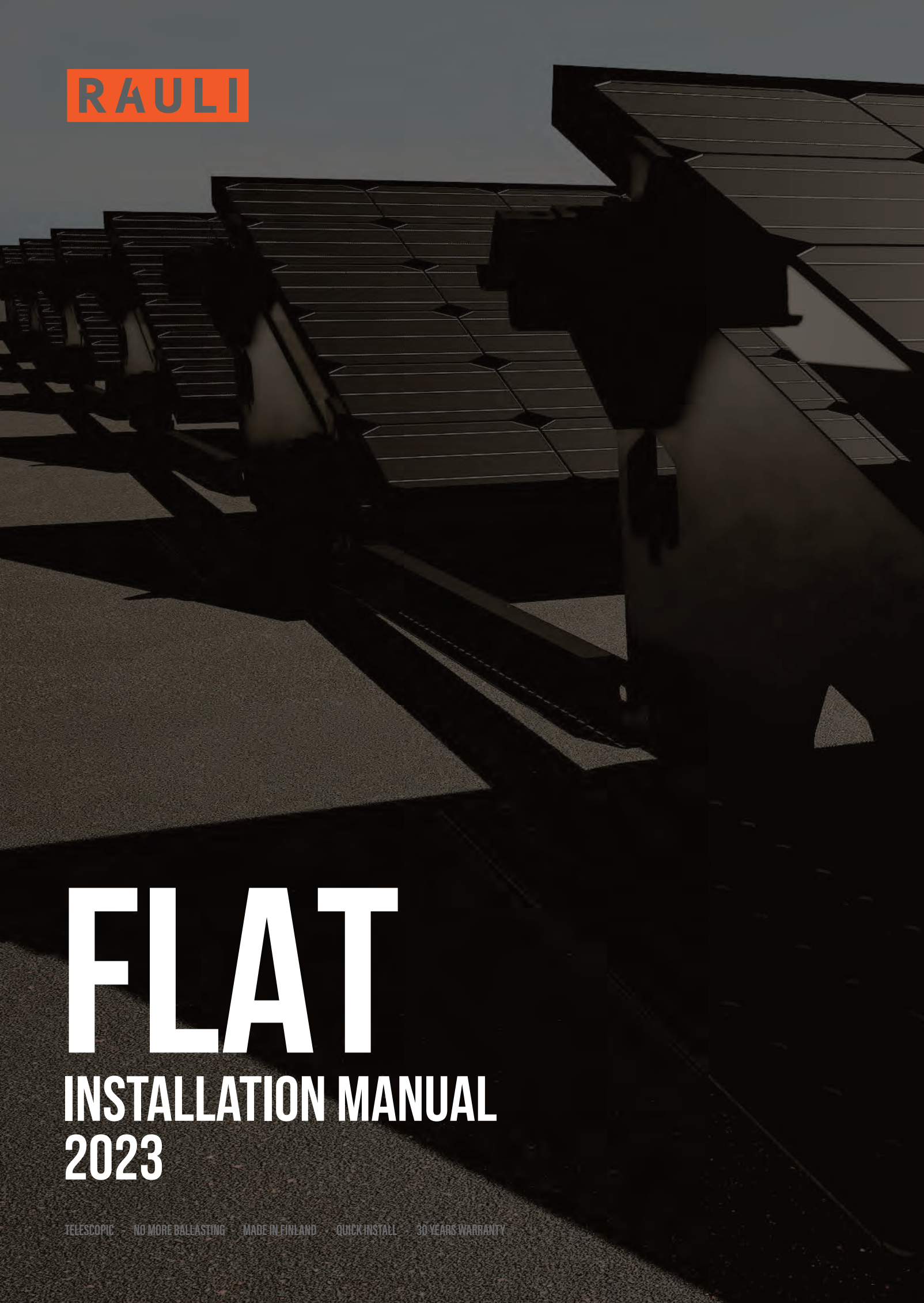


The background of the entire page is a high-contrast, black and white photograph of a solar panel array. The panels are tilted and arranged in rows, with strong shadows cast across them, creating a geometric pattern of light and dark. The overall tone is professional and technical.

RAULI

FLAT

INSTALLATION MANUAL

2023

TELESCOPIC · NO MORE BALLASTING · MADE IN FINLAND · QUICK INSTALL · 30 YEARS WARRANTY



RAULI APP

Before your first installation, log in to the RAULI APP. The RAULI APP helps you easily determine the components needed for installation and the field sizing. Installation instructions, product sheets, and product images are also available in the RAULI APP app.raulibrackets.fi

GENERAL INFORMATION ABOUT THE RAULI FLAT SYSTEM:

RAULI FLAT is designed for installing solar panels in bitumen and PVC flat roof installations. The frame is attached to the roof covering with a flange, either by screws or by welding. The design must take into account local wind and snow loads as well as the roofing material.

Always remember to ground the installation system in accordance with the current rules!

Thank you for choosing the RAULI FLAT system!

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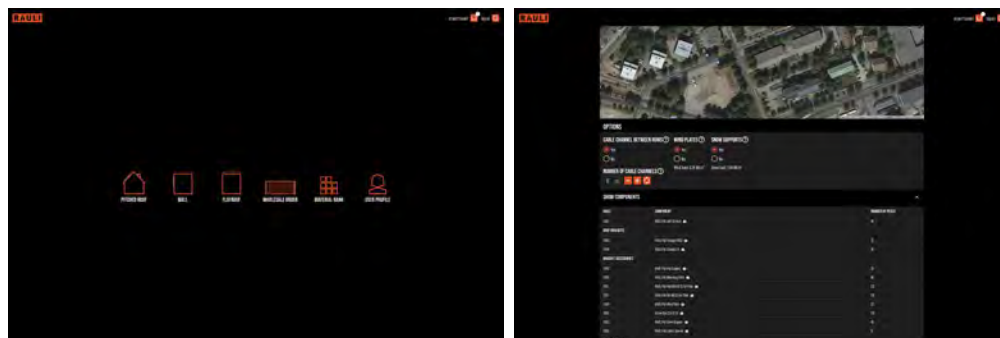
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FIELD PLANNING

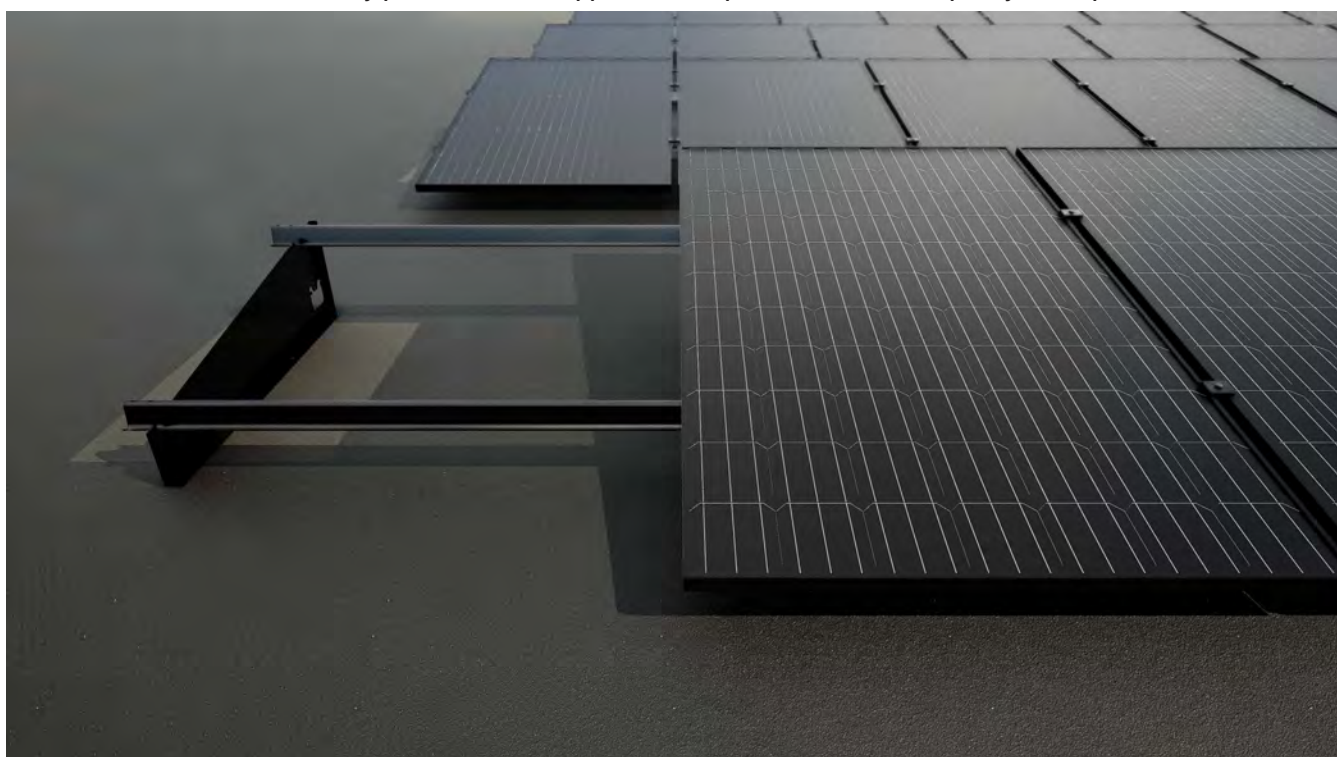
Use the RAULI APP application for planning the installation



INSTALLATION OF THE RAULI FLAT SYSTEM

1. Install the Mounting Plates on the roof
2. Attach the Triangles to the plates
3. Install the rails
4. Install the solarpanels (+ Snow Support*)
5. Install the Wind Plate (optional*)

* The necessity of snow support and a wind plate depends on the snow and wind load at the installation site. The RAULI APP automatically provides snow support if the reported snow load capacity of the panel is exceeded.



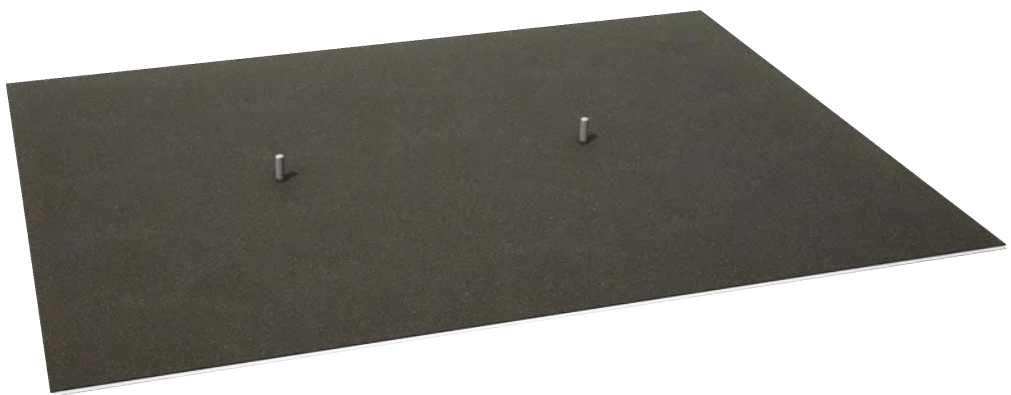
1. Installation of the Mounting Plates

Insert M8 x 20 stainless steel locking bolts through the plate and place the plate on the roof.



Attach the plate with screws if the roofing material allows it.

Burn bitumen felt onto the plate. The felt seals and glues the plate in place.



Measure the remaining plates to their correct positions and attach them in the same way.

The alignment of the plates can have a tolerance of $\pm 65\text{mm}$.

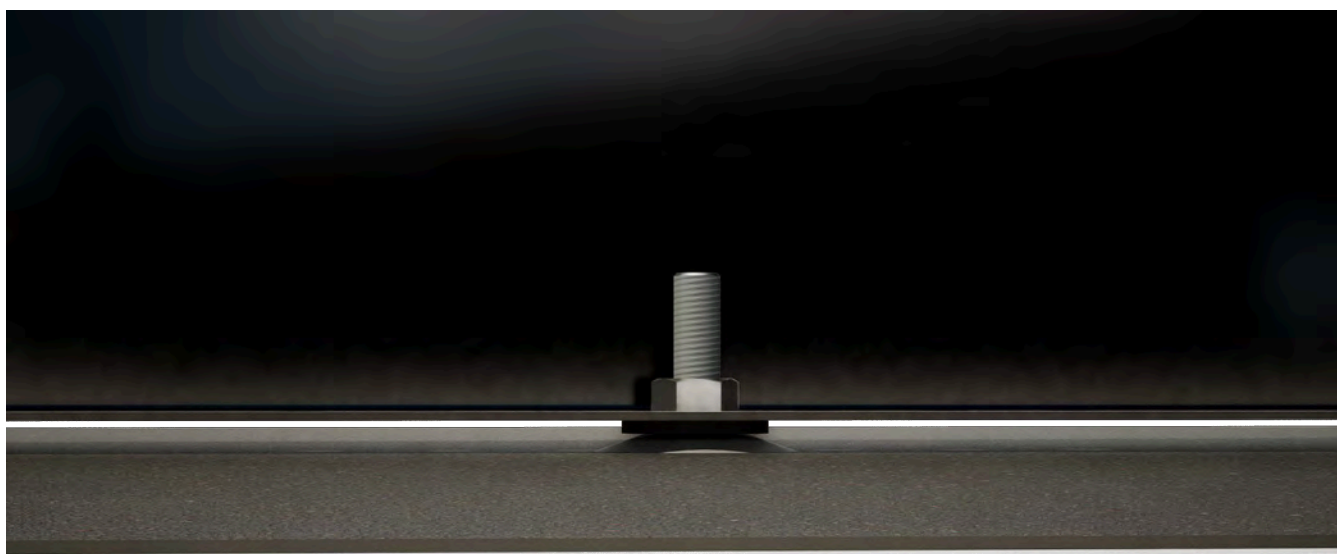
In the width direction, the spacing between the plates should be maximum of 1500mm

2. Installation of the Triangle component

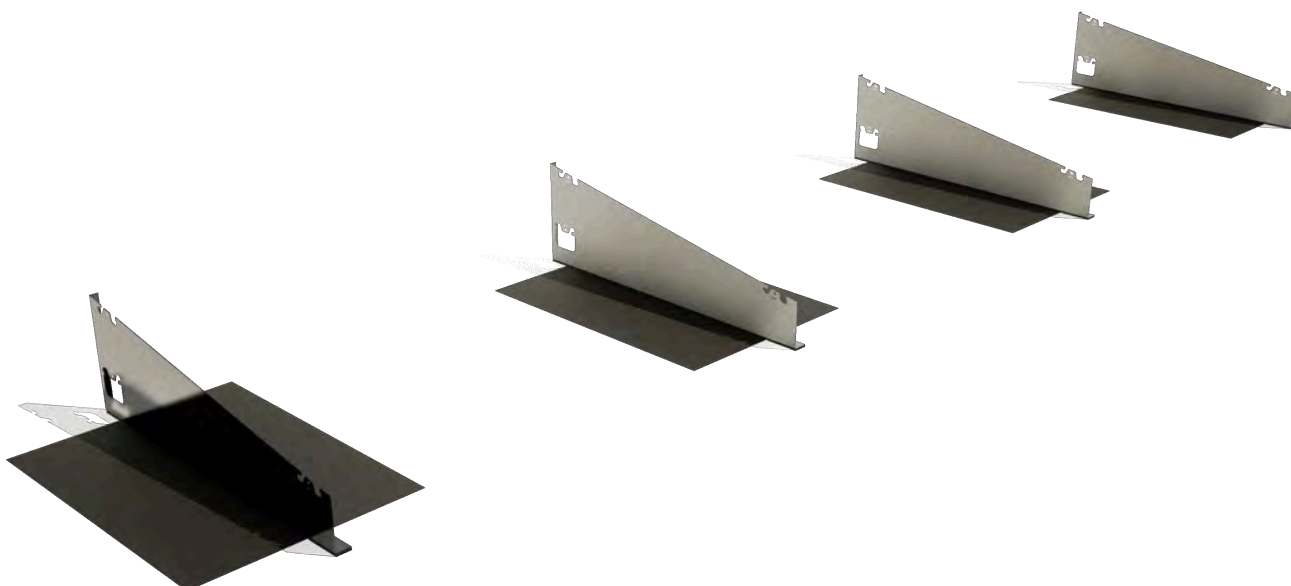
Place the rubber seals on the locking bolts
Attach the rubber slats in the triangle



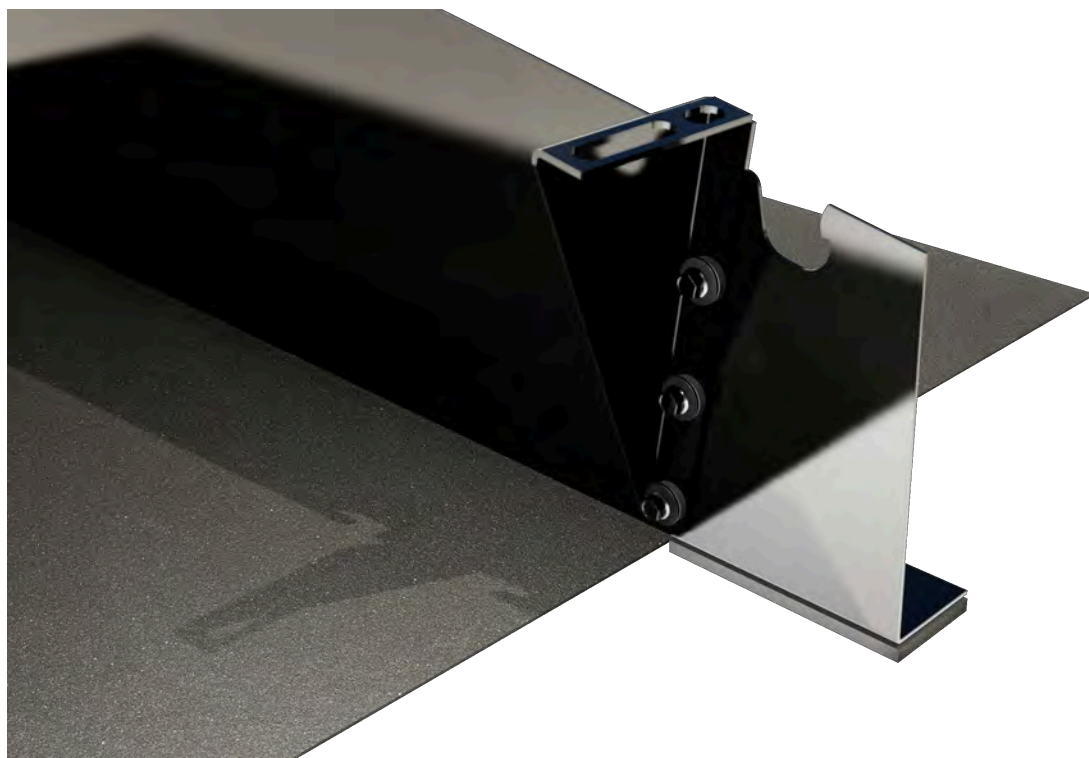
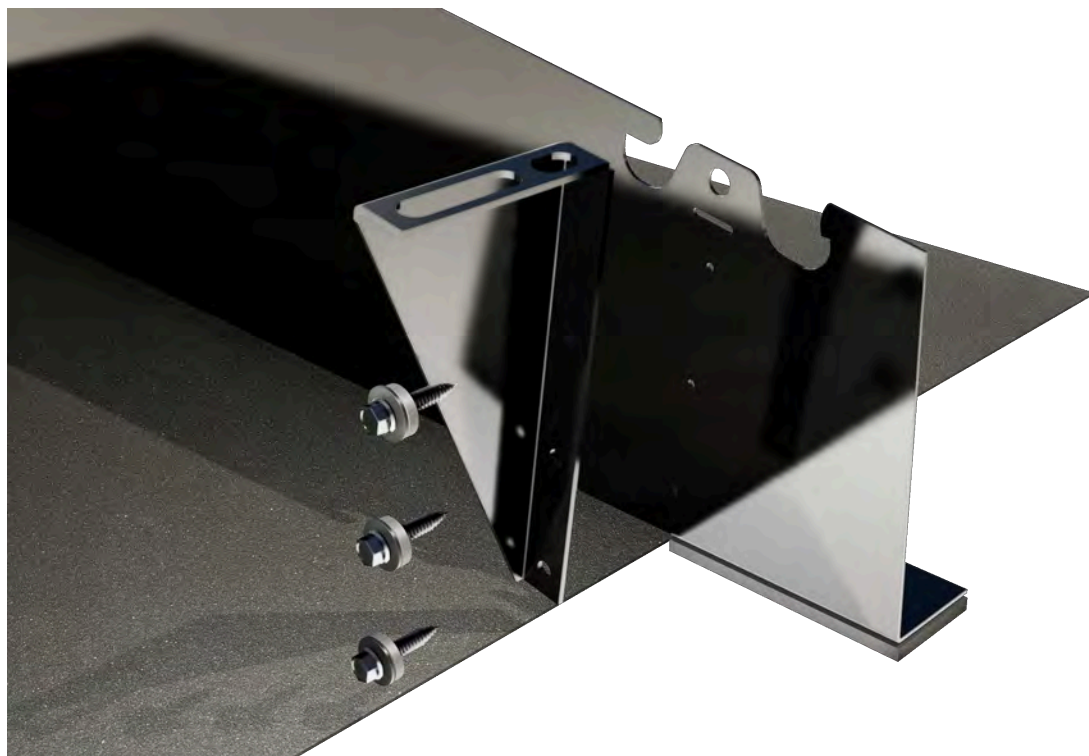
Place the triangular base on top of the plate, aligning it with the locking bolts protruding through the plate.
Secure the triangular base to the bolts with two M8 stainless steel nuts.



Attach all triangular bases in place in the same manner.



Place the End Support on the triangular bases located at the ends of the rows.



3. Installing the rails

Align the start of the rail so that the rail holes are in line with the holes in the End Support.

Loosely install the end brackets onto the rail's last or second-to-last hole. The bolt of the end bracket locks the rail onto the End Support.



The rails overlap on top of the Triangular base in a "double-lock" configuration. This is the primary method for connecting the rails. Press the overlapping rails into place.



The rail system can also be extended, if necessary, with a middle bracket connection or a bolt-nut connection.

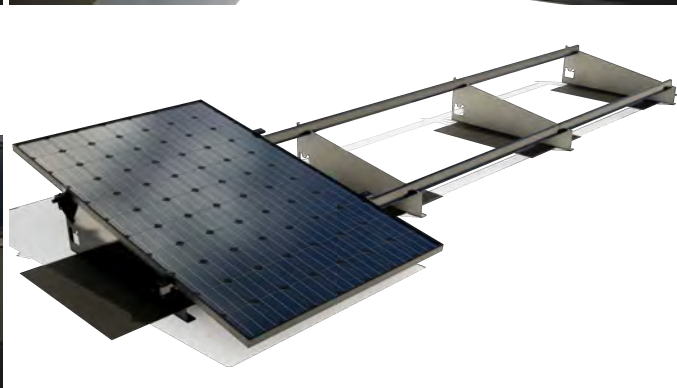
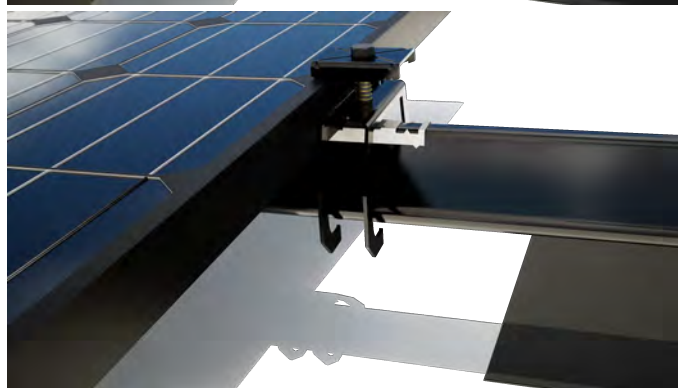
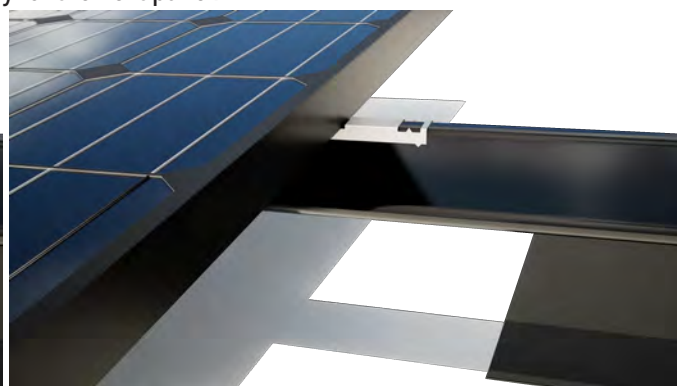
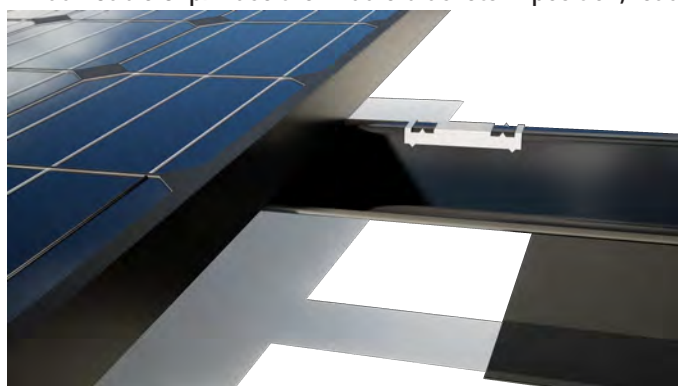
Align the end of the last rail so that the holes in the rail are in line with the holes in the End Support

4. Installing the Solar Panels

Install the first panel of the row under the end brackets. Center the panel on top of the rails and place it straight. Tighten the end brackets.



Place the grounding plate(s) between the rail and the panel. The panel's wires can be attached to the rail with a Rauli Cable Clip. Place the middle brackets in position, ready for the next panel.



Install the next panel directly under the middle brackets and tighten the middle brackets.



Again, place the grounding plate(s) and an middle bracket, bring the next panel into position, and so on. For the last panel in the row, adjust the rail telescopically if necessary, and tighten the end brackets.



5. Bringing the cables in the field

It is possible to create a cable tray in the Rauli Flat system using the installation rail. The installation rail is installed upside down at the back edge of the triangular base.

This allows for the cables to be run parallel to the rows, without the need to construct a separate cable tray.

To transport cables from one row to another, use the 11302 Flat Cable Tray. It is installed from the back edge of one triangular base to the front edge of the triangular base in the next row.

Bring the cables into the field and thread them into place inside the installation rail.



6. Installing the Wind Plate

If a Wind plate is used in the installation, it should be installed last.

Place the Wind Plates hanging into the triangular bases, and secure the plates with two EJOT screws to each base



WELL DONE! THE INSTALLATION IS NOW COMPLETE!

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