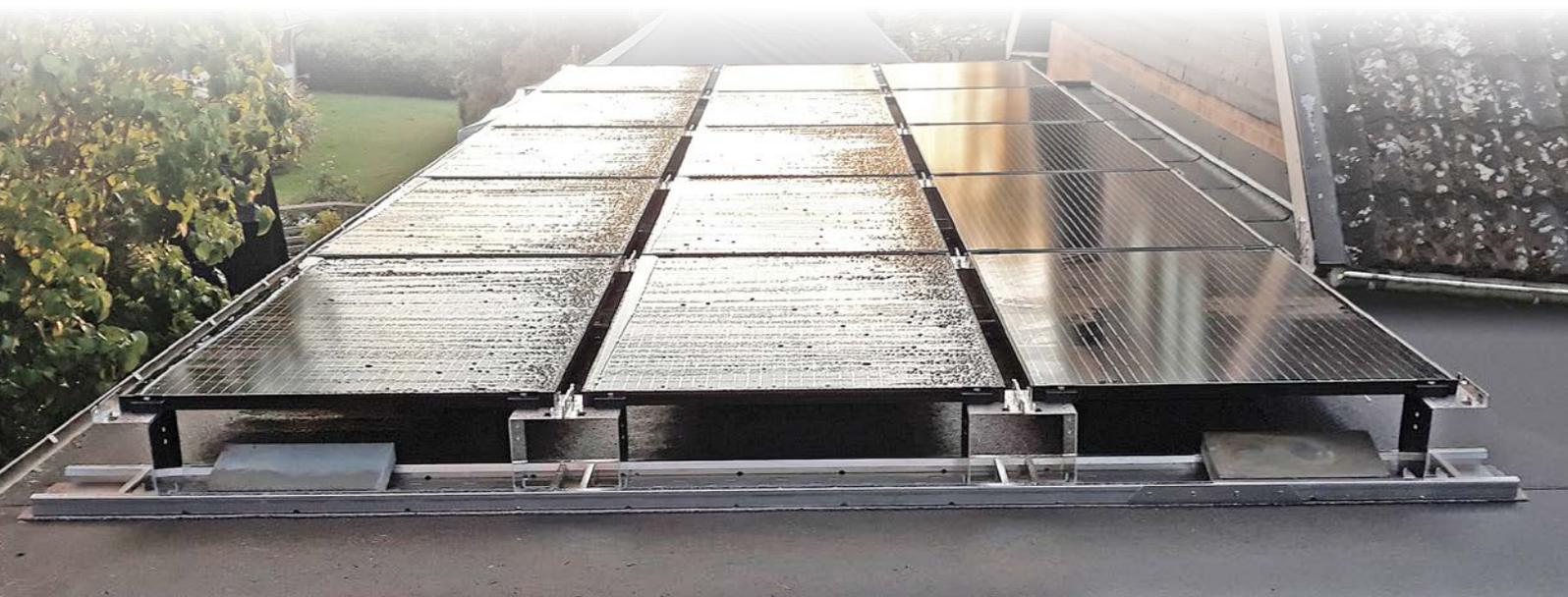


Duraklick ECO 0°

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

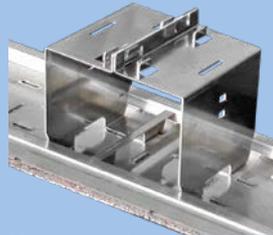
The assembly system consists of the following components:



Module end clamp



Module middle clamp



Modulsupports



...clicked together are one support!



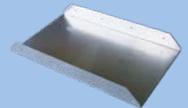
Floor rails

Building Protection Mats
(minimum 4 mm thick)

Drilling screws



Profile connector



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
- ▶ VDEW Directive (2001)
- ▶ 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



ATTENTION

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.

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.

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 obligation to fulfil 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).

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.



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TIP



Take pictures of roof-damages!

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Clean the roof!

1. Assembling of the Floor Rails



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



Measuring the module fields



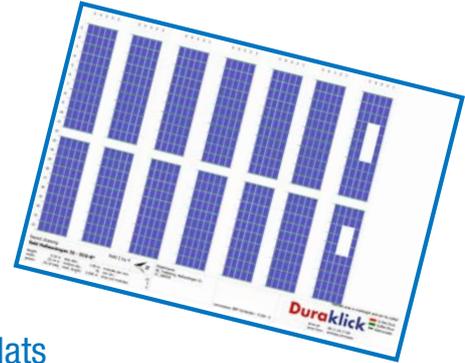
Laying the building protection mats



Building protection mats (mind. 4 mm) as roll goods

1. Measuring

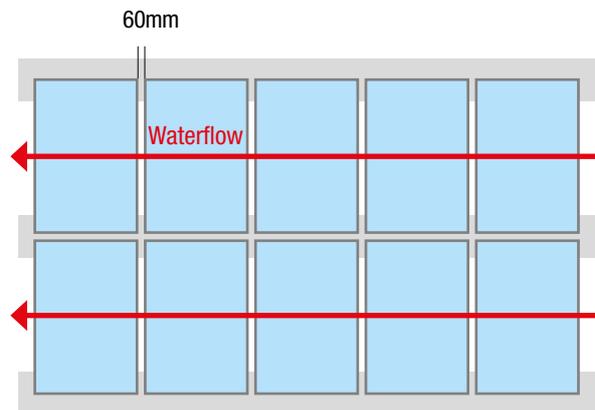
Measure the module field according to the layout plan. Observe the clearances according to the structural calculation thereby!



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.



Laying the building protection mat (minimum thickness 4 mm) as roll goods, installation lengthwise to the water flow direction (roof pitch)

3. Placement of the Floor Rails

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



Laying the Floor Rails

4. Connecting the Floor Rails

Place Profile Connectors between the Floor Rails.



Place Floor Rails in Profile-Connector

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).



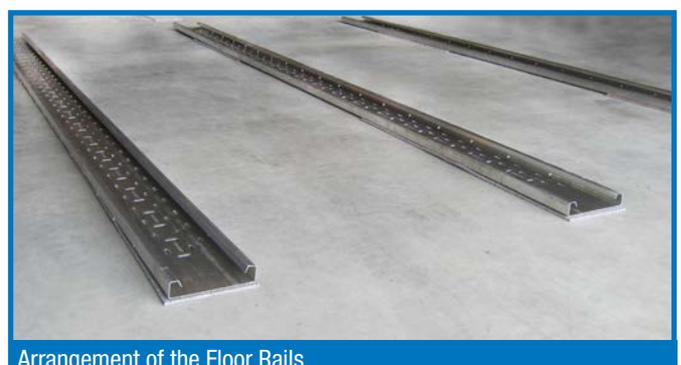
Construct all further Floor Rails according to the layout plans, and assemble the Profile Connectors.



Screwing the Profile-Connector

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.



Arrangement of the Floor Rails

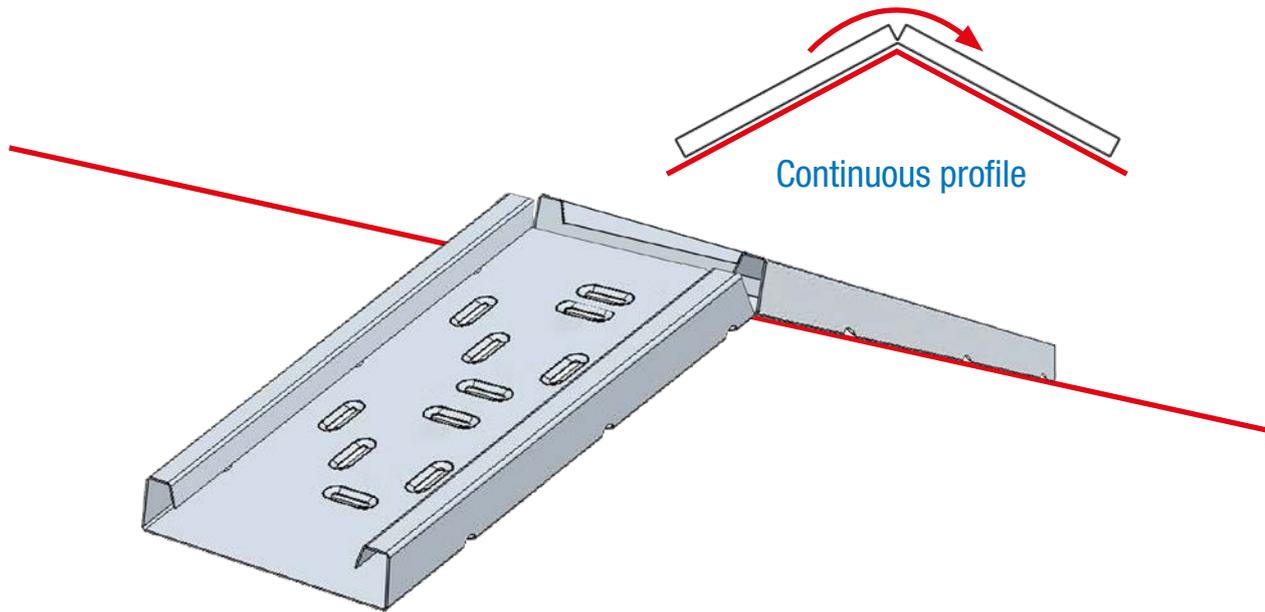
1. Assembling of the Floor Rails

Fixing with ballast

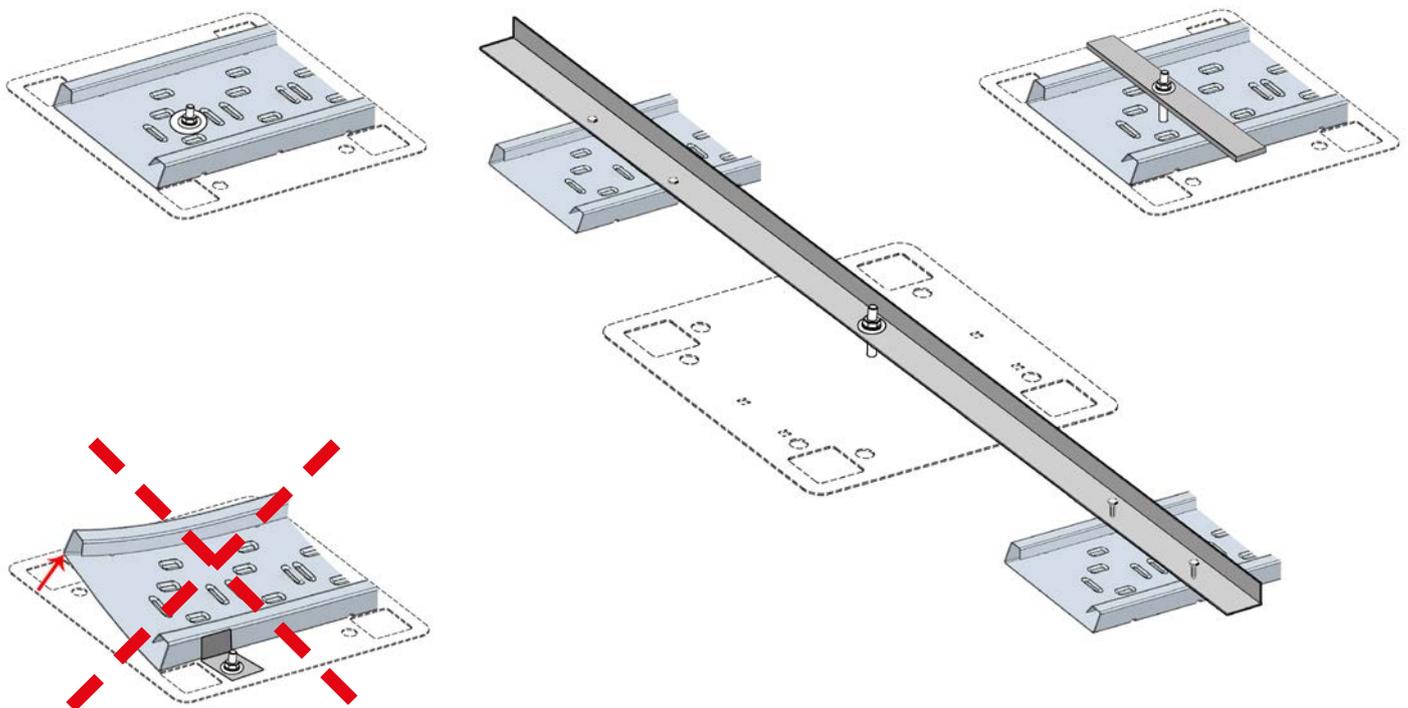
Up to 5° roof pitch on bitumen roofs
Up to 3° roof pitch on PVC foil roofs



Fixing with floor rail over the roof ridge



Fixing the floor rail with CWL plates



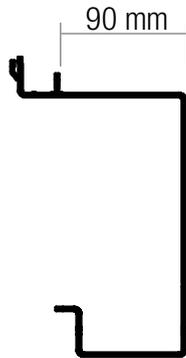
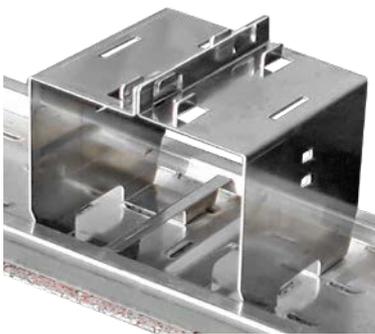
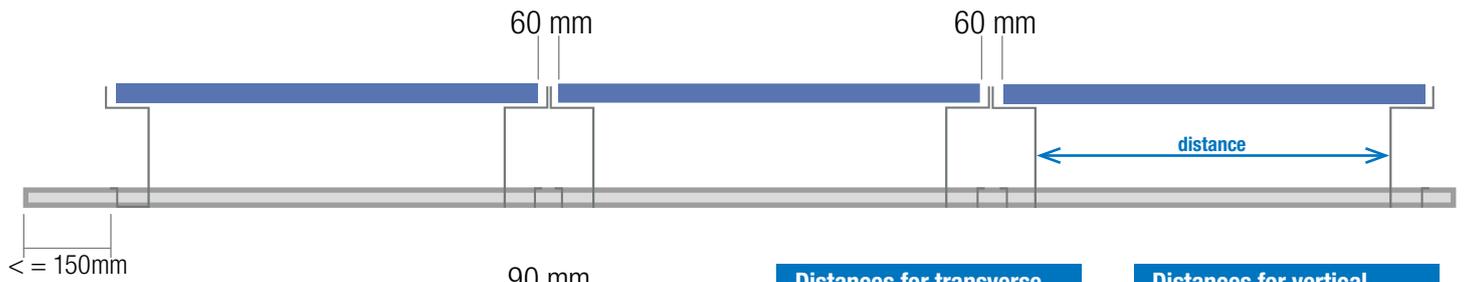
1. Measuring

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.



Measuring of the module supports



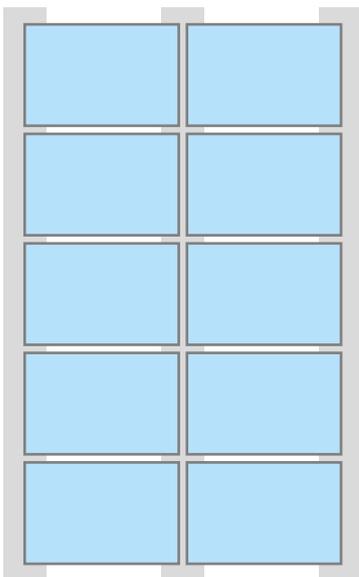
Distances for transverse installation between the supports (front edge to front edge)

modulewith	distance
950 mm	770 mm
960 mm	780 mm
970 mm	790 mm
980 mm	800 mm
990 mm	810 mm
1000 mm	820 mm
1010 mm	830 mm

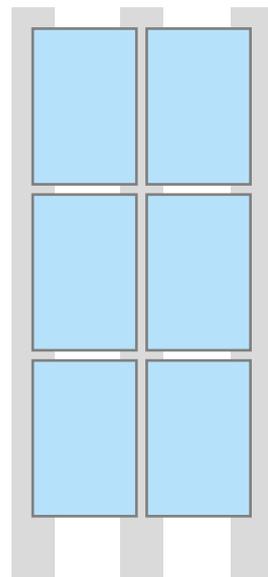
Distances for vertical installation (front edge to front edge)

modulewith	distance
1640 mm	1460 mm
2000 mm	1820 mm

transverse



vertical



2. Stringcable installation

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



Floor-rails used as a cable-channel for string-cables

2. Assembling of the module supports

3. Installation of module supports



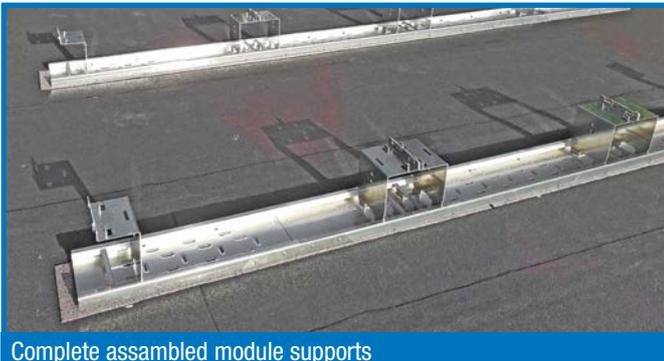
Hooking together of 2 back-supports

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

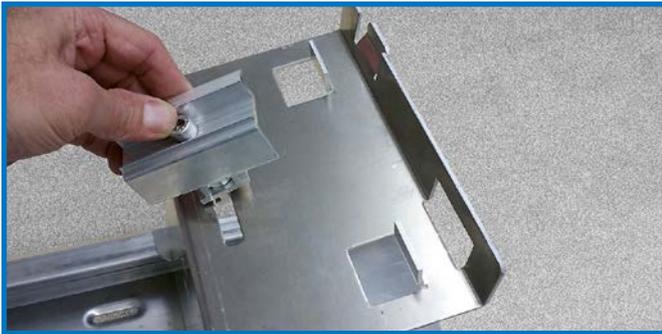


...or fill the rails with gravel in according to the ballast plan.

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).



Insert the module clamps into the support



Distance between 90 und 92 mm

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

90-92 mm

2. Placing the modules

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



Placing the module



Abstand 20 mm und Auflagefläche

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).



Einsetzen der Modulmittelklemme in die Modulstützen

4. Wiring

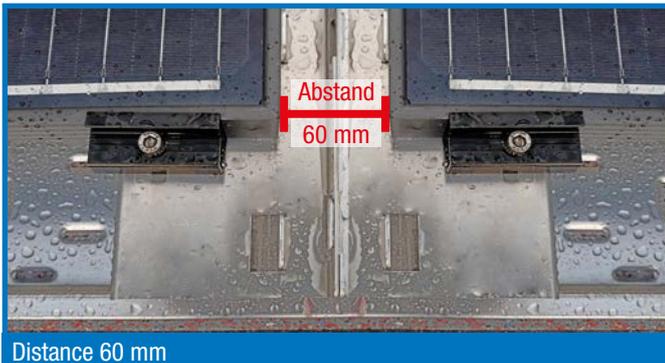
Make sure that the string cables are now installed and the modules are connected together. Otherwise the rear sides of the modules cannot be reached.

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



Aussparungen für die Kabelverlegung

3. Assembly of the Photovoltaic-Modules



5. Fixing the modules

All module middle clamps and module end clamps are equipped with to 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!



4. Final works + accessories

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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a 10-year durability warranty.

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



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EORI: DE314291943832627

