

KLILOCK

INSTALLATION MANUAL



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1. INTRODUCTION

PROINSO PV RACK offers structural solutions, which are MORE ROBUST, MORE FLEXIBLE, AND MORE COST-EFFECTIVE.

PROINSO PV RACK has been customized to combine easy assembly with high quality materials. All our products are delivered in a convenient-sized box which contains all items for installation.

The versatility of the roof system from PROINSO PV RACK allows an easy adaptation to most locations, complying with the applicable regulations in each area.

2. DESCRIPTION SYSTEM

PROINSO PV RACK rooftop structures are installed by means of hollowed aluminium profiles bolted together. This ensures the ability to support photovoltaic modules with standard commercial dimensions. These profiles with the aluminium triangles allow the lifting of the structure until desired inclination.

PROINSO PV RACK customizes their kits for the majority of existing roofs. Roof systems from PROINSO PV RACK allow a quick assembly. All elements are easily manipulated by the workshop staff.

Structure components are made up of 6063-T6 Aluminium and Anchorages of Stainless Steel - 304 BRANDED Screw. This gives a higher durability to the system.

3. MAIN COMPONENTS ARE LISTED BELOW :

PART NAME	DESCRIPTION	MATERIAL	COATING
Klip lock clamp need inhouse design		AL6063T6	Anodized
EPDM foam			
-	DIN 6798A M8 washer	Inox	A2
-	DIN 6923 M8 nut	Inox	A2
-	DIN 912 M8x30 screw	Inox	A2
Adjustable Z fixing panel (end clamp)	Z angle profile	AL6063T6	Anodized
T fixing panel (mid clamp)	T angle profile	AL6063T6	Anodized
-	DIN 912 M8x25 screw	Inox	A2
-	DIN 933 M8x35 screw	Inox	A2
	DIN 6923 M8 nut	Inox	A2
Cable clips		Inox	A2

EACH 1 KW BOX CONTAINS THESE ELEMENTS



3.2 Mounting Process

In order to perform the mounting process, assembly drawings will be provided by PROINSO PV RACK.

Before starting the assembly of the structure:

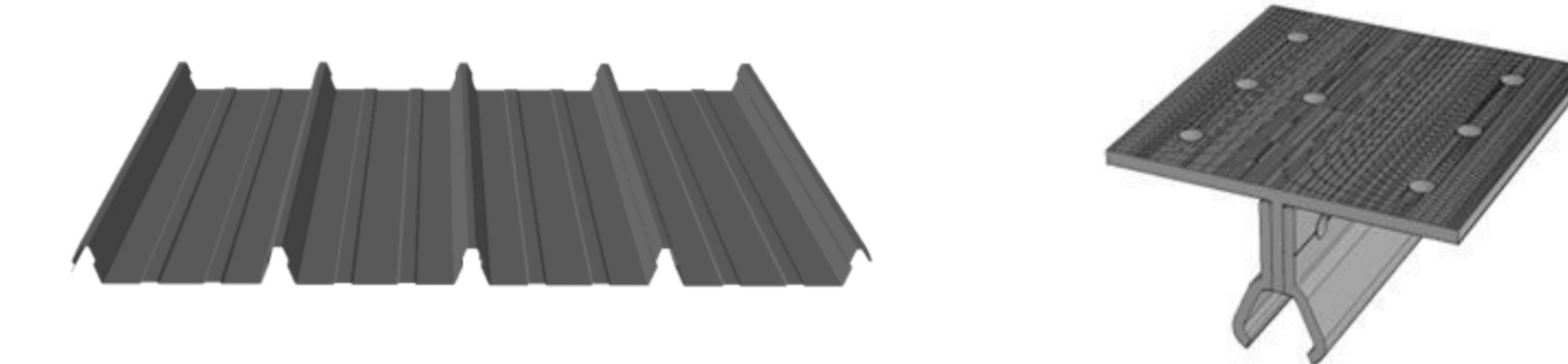
1. Ensure all required components and tools are present to start the process.
2. An individual kit should be assembled in order to make position marks for the different components.

All necessary steps for assembly are described below. The PROINSO PV RACK Clip Lock Clamp 406 and Clip Lock Clamp 700 roof clamps allow solar PV frames to be attached to roofs with concealed fixings (e.g. KlipLok).

The clamps are fabricated from 6063-T6 aluminium and are fastened using a 304 A2-70 series M8 stainless steel fastener.

The roof clamp has been proof load tested and certified for assembly on the following roofing profiles:

- Lysaght KlipLok 406
- Lysaght KlipLok 700



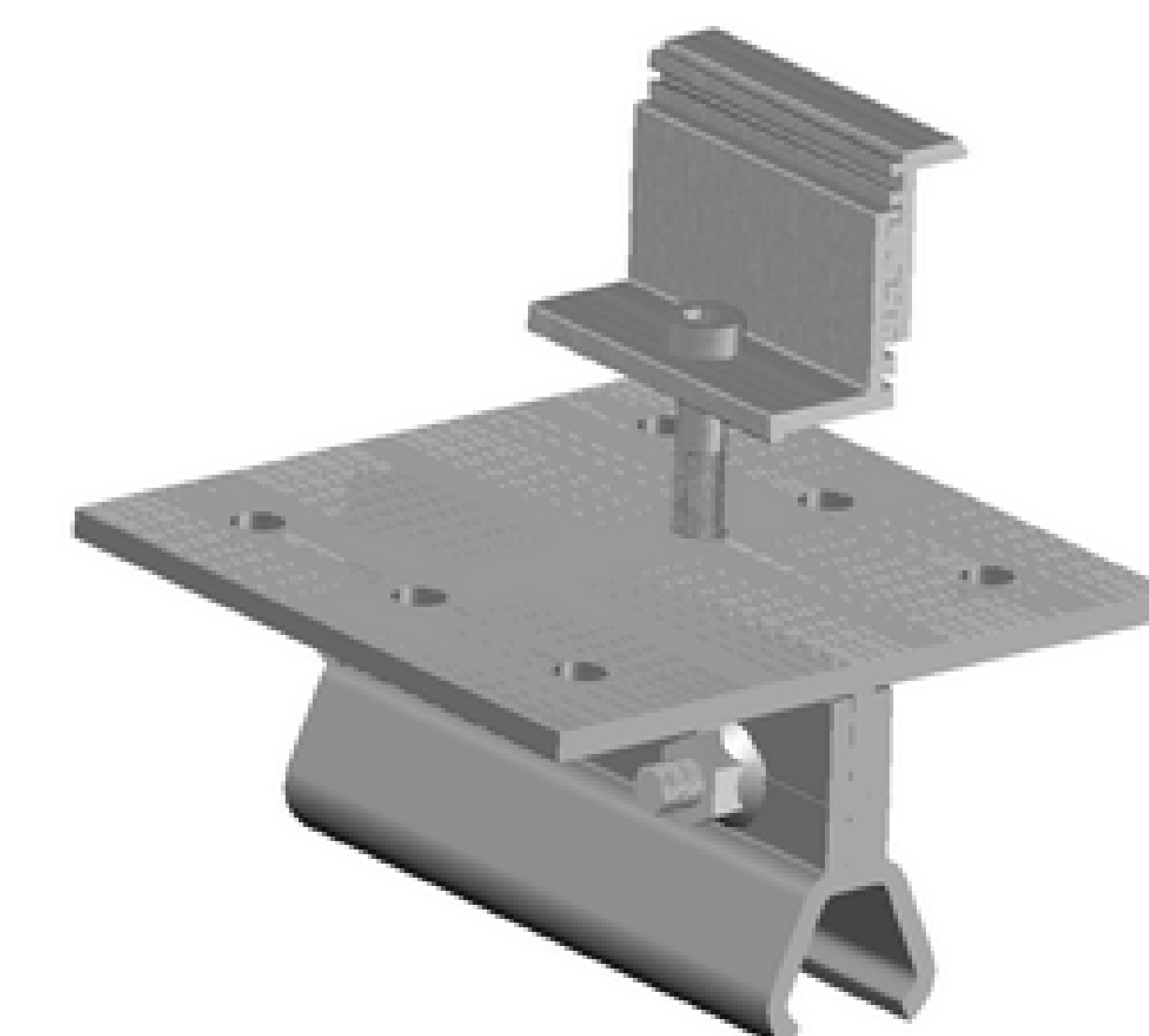
Confirm that the clamp fits the roof sheet. Every roof sheet has a different geometry. The make and model of roof sheet must be identified prior to sourcing the correct clamps. If the wrong clamp is used it either won't fit or will crush or tear the roof sheet as it is tightened up. The simplest way of determining the best fit is to provide installers with a sample of each clamp, so it can be tested during a site inspection. If in doubt, please contact Proinso, UK for advice on selecting the correct clamp for your roof sheet.

3.2.1 Fixing the End Clamps and Mid Clamps on the Klip Lock Clamp:

The fixing End Clamps and Mid Clamps on the Klip lock clamp (T Profile) with the help of Allen Head Bolt. But it should be loose enough to fix modules at the time of Module installation.

TOOLS REQUIRED FOR THIS STEP:

- Allen key no 6.



3.2.2 Assembly of Clip Lock Clamp:

Assembling Clip Lock Clamp with the help of 2 Nos. M8 Allen head bolt. But it should be loose enough to insert into Clip lock Roofing sheet.

TOOLS REQUIRED FOR THIS STEP:

- Allen key no 6.



3.2.3 Marking:

Marking to be done with the help of marker and flexometer.

TOOLS REQUIRED FOR THIS STEP:

- Marker
- Flexometer

3.2.4 Installing Clip Lock Clamp on Roofing Sheet:

Installing assembled Clip lock clamp on roofing sheet with the help of Allen key. Due to old age of the roofing sheet or any other reason there may be a chance to generate gap between roofing sheet and klip lock clamp. For this gap we can use epdm foam which provided in the kit.

TOOLS REQUIRED FOR THIS STEP:

- Allen key no 6mm.
- Hexagonal Wrench 12-13mm.

3.2.5 Assembly of PV modules onto Klip Lock Clamp:

Installation of PV modules directly onto Klip Lock Clamp is performed when the required disposition of PV modules is in landscape. PV modules will be fixed at 4 attachment points, as shown in the kit drawing.

The assembly of PV modules is performed with “L” aluminium pieces (individual fixations), “U” aluminium pieces (double fixations), DIN 912 M8x25-35 A2 bolts and DIN 6923 M8 Nut A2 nuts as shown in images above.

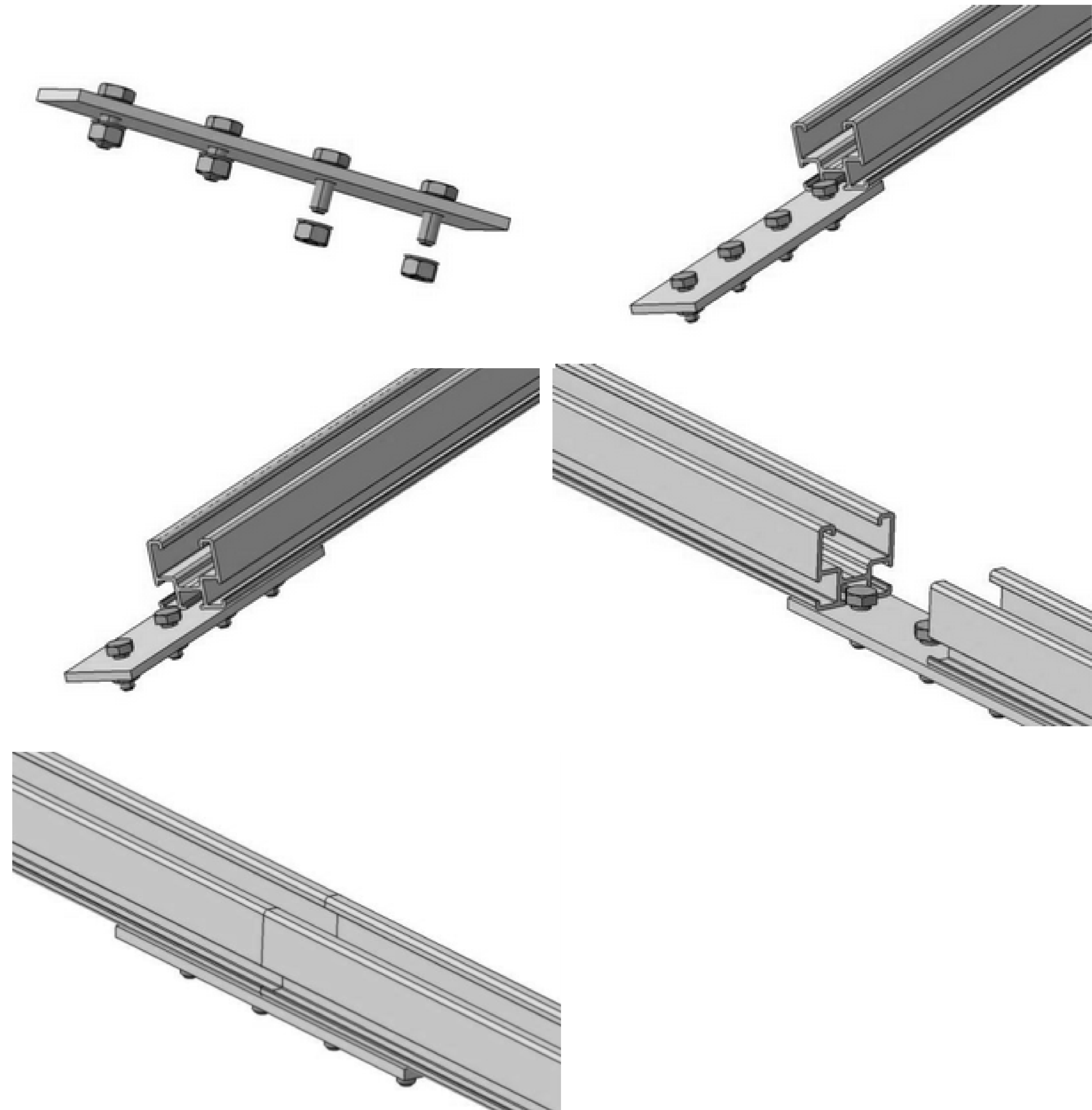
TOOLS REQUIRED FOR THIS STEP:

- Hexagonal wrench 12-13mm.

3.2.6 Junction between aluminium profiles (in case will be used):

The joint between the two aluminium profiles is an aluminium plate with 4 holes. 4 DIN 933 M8 A2 bolts and 4 DIN 6923 M8 A2 are used nuts to secure them as shown in the image.

Firstly, the bolts are inserted loosely in the plate as displayed on the image. Then, half of the plate is inserted at the end of the first profile, ensuring two bolts are inserted at the bottom slot. Subsequently, tighten these two bolts to fix the plate to the first profile. Secondly, the end of the second profile will be inserted meets the first one, also guaranteeing that these two bolts are inserted in the bottom slot. Finally, the proper torque setting to every fastener will be given.



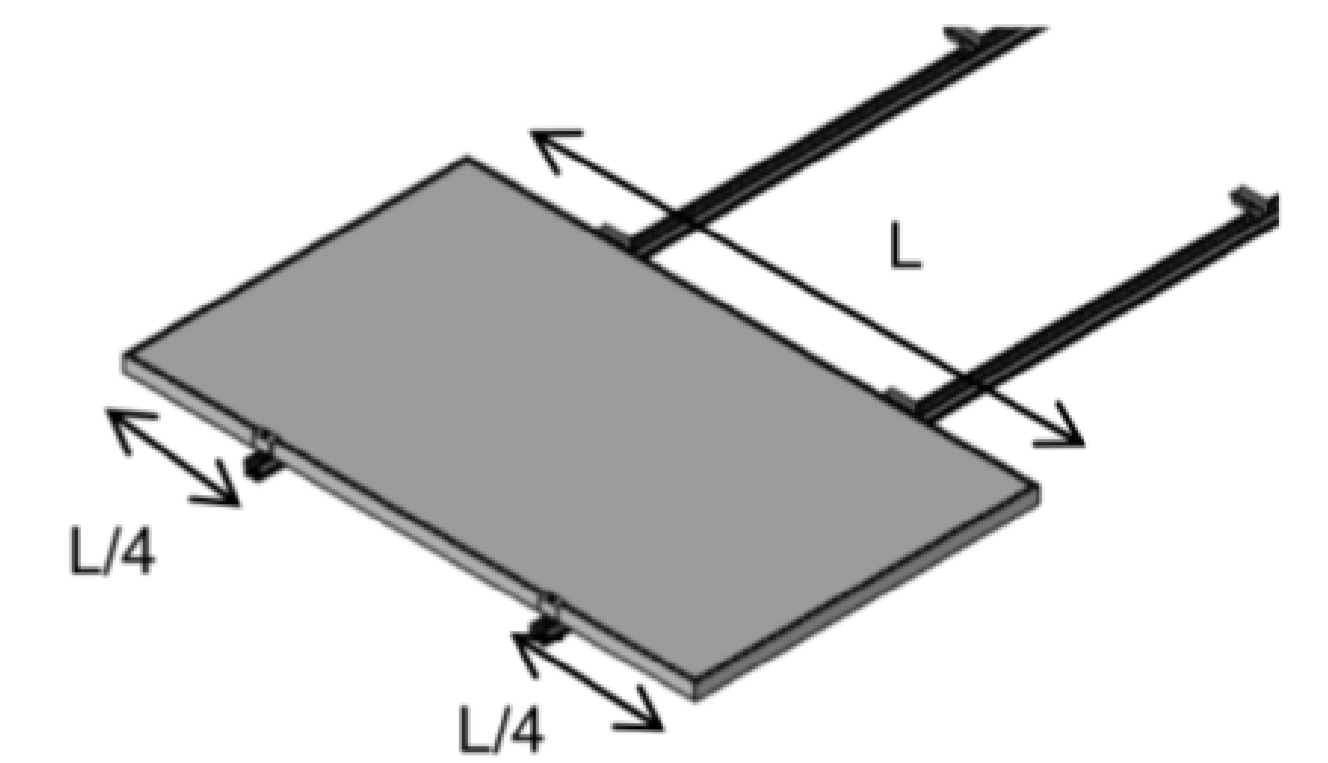
3.2.7 General considerations:

Torque settings for fasteners:

1. M8 nuts and bolts: 23 Nm.
2. M10 nuts and bolts: 43 Nm.

PV modules attachment points:

Attachment points of PV modules are approximately at $\frac{1}{4}$ of the longest side measured from the end of the module, always prevailing manufacturer recommendations over this issue.



Minimum distances for anchorages position:

The minimum distance to be kept from the end of the aluminium profile to place any anchorage or fixation is 50mm.

4. DO'S AND DON'TS :

- Installation of PROINSO PV RACK intended to be Performed by Trained Installers.
- Please Ensure all Safety Equipment shall be use by Installers.
- Please Ensure Substructure , Super Structure of Roof can with stand load of PROINSO PV RACK and Live load during Installation.
- Do not modify any Product of Proinso PV RACK without any Prior Approval by Engineers.
- Please follow recommended instructions of solar module manufacturer during handling and installation.
- Please ensure Solar module can Install on Rail one at a time, Please take care for slipping of module.

TOOLS REQUIRED FOR THIS STEP:

- Open end wrench no 13 or torque wrench with socket no 13.



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