

BAUDER



BAUDER BIOSOLAR G2

INSTALLATION GUIDE

Bauder BioSolar G2

Installation guidelines

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1 Symbols Used



CAUTION!

Non-compliance could result in serious property damage, or impairment to operational safety.



TIP!

Useful information for installing the mounting system.

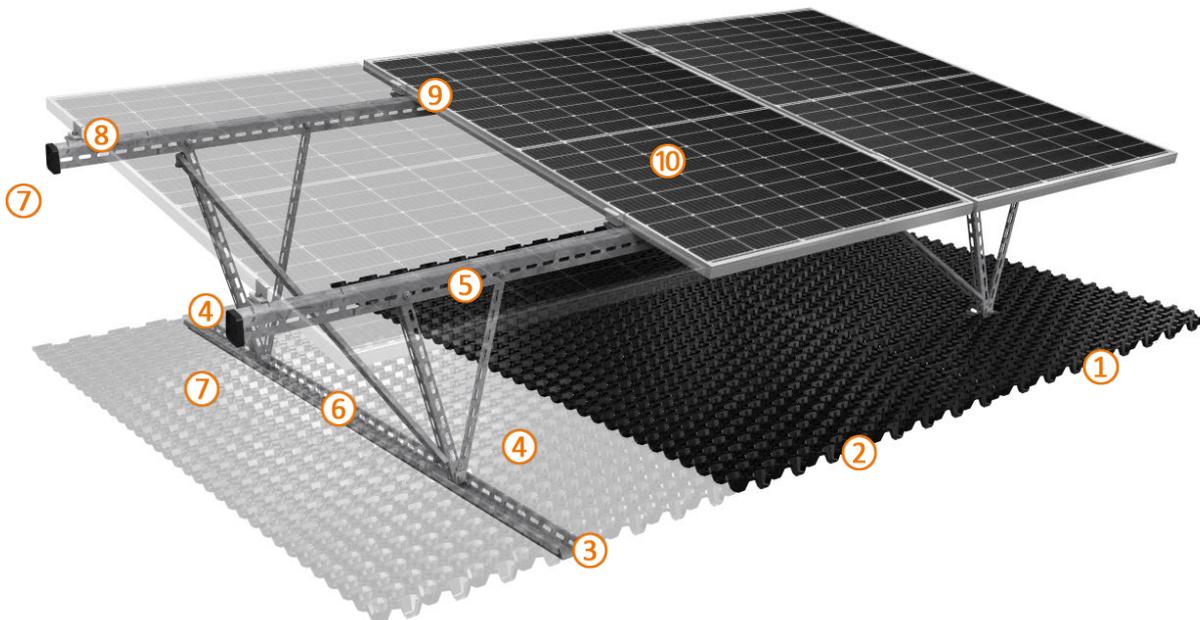
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2 System Overview

Bauder BioSOLAR G2 is designed for applications where both a green roof and solar PV solution are required together to meet project requirements. The green roof substrate and vegetation provide the ballast mechanism for the entire solution which removes the need for additional ballast or penetrating the waterproofing to secure the units to the roof and maximises the available area for vegetation.

Bauder Biosolar should be used in conjunction with our BauderFlora 3 seedmix which contains both drought and shade tolerant herb and wildflower species and is suitable for roofs with a fall of up to 5°.

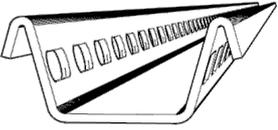
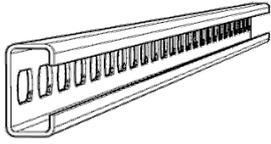
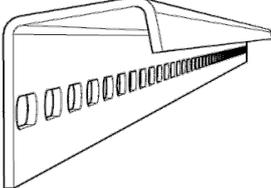


- (1) DSE40 anchor board
- (2) Standard DSE40 drainage board
- (3) Base rail
- (4) Pre-assembled V-beam short & long
- (5) Module carrier rail
- (6) Diagonal support
- (7) Module rail end cap
- (8) Module end clamp
- (9) Module middle clamp
- (10) Photovoltaic module

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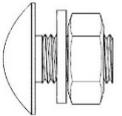
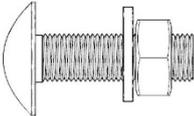
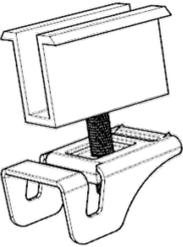
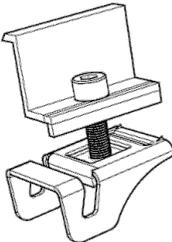
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3 Parts List

Image	Part name	Description
	<p>Bauder DSE 40 anchor board</p>	<p>Pressure-resistant drainage and water storage element for green roofs and accessible traffic areas; HDPE; 1.04 x 2.03 x 0.04 m</p>
	<p>Base rail 2 meters or 4 meters</p>	<p>Profile rail 2000 mm or 4000 mm perforated, d = 3 mm, support surface 77 mm, S420GD + ZM310AC</p>
	<p>V-carrier units long and short version pre-assembled</p>	<p>L-profiles 745 mm and 545 mm, 30 mm x 30 mm d = 2 mm perforated, hot-dip coated S250GD, ZM310 - zinc-magnesium alloy with adapter, spring lock washer and screw pre-assembled, can be folded out</p>
	<p>Diagonal support profile</p>	<p>C-profile perforated L = 1.24 m, d = 1.5 mm Hot-dip coated S250GD, Z275 - zinc</p>
	<p>Module carrier rail 6 meters</p>	<p>Profile rail 6000 mm perforated, d = 3 mm, FVZS420GD + ZM310AC (zinc-magnesium)</p>

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Image	Part name	Description
	Bauder module rail end cap	End cap for module support rail, polypropylene (PP)
	Buttonhead screw M10x20	Carriage bolt with square attachment self-locking in profile perforation, with washer; A2-70
	Buttonhead screw M10x30	Carriage bolt with square attachment self-locking in profile perforation, with washer; A2-70
	Pre-assembled module clamping hook set with middle clamp	Middle clamp M8, L = 70 mm, aluminium, distance 19 mm - module height 35 mm with cylinder screw DIN 912 M8x35 hexagon socket, locking washer and counter holder with thread M8, zinc-magnelis coating with earthing
	Pre-assembled module clamping hook set with end clamp	End clamp M8, L = 70 mm, aluminium, distance 19 mm - module height 35 mm with cylinder screw DIN 912 M8x35 hexagon socket, locking washer and counter holder with thread M8, zinc-magnelis coating with earthing

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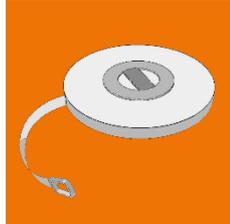
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4 Required Tools

› Measuring and installation tools and accessories



Chalkline



Tape measure › 15 m



Folding rule



Pen / chalk / marker

› Assembly Tools

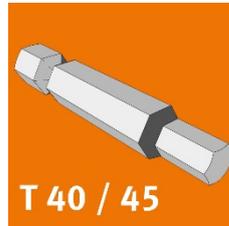


Cordless screwdriver



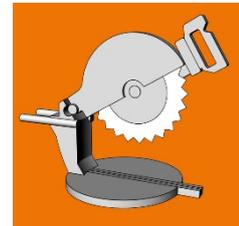
SW 17

Socket wrench
wrench size 17 (M10)
for cordless
screwdriver



T 40 / 45

Bit Allen screw
6 mm (M8)



Mitre saw



8 - 35 Nm

Torque wrench
torque-setting type



SW 17

Box nut
wrench size 17 (M10)
for torque wrench

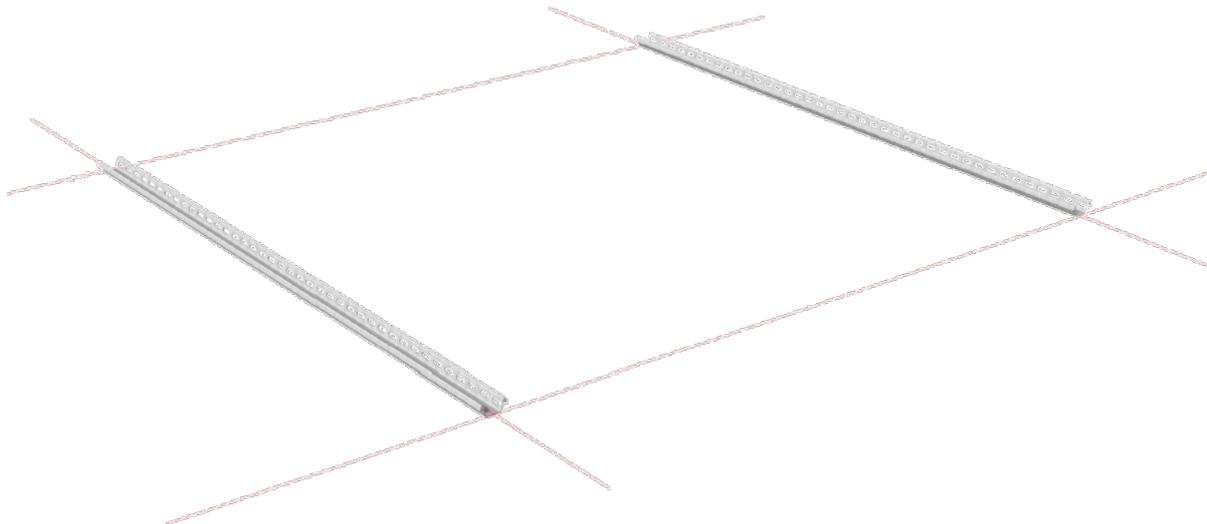
5 Assembly

5.1 Levelling and alignment of base rails

The roof should be clean of debris and coarse materials.

Mark out the installation grid on the roof surface/protection layer using a chalk line and measure the distances to roof edges or existing roof installations.

Align base rails according to the BauderSolar dimensioned roof layout.



TIP! Observe base rail layout plan

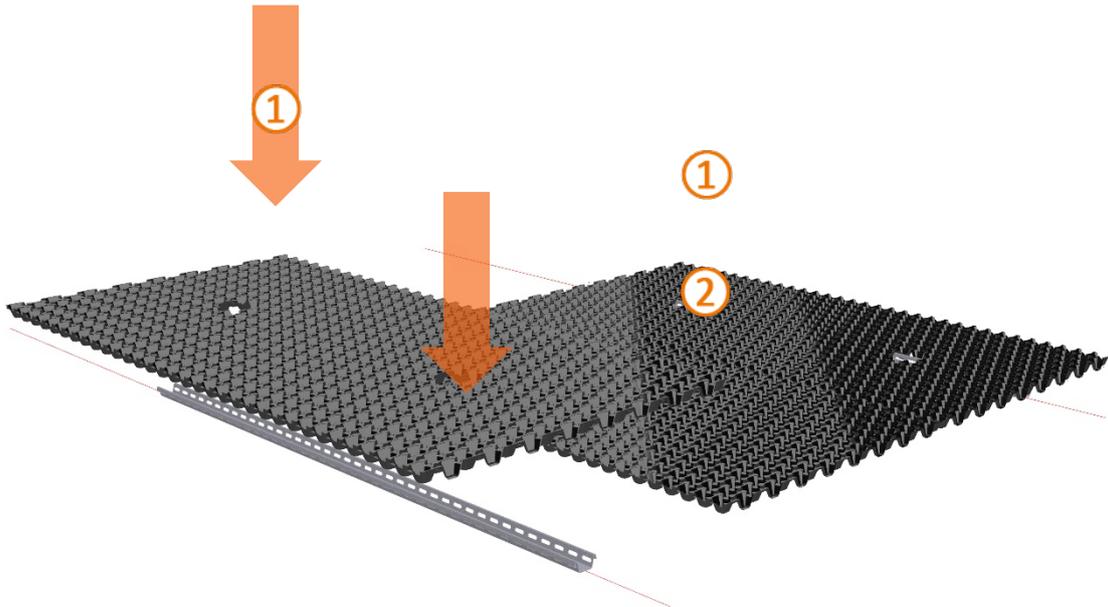
The alignment and measurement of the base rails is carried out according to the Bauder base rail plan.

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5.2 Laying the Bauder DSE 40 drainage board

Install DSE40 anchor boards over base rails (1) with holes centered over the base rails.
Close the remaining gaps with the unperforated DSE40 boards (2).

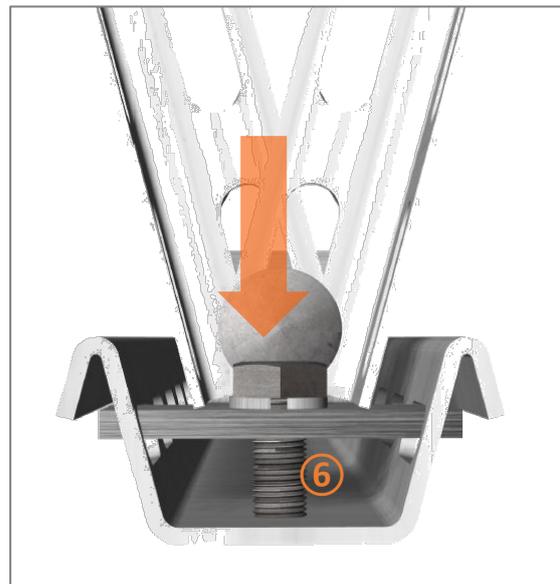
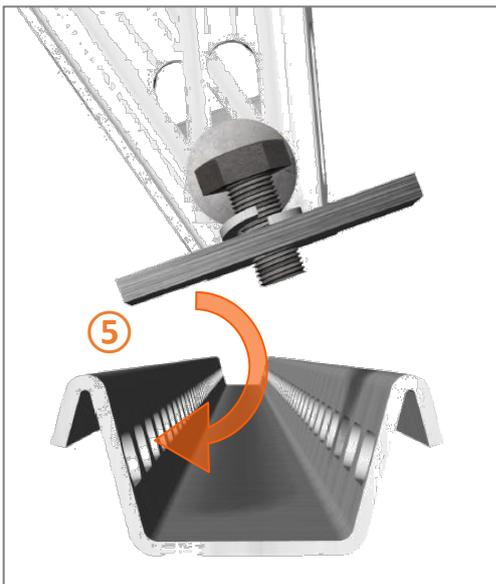
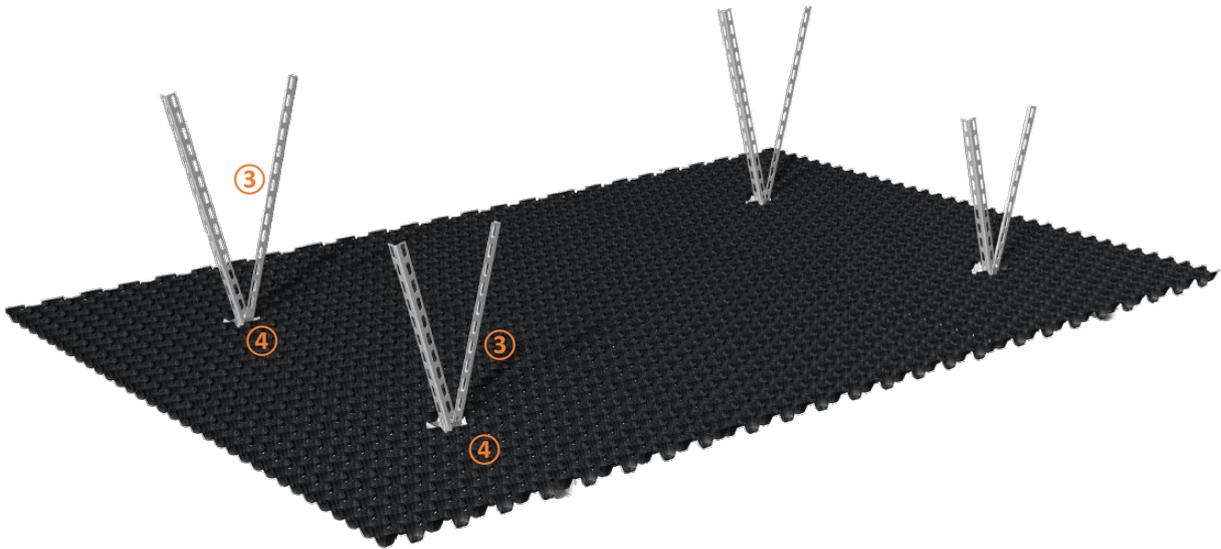


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5.3 Install V-carrier units into base rails

Guide long and short V-carrier units ③ alternately through the openings of the Bauder DSE 40 anchor boards with perforation ④ sideways into the opposite elongated holes of the base rails ⑤ and tighten with the support screw until you reach final suspension point ⑥



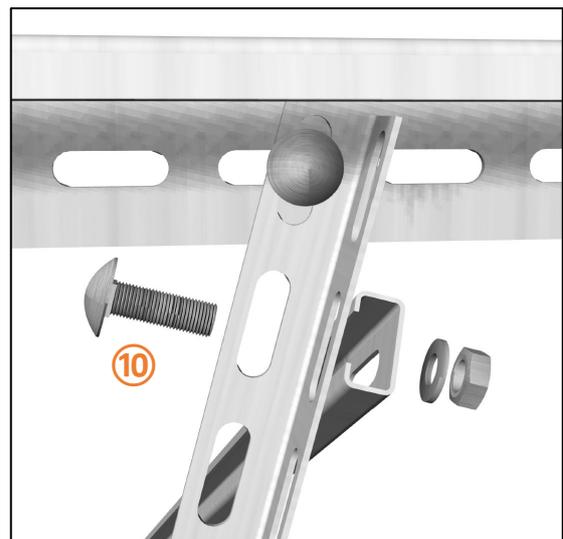
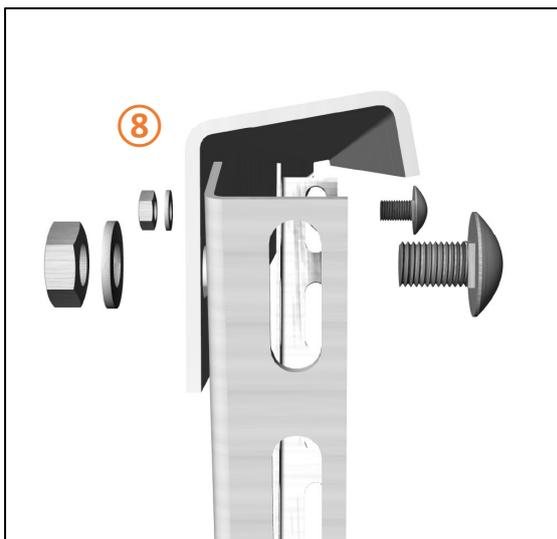
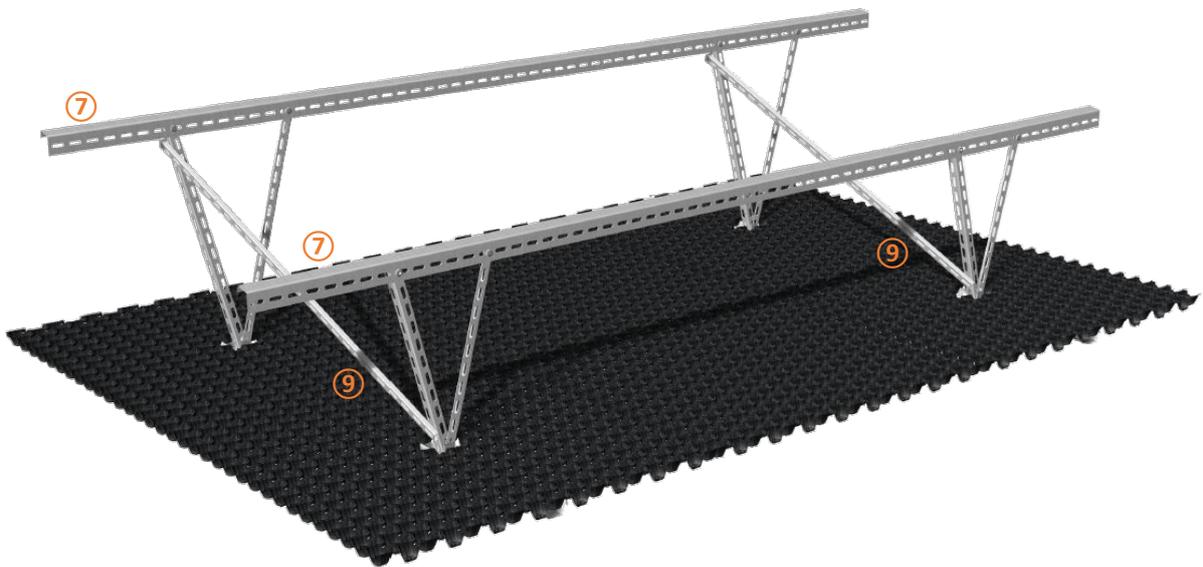
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5.4 Mounting of module support profiles and diagonal support profiles

Fasten the diagonal profiles ⑨ as reinforcement of the supporting structure to the short and long V-carrier units with button-head screws, washers and nuts through the overlapping elongated holes ⑩ Tightening torque 35 Nm.

Then fasten the module support profiles ⑦ to the V-carrier units through the overlapping elongated holes with button-head screws with square neck, washers and nuts ⑧ Tightening torque 35 Nm.



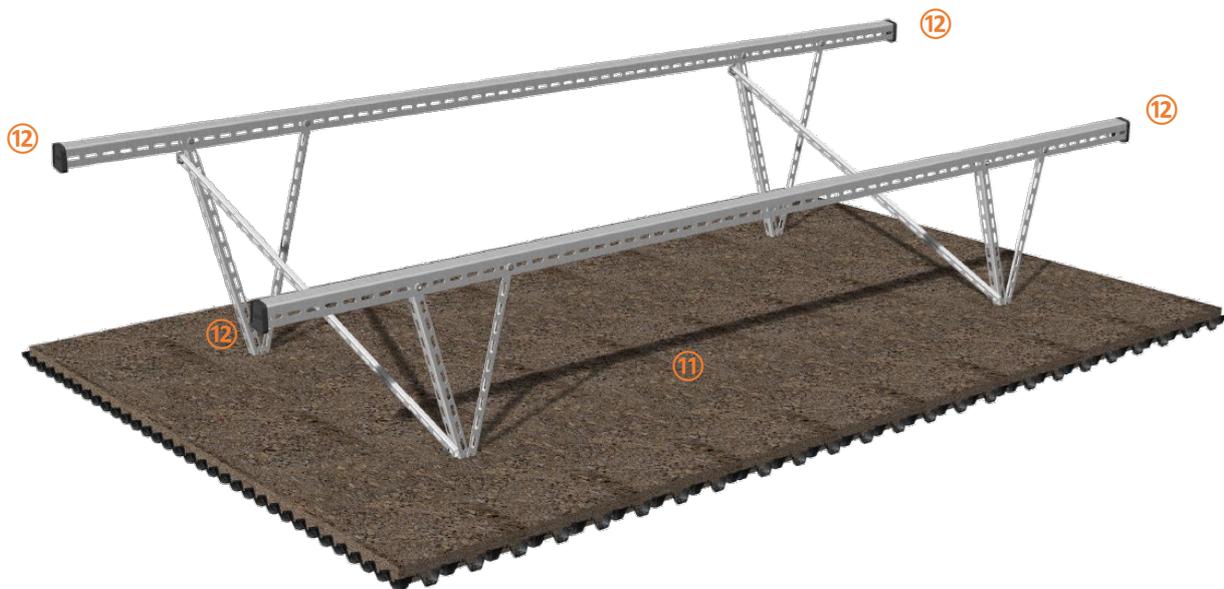
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5.5 Filling Bauder DSE 40 drainage layers with substrate

Apply the substrate ⑪ evenly over the Bauder DSE 40 mats at the appropriate depth according to the project-specific static ballast calculation.

Attach protective caps ⑫ to the ends of the module support profiles.



CAUTION! Wind uplift and ballast requirements

The volume/thickness of substrate per unit area is project specific and will vary between different wind load zones.

Please refer to the Bauder BioSolar G2 ballast layout plan for confirmation of substrate depths

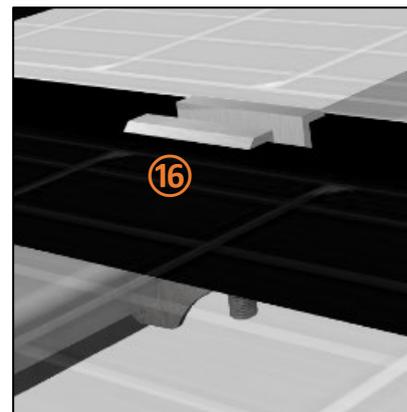
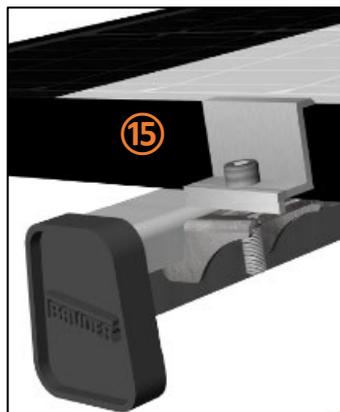
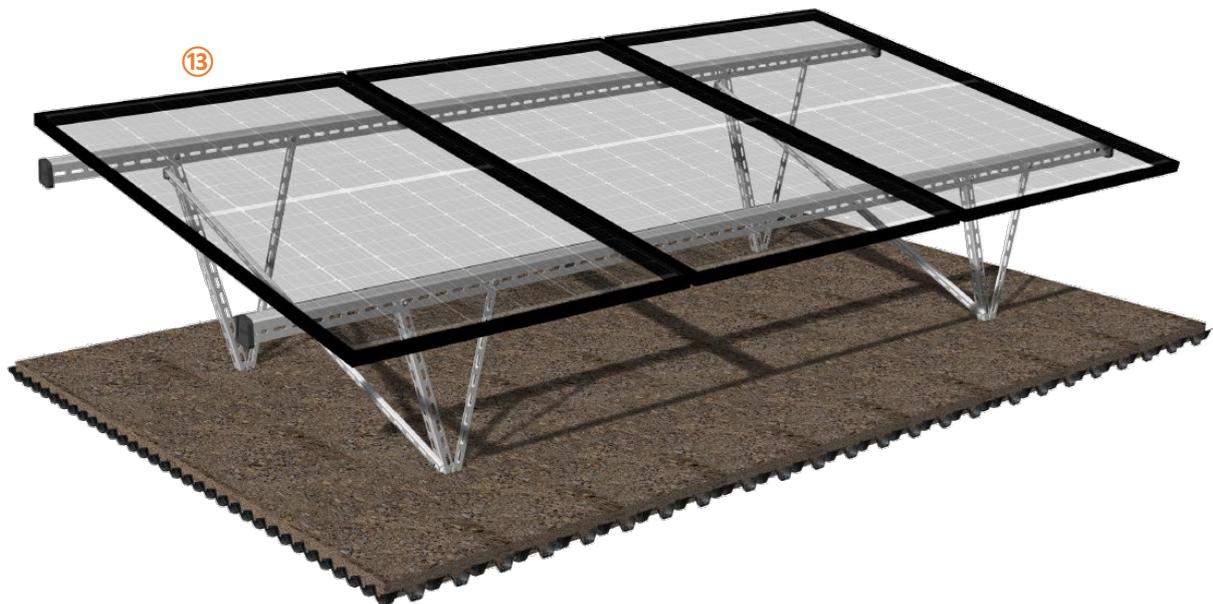
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5.6 Fastening of solar modules with clamping hook sets

Fasten the solar modules **13** centred above the module support profiles using the supplied clamping hook sets with **14** end clamps **15** and middle clamps **16** as appropriate.

To do this, guide the notch on the clamping hook in the module support profiles and tighten the module clamp using the screw connector.



CAUTION! Tightening torque of module clamps

When installing the module clamps, the tightening torque specified by the manufacturer of the solar modules should be followed.

Please follow manufacturer guidance for module installation

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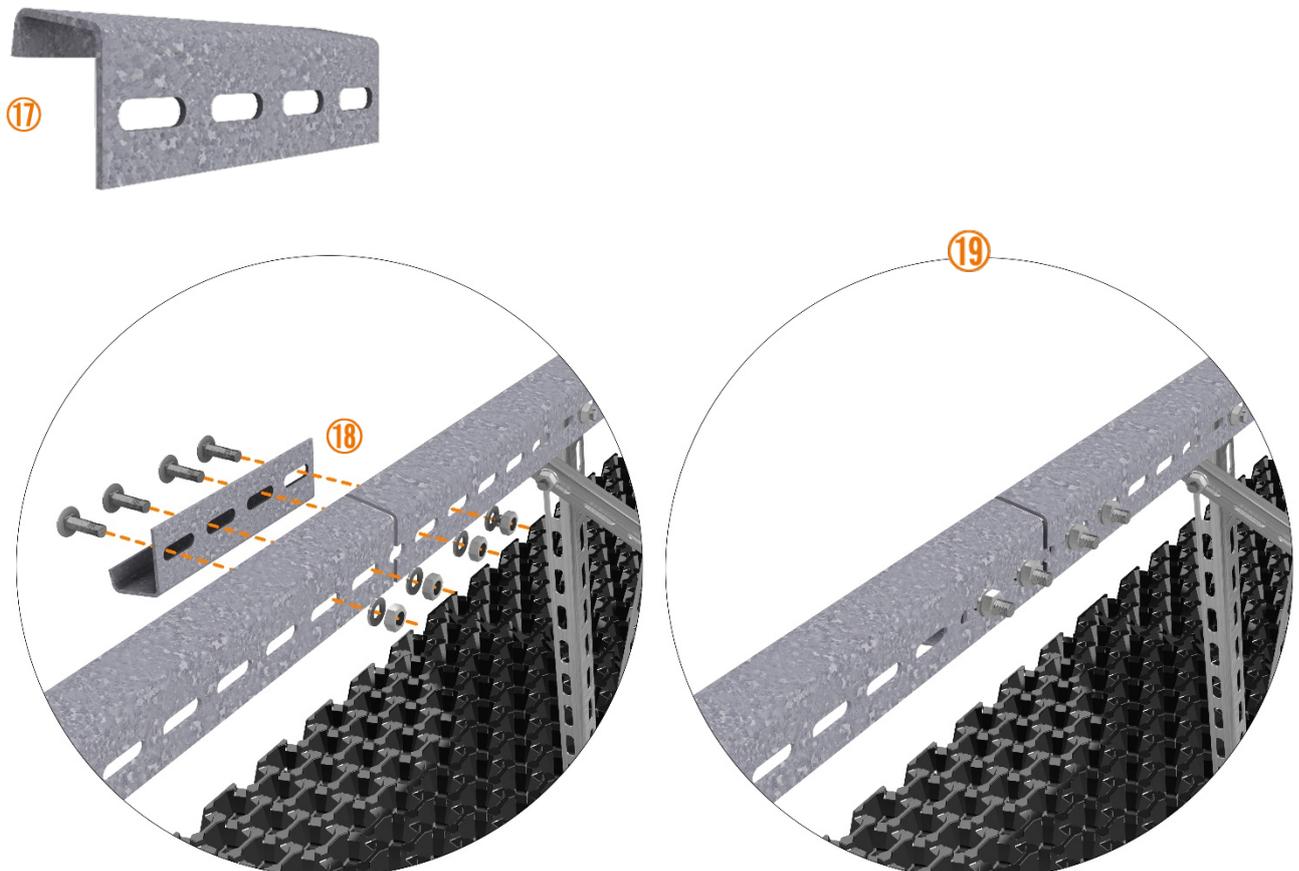
5.7 Manufacture and assemble rail connectors for module carriers

For longer module rows, the module carriers profiles must be connected to each other via a profile connector (17)

For this purpose, 200mm module rail connectors can be cut from the waste module rails. Spray zinc spray on all cut edges for corrosion protection.

The profile connectors then mount the profiles between the module carriers to be connected each via 2 pieces of flat round head screws M10x30 with square attachment, washer and nut (18) (19)

Tightening torque 35 Nm.





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