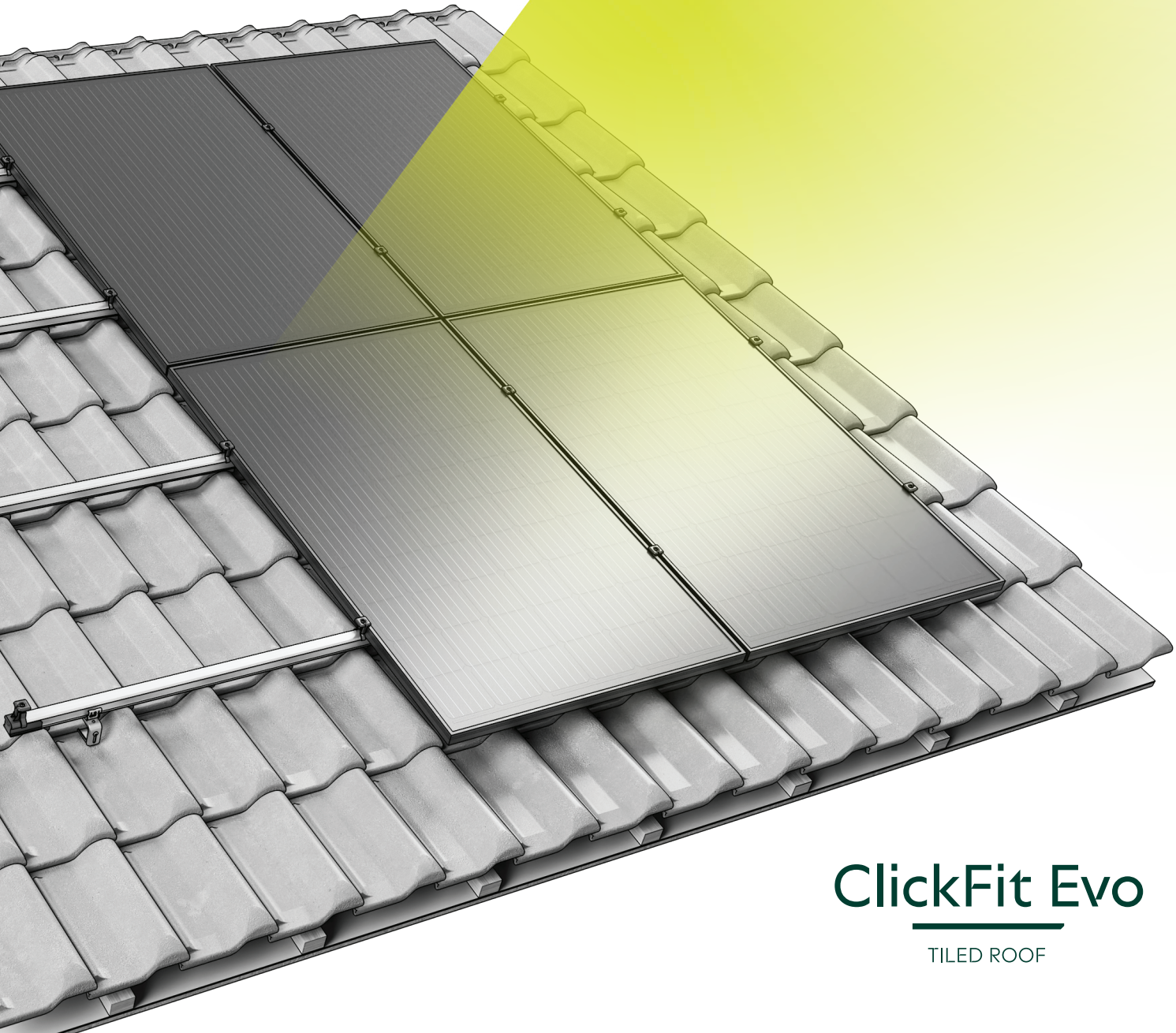
ENSTALL

ESDEC

Manual
ClickFit EVO Tiled Roof



ClickFit Evo

TILED ROOF

CONTENTS

	page
1. Introduction	**1**
2. General installation conditions	**1**
3. Product description	**3**
4. Parts overview	**3**
4.1 Exploded-view mounting system in portrait set-up	**3**
4.2 Exploded-view mounting system in landscape set-up	**4**
4.3 Universal roof hook for portrait or landscape set-up	**4**
4.4 Parts list	**5**
5. Installation preparation	**5**
5.1 Checking tools and accessories	**5**
5.2 Clean the roof	**6**
5.3 Determining and measuring the position of the solar panels	**7**
6. Installation of mounting system in the portrait set-up	**8**
6.1 Pre-mounting of the mounting rail connector	**8**
6.2 Fastening universal roof hooks	**9**
6.3 Fastening the mounting rail	**10**
6.4 Mounting Clickfit EVO MLPE clip Light or Heavy Weight (option)	**11**
6.5 Mounting 1st solar panel on the rails	**12**
6.6 Mounting other solar panels on the rails	**13**
6.7 Completing the mounting of the 1st row of solar panels	**14**
6.8 Completion of mounting/several rows below each other	**15**
7. Installation of mounting system in landscape set-up	**16**
7.1 Pre-installation of the mounting rail connector	**16**
7.2 Fastening of universal roof hooks	**17**
7.3 Fastening the mounting rail	**18**
7.4 Mounting Clickfit EVO MLPE clip Light or Heavy Weight (option)	**19**
7.5 Mounting 1st solar panel on the mounting rails	**20**
7.6 Mounting other solar panels on the rails	**21**
7.7 Completing the mounting of the 1st row of solar panels	**22**
7.8 Completion of installation / several rows alongside each other	**23**
8. Appendix 1 - Clickfit EVO Standard	**24**
8.1 Specifications for installation	**24**
8.2 Tightening moments	**25**
9. Appendix 2 - Clickfit EVO 60 mm Clamp	**26**
9.1 Parts overview	**26**
9.2 Mounting of solar panels in the portrait set-up with 60 mm Clamp	**28**
9.3 Mounting of solar panels in the landscape set-up with 60 mm Clamp	**37**

PLEASE SAVE THIS INSTALLATION MANUAL CAREFULLY FOR FUTURE USE!

We recommend that you contact your supplier for the period and conditions relating to guarantees. We also refer you to our General Terms and Conditions of Sale and Supply, which can be found on the website eu.enstall.com.

The manufacturer rejects all liability for damage or injury caused by failure to meticulously comply with this installation manual and failure to apply normal levels of caution during the transportation, mounting and use of the ClickFit Evo mounting system.

As a consequence of ongoing efforts to implement improvements it can occur that details of the product are different to those described in this manual. For these reasons, the instructions given serve only as a guideline for the installation of the product specified in this manual.

This manual was created with great care, but the manufacturer cannot accept responsibility for any errors in this manual, or their consequences.

Furthermore, all rights are reserved and nothing from this manual may be multiplied in any manner whatsoever.

1. Introduction

This manual describes the installation of the ClickFit Evo mounting system for sloping roofs with roof tiles for solar panels in portrait and landscape set-ups. Optionally, the ClickFit Evo mounting system can be installed with the 60 mm Clamp, for this you will find the instructions in Chapter 9. Appendix 2 - Clickfit EVO 60 mm Clamp.
Read the manual carefully, so that you are aware of its entire contents. Follow the instructions in the manual meticulously. Always execute the actions in the correct sequence.
Keep the manual in a safe and dry place. If the manual is lost, a new copy can be downloaded from eu.enstall.com.

2. General installation conditions

General

Failure to comply with the regulations specified in this document can result in the lapsing of all guarantee and product liability claims.
The information, comments and recommendations in this document are binding and must be checked for completeness and current applicability. Enstall reserves the right to change this document without further prior announcement.

Stability and condition of the roof

The roof must be in good condition and sufficiently strong to bear the weight of the solar panels, including the additional materials, and wind and snow load. Check the stability of the roof and change the roof/construction where necessary. If there is any doubt, use the services of a construction company. Ensure that the load reserve of the roof is not exceeded either locally or in its entirety.

Safety warnings

- The mounting of the ClickFit Evo mounting system must be executed by qualified technical personnel (a minimum of 2 professionally qualified people) as standard.
- The addition or omission of components can have a detrimental effect on the operation and is strongly discouraged!
- For the placement of the solar panels the roof must be clean, dry, level and free of algae etc.
- Avoid mounting in high winds and if the roof surface is smooth and wet.
- Always wear a safety harness and use safety nets and edge protection if necessary when working on a sloping roof.
- Slide roof tiles upwards so that recesses are created in which you can place your feet. Attention! Never stand in the gutter.
- Never walk on the system or on the solar panels.
- Wear shoes with reinforced toecaps and strong anti-slip soles.
- Always wear the correct protective clothing when executing the work.
- Always use a lifting assistance/hoisting installation when moving the material (solar panels, etc.).
- Always place a ladder on a strong, stable base.
- Always place the ladder at an angle of approximately 75º and allow it to extend approximately 1 metre above the edge of the roof.
- If possible, secure the top of the ladder with a rope or tensioning strap.
- Preferably, work in accordance with the “veilig werken op daken” (working safely on roofs) manual.

Application range ClickFit Evo

- The maxiumum allowable wind load etc can be determined by the ClickFit EVO calculator in compliance with MIS 3002. The ClickFit EVO calculator can be found on our website my.enstall.com or can be requested trough customer support.
- Panel dimensions: maximum solar panel size of 3.92 m^2.
- The universal module clamp is suitable for solar panels with a frame thickness between 30 - 50 mm and a frame width of at least 10 mm, where a sufficient clamping force can be achieved. Thanks to its smart design, the ClickFit Evo universal clamp can be used as a middle clamp and as an end clamp (in combination with the end cap). Check whether the chosen solar panel can withstand the loads and clamping force, in the documentation of the solar panel supplier.
- Clamping range adjustable hook (tile lath thickness and tile thickness): 32 - 65mm
- The minimum dilatation distance between the segments is 125 mm.
- Maximum roof height: dependent on Eurocode guidelines and national additions. Use the calculator to calculate the possibilities for your project.
- Type roof covering: Sloping roof with roof tiles.
- Roof pitch: Between 10 - 60 degrees. **Note:** with a roof pitch lower than 20 degrees, check the specifications of the roof tile supplier. With a roof pitch of less than 20 degrees it is often necessary to take additional water-retaining measures, such as applying water-retaining foil under the roof tiles or grinding the roof tile at the hook.
- Use the calculator to ensure you select the right mounting system for the terrain category, snow load and wind zone applicable to your project.

No-go zone
Within 30 cm from the roof edge, gutter, or ridge lies the so-called no-go zone. In this zone, solar panels may not be placed, either fully or partially, due to strong turbulent wind flows.

Edge zone
Within the edge zone, solar panels can sometimes be placed, depending on the calculation results shown in the Enstall Calculator. The exact edge zone and its possibilities are always determined by the Enstall Calculator (my.enstall.com).

Standards, instructions and regulations
During the installation of the mounting system, it is important to adhere to the installation manual and the accompanying standards to prevent accidents. Pay special attention to (local) standards, regulations and legislation (among others):

- The Building Regulations 2010 (latest version)
- Health and Safety at Work etc Act 1974
- Health and Safety in Roof work - HSE
- Eurocodes 0 (EN 1990 - Structural Design)
- Eurocodes 1 (EN 1991 - (Influences on structures)
- HD-IEC 60364 series - Electrical installations for low voltage
- EN-IEC 62305-2 - Protection lightning - Risk Management
- MIS 3002 – The solar PV standard
- MCS012 - Product Certification Scheme Requirements: Pitched Roof Installation Kits

MCS
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Removal and disassembly
Dispose of the product in compliance with local laws and regulations.

Earthing and bonding
Our ClickFit EVO systems are VDE certified for corrosion and bonding. According to the electrical standard HD-IEC 60364 – chapter 712, functional bonding for inverter's isolation check is necessary.
In the Enstall ClickFit EVO Series functional bonding is achieved through the EVO universal module clamp for the module frames and EVO rails. The final functional bonding connection is made by proper mounting of a separate bonding cable onto the EVO rail and an adequate bonding connection with the inverter or earthing contact.
For detailed instructions on grounding and bonding, consult the electrical standard HD-IEC 60364 and any local regulations. Please, follow the instructions of the inverter's manual. This operation needs to be done by a certified electrician.

Warranty
Warranty according to the terms and conditions of Enstall. These can be found on the website eu.enstall.com.

Maintenance
Please refer to the maintenance checklist at https://eu.enstall.com/.

Liability
The manufacturer accepts no liability for damage or injury caused by not (strictly) adhering to the safety prescription and instructions contained in this manual, or by carelessness during installation of the product specified in this document and the eventual related accessories.

- Printing errors reserved

3. Product description

The ClickFit Evo mounting system consists of the patented adjustable universal roof hooks, mounting rails and the installation materials required for the mounting of solar panels on tiled roofs in a portrait or landscape set-up.
The universal roof hook is fitted with a rotatable click bracket, which enable both horizontal and vertical mounting rails to be clicked securely onto the roof hook. The ClickFit Evo mounting system for tiled roofs can be used on all tiled roofs, regardless of the type of tile.

Roof fastening
The universal roof hooks are fastened to the tile laths. The fact that the universal roof hooks are not fastened to the roof trusses or joists means that you are free to choose the position of the solar panels on the roof. Height differences in the roof are easy to fill out with the aid of the adjustable, universal roof hook.

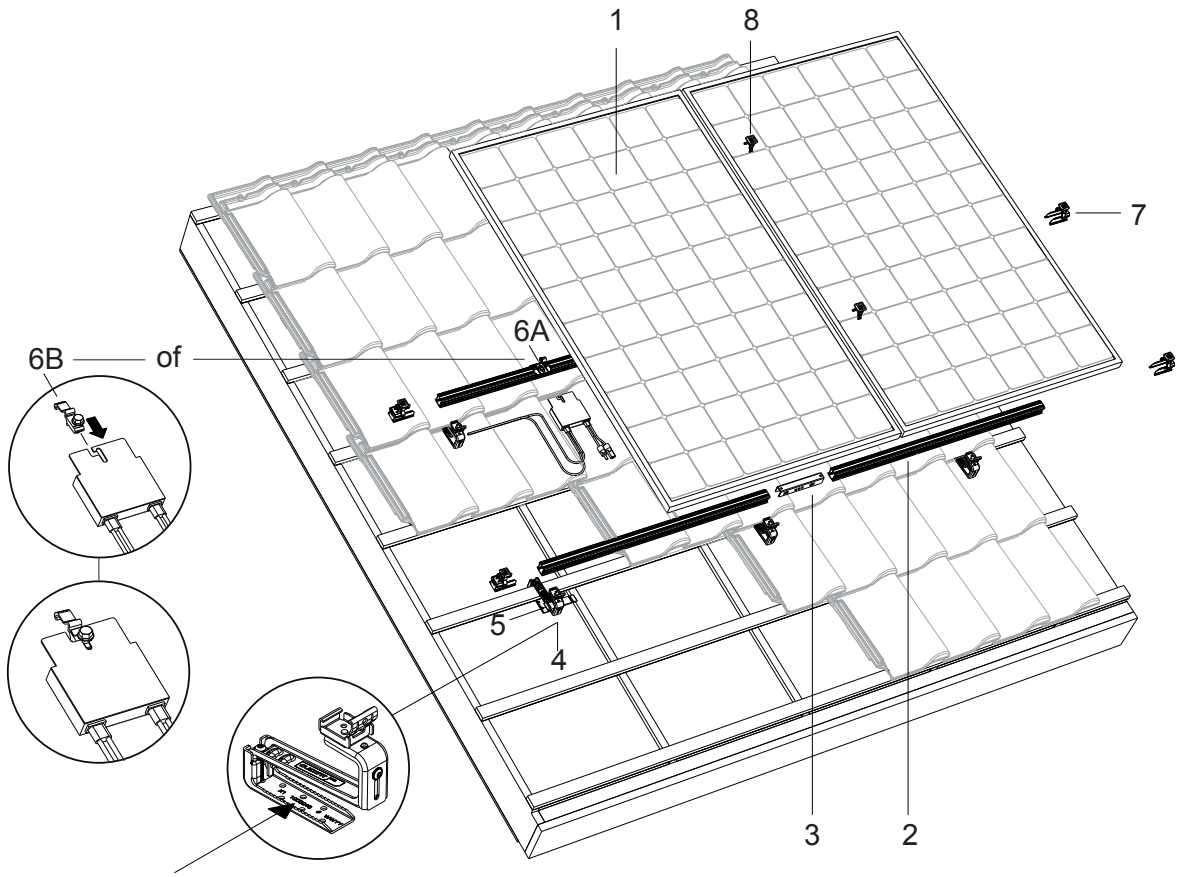
Fastening the MLPE Light and Heavy Weight clips
The MLPE Light and MLPE Heavy Weight clip is fastened to the mounting rails by means of a click connection.

Fastening the mounting rail
The mounting rail is fastened to the Universal roof hooks with a click connector. This does not require any further materials or tools.

Fastening the panels
The solar panels are fastened to the mounting rails with the aid of universal module clamps.
Optionally, the solar panels can be attached to the mounting rails using 60 mm End and Mid clamps. (See 9. Appendix 2 - Clickfit EVO 60 mm Clamp for the installation of the 60 mm Clamps).

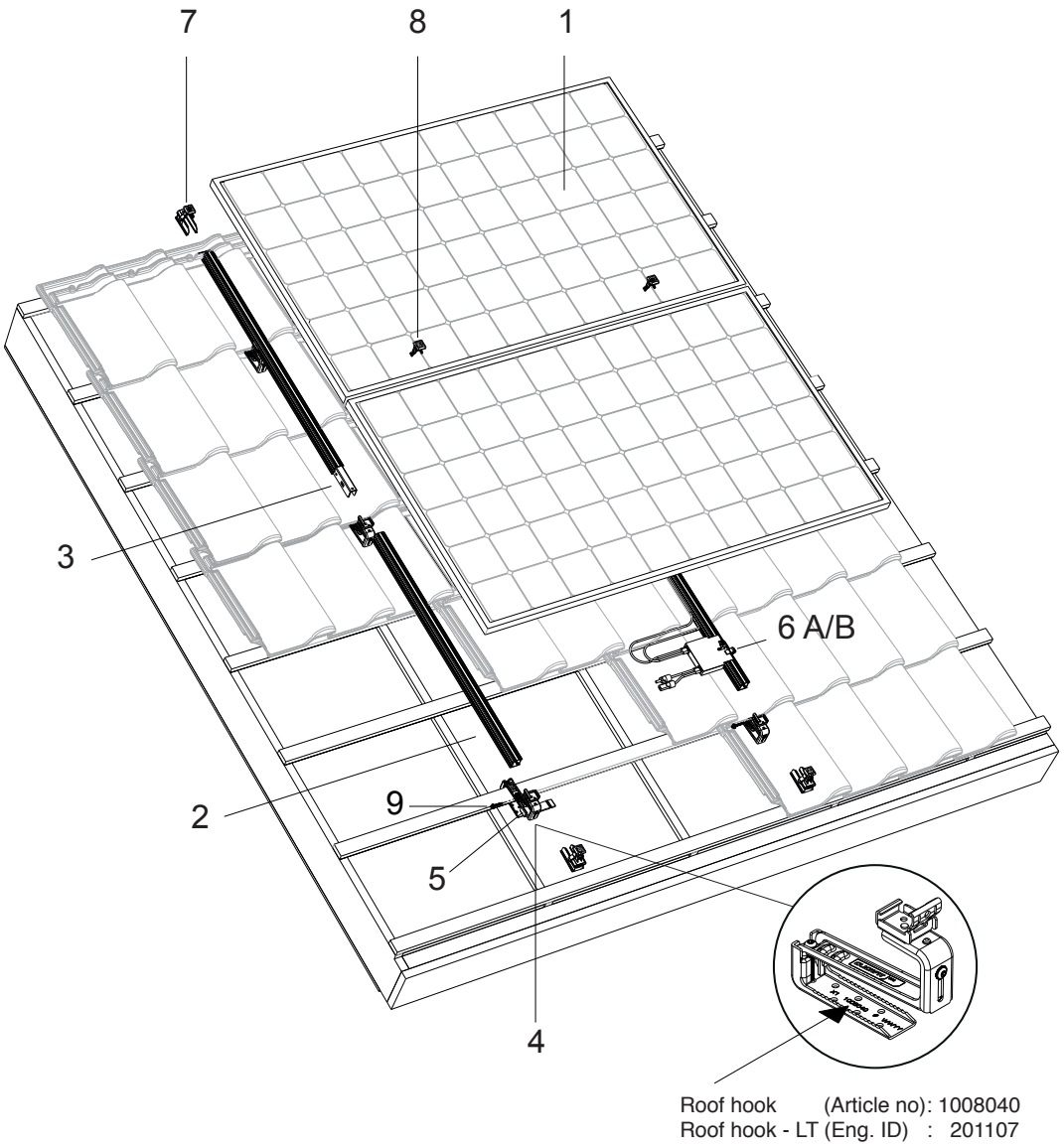
4. Parts overview

4.1 Exploded-view mounting system in portrait set-up



Roof hook (Article no): 1008040
Roof hook - LT (Eng. ID) : 201107

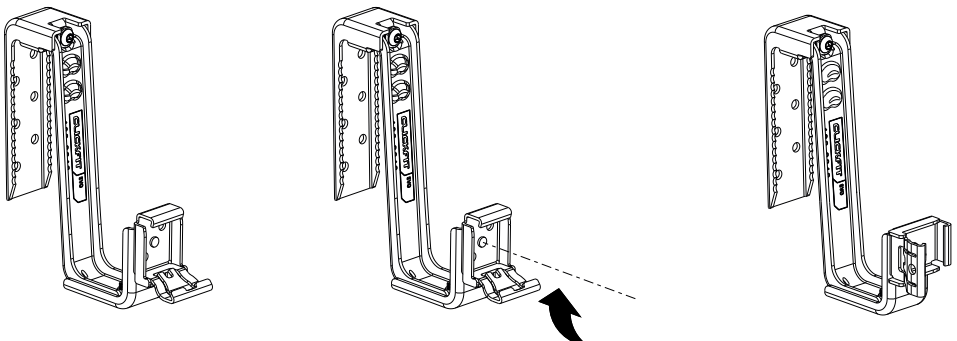
4.2 Exploded-view mounting system in landscape set-up



Roof hook (Article no): 1008040
Roof hook - LT (Eng. ID) : 201107

4.3 Universal roof hook for portrait or landscape set-up

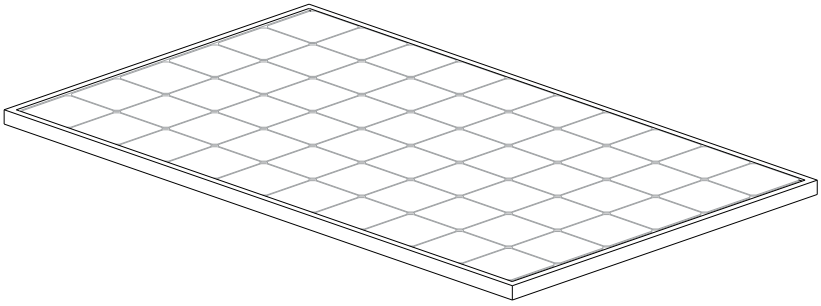
The Universal roof hook is fitted with a rotatable click bracket, which enables the mounting rail to be clicked on both horizontally and vertically. This means that the roof hook can be used for both portrait and landscape set-ups.



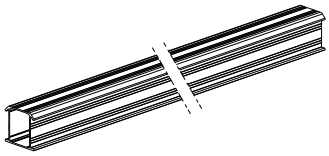
roof hook with clamp bracket in portrait set-up

roof hook with clamp bracket in landscape set-up

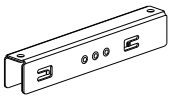
4.4 Parts list



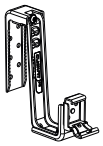
1. Solar panel



2. ClickFit Evo Mounting rail
   Article no: 100800_ and 10081__



3. ClickFit Evo Mounting rail connector
   Article no: 1008061



4. ClickFit Evo Roof hook universal
   Article no: 1008040

4A. ClickFit EVO Roof hook universal (low temperature)
   Article no: 1008040-LT



5. ClickFit Evo EPDM roof hook spacer
   Article no: 1008063



6A. Clickfit EVO MLPE clip Light Weight
   Article no: 1008067



6B. Clickfit EVO MLPE clip Heavy Weight
   Article no: 1008068



7. ClickFit Evo Mounting rail End cap grey
   Article no: 1008060

7B.ClickFit Evo Mounting rail End cap black
   Article no: 1008060-B



8. ClickFit Evo Module Clamp universal grey
   Article no: 1008020

8B.ClickFit Evo Module Clamp universal black
   Article no: 1008020-B



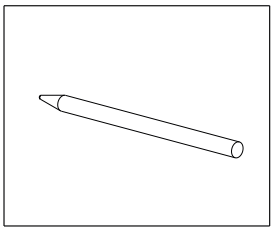
9. Self-drilling screw 6.3x42mm SW10/T30
   Article no: 1003016
   (With landscape)

5. Installation preparation

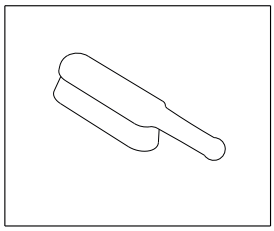
5.1 Check tools and accessories

Here is a list of the tools/aids required:

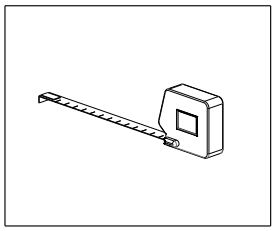
Marker / chalk



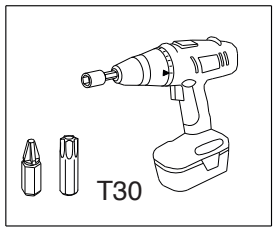
Brush



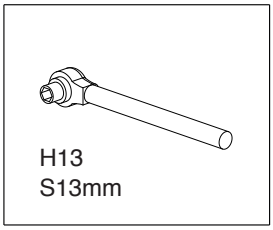
Tape measure



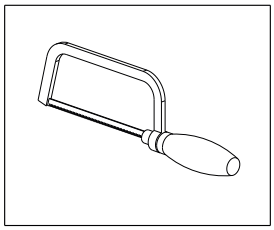
Battery-powered screwing drill



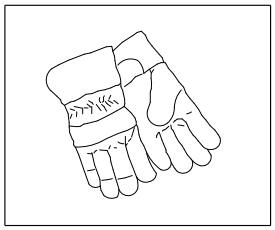
Hexagon socket ratchet



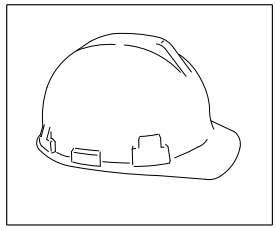
Metal saw



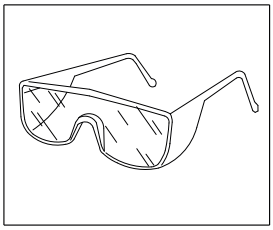
Safety gloves



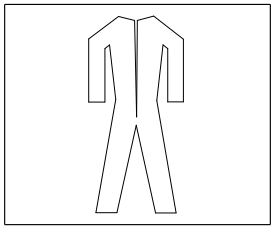
Safety helmet



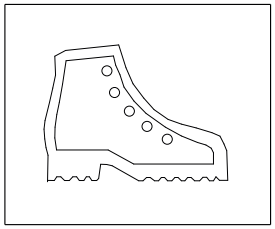
Safety glasses



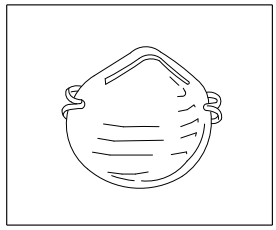
Safety clothes



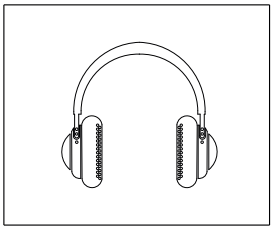
Safety shoes



Dust mask



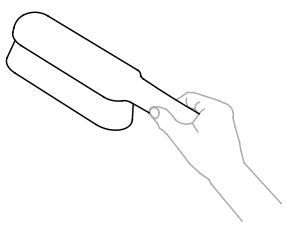
Hearing protection



Scaffold or stable, safe ladder

5.2 Clean the roof

Clean the tiles on the sloping roof with a brush.
Remove algae, moss, etc. in order to reduce unevenness during the installation to a minimum!



5.3 Determining and measuring the position of the solar panels

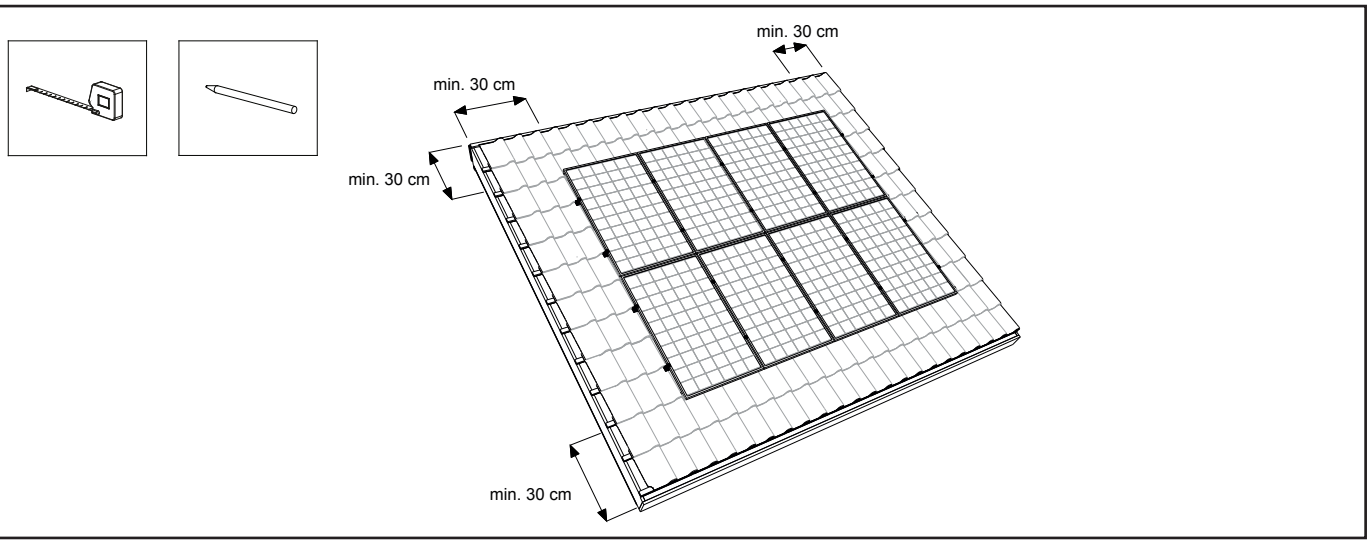
Take into account the (local) fire regulations for photovoltaic installations. To reduce the risk of fire spread, the fire compartments of the object must be respected. The PV system must not be installed over fire partitions and a minimum distance of 30 cm must be maintained. It is also wise to keep space in relation to skylights, orbs, corners and possible fire hazards.

When determining the position of the solar panels on the sloping roof it is very important to pay attention to direction of the sunlight during the day and during the entire year. Place the panels on a roof surface that is not shaded. Shadows made by chimneys, dormer windows, trees and nearby buildings have a negative effect on the yield produced by the solar panels.

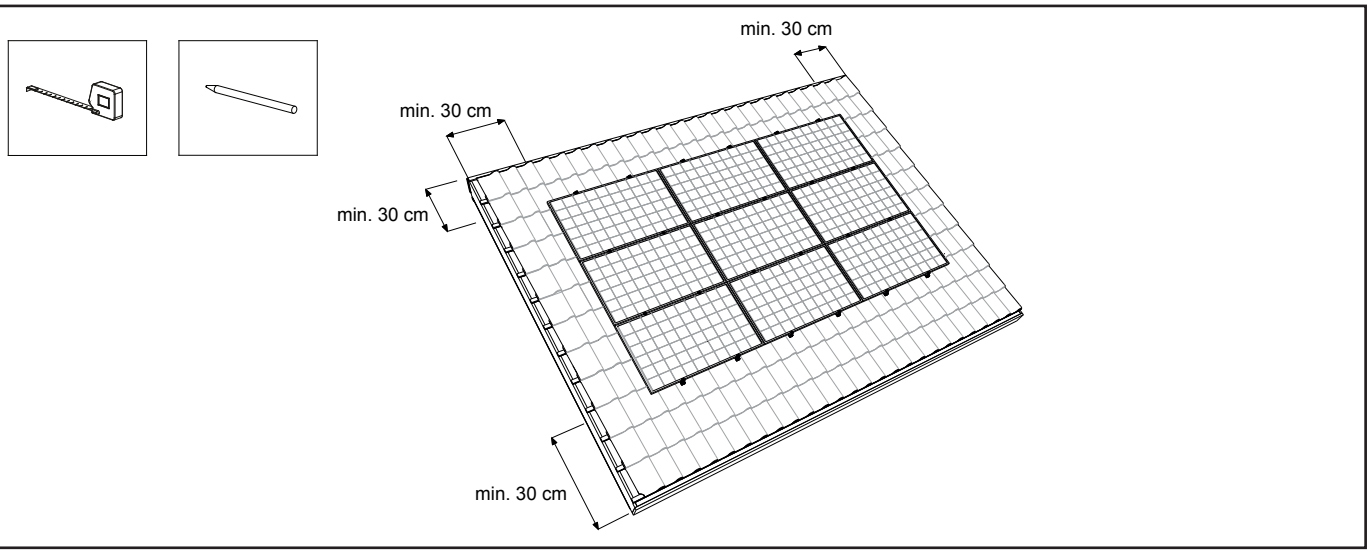
Measuring and marking

Ensure that a buffer space of at least 30 cm is maintained around the solar panels on the roof. In other words, 30 cm from the ridge and the gutter and 30 cm from the sides, in connection with turbulent wind load.
Mark the contours of the panel field on the tiles with chalk or a marker.

Marking mounting rails and universal roof hooks for portrait set up:
Draw the lines where the mounting rails will be placed: at ¼ from the panel top edge and panel bottom edge.
Now mark where the universal roof hooks must be placed. The roof hook distance depends on a number of variables (wind load, building height, location, condition of the roof, etc). Follow the instructions of the calculator in relation to the distances between the roof hooks; this is of primary importance.



Marking mounting rails and Universal roof hooks for a landscape set-up:
Mark the lines where the mounting rails will be placed: at ¼ of the panel side edges. Now mark where the universal roof hooks must be placed.

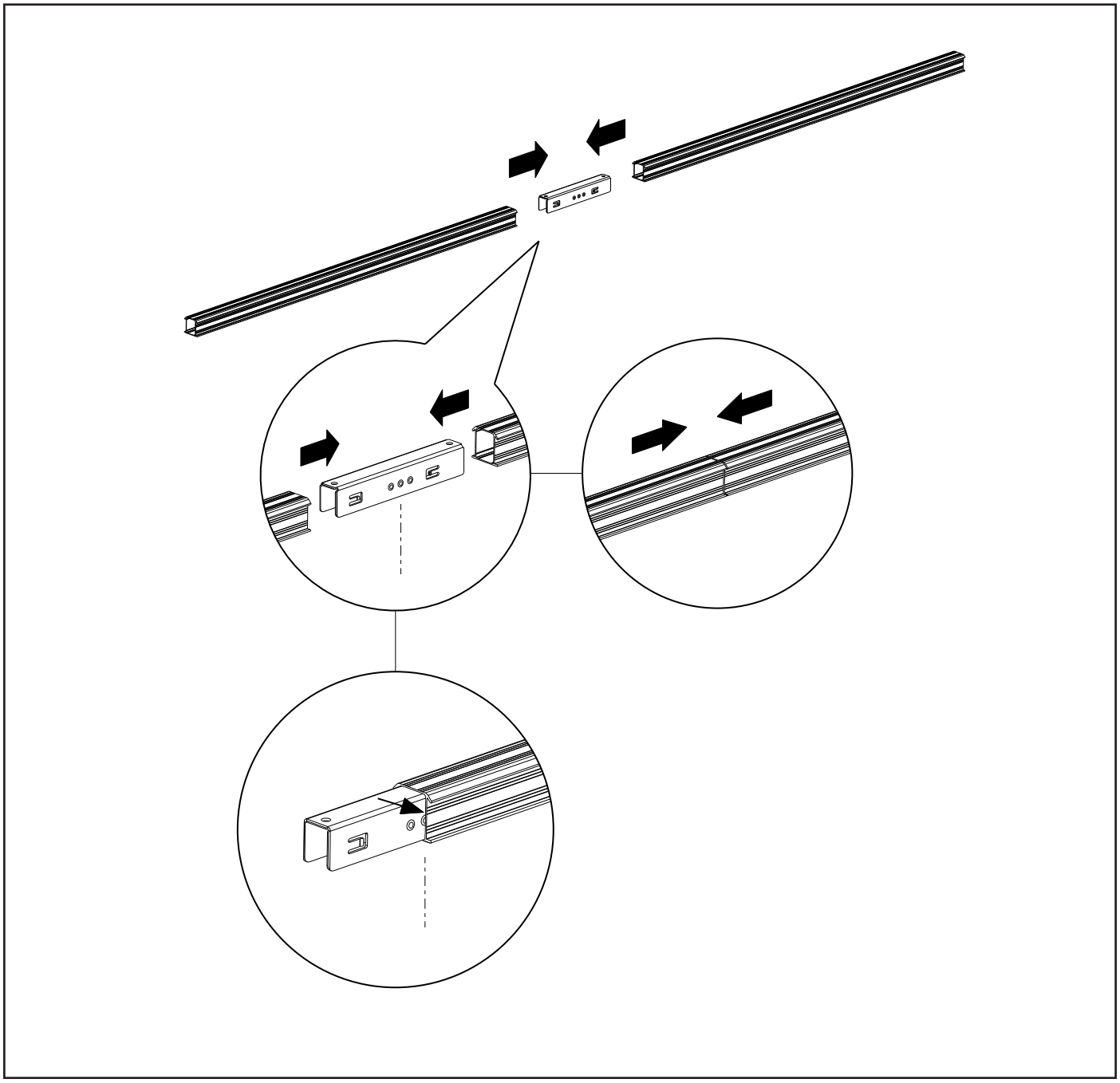


6. Installation of the mounting system in portrait set-up

6.1 Pre-mounting the mounting rail connector

First determine the total required rail length for the row of solar panels.
You can fasten the mounting rails to each other with mounting rail connectors. The mounting rail connector has clamps with teeth that grip the inside of the rail.
Slide the connector into the ends of the mounting rail. Slide the connector in up to the centre of the middle ridge of the connector.
Connect the number of rails to each other, until the total required rail length has been created.

Attention! See appendix for restrictions and other details.

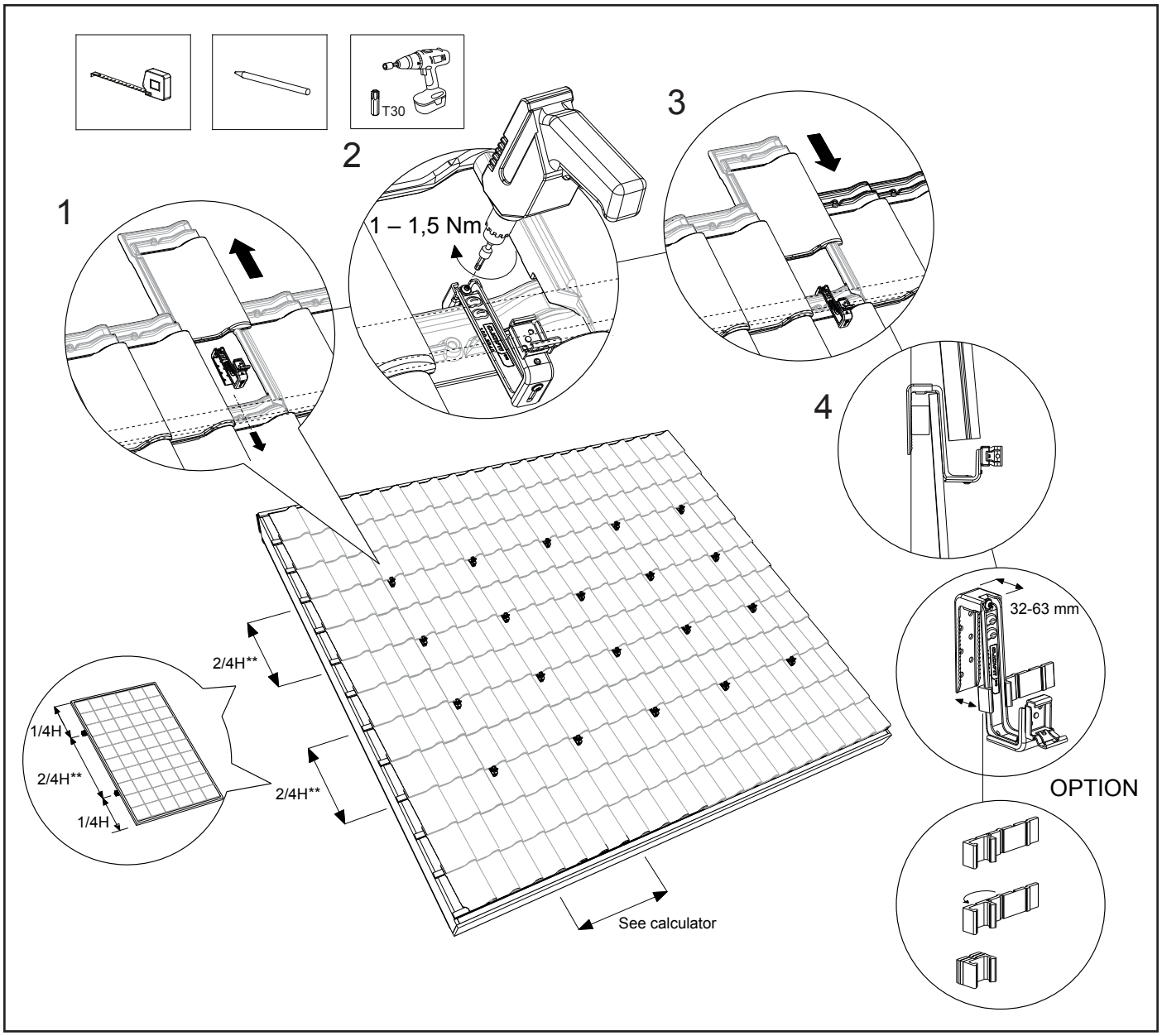


6.2 Fastening universal roof hooks

1. Slide the tile above the roof hook upwards, under the tile above it. Hook the top adjustable part of the roof hook behind the tile lath and tile and place the roof hook in the dip of the roof tile below it.
The top adjustable part of the roof hook is a minimum of 32 mm and a maximum of 63 mm.
2. Tighten the torx screw at the top of the roof hook with a drill with a screw head until the roof hook clamps onto the tile lath/ tile securely. **Attention!** The tightening moment of the screw connection is 1 – 1,5 Nm.
3. Slide the roof tile above the roof hook down again. With some roof tiles the top tile must be adjusted for the roof hook with an angle grinder or a file, so that the roof tiles fit correctly again.*
4. Follow the instructions of the calculator with regard to the distance between the roof hooks; this is of primary importance. Ensure that the roof hooks are aligned with each other.
****Attention!** When needed, rail spacing can be extended to the previous or next tile, crest or seam, up to 400 mm beyond the recommended distance. Enstall recommends to always respect the module manufacturers' rail spacing and clamping specifications.

*Option: For roof tiles with a high water-repellent edge, the filling rubber can be placed under the roof hook so that the roof hook rests neatly on the tile. Fold the rubber to create the desired thickness. The filling steps are 5, 10 and 15mm.

Attention! Ensure that the click bracket is in the correct position on every universal roof hook, so that the mounting rail can be fastened to the roof hook horizontally (see chapter 4.3).

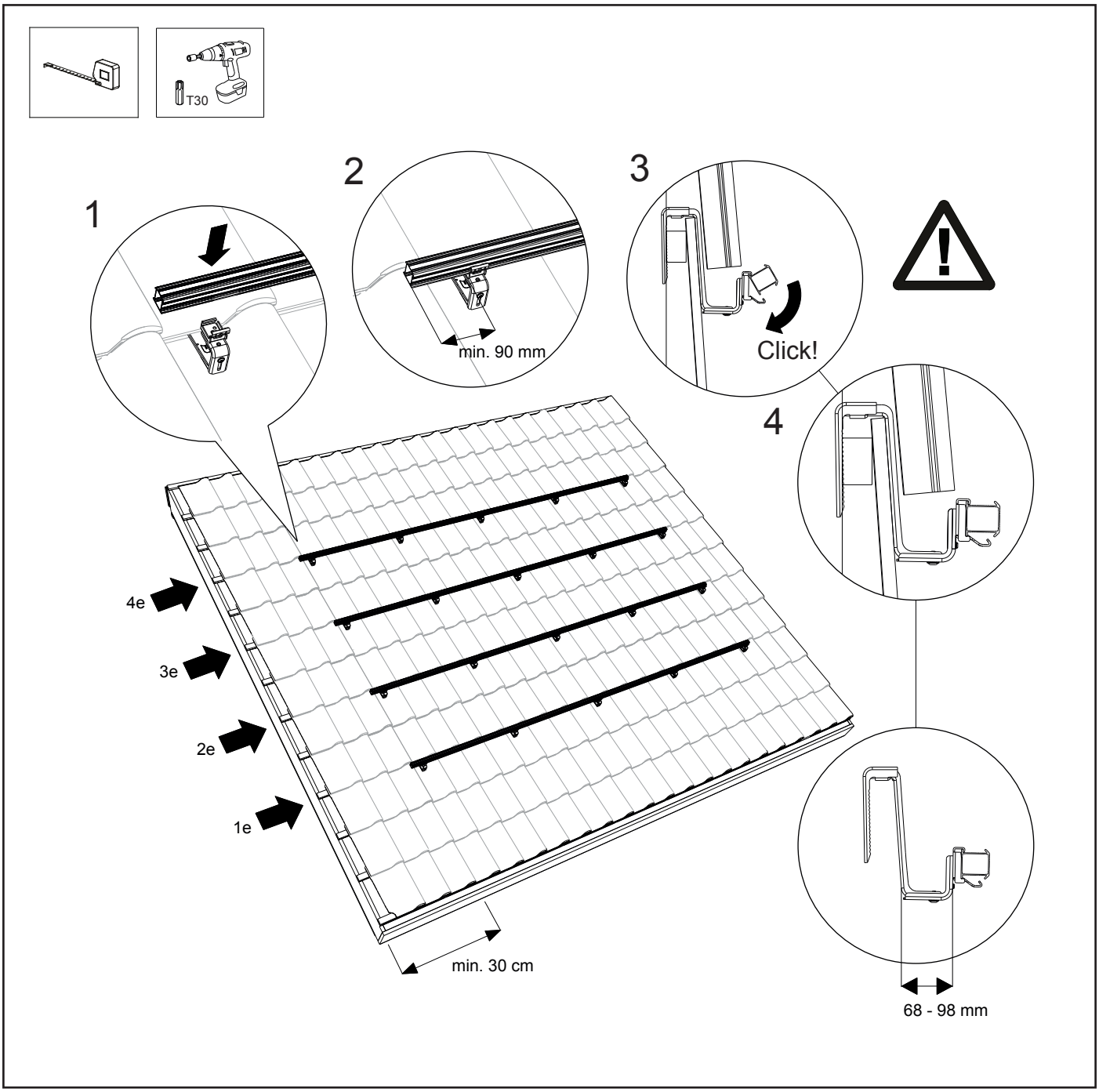


6.3 Fastening the mounting rail

1. Place the mounting rail in the mounted universal roof hooks.
2. Ensure that the end of the mounting rails protrude 90 - 350 mm in relation to the last roof hook.
3. Now click the mounting rail onto the universal roof hooks. Ensure that it clicks firmly into place.
4. Ensure that the mounting rail and the universal roof hook are correctly aligned to each other and the mounting rail is positioned correctly on the roof hook. Ensure that the mounting rails are directly above each other in connection with the alignment of the solar panels!
5. Where necessary, the mounting rail can be aligned by means of the height adjustment on the roof hook. Loosen the torx screw on the underside of the roof hooks a little. Set the desired height and tighten the torx screws again

Attention! The tightening moment of the screw connection is a minimum of 6 Nm.

Attention! See appendix for restrictions and other details.



6.4 Mounting Clickfit EVO MLPE clip Light or Heavy Weight (option)

Mounting Clickfit EVO MLPE clip Light Weight

1. Position the clip on the top mounting rail of a row. The clips are positioned underneath the centre of a panel. Place the clips at a distance of approximately 1 metre from each other.
2. Click the clip firmly onto the mounting rails.
3. Slide the MLPE device onto the Light Weight clip until it is secured.

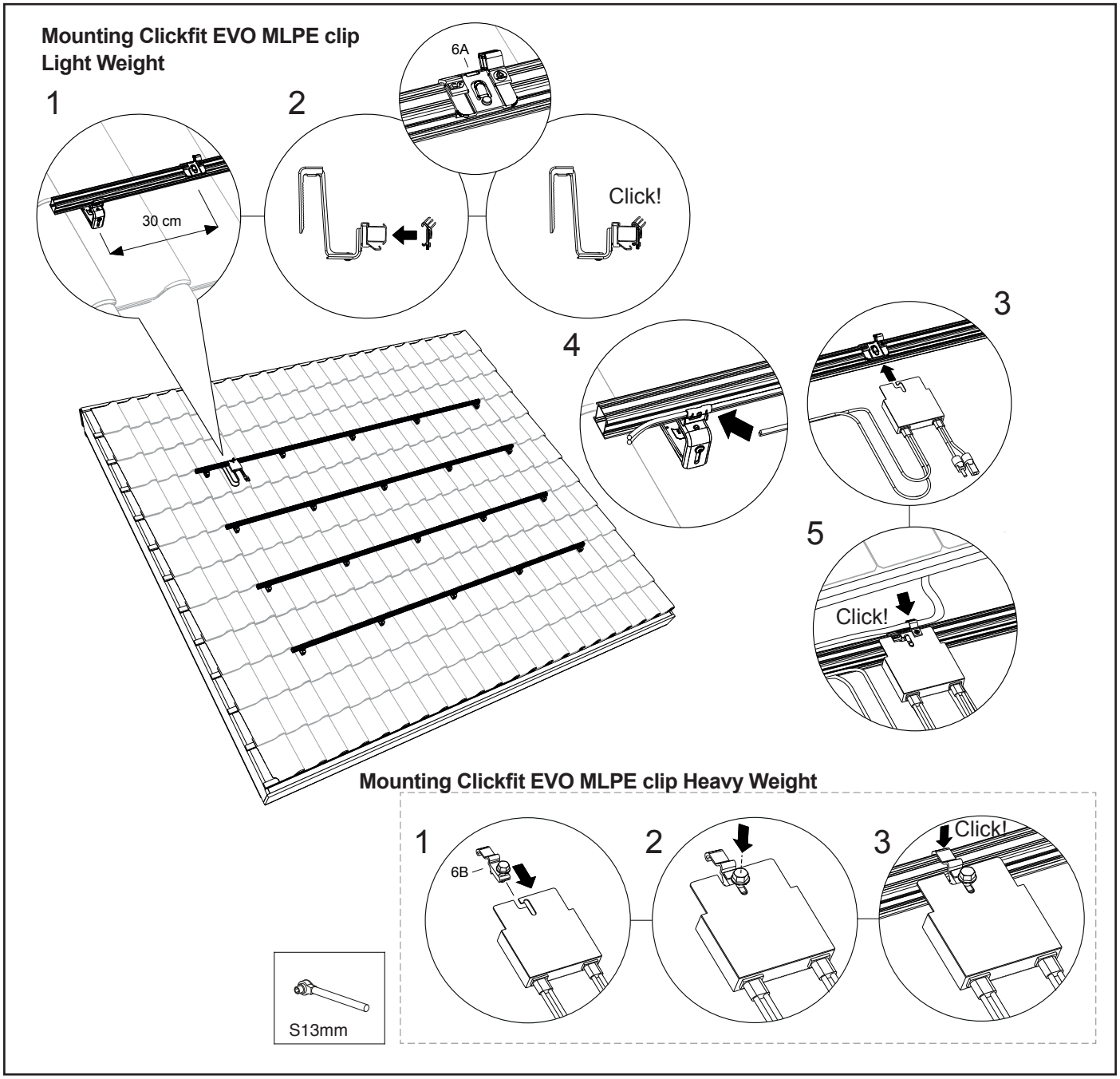
Optional:

4. Guide the cabling through the click bracket of the universal roof hook and the clip.
5. Guide the MLPE device cables through the Light Weight clip.

Mounting Clickfit EVO MLPE clip Heavy Weight (for MLPE devices exceeding 2kg)

1. Slide the Heavy Weight clip onto the MLPE device.
2. Fasten the clip with the bolt to the MLPE device. Tighten the bolt properly. **Attention!** The tightening moment of the bolt connection is 8-12 Nm.
3. Fasten the Heavy Weight clip with the MLPE device to the rail.

Note: For larger MLPE devices (equipped with 2 slots), it is essential to use two Heavy Weight clips.

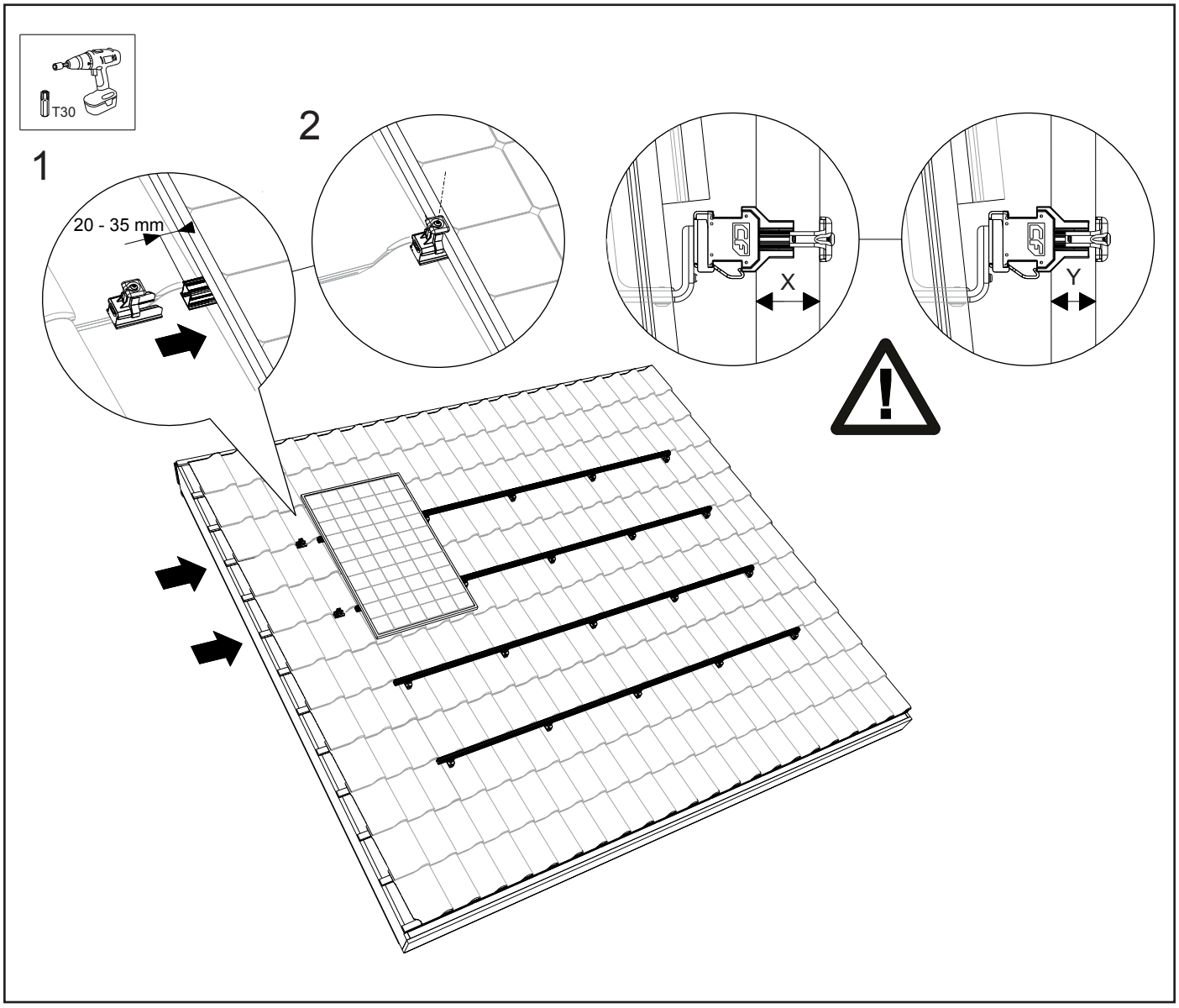


6.5 Mounting 1st solar panel on the mounting rail

Mounting aid (Option):
Click the mounting aid (2x) onto the frame on the back of the solar panel. To do this, use the mounting holes in the top of the frame.
Click the cables of the solar panel securely into the cable clamp on the mounting aid.

Hang the solar panel, including mounting aid, to the mounting rail. Click the cables of the solar panel in the MLPE clip that has already been placed. Slide the first solar panel to the side of the mounting rail. Allow 20 - 35 mm of rail to protrude visibly next to the solar panel.
Now slide the mounting rail end cap onto the mounting rail with the universal module (end) clamp. Choose the correct recess, so that the universal module clamp connects with the solar panel. Now tighten the universal module (end) clamp.
Attention! The tightening moment of the screw connection 4.5 Nm.

Attention! The minimum panel thickness Y = 29 mm and the maximum panel thickness X = 50 mm.
Attention! See appendix for restrictions and other details.

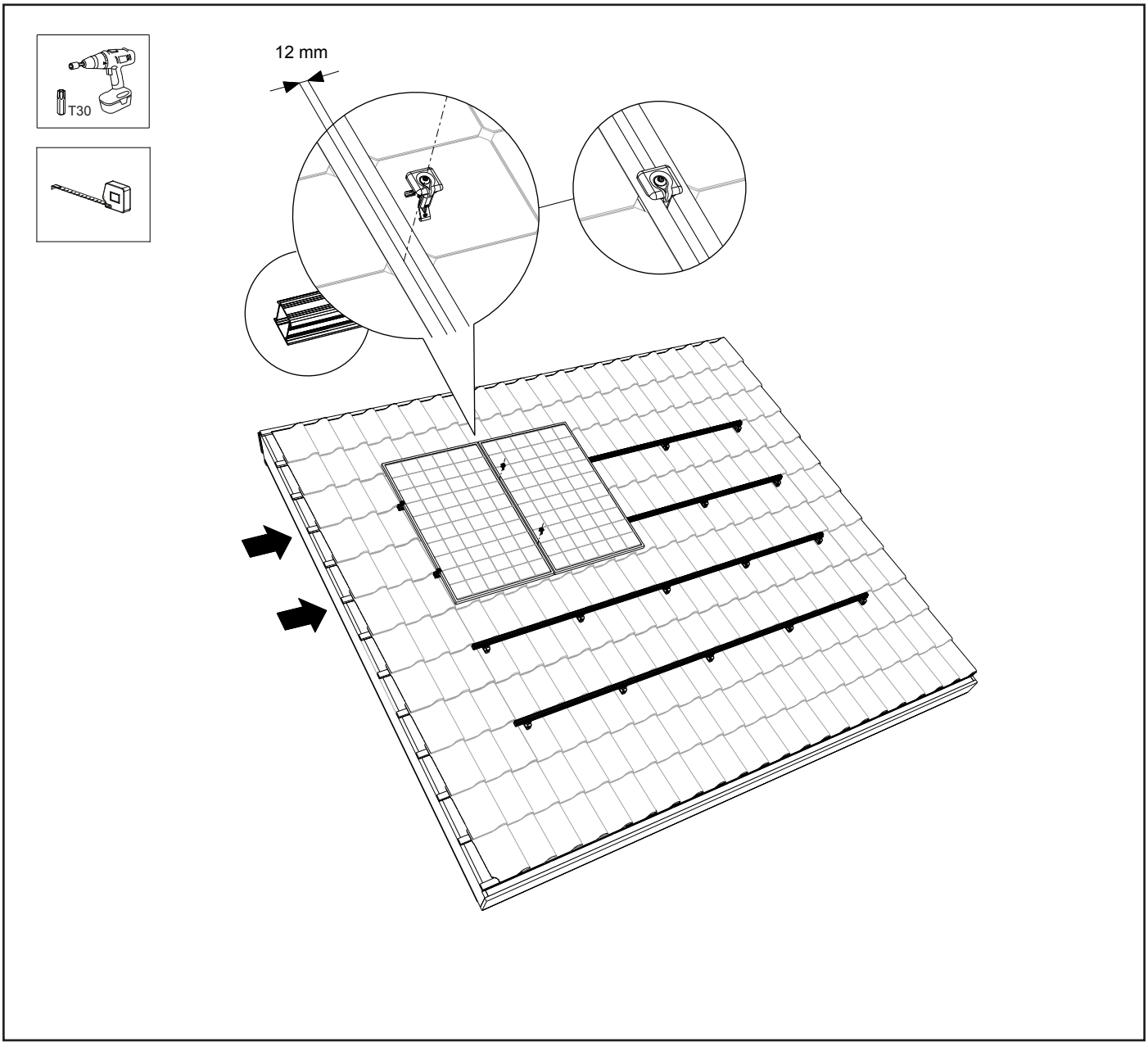


6.6 Mounting of other solar panels on the mounting rails

Click the universal module clamps onto the mounting rails. Slide them against the first solar panel. Place the second solar panel on the mounting rail, click the cables of the solar panel firmly into the MLPE clip and slide the solar panel to the first against the Universal module clamp. Now tighten the universal module clamp.
Attention! To obtain a continuous panel surface, the solar panels must be placed right next to each other. Care must be taken to ensure that a gap of 12mm is maintained.
Always follow the project plan that comes out of the calculator, and the module manufacturer's installation manual.

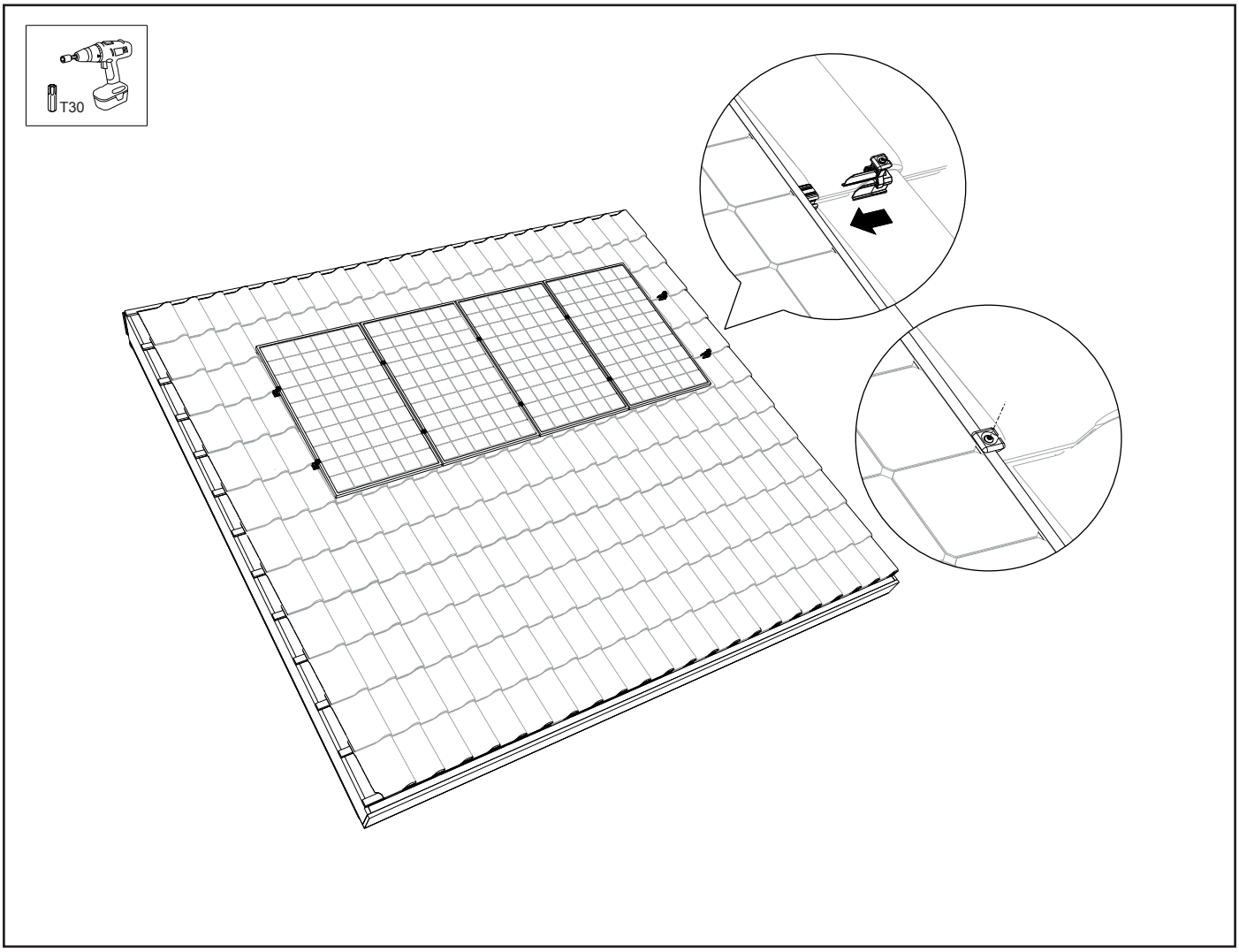
Attention! The tightening moment of the screw connection is 4.5 Nm.
Ensure that the solar panels are lying straight before you tighten the torx screw! Repeat this with the remaining solar panels.

Attention! See appendix for restrictions and other details.



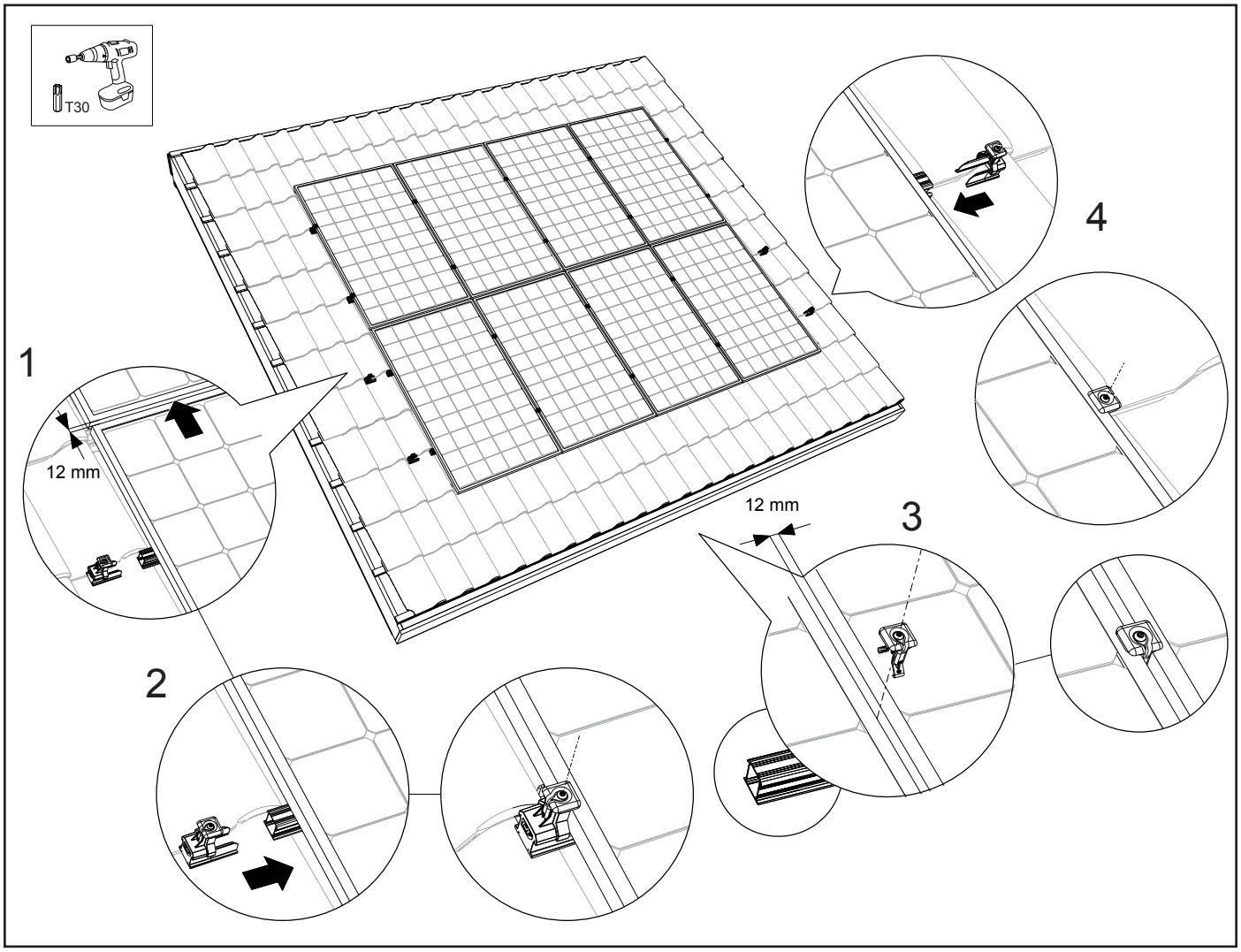
6.7 Completing the mounting of the 1st row of solar panels

1. Allow the mounting rail to protrude 20 - 35 mm in relation to the edge of the solar panel. Slide the mounting rail end cap onto the mounting rail with the universal module (end) clamp. Attention! Choose the correct recess, so that the end clamp connects with the solar panel.
2. Now tighten the end clamp with the torx screw. **Attention!** The tightening moment of the screw connection is 4.5 Nm.



6.8 Completion of mounting / several rows below each other

1. In order to obtain a continuously connected panel area you slide the bottom solar panels against the top row of solar panels. Care must also be taken here to ensure that a gap of 12mm is maintained. Always follow the project plan that comes out of the calculator and the module manufacturer's installation manual.
2. Repeat the steps of chapter 6.5 - 6.7. The panel field is now complete!

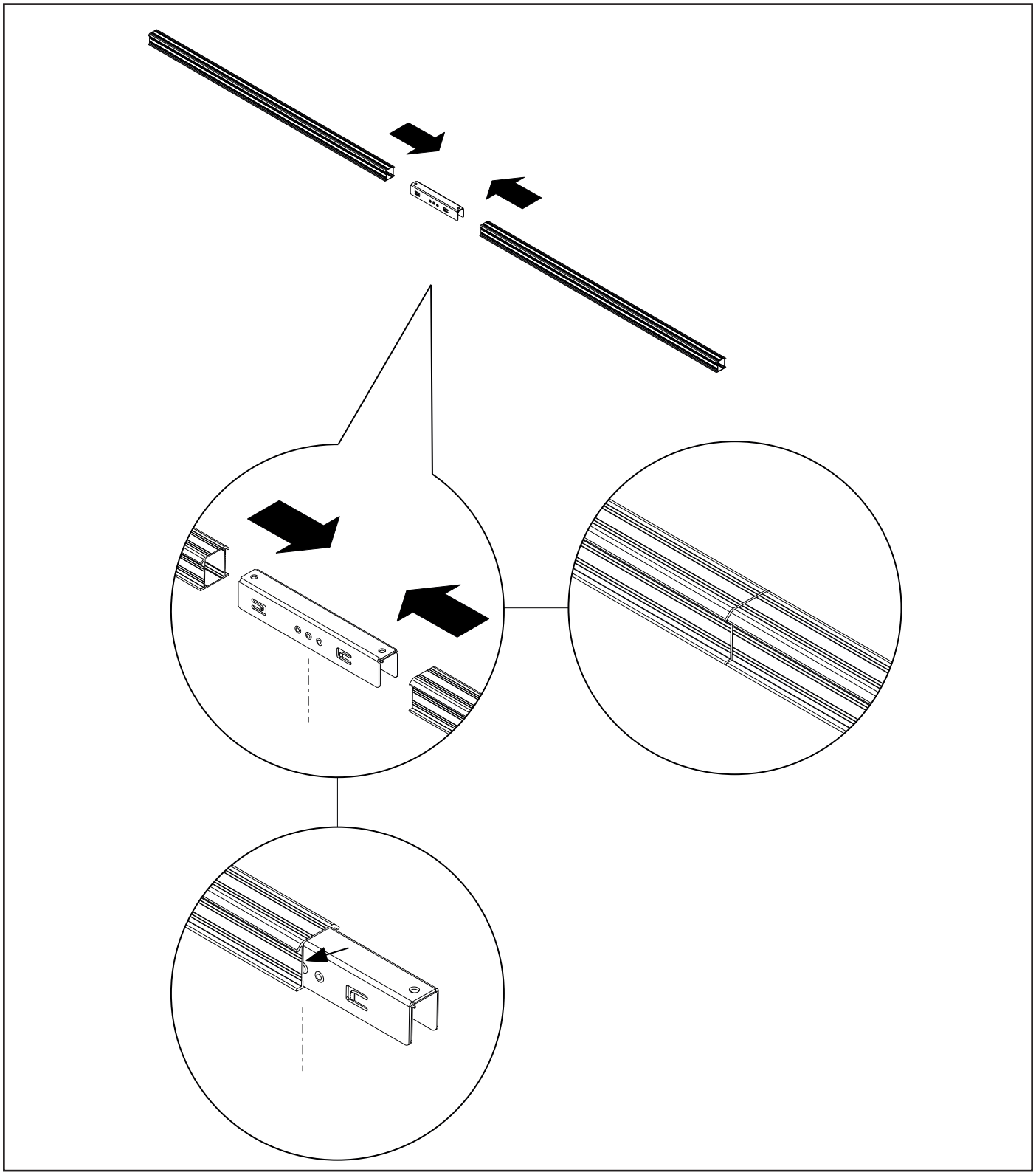


7. Installation of mounting system in a landscape set-up

7.1 Pre-installation of the mounting rail connector

First determine the total rail length required for all solar panels in a column.
You can connect the mounting rails to each other with mounting rail connectors. The mounting rail connectors are fitted with clamps that have teeth that grip the inside of the rail.
Slide the connector into the ends of the mounting rail. Slide the connector in up to the centre of the middle ridge of the connector.
Connect the number of rails to each other, until the total required rail length has been created.

Attention! See appendix for restrictions and other details.

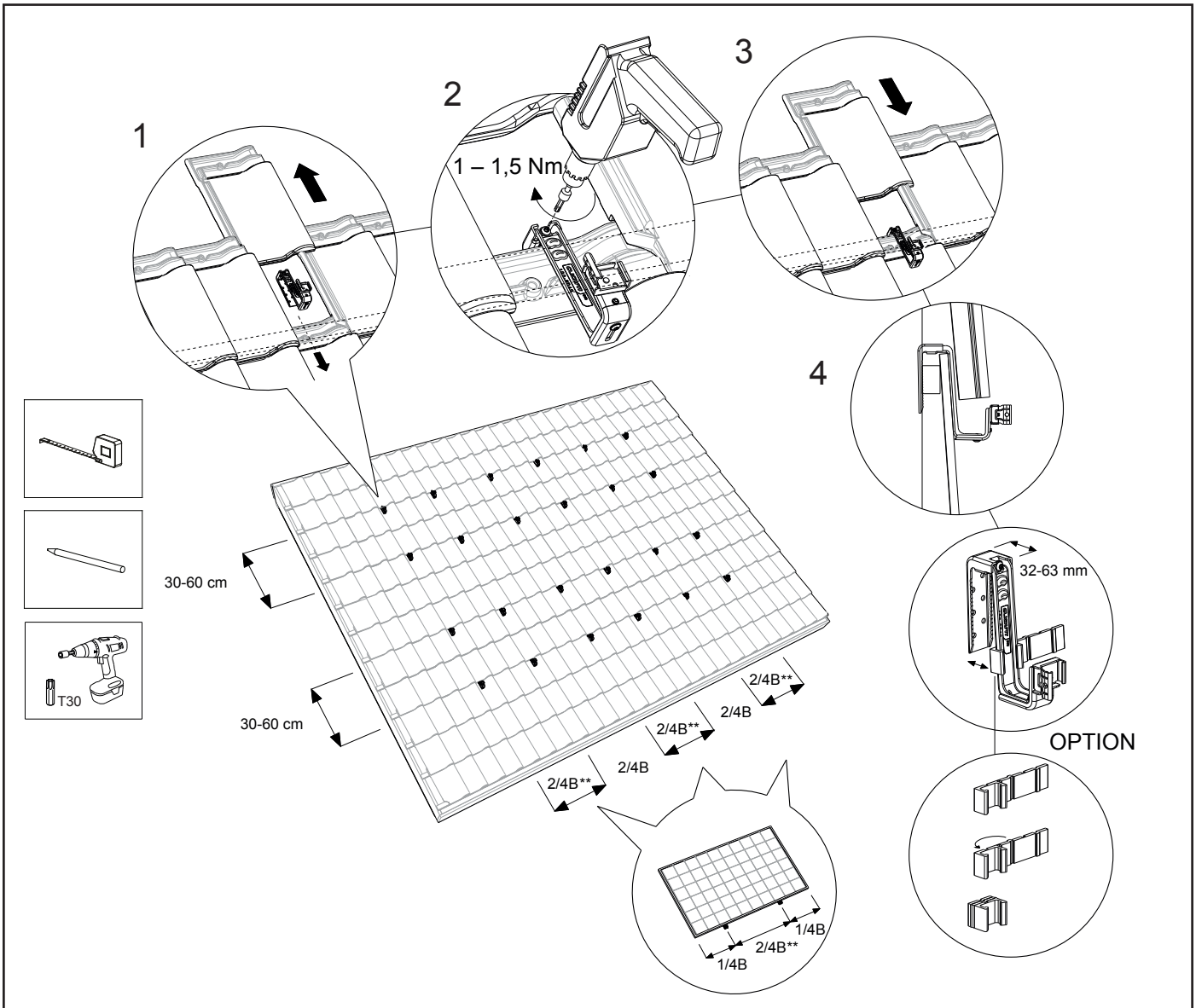


7.2 Fastening universal roof hooks

1. Slide the tile above the roof hook upwards, under the tile above it. Hook the top adjustable part of the roof hook behind the tile lath and place the roof hook in the depression of the roof tile below it.
The top adjustable part of the roof hook is a minimum of 32 mm and a maximum of 63 mm.
2. Tighten the torx screw on the top of the roof hook with a drill fitted with a screw head until the roof hook clamps firmly to the tile lath/roof tile. **Attention!** The tightening moment of the screw connection is 1 – 1,5 Nm.
3. Slide the roof tile above the roof hook down again. For some roof tiles, the top tile must be adjusted for the roof hook with an angle grinder or a file, so that the roof tiles fit correctly again.*
4. Follow the instructions of the calculator in relation to the distance between the roof hooks; this is of primary importance. Ensure that the roof hooks are aligned with each other.
****Attention!** When needed, rail spacing can be extended to the previous or next tile, crest or seam, up to 400 mm beyond the recommended distance. Enstall recommends to always respect the module manufacturers' rail spacing and clamping specifications.

*Option: For roof tiles with a high, water repellent edge the filling rubber can be placed under the roof hook so that the roof hook rests neatly on the roof tile. Fold the rubber in order to create the desired thickness. The filling steps are 5, 10 and 15mm.

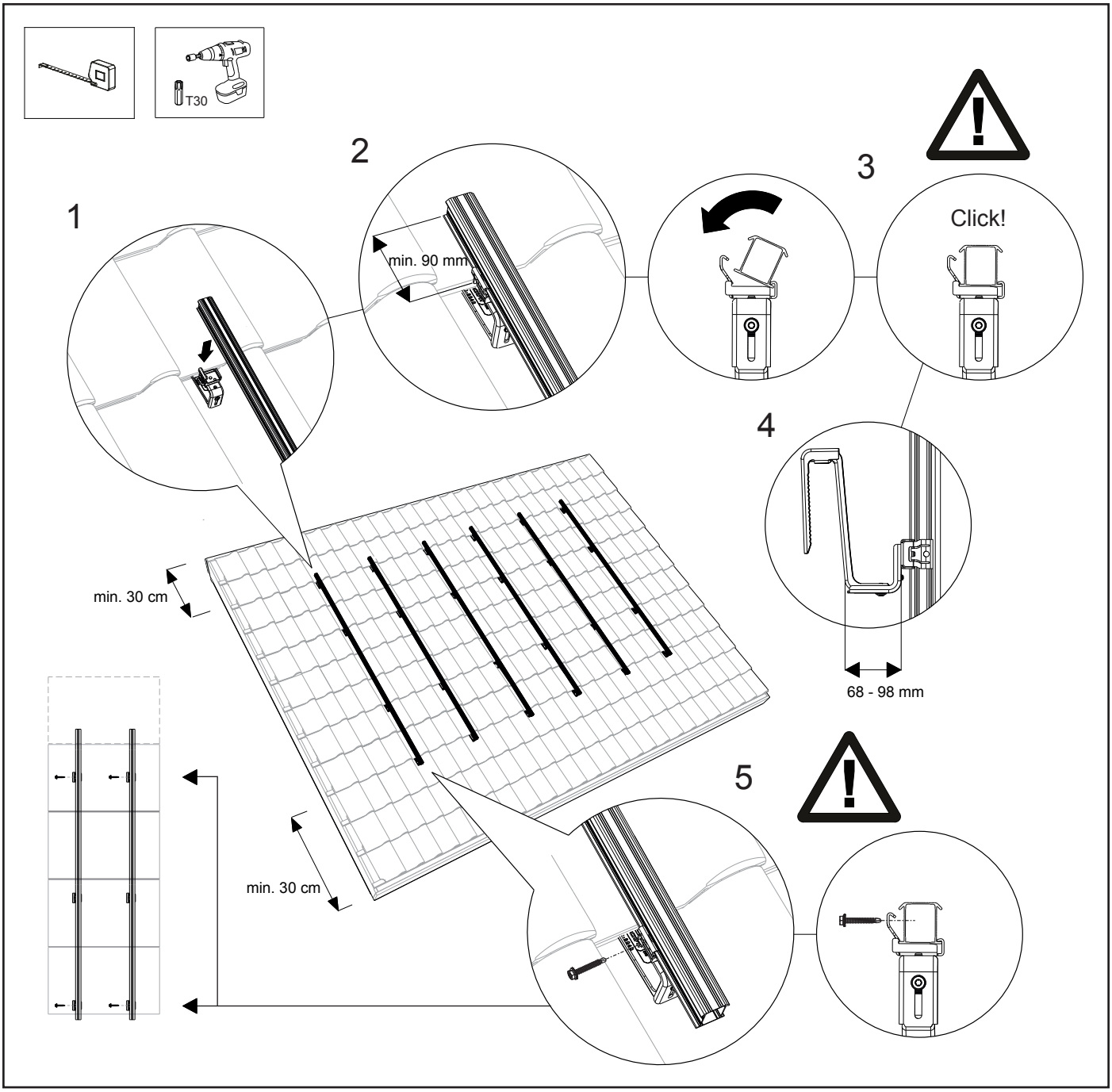
Attention! Ensure that the click bracket is in the correct position on every universal roof hook so that the mounting rail can be fitted vertically to the roof hook (see chapter 4.3.).



7.3 Fastening the mounting rail

1. Place the mounting rail in the placed universal roof hooks.
2. Ensure that the end of the mounting rails protrudes 90 - 350 mm in relation to the last roof hook.
3. Now click the mounting rail onto the universal roof hooks. Ensure that it clicks firmly into place.
4. Ensure that the mounting rail and the universal roof hook are correctly aligned to each other and the mounting rail is positioned correctly on the roof hook. Ensure that the mounting rails are aligned to each other horizontally in connection with the alignment of the solar panels!
Where necessary, the mounting rails can be aligned by means of the height adjustment of the roof hook. Loosen the torx screw on the bottom of the roof hooks. Set the desired height and tighten the torx screws again. **Attention!** The tightening moment of the screw connection is a minimum of 6 Nm.
5. Fasten the mounting rails to the bottom roof hook with a self-drilling screw 6.3x42mm SW10/T30 in order to prevent the rails from sliding down. **Attention!** Place this locking screw around the three solar panels (one above the other) and always start at the bottom roof hook.

Attention! See appendix for restrictions and other details.



7.4 Mounting Clickfit EVO MLPE clip Light or Heavy Weight (option)

Mounting Clickfit EVO MLPE clip Light Weight

1. Position the clip on the mounting rail of a row. The clips are positioned underneath the centre of the panel. Place the clips approximately 1 metre from each other.
2. Click the clip firmly onto the mounting rails.
3. Slide the MLPE device onto the Light Weight clip until it is secured.

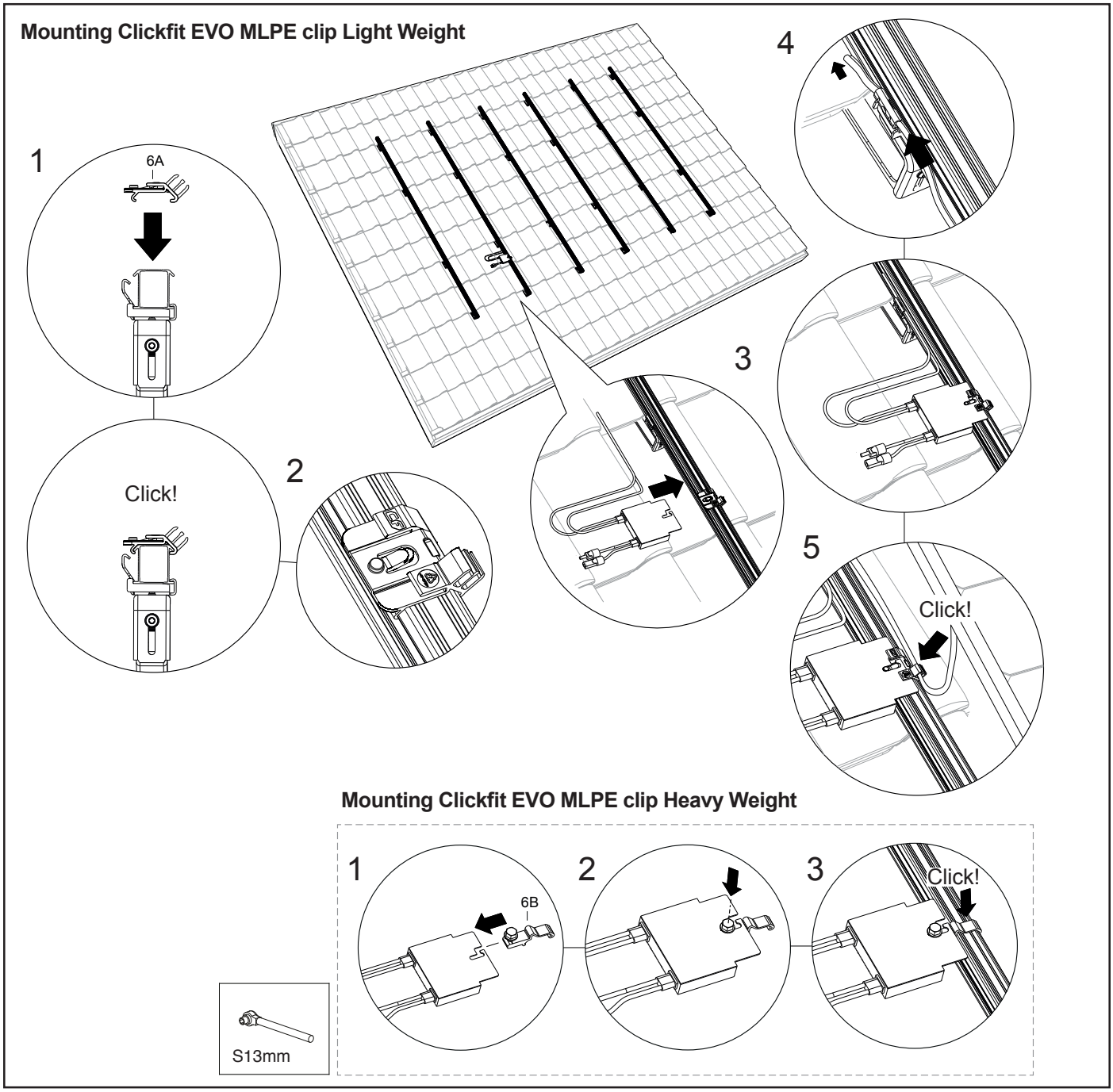
Optional:

4. Guide the cabling through the click bracket of the universal roof hook and the clip.
5. Guide the MLPE device cables through the Light Weight clip.

Mounting Clickfit EVO MLPE clip Heavy Weight (for MLPE devices exceeding 2kg)

1. Slide the Heavy Weight clip onto the MLPE device.
2. Fasten the clip with the bolt to the MLPE device. Tighten the bolt properly. **Attention!** The tightening moment of the bolt connection is 8-12 Nm.
3. Fasten the Heavy Weight clip with the MLPE device to the rail.

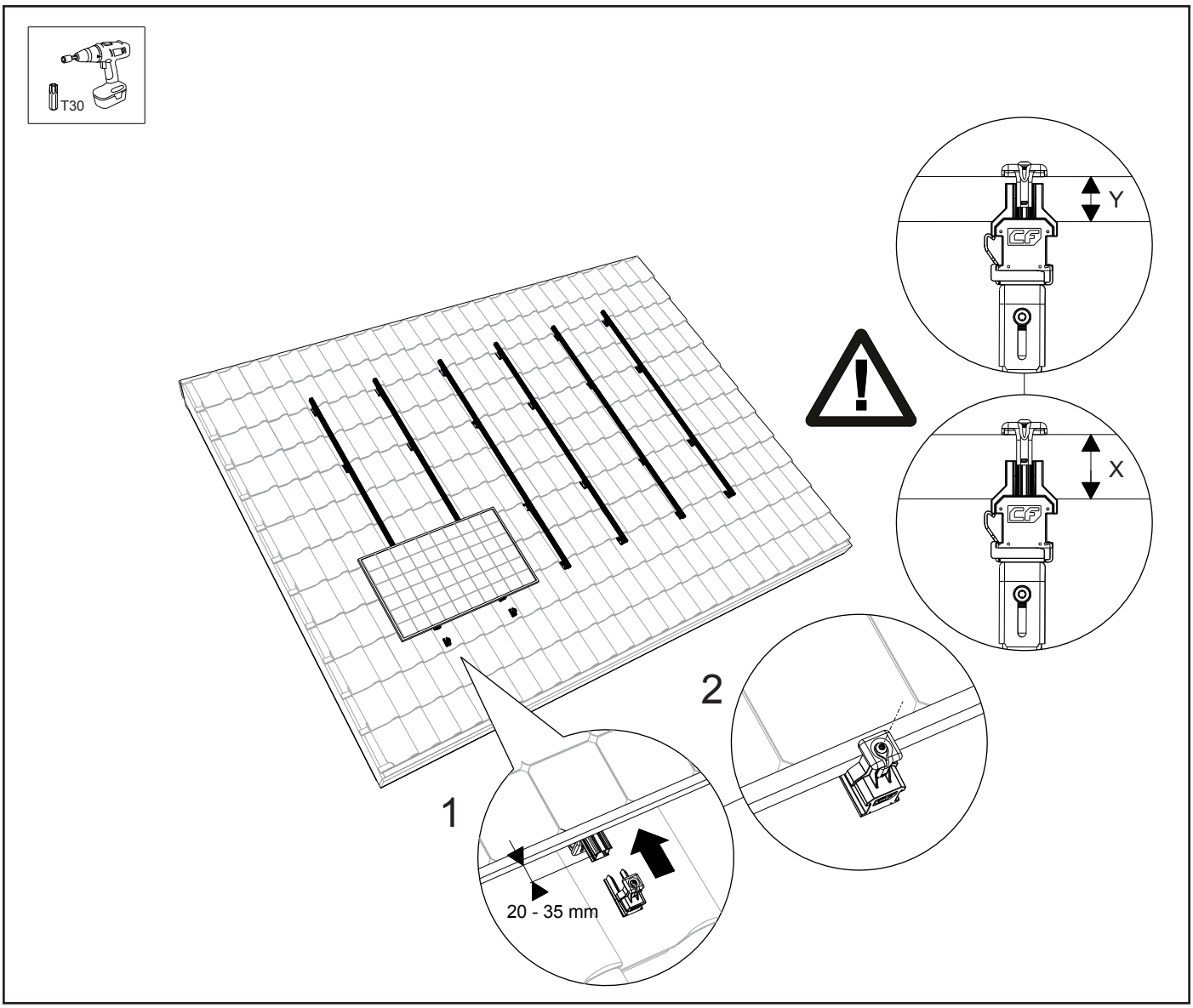
Note: For larger MLPE devices (equipped with 2 slots), it is essential to use two Heavy Weight clips.



7.5 Mounting 1st solar panel on the mounting rail

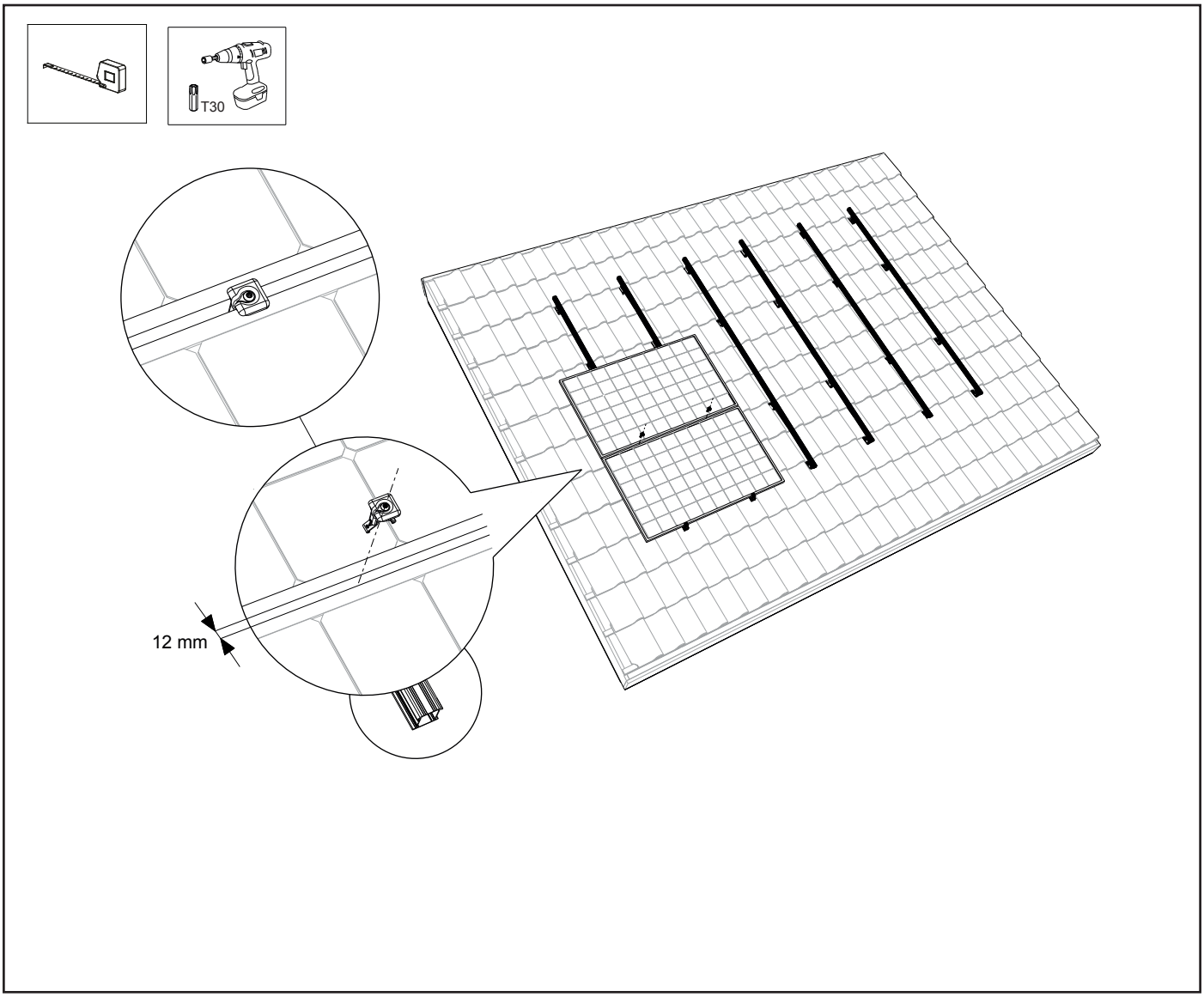
Hang the solar panel on the mounting rail. Click the cables of the solar panel into the pre-installed MLPE clip.
Slide the first solar panel to the bottom of the mounting rail. Allow 20 - 35 mm rail to protrude under the solar panel.
Now slide the mounting rail end cap onto the mounting rail with the universal module (end) clamp. Choose the correct recess, so that the universal module clamp connects with the solar panel. Now tighten the universal module (end) clamp.
Attention! The tightening moment of the screw connection is 4.5 Nm.

Attention! The minimum panel thickness Y = 29 mm and the maximum panel thickness X = 50 mm.
Attention! See appendix for restrictions and other details.



7.6 Mounting other solar panels on the rails

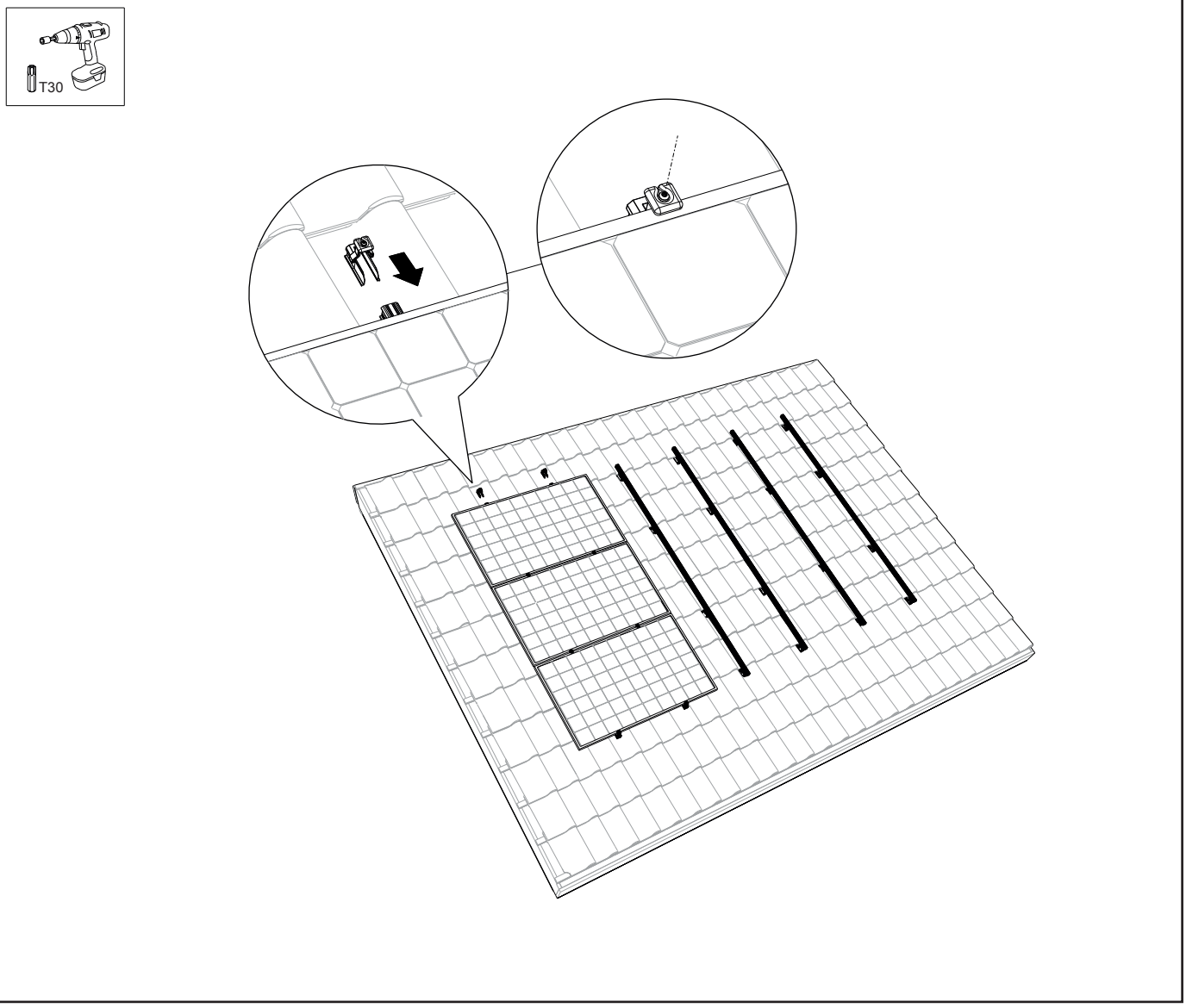
Click the universal module clamps onto the mounting rails. Slide it against the first solar panel. Place the second solar panel on the mounting rail, click the cables of the solar panel into the MLPE clip and slide the solar panel to the first, against the Universal module clamp. Now tighten the universal module clamp.
Attention! To obtain a continuous panel surface, the solar panels must be placed directly above each other. Care must be taken to ensure that a gap of 12mm is maintained.
Always follow the project plan that comes out of the calculator, and the module manufacturer's installation manual.
Attention! The tightening moment of the screw connection is 4.5 Nm.
Ensure that the solar panels are completely straight before you tighten the torx screw! Repeat this with the remaining solar panels.
Attention! See appendix for restrictions and other details.



7.7 Completing the mounting of the 1st row of solar panels above each other

1. Allow the mounting rail to protrude 20 - 35 mm in relation to the edge of the solar panel. Slide the mounting rail end cap with universal module (end) clamp onto the mounting rail. Attention! Choose the correct recess, so that the end clamp connects to the solar panel.
2. Now tighten the end clamp with the torx screw. **Attention!** The tightening moment of the screw connection is 4.5 Nm.

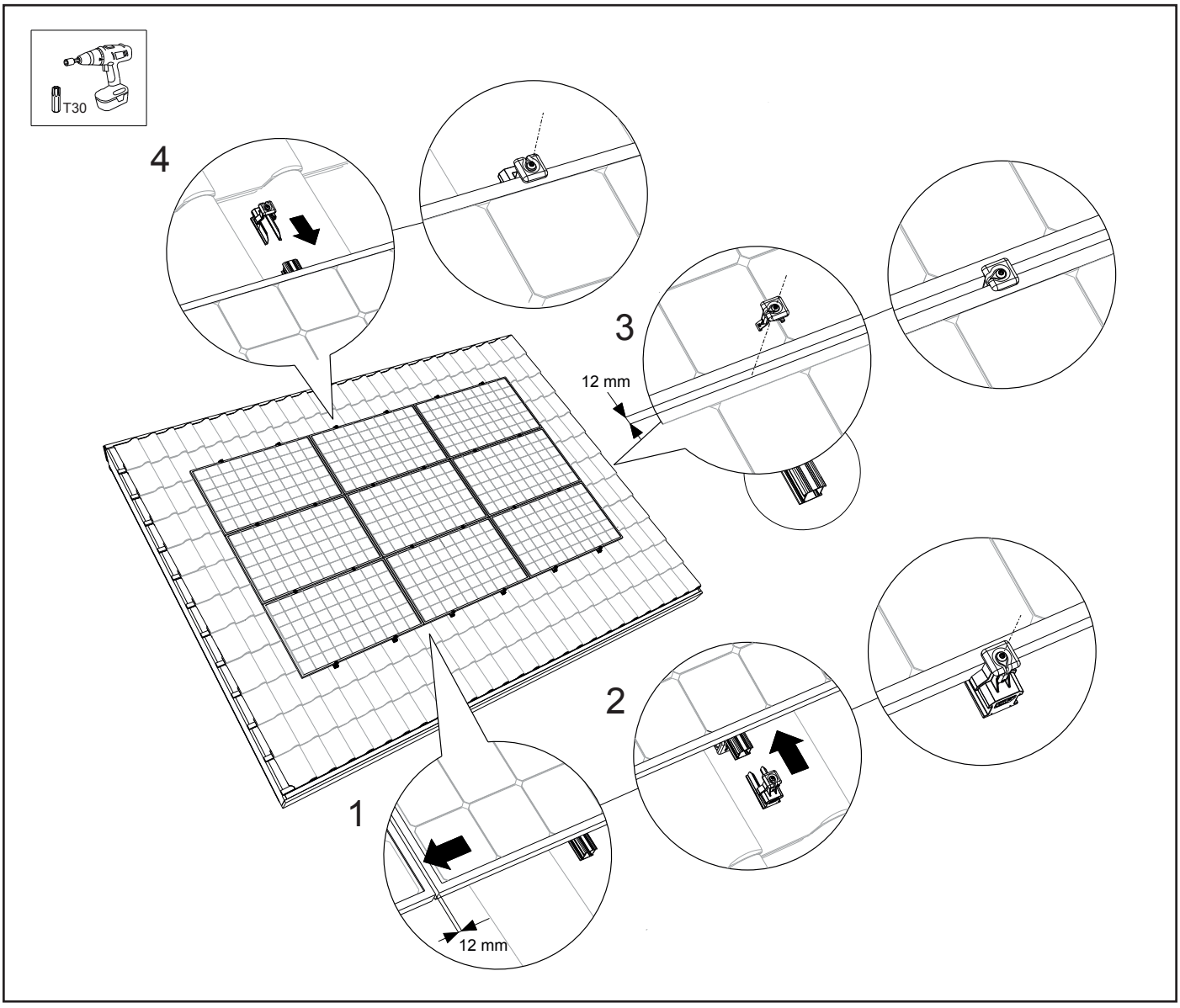
Attention! See appendix for restrictions and other details.



7.8 Completion of installation / several rows alongside each other

1. In order to obtain an uninterrupted solar panel field you slide the adjacent solar panels against the row of solar panels. Care must also be taken here to ensure that a gap of 12mm is maintained. Always follow the project plan that comes out of the calculator and the module manufacturer's installation manual.
2. Repeat the steps of chapter 7.5 - 7.7. The panel field is now complete!

Attention! See appendix for restrictions and other details.

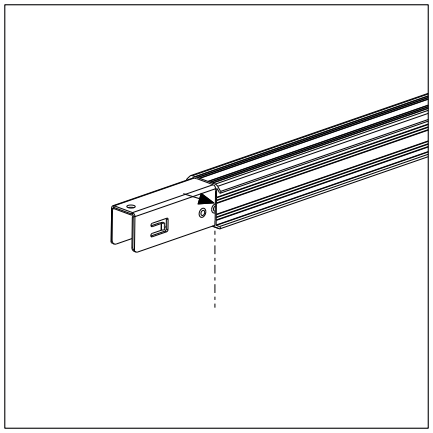


8. Appendix 1 - Clickfit EVO Standard

8.1 Specifications for installation

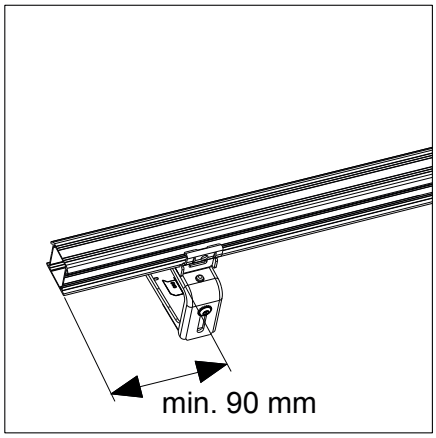
8.1 - 01

Slide the connector into the ends of the mounting rails. Slide the connector up to the centre of the middle ridge of the connector. This divides the connector evenly over the 2 rail ends.



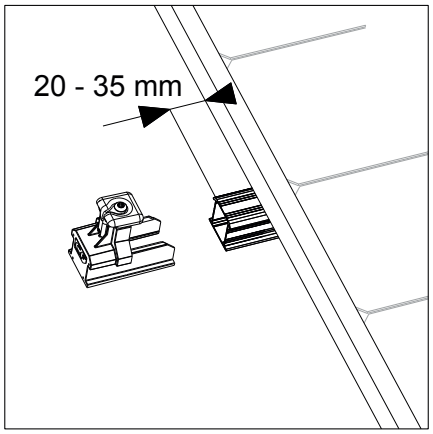
8.1 - 02

The first universal roof hook must be a minimum of 90 mm from the end of the mounting rail and a maximum of 350 mm.



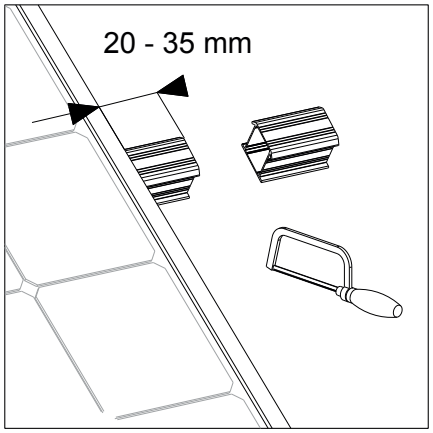
8.1 - 03

The mounting rails must protrude 20 - 35 mm in relation to the edge of the solar panel.



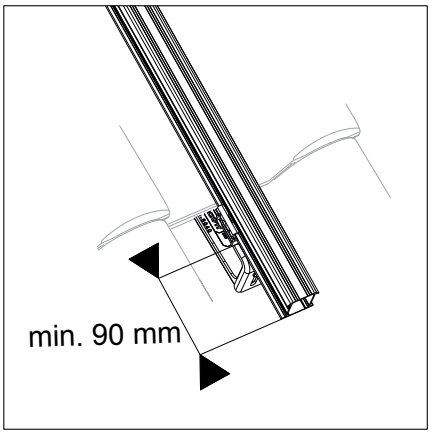
8.1 - 04

The mounting rails must protrude 20 - 35 mm in relation to the edge of the solar panel. Saw the mounting rails off at the correct length.



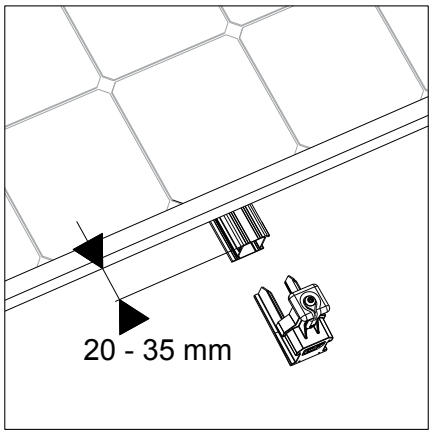
8.1 - 05

The universal roof hook must be mounted at least 90 mm from the end of the mounting rail and a maximum of 350 mm.



8.1 - 06

The mounting rails must protrude 20 - 35 mm in relation to the edge of the solar panel.



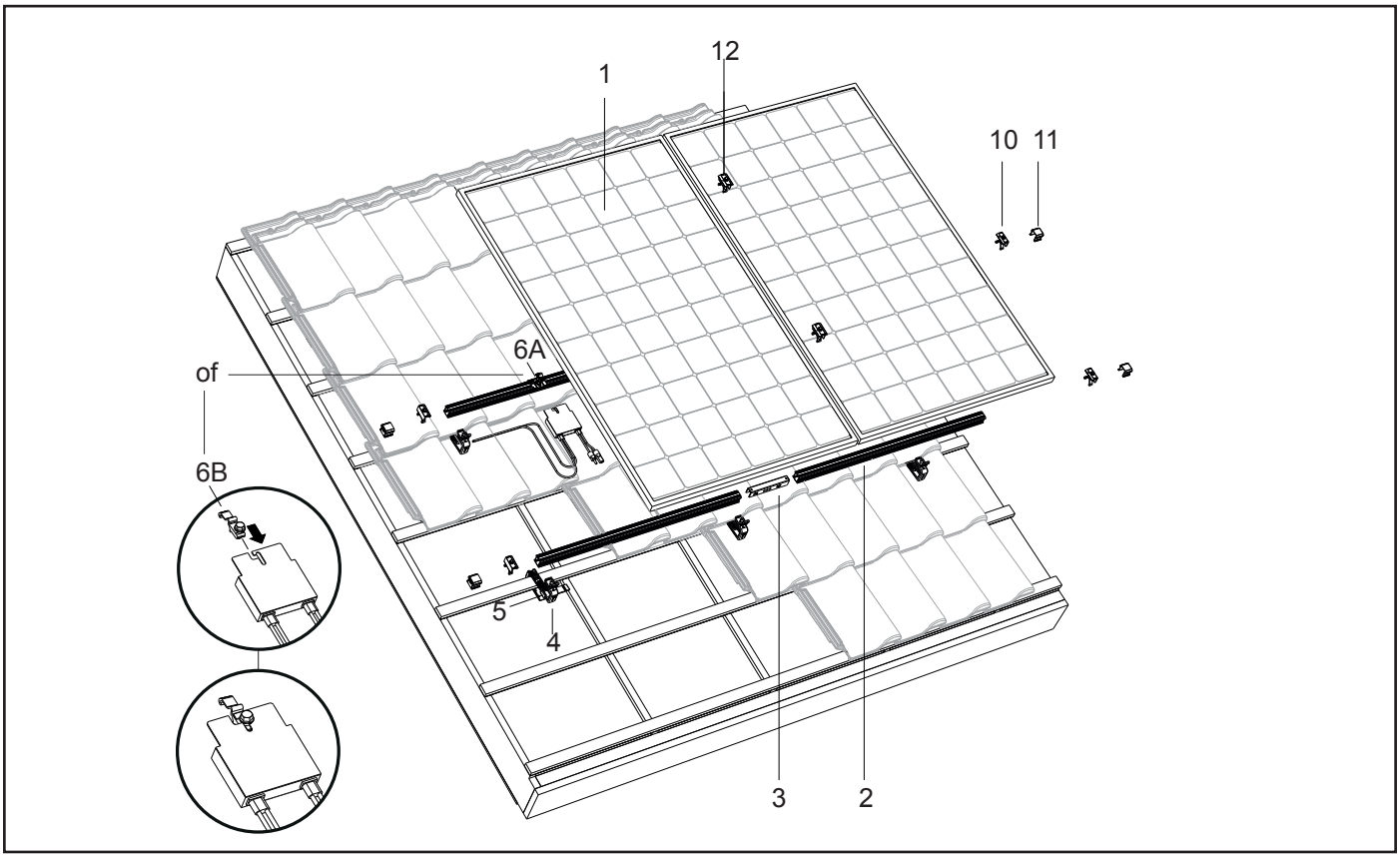
8.2 Tightening moments

Screws to fasten roof hooks (= screw on the top of the roof hook):	1 – 1,5 Nm
Screws for roof hook height adjustment (= screw on the bottom of the roof hook):	minimum 6,0 Nm
Screws for fastening the module clamp:	4,5 Nm
Bolt for fastening the Heavy Weight clip onto the MLPE device (= bolt on MLPE clip Heavy Weight)	8-12 Nm

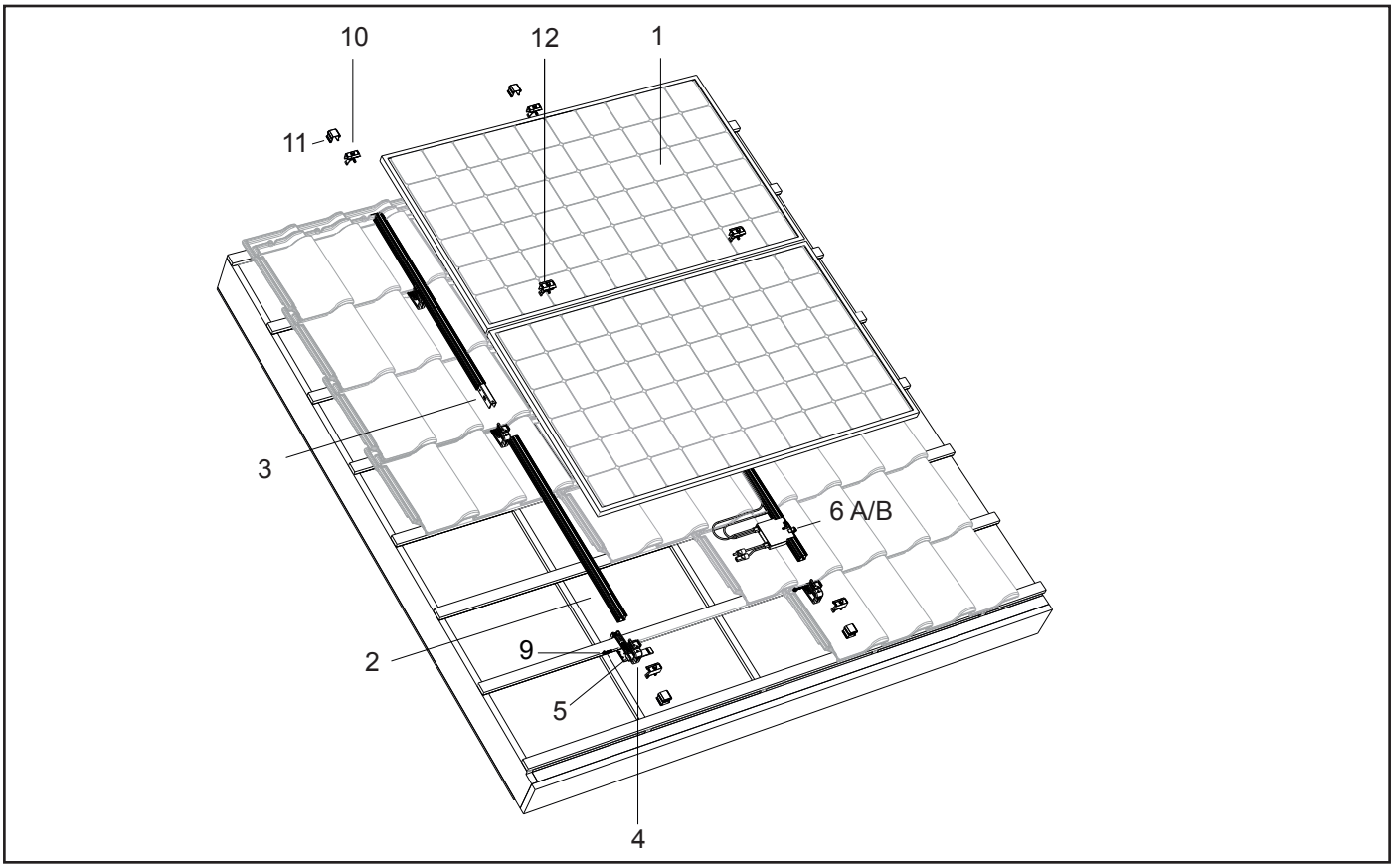
9. APPENDIX 2 - Clickfit EVO 60 mm Clamp

9.1 Parts overview

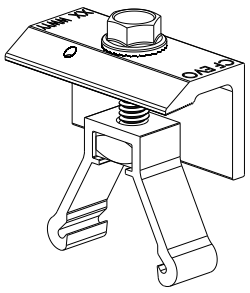
9.1.1 Exploded-view mounting system in portrait set-up (60 mm Clamp)



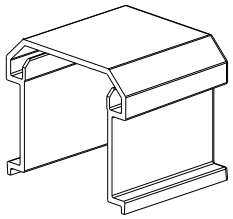
9.1.2 Exploded-view mounting system in landscape set-up (60 mm Clamp)



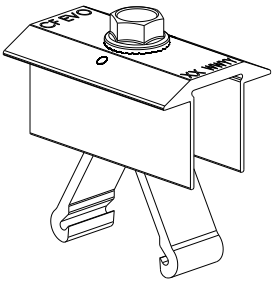
9.1.3 Parts list



10. ClickFit EVO 60 End Clamp Black
    Article no: 1008022-B



11. Clickfit EVO End Cap Black
    Article no: 1008066-B

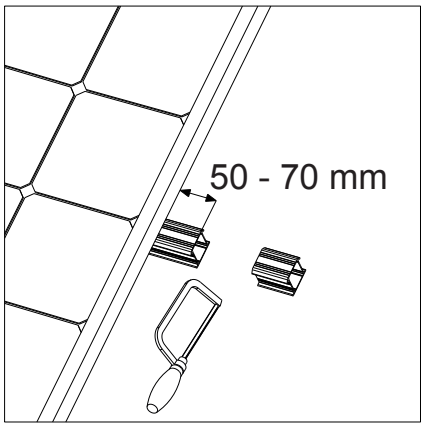


12. Clickfit EVO 60 Mid Clamp Black
    Article no: 1008021-B

9.1.4 Specifications for installation

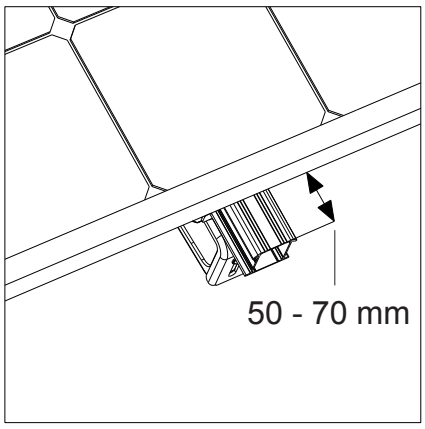
9.1.4 - 01

The mounting rails must protrude 50 - 70 mm from the edge of the solar panel to allow the mounting of the End cap on the mounting rails.
Saw the mounting rails off at the correct length.



9.1.4 - 02

The mounting rails must protrude 50 - 70 mm from the edge of the solar panel to allow the mounting of the End cap on the mounting rails.



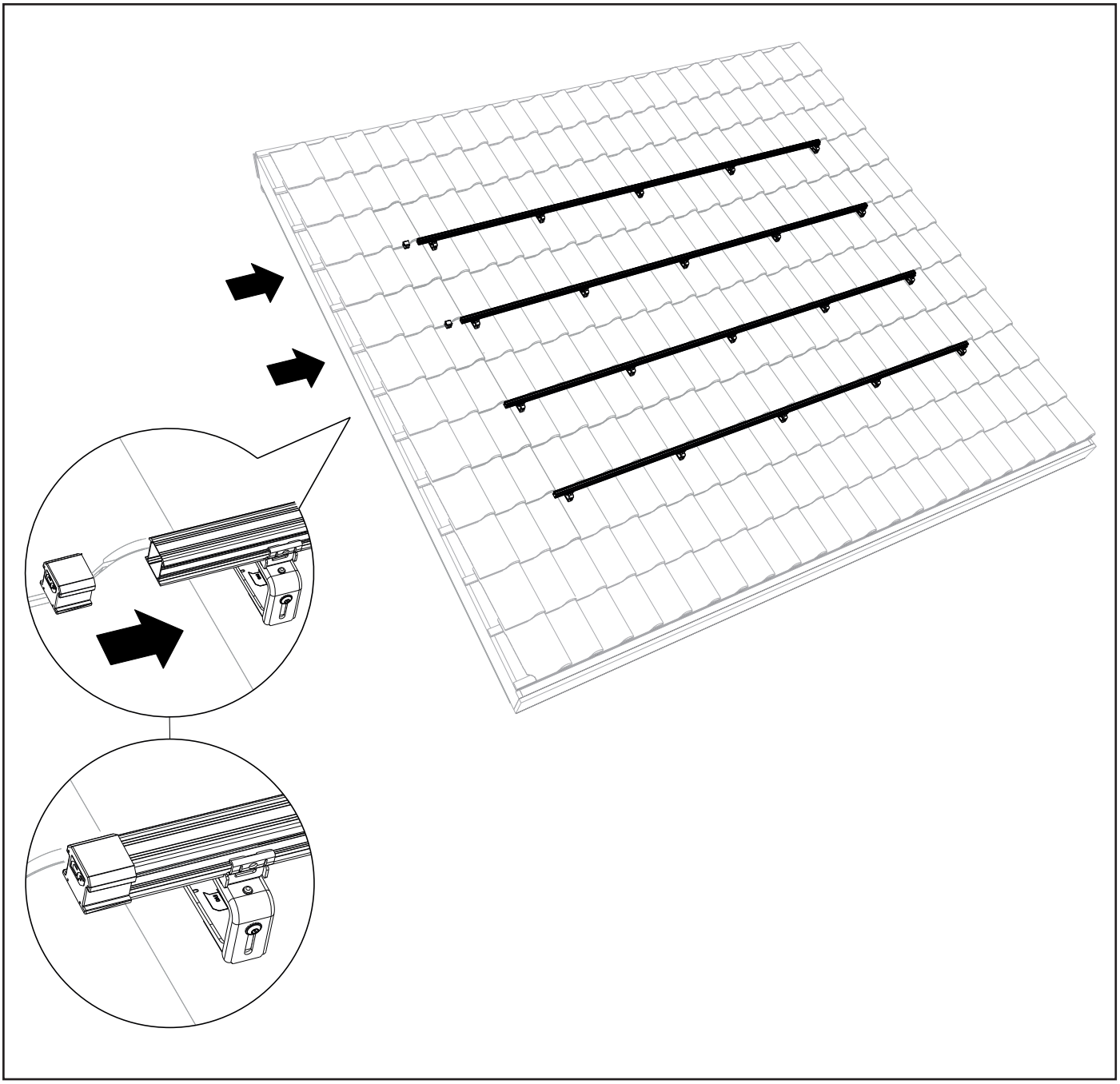
9.1.5 Tightening moment

Screws for fastening the 60 mm End Clamp and Mid Clamp: 16,5 Nm

9.2. Mounting of solar panels in the portrait set-up with 60 mm Clamp

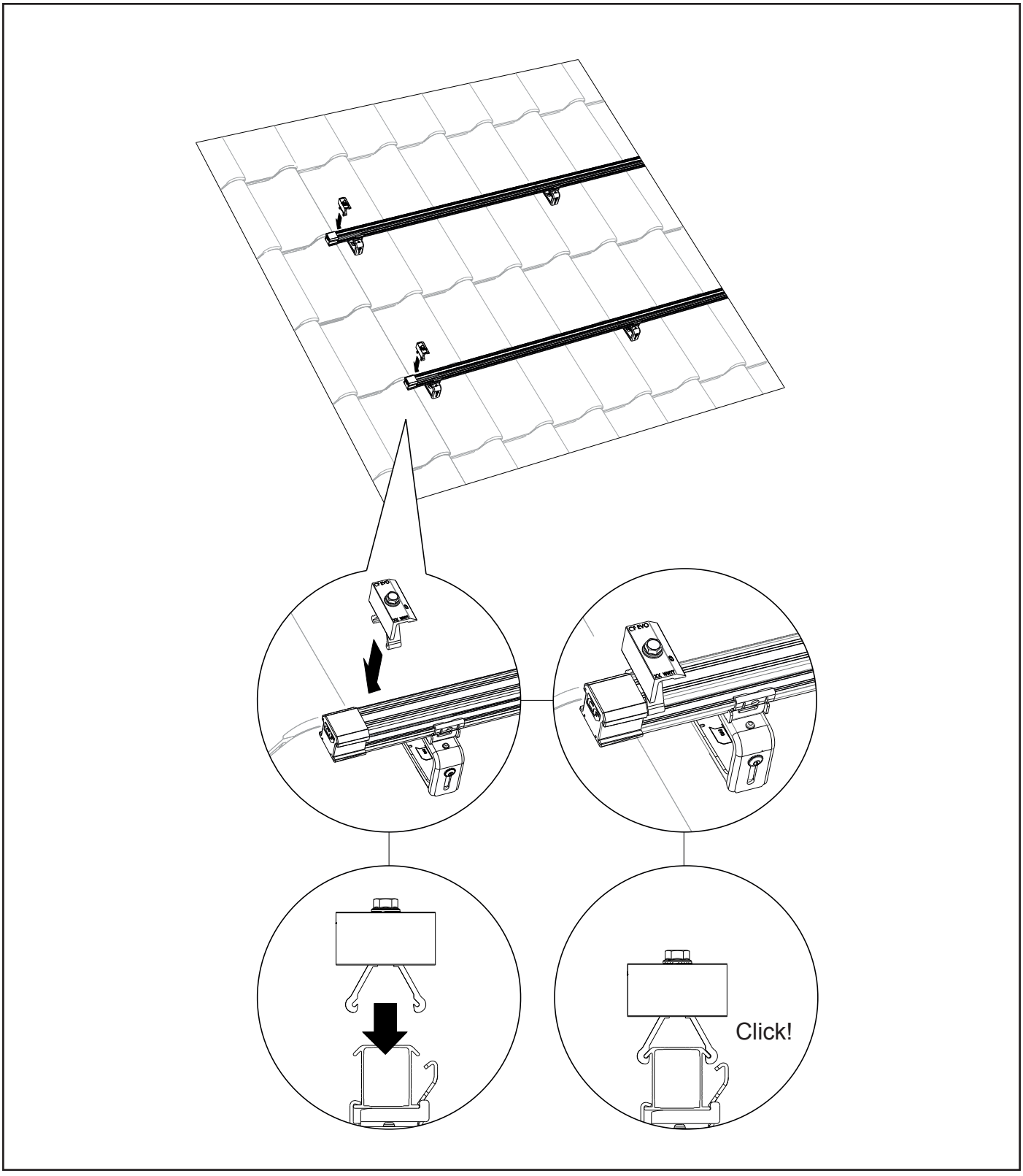
9.2.1 Mounting the End caps on the mounting rails

Attention! First follow the steps of chapters 6.1 to 6.4 before mounting the 2 End caps on the mounting rails.
1. Slide the 1st End cap onto the end of the upper mounting rail.
2. Then slide the 2nd End cap onto the end of the mounting rail below.



9.2.2 Mounting the 60 mm End Clamps on the mounting rails

1. Click the 60 mm End Clamps on the mounting rails.
Attention! Ensure the 60mm End Clamps are against the End caps.



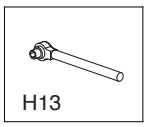
9.2.3 Positioning and mounting 1st solar panel

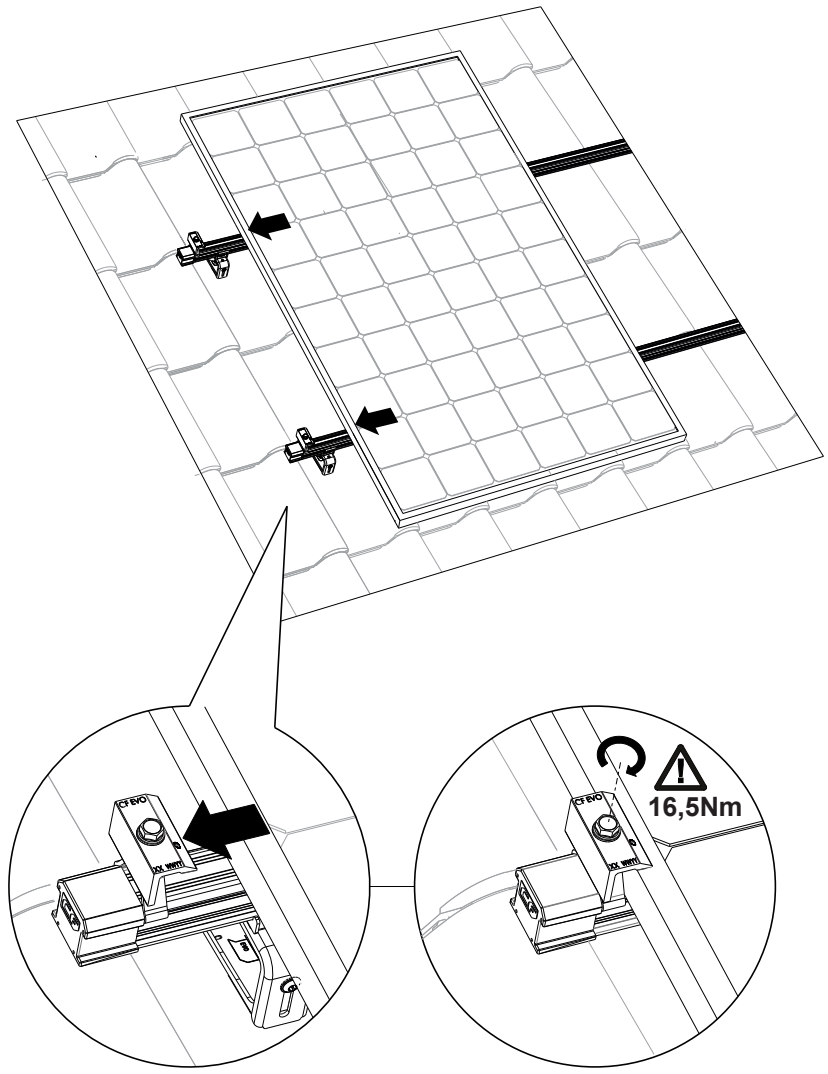
Attention! If you use the optional mounting aid, follow the steps in chapter 6.5.

1. Place the first solar panel on the mounting rails and click the solar panel cables into the MLPE clip.
2. Slide the solar panel against the 60 mm End Clamps.

Attention! Make sure the solar panel is completely straight before tightening the screws!

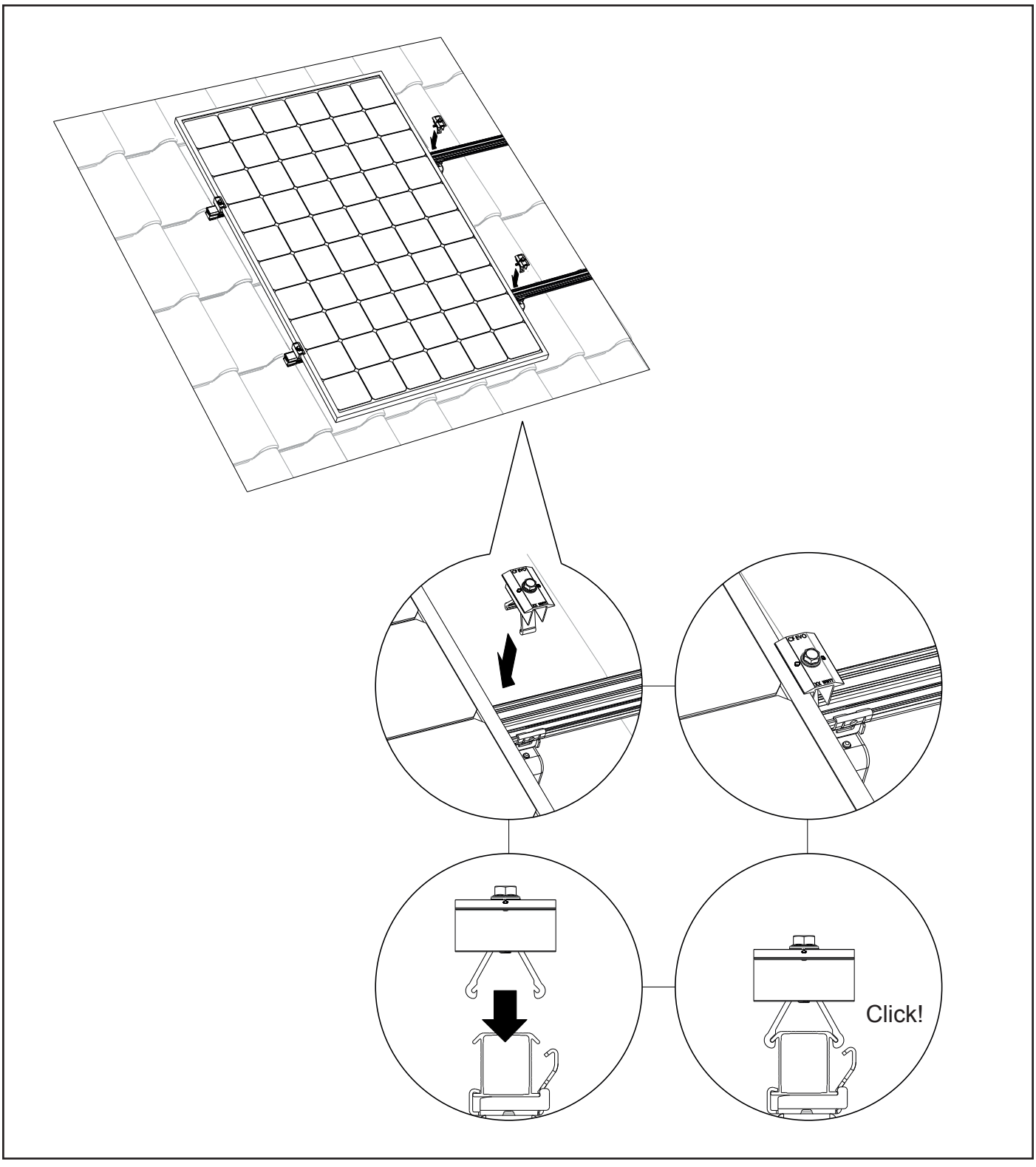
3. Then tighten the screws of the 60 mm End Clamps.**Attention!** The tightening moment of the screw connection is 16,5Nm.





9.2.4 Click the 60 mm Mid Clamps onto the mounting rails

1. Click the 60 mm Mid Clamps onto the mounting rails just next to the first solar panel.
2. Slide the 60 mm Mid Clamps against the first solar panel.



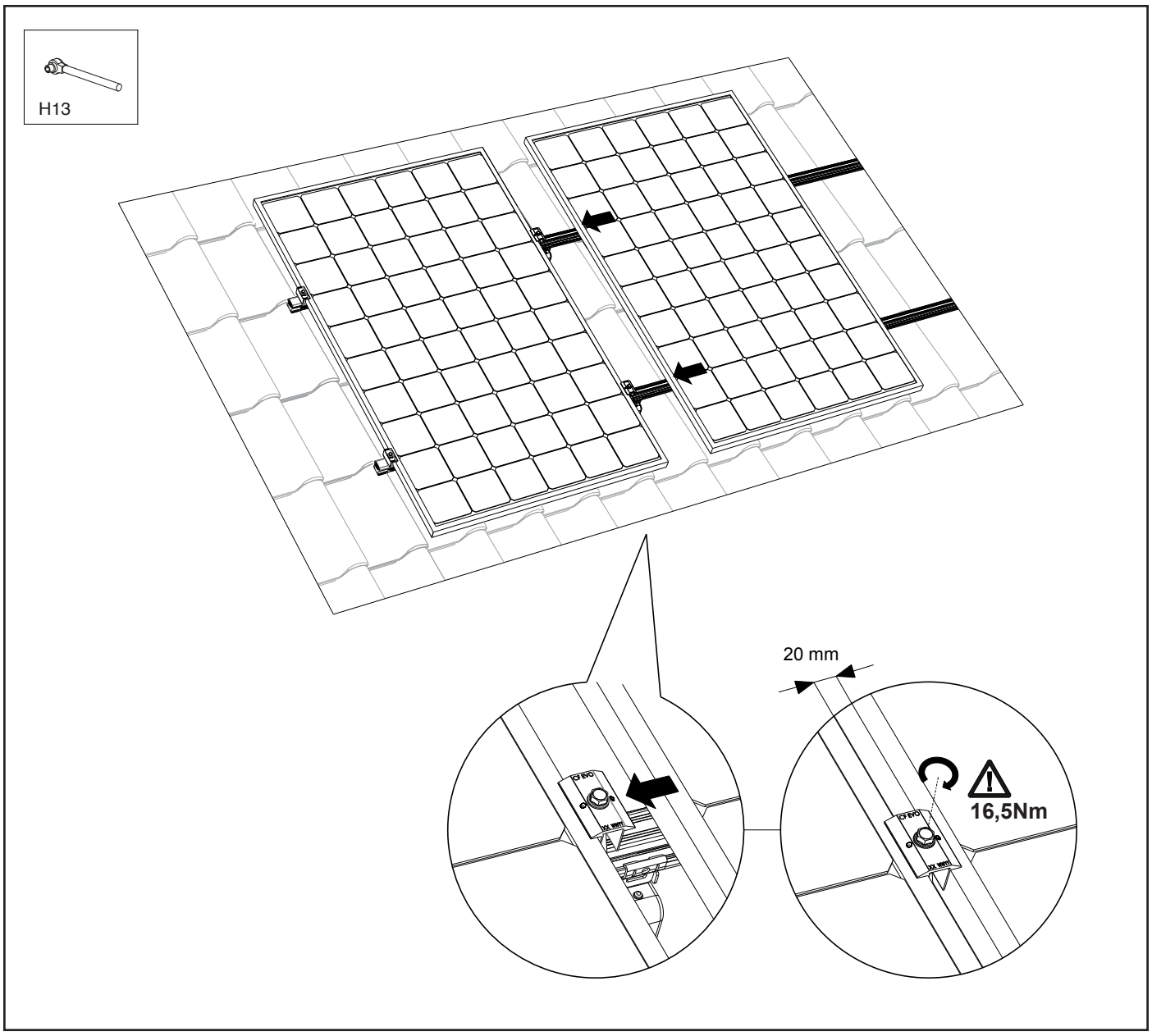
9.2.5 Positioning and mounting 2nd solar panel

1. Place the second solar panel on the mounting rails.
2. Click the solar panel cables into the MLPE clip.
3. Slide the second solar panel towards the first against the 60 mm Mid Clamps. Care must be taken to ensure that a gap of 20mm is maintained.

Attention! Make sure that the solar panels are completely straight and aligned before tightening the screws!

4. Then tighten the screws of the 60 mm Mid Clamps.**Attention!** The tightening moment of the screw connection is 16,5Nm. Repeat this with the remaining solar panels.

Attention! Always follow the project plan that comes out of the calculator, and the module manufacturer's installation manual.



9.2.6 Mounting the last solar panel

Optional: Saw the mounting rails to size.

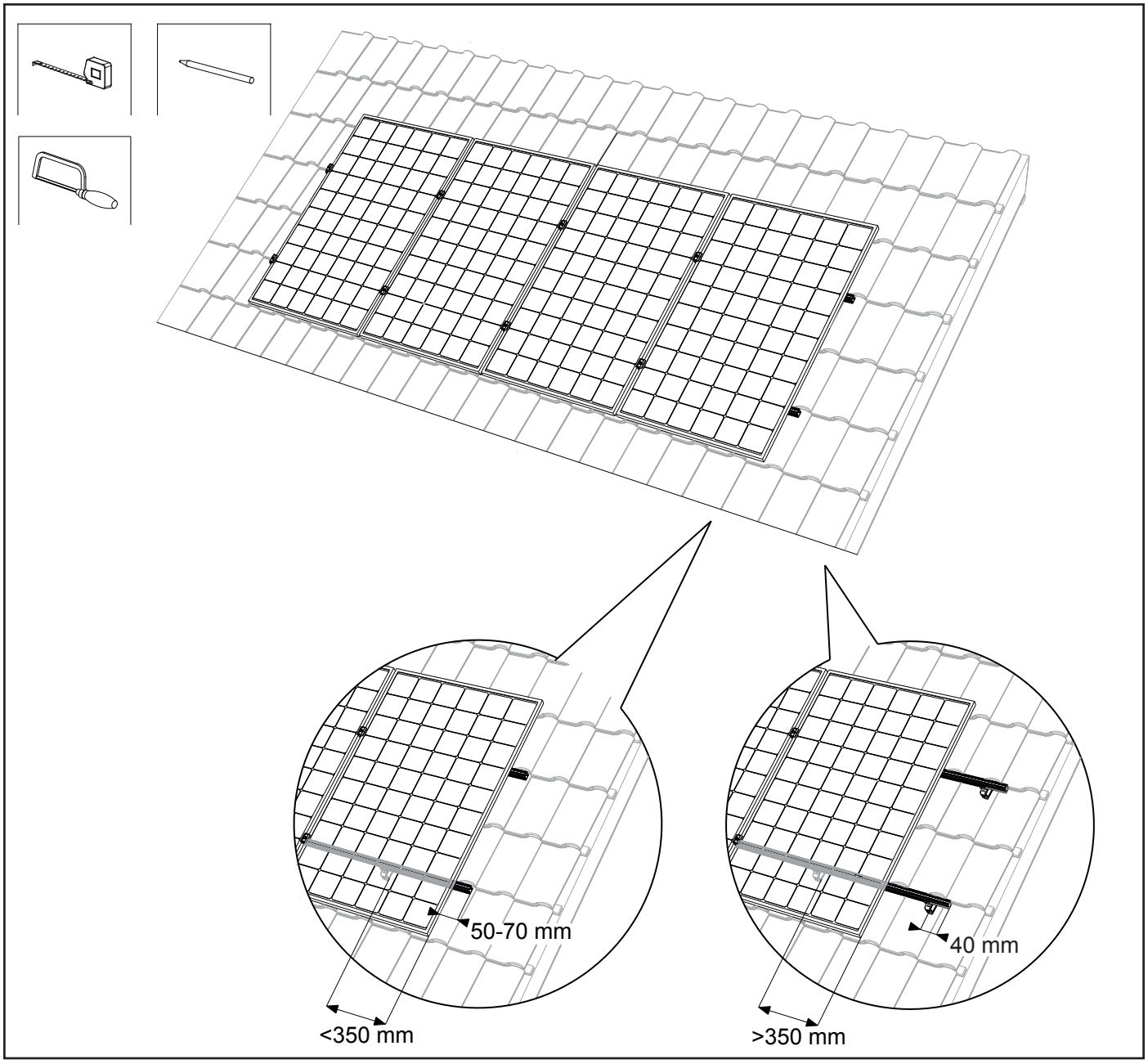
- If the solar panel has less than 350 mm overlap with the last roof hook, allow 50 to 70 mm of mounting rail to protrude for mounting the End cap (art. no. 1008066-B).

- If the solar panel has more than 350 mm overlap with the last roof hook, extend the mounting rail so that it protrudes 40 mm from the next roof hook, and attach the mounting rail here. The extra 40 mm provides sufficient length to place the End cap (art. no. 1008066-B) on the mounting rails.

1. Place the last solar panel on the mounting rails.
2. Click the solar panel cables into the MLPE clip.
3. Slide the last solar panel against the 60 mm Mid Clamps. Care must be taken to ensure that a gap of 20mm is maintained.

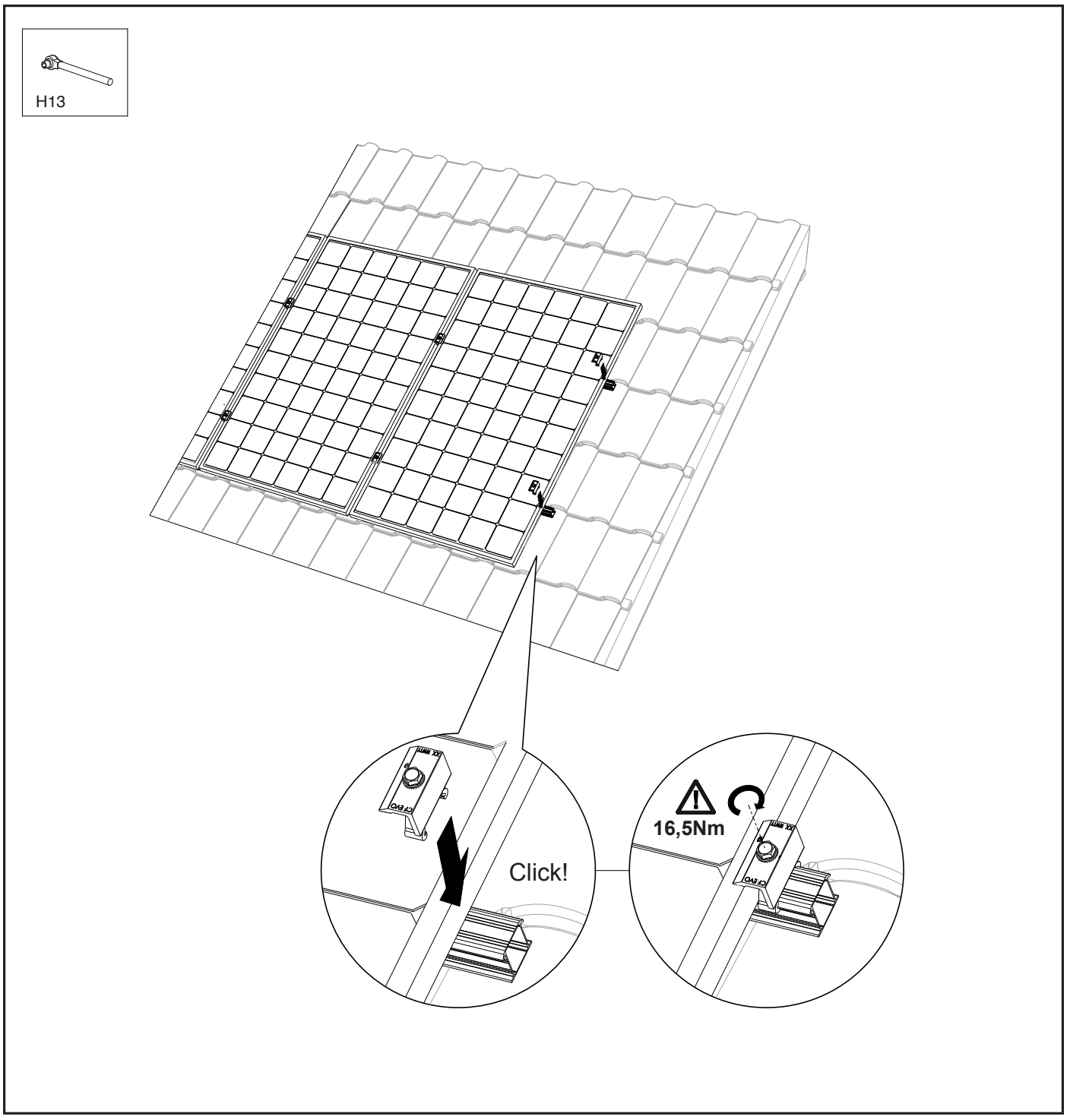
Attention! Make sure that the solar panels are completely straight and aligned before tightening the screws!

4. Then tighten the screws of the 60 mm Mid Clamps.**Attention!** The tightening moment of the screw connection is 16,5Nm.



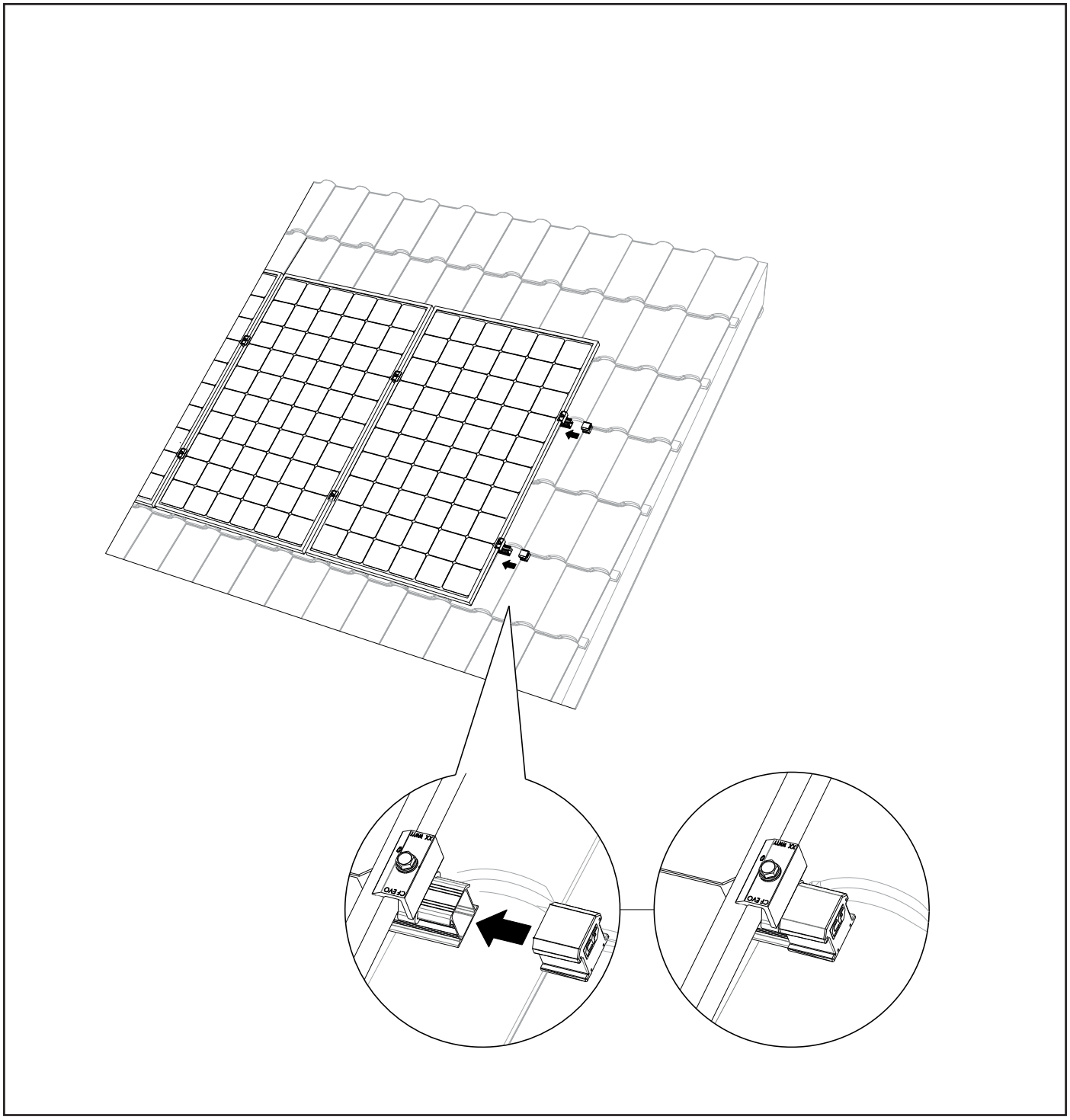
9.2.7 Click the 60 mm End Clamp onto the mounting rails

1. Click the 60 mm End Clamps onto the mounting rails
2. Slide the 60 mm End Clamps against the last solar panel.
3. Then tighten the screws of the 60 mm End Clamps.**Attention!** The tightening moment of the screw connection is 16,5Nm.



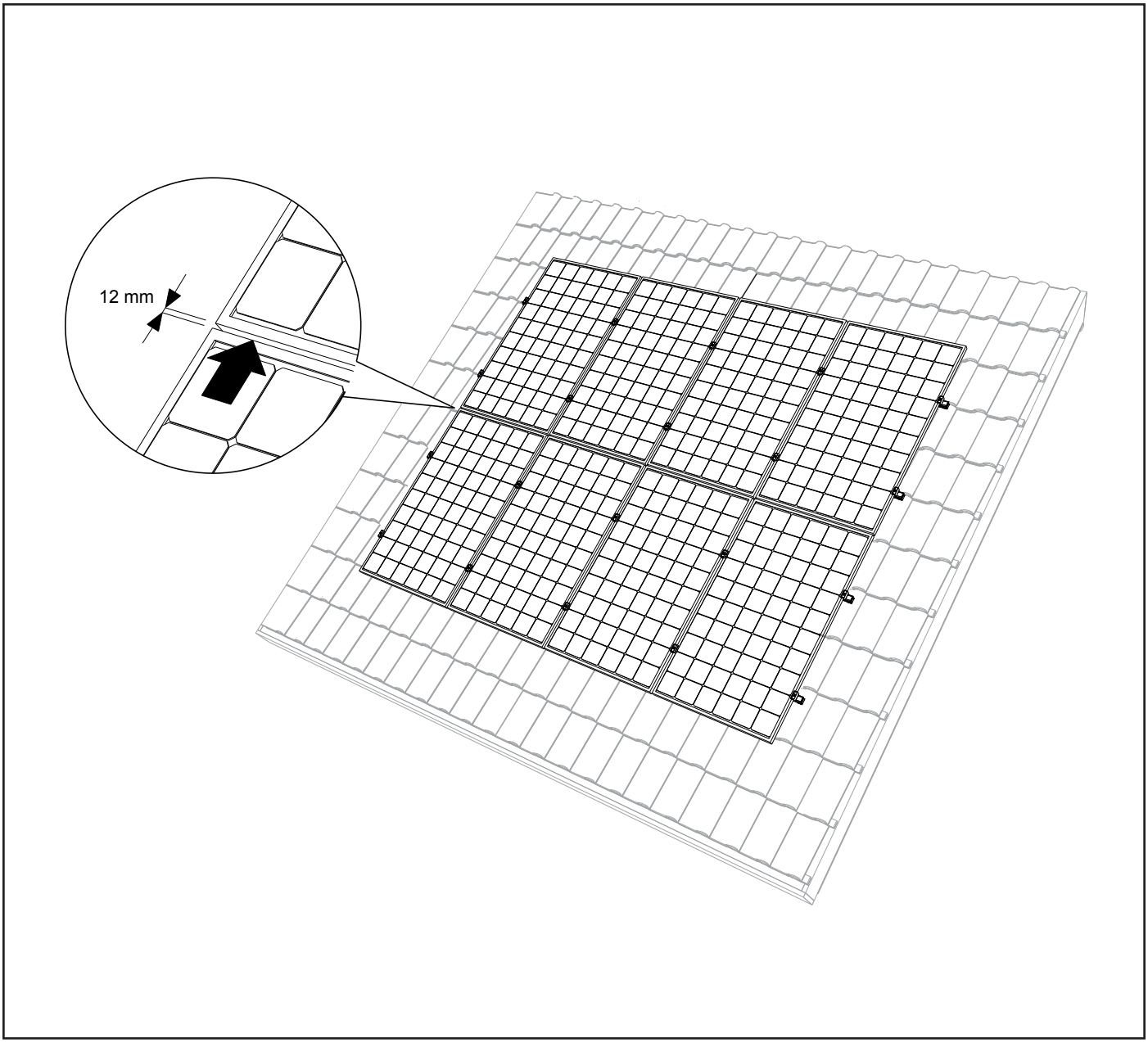
9.2.8 Mounting the End caps on the mounting rails

1. Slide the 1st End cap onto the end of the upper mounting rail.
2. Then slide the 2nd End cap onto the end of the mounting rail below.



9.2.9 Completion of mounting/several rows below each other

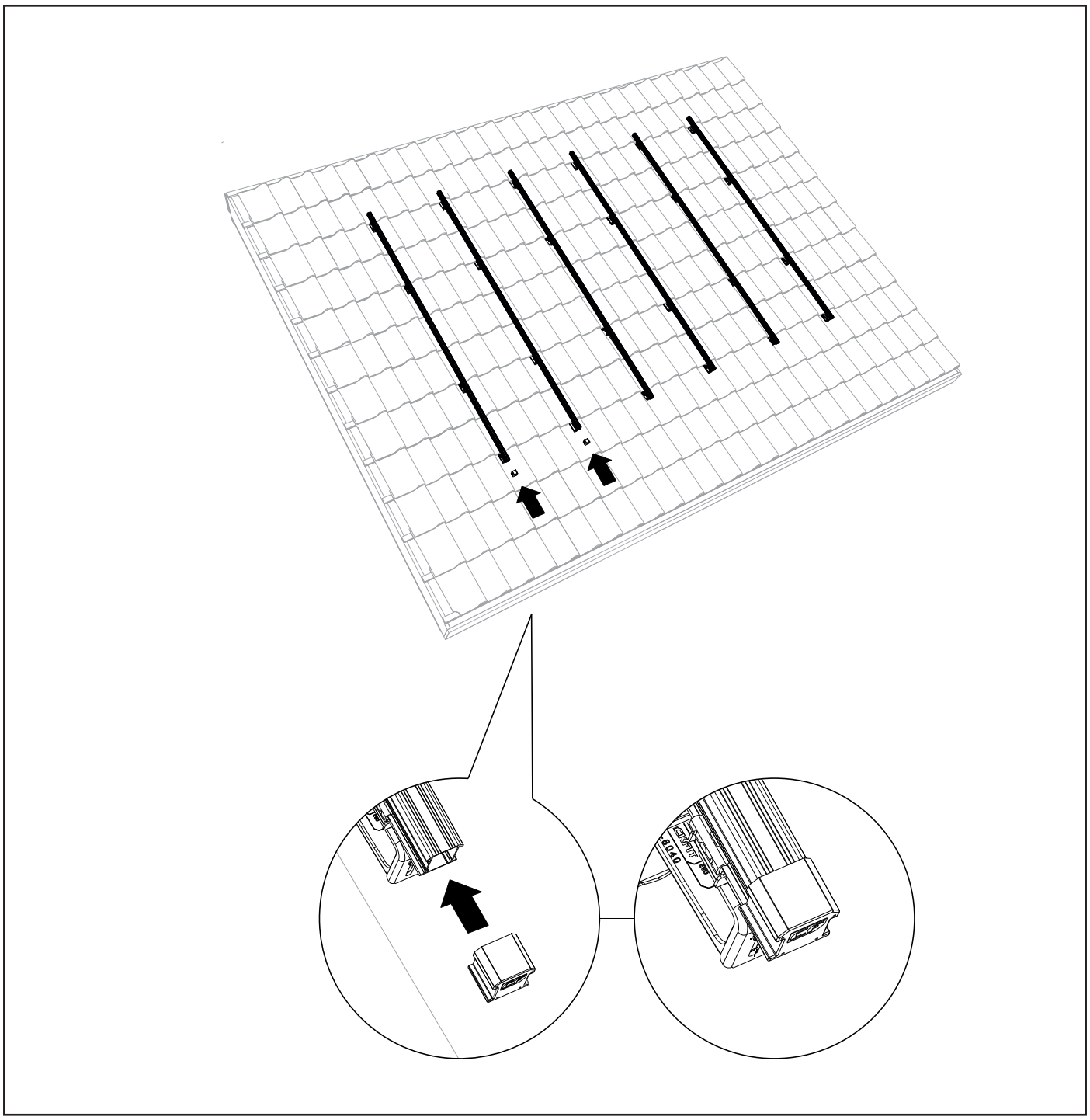
1. In order to obtain a continuously connected panel area you slide the bottom solar panels against the top row of solar panels. Care must also be taken here to ensure that a gap of 12mm is maintained. Always follow the project plan that comes out of the calculator and the module manufacturer's installation manual.
2. Repeat the steps of chapter 9.2.1 - 9.2.8 The panel field is now complete!



9.3 Mounting of solar panels in the landscape set-up with 60 mm Clamp

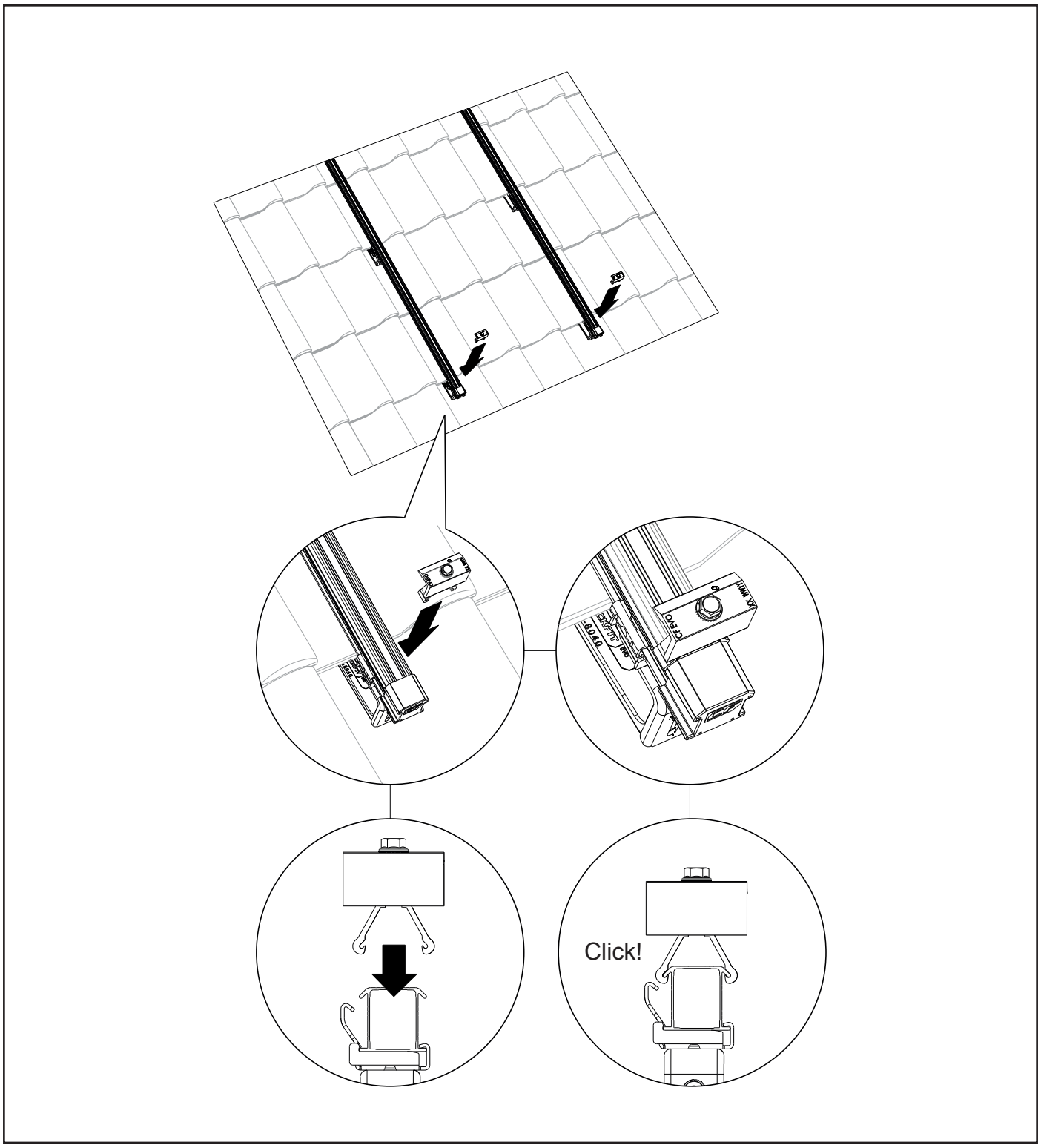
9.3.1 Mounting the End caps on the mounting rails

Attention! First follow the steps of chapters 7.1 to 7.4 before mounting the 2 End caps on the mounting rails.
1. Slide the 1st End cap onto the end of the 1st mounting rail.
2. Then slide the 2nd End cap onto the end of the 2nd mounting rail.



9.3.2 Mounting the 60 mm End Clamps on the mounting rails

1. Click the 60 mm End Clamps on the mounting rails.
Attention! Ensure the 60mm End Clamps are against the End caps.

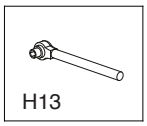


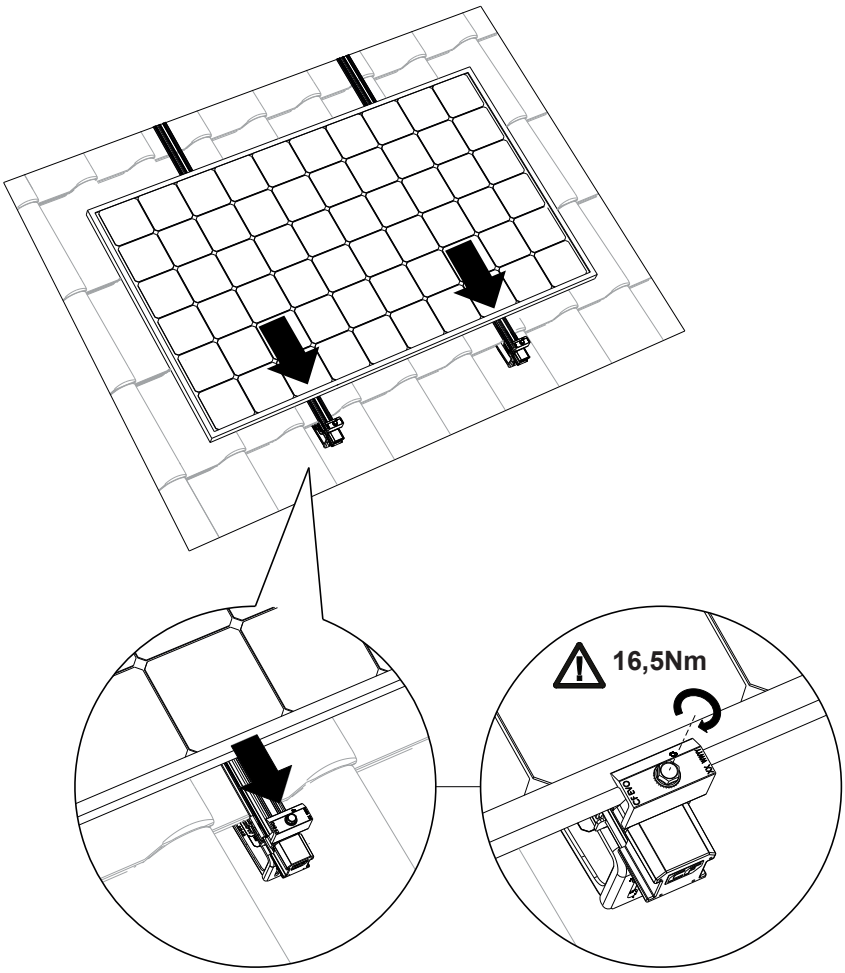
9.3.3 Positioning and mounting 1st solar panel

1. Place the first solar panel on the mounting rails and click the solar panel cables into the MLPE clip.
2. Slide the solar panel to the end of the mounting rail against the 60 mm End Clamps.

Attention! Make sure the solar panel is completely straight before tightening the screws!

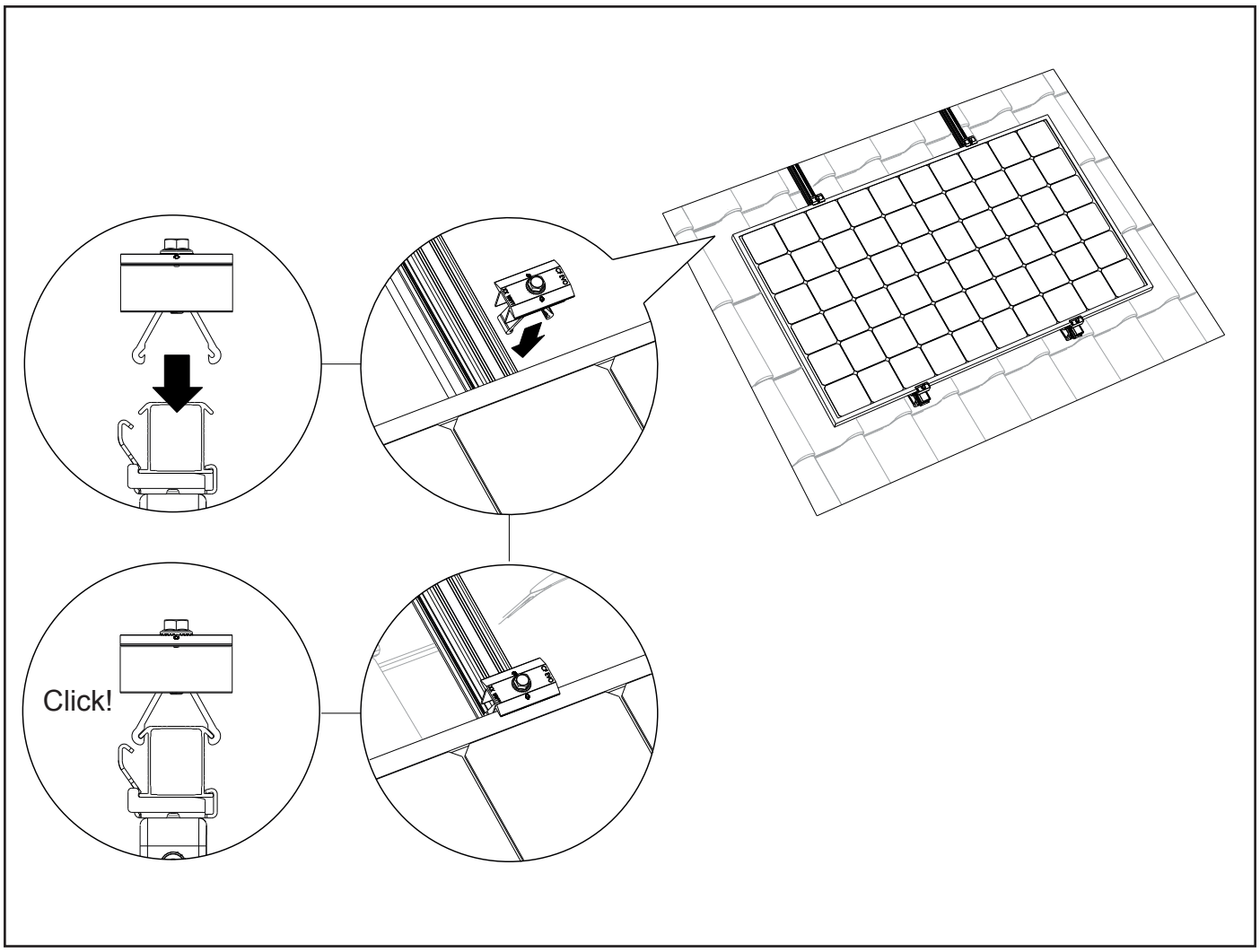
3. Then tighten the screws of the 60 mm End Clamps.**Attention!** The tightening moment of the screw connection is 16,5Nm.





9.3.4 Click the 60 mm Mid Clamps onto the mounting rails

1. Click the 60 mm Mid Clamps onto the mounting rails just above the first solar panel.
2. Slide the 60 mm Mid Clamps against the first solar panel.



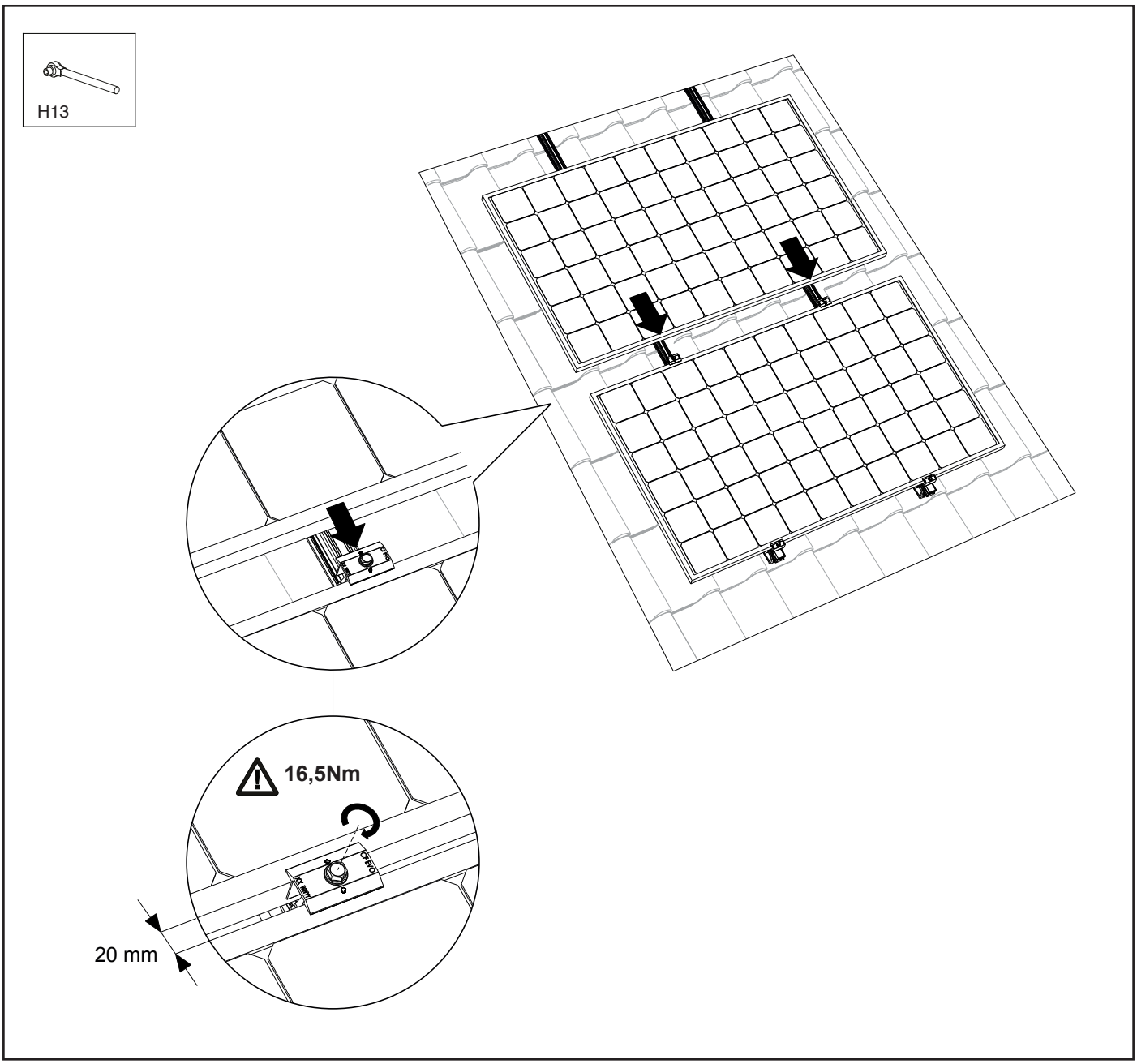
9.3.5 Positioning and mounting 2nd solar panel

1. Place the second solar panel on the mounting rails.
2. Click the solar panel cables into the MLPE clip.
3. Slide the second solar panel towards the first against the 60 mm Mid Clamps. Care must be taken to ensure that a gap of 20mm is maintained.

Attention! Make sure that the solar panels are completely straight and aligned before tightening the screws!

4. Then tighten the screws of the 60 mm Mid Clamps.**Attention!** The tightening moment of the screw connection is 16,5Nm. Repeat this with the remaining solar panels.

Attention! Always follow the project plan that comes out of the calculator, and the module manufacturer's installation manual.

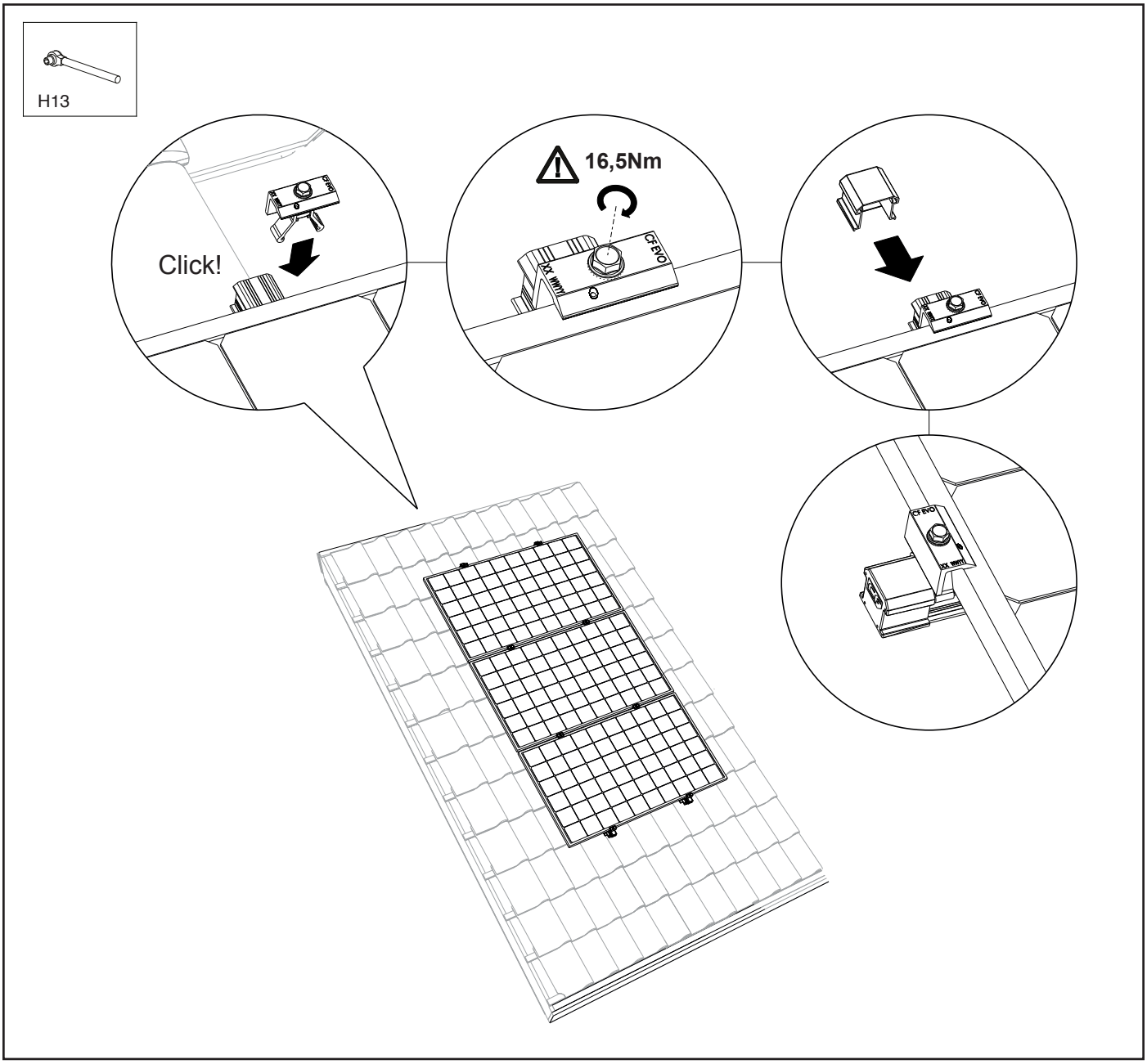


9.3.6 Mounting the last solar panel

Attention! The mounting rails must protrude 50 - 70 mm above the last solar panel to allow the mounting of the End cap (art. no. 1008066-B) on the mounting rails.

1. Place the last solar panel on the mounting rails.
2. Click the solar panel cables into the MLPE clip.
3. Slide the last solar panel against the 60 mm Mid Clamps. Care must be taken to ensure that a gap of 20mm is maintained. **Attention!** Make sure that the solar panels are completely straight and aligned before tightening the screws!
4. Then tighten the screws of the 60 mm Mid Clamps.**Attention!** The tightening moment of the screw connection is 16,5Nm.

5. Click the 60 mm End Clamps onto the mounting rails.
6. Slide the 60 mm End Clamps against the last solar panel.
7. Then tighten the screws of the 60 mm End Clamps.**Attention!** The tightening moment of the screw connection is 16,5Nm.
8. Slide the End caps onto the ends of the mounting rails.



9.3.7 Completion of installation / several rows alongside each other

1. In order to obtain an uninterrupted solar panel field you slide the adjacent solar panels against the row of solar panels. Care must also be taken here to ensure that a gap of 12mm is maintained. Always follow the project plan that comes out of the calculator and the module manufacturer's installation manual.
2. Repeat the steps of chapter 9.3.1 - 9.3.6. The panel field is now complete!

