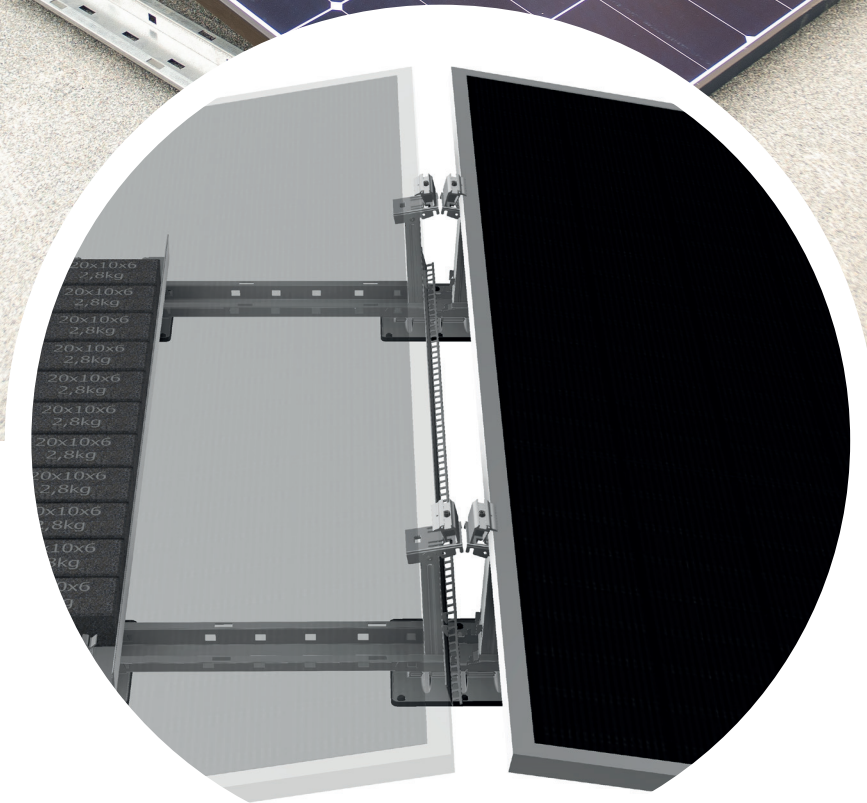


SL FAST FLAT



SL Rack

Schletter Ludwig



Visit our
website:
www.sl-rack.com

Find us on



GERMAN INNOVATION

Innovative Product Development



„Our racking systems have been developed since 1996 and are continuously optimized. Pre-assembled components that are quick and easy to install, prompt order processing, a reliable product supply and cost-effectiveness are our focus.

All our components follow a convenient top-down installation approach, ensuring a smooth and time-saving workflow. SL Rack systems are installer-friendly, intuitive and standardized, while still providing the flexibility to adapt to each respective project site.“

Sincerely,

Ludwig Schletter

SL Rack in numbers:



- 26**..... Years of experience
- 30**..... GW installed worldwide
- 15**..... Product specialists are happy to support you!
- EU**..... Almost exclusively manufactured in Germany and Europe
- 100%** ... Stainless steel and aluminum - **extremely durable**

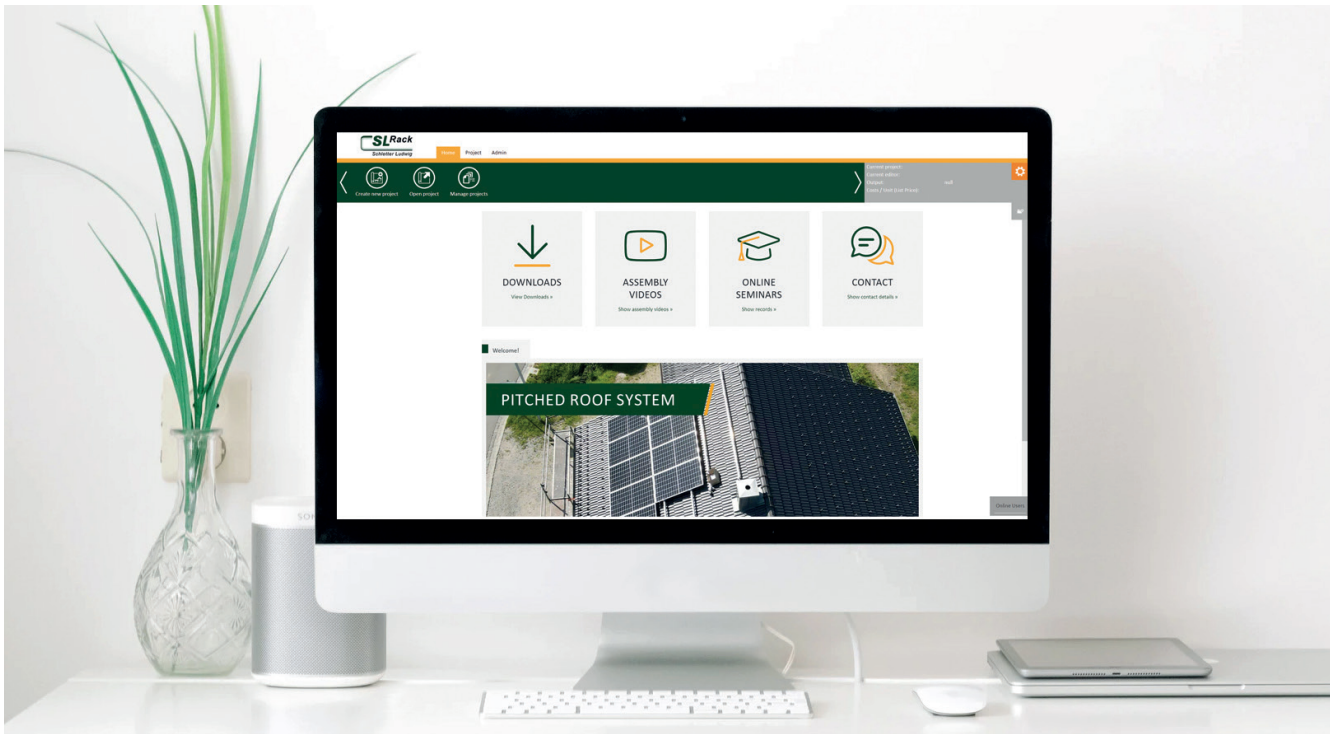


Visit our
website:
www.sl-rack.com



Check out our
YouTube-channel:
[Installation videos »](#)

*Our warranty conditions apply. They are available at www.sl-rack.com



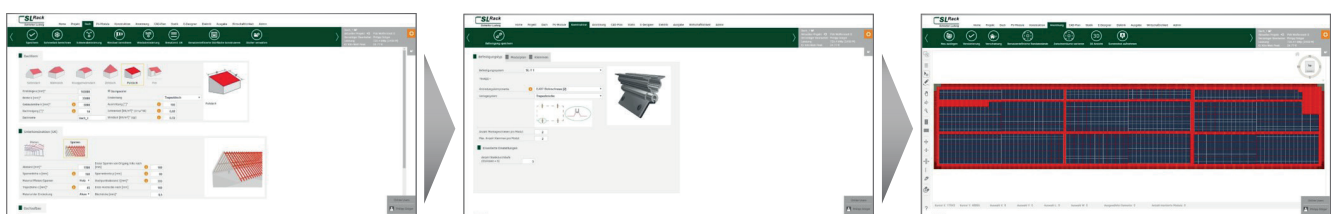
Welcome to our **Solar.Pro.Tool**

Solar.Pro.Tool

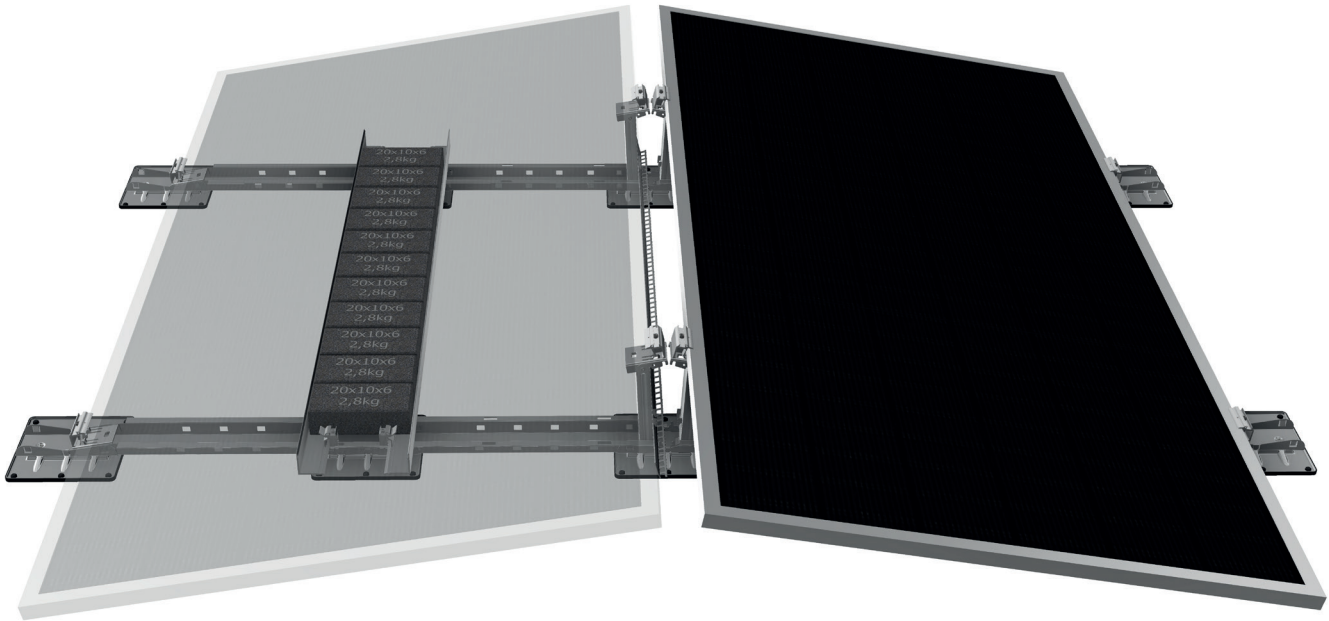


Design your rooftop projects quickly and with ease using our **Solar.Pro.Tool**, available on our website.

- » For all pitched and flat roofs
- » Finish your design in 10 simple steps
- » In 2D or 3D (PDF, DXF, DWG)
- » Building authority certified
- » Precise ballast calculations for any type of flat roof
- » Drawings and bill of material



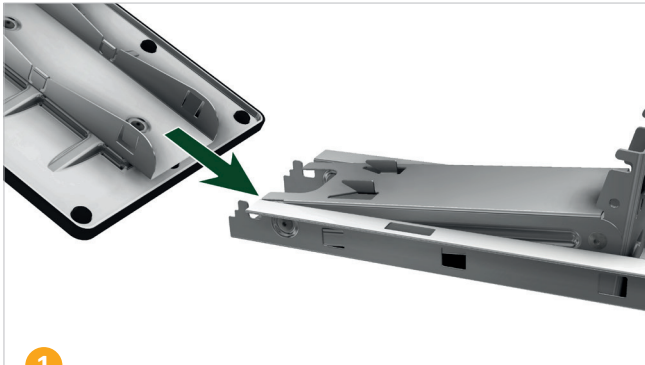
Numerous advantages of **SL Fast Flat**



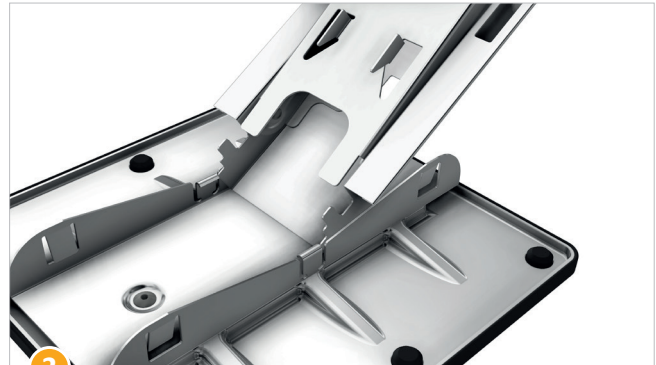
- » Among the fastest installations on the market
 - => Completely pre-assembled
 - => Tool-less mounting due to click system
 - => Module installation according to manufacturer's specifications with Torx 40
- » Minimal warehousing
- » Works on any flat roof
- » Minimal bearing pressure on soft-insulated roofs
- » Tension-free installation due to tilting joint
- » One main part for any module size and any orientation
- » Suitable to connect to lightning protection systems
- » Optional cable management
- » Designed for module width 1040 - 1140 mm; suitable for any module length
- » Lightweight module ready
- » 100 % Made in Germany

SL Fast Flat south and east/west is available in both, corner clamping and quarter-point/green-zone clamping. The respective rows can be assembled in just a few simple steps.

Step 1: Installation Base Plate



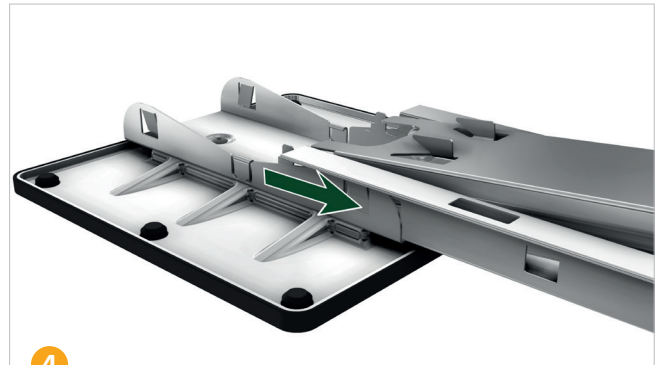
1
Insert the Base Plate into the guide in the Basic Frame.



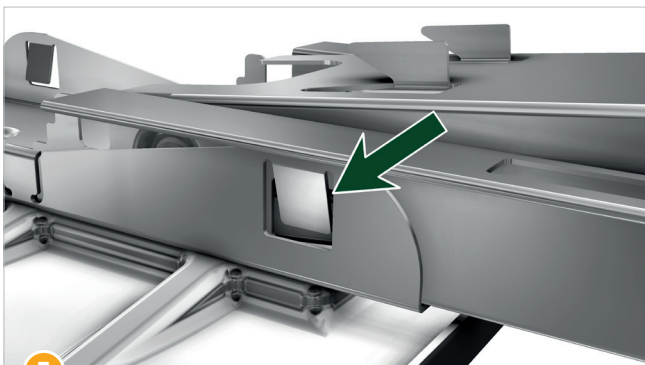
2
Insert the Base Plate into the lug.



3
Lever the Base Plate into the recess in the Basic Frame.

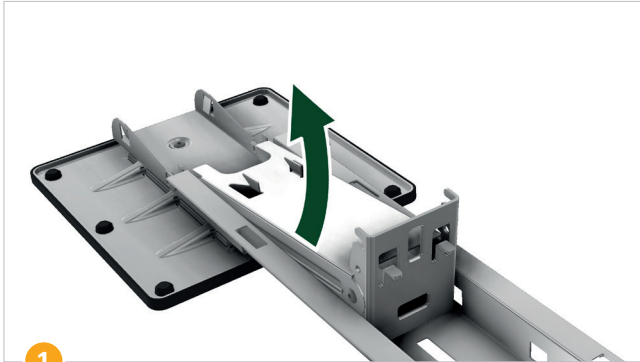


4
Allow the Base Plate to engage.

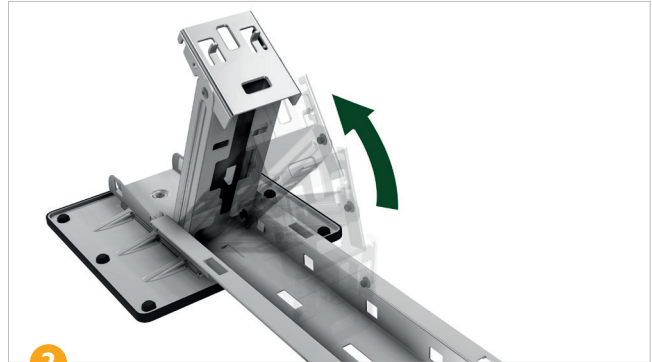


5
Ensure that the Base Plate is fully engaged in the lug.
Done!

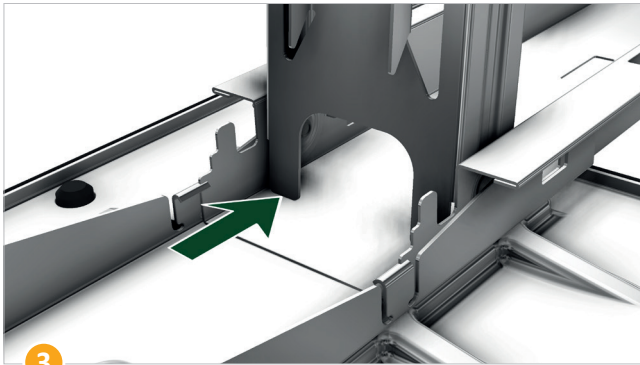
Step 2: Installation Ridge Adaptor



1
Fold up the...



2
... Ridge Adaptor.

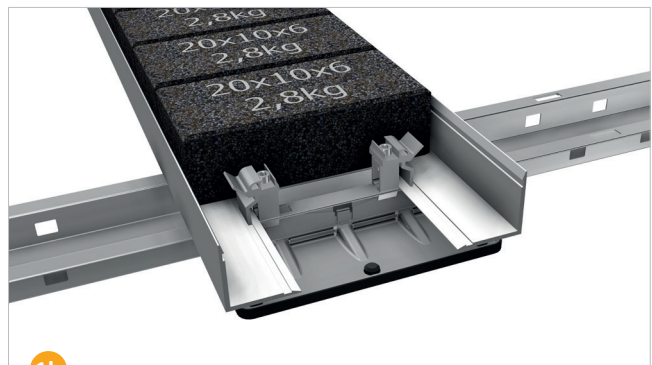


3
Ensure that the Ridge Adaptor is folded up as far as it will go. **Done!**

Step 3: Ballasting



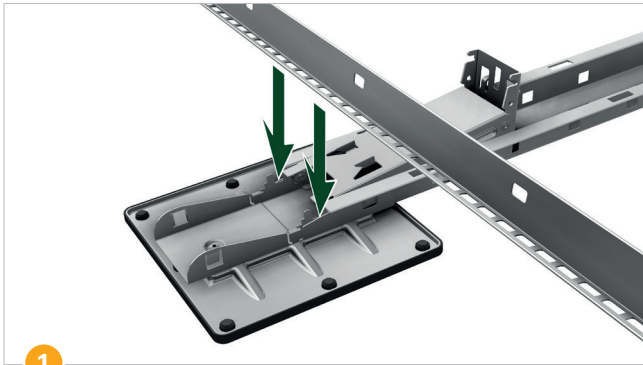
1a
For ballasting, place the pavers (200, 400 or 500 mm) into the recess provided in the Base Frame.



1b
If the Base Frame does not offer sufficient space for the ballast, optional Ballast Brackets, which are suitable for any size pavers, can be used.

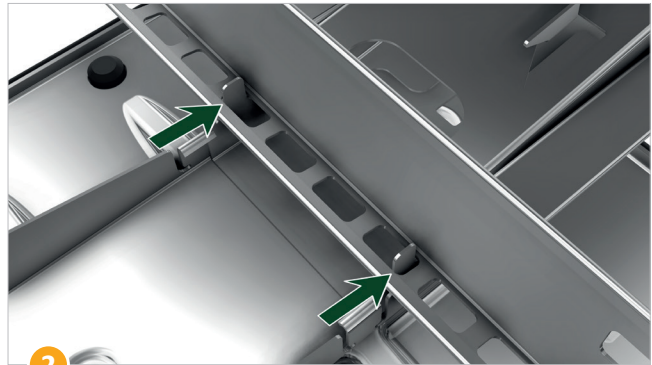
Step 4: Installation Quarter-Point Strut

Mandatory for quarter-point/green-zone clamping. Optional for corner clamping.



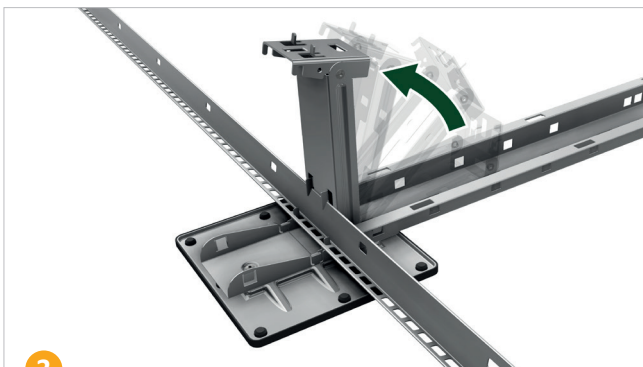
1

Hook the holes of the Quarter-Point Strut into the lugs...



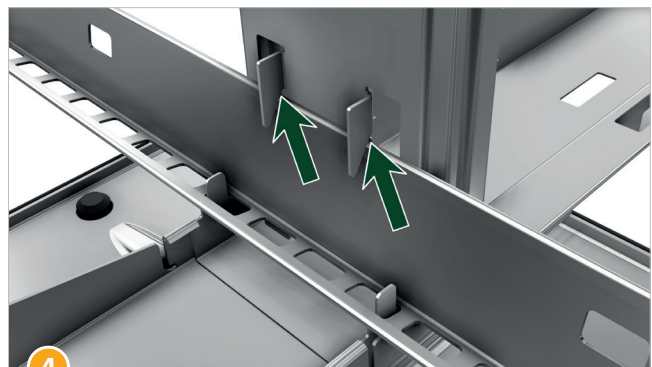
2

... in the Basic Frame.



3

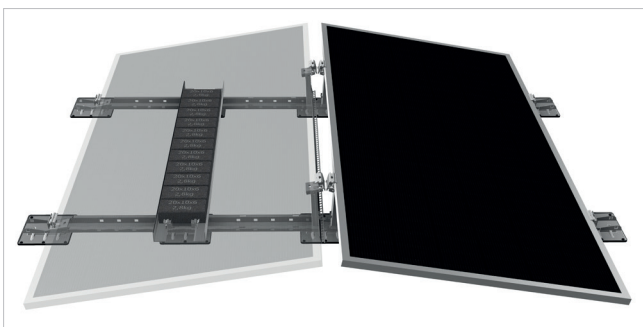
Fold up the Ridge Adaptor and fixate...



4

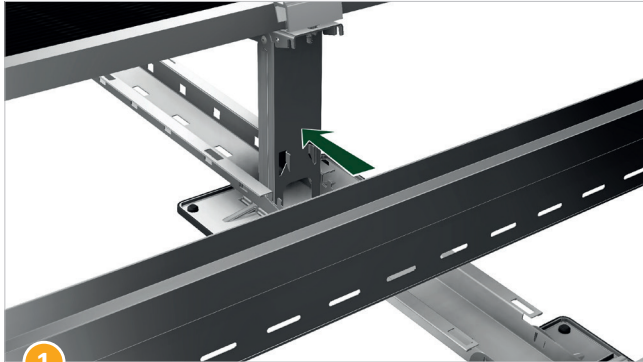
... the Quarter-Point Strut with the hooks. **Done!**

Step 5: Installation of Modules

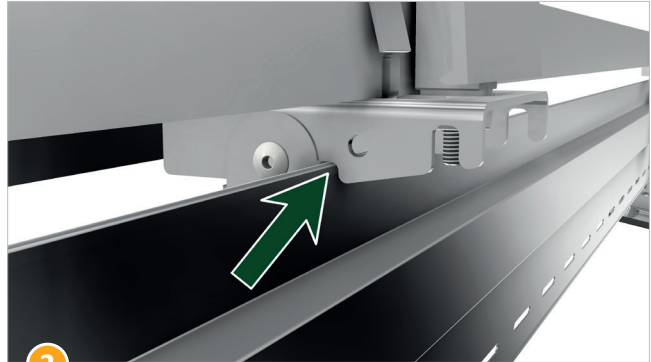


The image shows the finished module installation with quarter-point/green-zone clamping for the east/west system.

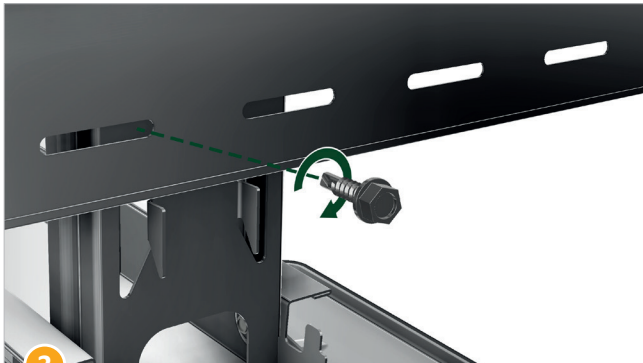
Step 6a: Optional Installation Wind Deflector light



1
From below...



2
... hook the Wind Deflector light into the recess of the Ridge Adaptor.



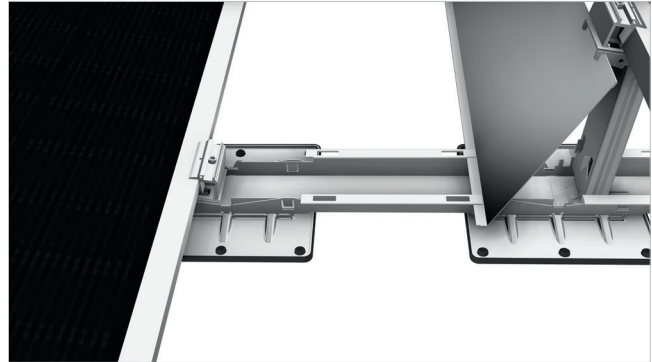
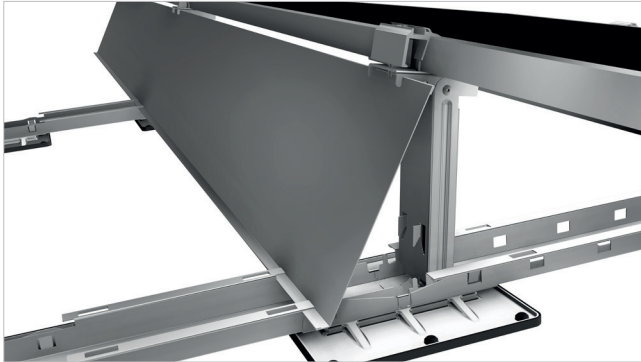
3
Attach Wind Deflector light with a self-tapping screw.



4
Done!

Please note: Can be used in combination with any Spacer (220, 390 und 700 mm).
In east/west systems, the Wind Deflector light serves as a cover for an empty module space.

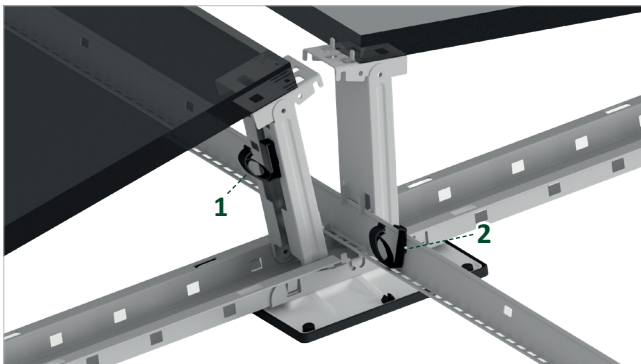
Step 6b: Optional Installation Wind Deflector



Hook the top edge of the Wind Deflector into the recess in the Ridge Adaptor as well as into the lug at the bottom of the Spacer. Secure at the bottom using the FLA Universal Clamp.

Please note: Can be used in combination with any Spacer (220, 390 und 700 mm).

Step 7: Installation Cable Clip



Press the Cable Click into the recess provided on the Ridge Adaptor (1) or on the Quarter-Point Strut (2). Ensure that the opening of the Cable Clip points upwards.

Galvanised steel on flat roofs

Steel, especially hot-dip galvanised steel, plays a significant role in many industries, including renewable energies. We have been building ground mount PV systems made of hot-dip galvanised steel for more than **25 years**, and to date they amount to around **15 GWp**. So far, no significant damage has occurred with hot-dip galvanised steel. We therefore want to use our experience in another field: flat roofs. On flat roofs, the steel is exposed to similar, sometimes milder conditions than with ground mount applications. We have therefore decided to use hot-dip galvanised steel also for flat roof applications with our SL Fast Flat. We set the corrosion level at C4 (see table) to give installers confidence in any environment. This means that our components are coated with **ZM430**, so you can expect a long service life.

Contact Corrosion

With SL Fast Flat the risk of contact corrosion between two metals is low and considered unproblematic. Should a system be installed near the coast or salt water, protective measures can be checked and initiated. To illustrate: Depending on the metal pairing (aluminium - zinc - hot-dip galvanized steel, for example Basic Frame – Mid Clamp), there is a difference in electrical potential of varying degrees. The greater the difference in this potential, the higher the corrosivity.

Metal Pairing	Atmosphere			Water	
	City	Industry	Ocean	Fresh Water	Salt Water
Aluminum – Hot-Dip Galvanized Steel	0	0 - 1	0 - 1	1	1 - 2

Legend:

0 = no significant corrosion of the metal pairing

1 = slightly increased corrosion, but no protective measures recommended

2 = increased corrosion, insulating protective measures recommended

3 = severe contact corrosion, avoid metal pairing

This information is subject to case-by-case verification during project planning and is provided by SL Rack GmbH as a non-binding recommendation.

Corrosion Categories according to DIN EN ISO 12944-2 (with Exposure)

Corrosiveness categories Corrosion stresses	Corrosivity	Examples of typical surroundings	Thickness reduction after 1st year of installation		Recommended zinc coating
			Carbon steel	Zinc	
C1 Insignificant	Very low Slightly aggressive Interior	Only heated indoor spaces, insulated buildings ($\leq 60\%$ r. h.)	$\leq 1,3 \mu\text{m}$	$\leq 0,1 \mu\text{m}$	No zinc coating
C2 Low	Low Moderately aggressive Exterior/interior	Unheated buildings, low-polluted atmosphere, dry climate. Mainly rural areas.	$>1,3 - 25 \mu\text{m}$	$>0,1 - 0,7 \mu\text{m}$	Z600
C3 Moderate	Moderate Slightly aggressive Exterior/interior	Rooms with high humidity and low air pollution. Urban and industrial atmo- sphere with moderate SO_2 pollution or temperate climate.	$>25 - 50 \mu\text{m}$	$>0,7 - 2,1 \mu\text{m}$	ZM310
C4 Strong	High Moderately aggressive Exterior/interior	Swimming pools. Industrial atmosphere and coastal atmosphere with moderate salt load.	$>50 - 80 \mu\text{m}$	$>2,1 - 4,2 \mu\text{m}$	ZM430
C5 Very strong	Very high Aggressive Exterior/interior	Environments with almost constant con- densation and heavy air contamination. Industrial atmosphere with high relative humidity and aggressive atmosphere.	$>80 - 200 \mu\text{m}$	$>4,2 - 8,4 \mu\text{m}$	ZM600

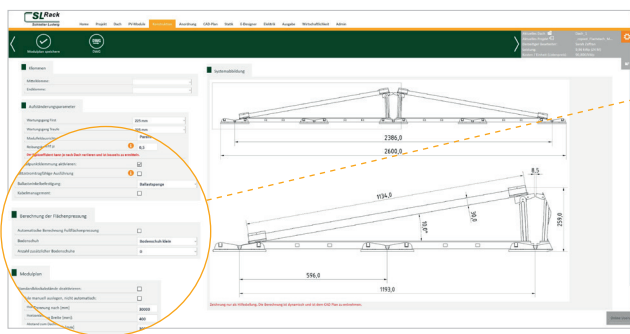
The values in the table above for the galvanizing thicknesses/methods, depending on the corrosivity category, are based on DIN 55928-8 („Corrosion protection of steel structures by coatings and overlays; Part 8: Corrosion protection of load-bearing thin-walled components“) and are at least at the level of the standard.

This information is subject to case-by-case verification during project planning and is provided by SL Rack GmbH as a non-binding recommendation.

All roof insulation has a certain compressive strength, and many roofs have or have had compressive soft insulation installed. On these roofs, the resistance value is very low; if a PV system is installed on the roof with too small a contact area, damage and loss of insulation can occur.

Choice of Base Plate

The contact surface area must be increased to protect the insulation. The optimum number and size of base plates can be determined in our design software on the basis of insulation resistance values.



Berechnung der Flächenpressung

Automatische Berechnung Fußflächenpressung

Maximale Druckfestigkeit der Dämmung [kN/m²]

Bodenschuh

Anzahl zusätzlicher Bodenschuhe

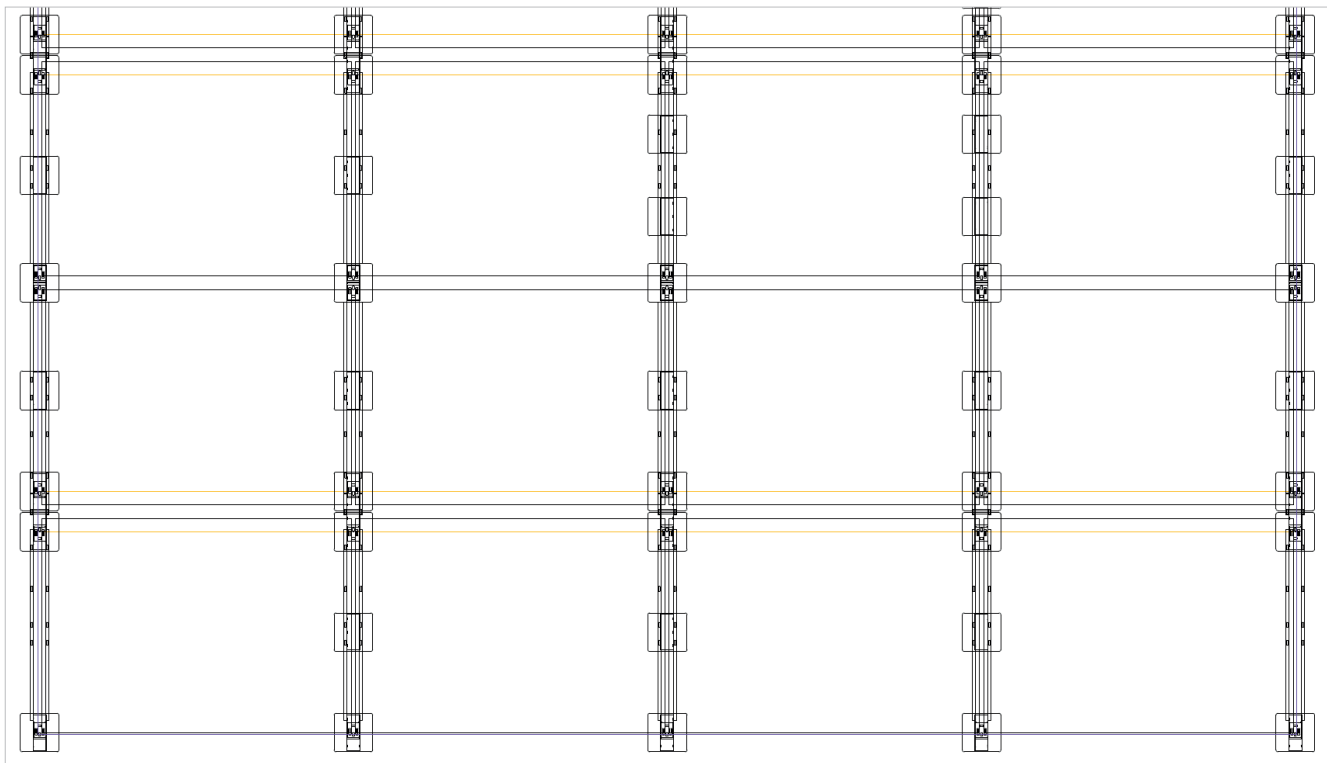


Image: Solar.Pro.Tool Design with the required amount of Base Plates

Basic Frame

- » For module width 1040 - 1140 mm
- » Cost-effective warehousing and logistics
=> 225 rails per Euro pallet
=> 50 - 100 kWp Basic Frames per pallet
- » Ballasting: Pavers (200, 400 und 500 mm) can directly be placed into the rail



Item no. 22300-00	EAN 4262355112982	Fast Flat - Basic Frame 1H	225 Pcs. per PU
-------------------	-------------------	----------------------------	-----------------

Base Plate

- » Two sizes for differing bearing pressure
- » Up to 5 base plates per rail
- » No plasticizers
- » UV-resistant
- » Base Plate EPDM increases coefficient of friction; It can be determined with the FLA Coefficient of Friction Measuring Case (*item no. 09500-50*).

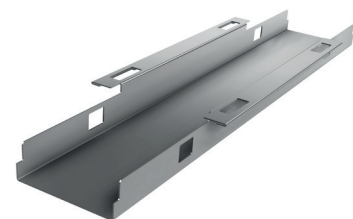


VARIANTS

Item no. 22300-10	EAN 4262355112999	Fast Flat - Base Plate EPDM - 200x200 mm ²	20 Pcs. per PU
Item no. 22300-20	EAN 4262355113002	Fast Flat - Base Plate PVC - 100x200 mm ²	35 Pcs. per PU

Spacer

- » Maintenance channel for east/west systems
- » Spacer for south systems



VARIANTS

Item no. 22300-220	EAN 4262355113019	Fast Flat - Spacer - 220 mm	150 Pcs. per PU
Item no. 22300-390	EAN 4262355113026	Fast Flat - Spacer - 390 mm	150 Pcs. per PU
Item no. 22300-700	EAN 4262355113033	Fast Flat - Spacer - 700 mm	150 Pcs. per PU

Ballast Bracket

Angle profile for ballasting flat roof systems

- » Suitable for any size ballast blocks
- » Reduced warehousing
- » Quick and easy to install
- » Length 2300 mm; suitable for any module length



Item no. 21116-2300	EAN 4262355112302	Ballast Bracket - 2300 mm	20 Pcs. per PU
----------------------------	-------------------	---------------------------	----------------

FLA Universal Clamp

- » Convenient installation from the top
- » Only one tool required: Torx 40
- » For attachment of ballast and wind deflectors



Item no. 21114-00	EAN 4262355111480	FLA Universal Clamp	200 Pcs. per PU
--------------------------	-------------------	---------------------	-----------------

Ballast Clamp

- » Screwless attachment for Ballast Bracket (*item no. 21116-2300*)
- » Attachment for flat pavers (200, 400 und 500 mm)



Item no. 22300-40	EAN 4262355113101	Fast Flat - Ballast Clamp	100 Pcs. per PU
--------------------------	-------------------	---------------------------	-----------------

Quarter-Point Strut

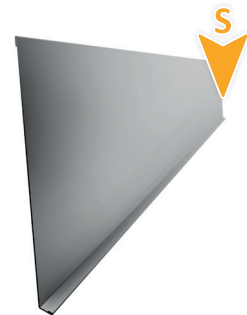
- » Reinforcement for quarter-point/green zone clamping
- » For cable routing



Item no. 22303-2585	EAN 4262355113057	Fast Flat - Quarter-Point Strut - 2585 mm	150 Pcs. per PU
----------------------------	-------------------	---	-----------------

Wind Deflector

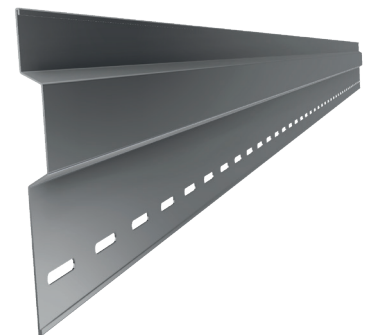
- » Only for south systems
- » Optimized aerodynamic
- » Reduced ballast
- » No screws required, simply clamp onto the spacers (*item no. 22300-220, 22300-390, 22300-700*)



Item no. 22301-2595	EAN 4262355113064	Fast Flat - Wind Deflector - 2595 mm	100 Pcs. per PU
----------------------------	-------------------	--------------------------------------	-----------------

Wind Deflector light

- » For south & east/west systems
- » Attachment with screws
- » Reduced ballast



Item no. 22302-2595	EAN 4262355113071	Fast Flat - Wind Deflector light - 2595 mm	100 Pcs. per PU
----------------------------	-------------------	--	-----------------

Cable Clip

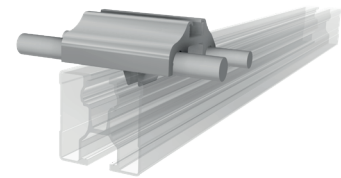
- » UV-resistant
- » Can be attached to Basic Frame (*item no. 22300-00*) and Quarter-Point Strut (*item no. 22303-2585*)



Item no. 22300-41	EAN 4262355113040	Fast Flat - Cable Clip	100 Pcs. per PU
--------------------------	-------------------	------------------------	-----------------

Lightning Protection Clamp Top

- » Suitable for connection to lightning protection systems and for grounding individual module arrays
- » Convenient installation from the top
- » Only one tool required: Torx 40
- » Completely pre-assembled
- » One clamp, two options: round wire \varnothing 8 mm and \varnothing 10 mm
- » Certified to DIN EN 62561
- » Metrological tests need to be performed according to the valid electrotechnical standards



Lightning Protection Clamp Top, very low height, suitable for 30 mm module frames

Item no. 91518-00	EAN 4262355110742	Lightning Protection Clamp Top	100 pcs. per PU
--------------------------	-------------------	--------------------------------	-----------------

FLA Coefficient of Friction Measuring Kit

Complete tool set for determining the coefficient of friction.

Contains the following items:

- » Precision spring scale Medio Line (item no. 41000) for weight determination and tensile force measurement from Pesola, the Swiss world market leader;
Forces up to 1000 g can be measured;
Robust, anodized aluminium tube with long precision scale;
Tare and zero setting device as well as rotating and swiveling suspension bracket
- » Square aluminum block „Königsberger friction block“ weighing 1 kg
- » Anti-slip base (115 mm x 40 mm x 8 mm) made of rubber granulate
- » Rubber granulate base (115 mm x 40 mm x 8 mm), aluminum-laminated bottom



Item no. 09500-50	EAN 4262355112364	FLA Coefficient of Friction Measuring Kit	1 pcs. per PU
-------------------	-------------------	---	---------------



SL Rack
[YouTube](#)



SL Rack
[Website](#)



SL Rack
[Online ordering system](#)



Contact us
for an offer:

SL Rack GmbH
Münchener Straße 1
83527 Haag i. OB
Email: sales@sl-rack.com
Phone: +49 8072 3767-0
www.sl-rack.com