

i Please be informed that the images inserted in this installation manual are for illustration only and do not represent the approved pantile roof covering. The CompactPITCH XT 40 Slim system is intended exclusively for the installation of PV modules on single lap interlocking pantile.

Assembly Instruction

COMPACTPITCH XT40 Slim

Document Version : 08 | Document reference number : AI_XT40_Slim_08

Language : English

Important! Read carefully before installation!



Legal Notice

Subject to change due to technical modifications! These assembly instructions correspond to the technical status of the delivered product and not to the current development status at the manufacturer. If pages or parts of the assembly instructions are missing, please contact the manufacturer's address given below. The original language of these assembly instructions is German. Any assembly instructions in another language are a translation of the assembly instructions in German. Therefore, in case of doubt or contradiction, the authentic German version shall prevail. The assembly instructions are protected by copyright. The assembly instructions may not be copied, reproduced, microfilmed, translated or converted for storage and processing in EDP systems, either in part or in full, without the written permission of the company AEROCOMPACT Europe GmbH.

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GENERAL

These assembly instructions describe the assembly procedure and must be strictly adhered to. Read these installation instructions carefully before starting installation. The basic prerequisite for safe working is compliance with all the safety and handling instructions in these installation instructions. In addition, the local accident prevention regulations and general safety regulations for the area of application of the product apply.

LIMITATION OF LIABILITY

All information and instructions in these assembly instructions have been compiled taking into account the applicable standards and regulations, the state of the art and our many years of knowledge and experience. Liability provisions are stated in our **terms** and conditions and can be accessed at www.aerocompact.com/downloads.

EXPLANATION OF SYMBOLS

SYMBOLS FOR INSTRUCTIONS



Prerequisites for action instruction



Results of action steps



Step by step action instruction



This note provides useful information for smooth installation

SYMBOLS IN ILLUSTRATIONS - ACTIVITIES



Optional component, optional mounting variation



Activity by hand



Visual inspection



Observe right angle

SYMBOLS IN ILLUSTRATIONS - TOOLS



Measuring tape, measure



Pencil, mark



Chalk line



Scissors, tin snips, cut to size



Cordless screwdriver, screwdriver



Use a torque wrench, Observe torque



Use Allen key

SAFETY

The following list serves as an indication of the most common safety hazards that can occur when installing these products. There is no liability for the completeness of the risks presented. A concrete check of the necessary safety measures is to be carried out by an entrusted specialist company prior to installation.

APPROPRIATE USE

The CompactPITCH XT 40 Slim system is intended exclusively for the installation of PV modules on single lap interlocking pantile. Proper use also includes correct installation in accordance with these installation instructions. Approval from the module manufacturer is required for the use of PV modules with the CompactPITCH system. AEROCOMPACT accepts no liability for loss of performance or damage of any kind to the PV modules. Any other use of the CompactPITCH system is considered improper use. Do not enter the mounting rails during installation. It is strictly forbidden to place any objects, such as pallets, on the mounting rails.

IMPORTANT NOTES ON TIGHTNESS DURING INSTALLATION:

Care must be taken during the installation of the roof hooks to ensure that the tightness of the roof is not compromised. The following points should be noted:

Correct positioning: Ensure that the roof hooks are positioned precisely in accordance with the planning documents and local building regulations. If the roof hooks are positioned incorrectly, they can affect the roof waterproofing and ultimately lead to leaks. Also note that in some cases it may be necessary to remove the protruding noses of sharp-edged roof tiles, especially if roof replacement tiles are used.

Correct choice of torques: Extreme caution is required when tightening the roof hook fastening screws. Excessive tightening can damage the roof seal. Ensure that you adhere exactly to the torques recommended in these installation instructions. This protects the integrity of your roof waterproofing.

Inspection after installation: After the roof hooks have been installed, a thorough inspection of the installed components must be carried out. Check for signs of damaged sealing materials or other potential leaks. Improper installation practices can lead to leaks in the roof, which in turn can cause serious damage to the building fabric and interior fittings.

By observing and complying with these instructions, you agree to take responsibility for proper installation and to minimize possible risks with regard to the tightness of the roof. Your careful implementation of these recommendations is crucial to ensure the longevity and reliability of your roof.

NOTE ON THE PROCESSING OF THIN SHEET METAL SCREWS

I The attachment of thin sheet metal screws with impulse or impact screwdrivers is not permitted. The high speeds can cause damage to the screw bodies, the flashing and the sealing. Thin sheet metal screws may **only** be used **once**, as their performance is not guaranteed if they are reused.

- Apply pressure to the thin sheet metal screw and screw in at low speed (< 500 rpm).
- Then reduce the pressure and screw in the thin sheet screw at a higher speed.

PERSONNEL REQUIREMENTS

Installation may only be carried out by a specialist company and must be carried out strictly in accordance with the installation instructions. A specialist company is a company that is familiar with the installation and maintenance of photovoltaic systems as part of its normal business operations. National and local building regulations, standards and environmental protection must be complied with. Under no circumstances may the assembly personnel be under the influence of medication, alcohol, drugs or in any other condition that impairs consciousness (e.g. overtiredness). Trainee personnel may only carry out work under the instruction and supervision of specialist personnel who are authorized to train personnel.

WORKING SAFELY

The contractual partner must ensure that the necessary safety measures and the relevant labor law and occupational safety regulations are observed when installing products from AEROCOMPACT Europe GmbH. Information from AEROCOMPACT Europe GmbH on the need to comply with security measures is provided without guarantee and without any claim to completeness and serves only to support the contractual partner. The contractual partner is obliged to inform himself about all relevant regulations concerning working safety and to comply with them. AEROCOMPACT Europe GmbH expressly assumes no responsibility and consequently no liability. Areas below the roof on which work is being carried out must be protected from falling objects. Where this is not possible, the affected areas must be closed to the public and unauthorized personnel. If the weather is unsuitable, work on the roof must not be continued for longer than necessary or must not be started at all. Never carry out installation work in strong winds. Strong winds exert particular enormous forces on the large-area PV modules. There is a risk of a module being torn off the roof and people being injured. Never work in wet conditions or at temperatures below freezing. Depending on the roof pitch, there is a risk of slipping. Only use suitable, intact and tested ladders. Set up and secure ladders according to specifications. Separate rules apply to mechanical climbing aids (elevators, cherry pickers, etc.). Never use the PV mounting system as a climbing support. Keep sufficient distance from overhead power lines. Equipotential bonding between the individual system components must be carried out in accordance with the respective country-specific regulations. When cutting materials to size, make sure there are no burrs, especially on edges and corners where there is a risk of injury.

BREAKTHROUGH PROTECTION

Roof windows, skylights, large ventilation flaps, etc. generally cannot withstand the weight or impact of a person. Such objects must be secured in a similar way to the roof edge. Corrugated fiber-cement roofs can be at risk of breakthrough over the entire surface. Define routes and secure them with load distribution measures. Always use load distribution aids on roof coverings or roof structures (e.g. thin sheet metal, corrugated fiber cement) with insufficient load-bearing capacity.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal protective equipment is used to protect people from health and safety hazards at work. Personnel must wear personal protective equipment during installation. Personal protective equipment is explained below:



Wear safety goggles when drilling and sawing



Wear cut-resistant work gloves during assembly



Wear safety shoes



Use fall protection



Helmets must be worn by all persons working on the construction site

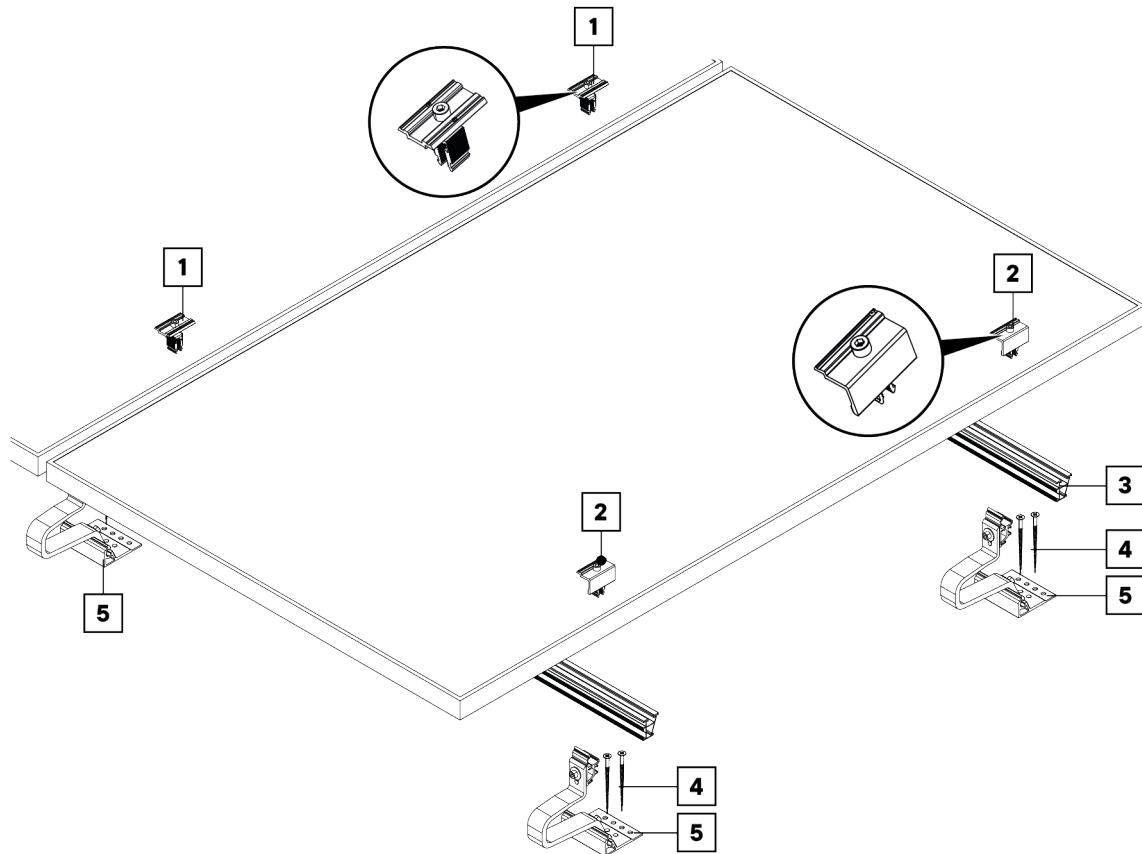


Wear hearing protection

SYSTEM OVERVIEW

i The **CompactPITCH XT 40 Slim system** is intended exclusively for the installation of PV modules on single lap interlocking pantile.

BASIC COMPONENTS XT40 SLIM



1 CLM10

Middle clamp Click 30 - 46 mm

3 X40

Mounting rail X40 | 1980 mm | 3300 mm | 3550 mm |
4400 mm | 4750 mm | 5500 mm | 5850 mm

5 XT40 Slim

Roof Hook

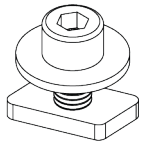
2 CLE10

End clamp Click 30-46

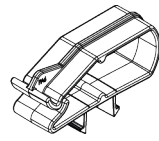
4 SDS-W-8x100

Wood screws

SYSTEM ACCESSORIES XT40 SLIM

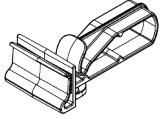


SCR-MA
Bolting set module accessories

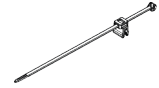


CLP-R
Cable clip rail

MODULE ACCESSORIES

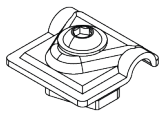


CLP-U
Cable clip universal



CLP-M
Cable tie clip module

POTENTIAL EQUALIZATION



WCL8-10
Wire clamp 8 - 10 mm

ASSEMBLY

ASSEMBLY PREPARATION

Required tools for assembly

i Before starting the assembly, make sure that the assembly personnel are familiar with the proper use of the listed tools.



Bit hexagon socket 6 mm



Bit TORX T40



Torque wrench 10 - 30 Nm with hexagon socket bit 6mm



Measuring tape



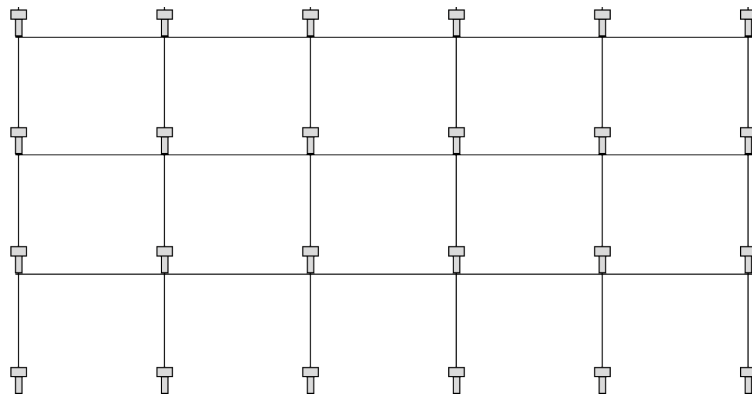
Cordless screwdriver



Torque wrench 10 - 30 Nm with socket for WS 13

MEASURE AREA

i The roof hooks are screwed to the rafters.



- Determine module dimensions.
- Determine the spacing of the rafters
- Determine and mark the positions of the roof hooks.

FASTENING AND POSITIONING OF ROOF HOOKS AND CLAMPS

GENERAL

A module must be clamped at least twice along its long sides. For the purpose of clarity, two modules require at least two mounting rails, eight roof hooks, four end clamps, and two middle clamps.

HORIZONTAL X-AXIS

The horizontal (X axis) spacing between roof hooks is determined by the width of the module and rafter spacing. The maximum horizontal (X axis) roof hook spacing is 600 mm (measured from the roof hook center), whereas, the minimum distance of roof hooks from the outer long module edge is 276.53 mm and to the inner is 277 mm (as measured from the centre of the hook to the center of module end clamp/ middle clamp bolt).

VERTICAL Y-AXIS

The vertical (Y axis) spacing between roof hooks is determined by the length of the module as well as the corresponding allowable clamping zones. Modules should only be clamped in the designated clamping sections. The following module clamping limitations must be met: the minimum distance between the center of the module clamp and the nearest outer short edge of the module is 250 mm, and the maximum is 330 mm.

RELEVANT APPROVED DISTANCES

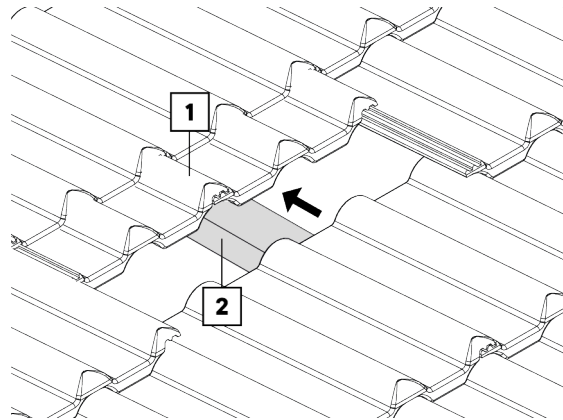
Item	Distance in mm
Minimum distance from the centre of the module end clamp bolt to the end of the rail	54 mm
Maximum distance from the roof hook center to the centre of the module end clamp bolt on the cantilevered section of rail	276.53 mm
Maximum distance from the roof hook center to the centre of the module middle clamp bolt	277 mm
Minimum and maximum distance from the centre of the hook to the end of the cantilevered section of rail	330.53 mm to unlimited
Maximum horizontal (X axis) spacing between roof hook centres	600 mm
Minimum vertical (Y axis) spacing between roof hook centres	1102 mm
Maximum vertical (Y axis) spacing between roof hook centres	1262 mm

INSTALLING ROOF HOOK WITH BASE PLATE

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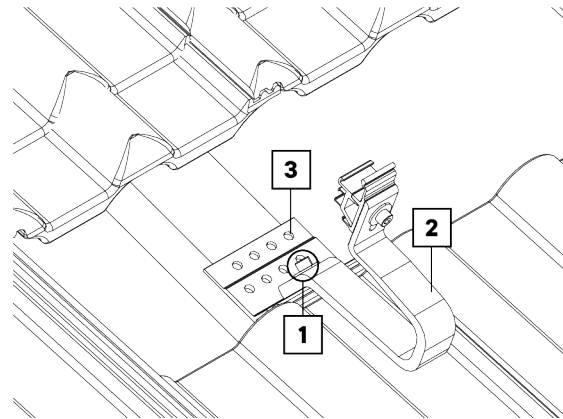


- ▶ Expose the roof battens (2).
- ▶ Move the roof tile (1) upwards or remove it.



POSITION BASE PLATE AND ROOF HOOK

- ▶ Loosen the screw connection (1) between the base plate and the roof hook.
- ▶ Position the base plate (3).
- ▶ Position the bracket (2) in the valley of the tile.

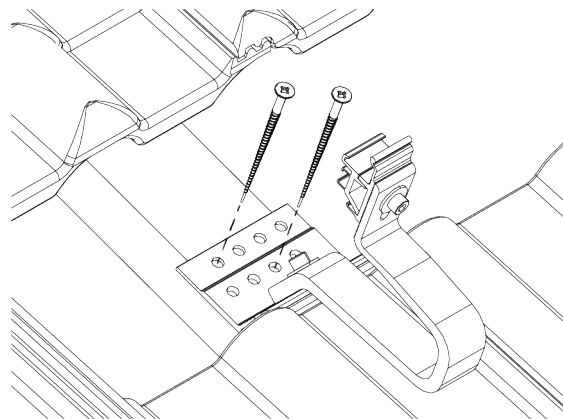


INSTALLING ROOF HOOKS

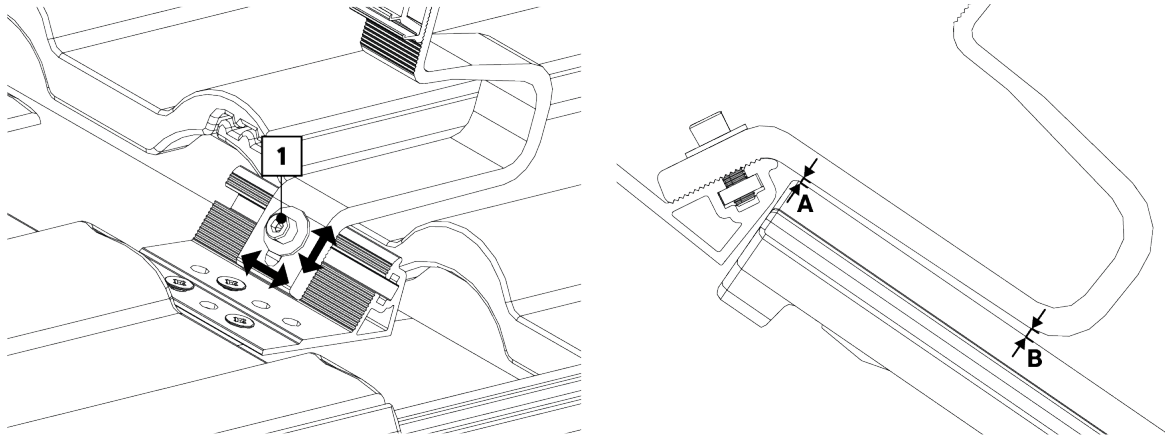
- ▶ Screw in the screws (1) on the base plate.

i **Number of screws per roof hook:**
SDS-W-8x100 - 2 pcs.

i Please select a suitable hole for mounting the base plate. Make sure that the minimum distance to the edges of the counter-battening is observed according to the latest technical documentation of the manufacturer of the installed screws.



ALIGN ROOF HOOK



- ▶ Position the bracket in the trough of the corrugation with the following minimum distance to the on-site roof covering:

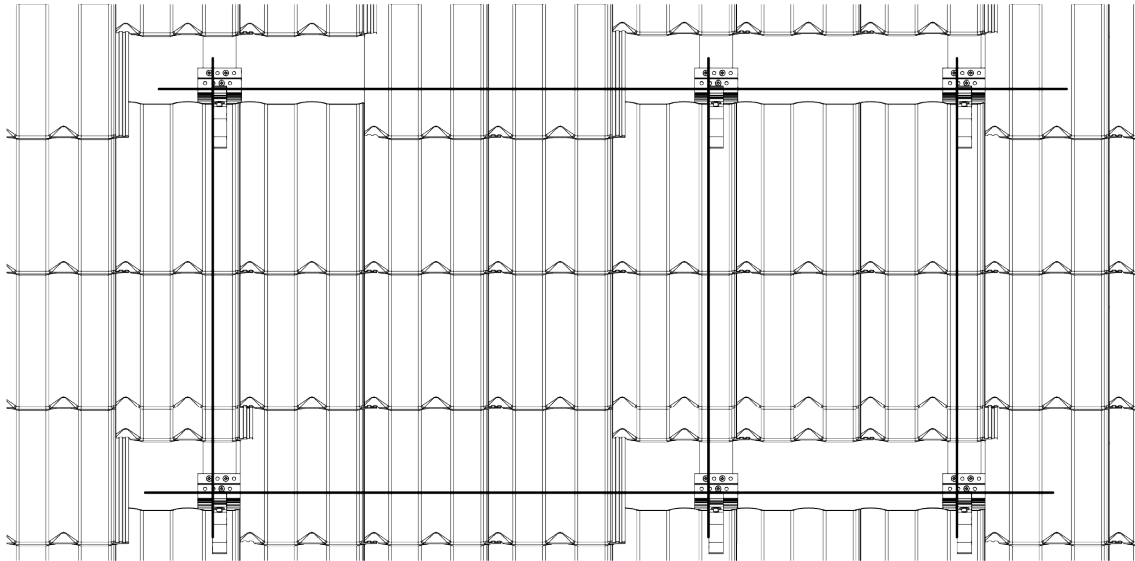
A = 2 mm

B = 5 mm

- ▶ Tighten the screw (1) with a torque of 15 Nm or 11 lb-ft.

COMPLETE ROOFING

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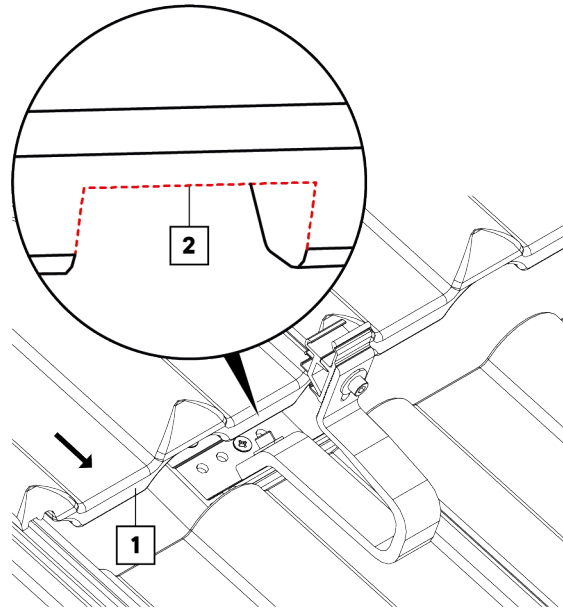
i Before completing the roofing, check that the roof hooks are correctly aligned both **horizontally** and **vertically**. In case of discrepancies, the roof hooks must be adjusted again.



- ☑ Complete the on-site roof covering (1) again afterwards.
- ☒ If necessary, work on the roof tile located above the installed roof hook at the interlocking joint (2) so that the original position is restored.

i The tightness must be ensured!

Make sure that the roof covering is properly closed around the roof hook.



⚠ CAUTION!



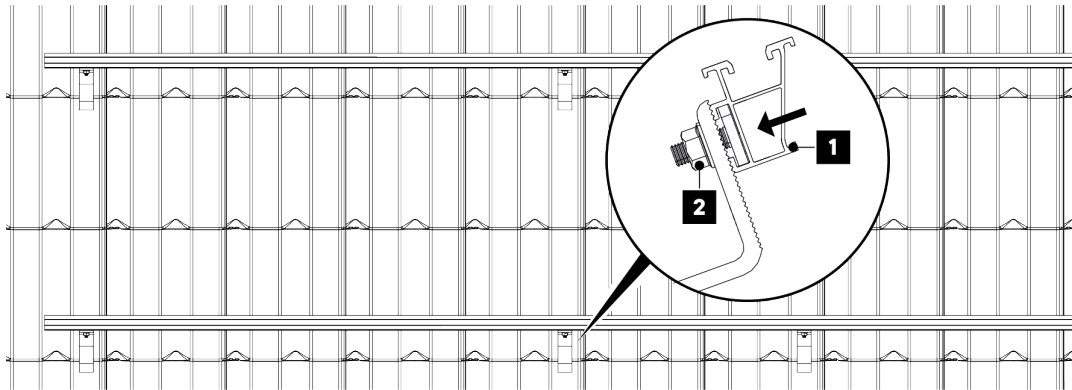
Risk of injury due to sharp edges

Cut caused by touching the edges of the roof tile.

- ☒ Wear safety gloves
- ☒ Handle carefully

MOUNTING X40 MOUNTING RAIL

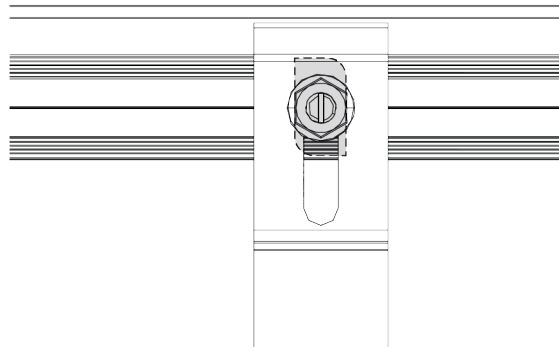
Mounting hammer head screw



- ▶ Fasten each mounting rail (1) to the roof hook with the hammerhead screw.
- ▶ Tighten the nut (2) with a torque of 15 Nm or 11 lb-ft.



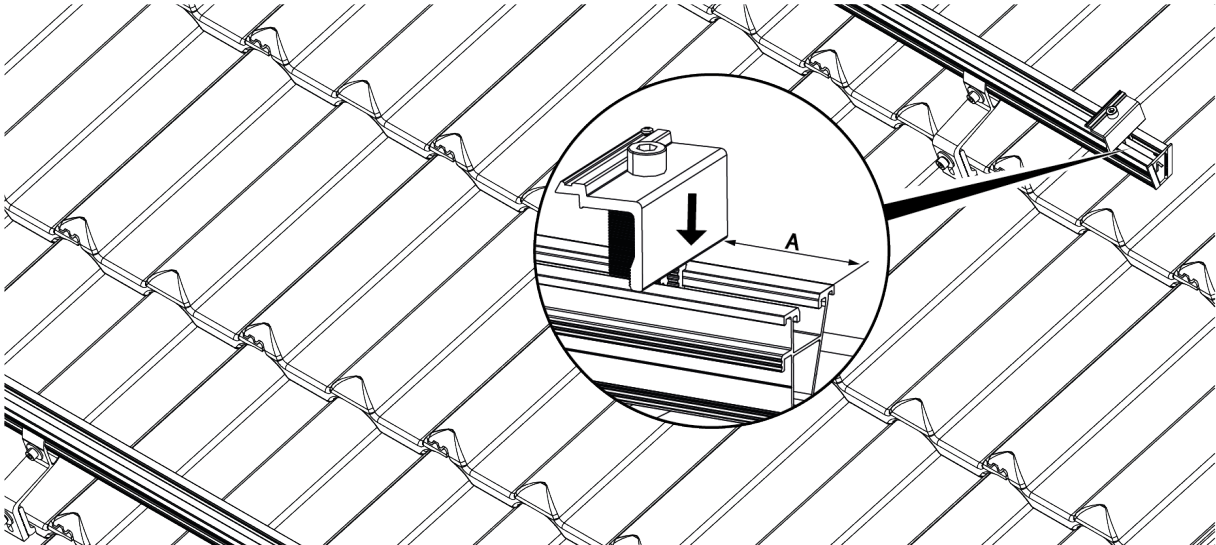
- 1 Mount T-Bolt screws correctly: Notch must be aligned vertically.
- 1 Establish a force-fit and form-fit connection between hook and rail.



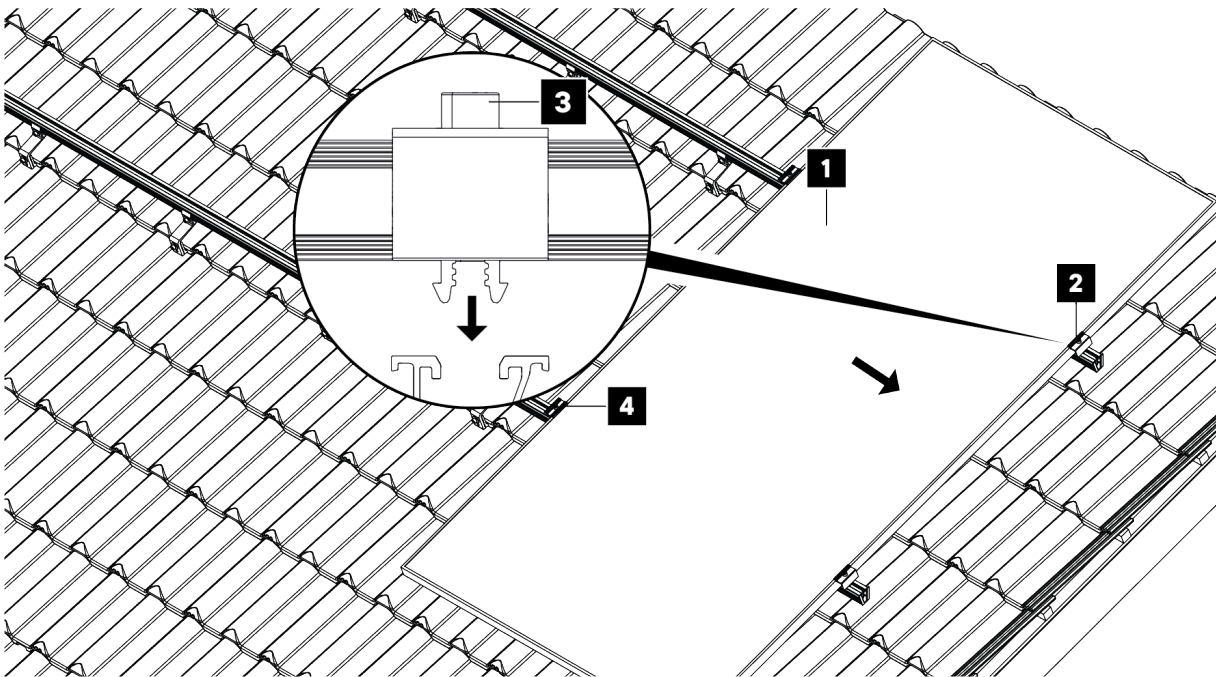
INSTALLING THE MODULES

i Wiring tip:

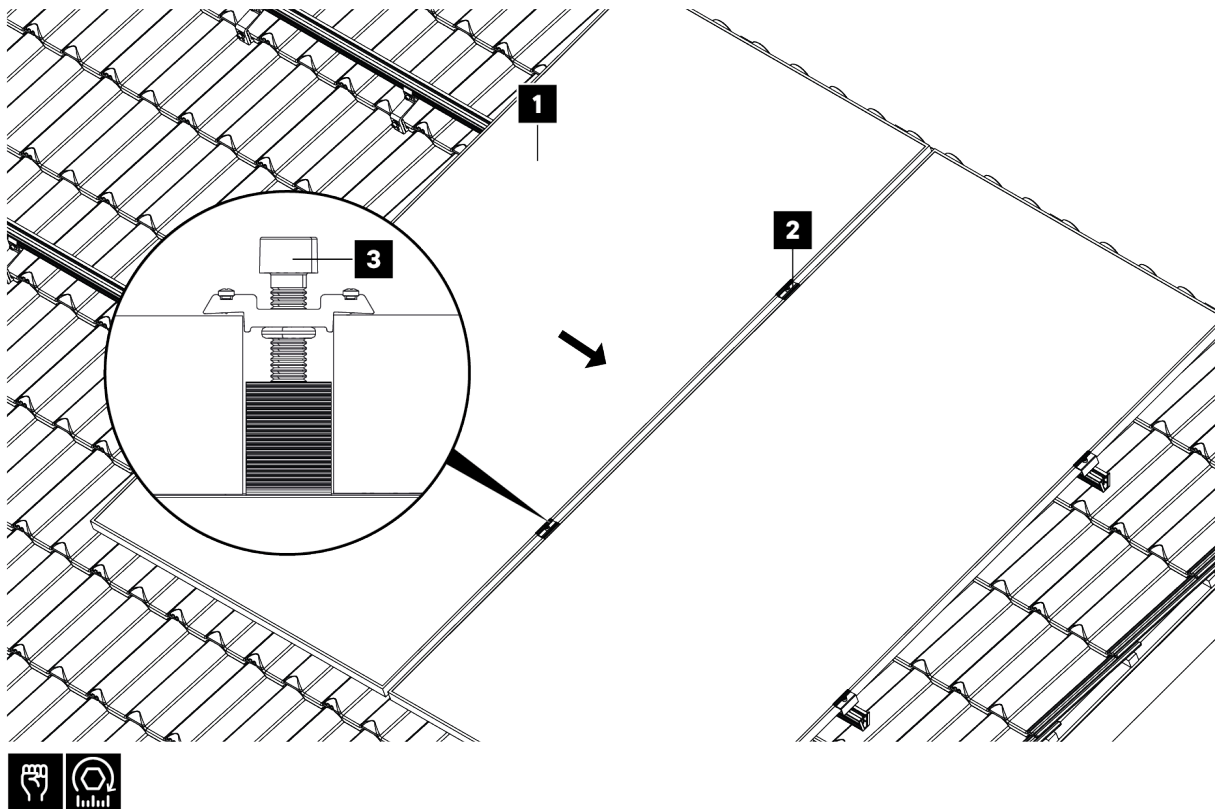
It is recommended to wire the modules simultaneously during assembly. For this purpose, the cables can be securely fastened to the module using the cable tie clip (CLP-M).



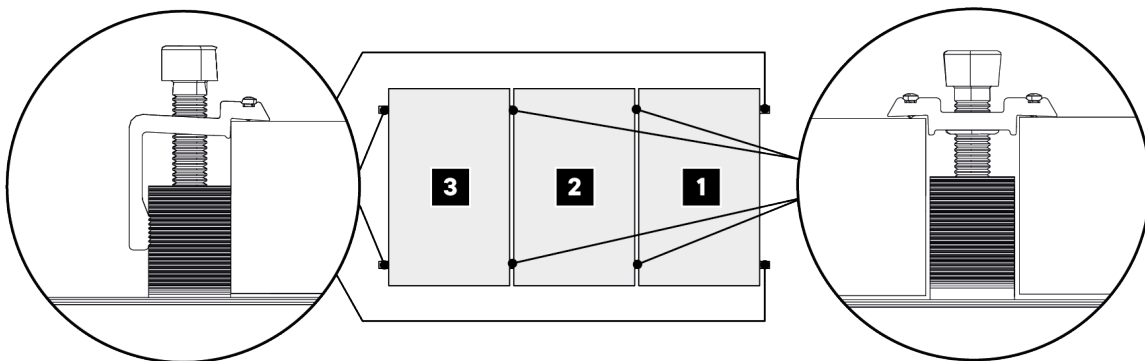
- ▶ Mount the end clamps on one side at the edge of the mounting rail.
- ▶ The edge distance of the end clamp is $A \geq 40 \text{ mm}$.



- ▶ Place the first module (1) and bring it up to the end clamps.
- ▶ Tighten the screws (3) of the end clamps (2) with 15 Nm or 11 ft lbs.
- ▶ After the first module, attach the mid-clamps (4).



- Position the second module (1).
- Tighten the screws (3) on the middle clamps (2) to a torque of 15 Nm or 11 ft lbs.



- Continue mounting the modules row by row.
- Make sure that the modules are installed in a line.
- Tighten the screws on the middle and end clamps 15 Nm or 11 ft lbs.

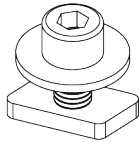
Reposition / replace clamps

- Demount clamp: Unscrew the screw at the clamp completely.
- Depending on the mounting situation, squeeze the clamp laterally and pull it out or pull it laterally out of the rail.

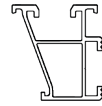
ASSEMBLE MLPE (MOUNTING RAIL)

i The **SCR-MA** screw connection is intended for the mounting rails **X40**, **X50** and **X60**. In the following steps, the assembly is shown using an **X40** mounting rail. The procedure is identical for **X50** and **X60** mounting rails.

NECESSARY COMPONENTS



SCR-MA
Bolting set module accessories

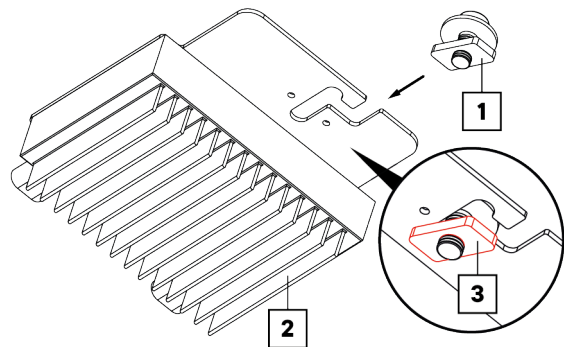


X40-XXXX
Mounting rail X40 1980 mm 3300 mm 3550 mm 4400 mm 4750 mm 5500 mm 5850 mm

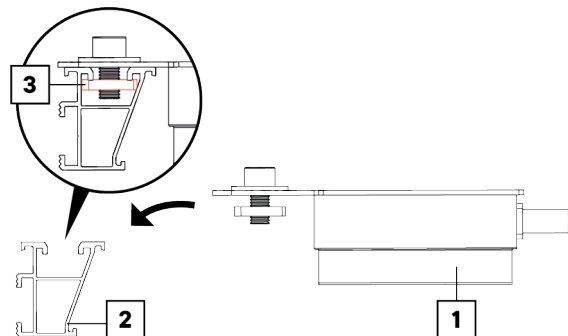
ASSEMBLY (EXAMPLE MOUNTING RAIL X40)



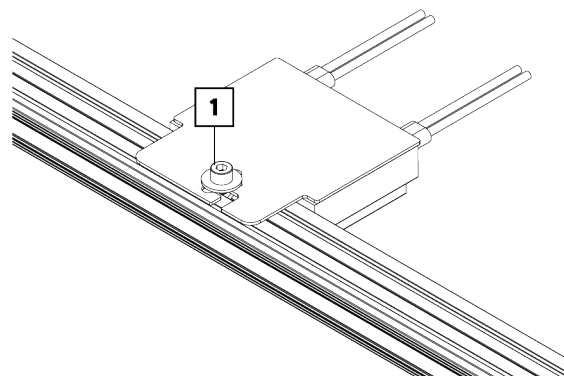
- Insert the screw connection (1) into the MLPE device (2) as shown in the illustration.
- Ensure that the plate (3) is pointing downwards.



- Guide the MLPE (1) with the screw connection to the top of the mounting rail (2).
- Insert the plate (3) as shown in the illustration.



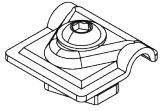
- Then tighten the Allen screw (1) with a torque of 15 Nm or 11 lb-ft.
- ☑ The MLPE is now mounted.



POTENTIAL EQUALIZATION

i For potential equalization, **AEROCOMPACT Europe GmbH** provides the wire clamp as an accessory. These are each mounted on the mounting rail, depending on the mounting situation, the module rows are connected to each other by the module clamps.

NECESSARY COMPONENTS



WCL8-10
Wire clamp 8 - 10 mm



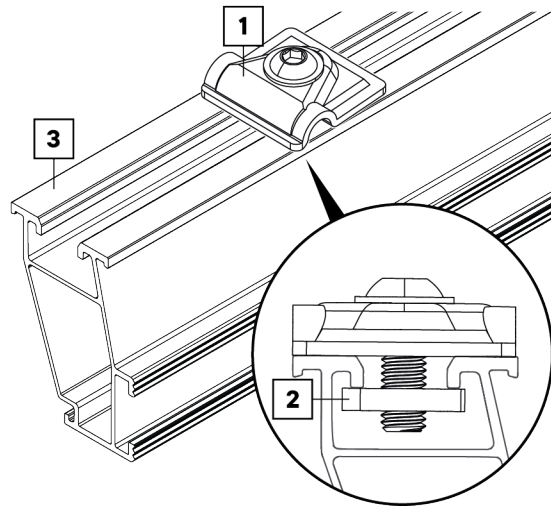
X60-XXXX
Mounting rail X60 1980 mm 3550 mm 4750 mm 5850 mm

MOUNTING WIRE CLAMP (EXAMPLE MOUNTING RAIL X60)

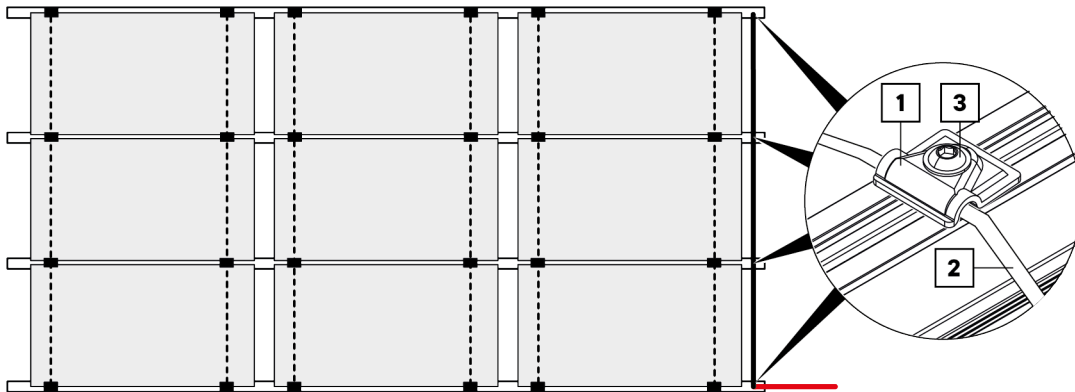


- Insert the wire clamp (1) into the X60 mounting rail (3).
- Ensure that the threaded plate (2) is positioned as shown in the illustration.

i In the following steps, the installation of the clamp is shown using an **X60** mounting rail. The procedure is identical for **X50** and **X40** mounting rails.



POTENTIAL EQUALIZATION



i Dotted lines - connection by module clamps
Continuous lines (black) - connection module rows
Continuous lines (red) - connection of equipotential bonding **on-site**

- Insert the wire (2) into the wire clamp (1).
- Tighten the screw (3) with a torque of 10 Nm or 7.37 ft lb.
- Connect the wire (2) to the on-site equipotential bonding.

MAINTENANCE, DEMOUNTING AND DISPOSAL

MAINTENANCE

To prevent personal injury and damage to property, the system must be checked regularly by qualified personnel and annual maintenance is required.

- Check all system components for damage. In the event of damage, replace the affected component immediately.
- Check all screw connections. Tighten loose screw connections, observing the tightening torque specified in the installation instructions.
- Checking all components for damage caused by the weather, animals, dirt, deposits, build-up, vegetation, roof penetrations, seals, stability and corrosion. In the event of damage, clean, repair or replace the affected component.

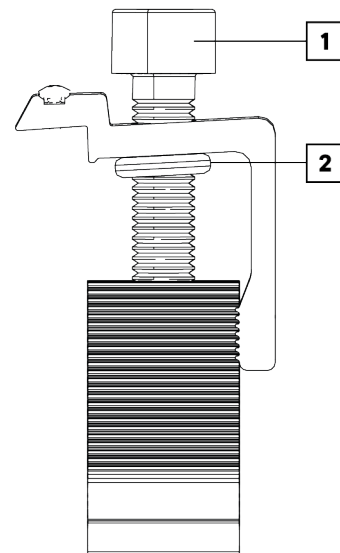
DISASSEMBLY

DISMANTLING THE CLAMPS (EXAMPLE)



i To disassemble the system, carry out the assembly steps in reverse order.

- ☒ Unscrew the screw (1) on the clamp.
- ☒ When reusing the clamp, ensure that the O-ring (2) is not lost.
- i** If the components are reused, it must be noted that these are wearing parts. Therefore, the AEROCOMPACT Europe GmbH cannot assume any responsibility for checking the degree of wear. For this reason, any liability or warranty of AEROCOMPACT Europe GmbH in case of reuse is excluded and reuse is at the installer's own responsibility.



DISPOSAL

Unless a take-back or disposal agreement has been made, disassembled components should be recycled:

- Give metals and plastic elements for recycling.
- Dispose of remaining components sorted according to material composition.

i Incorrect disposal may result in hazards to the environment. In case of doubt, obtain information on environmentally sound disposal from the local municipal authority or from specialized disposal companies.

APPENDIX

DECLARATION OF PERFORMANCE XT40 SLIM



Manufacturer: **AERCOMPACT Europe GmbH**
Designation: **CompactPITCH roof hook system XT40 Slim
for pitched roofs**
Identification code: **XT40 Slim**
Applied standard: **EN 1090**
Certification body: **2397**



[For the declaration of performance](#)

BASIC COMPONENTS OF THE MOUNTING SYSTEM COMPACTPITCH XT40 SLIM, SYSTEM REF.-NR: XT40_SLIM_1.0

Product name	Component Number
Middle clamp Click 30 - 46 CLM10	707011
Middle clamp Click 30 - 46 CLMB10	707611
End clamp Click 30 - 46 CLE10	707003
End clamp Click 30 - 46 CLEB10	707603
Mounting rail X40-1980/3300/3550/4400/4750/5500/5850	705101-1980/3300/3550/4400/4750/5500/5850
Mounting rail X40B-1980/3300/3550/4400/4750/5500/5850	705151-1980/3300/3550/4400/4750/5500/5850
Roof Hook XT40 Slim	705323
Wood screw - SDS-W-8x100	701544

i The list above represents the certificated components of the single certificated system COMPACTPITCH XT40 Slim. Please be advised that only the above-mentioned components are tested according to certification standards and therefore certified.

TECHNICAL DATA XT40 SLIM

Installation type	Above roof
Permissible panel orientation	Portrait
Max. solar panel size (Length x Width)	1762 mm x 1134 mm
Permissible solar panel thickness range	30 mm - 46 mm
Roof pitch range	15 ° - 45°
Max. field size	Approx. 12 m, along continuous rail, otherwise unlimited
Min. field size	1 x 1 module
Wind load	Maximum design wind uplift resistance of 2241 Pa with 2 panels in portrait and 8 fixings, partial safety factor 1.25
Compatible roof substructure	Timber rafters - minimum dimensions 60/150 mm
Compatible roof coverings	Pantiles
Compatible roof type	Pitched roof

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