Roofparallel Mountingsystem ECO 0°

Assembly instructions
Welcome!
We are pleased that you have chosen our Duraklick Photovoltaic-Mounting-Systems.

This instruction describes the assembly step-by-step and enables you to work easy and safely. If you have any questions or suggestions please do not hesitate to get in touch with us.

Yours friendly

Duraklick-Team

The assembly system consists of the following components:

- Module end clamp
- Module middle clamp
- Modulsupports
- Floor rails
- Building Protection Mats (minimum 4 mm thick)
- Profile connector
- Drilling screws

Tools required for assembly:
- Cordless Screwdriver
- Inbus 6mm (for Module End- and Middle Clamp)
- Screw bit 8 mm (for the drilling screws)
- Measuring tape
- Plastic-Hammer
- Working gloves
Standards and Safety-Instructions

While installing the mounting system it has to be ensured that the valid standards and safety instructions are observed. These are in particular:

Electrical Installation:
- DIN VDE 0100-712 (IEC 60364) Building of low voltage plants – part 7-712: Requirements for industrial premises, rooms and plants of special types – solar-photovoltaic (PV) power supply systems
- DIN VDE 0126 Solar plants for domestic use
- DIN EN 62305 Lightning protection
- VDI 6012, page 2, Decentralised energy systems in buildings – photovoltaic
- TAB Technical connection conditions of the energy supply companies

Accident Prevention Regulations:
- BGV A1 Accident prevention regulations
- BGV A3 Electrical plants and equipment
- BGV C22 Construction work
- BetrSichV, additional „activity instruction for the handling with ladders and steps“ (BGI 694)

Others:
- VDS (Association of property insurers) Directives
- DIN 1055-4 effects on supporting structures – part 4: wind load
- DIN 1055-5 effects on supporting structures – part 5: snow- and ice load
- DIN 1052 layout, calculation and dimensioning of wooden constructions – general dimensioning rules and dimensioning rules for the high-building
- Currently valid local rules and regulations

Pictures of Roof-Damages

Before installation, it should be checked whether there is damage of any kind, in particular water seepage or damage of the roof membrane.

This should be documented with a digital camera to avoid subsequent claims for compensation.

Roof-Preparation

The roof area to be covered must be free of dirt (e.g. sharp stones, moss, leaves, mud etc.), so that even laying of the floor rails is ensured.

Qualified Personnel

The mounting of the modules and the installation of the DC-cables has to be done imperative by qualified personnel.

Danger by electric shock or electric arc! If lightning protection systems are installed, an integration test is to be carried out by certified lightning protection companies. It is also to be checked whether the requirements of lightning protection are subject to change due to installation.

Duraklick Warranty Certificate

On all Duraklick fastening systems supplied by us we offer a 10-year durability warranty.

If any damage occurs despite correct installation and use under normal stress, we will replace the affected component within the warranty period without delay.

The regulations in full warranty claims do not apply if the damage arises due to improper installation or use of the system or due to improper maintenance (e.g. damage caused by bad weather, instability of the surface or particular elements or bad handling), unless the damage has definitely not been caused by the abovementioned factors. Claims for warranty or liability are possible only if the damage is reported to us within the warranty period.

The warranty is limited to the subsequent delivery and assembly of the defective parts if the damage is reported to us within the warranty period. Possible warranty or liability claims in accordance with the law remain unaffected.

If a shorter period is expressly indicated for certain components in general or for a certain type of use in particular, or an implicit design prepared by us for a specific customer replacement within a certain period is indicated in the order confirmation, the warranty period will be limited to that duration or term.

No claims will be accepted if the damage is covered or can be covered as usual by insurance against bad weather and similar events (non-life branches).

This warranty only covers claims from our contractual partner, who is in charge of handling all warranty repairs. Claims by third parties are permissible only with our consent.

All other matters are governed by the current version of our General Conditions of Sales and Delivery.

TIP
Take pictures of roof-damages!

Clean the roof!
1. Assembling of the Floor Rails

1. Measuring

Measure the module field according to the layout plan. Observe the clearances according to the structural calculation thereby!

2. Building Protection Mats

Laying the Building Protection Mats (minimum 8 mm thick) at intervals of the floor rails. Centreline is always width of module plus 2 cm for the Module Middle Clamp.

With foil roofs (depending on the manufacturer), it must be checked whether fleece-laminated building protection mats can be laid.

Working Gloves!
Wear gloves while assembling the Floor Rails!
Risk of injury due to sharp edges!
3. Placement of the Floor Rails

Place the Floor Rails on the building protection mats according to the layout diagram.

4. Connecting the Floor Rails

Place Profile Connectors between the Floor Rails.

Assemble Profile Connectors and Floor Rails and screw them together with 8 drilling screws using the screw bit 8 mm (tightening torque 2-3 Nm).

Construct all further Floor Rails according to the layout plans, and assemble the Profile Connectors.

5. Calibrate and Check

Check the alignment of the Floor Rails in the starting zone of the module field according to the layout plan. Calibrate the angle of the Floor Rails.
1. Assembling of the Floor Rails

Fixing with ballast
Up to 5° roof pitch on bitumen roofs
Up to 3° roof pitch on PVC foil roofs

Fixing with floor rail over the roof ridge

Fixing the floor rail with CWL plates
2. Assembling of the module supports

1. Measuring

Define the positions of the module-supports:

Front-support has to be mounted a minimum of 150 mm from the front edge of the floor rail.

### Distances for transverse installation between the supports (front edge to front edge)

<table>
<thead>
<tr>
<th>module with</th>
<th>distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>950 mm</td>
<td>770 mm</td>
</tr>
<tr>
<td>960 mm</td>
<td>780 mm</td>
</tr>
<tr>
<td>970 mm</td>
<td>790 mm</td>
</tr>
<tr>
<td>980 mm</td>
<td>800 mm</td>
</tr>
<tr>
<td>990 mm</td>
<td>810 mm</td>
</tr>
<tr>
<td>1000 mm</td>
<td>820 mm</td>
</tr>
<tr>
<td>1010 mm</td>
<td>830 mm</td>
</tr>
</tbody>
</table>

### Distances for vertical installation (front edge to front edge)

<table>
<thead>
<tr>
<th>module with</th>
<th>distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1640 mm</td>
<td>1460 mm</td>
</tr>
<tr>
<td>2000 mm</td>
<td>1820 mm</td>
</tr>
</tbody>
</table>

2. Stringcable installation

The rails can be used as cable channel. The string-cables have to be installed before clicking-in the module supports!
2. Assembling of the module supports

3. Installation of module supports

Hooks together of 2 back-supports
2 supports hook into each other at the upper end

Clicking the supports
... and click in with the foot.

Complete assembled module supports
Assemble the module supports of the first module-row. The first module row should be completed to prevent the floor-rails from slipping.

The mounting plate is mandatory from a roof pitch of 10°!
To prevent the supports from slipping, fixing plates are necessary from 10° roof inclination.
Ballastierung

If additional ballast needs to be placed according to the structural analysis, it is now the perfect time to do so. The specified ballast values must be observed!

The specified ballast values must be observed!

Put on ballast

...or fill the rails with gravel in according to the ballast plan.
3. Assembly of the Photovoltaic-Modules

1. Insertion of the Module-end clamps

Insert the module end-clamps into the module-supports of the beginning of the row (left side).

The distance between the end clamp and the outer edge of the support must be between 90 mm and 92 mm!
2. Placing the modules

It can be started on the right or left. Place the first module on the module supports.

Make sure that the module frame is mounted on the entire surface of the module support.

If the modules are inserted close to the noses, the distance between the modules is automatically approx. 60 mm for rear ventilation!

3. Insert the module clamps

Then click the module middle clamps into the module supports (front and rear).

4. Wiring

Make sure that the string cables are now installed and the modules are connected together. Otherwise the rear sides of the modules cannot be reached.

The string cables can be inserted into the recess of Module support must be laid and fixed with cable ties.
3. Assembly of the Photovoltaic-Modules

5. Fixing the modules

All module middle clamps and module end clamps are equipped with a 6mm Allen key. Torque approx. 8 - 10 Nm.

6. Finishing of the first module-row

Repeat all steps until the first module row is mounted. The first module row should be installed completely to prevent the floor rails from slipping.

Wind hazard!

If assembly is interrupted or stopped, all modules or rows must be completely assembled.
ATTENTION: Wind attack! Loose rails must be secured or weighted down!
1. Final works

After completion of the assembly the entire system must be tested for strength:

- Check the fastening of the module clamps.
- Check the entire construction for stability and strength.
- Check screw and clamp connections.

Accessories

HSS Roof Safety System

The certified life line system is a flexible and economical fall protection system that can be mounted on Duraklick substructures (including existing ones).

For more safety when working on roofs!
6. Disclaimer + Warranty Conditions

Disclaimer

If the mounting system is used for other purposes, any liability claim expires.

Warranty Conditions

Statutory periods apply.

Duraklick

Warranty Certificate

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The obligation to fulfill warranty claims does not apply if the damage arises due to improper installation or use of the system or due to exceptional stresses (e.g. damage caused by bad weather, instability of the subfloor or particular chemical or biological actions), unless the damage has demonstrably not been caused by the aforementioned factors, but mainly by a material defect or a manufacturing error. Installation and use are subject to the product technical descriptions and the respective installation manuals supplied by us and to generally accepted or legally prescribed architectural standards and principles, as well as to any designs, structural calculations and instructions first prepared by us for a specific customer.

The warranty is limited to the subsequent delivery and assembly of the defective parts if the damage is reported to us within the warranty period. Possible warranty or liability claims in accordance with the law remain unaffected.

If a shorter duration is expressly indicated for certain components in general or for a certain type of use in particular, or, as regards designs prepared by us for a specific customer, replacement within a shorter term is provided for, the warranty period will be limited to that duration or term.

No claims will be accepted if the damage is covered or can be covered as usual by insurance against bad weather and similar events (non-life branches).

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