



**VAN DER VALK**



## **Van der Valk Solar Systems B.V.**

**Manual:      Pitched roof - Corrugated  
                         roof clamp**

Version: v1.0.2  
Date: 22-02-2021

## Disclaimer

The project report is the result of the use of the online calculation tool of Van der Valk Solar Systems B.V., called the “ValkPVplanner”, which project report shows you specific information about your project such as, amongst other, a project drawing and ballast plan for flat roofs (the “Project Report”). This ValkPVplanner and the Project Report(s) derived from this ValkPVplanner are composed with the greatest possible care. Nonetheless, it is possible that some information might not be entirely correct as the results for each Project Report can be based on default values entered into this ValkPVplanner by you, which values always need to be checked and validated by you. The instructions provided in this Project Report must be strictly observed at all times, in addition to and in conjunction with the installation manual provided by us (the “Installation Manual”), and vice versa.

At all times all currently applicable structural, safety and building regulations must be observed when using the ValkPVplanner and/or Installation Manual. The building in question will be subject to a load as a result of the solar mounting system installed/mounted. Solar mounting systems installed on roofs will be exposed to wind and snow. Therefore, you are at all times responsible to obtain and use a design calculation to establish whether or not the building will be able to withstand the (extra) load at all times. Where necessary, modifications need to be made by you. Van der Valk will not accept any form of liability upon you not having obtained and used such a required design calculation.

Flat roof systems should either be attached to the roof or need to be supported by ballast, to make sure that the solar mounting system is unable to be lifted, tipped over or slide. The ballast specified in the Project Report will be vital to ensure that the mounting system can be used. Flat roofs with an angle above 5 degrees must always be attached to the roof itself.

The calculations in the ValkPVplanner do not take into account obstacles in the near surrounding such as, for example, high buildings, cliffs and mountains. Restrictions also apply for the position of the solar mounting system on a roof. The solar panels must be installed at a certain distance from the edge of the roof as shown in the respective Project Report and the Installation Manual.

The standard warranty for pitched roof, flat roof and ground mount systems is 10 years, which can be extended under certain conditions. The guarantee provided is subject to the guarantee conditions stated in the general terms and conditions stipulated by Van der Valk Solar Systems B.V. Our terms and conditions shall apply to all our products at all times and can be found on our website: [www.valksolarsystems.nl](http://www.valksolarsystems.nl)

Van der Valk Solar Systems B.V. does not accept any liability for any direct and/or indirect consequences of any act (or omission) ensuing from the information in or failure to observe the instructions provided in the Project Report and/or the Installation Manual and for possible incorrect results resulting from the use of this ValkPVplanner which was made available to you. The use of the ValkPVplanner, the derived Project Report and the Installation Manual will at all times be subject to Dutch law.

## Please note

- This manual is not project specific.
- This manual is not legally binding.
- No right may be derived from this manual.
- Use this manual in combination with the ValkPVplanner project report.
- Check 'Datasheet Cable management' for cable suggestions.
- The system can be placed both in the middle zone and the edges/corners of the roof.
- De aluminium parts of the mounting system can be sharp at the edges, the use of safety gloves is recommended

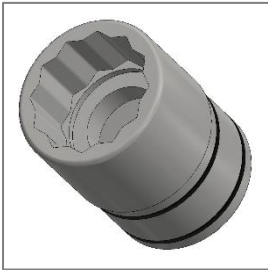
## Table of contents:

Disclaimer	Page 01
Table of contents	Page 02
Recommended tools	Page 03
Required materials	Page 04
Overview standard roof structure	Page 05
Mounting roof clamp (existing points)	Page 06
Mounting roof clamp (new screws)	Page 07
Mounting aluminium profiles	Page 08-09
Coupling aluminium profiles	Page 10-11
Mounting end clamps	Page 12-13
Mounting panel clamps (middle)	Page 14
Cable clamps	Page 15-16
Mounting optional products	Page 17

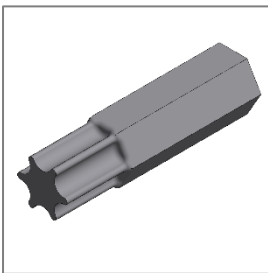
## Required tools



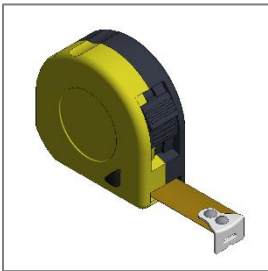
Cordless drill



Socket 12&13mm

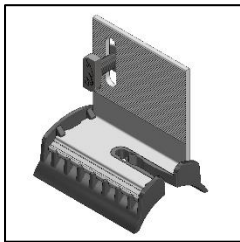


Torx bit T-30  
(789530)

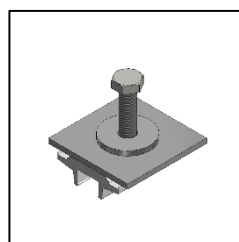


Measuring tape

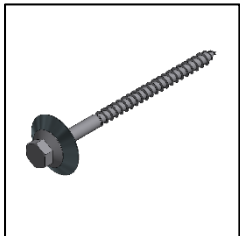
## Materials for installing



Corrugated roof clamp  
747901

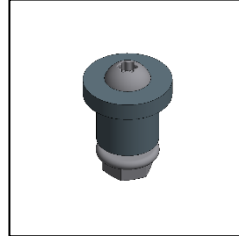


Optimizer clamp for side++  
profile  
774223

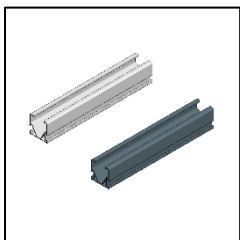


Corrugated roof screw  
774390 (110 mm)  
774391 (130mm)  
774392 (150mm)

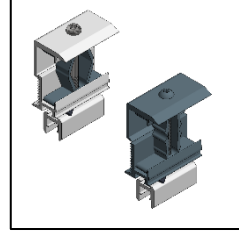
Optional, see information below



Plastic panel alignment  
pins  
733020

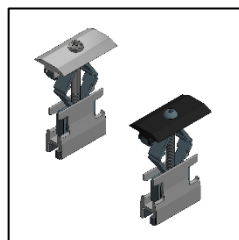


Aluminium side++ profile  
7017.....\*  
\*see table

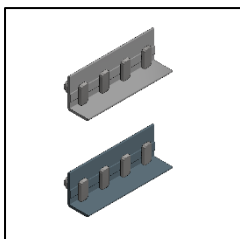


Aluminium end clamp 28-50mm  
721552 - Blank  
721552ZW - Black

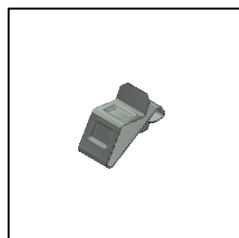
Profile length	Art no. Blank profile	Art no. Black profile
1086 mm	701701086	701701086ZW
2113 mm	701702113	701702113ZW
3140 mm	701703140	701703140ZW
4167 mm	701704167	701704167ZW
5194 mm	701705194	701705194ZW
6347 mm	701706347	701706347ZW



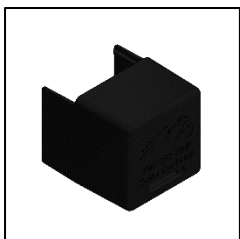
Aluminum mid clamp 28-50mm  
721550 - Blank  
721550ZW - Black



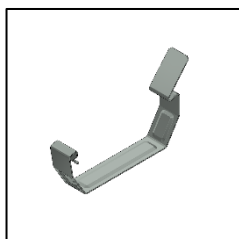
Coupling piece side++  
profile  
724863 - Blank  
724863ZW - Black



Ss cable clamp small  
732001



Plastic end cap for side++  
profile  
739052

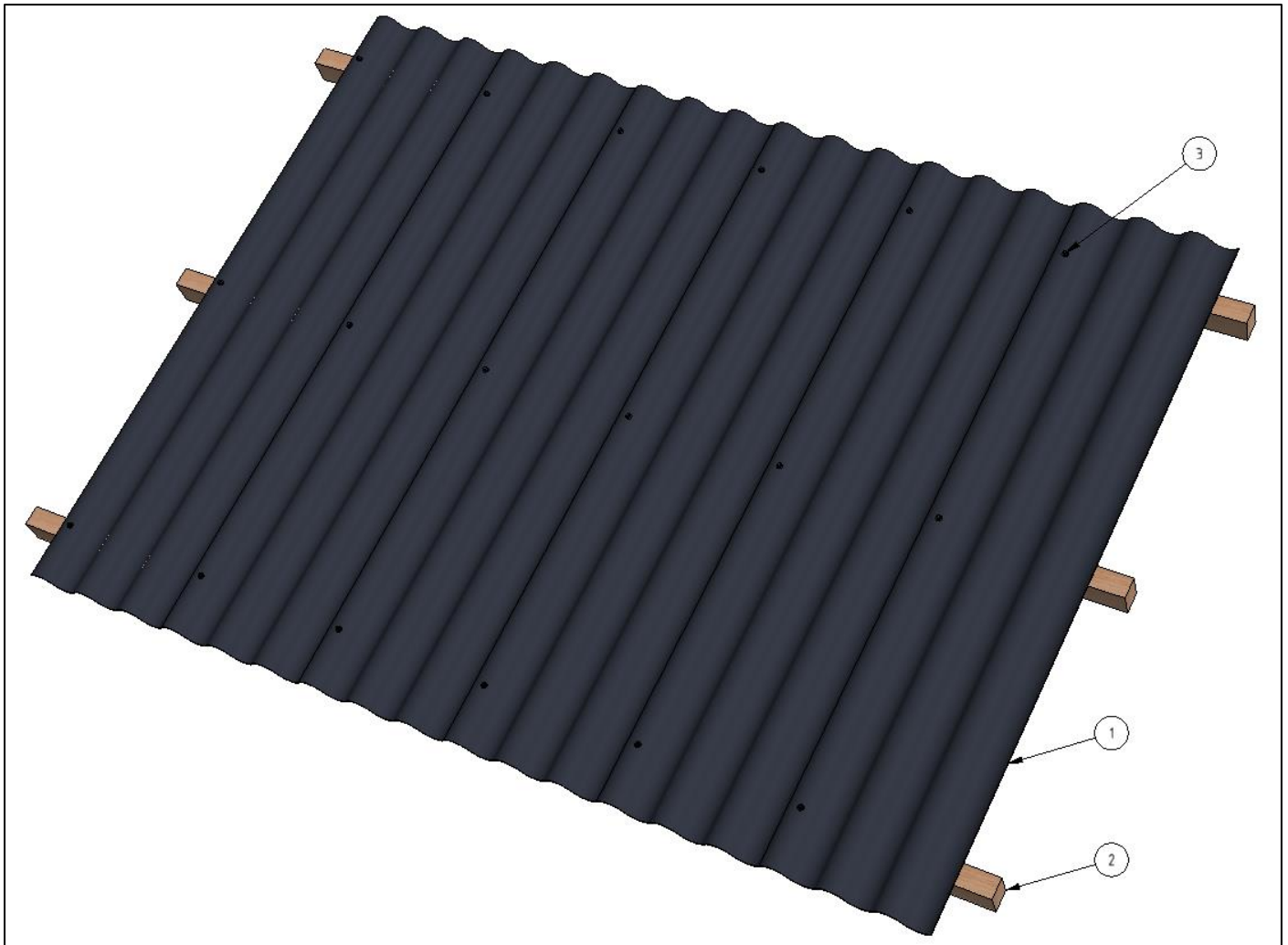


Ss cable clamp large  
732005

The optional screw can be used when the roof clamps are not fixed with existing fixations (screws). The optional screw can only be used on wooden purlins.

## Overview standard roof structure

The mounting system in this manual will be mounted on a non-steel corrugated roof. In the manual some of the parts of the roof structure are mentioned. In the image down below you can find the names of each part that is being mentioned in the manual.

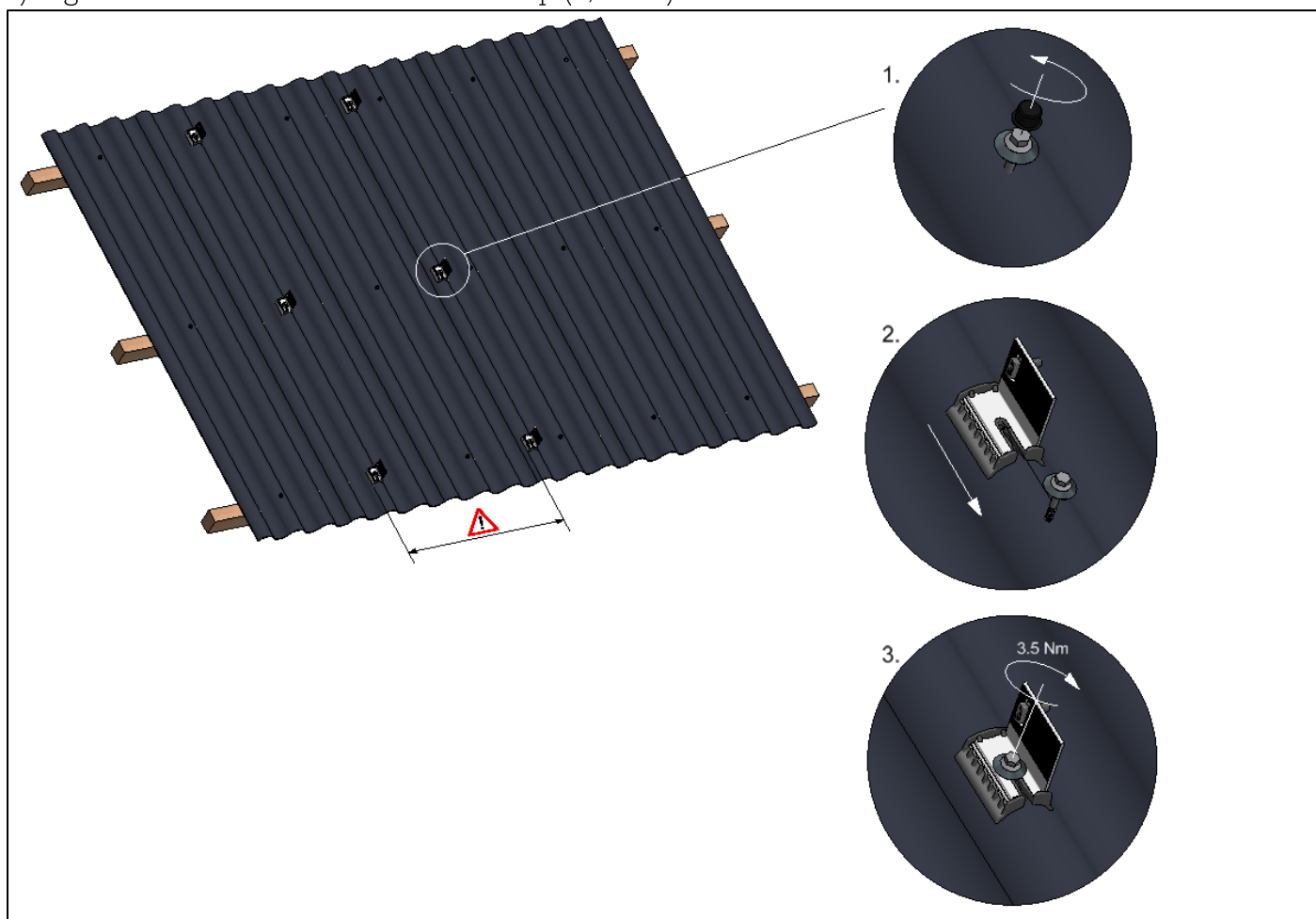


- 1) Corrugated roof sheets  
The corrugated roof has multiple corrugated sheets that overlap each other. The mounting system in this manual is not suitable for steel corrugated roofs. The waves of the corrugated roof must have a radius of 30-35 mm, every other dimension is not suitable for the roof clamps.
- 2) Purlins  
The purlins are the base structure that carries the corrugated sheets. The purlin material can either be wood or steel, for the steel purlins there are some limited options regarding the system.
- 3) Fixation points  
Each corrugated sheet has its own fixation points where the sheet is fixed to the purlins. These fixation points can be used to mount the corrugated roof clamp

## Mounting roof clamp (existing points)

When mounting the corrugated roof clamp on existing points the steps down below should be followed:

- 1) Unscrew the existing screw from the roof. (min. 30 mm)
- 2) Slide the roof clamp over the screw from above.
- 3) Tighten the screw to fix the roof clamp (3,5 Nm)

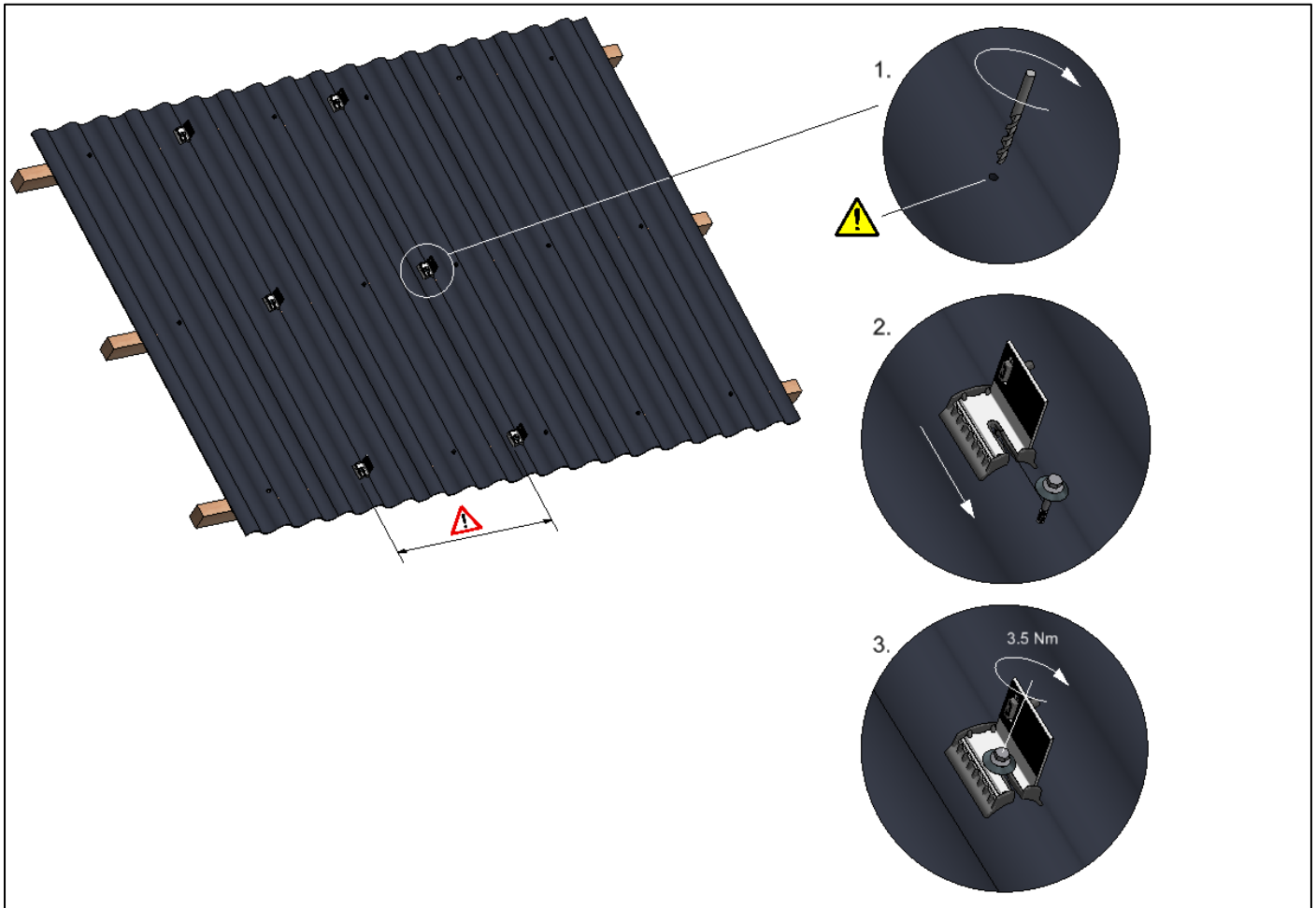


Check the outcome of the calculation for the maximum distance between the roof clamps and the required amount per profile.

## Mounting roof clamp (new screws)

When mounting the corrugated roof clamp on new points the steps down below should be followed:

- 1) Pre-drill a hole in the corrugated sheet
- 2) Place a screw in the new hole and slide the roof clamp in its place from above.
- 3) Tighten the screw to fix the roof clamp (3,5 Nm)



Check the outcome of the calculation for the maximum distance between the roof clamps and the required amount per profile.



The diameter of the pre-drilled hole should be larger than the size of the screw. For the optional screw of Van der Valk (773290) the pre-drilled hole should be 7-8 mm.

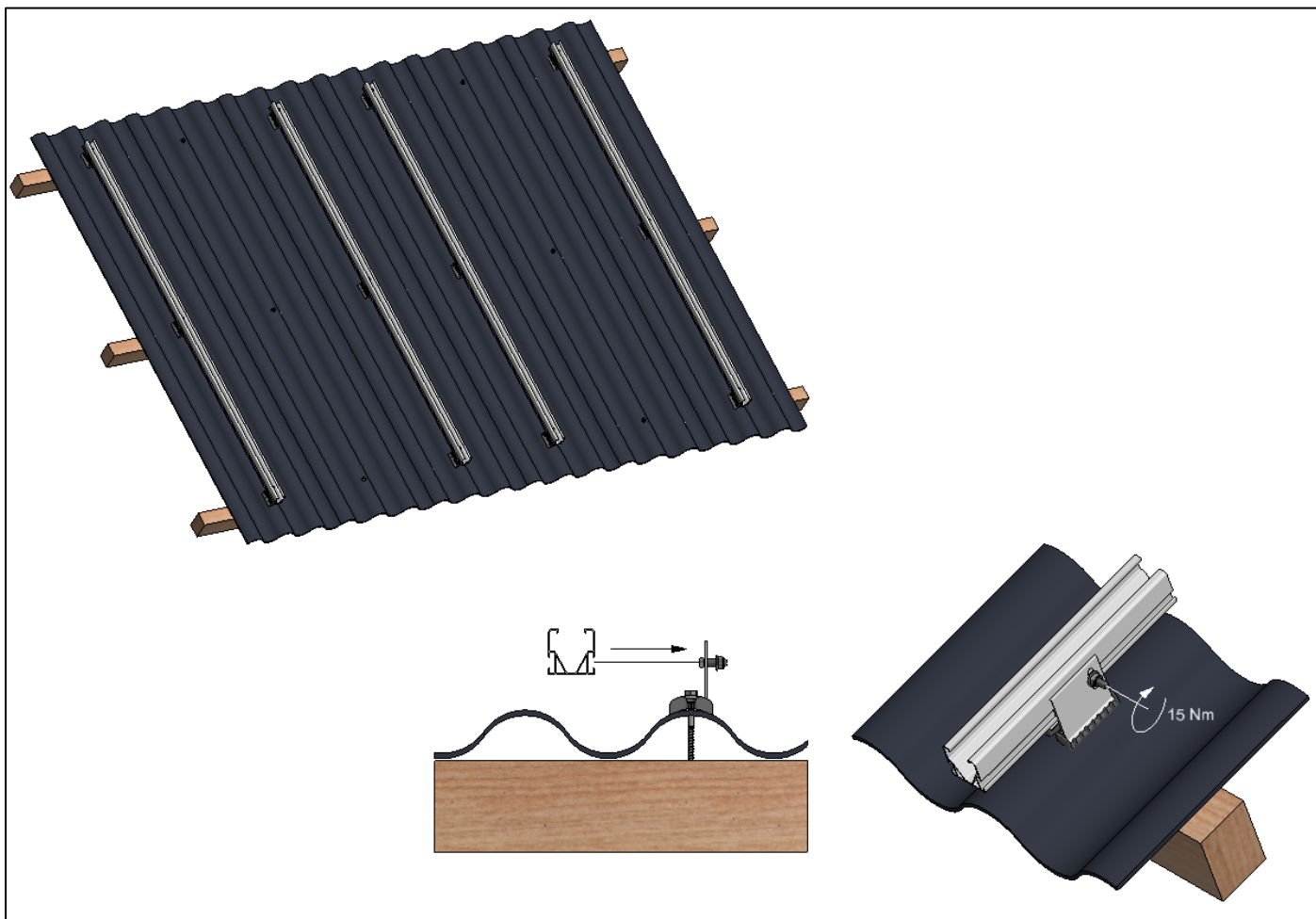
**VAN DER VALK**



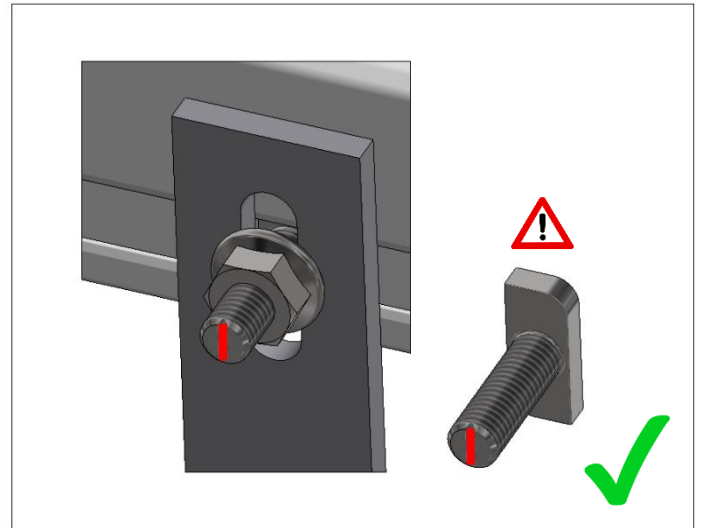
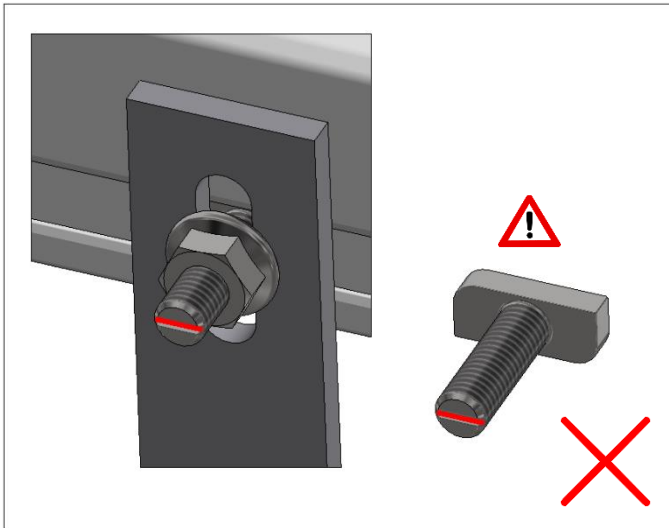


## Mounting aluminium profiles

Mount the aluminium profiles to the roof clamps by placing the hammerhead bolts in the aluminium profile. When all bolts are placed in the profile everything is fastened with the nut of the roof clamps. (max. torque is 15Nm).



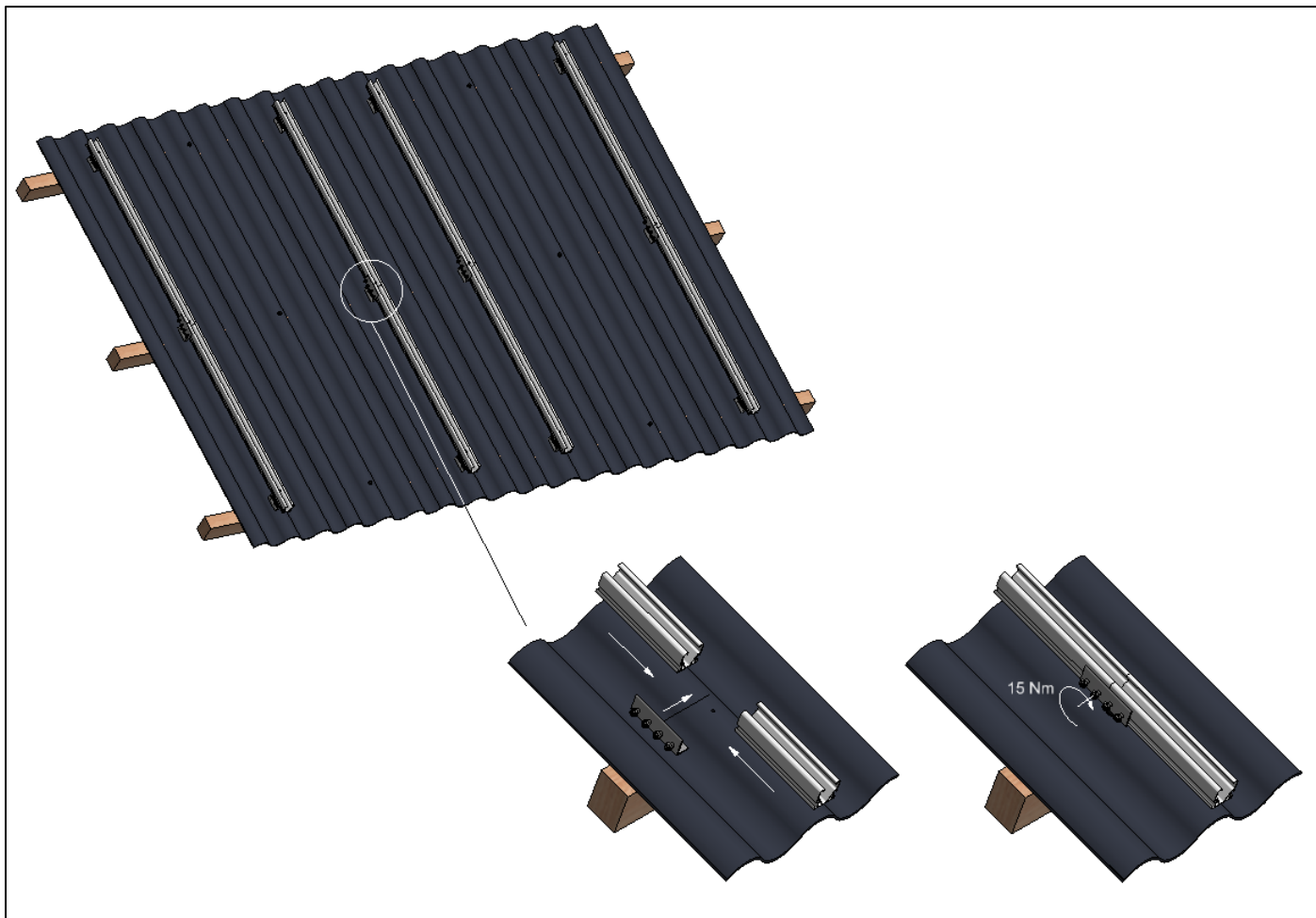
When fastening the bolt/nut of the roof hook it is important that the hammerhead bolt is correctly placed in the aluminium profile. If the hammerhead bolt is not in the profile properly the aluminium profile can come loose (see image below).



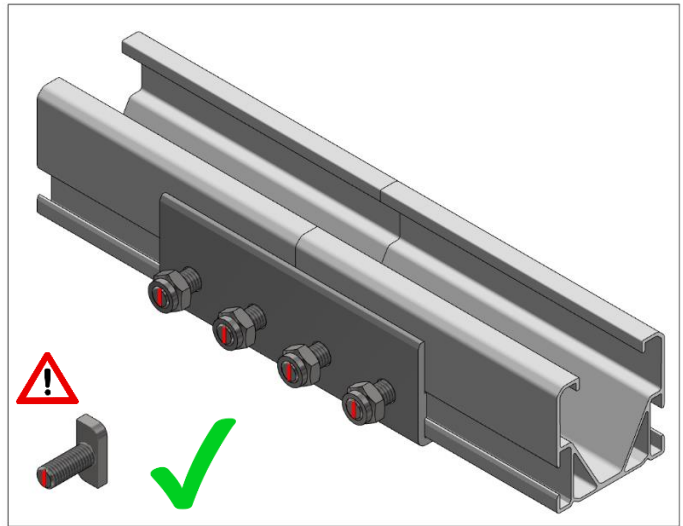
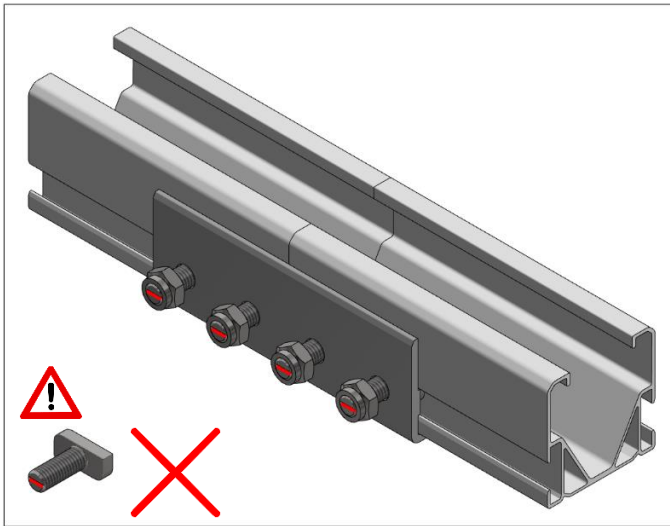
The groove on the hammerhead bolt corresponds with the orientation of the bolt head. Make sure the bolt is always mounted correctly.

## Coupling aluminium profiles

The aluminium profiles can be coupled together with the coupling pieces (724863). Each coupling piece has 4 hammerhead bolts, 2 for each end of the profile. Make sure all hammerhead bolts are in the profiles and fix the lock nuts when ready. (max. torque is 15 Nm)



When fastening the bolt/nut of the coupling it is important that the hammerhead bolts are correctly placed in the aluminium profile. If the hammerhead bolts are not in the profile properly the aluminium profile can come loose (see image below).

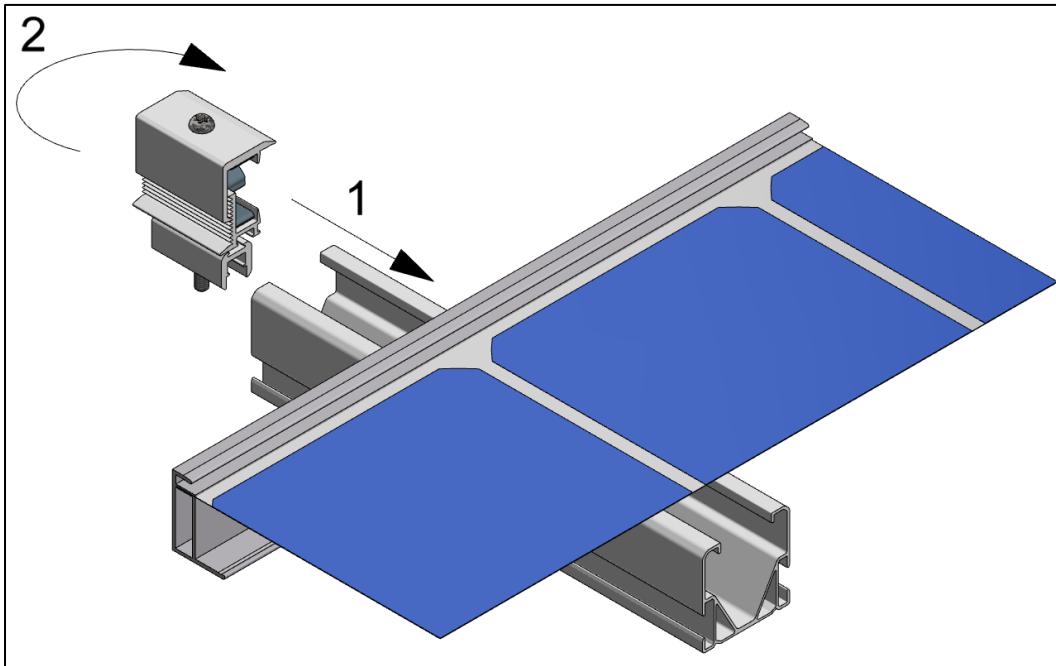


The groove on the hammerhead bolt corresponds with the orientation of the bolt head. Make sure the bolt is always mounted correctly.

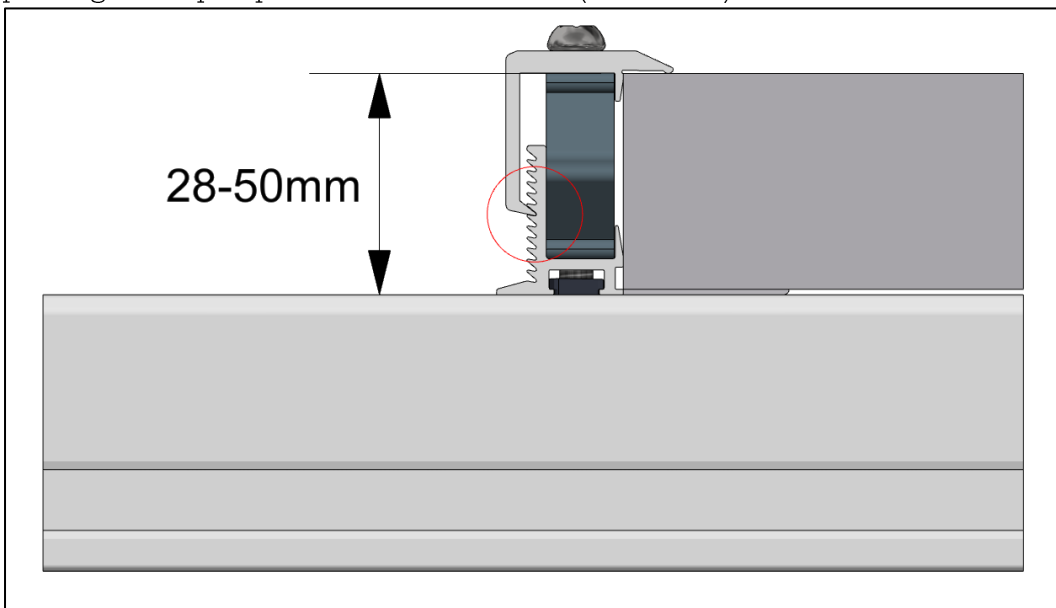
## Mounting end clamps

Each end of the panel row is fixed with the end clamps (721552). The end clamps have a range for the panel thickness from 28-50 mm.

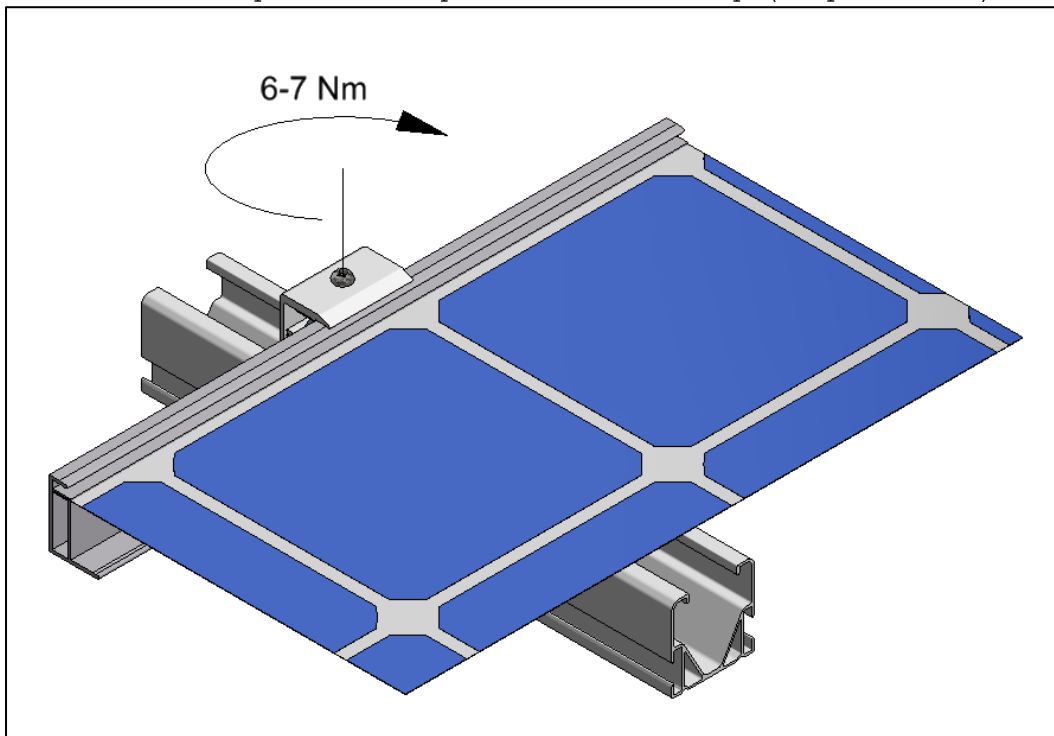
The panel clamp can be mounted by turning it clockwise in the aluminium profile.



Once the end clamp is in the profile set the end clamp to the correct height. This is done by putting the top cap into one of the slots. (see below)



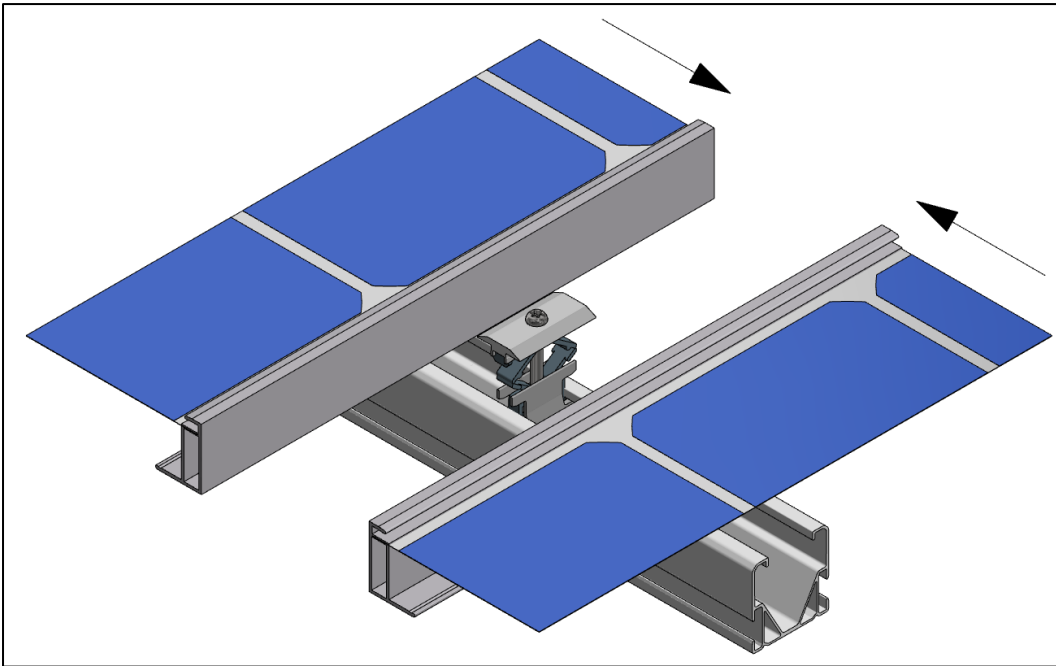
Use the bolt on top of the clamp to fix the end clamp. (torque 6-7 Nm)



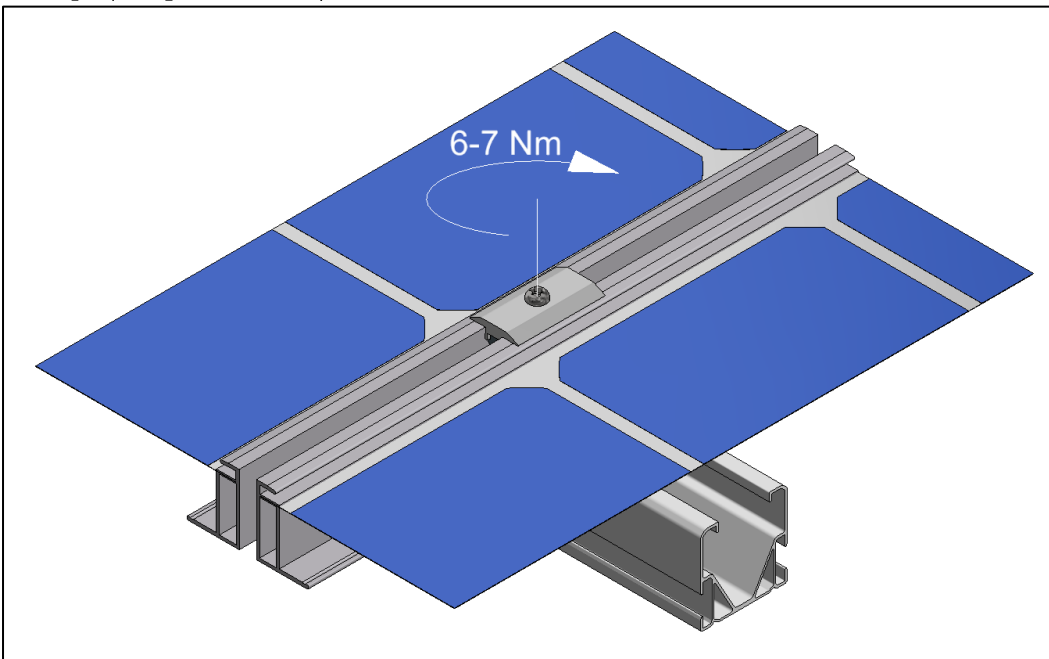
## Mounting panel clamps (middle)

The middle clamps are mounted the same as the end clamp, only the height of the clamp is not set to a certain height.

Place the middle clamps in the profile and make sure the panels are pushed together. The panels have to be placed against the middle clamps until they can't go further.



Once the panels and middle clamps are in place they can be fixed with the bolt of the middle clamp. (torque 6-7 Nm)

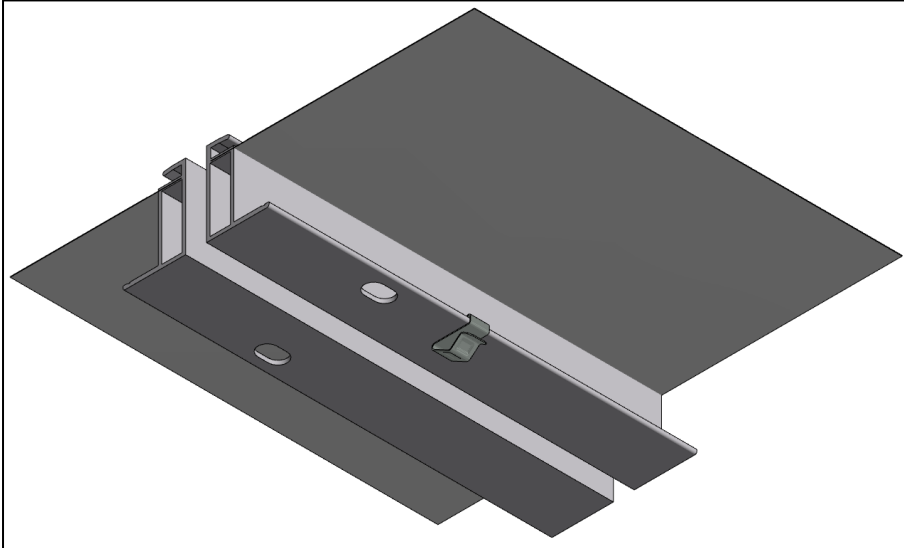


## Cable clamps

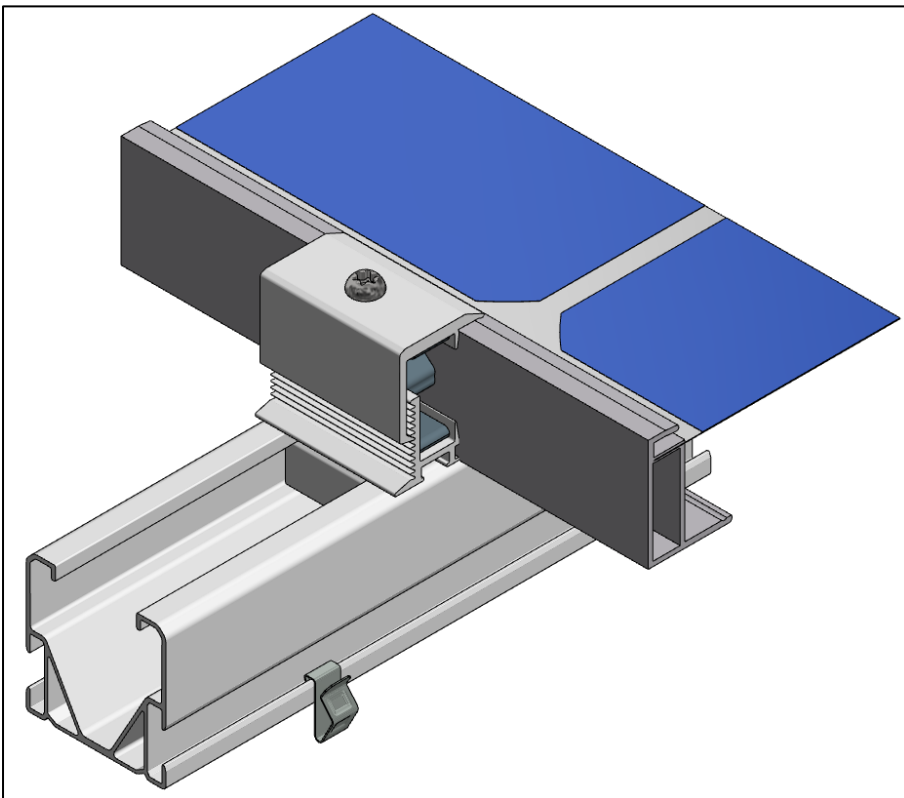
For the pitched roof clamp systems there are 2 types of cable clamps available (standard). These cable clamps can be helpful with your cable management.

### Small cable clamp (732001)

The small cable clamp can be mounted to the aluminium profile or the solar panel. The small cable clamp can fit 1 cable.



Cable clamp to panel frame

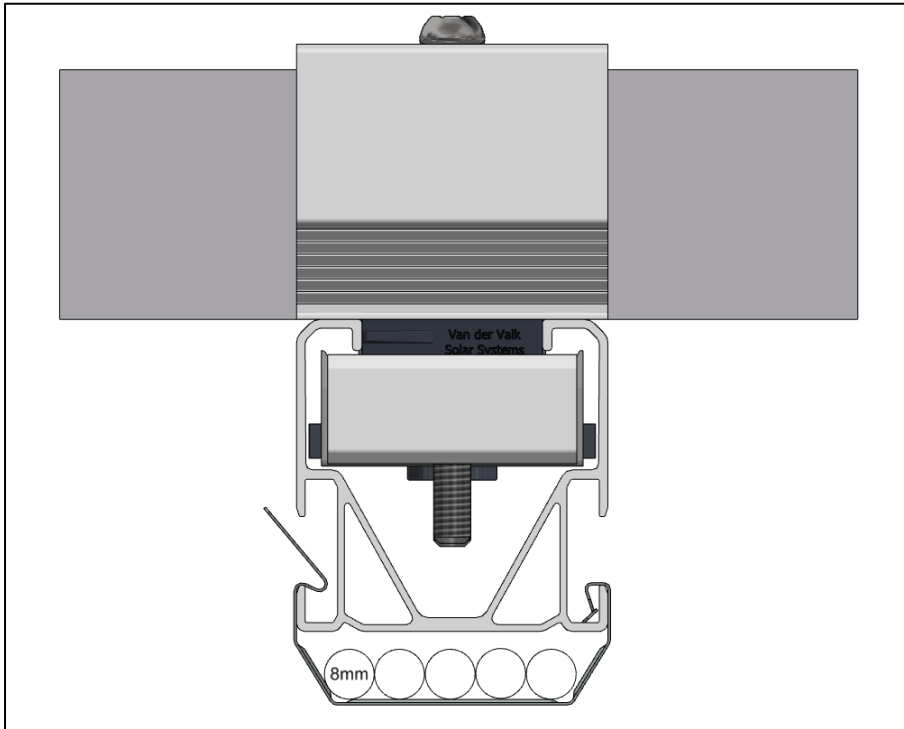


Cable clamp to aluminium profile



### **Large cable clamp (732005)**

The large cable clamp can be placed on the aluminium profile. The larger cable clamp can hold multiple cables depending on the size.

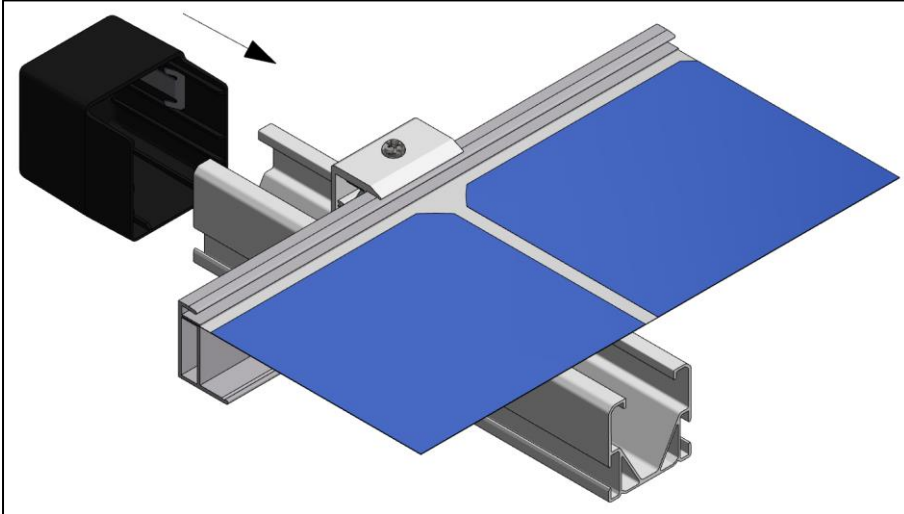


## Mounting optional products

The pitched roof system has a variety of optional products that can be used to optimize the system. Down below is explained what each product does and how it should be mounted.

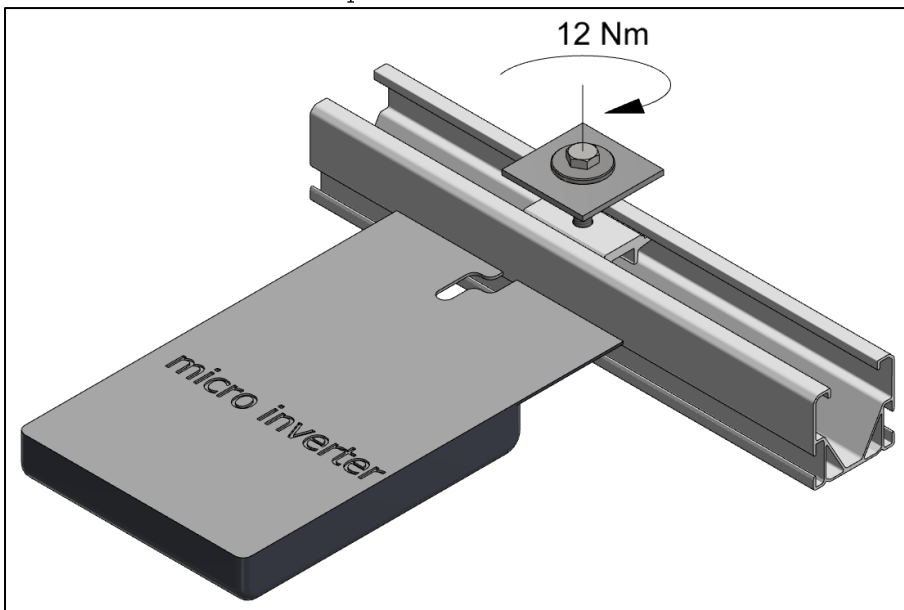
### **Black end cap (739052)**

The black end cap is used in the 'semi-black' or 'full-black' systems. The end caps are placed over the aluminium profiles. This gives the system a better appearance overall.



### **Micro inverter clamp (774223)**

The micro inverter clamp is used to fix the micro inverter to the aluminium profile.



## Van der Valk Solar Systems

Van der Valk Solar Systems is one of the fastest growing companies in the solar industry. It concentrates solely on developing and manufacturing solar panel mounting systems for pitched roofs, flat roofs and open fields. Van der Valk Solar Systems also has an office and warehouse located in the UK.

Our mounting systems are developed and manufactured in our own factory in the Netherlands and are distinguished by their versatile application, very fast mounting and top quality. They comply with the latest Eurocodes and thus meet the requirements set by banks and insurance companies for solar systems. Van der Valk Solar Systems works closely together with Van der Valk Systemen, which since 1963 has upheld an international reputation in the field of mobile systems and fixation components.

Our joint industrial complex includes 20,000 m<sup>2</sup> of offices and industrial buildings. By using modern machinery and the latest technology, products and systems can be developed, manufactured and tested quickly and precisely.



### Why choose Van der Valk Solar Systems?

- Innovative systems developed in compliance with applicable worldwide standards
- Fast and reliable deliveries thanks to modern machinery and large stocks
- System supplier since 1963
- Free software for project design and project calculation
- All systems applicable to any type of roof or surface
- Quick assembly thanks to premounting of essential components
- All systems available in portrait as well as landscape configuration
- Various systems also available as ready-to-use kits

Developer and producer of solar mounting systems for:



Pitched roofs



Open fields



Kits

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