



### Your advantages with our products

- » Consists of hanger bolt and hanger bolt attachment (suitable for M10 and M12)
- » Universal mounting of any SL Rack RAIL and rails of direct competitors with a bottom groove of 10,5 mm
- » Water sealing through EPDM rubber
- » Pressure dome provides UV-protection to maintain the sealing function
- » Suitable for wooden constructions

SL Hanger Bolt Set M10 x 200 mm	<b>Item no. 23310-210</b>
SL Hanger Bolt Set M10 x 300 mm	<b>Item no. 23310-310</b>
SL Hanger Bolt Set M12 x 200 mm	<b>Item no. 23312-210</b>
SL Hanger Bolt Set M12 x 300 mm	<b>Item no. 23312-310</b>

#### OPTIONAL ACCESSORIES

##### **SEALING PLATE**

**Item no. 23201-00**

- » Ensures a balanced load distribution
- » Excellent sealing performance for tin roofs
- » For bitumen (shingle) roofs the addition of Bitu-Pad is recommended

#### OPTIONAL ACCESSORIES

##### **BITU-PAD**

**Item no. 23201-03**

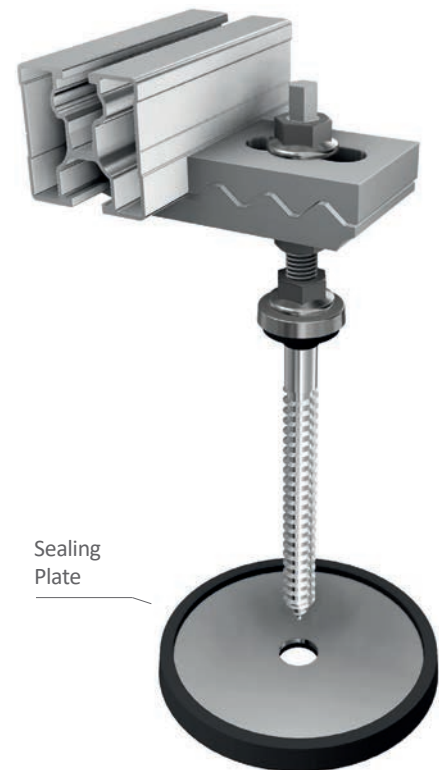
- » Provides an additional layer of sealing for bitumen (shingle) roofs
- » Self-adhesive

##### **Hanger Bolt Adaptor 2.0**

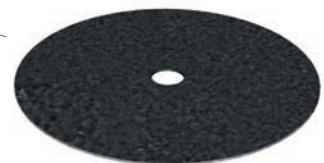
**Item no. 11302-12**

- » Universal mounting of any SL Rack RAIL and rails of direct competitors with a bottom groove of 10,5 mm
- » Upper and lower mounting attachments with ribbed profile for high fitting accuracy and stability
- » Suitable for hanger bolts M10 and M12

\*Our warranty conditions apply.  
They are available at [www.sl-rack.com](http://www.sl-rack.com)



Bitu-Pad

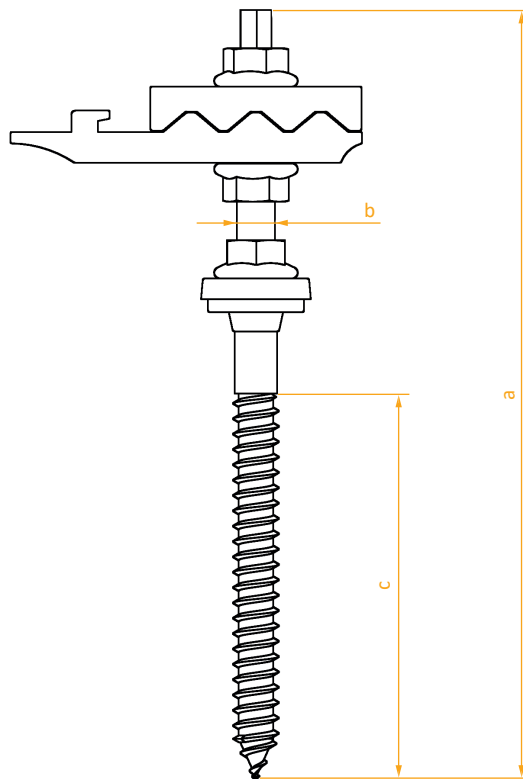


Hanger Bolt Adaptor 2.0



## Dimensions

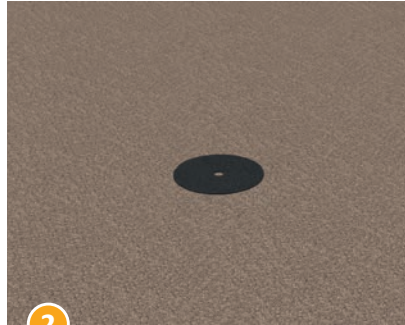
	<b>a</b>	<b>b</b>	<b>c</b>
<b>SL Hanger Bolt Set M10 x 200 mm</b>	200 mm	10 mm	67 mm
<b>SL Hanger Bolt Set M10 x 300 mm</b>	300 mm	10 mm	67 mm
<b>SL Hanger Bolt Set M12 x 200 mm</b>	200 mm	12 mm	80 mm
<b>SL Hanger Bolt Set M12 x 300 mm</b>	300 mm	12 mm	100 mm



## Installation



1 Clean the installation area with an appropriate cleaning solution.

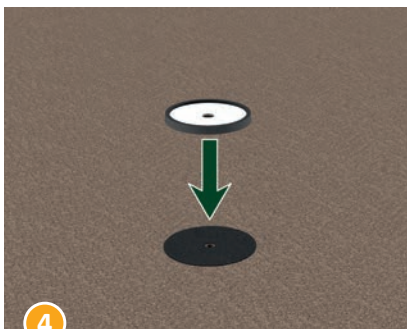


2 Adhere the Bitu-Pad at the respective spot.

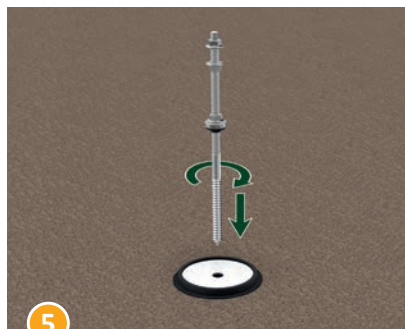


3 Drill a pilot hole through the center of the Bitu-Pad, all the way through the roof sheathing and into the rafter.

**!** The hanger bolt has to be installed exactly at a 90° angle, in order to provide a water-sealing connection. It is paramount to observe the minimum values according to the table on page 4!



4 Place the Sealing Plate centered onto the Bitu-Pad.



5 Position the hanger bolt in the pilot hole in the middle of the Bitu-Pad and screw it into the rafter.

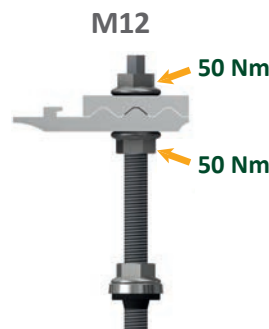
**!** It is paramount to observe the minimum values according to the table on page 4!



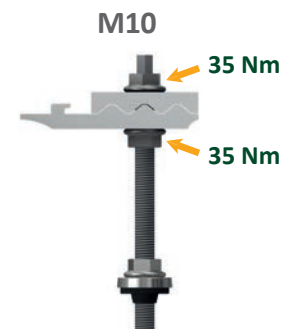
6 Loosen the top nut.



7 Using the center nut, align the Hanger Bolt Attachment to achieve the required height for the module and lock it with the top nut.

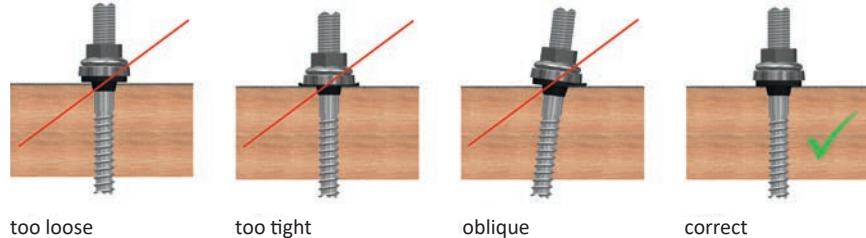


Fixate nuts with a tightening torque of 50 Nm.



Fixate nuts with a tightening torque of 50 Nm.

## Installation



Tighten the nut over the pressure dome to ensure an effective seal.

## MINIMUM VALUES FOR PREDRILLING

	Hanger Bolt M10 x 200 mm*	Hanger Bolt M10 x 300 mm*	Hanger Bolt M12 x 200 mm*	Hanger Bolt M12 x 300 mm*
<b>Pilot hole diameter</b> (0,7 x bolt diameter)	7 mm	7 mm	8,4 mm	8,4 mm
<b>Screw-in depth</b> (min. 7 x bolt diameter)	70 mm**	70 mm**	84 mm**	84 mm**
<b>Attaching to purlins:</b> <b>Min. width of timber</b> (min. 8 x bolt diameter)	80 mm	80 mm	96 mm	96 mm
<b>Attaching to purlins:</b> <b>Min. distance from the bottom and top</b> (each side min. 4 x bolt diameter)	40 mm	40 mm	48 mm	48 mm
<b>Attaching to rafters:</b> <b>Min. width of timber</b> (min. 6 x bolt diameter)	60 mm	60 mm	72 mm	72 mm
<b>Attaching to rafters:</b> <b>min. distance from the bottom and top</b> (each side min. 3 x bolt diameter)	30 mm	30 mm	36 mm	36 mm
<b>Attaching to rafters:</b> <b>distance of holes in direction of the grain</b> (min. 7 x bolt diameter)	70 mm	70 mm	84 mm	84 mm

\* Please note that pre-drilling is paramount for connections in wooden structures!  
(DIN EN 1995-1-1:2010-12 Eurocode 5)

\*\* The entire thread should be screwed in, up to the shaft

**Notes**

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## Technical Data

<b>Material</b>	Aluminum, stainless steel (screw), EPDM rubber (seal), Alubutyl (Bitu-Pad)
<b>Design Tool</b>	SL-Rack-Configurator <b>Solar.Pro.Tool</b> .
<b>Statik</b>	The statics calculation takes place as per the current country-specific standards (EN 1991, EC1 for Germany). Depending on snow or wind loads or for large modules, it may be necessary to use more than the standard 4 attachment points. Please make sure to comply with the instructions of the module manufacturer contained in the installation manual. We do not assess the load-bearing capacity of the roof.

**Your opinion is important to us!**

We want to make your everyday work easier.  
Your praise, criticism and suggestions for improvement help  
us to do this. We look forward to your feedback.



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Subject to technical changes  
and misprints.  
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