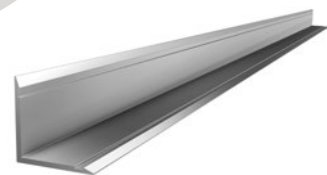
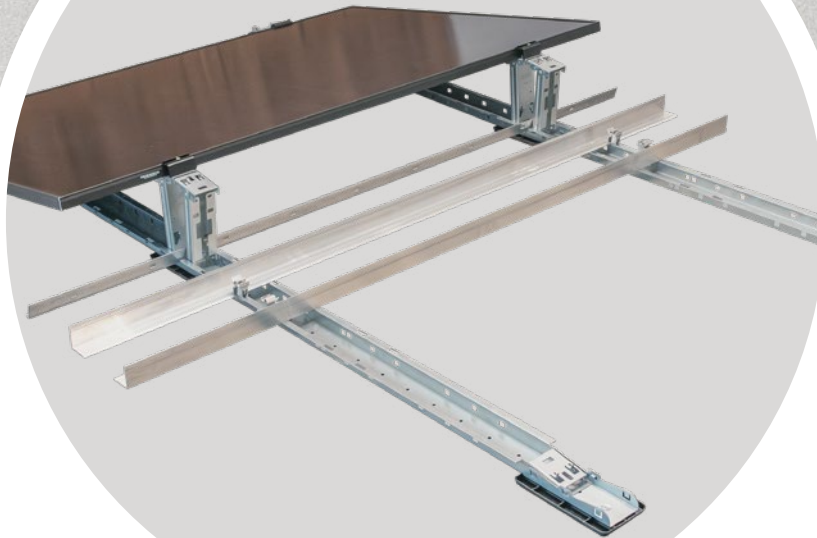


SL FAST FLAT



SL Rack
Schletter Ludwig



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website:
www.sl-rack.com

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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,

SL Rack in numbers:



- 26**..... Years of experience
- 30**..... GW installed worldwide
- 200**..... Employees are happy to help!
- EU**..... Almost exclusively manufactured in Germany and Europe

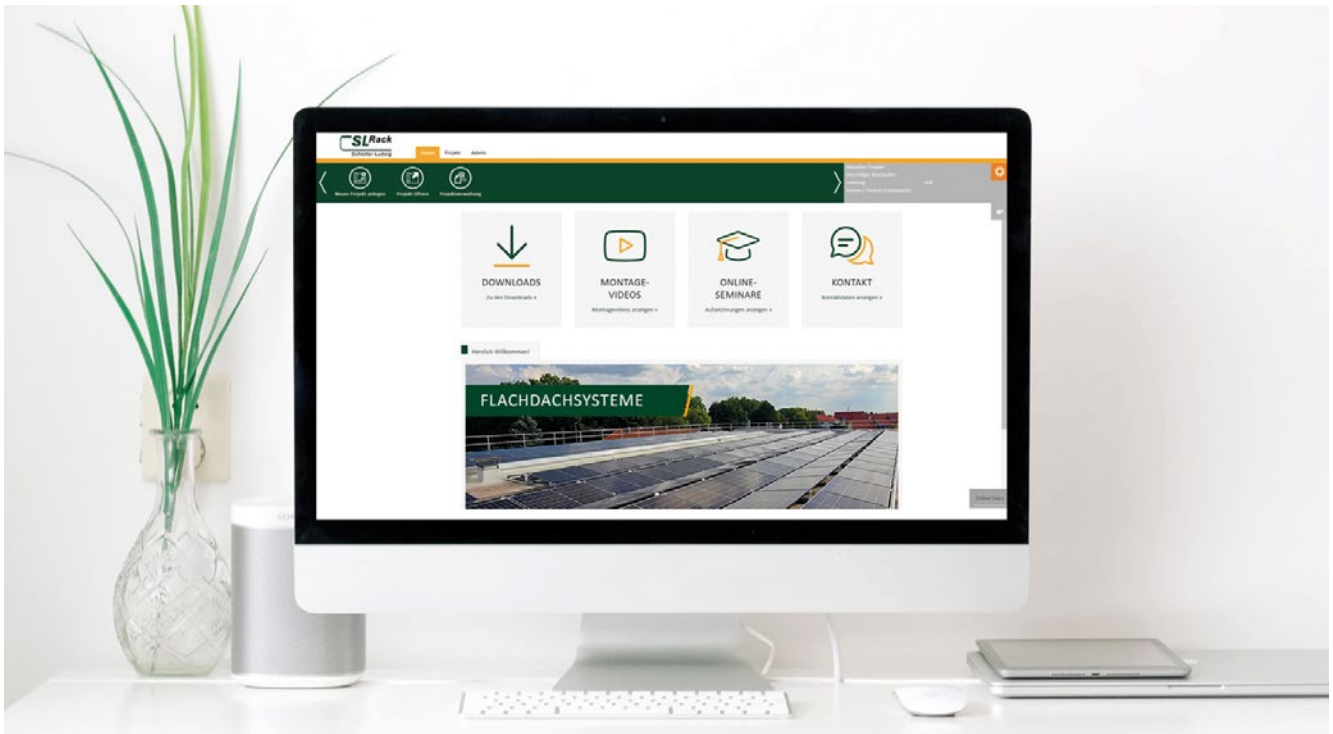


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YouTube-channel:
[Installation videos »](#)

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

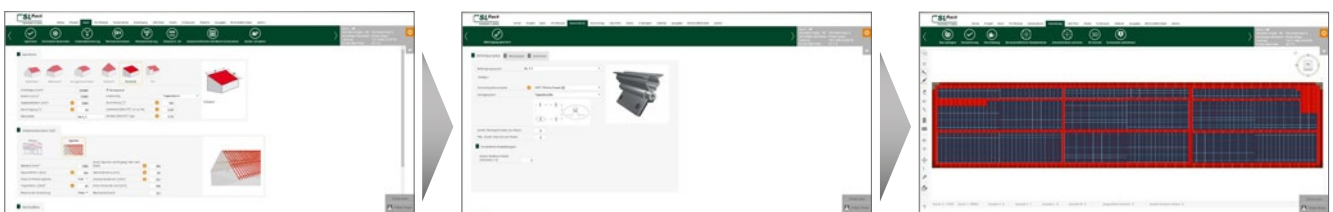


Welcome to our **Solar.Pro.Tool**




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



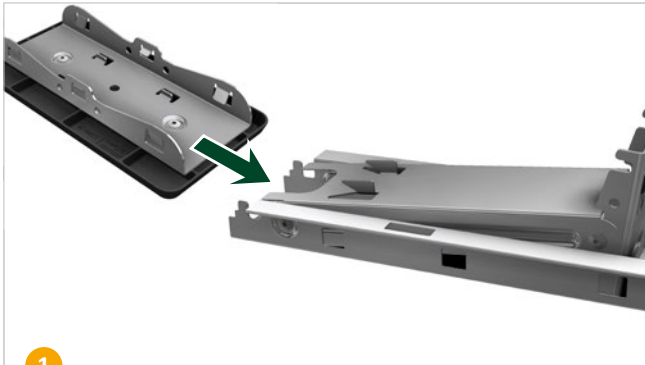
The many advantages of **SL Fast Flat**



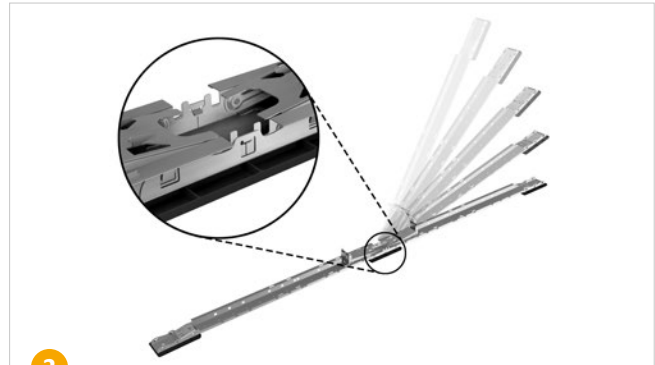
- » Quick and mistake-proof installation due to pre-assembled components and tool-free click system.
- » Flexible use for south and east-west orientation on any type of flat roof.
- » Smooth roof loading due to optimum load distribution, protecting roof membrane and insulation.
- » Space-savings in warehousing and logistics with standardized and compact components.
- » Durability and sustainability due to high-quality materials and 100% production 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.

Assembly

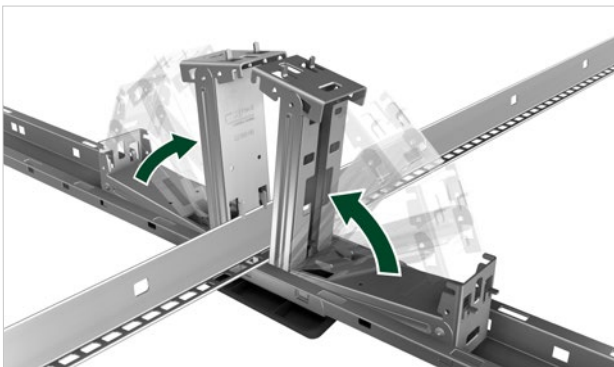


1
Connect the Base Plate with the Basic Frame.



2
Connect the Basic Frames to form a continuous rail.

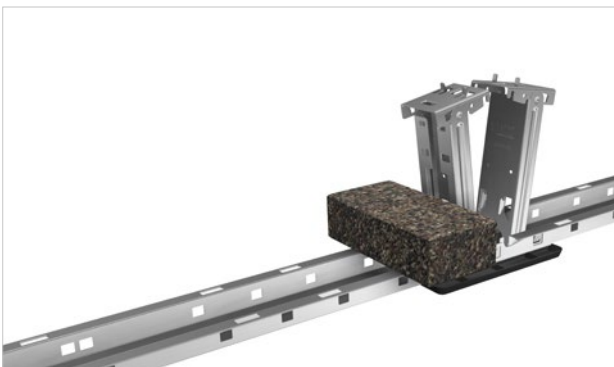
OPTIONAL:



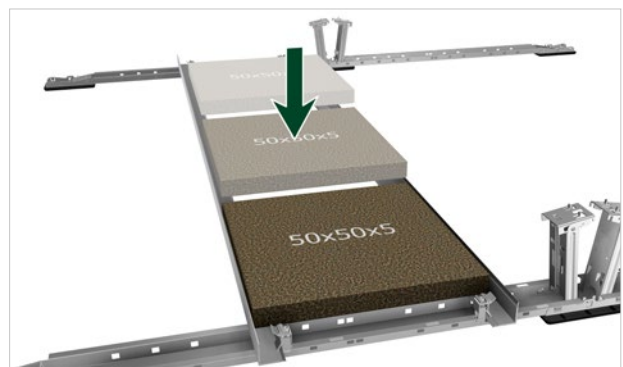
Install the Quarter-Point Strut for long-side/green zone clamping.



Place the ballast blocks into the Basic Frame.

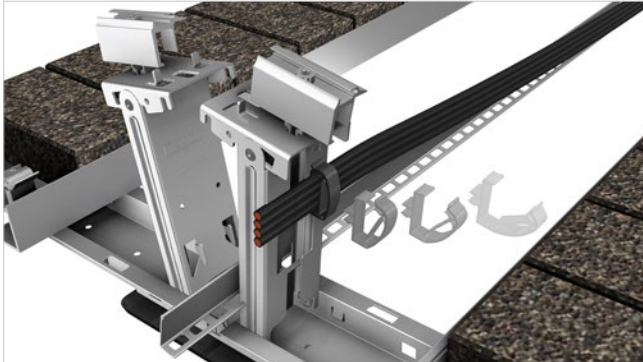


Larger stones may be placed on top of the Basic Frame.



Install the Ballast Brackets and position the ballast blocks in between.

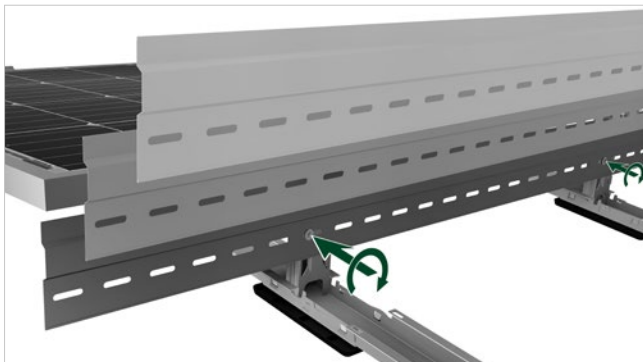
Accessories



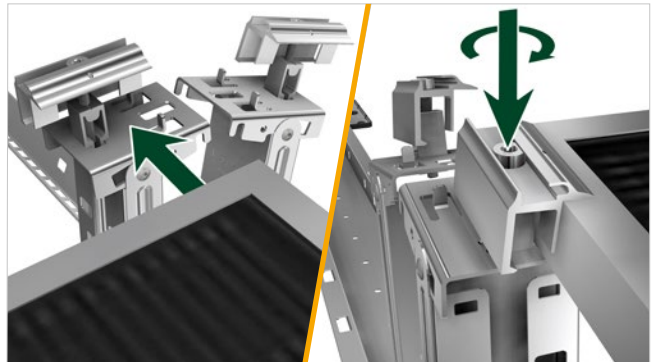
Press the Cable Clip into the Basic Frame or the Quarter-Point Strut.



Fixate the Wind Deflector using the Universal Clamp.

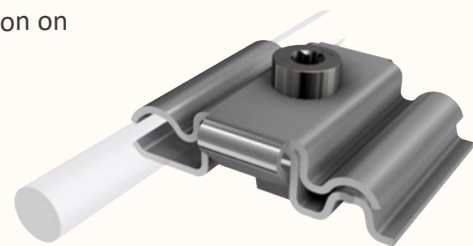


Fasten the Wind Deflector light.



Attach the modules with our SL module clamps Vario.

Please refer to the Lightning Protection data sheet for information on the connection to a lightning protection system.



SL Fast Flat is certified to DIN EN 62561

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. We therefore want to use our experience in another field as well: Flat roofs. On flat roofs, the steel is exposed to similar, sometimes less corrosive conditions than with ground mount applications. To ensure that installers can use the product in any area with confidence, we have set the Corrosivity Level at C4 (see table on corrosivity on page 8). **All our components are coated with ZM430.**

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.

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 atmosphere 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 condensation 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

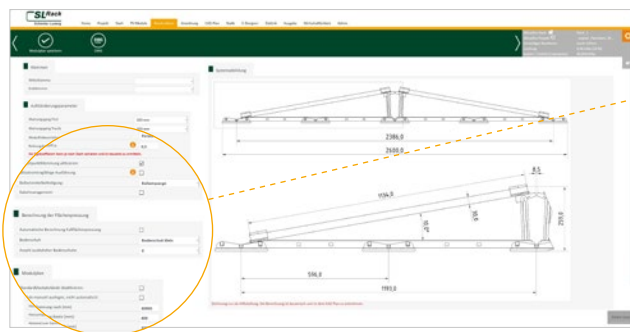
The values in the table above for the galvanizing thicknesses/methods, depending on the corrosivity category, are based on DIN 55928-8 („Corrosion protection of steel structures by coatings and overlays; Part 8: Corrosion protection of load-bearing thin-walled components“) and are at least at the level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



Calculation of the surface pressure

Automatic calculation of the foot surface pressure ☒

Maximum compressive strength of the insulation [kn/m²]. 50

Base Plate Base Plate large

Number of additional Base Plates 3

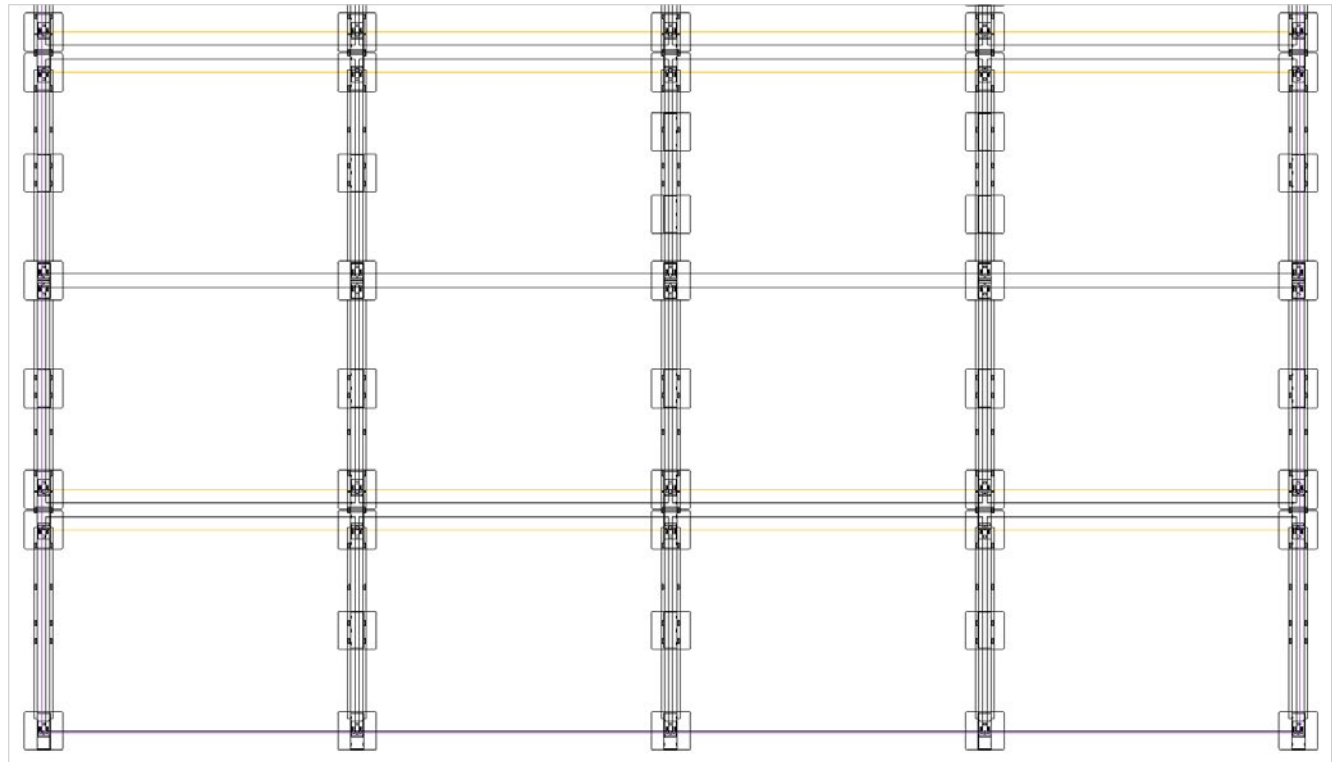


Image: Solar.Pro.Tool Design with the required amount of Base Plates

Basic Frame

- » Works for south and east-west orientation, corner and long-side/
green zone clamping as well as fixation to trapezoidal roofs
- » Cost-effective warehousing and logistics
=> 200 rails per Euro pallet
- » 100 % pre-assembled for a tool-free installation
- » Module width:
Long-side/green zone clamping: 1120 mm - 1140 mm
Corner clamping: 1120 mm - 1180 mm



Item no. 22300-00	Dimensions	Weight	Material	PU
Basic Frame	L 1190 mm, W 105 mm, H 84 mm	1.62 kg	Galvanized steel ZM430	200

Base Plate HDPE 100x200

- » UV-resistant and free from plasticizers
- » Up to 3 additional Base Plates per rail



Item no. 22300-20	Dimensions	Weight	Material	PU
Base Plate HDPE 100x200	L 200 mm, W 100 mm, H 30 mm	0.34 kg	Galvanized steel ZM430/HDPE	35

Base Plate HDPE 200x200

- » UV-resistant and free from plasticizers
- » Up to 3 additional Base Plates per rail
- » Increased contact area reduces bearing pressure



Item no. 22300-30	Dimensions	Weight	Material	PU
Base Plate HDPE 200x200	L 200 mm, W 200 mm, H 30 mm	0.42 kg	Galvanized steel ZM430/HDPE	20

Base Plate EPDM

- » EPDM-pad for increased coefficient of friction
- » Up to 3 additional Base Plates per rail
- » Increased contact area reduces bearing pressure



Item no. 22300-10	Dimensions	Weight	Material	PU
Base Plate EPDM 200x200	L 200 mm, W 200 mm, H 30 mm	0.42 kg	Galvanized steel ZM430/EPDM	20

Base Plate HDPE light

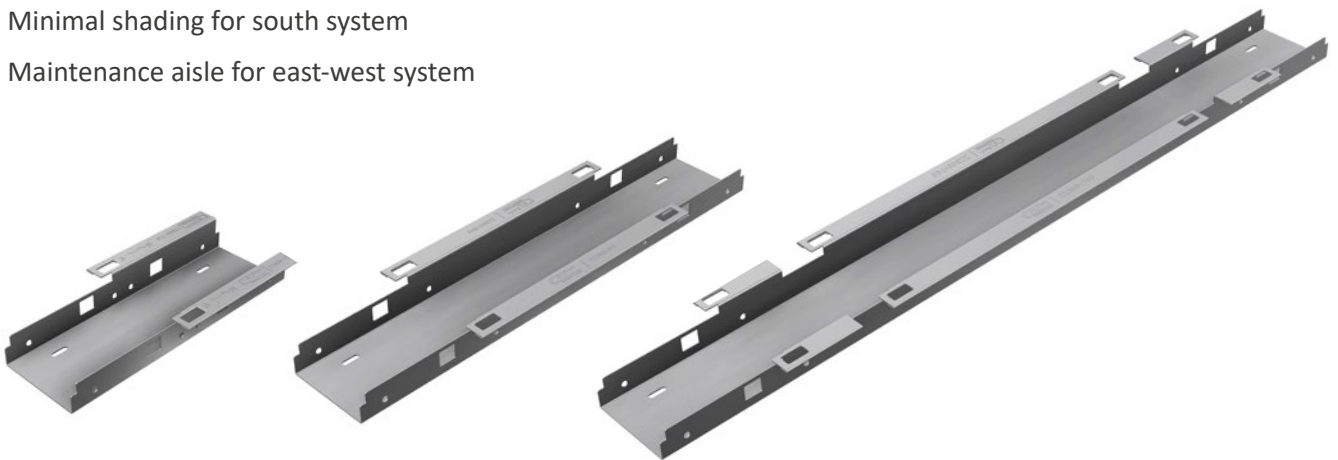
- » UV-resistant and free from plasticizers
- » Increased contact area reduces bearing pressure



Item no. 22300-15	Dimensions	Weight	Material	PU
Base Plate HDPE light	L 200 mm, W 200 mm, H 30 mm	0.125 kg	HDPE	35

Spacer

- » Minimal shading for south system
- » Maintenance aisle for east-west system



VARIANTS

	Dimensions	Weight	Material	PU
Item no. 22300-220	L 220 mm, W 105 mm, H 30 mm	0.33 kg	Galvanized steel ZM430	50
Item no. 22300-390	L 390 mm, W 105 mm, H 30 mm	0.42 kg	Galvanized steel ZM430	50
Item no. 22300-700	L 700 mm, W 105 mm, H 30 mm	0.75 kg	Galvanized steel ZM430	150

FLA Universal Clamp

- » Universally applicable clamp for SL rack systems
- » For attachment of Ballast Brackets, Wind Deflectors as well as micro inverters
- » Installation from the top with Torx 40



Item no. 21114-00	Dimensions	Weight	Material	PU
FLA Universal Clamp	L 35 mm, W 25 mm, H 60/45 mm	0.035 kg	Aluminum/stainless steel	200

Mid and end clamps

- » Universal clamps for frame heights 28 - 45 mm, horizontal or vertical application.
- » Completely pre-assembled and compatible with all SL Rack systems.
- » A clamp length of 70 mm and a clamping depth of 10 mm ensure a secure module attachment.
- » Convenient installation from the top.
- » Optionally available with grounding pin for potential equalization.
- » **Dimensions:**
 - » Mid clamp:
Length 70 mm, width 42 mm, height 72 mm
 - » End clamp:
Length 70 mm, width 34 mm, height 72 mm
- » Material: Aluminum, stainless steel bolts
- » Colour: Mill finish or black anodized



Mid clamps with grounding pin for frame heights 28 mm - 45 mm



Mid clamps without grounding pin for frame heights 28 mm - 45 mm



End clamps with grounding pin for frame heights 28 mm - 45 mm



End clamps without grounding pin for frame heights 28 mm - 45 mm

VARIANTS

		Weight	Material	PU
Item no. 91160-01	Mid clamp with grounding	0.066 kg	Aluminum/stainless steel	100
Item no. 96160-01	Mid clamp with grounding black anodized	0.066 kg	Aluminum/stainless steel	100
Item no. 91161-01	Mid clamp without grounding	0.066 kg	Aluminum/stainless steel	100
Item no. 96161-01	Mid clamp without grounding black anodized	0.066 kg	Aluminum/stainless steel	100
Item no. 91162-01	End clamp with grounding	0.071 kg	Aluminum/stainless steel	100
Item no. 96162-01	End clamp with grounding black anodized	0.071 kg	Aluminum/stainless steel	100
Item no. 91163-01	End clamp without grounding	0.071 kg	Aluminum/stainless steel	100
Item no. 96163-01	End clamp without grounding black anodized	0.071 kg	Aluminum/stainless steel	100

Ballast Bracket

- » Holds ballast blocks in various sizes
- » Fixation of the ballast blocks
- » For module length up to 2200 mm



Item no. 21116-2300	Dimensions	Weight	Material	PU
Ballast Bracket	L 2300 mm, W 50 mm, H 50 mm	0.8 kg	Aluminum	150

Quarter-Point Strut

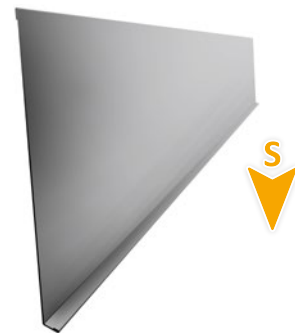
- » Connects and stabilizes up to three Basic Frame rows
- » Integrated cable routing for efficient cable management
- » Can aid assembly by serving as a jig between Basic Frame rows. Works for corner and green-zone clamping alike.



Item no. 22303-2585	Dimensions	Weight	Material	PU
Quarter-Point Strut	L 2585 mm, W 16 mm, H 40 mm	1.07 kg	Galvanized steel ZM430	20

Wind Deflector

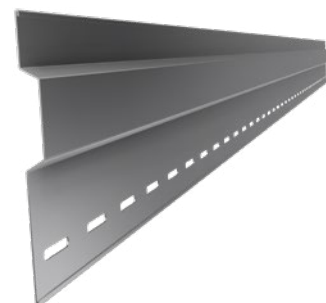
- » Specially developed for the south system
- » Optimized aerodynamics for ballast reduction
- » Fixation by clamping onto the Spacers



Item no. 22301-2595	Dimensions	Weight	Material	PU
Wind Deflector	L 2595 mm, W 220 mm, H 15 mm	4.1 kg	Galvanized steel ZM430	100

Wind Deflector light

- » Works for south and east-west systems
- » Optimized aerodynamics for ballast reduction
- » Attaches to the ridge adaptor



Item no. 22302-2595	Dimensions	Weight	Material	PU
Wind Deflector light	L 2595 mm, W 145 mm, H 15 mm	2.29 kg	Galvanized steel ZM430	10

Cable Clip

- » Elevated cable routing prevents water accumulation
- » UV-resistant
- » Can be attached to the Basic Frame and Quarter-Point Strut



Item no. 22300-41	Dimensions	Weight	Material	PU
Cable Clip	L 50 mm, W 10 mm, H 20 mm	0.004 kg	PA66	100

Lightning Protection Clamp A2 top

- » Easy connection to external lightning protection and equipotential bonding
- » Suitable for grounding wire with a diameter of 6, 8 and 10 mm
- » Suitable for copper wire



Item no. 91518-00	Dimensions	Weight	Material	PU
Lightning Protection Clamp A2 top	L 52 mm, W 48 mm, H 14 mm	0.042 kg	Aluminum, stainless steel	100

Base Plate HDPE with slotted hole

- » Anchor for ballast-free roof attachment
- » Attaches to hanger bolts and anchors
- » Mounting of cable trays



Item no. 22300-50	Dimensions	Weight	Material	PU
Base Plate HDPE with slotted hole	L 200 mm, W 200 mm, H 30 mm	0.700 kg	Galvanized steel ZM430/HDPE	20

Connecting Screw

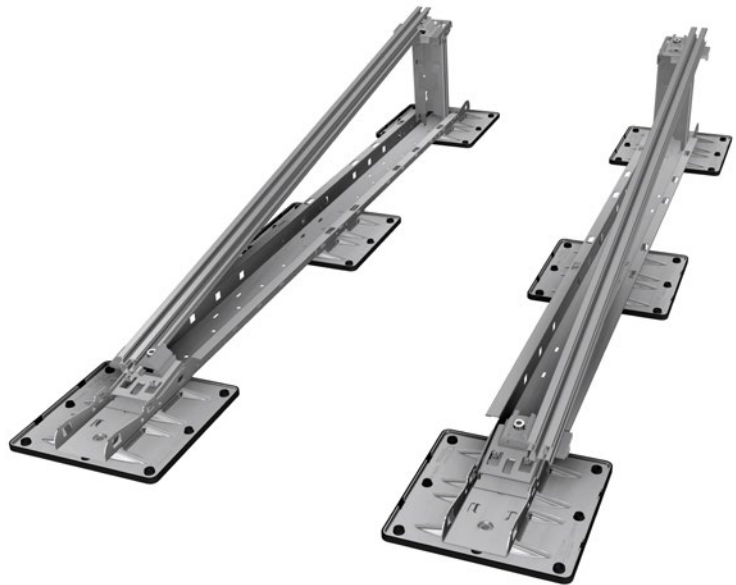
- » Connection with Torx 40
- » For attachment of Wind Deflector light and connection to lightning protection systems



Item no. 73163-16	Dimensions	Weight	Material	PU
Connecting Screw	L 14 mm, W 6 mm, H 6 mm	0.01 kg	Stainless steel	100

Inverter Rack

- » For inverters up to 180 kg
- » Rail channel for attachment of M8 bolts
- » Easy connection to SL Fast Flat



Item no. 22300-90	Dimensions	Weight	Material	PU
Inverter Rack	L 1190 mm, B 200 mm, H 400 mm	8.700 kg	Stainless steel/aluminum/EPDM	5

FLA Coefficient of Friction Measuring Kit

Item no. 09500-50

- » Complete tool set for the determination of the coefficient of friction and ballast calculation.

Content:

- » Precision spring scale for tensile force measurement up to 1000 g.
- » Made from sturdy, anodized aluminum with tara function.
- » Square aluminum block „Königsberger friction block“, weight 1 kg.
- » Various test pads for realistic surface conditions.
- » Works for any flat roof system.



Development

- » More products under development
- » Learn more about future developments at sales@sl-rack.de



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Contact us for your personal offer:

SL Rack GmbH

Münchener Straße 1

83527 Haag i. OB

Email: sales@sl-rack.de

Phone: [+49 8072 3767-0](tel:+49807237670)

www.sl-rack.com