LANDATU
SOLAR

USE AND INSTALLATION MANUAL

LANDBLOCK® 15°

SUPPORTS WITH WATER BALLAST

FOR SOLAR SYSTEMS ON ROOFTOPS
OR PASSABLE FLAT SURFACES

PRODUCT PATENTED LANDATU SOLAR

DEKRA zertifiziert

TÜV SÜD Strength Test

landatusolar.com

V250128

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LANDBLOCK® 15º | LANDATU SOLAR

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Fast installation

Without perforating the rooftop

Without heavy machinery

⚠ This use and installation manual must be followed for LANDBLOCK® installation.

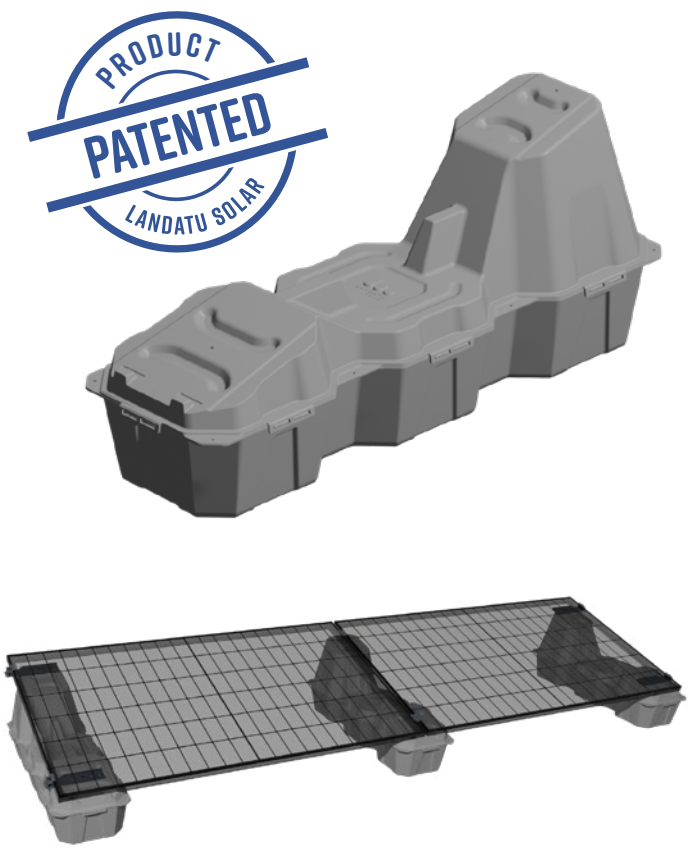
LANDBLOCK® 15º

SUPPORTS WITH WATER BALLAST THE BEST SOLUTION FOR SOLAR SYSTEMS!

LANDBLOCK® 15º is a support with water ballast that is perfect for installing solar systems on any flat surface (rooftop, ground, etc.).

Simplify solar panel installation with LANDBLOCK® 15º and forget concrete supports.

Technical Information	
Composition	HDPE
Support tilt angle	15º
Weight (without ballast)	3 kg
Dimensions	380 × 1150 × 480 mm
Units/pallet	100 units
Ballast capacity	56 L (water), more than 100 kg (gravel, sand, concrete...)

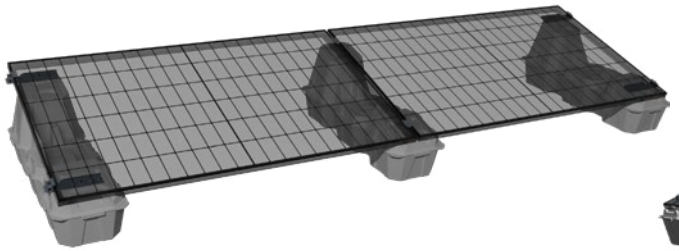


Advantages

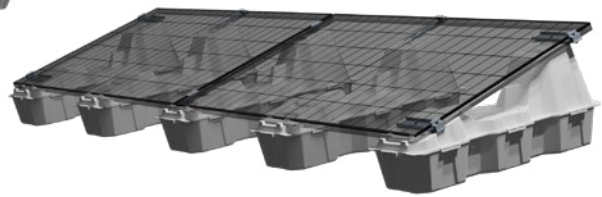
- ✔ Minimise costs and shorten installation time.
- ✔ Simplify everything:
  - ✖ No perforations
  - ✖ No foundation
  - ✖ No metal structures
  - ✖ No concrete
  - ✖ No heavy machinery
- ✔ Lightweight and stackable Get rid of heavy supports and lower transport and storage costs.
- ✔ LANDBLOCK® 15º lets you adjust the ballast weight depending on the rooftop.
- ✔ Evaporation tests have been done that show the water doesn't evaporate.

INTENDED USE

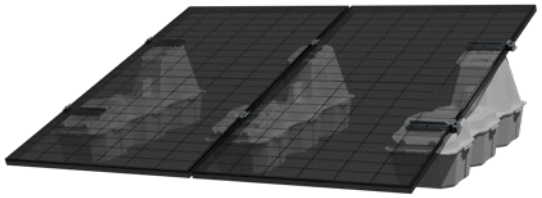
- ✔ LANDBLOCK® 15° is designed exclusively for use on rooftops or flat surfaces (max. 5°).
- ✔ Different ballast materials, like water or gravel, can be used with the support depending on the project requirements.
- ✔ The solar panels are installed directly on the support using the connectors without having to assemble a metal or concrete structure.
- ✔ The complete support has a mass of 3 kg, so you DON'T need to use a forklift or other lifting device.
- ✔ The lugs on the LANDBLOCK® 15° can be used to channel the electrical wiring in a safe organised way.
- ✔ With the horizontal panel, all configurations (N+1, 2N+1 and 2N) are possible. However, installations with the panel in vertical position only allow the N+1 configuration.
- ✔ With LANDBLOCK® 15°, east-west installations are possible. Scan the QR and you will be able to access the manual for this type of configuration.



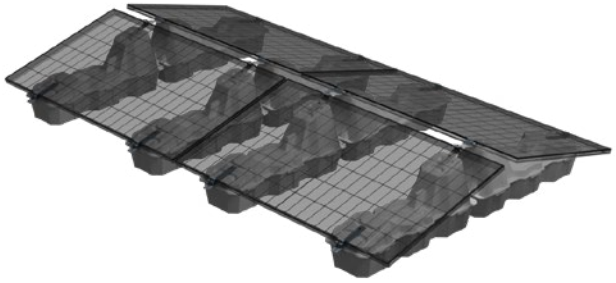
Horizontal N+1 configuration.



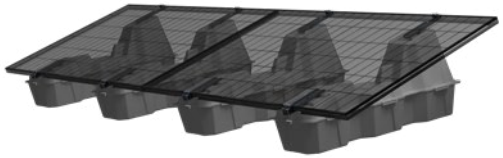
2N+1 configuration.



Vertical N+1 configuration.



East-west configuration.



Horizontal 2N configuration.

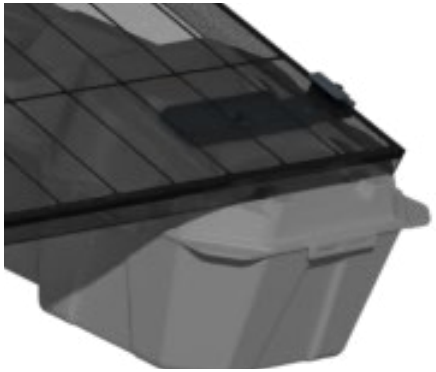
TUTORIALS

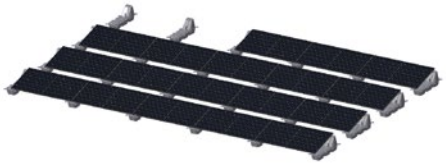
INSTALLATION IN JUST 4 STEPS

1 — 2 — 3 — 4

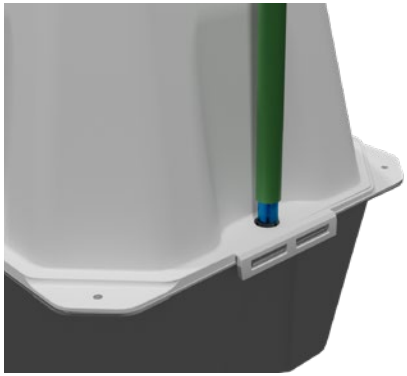
POSITION THE SUPPORTS

ATTACH THE PANELS TO THE LANDBLOCK® 15°

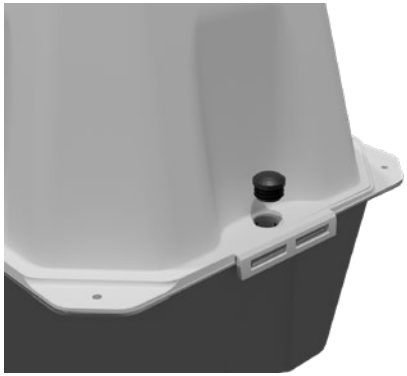


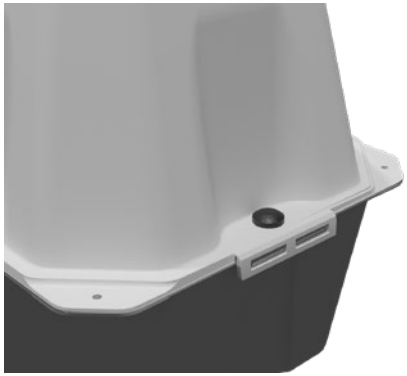


USE WATER FOR BALLAST



PUT THE PLUG ON



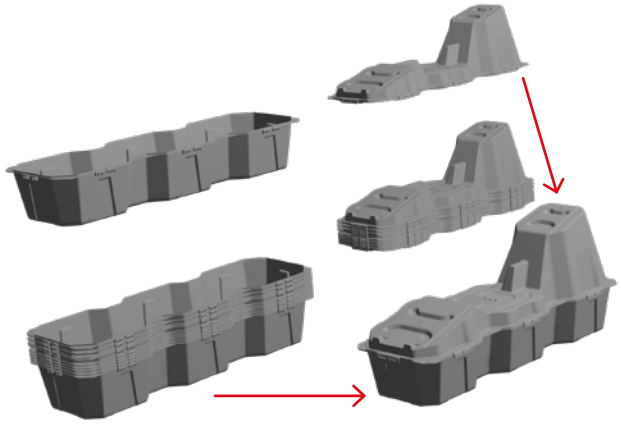


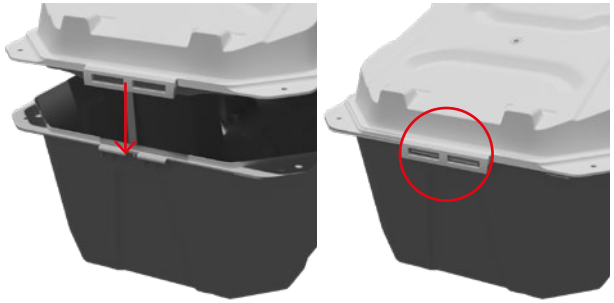
1 LANDBLOCK® 15° positioning

Step 1 A

To assemble the LANDBLOCK® 15° put a cover on each base and push the 'click' closure (without tools).

Important: Fit the cover on the base properly so it closes properly and the water doesn't evaporate.





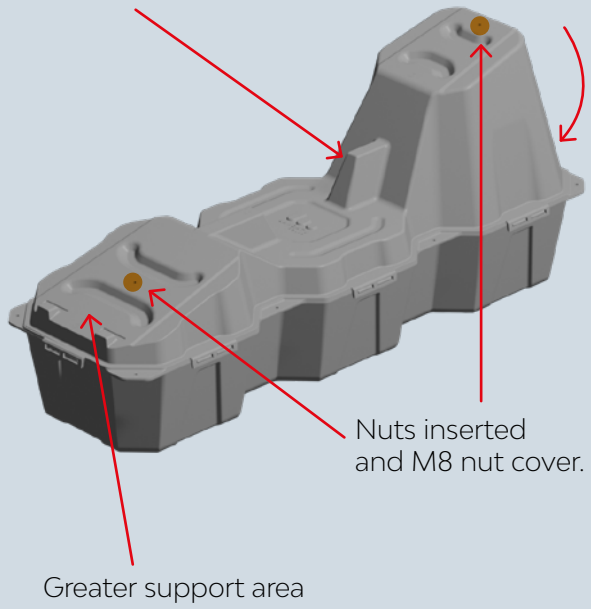
Step 1 B

Lay out the LANDBLOCK® 15° in the required configuration depending on the size of the module you're using. You should pay attention to the distance between the panels (e.g. 2 cm).

Recommendation: Put the first and last LANDBLOCK® 15° on every row in the area and run a line from the first lug to the last one to use as a guide for levelling and lining up the rest of the LANDBLOCK® 15°.

NEW

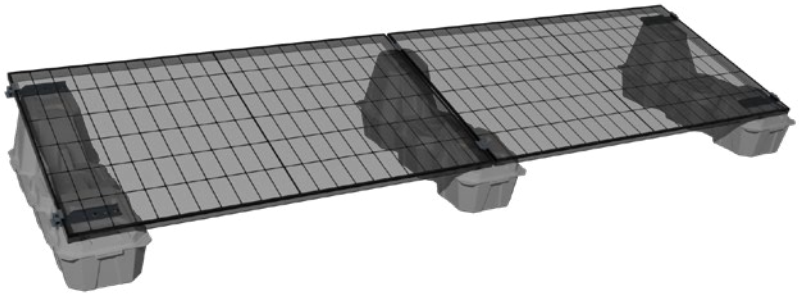
The anchor areas of the LANDBLOCK® 15° have been reinforced to improve panel attachment..



2 Installing connectors and panels

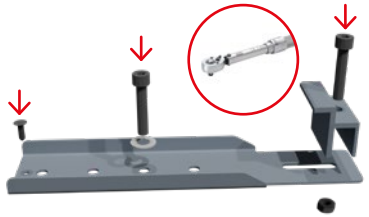
2.1 Horizontal N+1 installation

Valid configuration for all kinds of panels wider than 990 mm



Step 2.1A

Screw the plates with M8 screws using a torque wrench. Use the small holes to secure with lag screws.

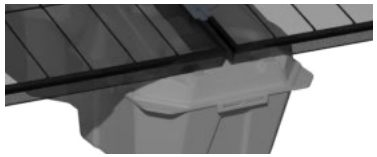


⚠ Tightening torque 8-9 N·m.

Step 2.1B

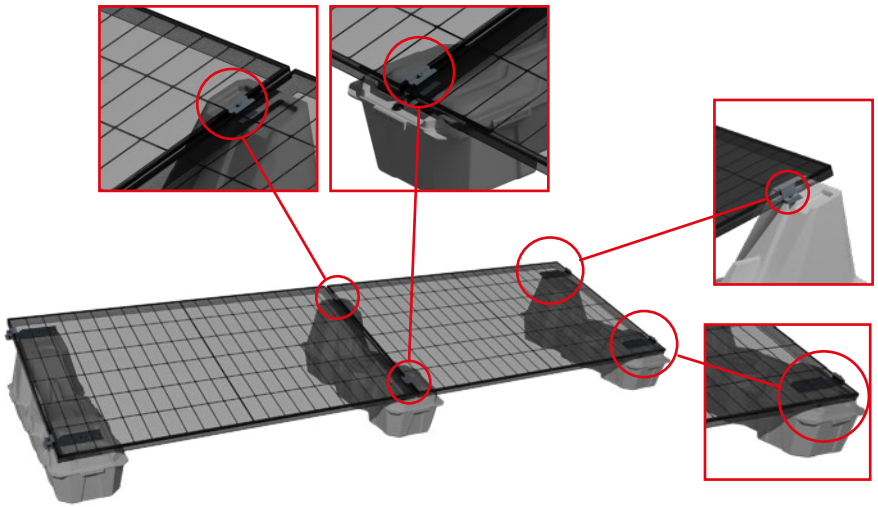
Support the solar panel horizontally on the LANDBLOCK® 15° supports.

Recommendation: First support the panel on the lower plane of the support.



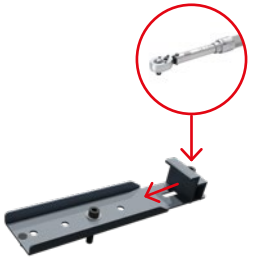
Step 2.1C

Place the middle clamps.



Step 2.1D

Adjust the end-of-row staples and the intermediate staples and tighten with a torque wrench.



⚠ Tightening torque 8-9 N·m.

LANDBLOCK® 15° material

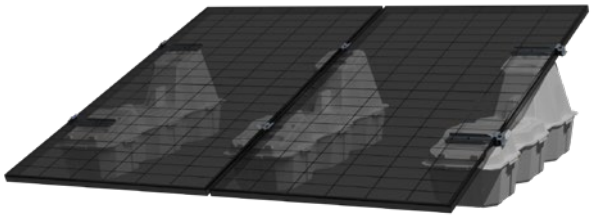
- ✔ LANDBLOCK® 15° base
- ✔ LANDBLOCK® 15° cover
- ✔ Plug 1 × LANDBLOCK® 15°
- ✔ Plate 4 × number of rows

End clamps:
4 × number of rows

Middle clamps:
(2 × no. panels) - (2 × no. rows)

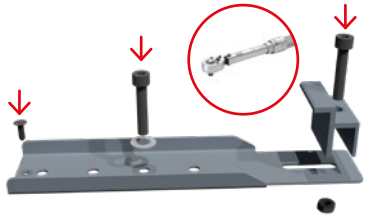
2.2 Vertical N+1 installation

Valid configuration for all kinds of panels wider than 990 mm



Step 2.2A

Screw the plates with M8 screws using a torque wrench. Use the small holes to secure with lag screws.



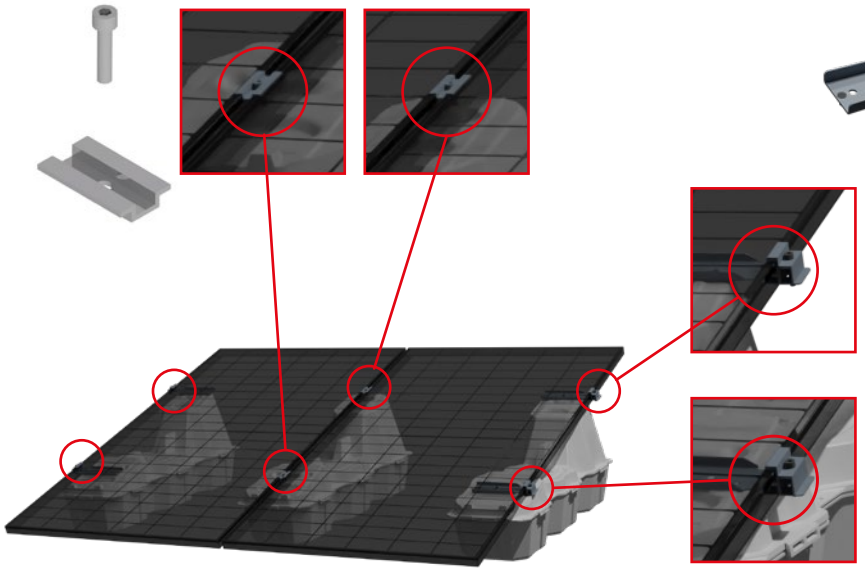
⚠ Tightening torque 8-9 N·m.

Step 2.2B

Support the solar panel vertically on the LANDBLOCK® 15° supports.

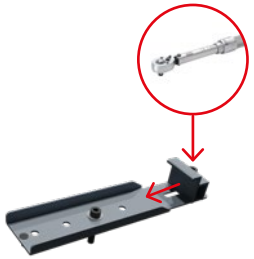
Step 2.2C

Place the middle clamps.



Step 2.2D

Adjust the end clamps and the middle clamps and tighten with a torque wrench.



⚠ Tightening torque 8-9 N·m.

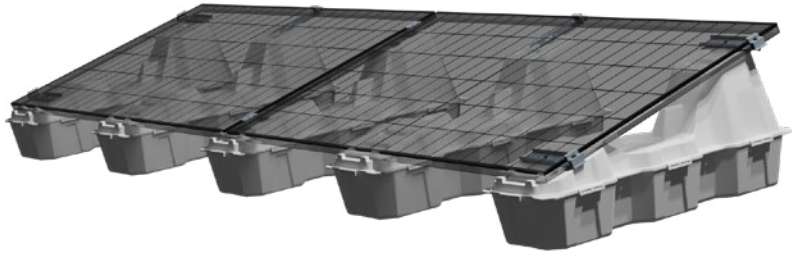
LANDBLOCK® 15° material

- ✔ LANDBLOCK® 15° base
- ✔ LANDBLOCK® 15° cover
- ✔ Plug 1 × LANDBLOCK® 15°
- ✔ Plate 4 × number of rows

End clamps:
4 × number of rows

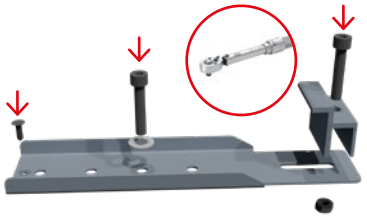
Middle clamps:
(2 × no. panels) - (2 × no. rows)

2.3 2N+1 installation



Step 2.3A

Screw the plates with M8 screws using a torque wrench. Use the small holes to secure with lag screws.



⚠ Tightening torque 8-9 N·m.

Step 2.3B

Place the end-of-row staples into the LANDBLOCK® 15° plate without tightening.

Step 2.3C

Colocar los tapones M8 en los LANDBLOCK® intermedios.

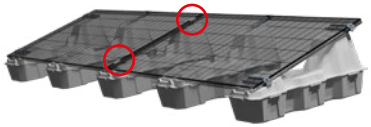
Step 2.3D

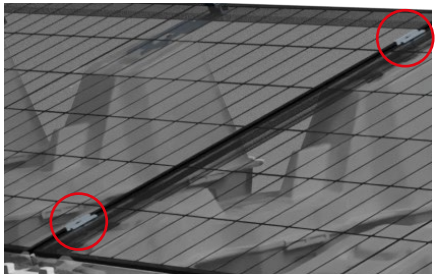
Support the solar panel horizontally on the LANDBLOCK® 15° supports.

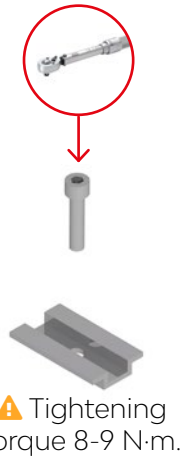
Recommendation: first rest the panel on the bottom plane of the support.

Step 2.3E

Place the middle clamps.



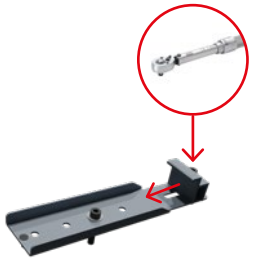




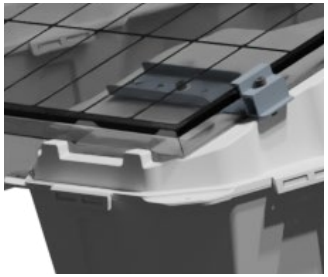
⚠ Tightening torque 8-9 N·m.

Step 2.3F

Adjust the end-of-row staples and the intermediate staples and tighten with a torque wrench.



⚠ Tightening torque 8-9 N·m.



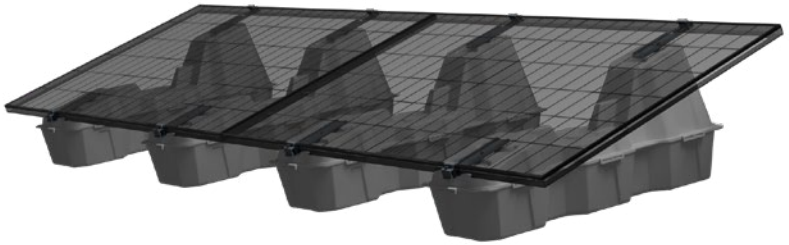
LANDBLOCK® 15° material

- ✔ LANDBLOCK® 15° base
- ✔ LANDBLOCK® 15° cover
- ✔ Plug for M8 nut
  1 × no. panels
- ✔ Plate 1 × nº panels
- ✔ Plate 4 × number of rows
- ✔ Filling plug

End clamps:
(4 × number of rows)
+ (2 × number of panels)

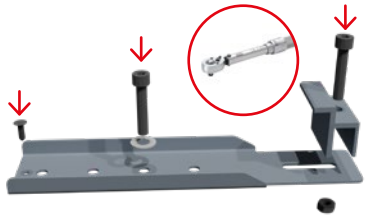
Middle clamps:
(2 × no. panels) - (2 × no. rows)

2.4 2N installation



Step 2.4A

Screw the plates with M8 screws using a torque wrench. Use the small holes to secure with lag screws.



⚠ Tightening torque 8-9 N·m.

Step 2.4B

Place the end-of-row staples into the LANDBLOCK® 15° plate without tightening.

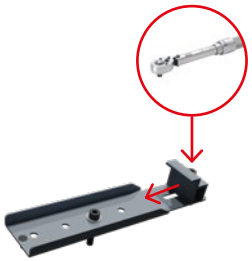
Step 2.4C

Support the solar panel horizontally on the LANDBLOCK® 15° supports.

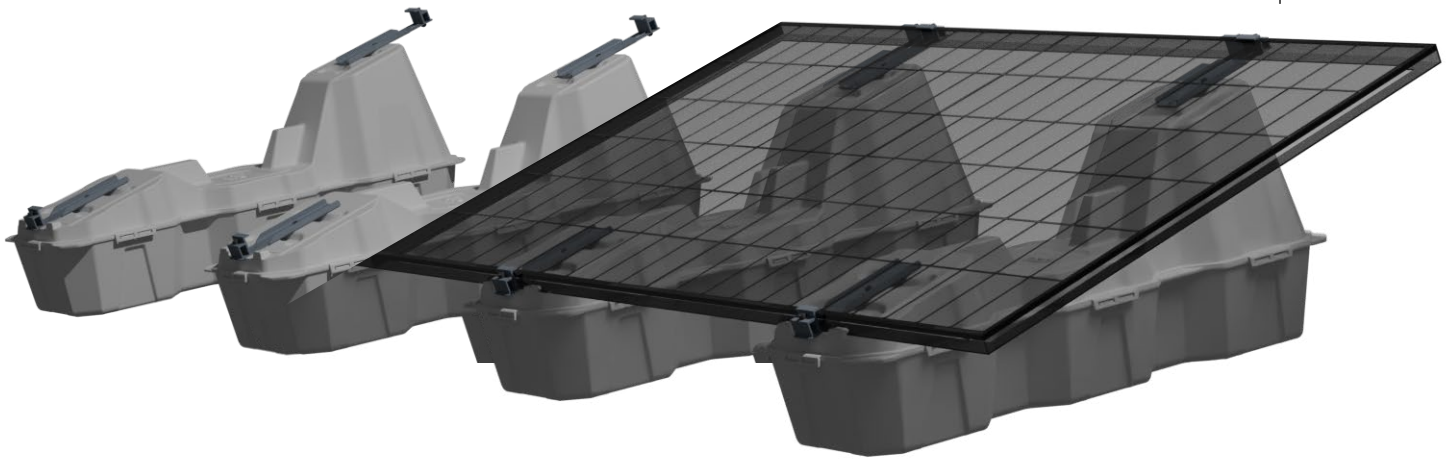
Recommendation: first rest the panel on the bottom plane of the support.

Step 2.4D

Adjust the end-of-row clamps and tighten with a torque wrench.



⚠ Tightening torque 8-9 N·m.

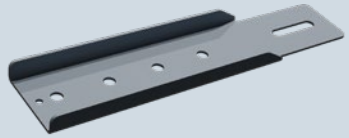


LANDBLOCK® 15° material

- ✔ LANDBLOCK® 15° Base
- ✔ LANDBLOCK® 15° Cover
- ✔ Plate 1 × n° panels
- ✔ Filling plug

End clamps:
4 × number of panels

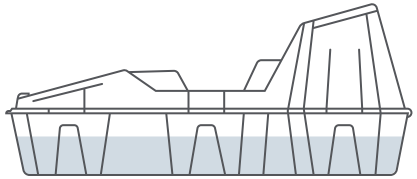
The plate is adjustable and has holes for different positions, depending on the size of the panel.

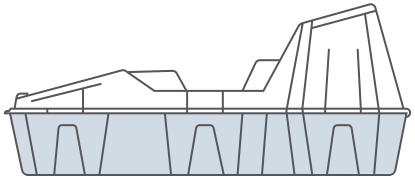


3 Use Water for Ballast

Step 3

After completing **Step 2**, and with the LANDBLOCK® 15° and the panels installed in the appropriate position, fill the support with water using the hole.

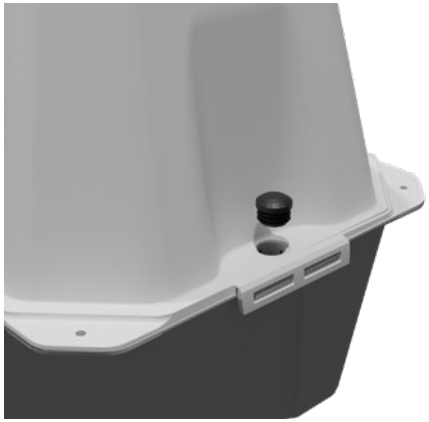


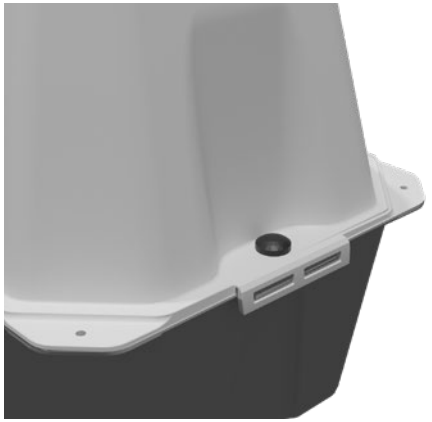


4 Fit the Plug

Step 4

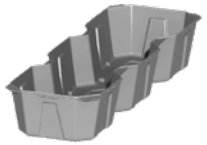
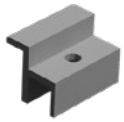
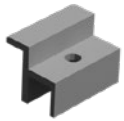
Close the hole with the cover after you've finished filling the LANDBLOCK® 15°.





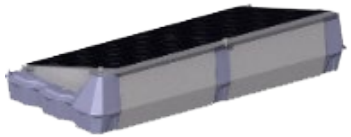
Your system is ready!

LANDBLOCK® 15° MATERIALS

Included	Part	Reference
15° LANDBLOCK® cover		7004-001
LANDBLOCK® Base		6001-001-OP01 (56L) 6002-001-OP01 (90L)
XL union plate		8029-001-OP01
Middle clamp		9009-001-OP01
End clamp 35 mm panel		9008-001-OP01
End clamp 30 mm panel		9010-001-OP01
End clamp adjustable in height		9011-001-OP01

Included	Part	Reference
DIN912 M8 × 40 mm stainless steel allen screw.		9026-001-OP01
Grower washer DIN127 M8 stainless steel.		9017-001-OP01
DIN934 M8 stainless steel hex nut.		9028-001-OP01
M8 nut cap		9029-001-OP01
Self-tapping screw Phillips pan head DIN7981 4.2 × 22 mm A2 stainless steel		9030-001-OP01
Round plug ø22 mm		9001-001-OP01

LANDBLOCK® 15° MATERIALS

Provided on order	Part	Reference
Deflectors		• Left side deflector: 5011-001-OP1 • Right side deflector: 5012-001-OP1 • Back deflector: 5013-001-OP1

Tools needed
Allen torque wrench for M8
Wrench for M8
Electric screwdriver (riveter)

Factors to be taken into account depending on the type of rooftop, surface, wind load and evaporation

- ✔ LANDBLOCK® 15° should only be used as a ballasted support for solar panel systems. Using the support for any other purpose is outside the scope of the intended use and is not allowed.
- ✔ The design of the system is the responsibility of the installer. You must make sure that the solar system meets the requirements set forth in the building code.
- ✔ It is important to be aware of the meteorological conditions of the country /region where the system is being installed to calculate the ballast and adjust the supports. Landatu Solar S.L. can provide a spreadsheet for calculating the ballast needed for a system on request.
- ✔ For greater safety in the most exposed areas, you could choose:
  - The **2N+1 configuration** described in the manual Combining both configurations in a single project may be interesting: a **2N+1 configuration** for areas around the edges and an **N+1 configuration** for inner areas.
  - Other materials can be used as ballast in the base, like gravel, sand, fine gravel or concrete (close the LANDBLOCK® 15° before the concrete sets).
  - Guylines can be used. The lugs of the LANDBLOCK® 15° can be anchored with metal cables to perimeter walls or other attachment points.
  - Using or choosing these additional safety measures is the responsibility of the installer or project planner.
  - Wind deflectors can be added on the sides and back to reduce wind loads. They can be ordered from Landatu Solar.
- ✔ To improve the friction coefficient you can:
  - Use an adhesive between the support and the ground.
- ✔ LANDBLOCK® 15° has been tested to show the ballast water doesn't evaporate.

Basic maintenance

LANDBLOCK® 15° maintenance is simple and economical.

Suitable PPE (personal protective equipment) for the job you will be doing must be used.

Recommended at least once a year

- ✔ Check that the supports are in good condition and there are no water leaks
- ✔ Confirm that the weight of the ballast matches the weight it was designed for.
- ✔ Check the condition of the bolts and whether they are tightened correctly
- ✔ Check the rest of the parts of the structure, if there are any (non-slip mats, adhesives, guylines).

The entire photovoltaic system should be checked at least once a year (module cleanliness, connections, protective devices, etc.). If you need to open a LANDBLOCK® 15° for any reason you should use pliers and pry from the centre of the closure.

We optimise the use
of surfaces to generate clean
and sustainable energy

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