LANDATU
SOLAR

USE AND INSTALLATION MANUAL

LANDBLOCK® 0°

SUPPORTS WITH WATER BALLAST

WITH COPLANAR SYSTEM FOR SOLAR SYSTEMS
ON ROOFTOPS OR PASSABLE FLAT SURFACES

PRODUCT PATENTED LANDATU SOLAR

DEKRA zertifiziert

TÜV SÜD Strength Test

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Index

LANDBLOCK® 0°

LANDATU SOLAR

Fast installation

Without perforating the rooftop

Without heavy machinery

⚠ This use and installation manual must be followed for LANDBLOCK® 0° installation.

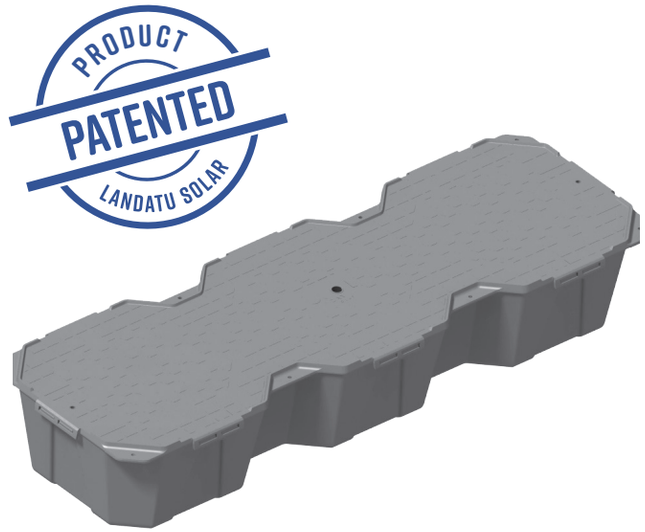
LANDBLOCK® 0º
WITH COPLANAR SYSTEM

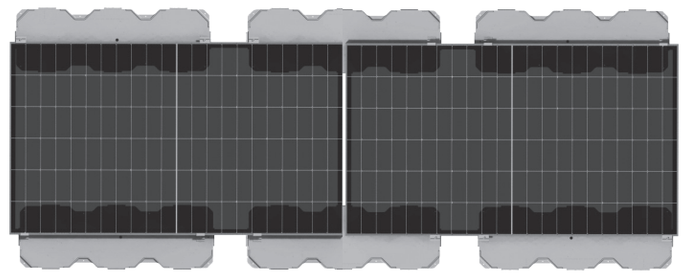
LANDBLOCK® 0° is a support with water ballast that is perfect for installing solar systems on any flat surface (rooftop, ground, etc.).

Simplify solar panel installation with LANDBLOCK® 0° and forget concrete supports.

Technical Information	
Composition	HDPE plastic
Support tilt angle	0°
Weight (without ballast)	<4 kg
Dimensions	380 × 1150 × 192 mm
Units/pallet	100 units
Ballast capacity	55 L (water), more than 100 kg (gravel, sand, concrete...)

SUPPORTS WITH WATER BALLAST THE BEST SOLUTION FOR SOLAR SYSTEMS!





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® 0° lets you adjust the ballast weight depending on the rooftop.
- Evaporation tests have been done that show the water doesn't evaporate.

INTENDED USE

Intended use

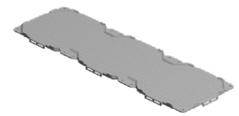
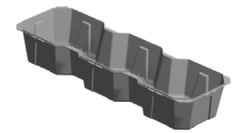
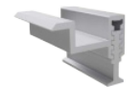
- ✔ LANDBLOCK® 0° is designed exclusively for use on rooftops or flat surfaces (max. 5°).
- ✔ Different ballast materials, like water or gravel, can be used with the support depending on the project requirements.
- ✔ The solar panels are installed directly on the support using the connectors without having to assemble a metal or concrete structure.
- ✔ The complete support has a mass of less than 4 kg, so you DON'T need to use a forklift or other lifting device.

Required tools

- M8 allen key

LANDBLOCK® 0° MATERIALS

LANDBLOCK® 0° | LANDATU SOLAR

Part	Referenca
Cover 	7001-001
Base 	6001-001
Plug 	9001
Middle clamp 	8009
End clamp  	• Panel 35 mm: 8008 • Panel 30 mm: 8010 • Multipanel 30-40 mm: 8011
M8 Screw 	8012

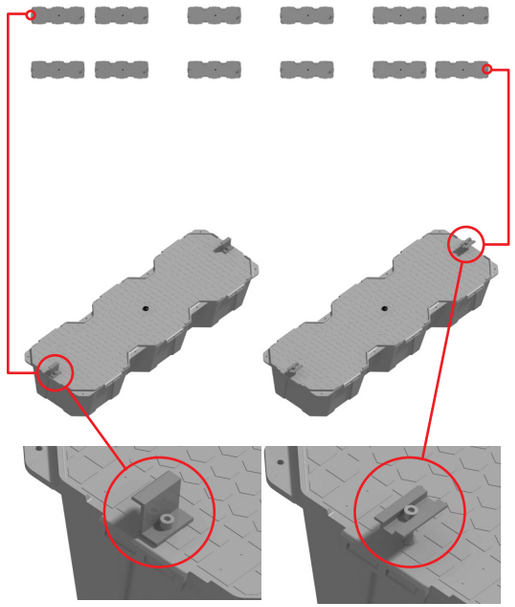
INSTALLATION IN JUST 4 STEPS

LANDBLOCK® 0°

LANDATU SOLAR

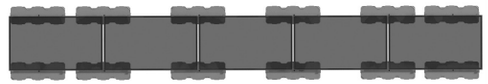
1

INSTALL THE LANDBLOCK® 0° AND INSTALL THE CONNECTORS



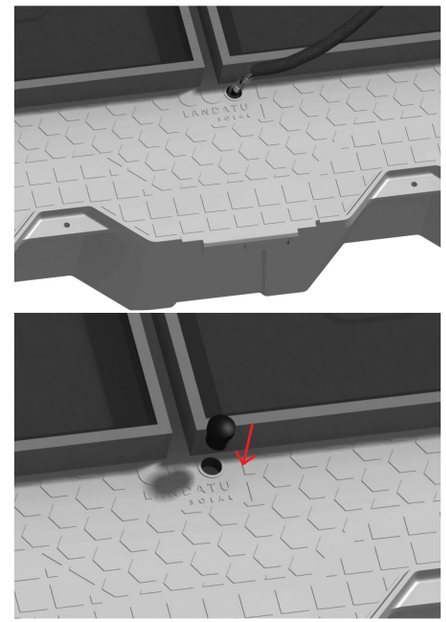
2

INSTALL THE PHOTOVOLTAIC PANELS



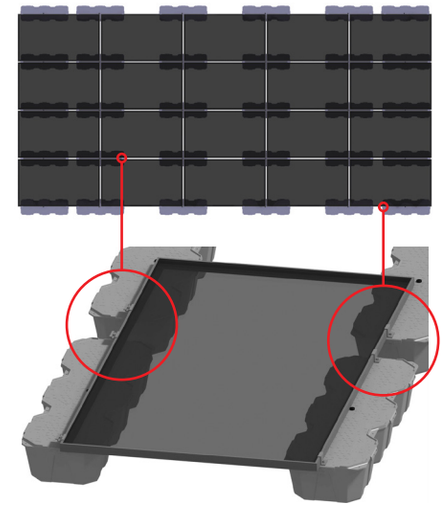
3

BALLAST THE LANDBLOCK® 0° AND INSTALL THE PLUG



4

FASTEN THE CONNECTOR CLIPS TO THE PANELS

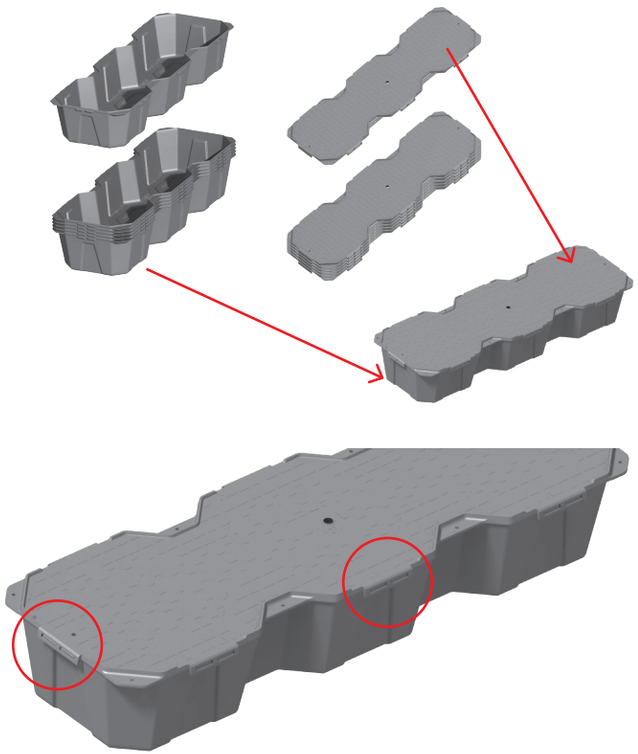


1 LANDBLOCK® 0° Positioning

Step 1 A

To assemble the LANDBLOCK® 0° put a cover on each base and push the 'click' closure (without tools).

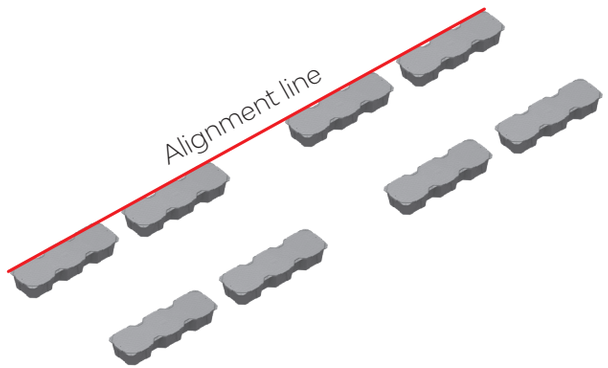
Important: Fit the cover on the base properly so it closes properly and the water doesn't evaporate.

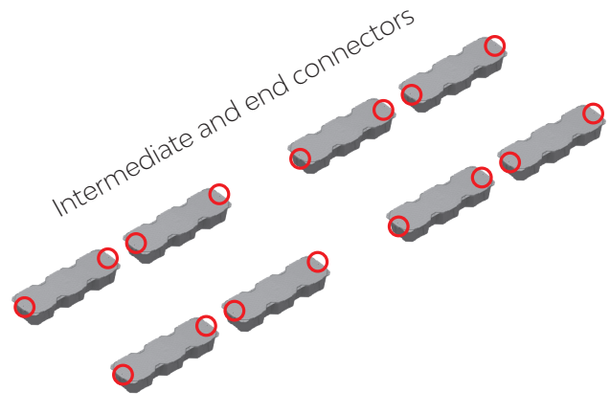


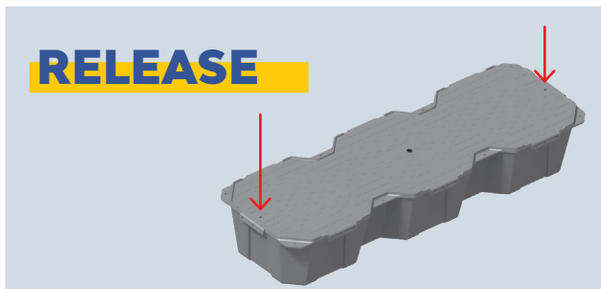
Step 1 B

Position the first two rows of LANDBLOCK® 0° and place the fixing clips in the inserted nuts of the support.

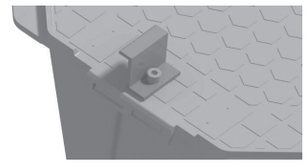
Recomendation: Put the first and last LANDBLOCK® 0° on every row in the area and run a line from the first lug to the last one to use as a guide for levelling and lining up the rest of the LANDBLOCK® 0°.



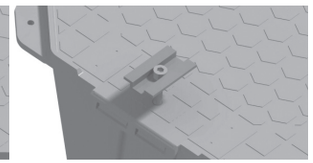




The LANDBLOCK® 0° covers come with two inserts with M8 pre-installed for attaching the bolts for the clips.



End of Line clips



Intermediate clips

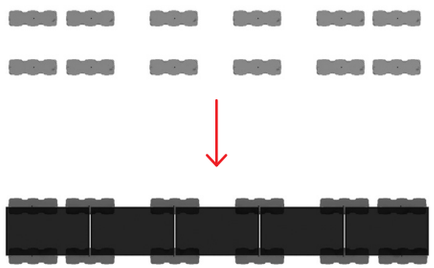
2 Place the solar panels

Installation

Valid configuration for all panel types

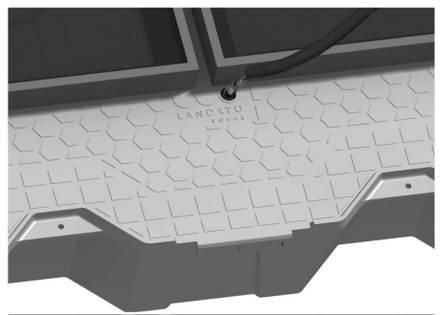
Step 2A

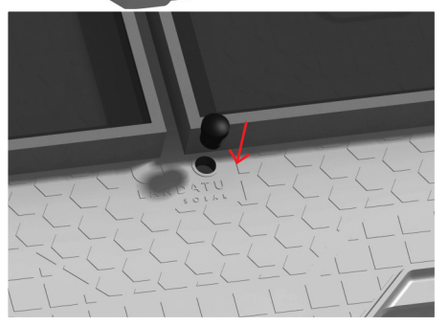
Place the photovoltaic panels on the first two rows of LANDBLOCK® 0º.

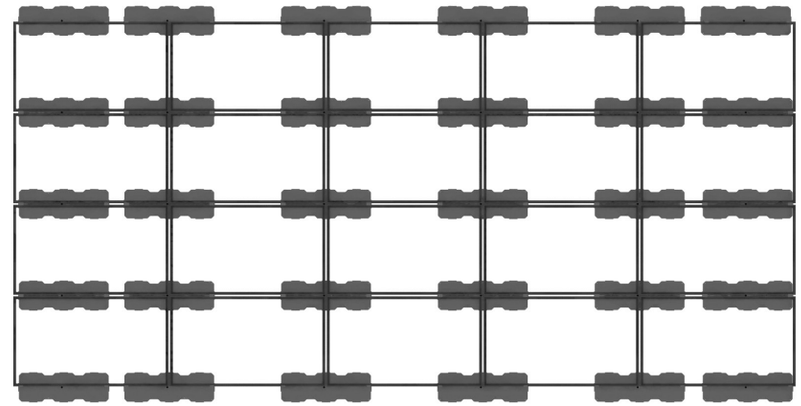


Step 2B

At this time, ballast the supports with water through the fill hole and place the plug (**Step 3**).







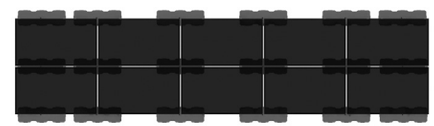
Assembly diagram

Step 2C

Position the next row of supports and panels and repeat steps 2A and 2B above.

Tighten the previous fastening clips.

Recommended tightening torque: 10 Nm.



LANDBLOCK® 0º Material

- ✔ LANDBLOCK® 0º Base
- ✔ LANDBLOCK® 0º Cover
- ✔ 1 plug × LANDBLOCK® 0º

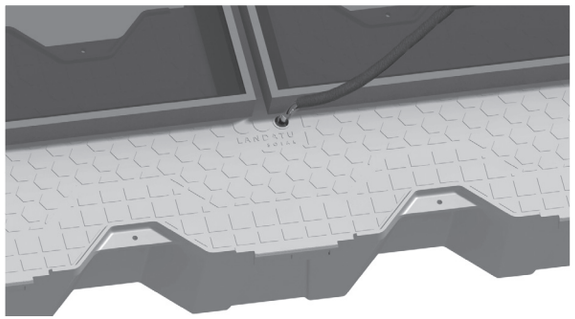
Perfiles necesarios:

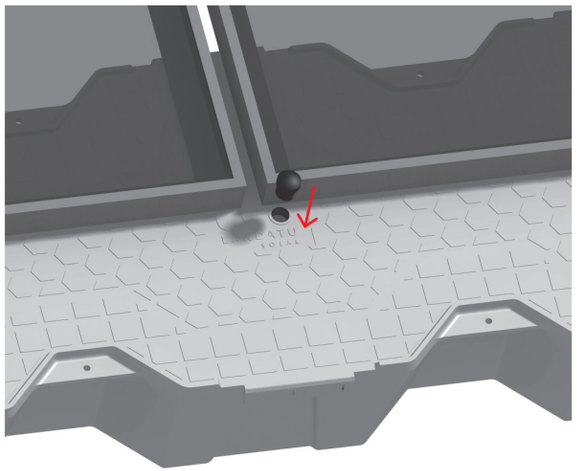
End clamps:
4 × (no. of columns+ 1)

Middle clamps:
2 × (no. of rows -1)
× (no. of columns + 1)

Supports:
(no. of rows + 1)
× (no. of columns + 1)

3 Ballast the Landblock® 0° and place the plug

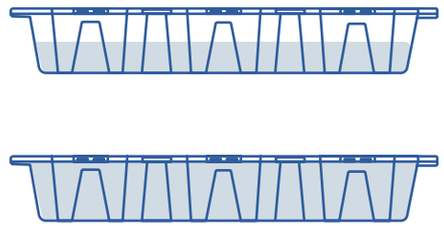




Step 3A

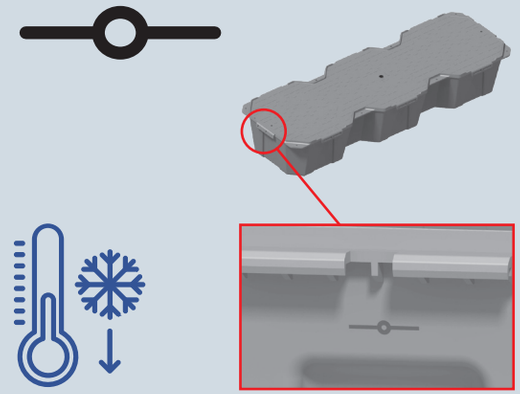
Introduce the water through the hole shown in the image.

Note: In case of ballasting the support with another material (concrete, gravel, sand...) you must do so before placing the cover (**Step 1**).



Step 3B

Once ballasted, be sure to close the hole tightly with the supplied plug.



Considerations for cold climates

In climates where the water is susceptible to freezing, it is not recommended to fill more than 47 L.

For this purpose, the LANDBLOCK® 0° has a level marker. It is advisable to drill a hole to make sure you do not exceed 47L and introduce water through the filling hole in the lid until excess water begins to come out of this second hole. This way, you ensure that the recommended capacity is not exceeded and that sufficient space is available to assume the increase in volume due to freezing.

Once filled with water, cover the hole made with tape.

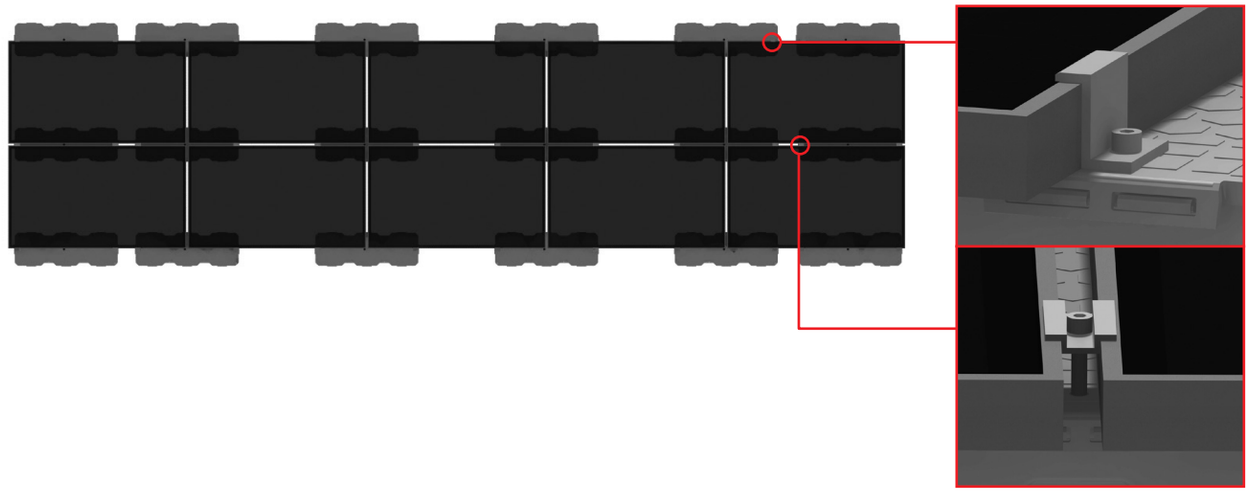
If you want to avoid this step, you can dissolve antifreeze in the water.

4 Tighten the connector clips

Step 4A

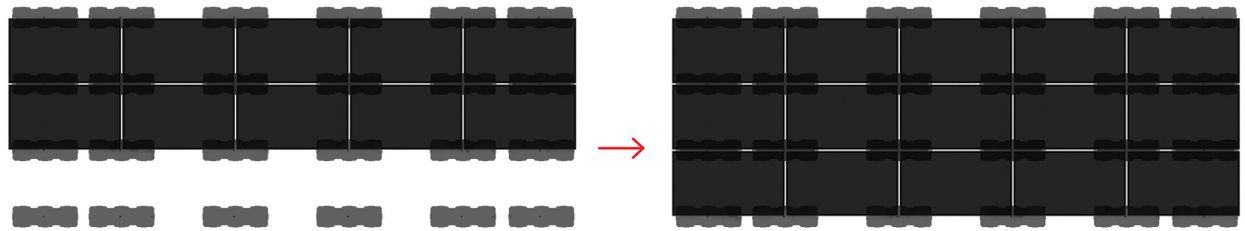
With the supports ballasted and the panels on the first three supports, tighten the connecting clips (end-of-line and intermediate clips).

The recommended tightening torque is 10 Nm.



Step 4A

Attach the next row of supports and panels and repeat the above steps until the installation is complete.



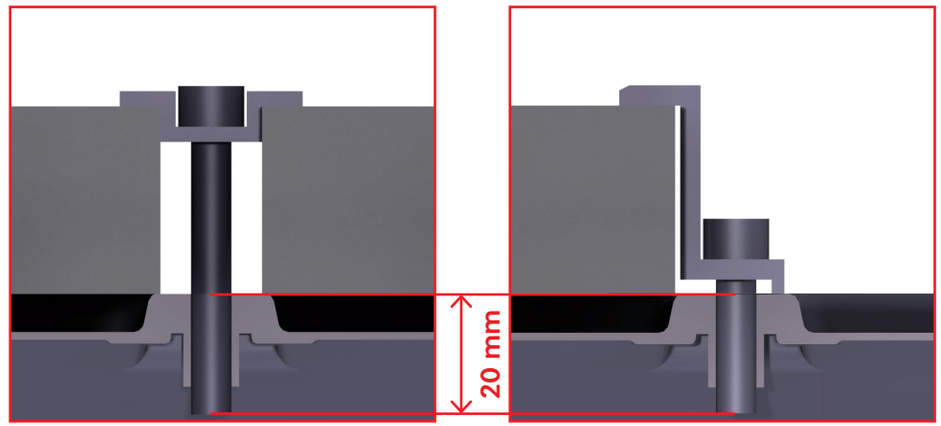
ANNEXE
Specifications for bolt lengths

Required bolt length

The length will depend on the thickness of the panel and the design of the connectors (Middle and end clamps). The installer is responsible for checking and installing a bolt that is inserted and threaded into the M8 nuts of the support is at least **20 mm**. (panel support plane or square washer support plane).

Likewise, the required bolt length must be greater than the sum of the distance of the horizontal plane (**h**) + the **20 mm** length of the threads.

Length required = **>h+20 mm**



⚠ The installer is responsible for using connectors that meet those conditions.

BASIC SAFETY AND MAINTENANCE

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

- ✔ LANDBLOCK® 0º 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:
  - Other materials can be used as ballast in the base, like gravel, sand, fine gravel or concrete (close the LANDBLOCK® 0º before the concrete sets).
  - Using or choosing these additional safety measures is the responsibility of the installer or project planner.
- ✔ To improve the friction coefficient you can:
  - Use an adhesive between the support and the ground.
- ✔ LANDBLOCK® 0º has been tested to show the ballast water doesn't evaporate.

Basic Maintenance

LANDBLOCK® 0º 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 tightening torque and condition of the bolts.

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® 0º for any reason you should use pliers and pry from the centre of the closure.

We simplify the installation of solar panels to generate clean and sustainable energy

LANDATU SOLAR

info@landatusolar.com
www.landatusolar.com