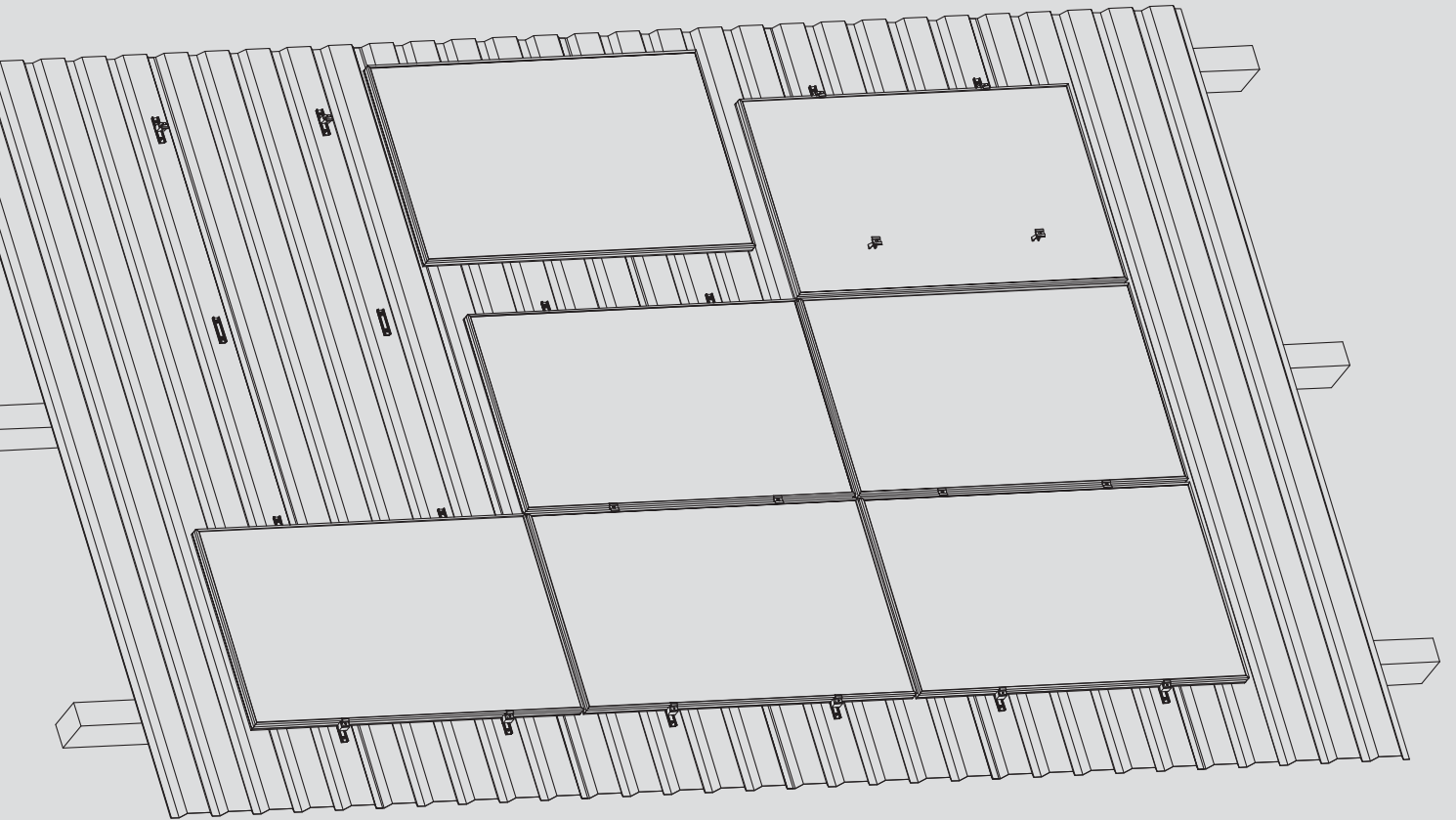


# MetaSole

Installation Guide



## INTRODUCTION

### Product Information

MetaSole is a complete mounting system suitable for mounting of all marketable, framed PV modules with a frame height of 34 to 51 mm on pitched roofs with trapezoidal steel sheet roofing. The special clamp bases of the MetaSole system are directly screwed on the ribs of the trapezoidal sheet. The PV module itself is fastened using adjustable module clamps.

The middle clamps can easily be clicked on the MetaSole clamp bases and allow fast and easy installation.

MetaSole is very well suitable for the installation on all pitched roofs with a roof pitch of 5 – 45° and a trapezoidal sheet thickness of at least 0.40 mm (steel quality higher or equal S280GD / the width of the rib must be at least 27 mm) for snow load zone 3 and wind load zone 4 (according to DIN 1055).

### Test/Certification

Technical approval is being prepared.

### Warranty

Our warranty only applies if an original MetaSole complete system is used. In order to adjust the system optimally for the local conditions and to fulfil all applicable regulations, we recommend to have an expert assessment prepared if there is any doubt. The installation should be carried out by skilled and trained personnel. If you have any questions concerning training, please contact Renusol.

### Installation instruction

Please read these installation instructions carefully before starting installation. First, familiarise yourself with the system components. During the installation and, in particular, while working on the roof, be sure to observe the relevant health and safety regulations and please follow the applicable professional rules.

Check for the current version of our Installation Guide on our website at [www.renusol.com](http://www.renusol.com). Here, you can also find instructions in further languages, if required.

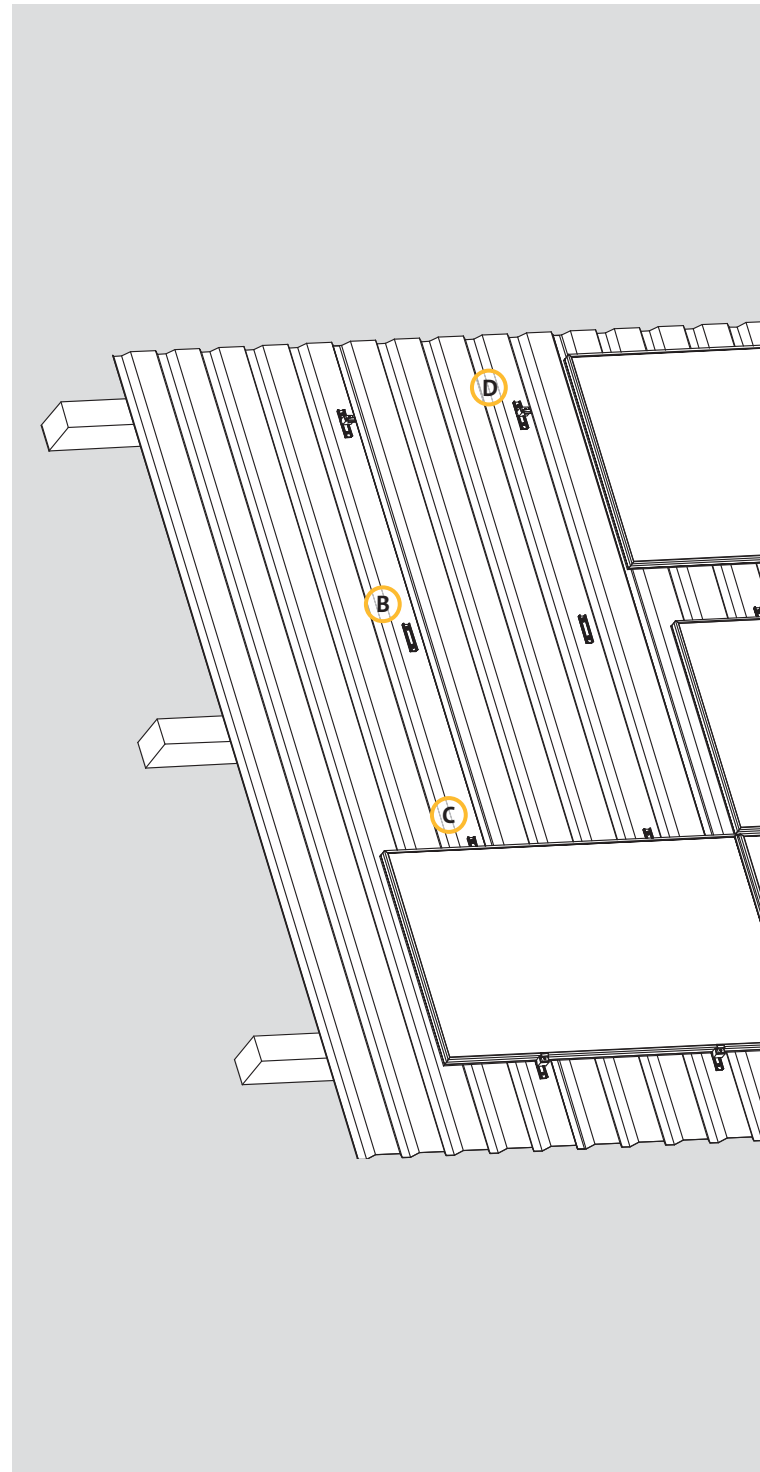
The figures and texts in the Installation Guide correspond to the current state of the art at the time of printing. Technical changes, mistakes and printing errors excepted.

The Installation Guide merely contains recommendations in accordance with the current state of the art and is based on the experience of how systems made by Renusol can be installed. If any special characteristics of the roof or object need to be considered, please consult specialists such as roofers or structural engineers, if necessary.

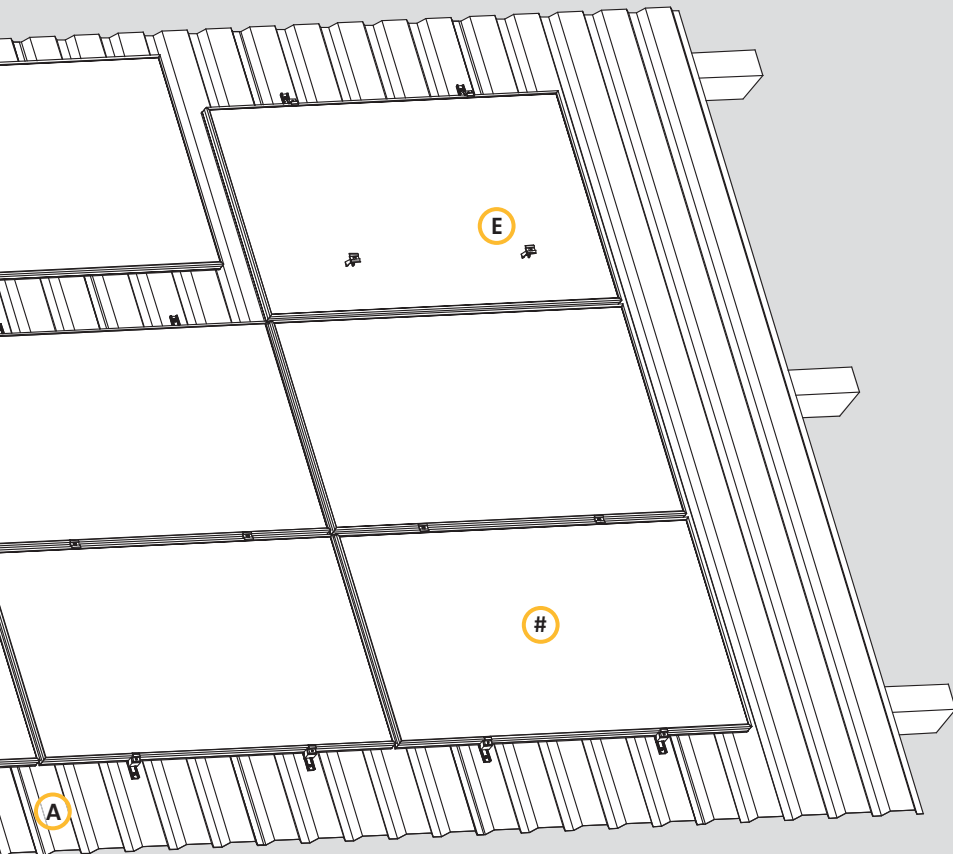
Only install the system on sandwich panel roofs after receiving the approval from the manufacturer of the sandwich profiles.

**The Renusol team wishes you a successful installation.**

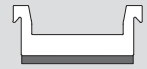
## SYSTEM OVERVIEW



- A Trapezoidal sheet (existing roof)
- B Clamp base with EPDM
- C Self drilling screws
- D End clamp
- E Middle clamp
- # Solar modules



B Clamp base with EPDM



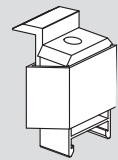
C Self drilling screw\*  
EJOT JT3-X-2-6,0 x 25  
A16/2



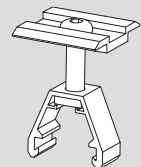
C Self drilling screw\*  
SFS-SDK2-S-377-6,0 x 35



D End clamp



E Middle clamp



\* The use of self-drilling screws is limited to the following sheet thickness:

from 0.4 mm to 1 mm  
Self-drilling screw EJOT JT3-X-2-6.0 x 25  
A16/2

from 0.75 mm to 1 mm  
Self-drilling screw  
SFS-SDK2-S-377-6.0 x 35

### TOOLS AND ADDITIONAL ARTICLES

(not included in delivery)

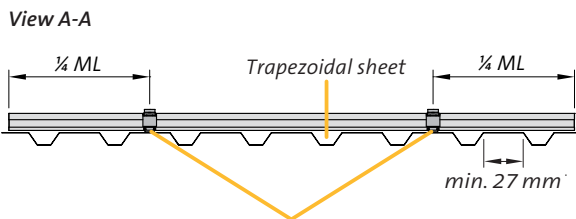
- Cordless screwdriver
- Socket SW 8
- Hexagon socket wrench 5 mm
- Measuring tool
- Mason's line
- Torque wrench

SFS Attachment  
(if the self-drilling screw  
SFS-SDK2-S-377- 6.0 x 35  
is used)



# ASSEMBLY PREPARATION

1.



The clamp bases are always fastened in the middle of the ribs of the trapezoidal sheets.

**Important!**

Before starting the installation, please get the roof checked to be sure it is suitable for mounting the MetaSole system in reference to the wind and snow conditions.

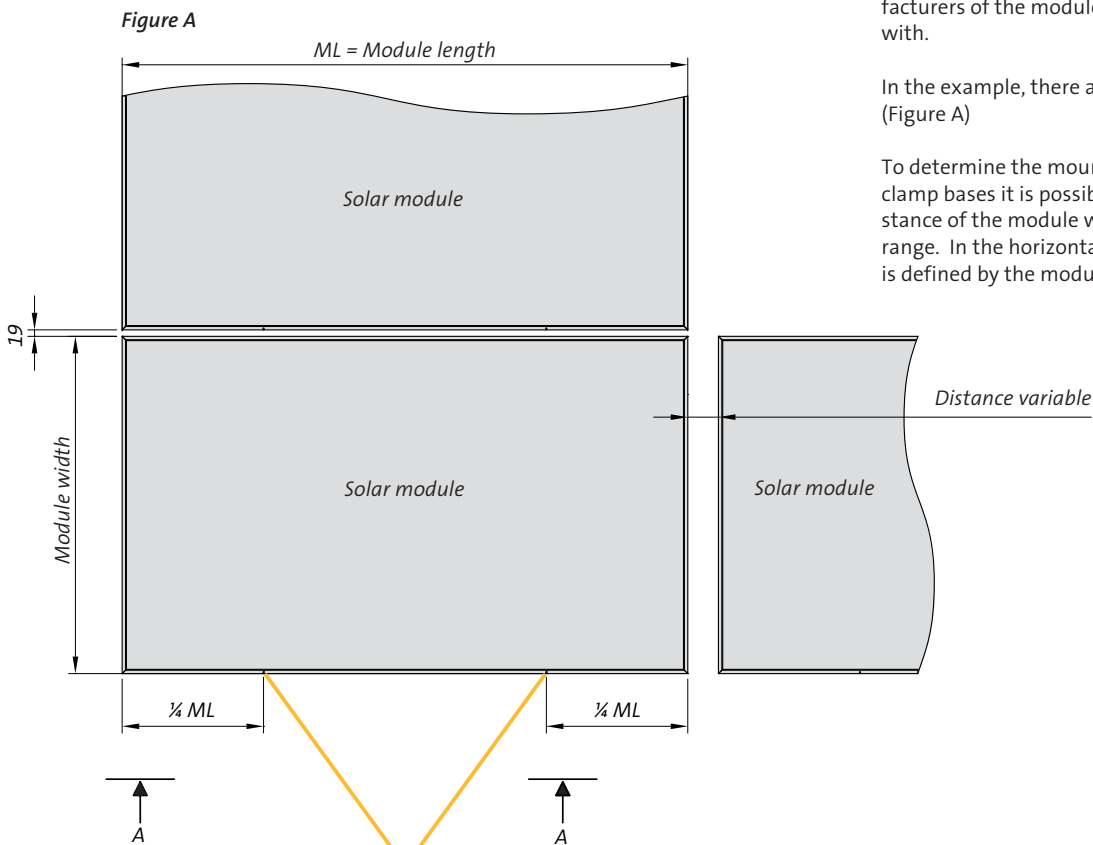
The width of the ribs must be at least 27 mm.

**Determination of mounting points**

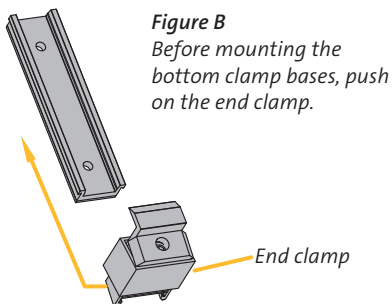
The mounting points of the clamp bases are to be set in a way that always the middle of the ribs of the trapezoidal sheet is met (refer to View A-A) and with this, the clamp conditions specified by the manufacturers of the modules will be complied with.

In the example, there are the 1/4 points. (Figure A)

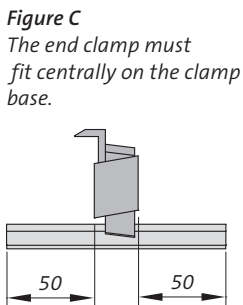
To determine the mounting points of the clamp bases it is possible to vary the distance of the module within the vertical range. In the horizontal range, the distance is defined by the module clamps (19 mm).



On the module frame, the clamps are mounted according to the manufacturer's instructions provided by the suppliers of the modules. In the example, these are 1/4 points of the module length (ML).



**Figure B**  
Before mounting the bottom clamp bases, push on the end clamp.



**Figure C**  
The end clamp must fit centrally on the clamp base.

**Push the end clamps on**

Before mounting the bottom clamp bases, push on the end clamp. (Figure B).

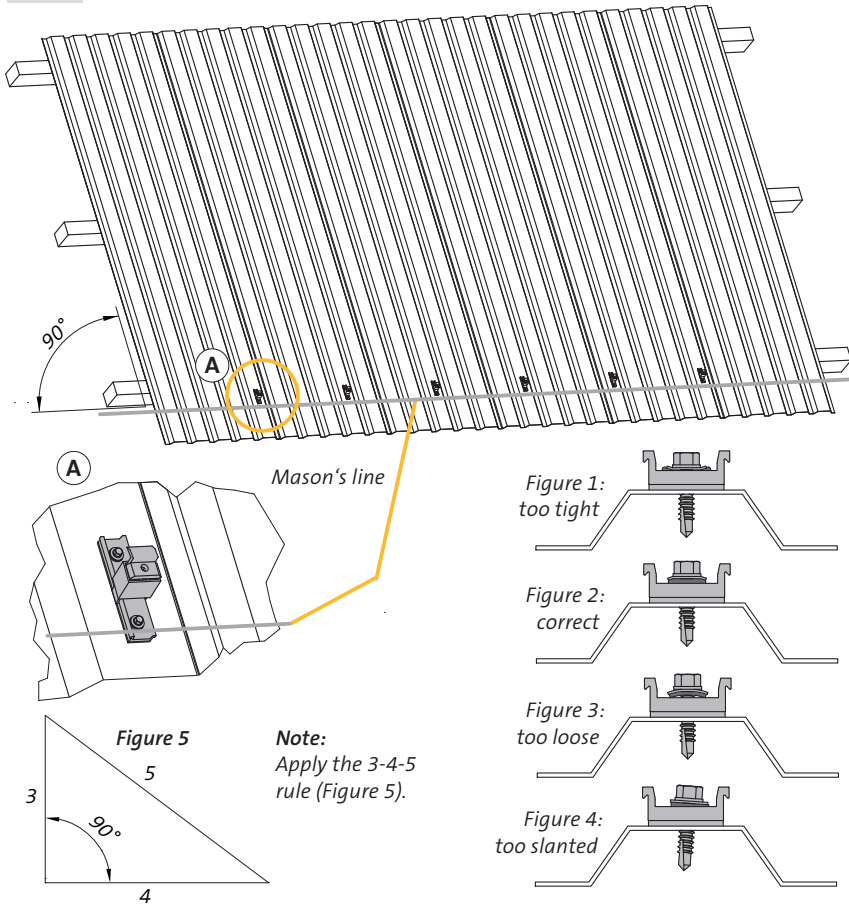
The end clamp must fit centrally on the clamp base. (Figure C).

**Important!**

The shown design is an example. For a detailed design considering the local wind- and snowloads please use our online webconfigurator available at [www.renusal.com](http://www.renusal.com).

**ASSEMBLY**

**2.**



**Installation of lower clamp bases**

The lower clamp bases are to be mounted at an angle of 90° to the eave/mason's line on the ribs of the trapezoidal sheets according to the specifications in Step 1.

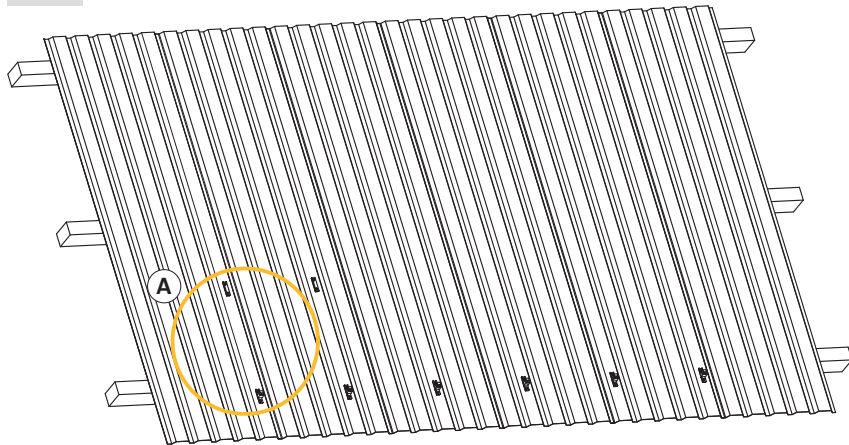
If SFS screws are used, mount the SFS attachment. If the square breaks off, the screw will be screwed on.

The EJOT screws have to be screwed until they reach the depth stop. Due to the correctly set depth stop on the cordless screwdriver the inadmissible deformation of the sealing gasket is avoided (Figure 1 „too tight“). The screw is only allowed to be fastened in a way that the sealing gasket is compressed according to the manufacturer's specifications (Figure 2 „correct“). We recommend performing test screw connections to be able to adjust the depth stop.

**The screws may not be overtighten.**

The overtightened screws have to be replaced. Close the caused hole in the trapezoidal sheet properly. To do that, slide the clamp base by 15 mm (upwards or downwards) and fasten it newly.

**3.**

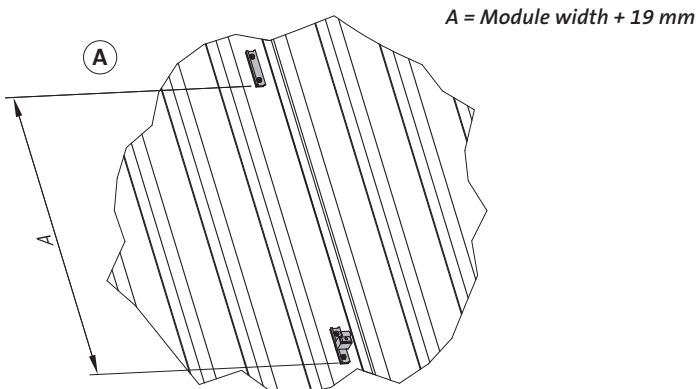


**Mount the second row of the clamp bases**

To mount the second row of the clamp bases, first determine the distance of the clamp bases of the first and the second row.

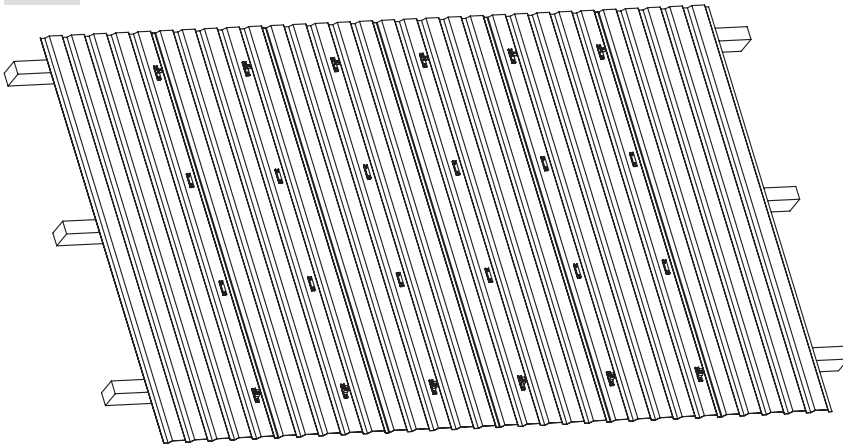
The distance of the clamp bases is calculated as follows:

$$A = \text{Module width} + 19 \text{ mm}$$



## ASSEMBLY

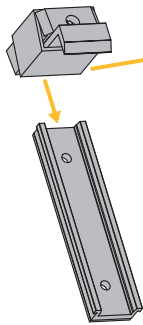
4.



**Installation of remaining clamp bases**  
Mount all clamp bases as described in Step 3.

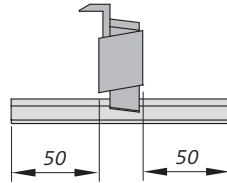


Before mounting the top clamp bases, push on the end clamp.

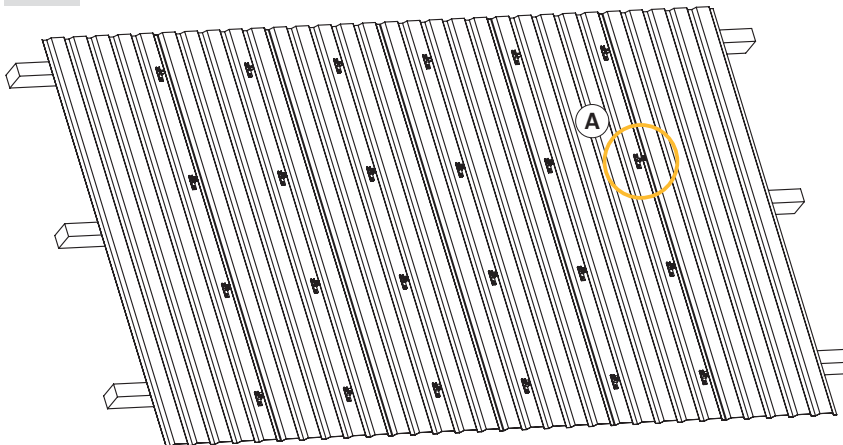


Before mounting the top clamp bases, push on the end clamp.

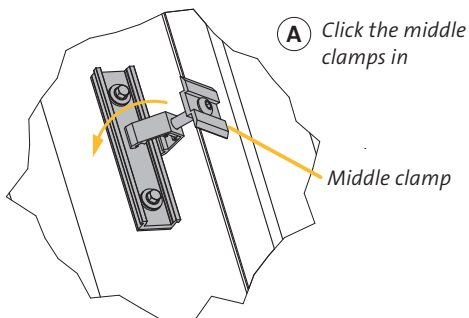
**Position the end clamp**  
The end clamp must fit centrally on the clamp base.



5.



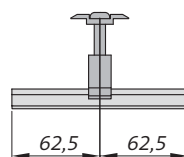
**Mount the middle clamps**  
Middle clamps must fit centrally on the clamp base.



**A** Click the middle clamps in

Middle clamp

**Position the middle clamp**  
The middle clamp must fit centrally on the clamp base.



## ASSEMBLY

6.

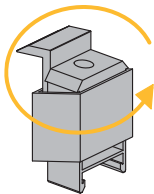


### Mount the modules

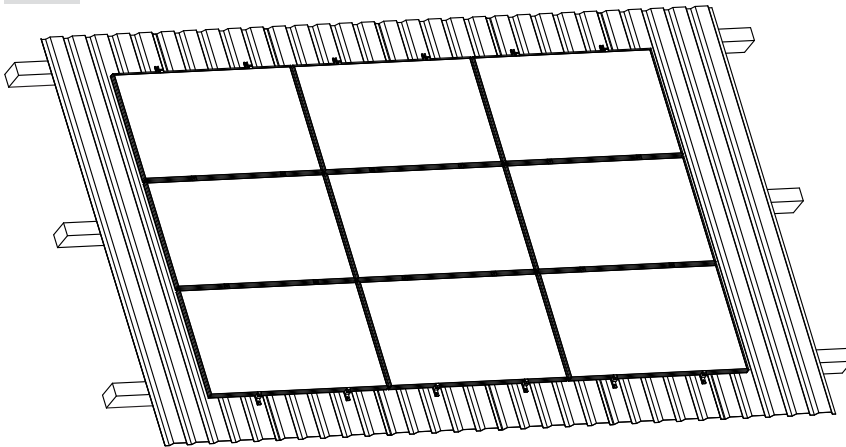
At first, place the modules and align them (1/4 points of the modules). After that, tighten the screws of the clamps to fix the modules.

Tightening torque of:  
middle clamp 15 Nm  
end clamp 10 Nm ⌚

⌚ **Attention !**  
The fastening of the end clamp should be done against the clockwise direction.



7.



### Assembly completed

#### Congratulations,

You have installed the complete mounting system for pitched roofs with trapezoidal steel sheets as the perfect aesthetic solution.

We are glad about this nice reference object you have built. If you have documented the installation and the result photographically, we ask you to send any digital reference photos, the project data and object address per e-mail to [info@renusol.com](mailto:info@renusol.com).

We regularly award prizes for the most beautiful reference photos and present them together with the company logo of the respective specialised company on our homepage.

Thank you very much for your trust in Renusol.

