm
- 5 Roof batten 36x60 mm (optional)
- 6 Aluminium joint profile, black anodised with EPDM sealing tape

Fasten the snow retainer with two fastening screws 5.0x50 mm each

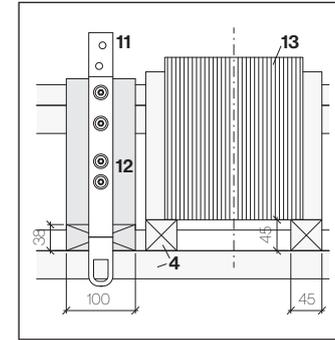
Safety hook SDA/Solar on ridge

The safety hook must not be installed directly above the Sunskin Roof Lap module.



The minimum screw-in depth of the four supplied wood screws in the load-bearing component (rafters) is 100 mm. Not suitable for rafter insulation. The ridge connection panel is notched out in the area of the safety hook.

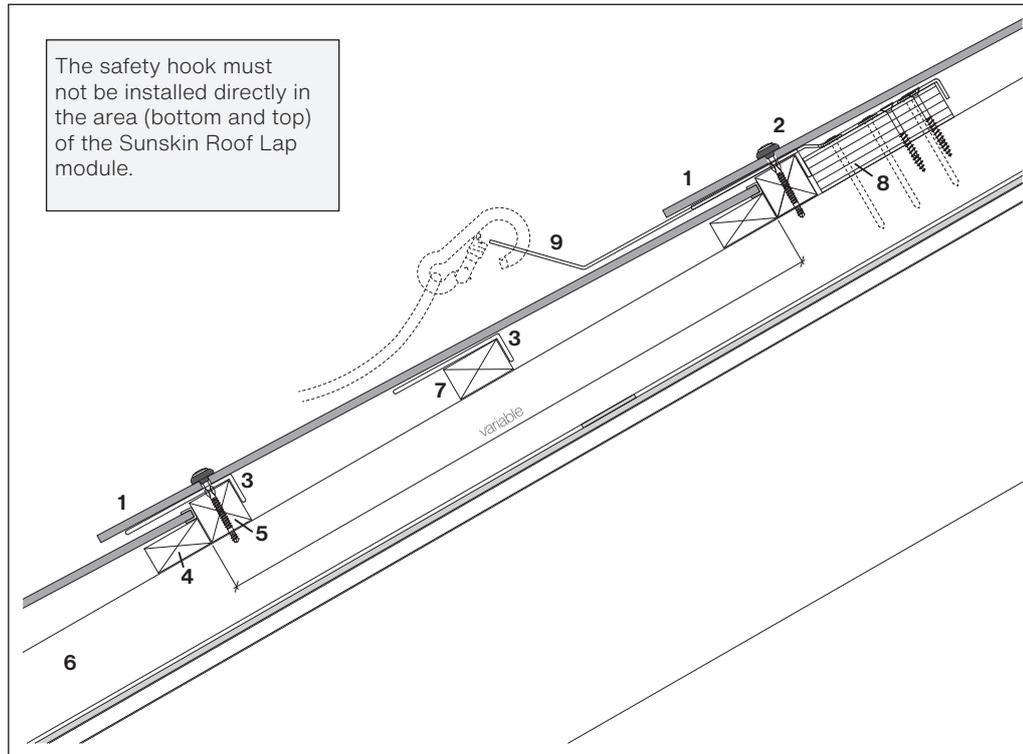
Assembly wood



Assembly wood for safety hook 38×100 mm, Length 195 mm

- 1 Sunskin Roof Lap module
- 2 Roof battens 28×70 mm
- 3 Roof battens 45×45 mm
- 4 Ridge ventilation battens 45×45 mm
- 5 Counter battens
- 6 Module holder
- 7 Perforated ridge connection panel
- 8 Ridge panel
- 9 Screw T30 SCFW-S-BAZ 6.5×77 mm
- 10 Ridge profile
- 11 Safety hooks SDA/Solar
- 12 Assembly wood 38×100×195 mm
- 13 Ridge joint panel

Safety hook TS DH EASY in the roof area

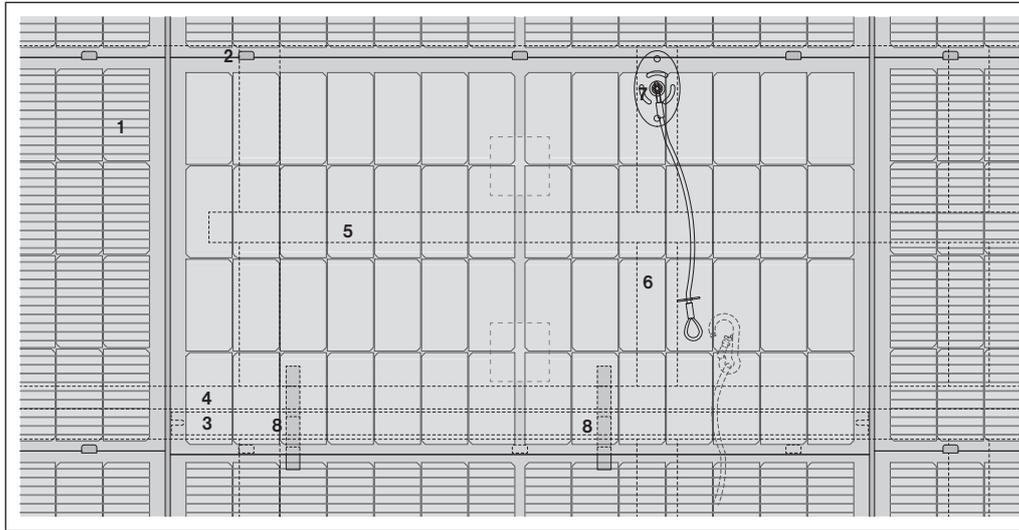


The batten distance may vary depending on the height of the Aura 2 extension panels. If the panel height of 870 mm is reduced by adjustments, the layering of the intermediate batten must be adjusted due to the loss of inclination. The maximum height for extension panels without intermediate battens is 460 mm.

The TS DH EASY with eyelet for attaching personal protective equipment against falling. The instructions for use are supplied with each safety roof hook!

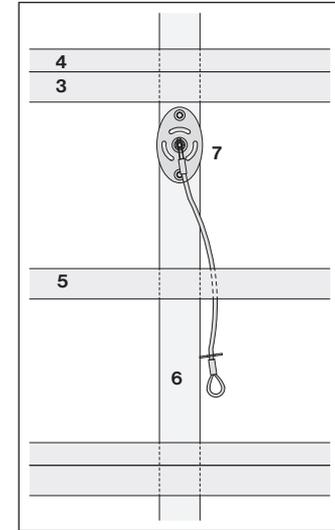
- 1 Aura 2 extension panel
- 2 Screw T30
SCFW-S-BAZ 6,5×77 mm
- 3 Panel supports
- 4 Roof batten 28×70 mm
- 5 Roof batten 45×45 mm
- 6 Counter battens
- 7 Intermediate batten 28×70 mm
- 8 Laminated veneer lumber panel
Kerto LVL® Q-panel
- 9 Roof securing hooks, TS DH EASY

Safety hook TS DH EASY must not be installed in the joint panel area.

Anchor point with stainless steel cable, concealed mounting

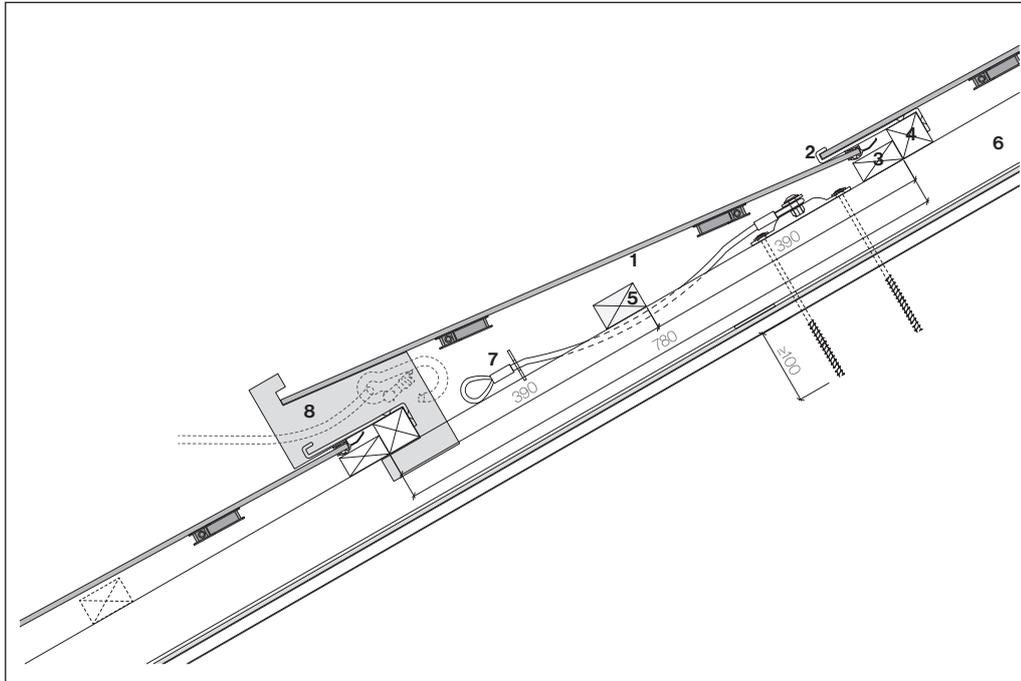
The attachment points are installed concealed in the rear ventilation area of the subroof. Fastening always takes place in the rafters. The anchor point must not be mounted in the area of the junction box. A temporary aid for securing the module must be placed between the anchor boxes and the anchor point. The supplier's assembly specifications must be observed. A property-specific maintenance and safety concept must be created.

- 1 Sunskin Roof Lap module
- 2 Module holders
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Roof battens 28×70 mm with an 8 mm clogging (mandatory)
- 6 Counter battens with nail sealing tape
- 7 Anchor point with stainless steel cable, length 500 mm
- 8 Aids, module securing



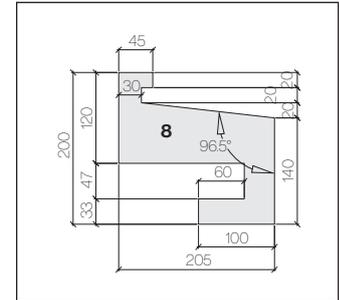
Anchor point with stainless steel cable for attaching personal fall protection equipment. Instructions for use are supplied with each anchor point!

Anchor point with stainless steel cable, concealed mounting



The Sunskin Roof Lap module is lifted and guided into the module securing aid, after which you can secure yourself at the anchor point. Make sure that the junction box and wiring are not damaged.

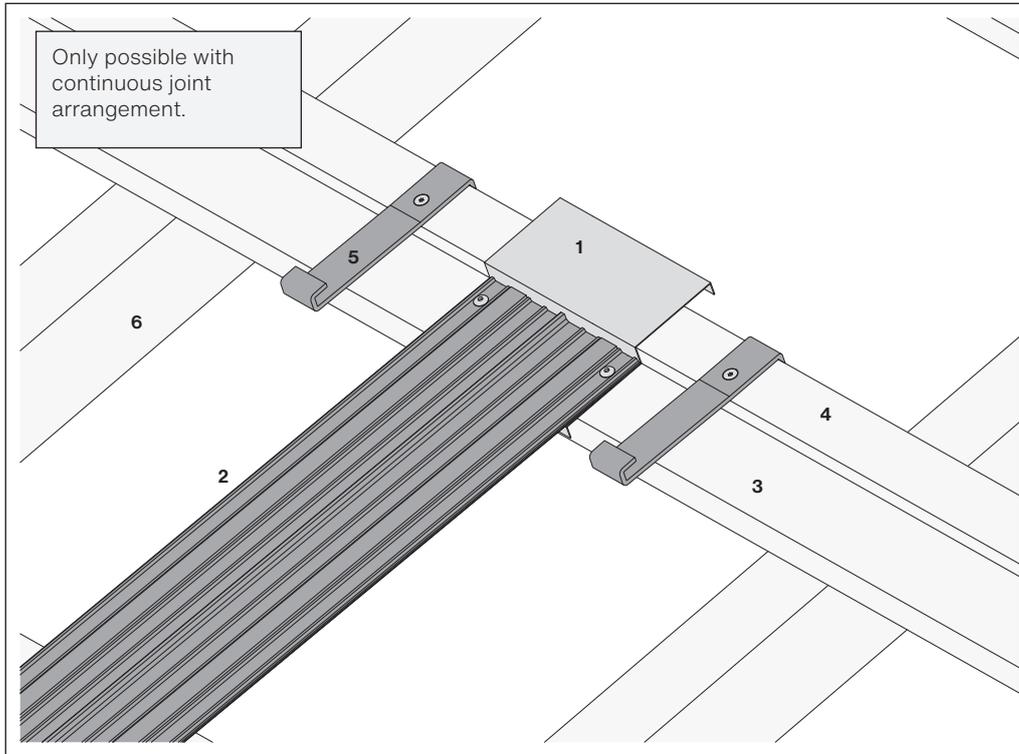
Aids, from the customer



Cutting draft.

Aids can be cut from a three-layer panel as an example.

- 1 Sunskin Roof Lap module
- 2 Module holders
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Roof battens 28×70 mm with an 8 mm clogging (mandatory)
- 6 Counter battens with nail sealing tape
- 7 Anchor point with stainless steel cable, length 500 mm
- 8 Aids, module securing

Lightning protection Z-connector assembly

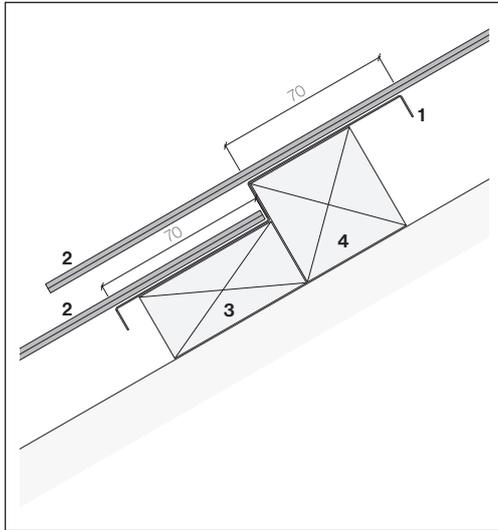
When using the integrated lightning conductor concept of the Sunskin Roof Lap system, the Z-connectors must be laid out at least at a distance of the required mesh size for the relevant lightning protection class.

The lightning protection obligation for buildings is regulated in the “Swiss Fire Protection Regulations”, in particular in the lightning protection guideline “Lightning protection systems” of the Association of Cantonal Fire Insurance Companies (VKF). In cases of doubt, the fire protection authority decides whether buildings and systems must be protected against lightning.

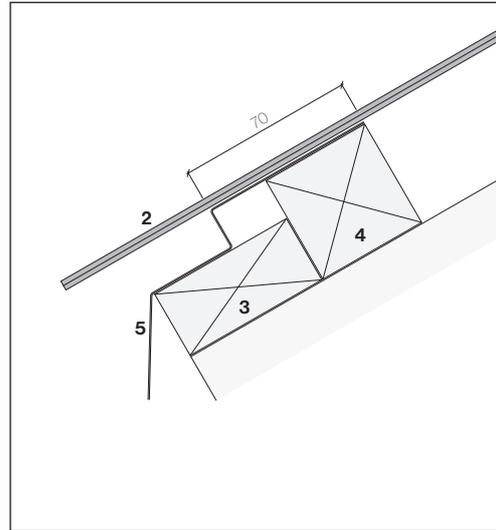
- 1 Lightning protection Z-connector
- 2 Joint profile
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Module holder
- 6 Counter batten

The joint profile is mounted together with the lightning protection Z-connector.

Lightning protection Z-connector, inlet panel



Area



Eave

Natural conductors

The joint profiles can be used as natural conductors. The contact surface is created by the Z-connectors. Natural conductors are considered to be “electrical, conductive, connected” if the contact area of at least 100 cm² is reached.

The connections of the metallic joint profiles at the specified distance in accordance with the standard create a complete, protective conductor cage.

- 1 Lightning protection Z-connector
- 2 Joint profile
- 3 Roof battens 28×70 mm
- 4 Roof battens 45×45 mm
- 5 Inlet panel

The specified contact area of 100 cm² is created by 70 mm height overlap on the Z-connector or the inlet panel. The joint profile width is 150 mm.

Guidelines

The relevant accident prevention measures for the prevention of injuries and material damage must be strictly observed.

Processing

If fibre cement panels need to be processed at the construction site, devices that do not generate fine dust or extraction devices must be used.

Risk of injury during transport and installation

During transport, storage and assembly work, all measures must be taken to avoid the risk of injury, material damage and consequential damage resulting from incorrect assembly. Appropriate work clothing, work gloves and safety footwear must be worn. Movement of the panels bundled into pallets must only take place if the panels are correctly secured with securing elements.

Break protection

Despite the high break resistance of the Sunskin Roof modules and Aura 2 supplementary panels, accidents can occur under unfavourable conditions. Jumping on the roof panels and placing ladders, scaffolding poles, heavy objects and the like directly on the roof panels is therefore prohibited.

Risk of slipping

There is a risk of slipping on the Sunskin Roof Lap modules when damp or wet. All necessary safety measures must therefore be taken in all cases to prevent the risk of injury and property damage due to slipping or falling of persons or material.

Risk of injury due to unfastened panels

In order to avoid injury and damage to property, the panels must always be mounted so that they do not come loose and fall down. For this purpose, the installation guidelines of Swisspearl Schweiz AG must be strictly observed. If necessary, further precautions must be taken in addition to the regulations specified in the assembly guidelines.

Snow guard

All roof surfaces must be equipped with snow retainers to prevent snow from slipping off.

Soiling

Exhaust gases, including general air pollution, bird droppings and pollen, can soil the photovoltaic modules.

Maintenance of PV systems

The photovoltaic system should be cleaned as required. Dirt can reduce the efficiency of the system, resulting in reduced yield. Manual cleaning can be done with demineralised (distilled) and desalinated water.

In case of doubt, the Swisspearl Sweden technical team should be consulted.

Use of accessories

The use and correct installation of original accessories from Swisspearl Sweden guarantees flawless function.

Hazard notices

The manufacturer's safety, assembly, installation, operating and maintenance instructions apply in general!

Sunskin Roof Lap modules are always live when light is present.

Caution, risk of death from electric shock and arcing!
Risk of fire and injury!

The Sunskin Roof Lap modules can only be fused at the DC switch. The system continues to run on the DC side in the event of a fault (short circuit, earth fault).

Non-extinguishing arcs can occur when disconnecting contacts under load.

Do not insert any electrically conductive parts into the connectors or sockets of the Sunskin Roof Lap modules.

Do not mount Sunskin Roof Lap modules with wet connectors.

Tools and working conditions must be dry. All work on the lines must be carried out with extreme caution! Improper installation can cause fire.

Children must be kept away from solar modules, inverters and other live components of the system!

Shading

The connection of shaded or partially shaded PV modules in a string (e.g. by surrounding buildings, trees, fireplaces, canopies, steam pipes, dirt, etc.) must be avoided. This results in an increased risk of hotspots.

Shading or partial shading resulting in a defect in Sunskin Roof Lap modules does not constitute a warranty claim.

Interface between roofer and electrician

The electrician is responsible for the function of the entire system. He or she is responsible for compliance with the guidelines of the Federal Inspectorate for Heavy Current Installations ESTI and the guidelines of the electricity supply company. All requests such as connection requests, planning approval procedures and installation notifications, etc. are signed by the person with the installation permit. He or she is responsible for the installation of the DC lines and the attachment of the plug connections.

After installing the Sunskin Roof Lap modules, he or she checks the module wiring. All lines and devices must be labelled.

The roofer is responsible for the fall protection and the mechanical work such as fastening of the substructure and installation of the modules. The roofer carrying out the work should involve the electrician before the module is installed and exchange documents (electrical diagram, string plan and technical data of the components) and also hold a construction meeting prior to installation and keep a construction site report. We recommend that the roofer involves a fixed partner to ensure a smooth process from the tender phase to project execution.

Notes on storing and transporting the Sunskin Roof Lap modules

Always handle the Sunskin Roof Lap modules with extreme care.

- Always transport the Sunskin Roof Lap modules in the packaging provided.
- Wear protective gloves.
- Do not use the junction box and connecting cables as a handle.
- Do not load or drop Sunskin Roof Lap modules.
- Do not use pointed objects on the Sunskin Roof Lap modules, for example when unpacking.
- Always keep all electrical contacts clean and dry.
- Temporary storage only in dry rooms.
- Do not stand on glass edges

If in doubt, always consult the Swisspearl Schweiz AG Technical Service.

Storage on site

During transport and storage (interim storage, construction site), the modules must be protected against theft, damage, sun, moisture and dirt.

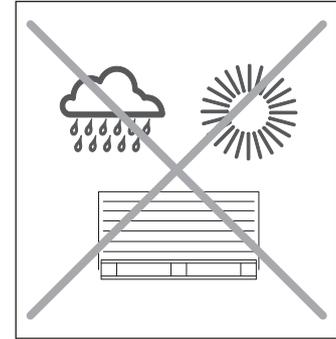
Storage on the roof

The load-bearing capacity of the substructure must be taken into account and pallets must be stored horizontally to prevent them from slipping.

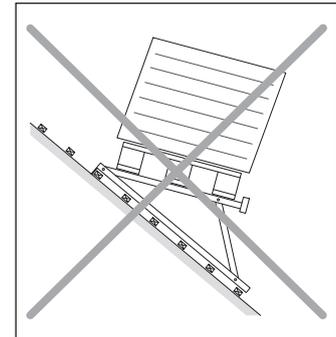
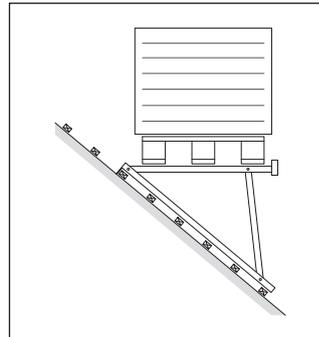
Handling glass/glass modules

Improper handling of glass, e.g. placing modules on concrete, stone or metal, often leads to damage to the glass edge or even breakage. The same risk applies if the edge of the glass is hit by a metal part or if the window is turned and tilted over a corner without suitable underlay materials.

Storage on site



Storage on the roof



Panel cutouts

The Aura 2 extension panels are adapted to the local conditions during construction. The cutting is mainly carried out with a portable circular saw incl. guide bar. In the case of machine cutting, the cutting dust must be removed by a suitable dust extraction system.

Cutouts

Cutouts are made with the jigsaw with carbide saw blade. Edges of cutouts in Aura 2 extension panels must be treated with Luko impregnation.

Side connections

With connecting panels on components (location, trough, installations, etc.), the upper panel corner must be cut back on the connection side (socket).

Drilling screw set

For fastening with the SCFW-S-BAZ 6.5×77 mm screw, the Fine drill driver ASCS 6.3 with stop sleeve, magnetic bit holder and T30×25 mm Torx insert must be used. This slip-clutch setting tool allows the Aura 2 extension panels to be fastened efficiently and without force.

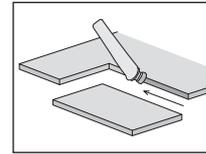
Drilling hole

The attachment points in the Aura 2 extension and ridge panels without perforation must be pre-drilled with Ø9.5 mm. Drilling residues must be removed.

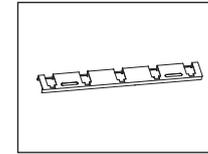
Edge impregnation

The Luko hand applicator is available for impregnating the edges of cuts and cutouts on the construction site. This is available as an accessory free of charge.

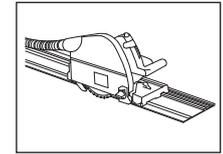
Tools



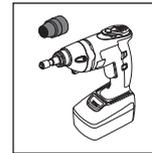
Edge impregnation



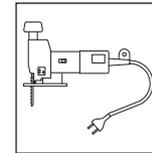
Assembly jig



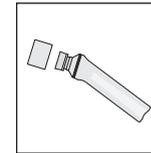
Plunge circular saw with guide bar



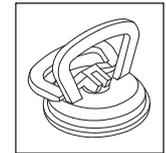
Fine drill driver
ASCs 6.3



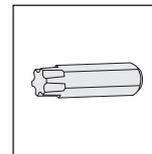
Pendulum
jigsaw with
carbide saw
blade



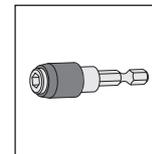
Luko hand
applicator



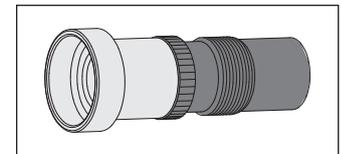
Suction cup



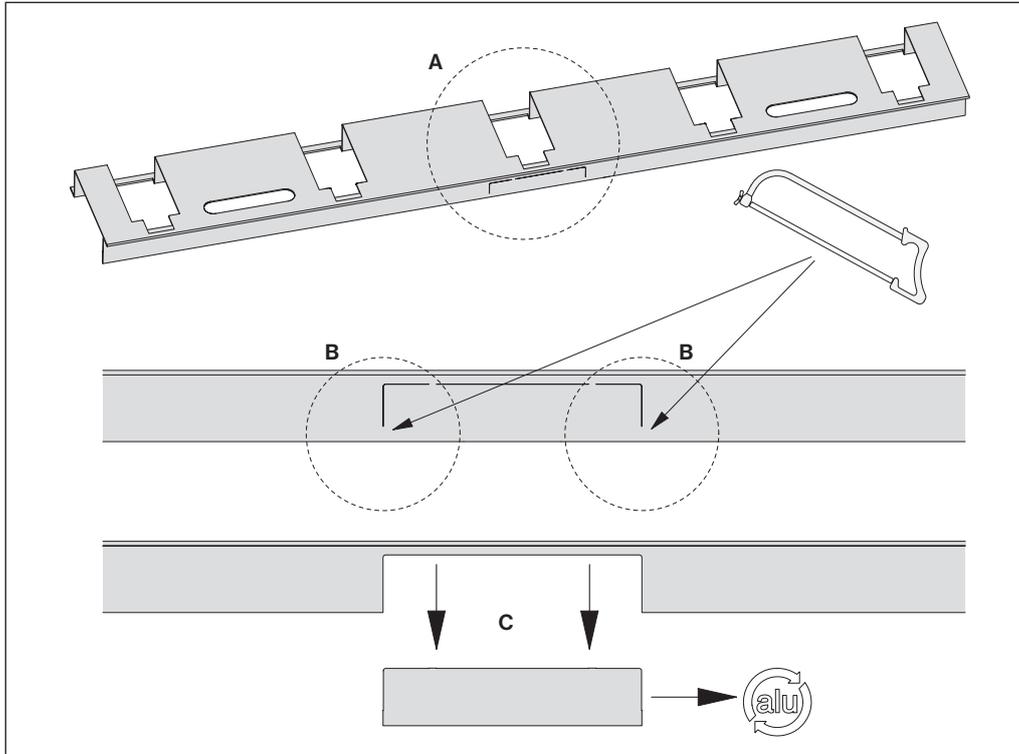
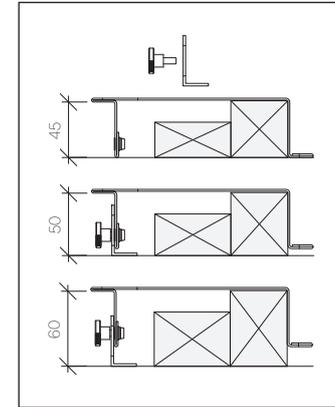
Torx insert T30
Length 25 mm



Magnetic
bit holder
Length 50 mm



Fine stop sleeve
Part no. 32127021061

Assembly jig, type L, for module arrangement joints $\frac{1}{2}$ offset**Height adjustment**

The assembly jig can be adjusted to the different heights of the battens.

(A) The assembly jig is prepared for $\frac{1}{2}$ offset installation of the modules. There is a predetermined breaking point in the middle of the jig for this purpose. (B) Cut the assembly jig up to the predetermined breaking point. (C) Cut off the cutout by bending the predetermined breaking point. Deburr edges if necessary.



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