

connect

®

Landscape South Manual

blubase[™]
STRONG IN SOLAR SUPPORT

! OBSERVE THE APPLICABLE OCCUPATIONAL HEALTH AND SAFETY REGULATIONS AT ALL TIMES

PREPARATION

Required tools:

- Measuring tape
- Measuring profile
- Spiral drill
- Hexagon socket 10mm
- Hexagon bit 8mm

1. Check that the roof subsurface is sufficiently strong (replace if necessary).
2. Observe the NEN standards at all times.
3. Before installing, clean the roof thoroughly and measure any obstacles or barriers before you start mounting.
Always start your installation from north to south.

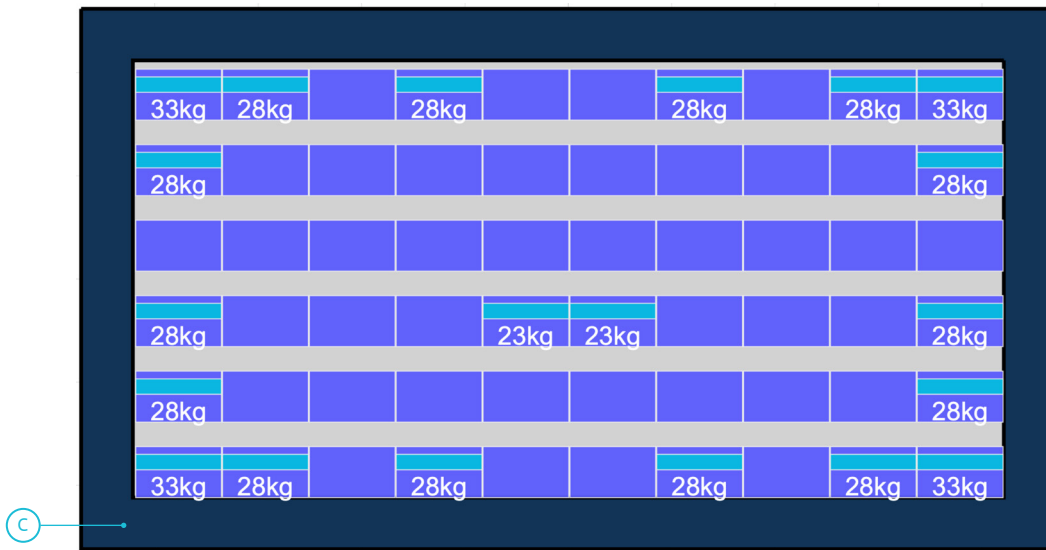
BEFORE YOU GET STARTED

Mounting a PV system changes the building load, which may affect the load-bearing structure. You should therefore have a qualified technician recalculate this load. In doing so, take account of the latest regulations, especially NEN 6702, NEN 7250, NEN1991-1-4 A1 + C2/NB and NEN 1991-1-3.

Also ask the insurer and the designer to approve:

- the loads on the building due to the additional weight of the PV system;
- the loads on the building due to the changed geometry of the roof plan;
- the loads on the building due to the dynamic wind pressure and precipitation;
- the loads on the building, the roofing and the insulation during mounting;
- the load of the contact points on the compatibility of the insulation and roofing;
- the compatibility of the roofing with the load-bearing structure at the contact points;
- the mutual effects from the thermal activity of the building and the PV system;
- the effects from possible movements in the roof and the PV system.

While care has been taken when producing the calculations and dimensions in the Blubase calculation tool, no rights can be derived from them. The prices are indicative and may vary; for example, due to rising prices of raw materials. You can find the general terms of delivery on blubase.com.



FREE EDGE REGION

NEN 7250 stipulates that solar panels should not be mounted all the way to the edge of the roof, where strong wind turbulence may occur. The region around the edge of the roof should therefore be free of solar panels: the free edge region.

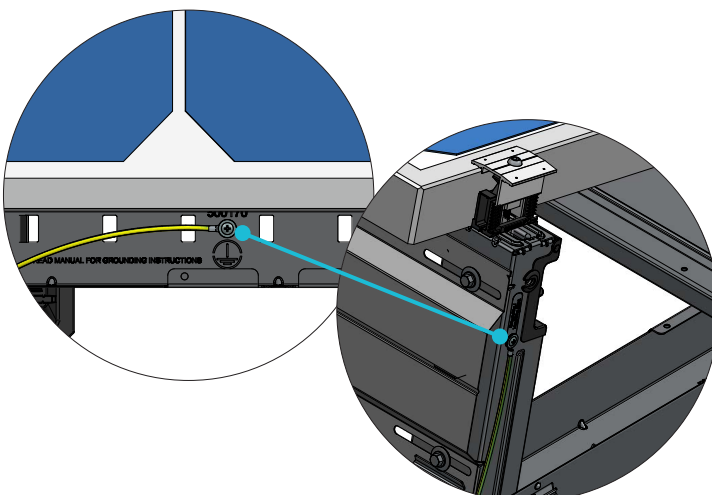
If you are mounting solar panels on roofs over 12 metres, you may need to take additional measures. Please consult your contact person.


Measure the free edge region from the outer border (see the blue border in Figure C). You can look up the size of the free edge region in the table. This information is also available in the ballast plan.

Roof height (meters)	Free edge region (meters)
1	0,75
2	0,75
3	0,75
4	0,75
5	0,84
6	1
7	1,18
8	1,33
9	1,5
10	1,67
11	1,83
12	2
Higher	Ask for advice

EQUALISATION

The Magnelis steel and the aluminium take care of equalisation. They prevent tension from building up in the material and failures from occurring in the inverters or microinverters. (NEN 1010:2015)



 **TIP:** Use this point to earth.

MOUNTING PLAN

STAP 1

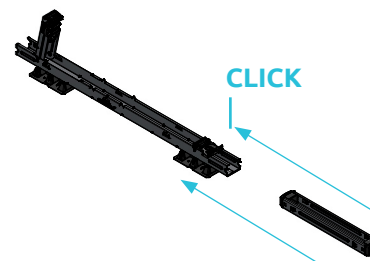
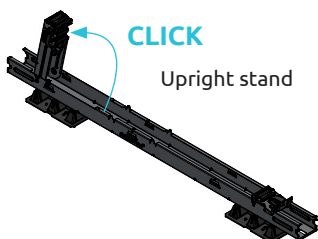
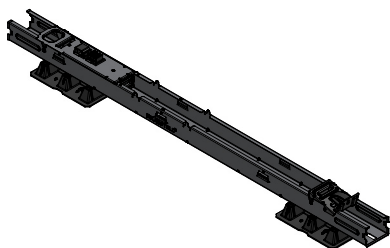
Use the mounting plan and the ballast plan from the Blubase calculation tool. Determine the first mounting point within the free edge region (see Page 5) and continue working North to South from there.

33kg	28kg	28kg	28kg	28kg	28kg	33kg				
28kg						28kg				
							28kg	23kg	23kg	28kg
							28kg			
33kg	28kg	28kg	28kg	28kg	28kg	33kg				

UNDERLYING ELEMENTS

STAP 2

Take the basic component and always click the stand to its upright position first. Place the basic component on the first mounting point. Next, take the connector and click it into place at the front. Please note: you should be able to hear a clear click, which means that the barb entered into the hole correctly.



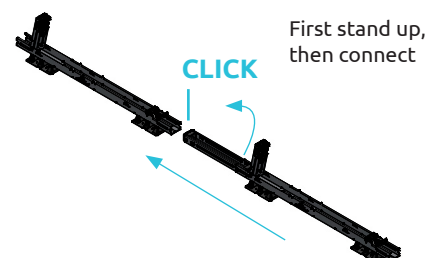
TIP: If you are working on a gravel roof, consider the use of our raising blocks. These blocks fit neatly underneath the bases of a basic component. As a result, the mounting system will be raised and will not move.



TIP: It is crucial that you maintain straight lines and 90-degree angles when mounting. Only then will the solar panels connect to the stands. One solution is to use a mason's line; see the example.

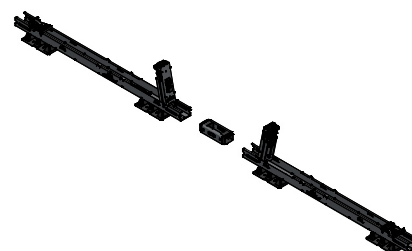
STAP 3

Connect the second basic component to the first and click another connector into place. Continue with the next basic components and connectors until the first row has been finished according to the mounting plan.



EAST-WEST SET-UP

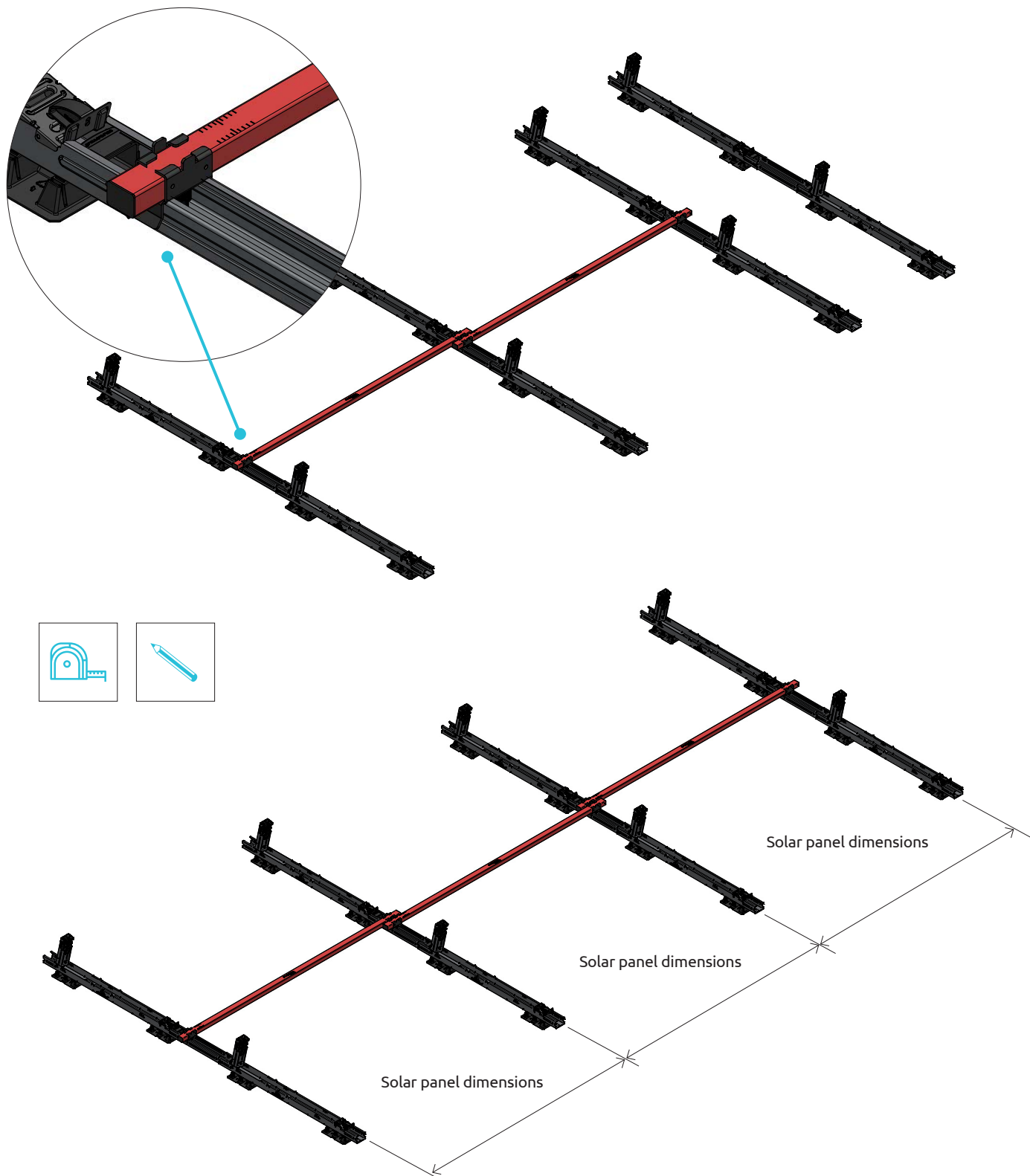
In case of an East-West set-up, you must rotate the basic component and use the East-West connector. Move the stand to its upright position before you click the connectors into place.



STAP 4

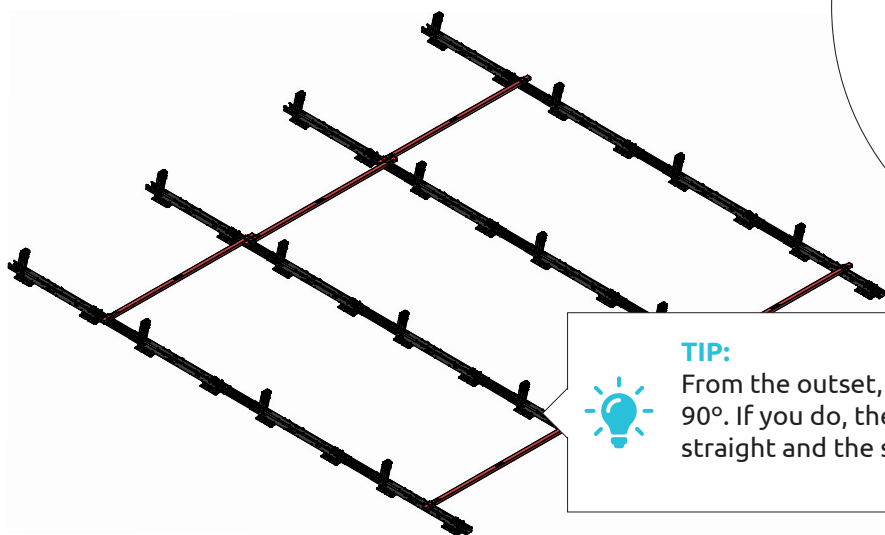
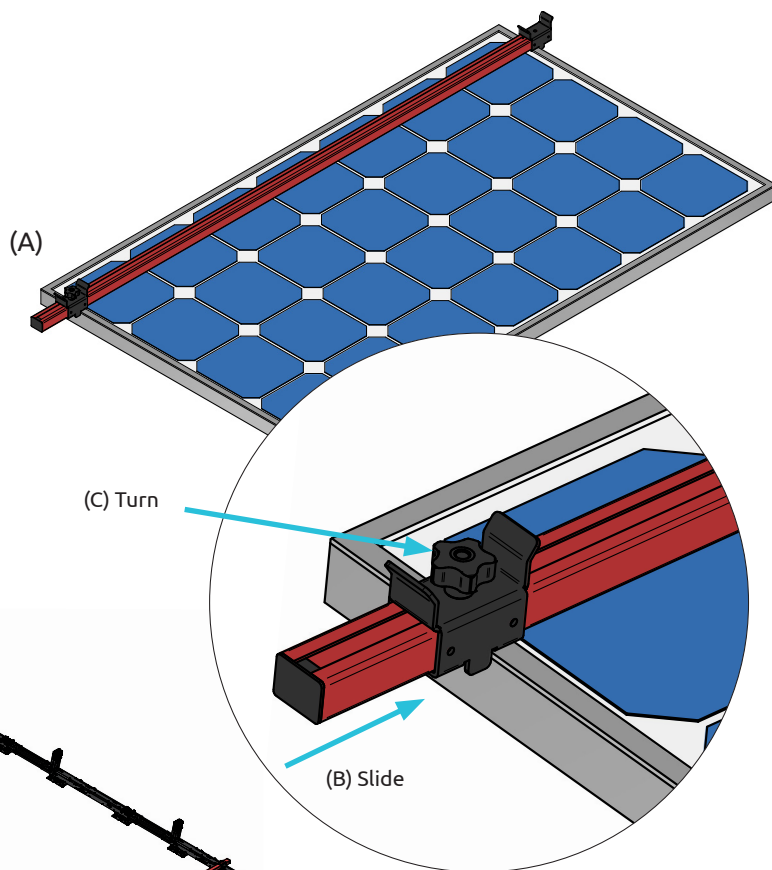
Place the second row in the exact same way as the first row. The length of the solar panel determines the spacing between the rows. Place the second row in the exact same way as the first row. The length of the solar panel determines the spacing between the rows. Determine the exact distance using the Measuring profile.

Repeat these steps for all rows to carry out the mounting plan. The next page contains instructions on using the Measuring profile.



USING THE MEASURING PROFILE

Place the Measuring profile (A) across the breadth of the panel, push home the slide (B) and turn it tight using the knob (C).

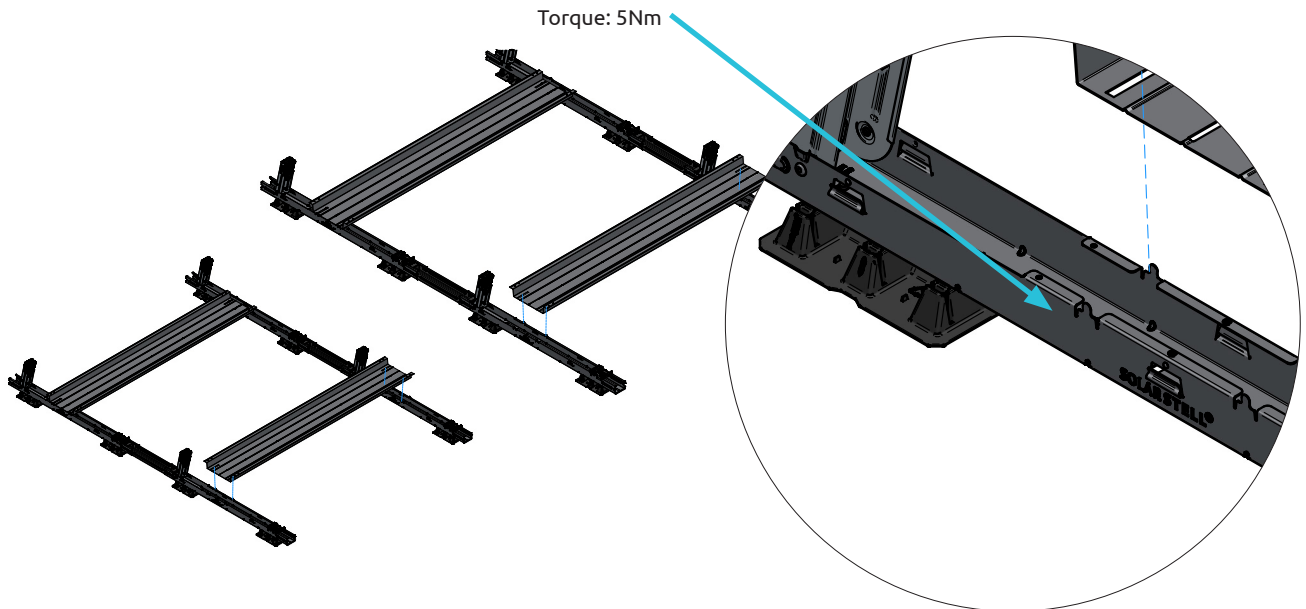
**TIP:**

From the outset, be sure to use right angles of 90°. If you do, the mounting system will always be straight and the solar panels will always fit.

BALLAST BOXES

STAP 5

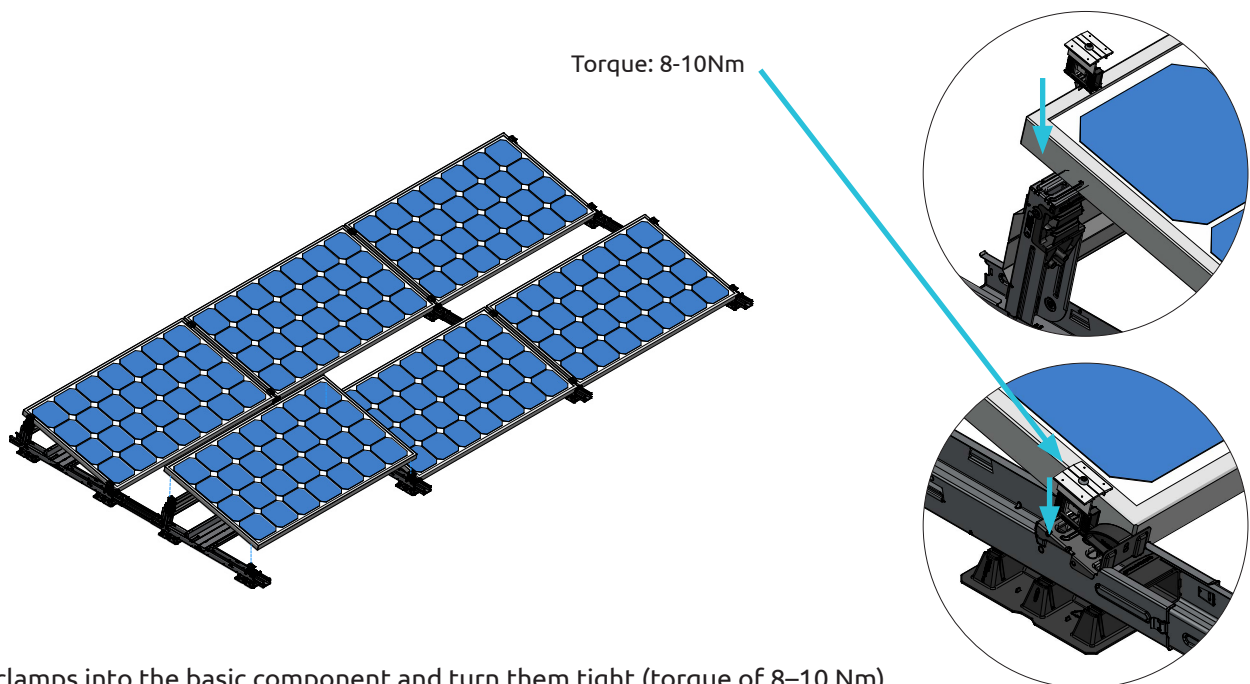
Place the ballast boxes containing the ballast in accordance with the mounting plan. It is not required to screw down the boxes. However, you are advised to do so in case of large projects, as this process prevents the system from moving. The basic component has already been fitted with rough-drilled holes.



SOLAR PANELS

STAP 6

Place the solar panels against the mounting points. Next, conceal the cables in the cable management system.



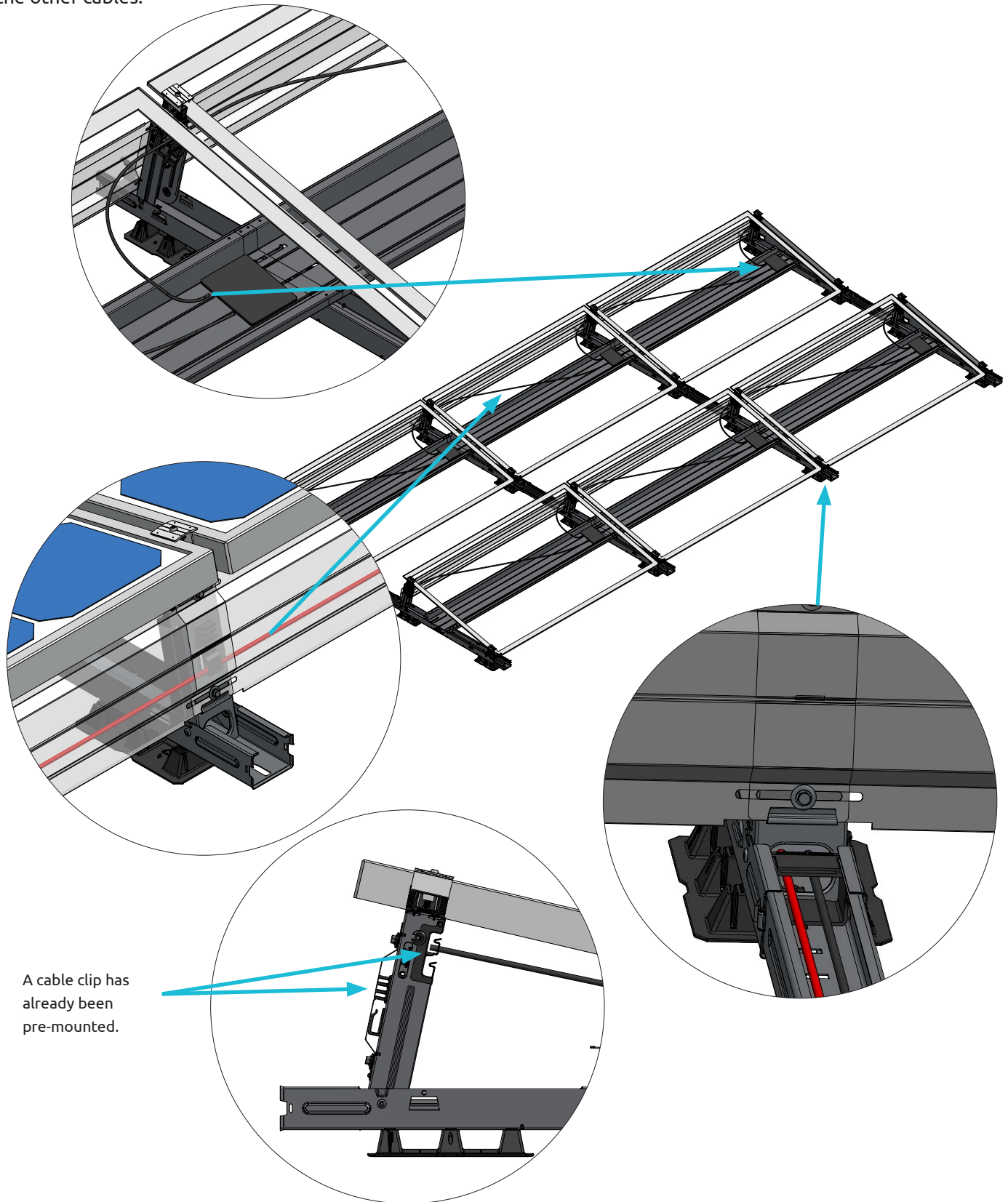
Click the clamps into the basic component and turn them tight (torque of 8–10 Nm).

* There is little difference between mounting landscape and portrait set-ups. In case of portrait mounting, there are three clamp positions and two stands.

CABLE MANAGEMENT

STAP 7

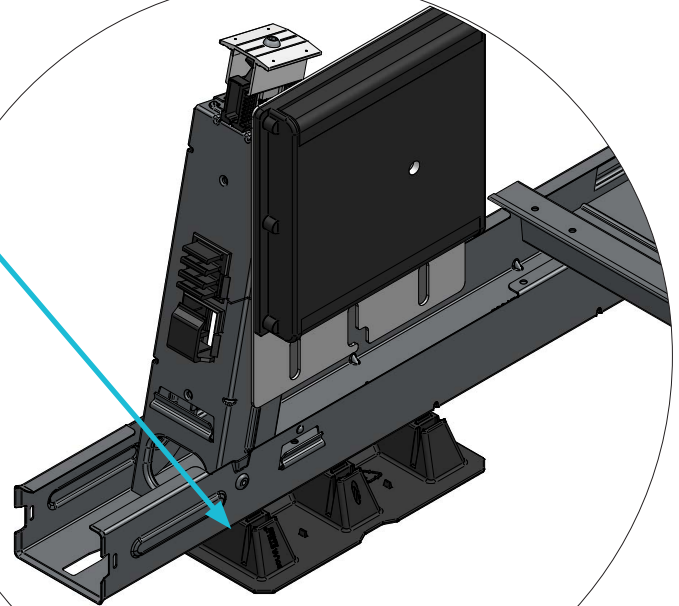
Place the string cable through the upper ridge of the cable conductor at the inside of the stand. It should be easy to place the return cable on the outside through the front cable conductor. The cable tray contains a shielded area for the other cables.



CLICK

**TIP:**

Are you using optimisers or micro-inverters? Place them in the base of the basic component and slide them into place until they click.

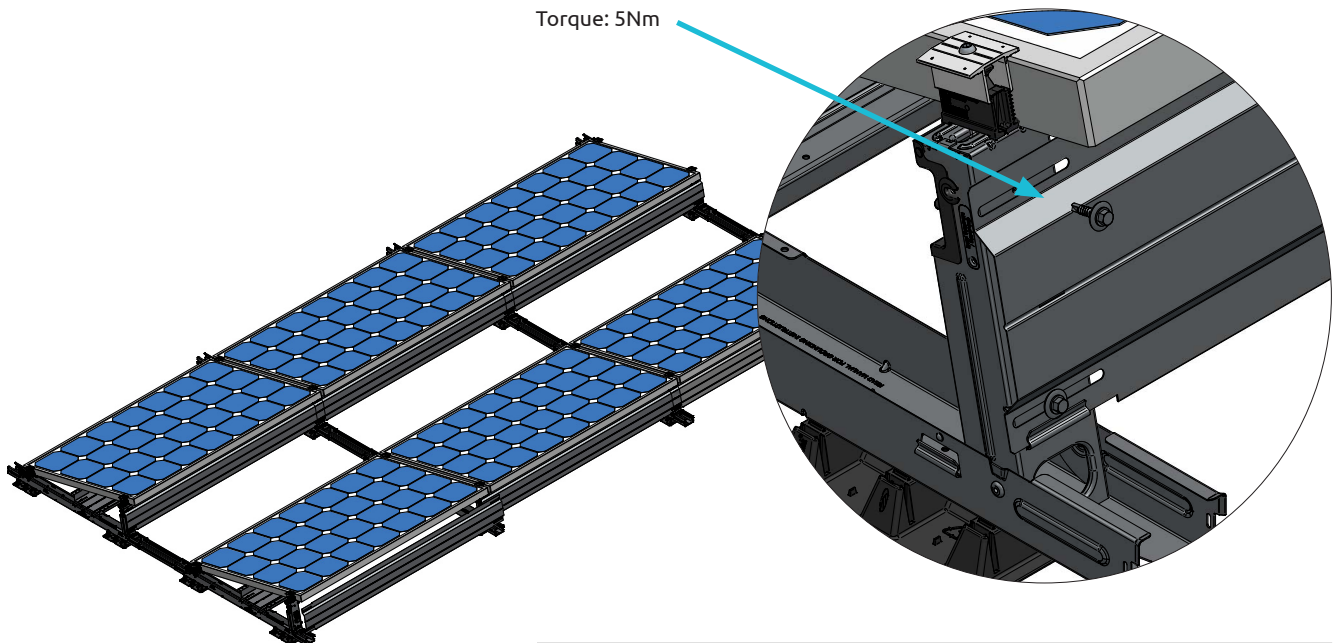


REAR PANELS

STAP 8

Place the rear plates in the fastening points at the bottom of the stand. Each stand has two rough-drilled threaded holes (top and bottom). Use both for the stands at the edge of the field, but only the top one for the stands in the centre. The screw torque is 5 Nm.

Torque: 5Nm

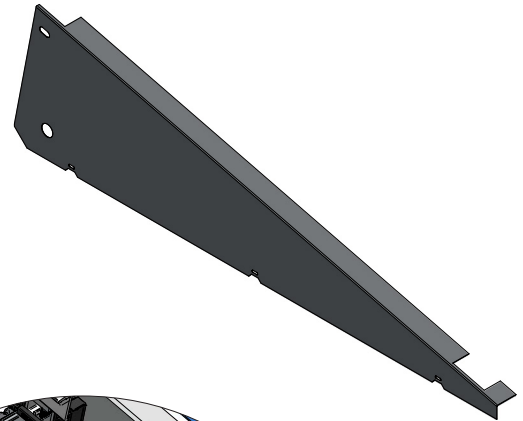
**TIP:**

It goes without saying that you do not need a rear plate for an East-West set-up, as the solar panels will protect against the wind themselves.

SIDE PANELS (OPTIONAL)

STAP 9

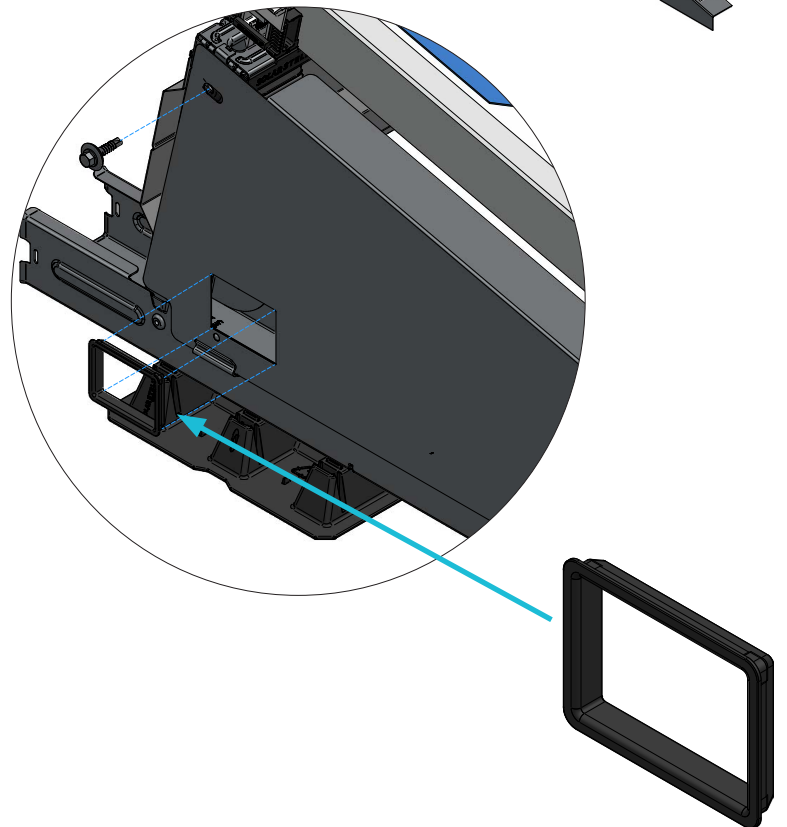
Side plates are optional. When using them, click them into the bottom of the basic component and fasten them to the mounting point of the stand using a single screw.



GROMMET (OPTIONAL)

STAP 10

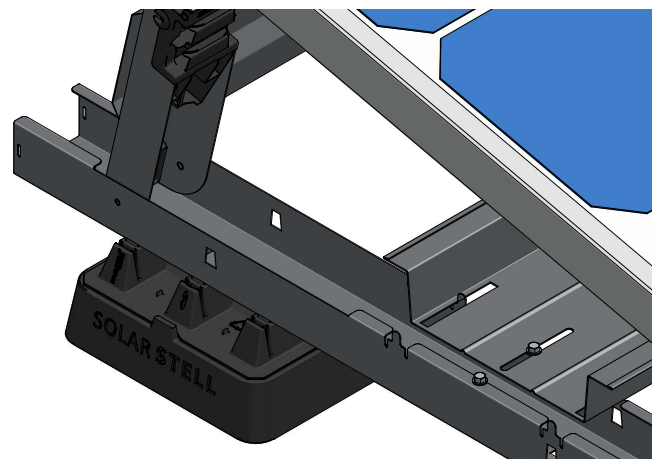
Grommets are available for side plates and basic components. They conduct the cables without risking cut-ins or cracks.

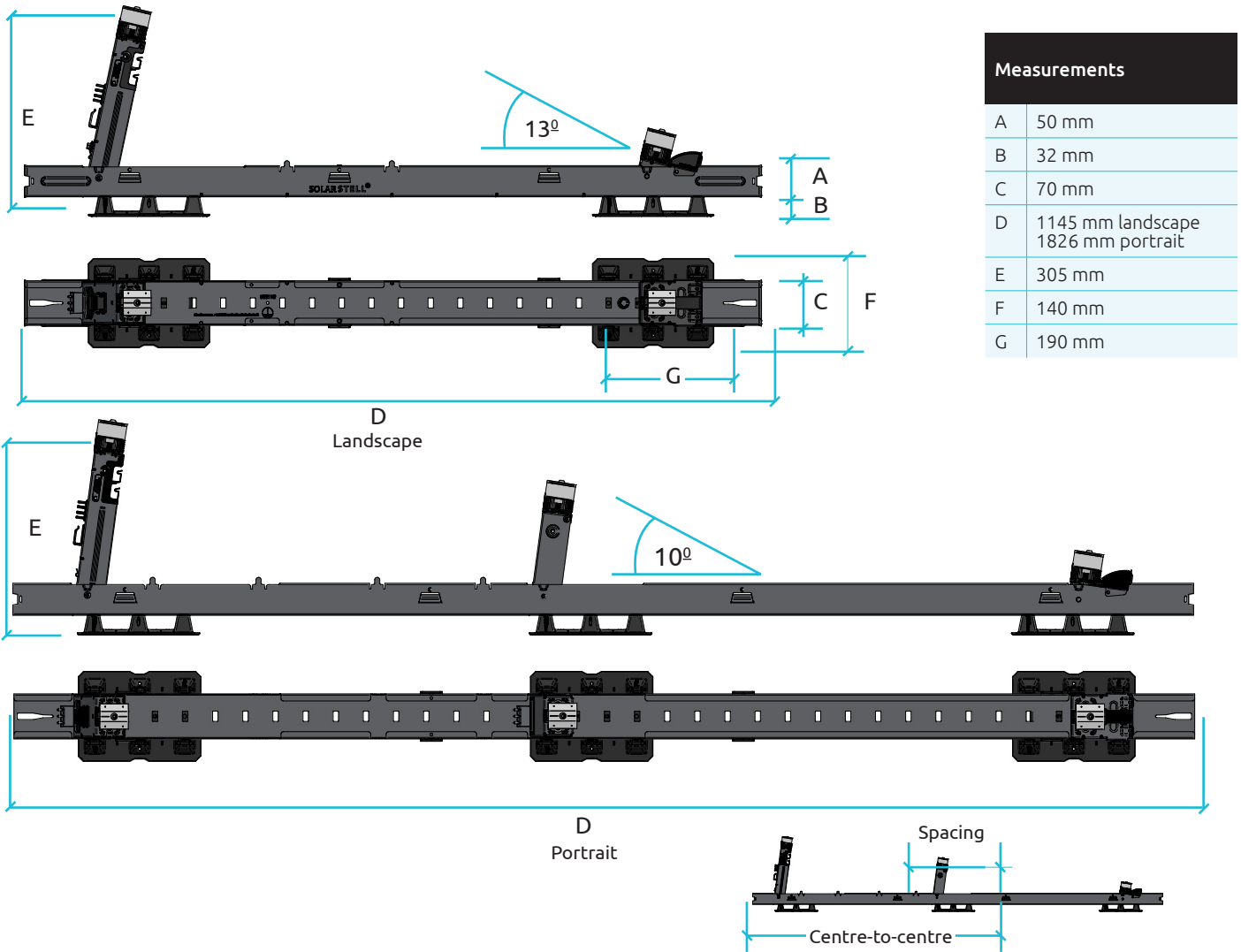


RAISING BLOCK (OPTIONAL)

STAP 11

If you are working with gravel or you wish to elevate the mounting system for another reason, consider the use of our raising blocks. They fit neatly underneath the bases of a basic component.





Measurements	
A	50 mm
B	32 mm
C	70 mm
D	1145 mm landscape 1826 mm portrait
E	305 mm
F	140 mm
G	190 mm

	Description	Center-to-center Landscape	Center-to-center Portrait	Spacing
	East-West Connector Article No 500050	2300	2980	n/a
	1320 Connector Article No 500013	1320	2000	320
	1500 Connector Article No 500015	1500	2180	500
	1700 Connector Article No 500017	1500	2380	700

BACK PLATES

Item	description	length	smallest panel	largest panel	furrows
500231	Connect portrait	1128	956	1093	1
500232	Connect portrait large	1228	1056	1193	3
500230	Connect landscape small	1740	1548	1705	2
500250	Connect landscape large	1862	1690	1827	3
500236	Connect 66-cells	1995	1783	1920	1
500240	Connect 72-cells	2120	1948	2085	2
500245	Connect 72-cells large	2235	2063	2200	3

BALLAST BOXES

Item	description	length	smallest panel	largest panel	furrows
500431	Connect portrait	1060	972	1084	1
500432	Connect portrait large	1160	1072	1184	3
500430	Connect landscape small	1705	1617	1729	2
500435	Connect landscape large	1790	1702	1814	3
500436	Connect 66 cells	1885	1797	1909	1
500440	Connect 72 cells	2068	1980	2092	2
500445	Connect 72 cells large	2165	2077	2189	3

*above 1620mm the PV-panel is no longer supported at the bottom. Check the manual if this is allowed.

DISCLAIMER

BLUBASE

- This manual is a general guide (and is therefore not specific to one project) for the straightforward and efficient installation of solar panels using the Blubase mounting system. No rights may be derived from this manual.
- For the installation of the Blubase connect mounting system the buildings should have a height of max. 12 metres. If the building is taller, please contact Blubase in advance for a project-specific, customised solution.
- If a flat roof is sloping more than four degrees, the Blubase connect mounting system must be secured/anchored to prevent movement.
- An online calculation tool is available for the ballast calculation. Although this tool was developed in collaboration with the TNO Bouw research organisation according to NEN 7250, the results should be used as a guideline only. Blubase does not supply any ballast material.

IMPORTANT

- Installing solar panels on an existing building will change its structural load and/or construction. We therefore recommend that the structural calculations for an existing building are updated by a specialist, taking into account the solar panels to be placed and current regulations such as NEN6702, NEN7250, NEN1991-1-4+A1+C2:2011/NB:2011 and NPR 6708:2013 in particular for wind, snow and water loads.
- The building insurer must be contacted in advance.
- The following building-related elements should be checked and approved in view of the existing structural arrangements:
 - The additional weight load of the entire PV system that will be installed
 - Geometry change of the roof surface
 - Wind pressure, snow load and water load, with simulation of accumulations
 - The loads for the structure, roof coverings and insulation during the installation
 - The suitability of the roof covering and insulation (point pressure) at the contact points between the mounting system and the existing construction
 - The consequences of the thermal interaction between the building and the PV system
 - The consequences of any vibrations of the building and/or PV system