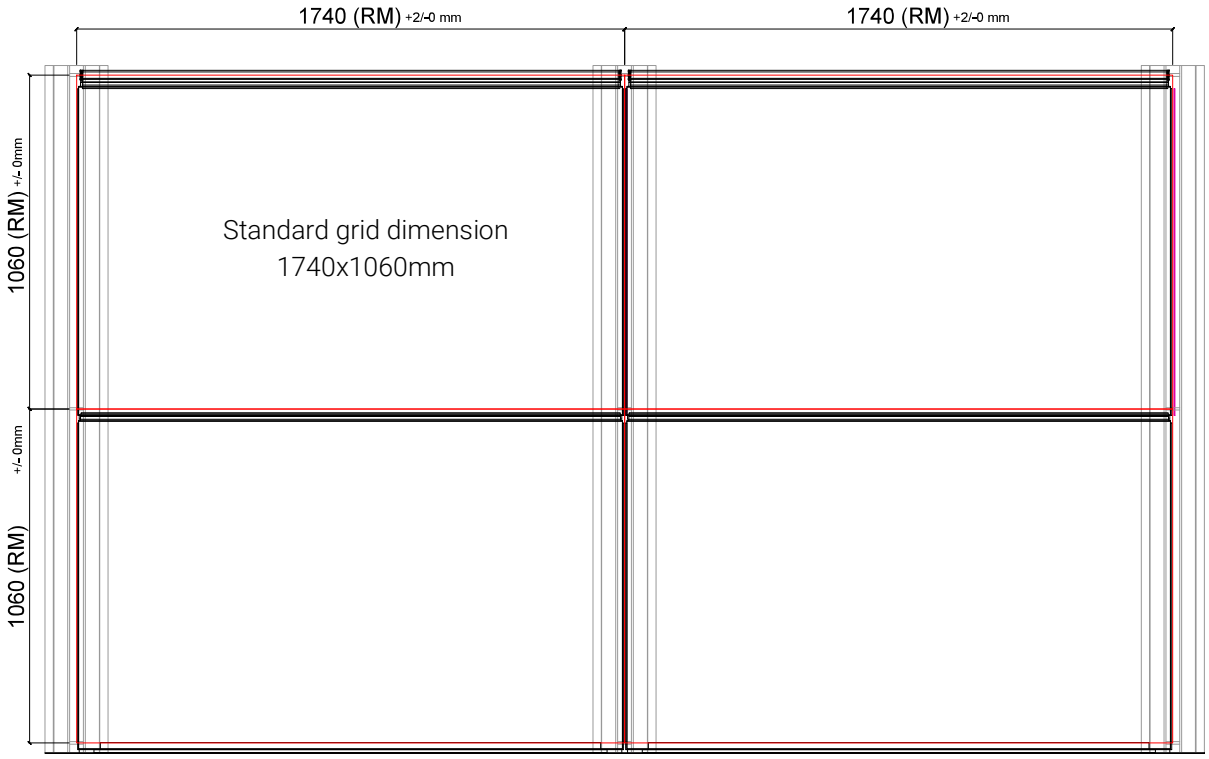
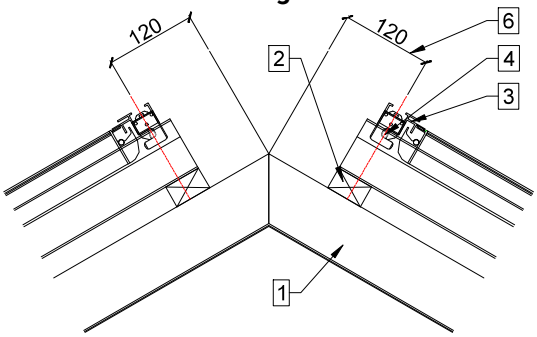
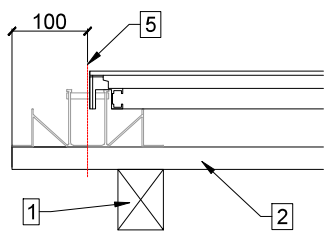
Grid dimensions NICER X



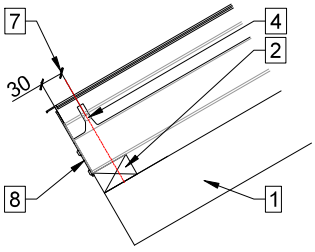
1 Counter battens
2 Roof battens
3 NICER X ridge profile
4 Bolt in carrier
5 NICER X carrier axle
6 Bolt distance to the ridge
7 Bolt distance to beam end
8 NICER X eaves end plate

Ridge





Verge



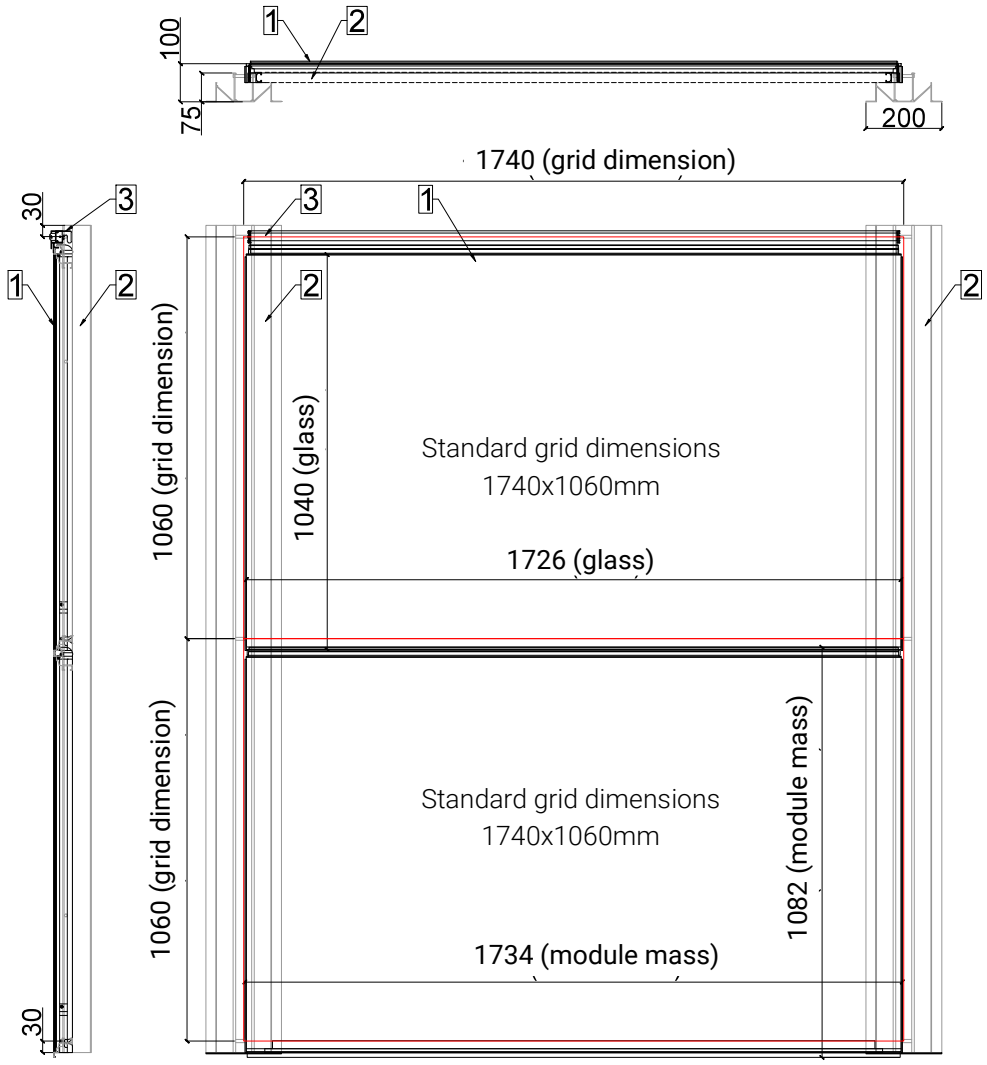
Eaves

Note:
The grid dimension can be extended by up to 2 mm in width. Reducing the grid size is not recommended!

Planning dimensions NICER X

1 NICER X module
2 NICER X carrier
3 NICER X ridge profile

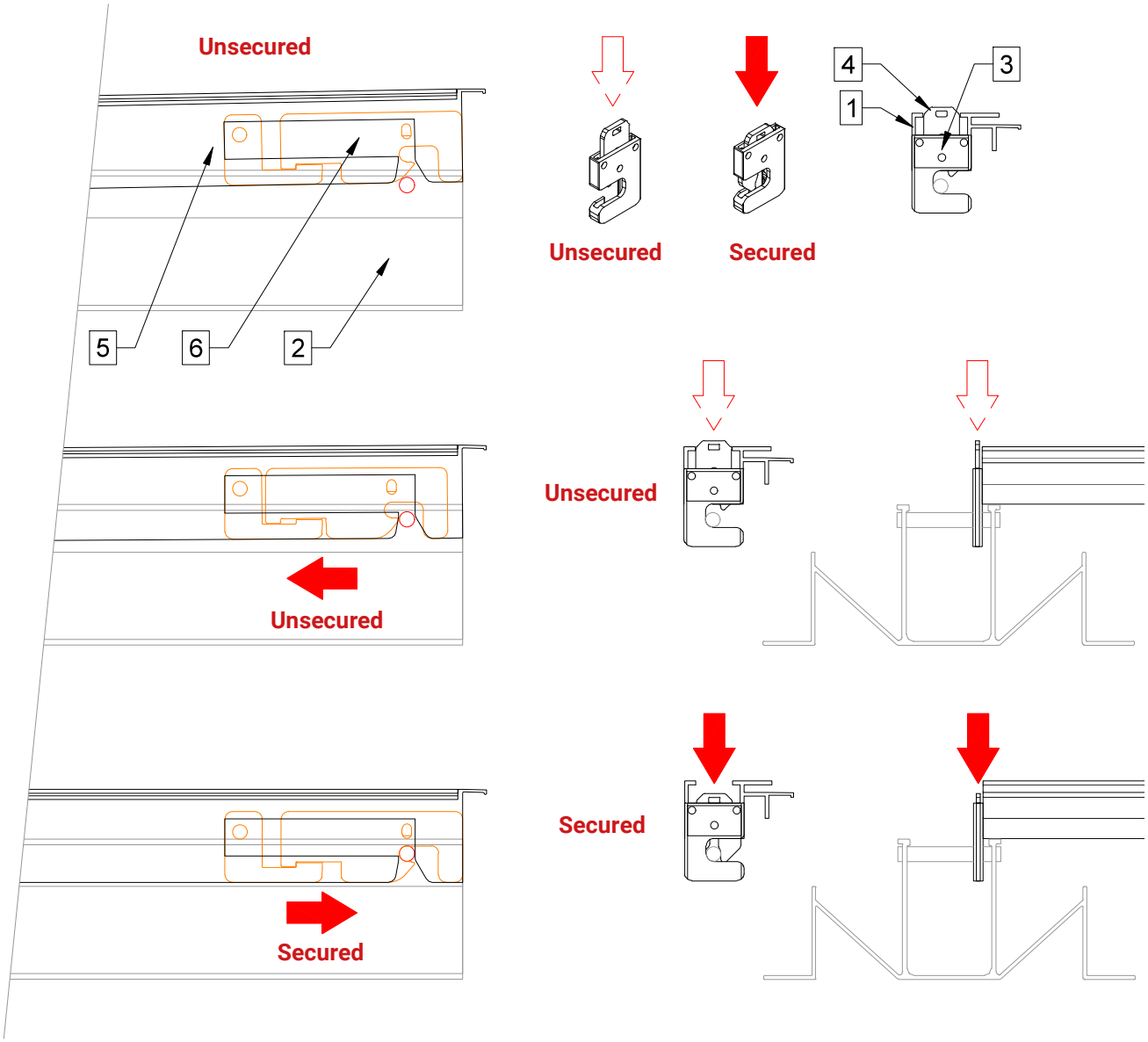
MOUNTING INSTRUCTIONS
Always align the NICER X carrier with the bolts!



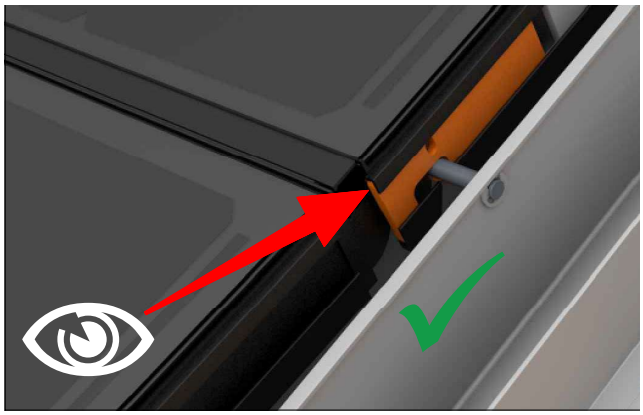
Note:
< 2.4 kN/m2 suction load (IEC 61215), higher loads possible with additional measures.
< 2.4 kN/m2 compressive load (IEC 61215), higher loads according to "NICER X vertical battens for increased requirements"

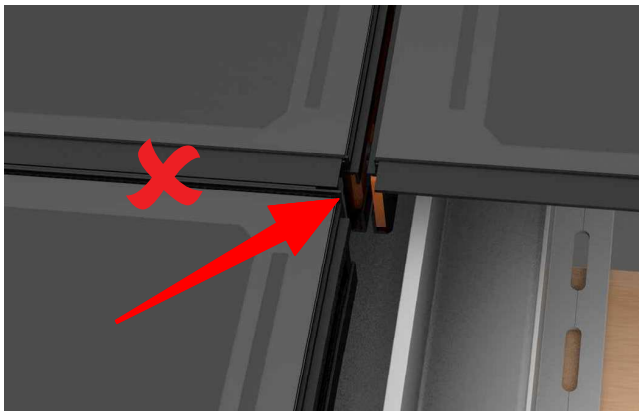
NICER X Fuse module/Ridge profile

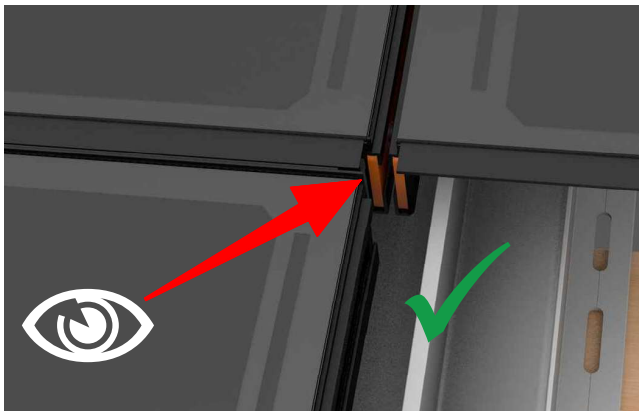
1 NICER X ridge profile
2 NICER X carrier
3 NICER X ridge hook sleeve
4 NICER X ridge hook securing
5 NICER X frame
6 NICER X click system



Control look:

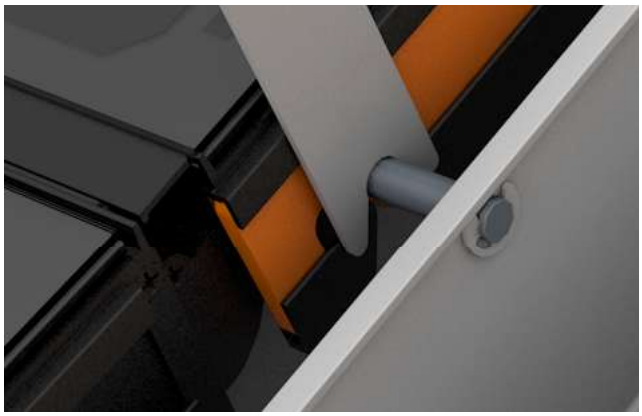






After inserting and clicking into place, the click mechanism slide must be checked! If it has not moved forward by itself, this must be corrected manually, e.g. using the NICER X tool. The module is only correctly secured when the slide is all the way forward and locked.

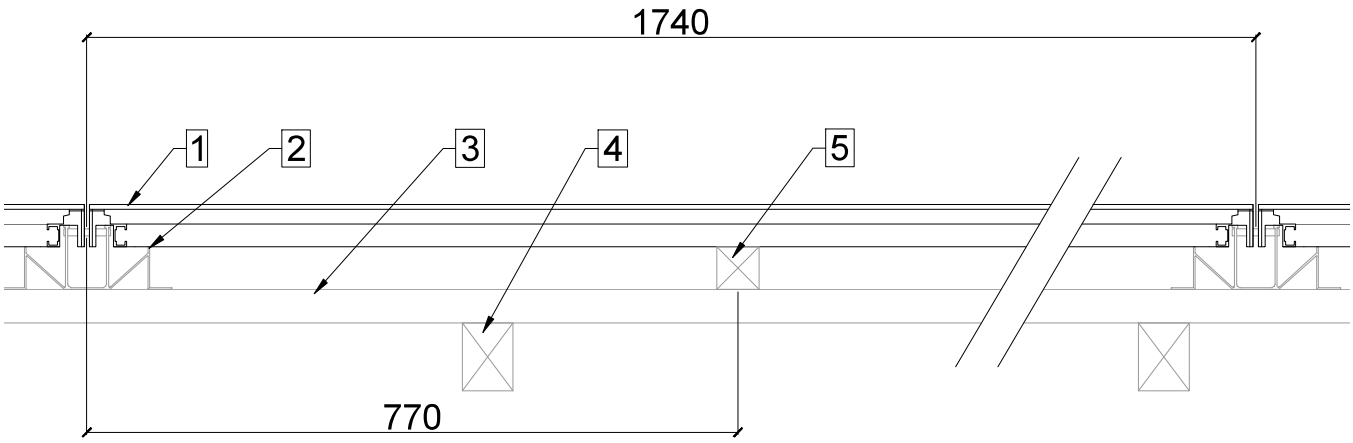
NICER X tool:



The NICER X tool can be used to easily release the click lock. This means that individual modules can be unlocked and replaced without difficulty, regardless of their position in the module field, if necessary.
The NICER X tool is also suitable for pushing the click lock slide all the way forward if it does not move forward by itself.

NICER X vertical battens for increased requirements

1 NICER X module
2 NICER X carrier
3 Roof battens
4 Counter battens
5 Additional battens 50 x 50

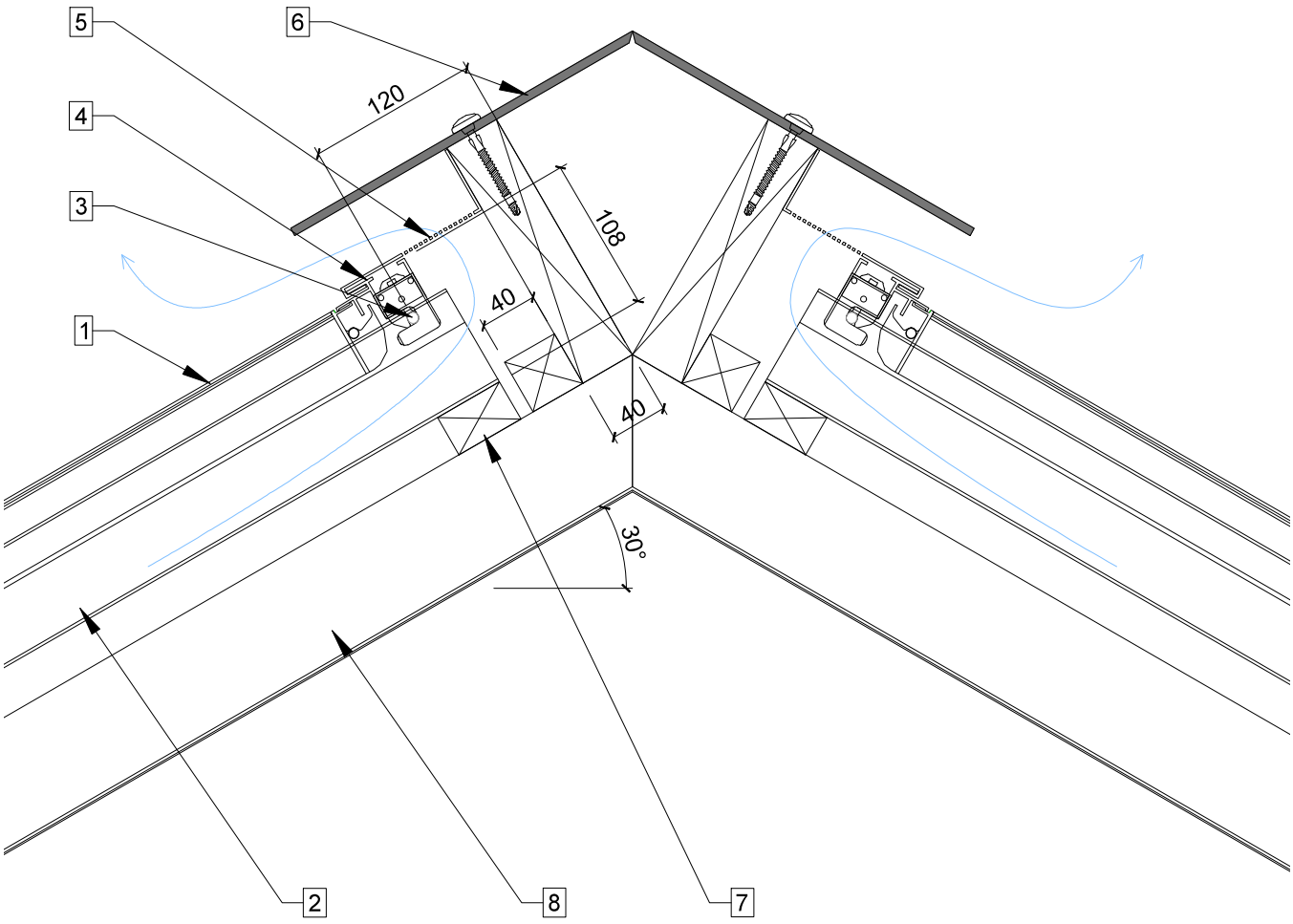


Additional vertical battens (5) are recommended from a height of around 800 m above sea level or in the event of special effects. With the additional battens, snow loads of up to 6 kN/m2 can be absorbed. It must be possible to transfer the snow loads acting on the module frame to the on-site substructure using center battens, which is designed for the corresponding mechanical loads of wind, snow and the solar modules' own weight.

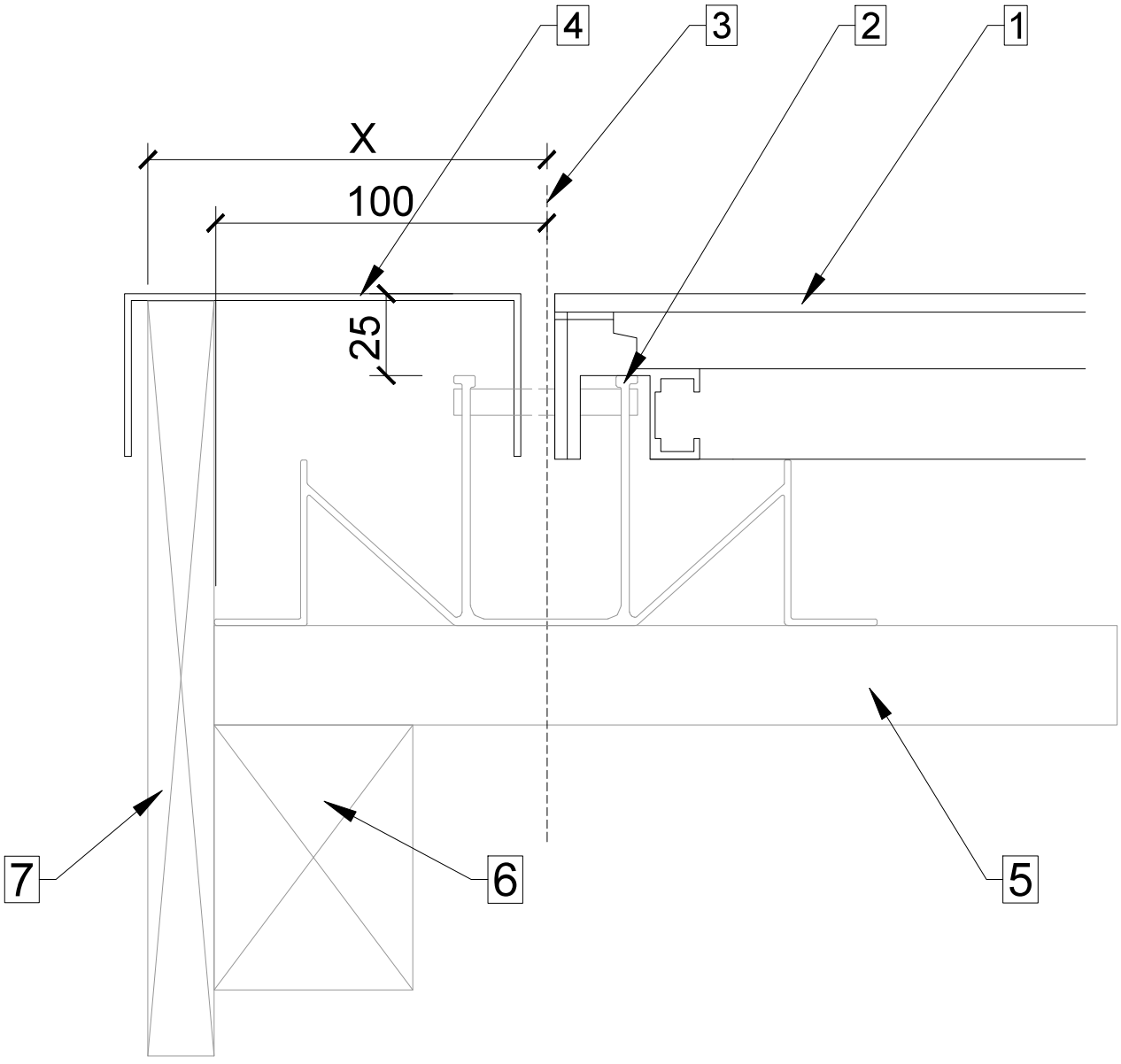
In addition, the intermediate battens generate additional support points for installation and maintenance and the NICER X system can therefore meet even higher requirements for tightness.

Even higher loads can also be realized on a project-specific basis.

1 NICER X module
2 NICER X carrier
3 Bolt in carrier (grid dimension on bolt)
4 NICER X Ridge profile
5 Perforated plate
6 Aluminum composite plate
7 Roof battens
8 Counter battens

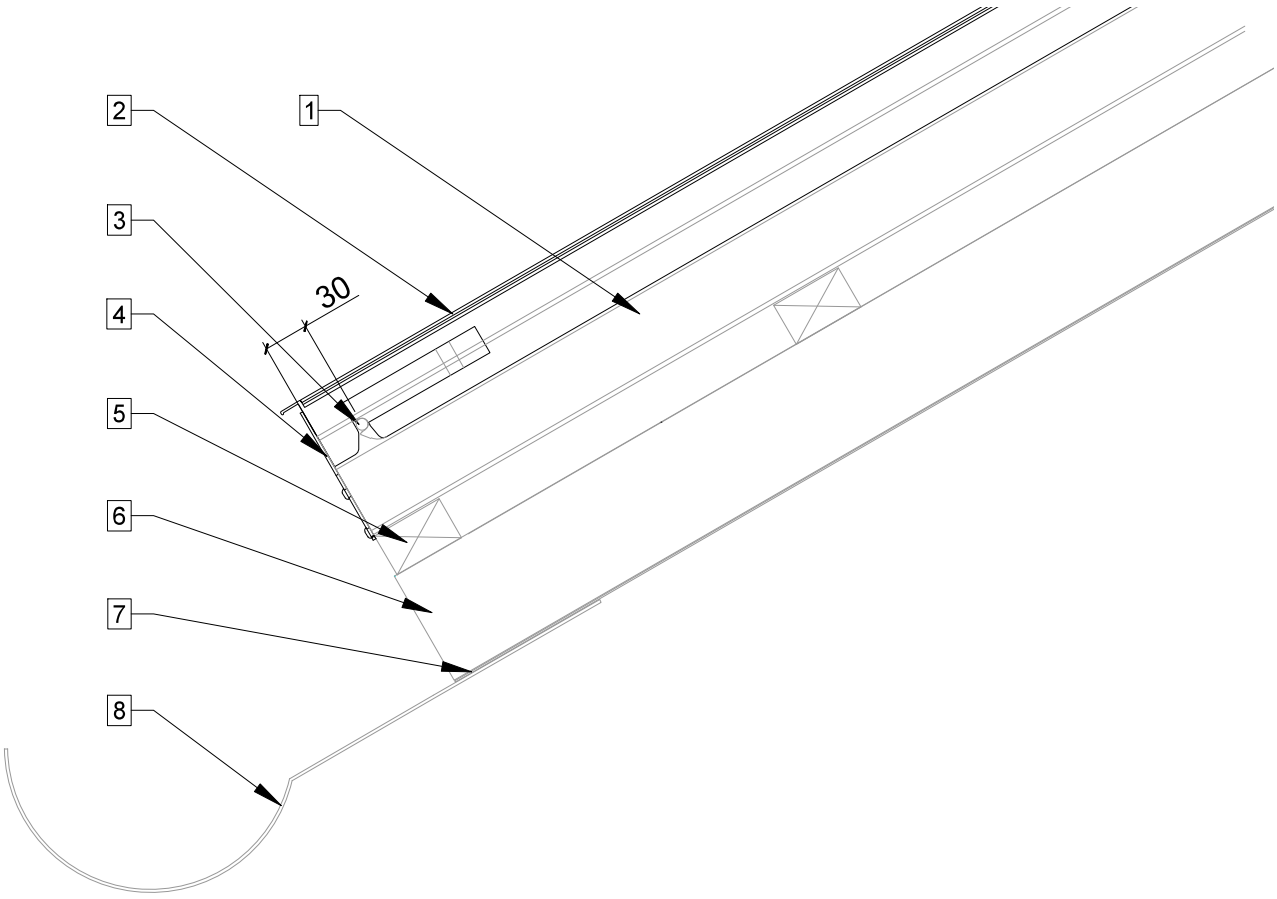


1 NICER X module
2 NICER X carrier
3 Rail center axis (grid dimension)
4 Sheet metal finish
5 Roof battens
6 Counterbattens
7 Verge plate



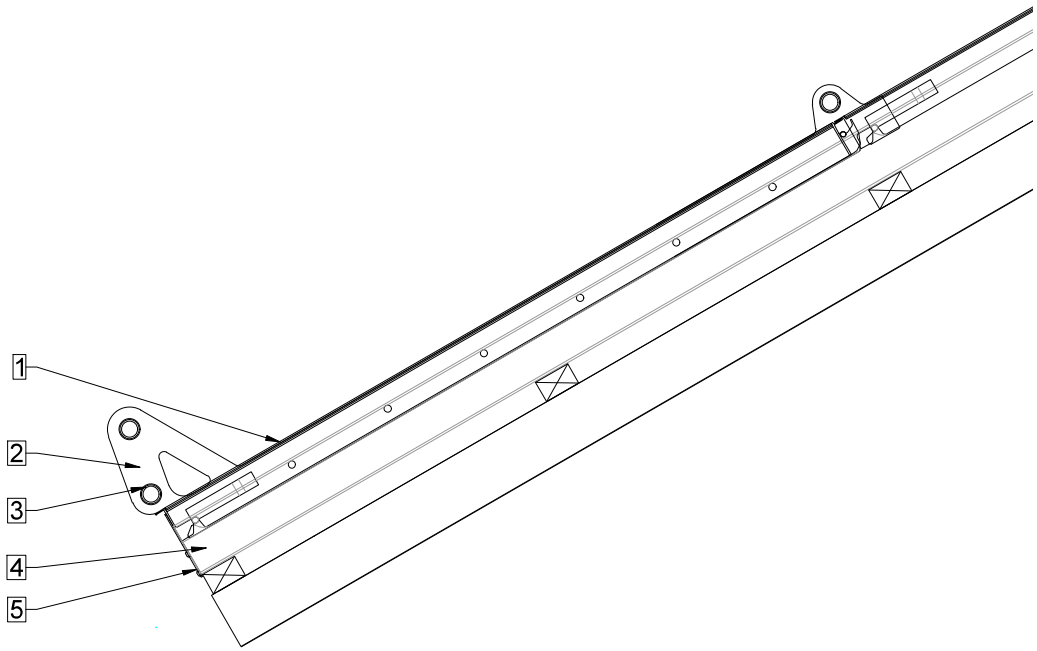
Eaves finish

1 NICER X carrier
2 NICER X module
3 Distance from rail end to bolt (grid dimension on bolt)
4 NICER X covering plate
5 Roof battens
6 Counterbattens
7 Subroof
8 Gutter



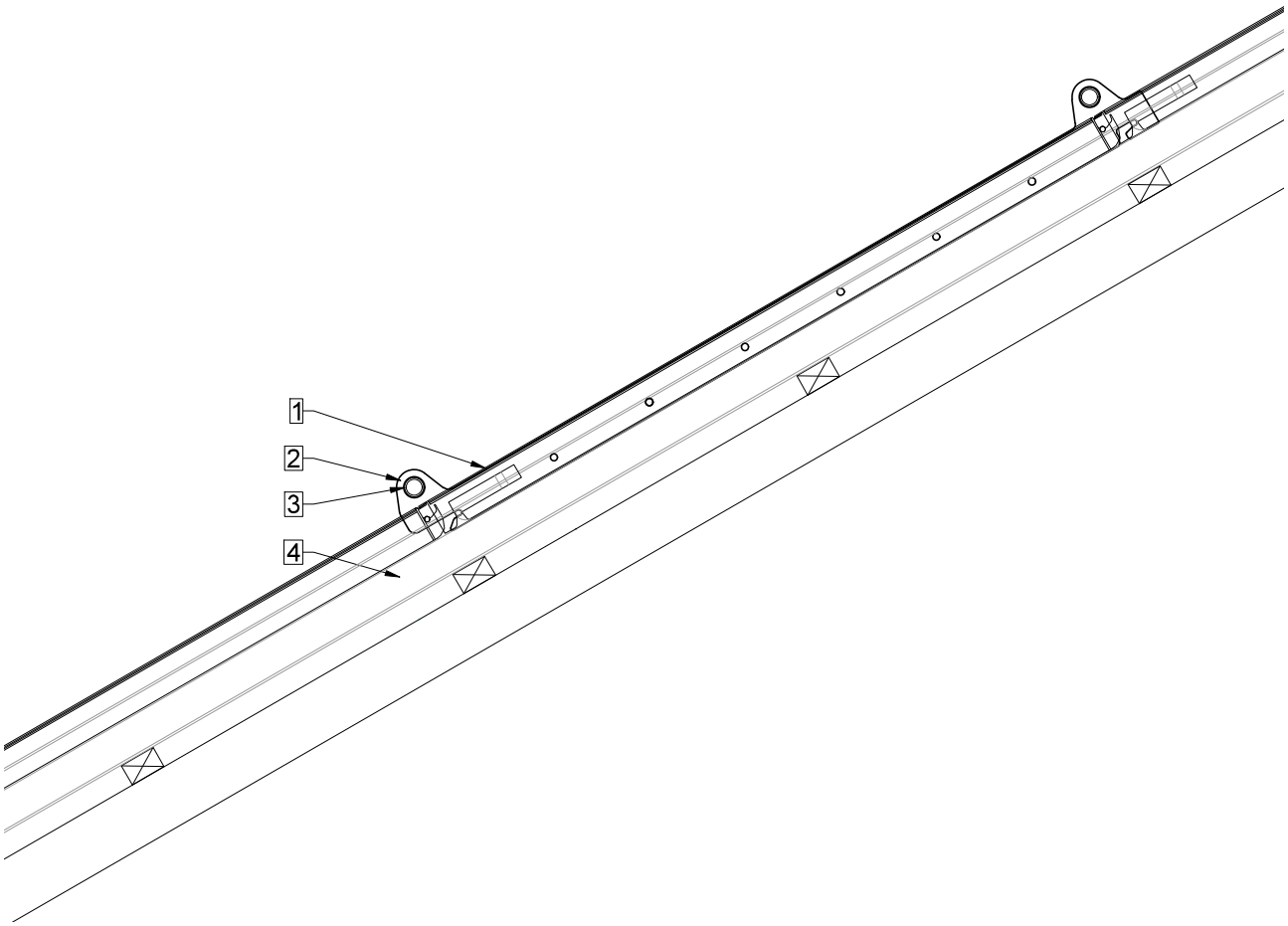
NICER X snow guard for normal requirements

1 NICER X module
2 NICER X snow hook
3 Snow guard pipe
4 NICER X carrier
5 NICER X covering plate



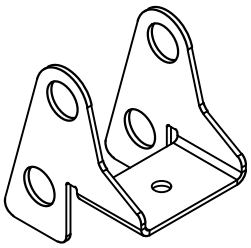
NICER X snow guard for normal requirements

1 NICER X module
2 NICER X snow hook
3 Snow guard pipe
4 NICER X carrier

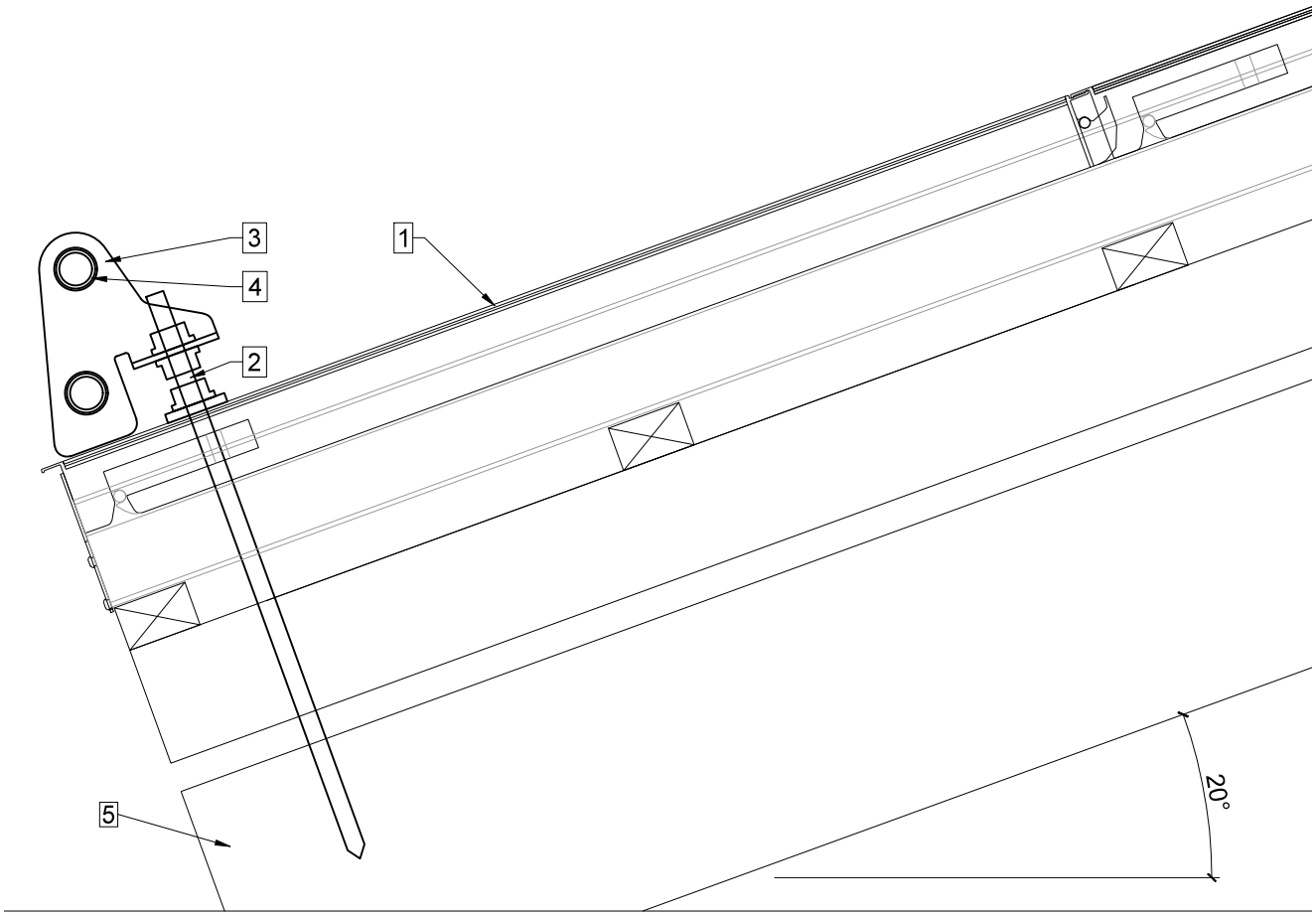


NICER X Snow guard for increased demands

1 NICER X aluminum composite module
2 Hanger bolt 400mm with sealing function
3 NICER X snow hook over aluminum composite
4 Snow guard pipe
5 Rafter



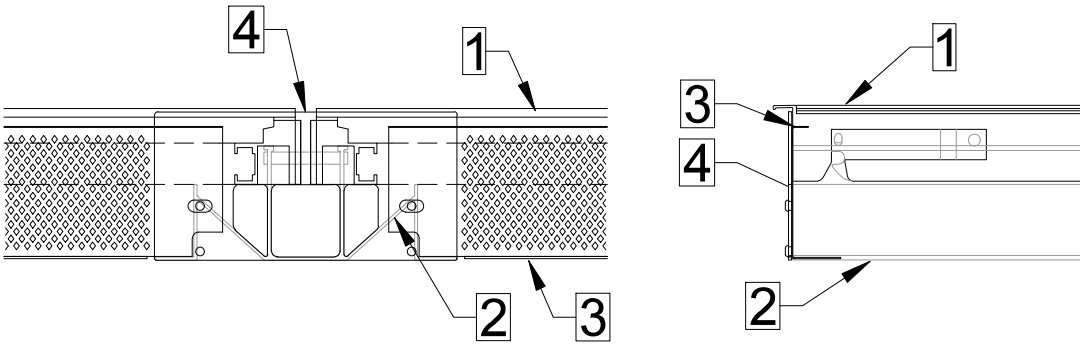
NICER X snow guard over aluminum composite



The "NICER X snow guard over aluminum composite" is installed over each rafter, or at least 3 per module.
The "NICER X snow guard over aluminum composite" is recommended from an altitude of 800 m above sea level.

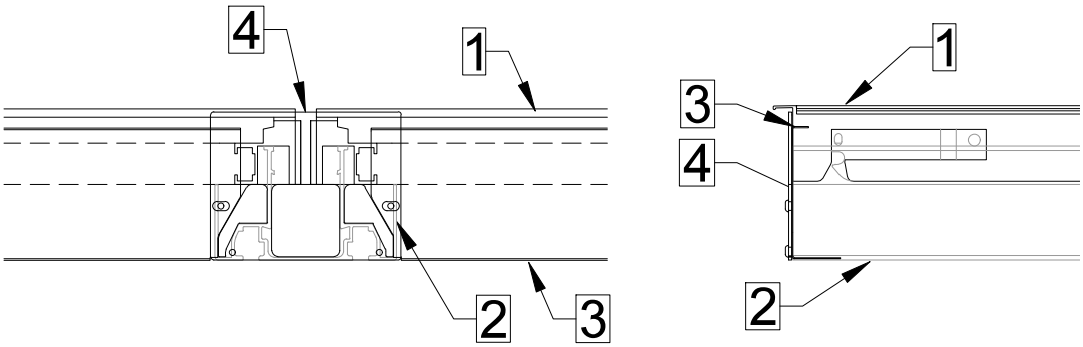
NICER X eaves end elements with NICER X carrier (standard)

1 NICER X module
2 NICER X carrier (standard)
3 NICER X eaves ventilation grille RM1740
4 NICER X covering plate



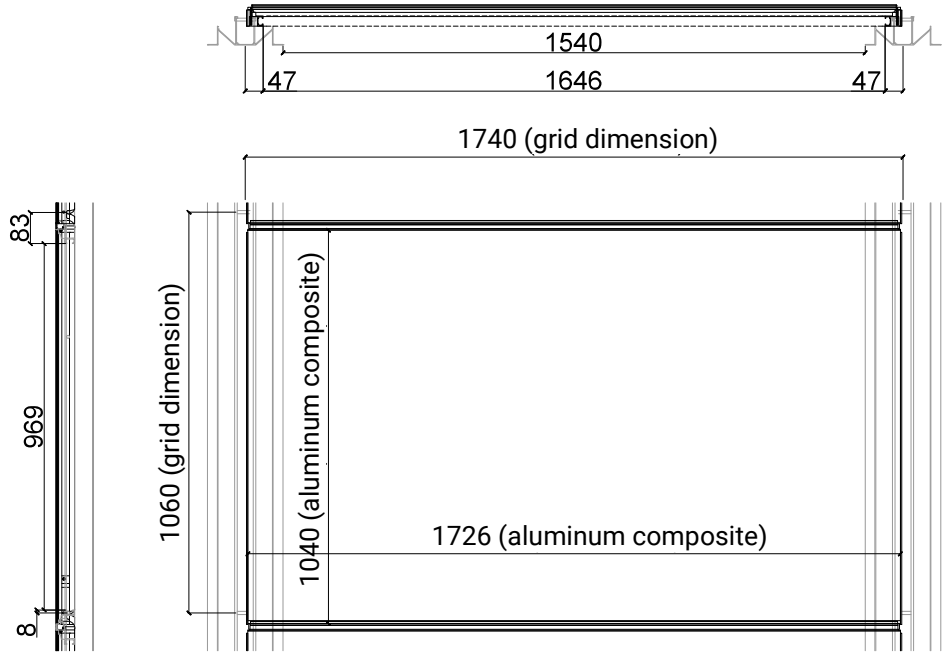
NICER X eaves end elements with NICER X carrier B120

1 NICER X module
2 NICER X carrier B120
3 NICER X eaves finish B120 RM1740
4 NICER X covering plate B120

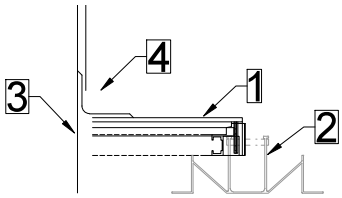


NICER X aluminum composite module

The "NICER X aluminum composite module" can be reworked on site in the inner area (aluminum composite panel, free opening 1540mm x 969mm) in order to integrate roof penetrations. The professional connection and water drainage must be planned and implemented on site. The size of the module corresponds to the standard modules with a grid dimension of 1740mm x 1060mm.

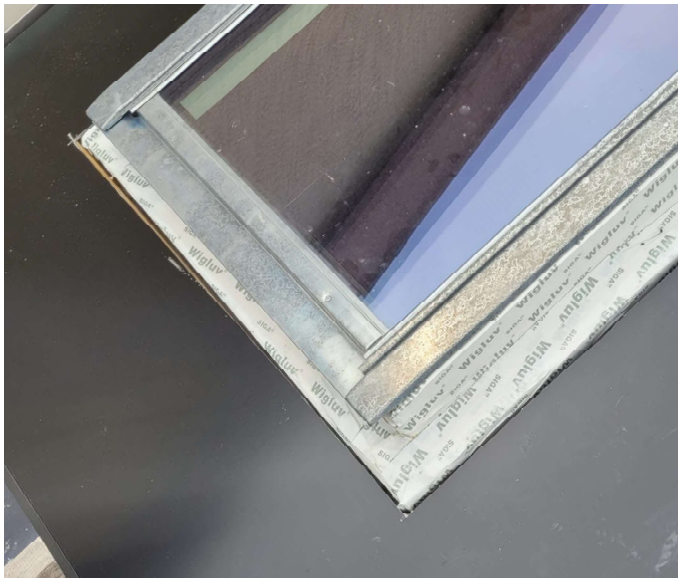


Sectional drawing NICER X aluminum composite module with roof penetration

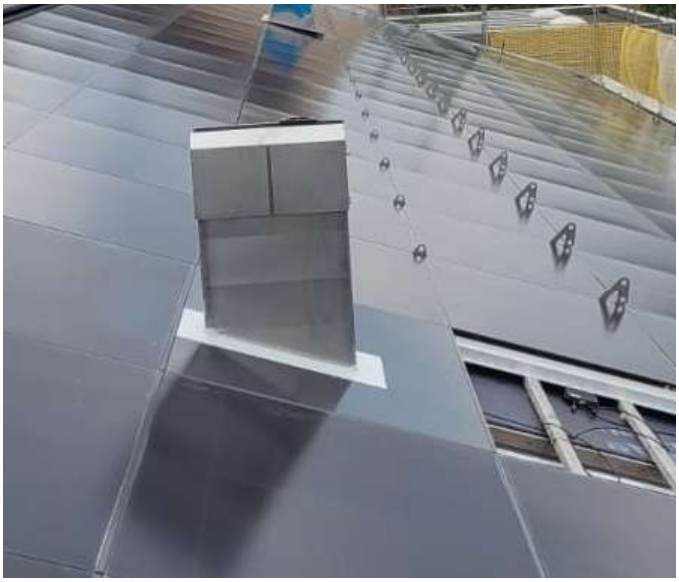


1 NICER X aluminum composite module
2 NICER X carrier
3 Roof penetration
4 On-site roof connection

Example pictures



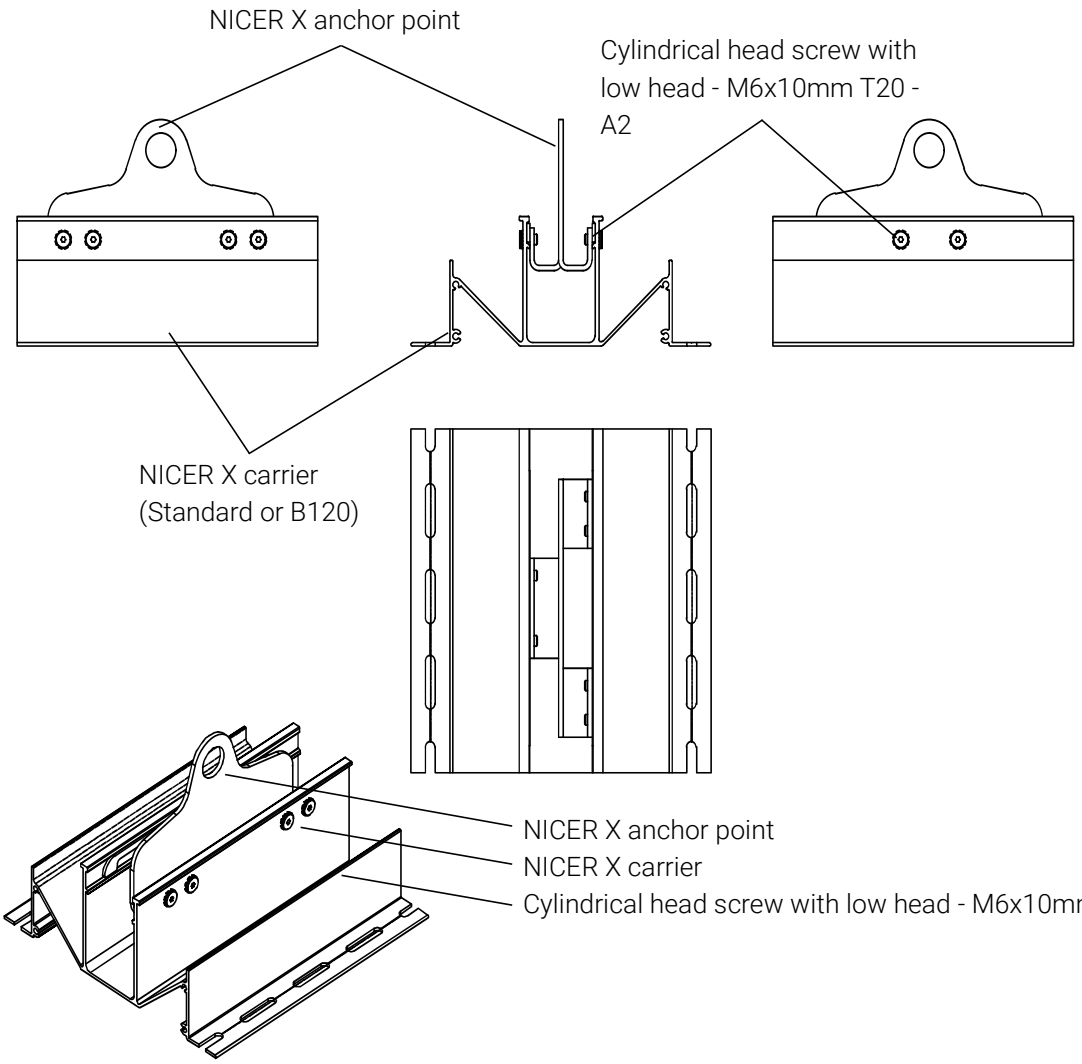
Skylight with integrated NICER X aluminum composite module.
Cutout not yet sealed on site.

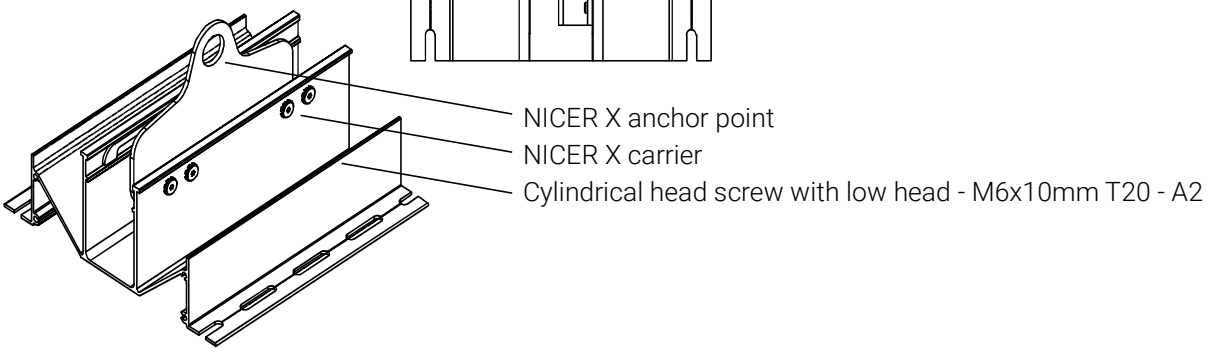


Fireplace with integrated NICER X aluminum composite module.

Anchor point / EAP

Anchor device according to EN 795 A: 2012 Type A for 1 person





The separate installation and instruction documents supplied must be studied before installation and must be followed exactly. The instructions must be read and understood by the user. The manufacturer's instructions must be strictly adhered to. Failure to do so may result in personal injury.

This sheet is not an assembly instruction!

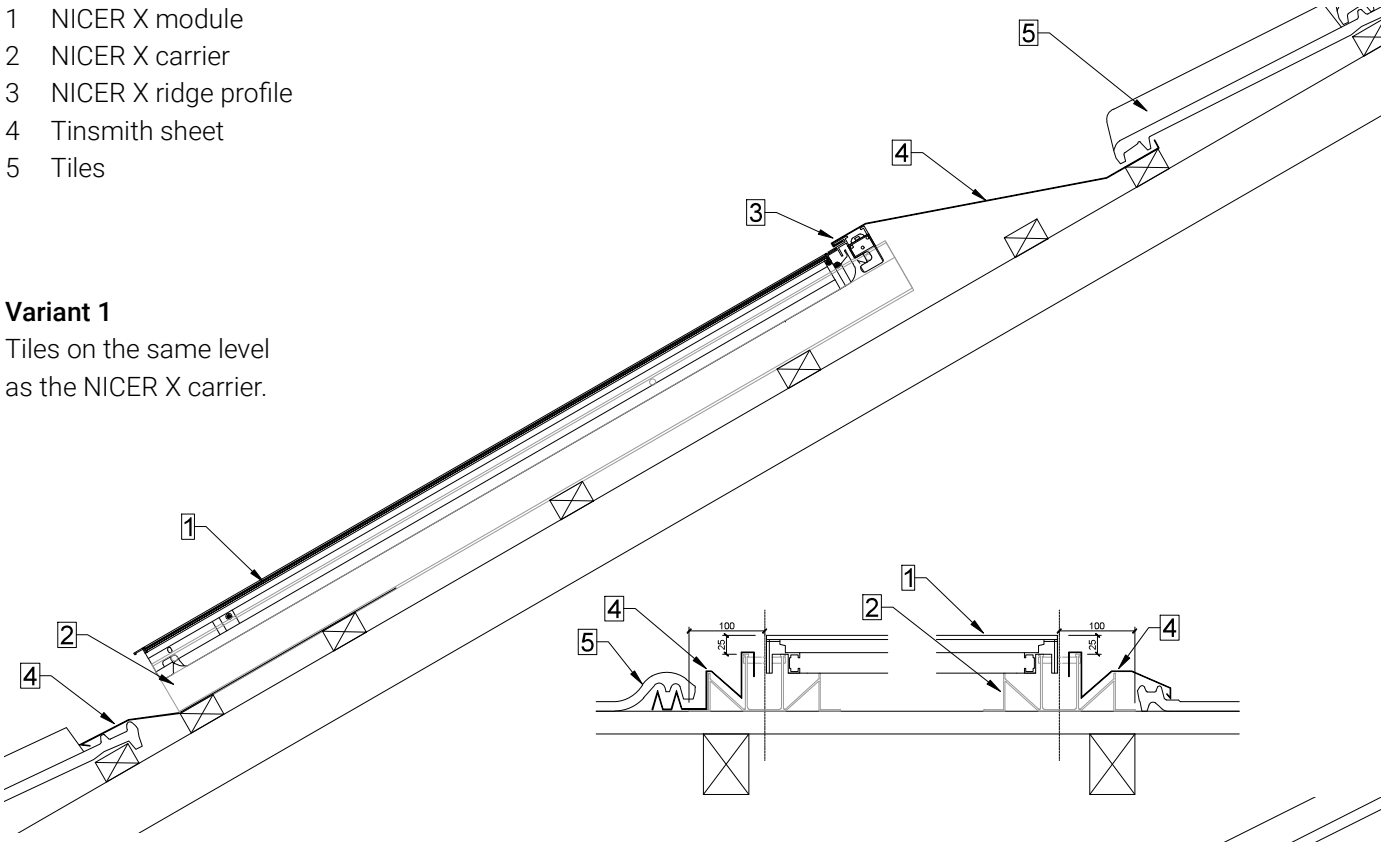
- It is essential to observe the official NICER X safety hook / anchor point instructions and assembly instructions.
- The safety hook is installed before the module is mounted.
- The design must be carried out by qualified specialist personnel in accordance with the applicable local regulations.

NICER X Connection to tile

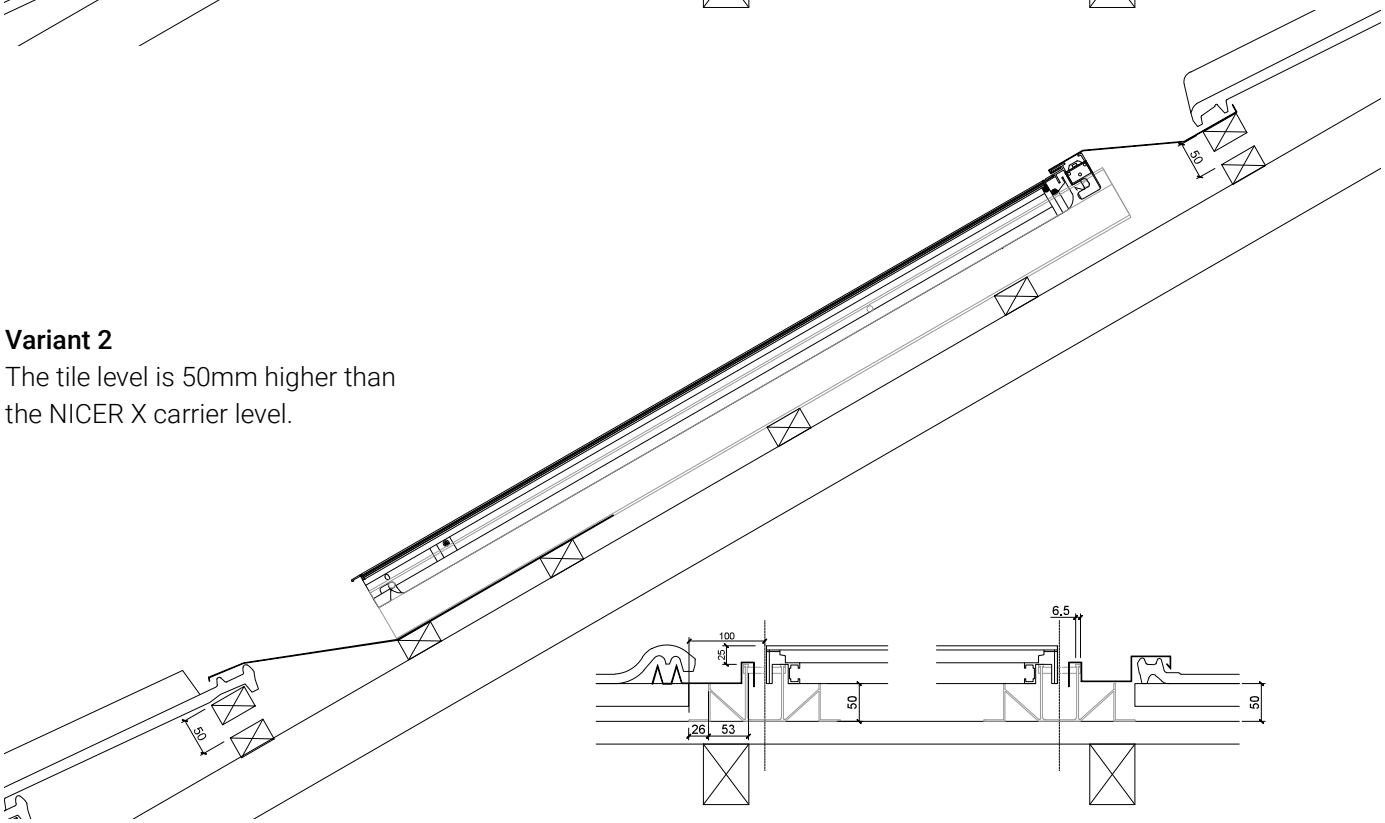
| A4 | V25.01 |

1 NICER X module
2 NICER X carrier
3 NICER X ridge profile
4 Tinsmith sheet
5 Tiles

Variant 1
Tiles on the same level
as the NICER X carrier.

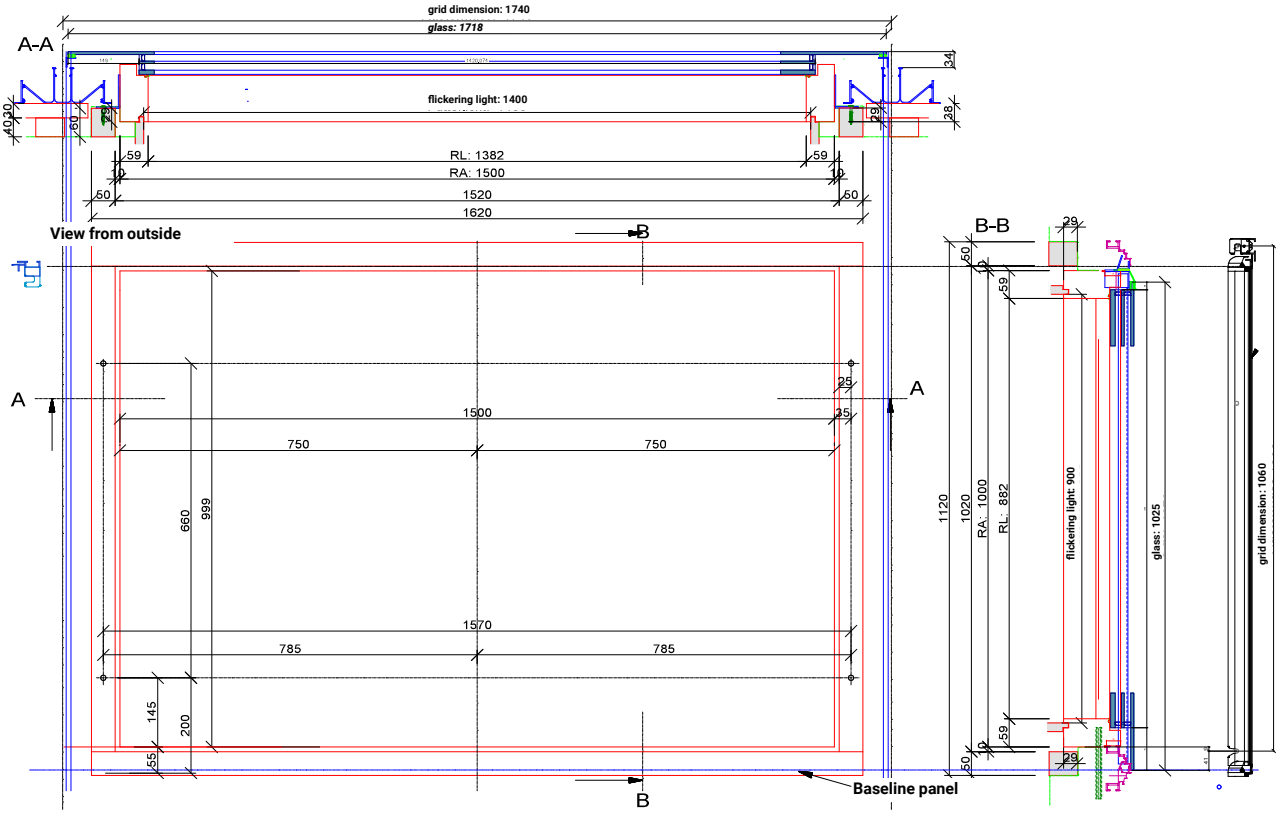


Variant 2
The tile level is 50mm higher than
the NICER X carrier level.

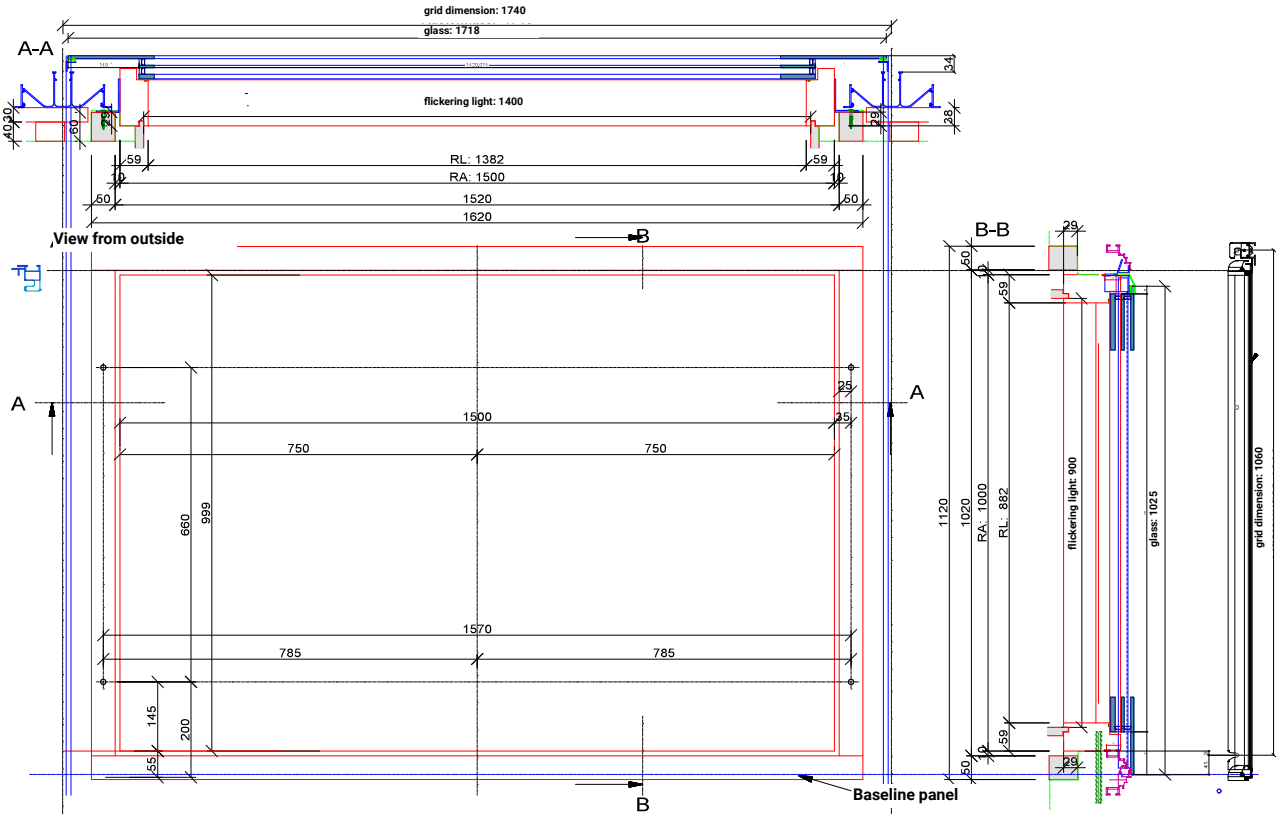


The NICER X system can be integrated into the tiles using tinsmith sheets. The tinsmith sheets must be professionally installed according to the situation.

Variant 1 - Solid



Variant 2 - Wings



Requirements for the sub-roof and recommendation for rear ventilation (counter batten in mm)

Roof pitch 0° to 3° < 800 m above sea level ¦ > 800 m above sea level.		Roof pitch 3° to 6° < 800 m above sea level ¦ > 800 m above sea level		Roof pitch 7° to 13° < 800 m above sea level ¦ > 800 m above sea level		Roof pitch from 13° < 800 m above sea level ¦ > 800 m above sea level		
Sub-roof in flat roof quality		Sub-roof for extraordinary loads		Sub-roof for raised loads		Sub-roof for normal loads		Rafter length
30 (+50)	30 (+50)	30 (+50)	30 (+50)	30 (+50)	30 (+50)	30 (+50)	30 (+50)	<5m
30 (+50)	100	30 (+50)	50 (+50)	30 (+50)	50 (+50)	30 (+50)	30 (+50)	5-8m
50 (+50)	50 (+50)	50 (+50)	70 (+50)	50 (+50)	70 (+50)	30 (+50)	50 (+50)	8-15m
70 (+50)	90 (+50)	70 (+50)	90 (+50)	70 (+50)	90 (+50)	30 (+50)	70 (+50)	>15m

(+50) = Rear ventilation through NICER X carriers

It is recommended that the sub-roof is always drained into the gutter.

With the intermediate battens in accordance with “NICER X vertical battens for increased requirements,” the system can meet even higher requirements for tightness.

Further information and recommendations on the subject of sub-roofs can be found and observed in document **Vxx.xx Requirements for sub-roof Megasol in-roof systems**.

Ventilation and exhaust openings

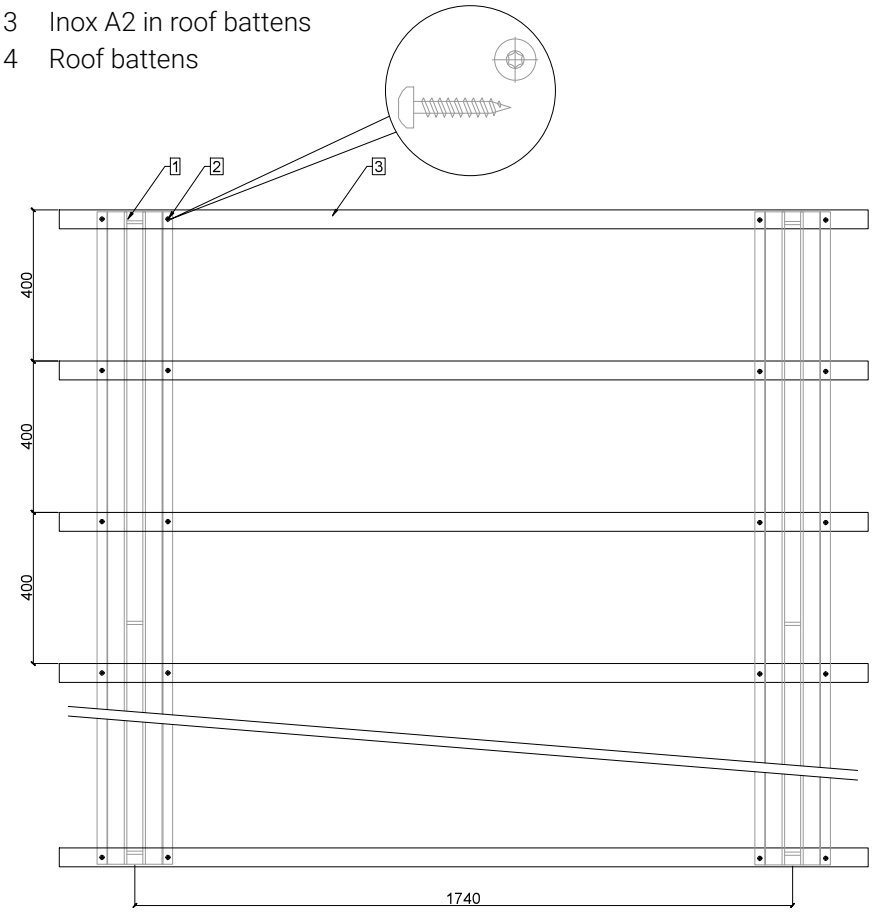
The free cross-section of the ventilation and exhaust openings must correspond to half of the ventilation space (height of counter battens). Any reduction due to perforated sheeting must be taken into account. In the case of roof penetrations, a constructive measure is needed to divert the air.

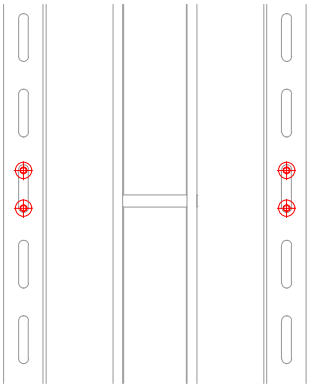
NICER X carrier (standard) Installation instructions | A4 | V25.01 |

For normal requirements, a 6x30 mm wood screw can be used to secure the NICER X carrier. The grid dimension for the mounting points on the roof battens is around 400 mm. For increased requirements or different distances between the mounting points, the design must be adapted on site.
Due to the dilation of the carrier, the fixed point of the carrier should be in the middle, with a screw placed at the upper and lower end of a slot.

Further information on the connection of the NICER X carrier: VXX.XX Static data NICER X connection

1 NICER X carrier
2 6x30 mm wood screw
3 Inox A2 in roof battens
4 Roof battens





Fixed point with 2 screws per slotted hole

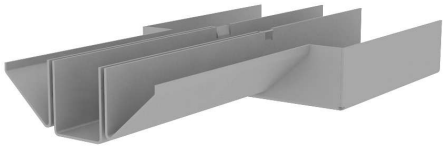
Equipotential bonding
To equalize the potential, it is recommended to connect each carrier to the potential equalization. The modules are in metallic contact with the carrier via the NICER X click system and the NICER X carrier

Lightning protection
The NICER X carrier can be used as a "natural" conductor. For suitable accessories for connection and further information, we recommend Arthur Flury AG.

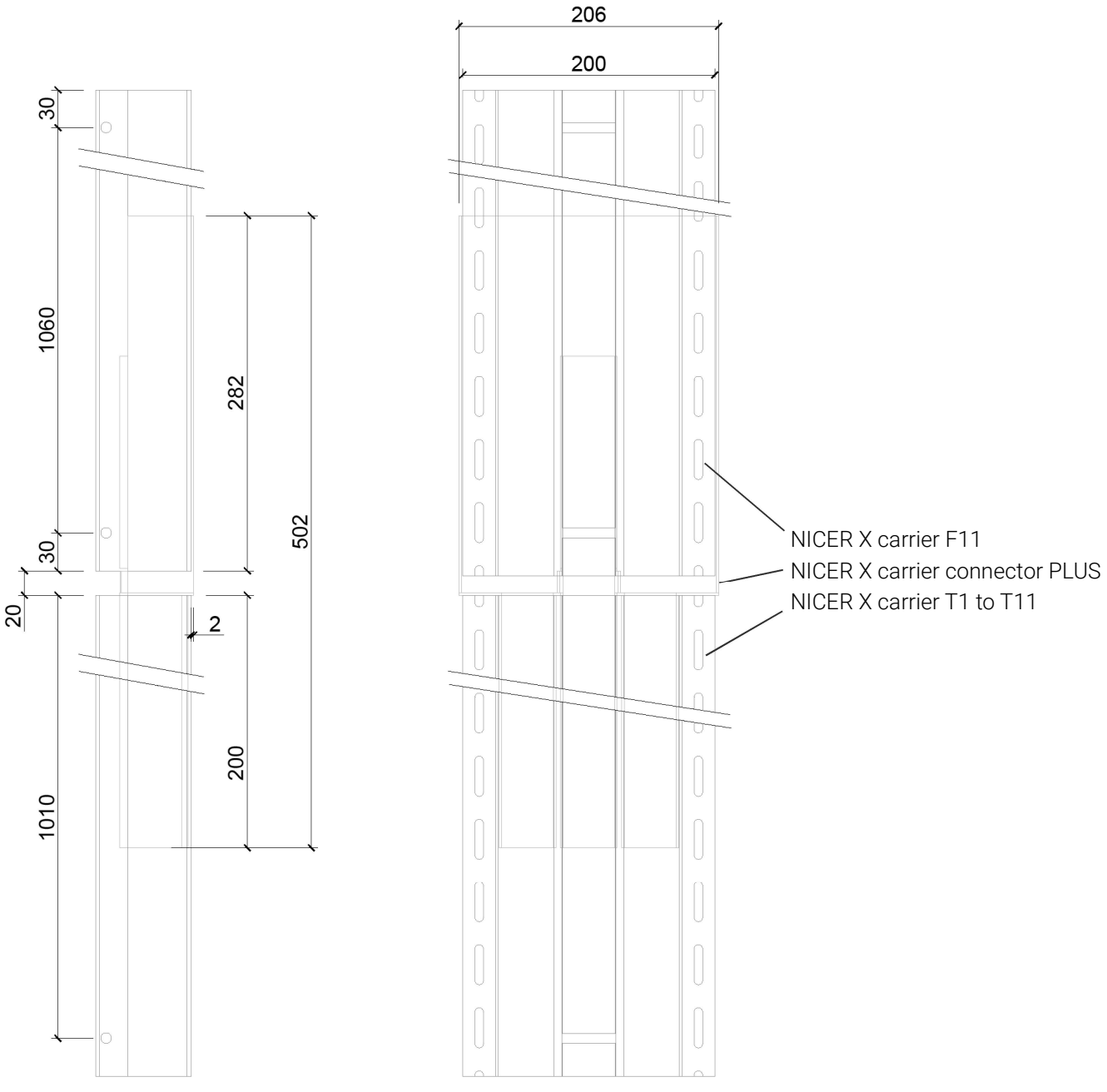
Note: Even with careful planning and execution of the lightning protection system, very high voltages can be induced in the PV module during a lightning strike, which can damage the PV module. The lightning protection must be designed by specialists and whether the system requires lightning protection or needs to be integrated into it depends on the on-site and local regulations.
The following applies in principle: if lightning protection is present, the PV system must be integrated.

NICER X carrier connector PLUS

With the NICER X carrier connector PLUS, the NICER X carrier F11 can be extended with NICER X carriers T11 to T1. “F” stands for ridge, as this carrier is attached at the top. “T” stands for eaves for the carriers at the bottom. The number after “F” or “T” stands for the number of modules that can be clicked in.



NICER X Carrier connector PLUS

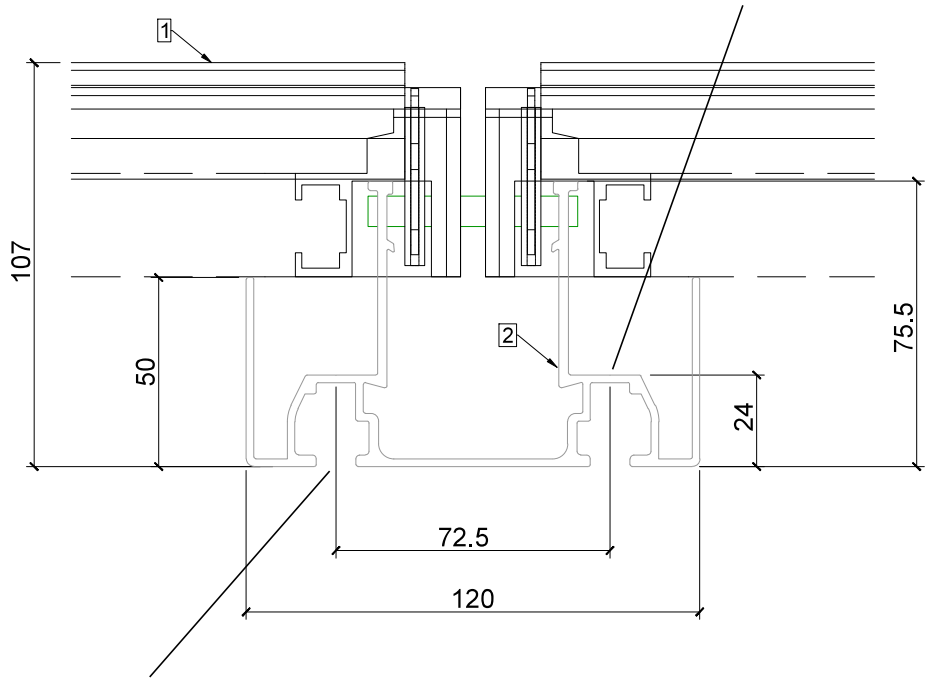


Side view

Floor plan

1 NICER X module
2 NICER X carrier B120

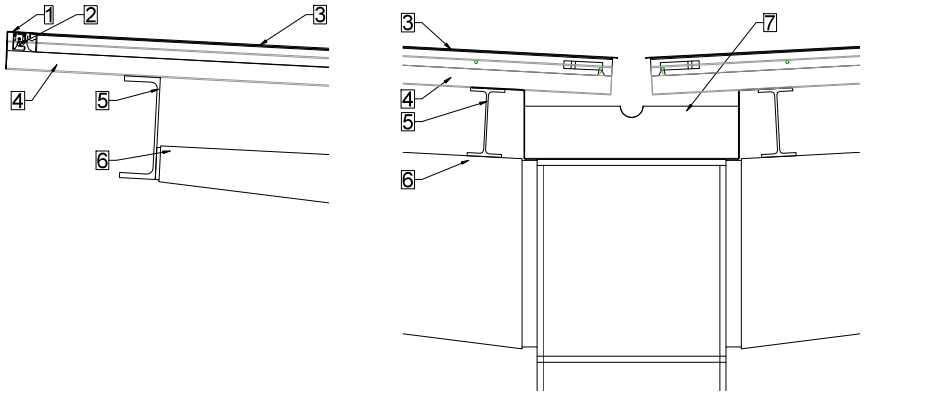
Connection from above:
Drilling groove for on-site drilling
(e.g. for wood screws with sealing ring)

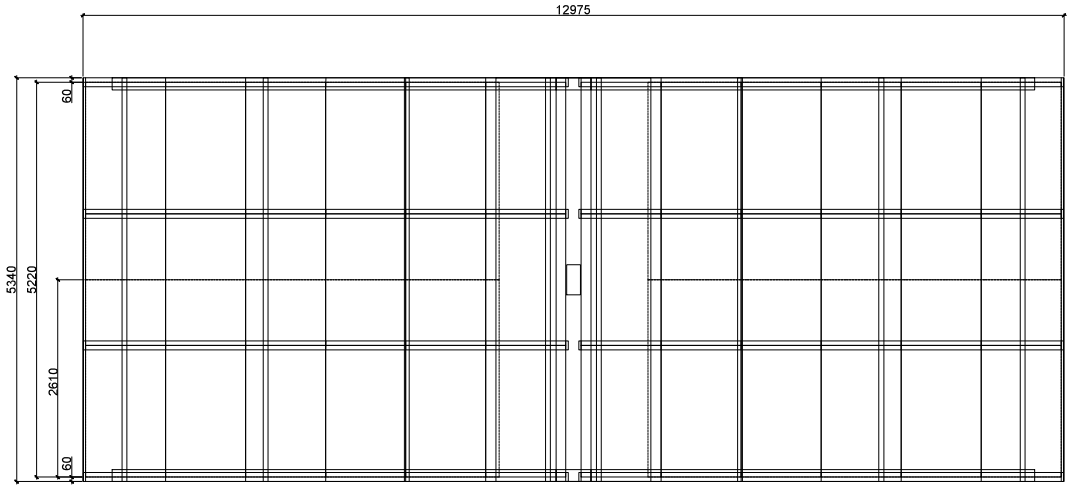


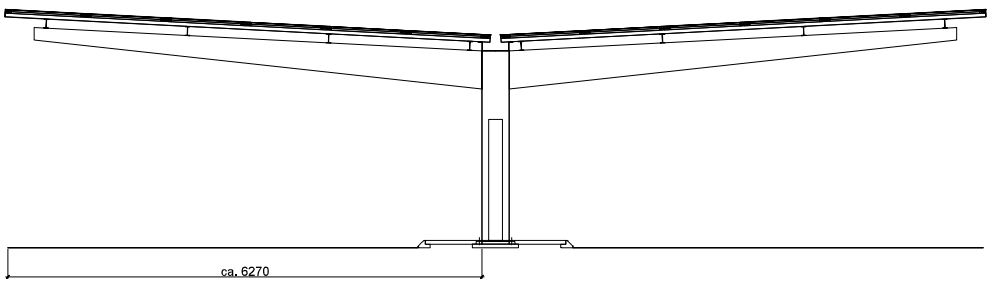
Connection from below:
Groove for M10 bolt head
(e.g. DIN933 / DIN931 or ISO4017 / ISO4014 with S17)
or Square nut M10 (e.g. DIN 557 with S17) screwable

NICER X WingPort

1 NICER X ridge capping profile RM1740
2 NICER X bolt
3 NICER X module
4 NICER X carrier B120
5 Horizontal steel beam
6 Steel beam cantilever
7 Gutter



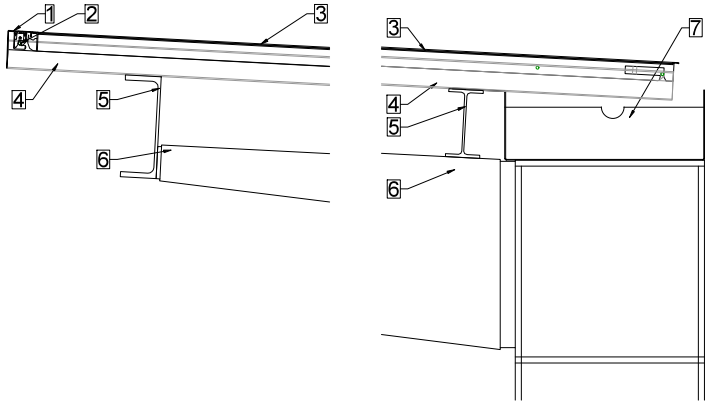


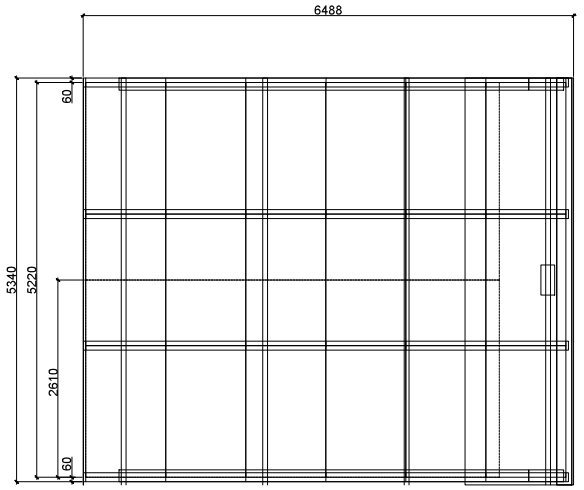


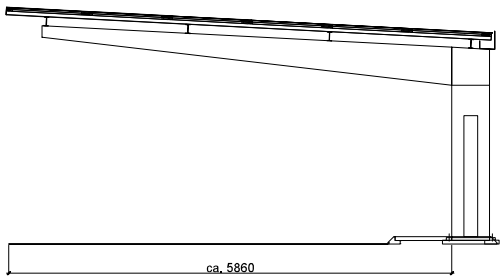
WingPort can be scaled as required, as the solution is modular. The basic SingleWing unit consists of two parking spaces, while the basic DoubleWing unit has four parking spaces. The recommended parking space size is around 6 x 2.5 m. Of course, customized dimensions are possible.
Statics must be checked on site and for each specific project.

NICER X WingPort

1 NICER X ridge end profile RM1740
2 NICER X bolt
3 NICER X module
4 NICER X carrier B120
5 Horizontal steel beam
6 Steel beam cantilever
7 Gutter



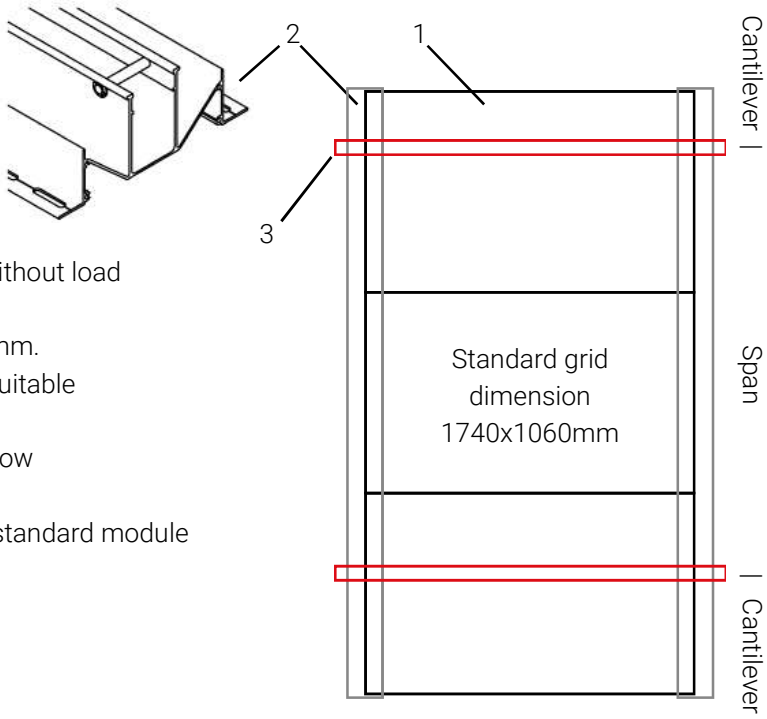




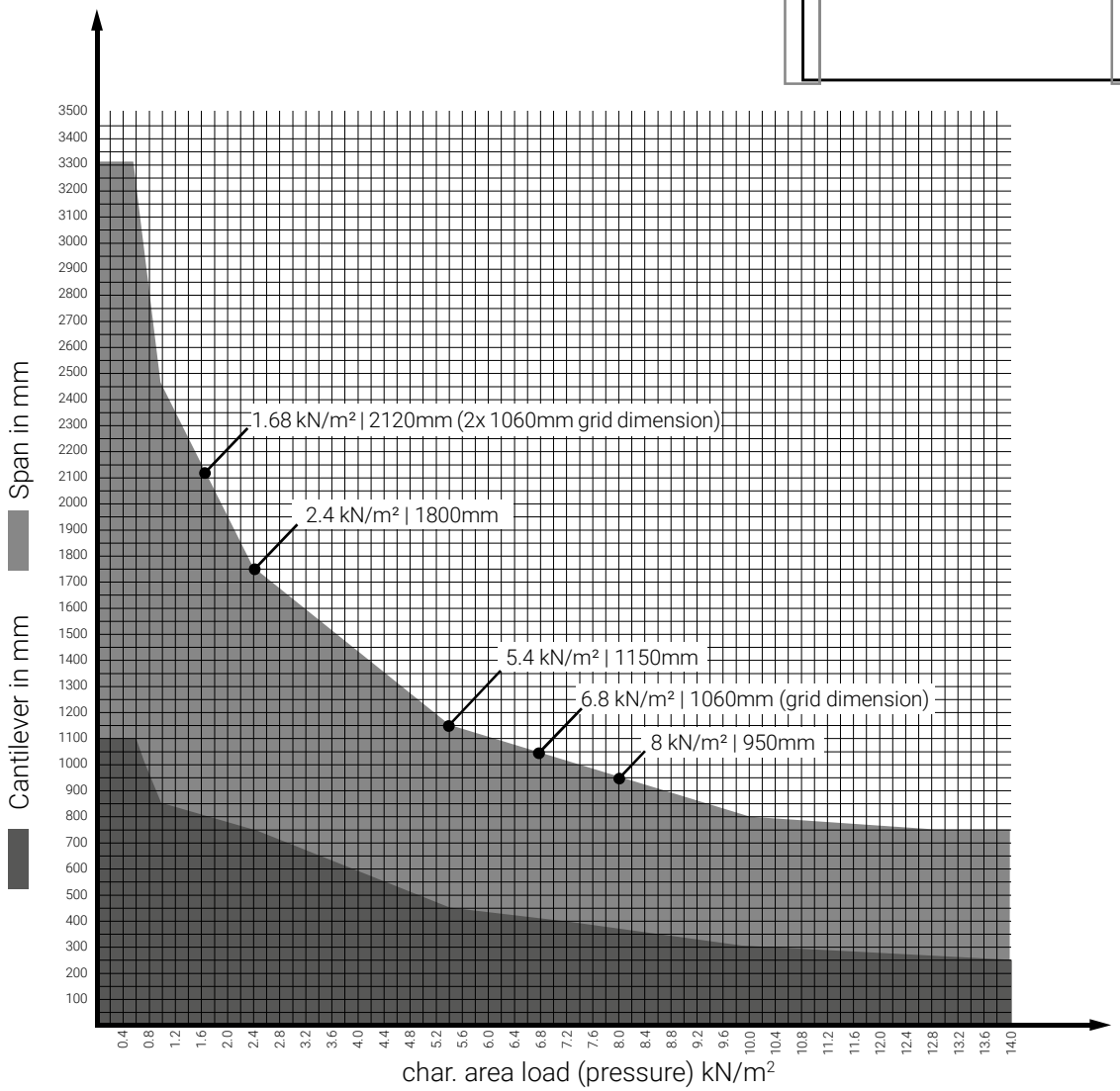
The WingPort can be scaled as required, as the solution concept has a modular structure. The basic SingleWing unit consists of two parking spaces, the basic DoubleWing unit of four parking spaces. The recommended parking bay size is around 6 x 2.5 m. Individual dimensions are of course possible.
Statics must be checked on site and on a project-specific basis.

NICER X rail - Span & cantilever

1 NICER X standard module
2 NICER X carrier
3 Support

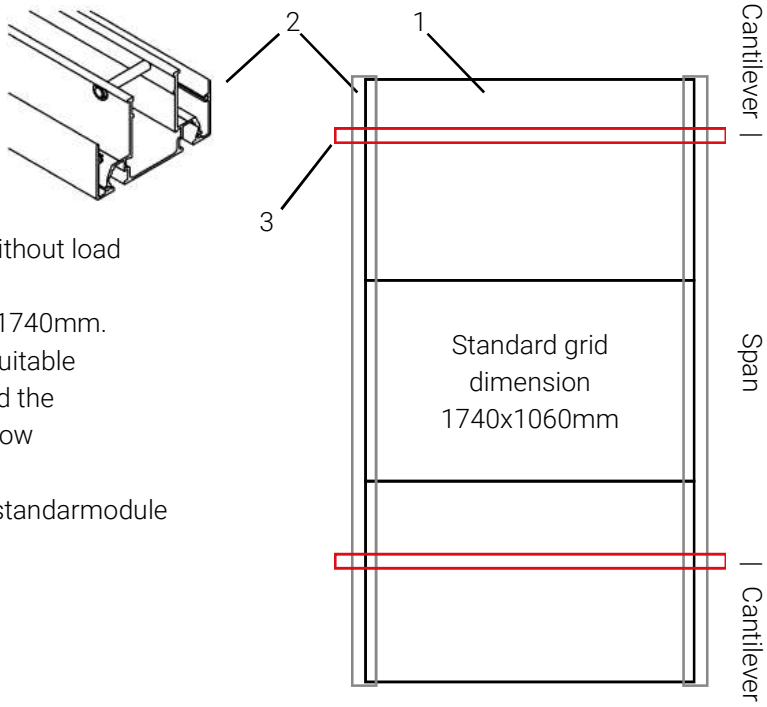


- Span/cantilever length in millimeters
- Area load (pressure) in kN/m², char. Value without load coefficients
- Distance between NICER X carriers is 1740mm.
- The NICER X system must be mounted on suitable substructures that are suitable for the appropriate mechanical loads from wind, snow and dead weight of the solar modules.
- System weight: approx. 16kg/m2 (NICER X standard module with 2x 2mm glass + NICER X carrier)

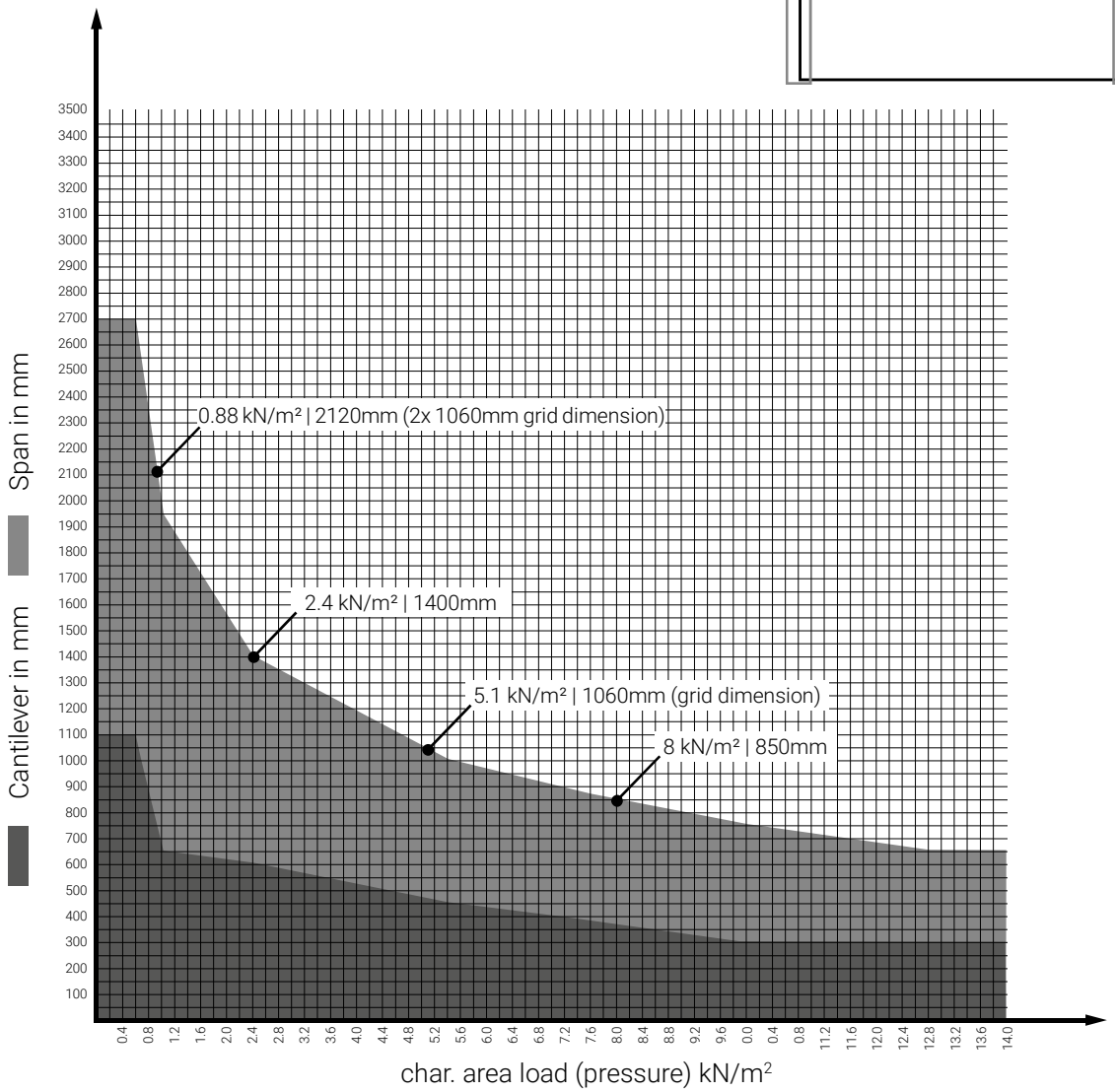


NICER X carrierB120 - Span & cantilever

1 NICER X standard module
2 NICER X carrier B120
3 Support



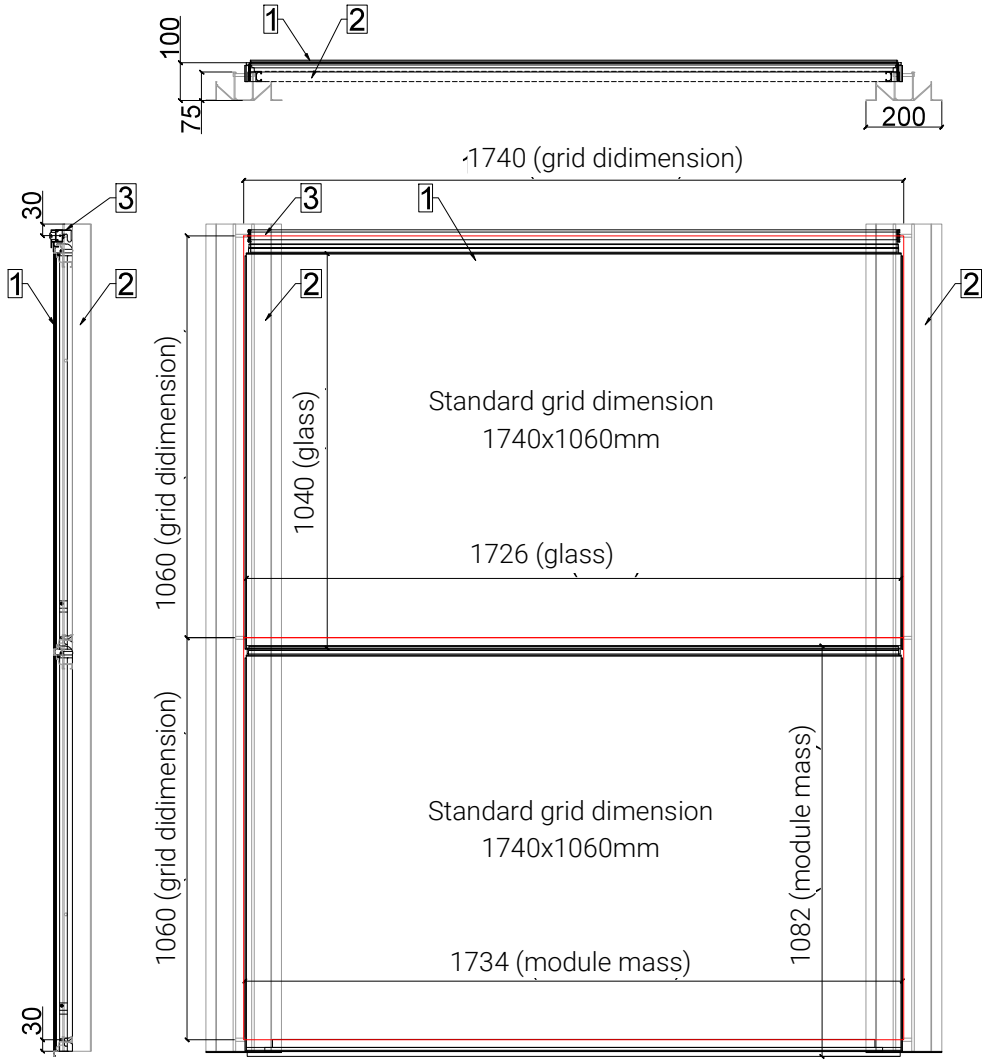
- Span/cantilever length in millimeters
- Area load (pressure) in kN/m², char. Value without load coefficients
- Distance between NICER X carriers B120 is 1740mm.
- The NICER X system must be mounted on suitable substructures that are designed to withstand the appropriate mechanical loads from wind, snow and dead weight of the solar modules.
- System weight: approx. 16kg/m2 (NICER X standarmodule with 2 x 2mm glass + NICER X carrier)



NICER X facade

The NICER X system can also be used as a ventilated facade. The NICER X carriers can be attached to horizontal on-site profiles or other suitable elements.

1 NICER X module
2 NICER X carrier
3 NICER X ridge profile RM1740



Notes:
It is essential to check the facade according to page 4 (NICER X module click lock) to ensure that the modules are correctly secured. An additional NICER X control tool can be provided and is recommended.

Distance between scaffolding and facade: To allow the NICER X modules to be clicked into place, there must be a distance of at least 300 mm between the scaffolding and the supporting surface of the NICER X carrier.

Max. surface load pressure: 2.4 kN/m², max. surface load suction: 2.4 kN/m²
Higher loads possible with additional measures.
The specified values are test loads (test load = design load x 1.5).