

# SOLON SOLfixx.

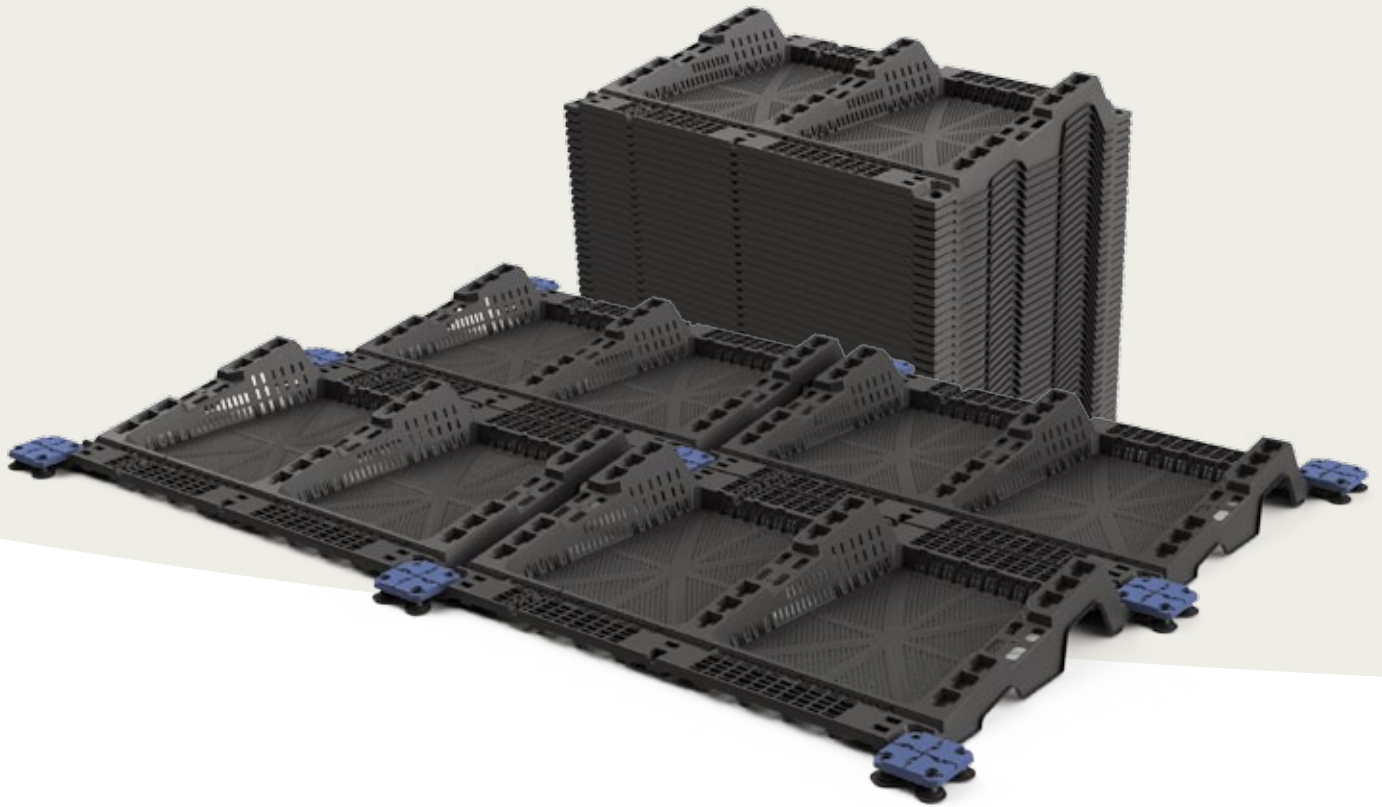
Photovoltaic System for Flat Rooftops.

*New:  
Snow wedge  
for alpine  
area usage*

- More output per square meter: area-optimized system
- Suitable for lightweight roofs from 12.9 kg/m<sup>2</sup> load-carrying capacity
- Time-saving plug-and-play concept: No tools required
- Ideal for roof renovations: special mounting solutions for bitumen and plastic roofing strips
- Applicable for use in alpine areas
- Meets the static requirements of Eurocode 1
- Up to 25 years guarantee for substructure

Made in Germany

**SOLON** 



# *Innovative. Convenient. Powerful.*

In the SOLON SOLfixx system, the module and substructure are combined in a single unit. This unique PV system for flat roofs can be assembled in one of three different ways – to suit any type of roof and any situation. The modules are installed on the substructure at an inclination of 10 degrees. This ensures maximum output per square metre of roof area. An additional benefit: simple and fast plug-and-play installation.

The innovative flat-roof system is suitable for all roof structures and lightweight roofs with a carrying load capacity greater than 12.9 kg/m<sup>2</sup>. The SOLfixx system offers three assembly possibilities. Existing roofing material (e.g. gravel) can be used, being placed in the trays of the plastic substructure, avoiding any additional load for the roof system. In the case of bitumen or plastic roof sheeting, “welding” by heat treatment or bonding is possible without ballasting. If this is not acceptable or practicable, the system also provides the option of installation by anchoring, e.g. on bitumen. The system is not only easy to install, but also strong under extreme weather conditions. Using the optional snow wedge means SOLON SOLfixx can even be used in alpine regions <sup>1)</sup>. In addition, SOLON offers up to 25 years guarantee for the substructure.

When planning a roof renovation based on bitumen or plastic strips, you will find that SOLON SOLfixx is the optimal solution. Special attachment methods render installation particularly easy.

<sup>1)</sup> Depends on altitude.



### Higher Efficiency.

- › Module with an efficiency of up to 15.7%
- › Maximum output per square metre of roof area used due to 10° inclination

### Simple and Fast Installation.

- › Module and substructure form a single unit
- › Flexible installation solutions for various roof surfaces
- › Separation of mechanical and electrical installation possible
- › Cable channel and maintenance walkway already integrated

### Reliable Statics.

- › System weight of only 12.9 kg/m<sup>2</sup> perfect for lightweight roofs
- › Statics of glass are certified in accordance with German standard DIN 18008-1, -2
- › Meets the requirements of Eurocode 1 (DIN EN 1991-1-3; DIN EN 1991-1-4)<sup>2)</sup> with national annexes
- › Also tested in a wind tunnel

### Roof Protection.

- › Non-penetrating installation design
- › Roof-protecting design made of plastic

### Stability in all Aspects.

- › Weather and UV resistance
- › Stable polymer materials for long-term durability

<sup>2)</sup> Depends on snow and wind load, terrain category and height of building.

### For Sustainable Satisfaction: Up to 25 Years Guarantee.

In addition to our comprehensive warranties and services, we provide up to 25 years guarantee on the substructure. SOLON SOLfixx is not only distinguished by its reliability, however. It is also easy on your roof: 70% of the load is distributed over the surface and the line loads, exerted by rails for example, encountered in conventional systems, are avoided. Just as recommended by the leading manufacturers of roof seals.

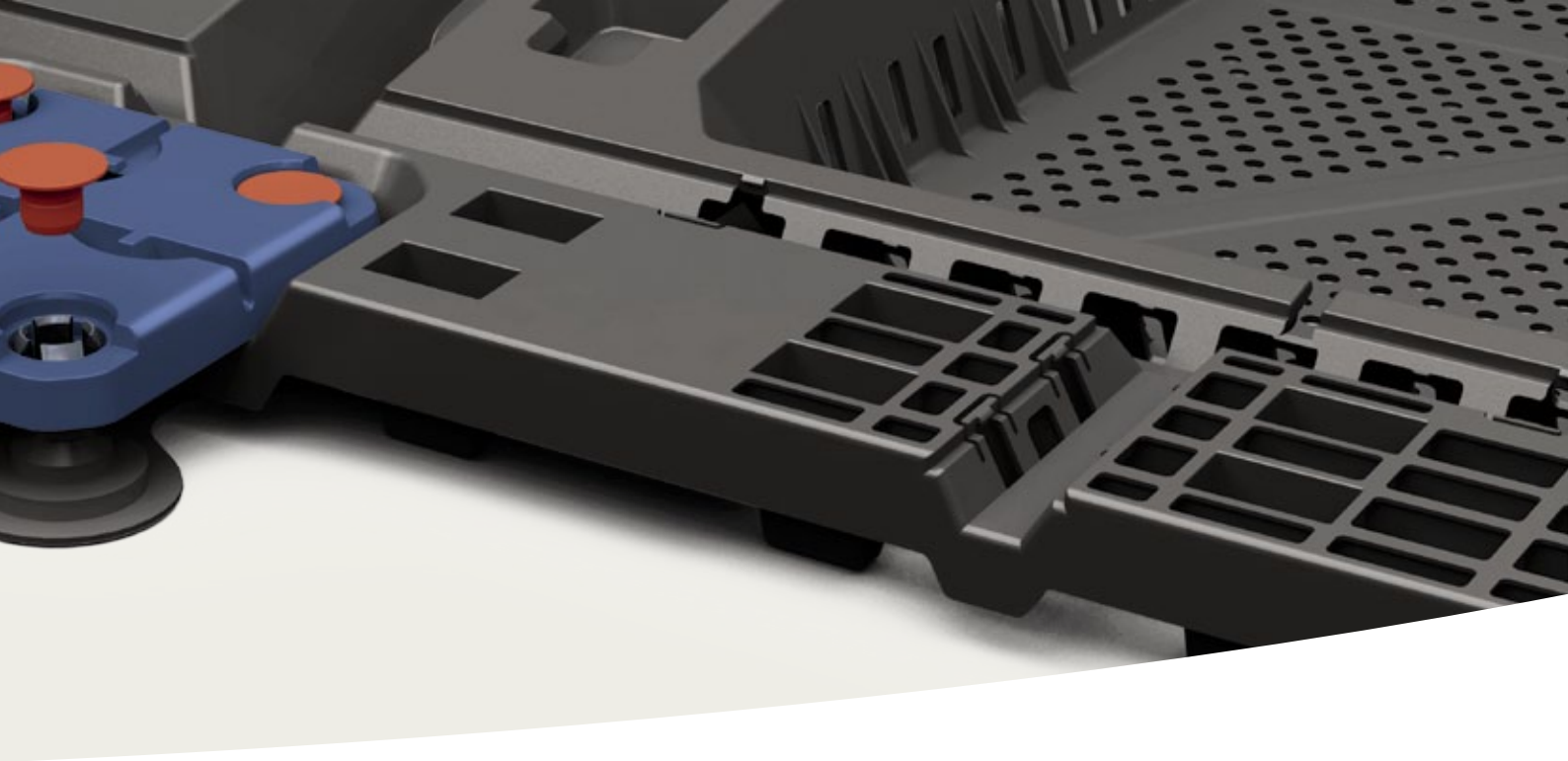
#### SOLON Advantages:

- › 10-year product guarantee <sup>1)</sup>
- › 25-year performance guarantee <sup>1)</sup>
- › 10-year guarantee on substructure; extension up to 25 years available <sup>2)</sup>
- › SOLON solar insurance included <sup>3)</sup>
- › Positive sorting of power classes (0 to +4.99 Wp)
- › Free module recycling

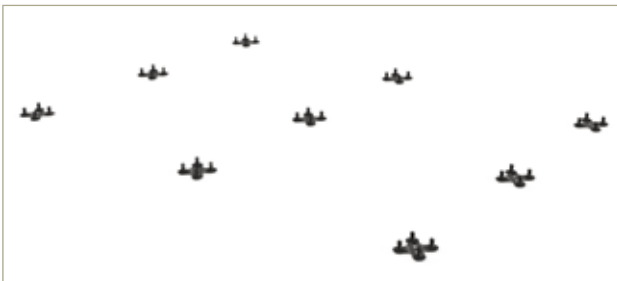
<sup>1)</sup> According to SOLON Product and Performance Guarantee.

<sup>2)</sup> According to SOLON SOLfixx Product and Performance Guarantee. Guarantee extension up to 15, 20, 25 years possible.

<sup>3)</sup> Valid for the countries of the European Union and Switzerland.



# Tool-Free Installation.



## 1. Attach Mounting Plates.

- › Mark the first SOLON SOLfixx row
- › Position the attachment plates and weld or bond if necessary



## 2. Snap in Substructure.

- › Click the first SOLON SOLfixx row into place
- › Connect the cover plate to the lids of the base plates
- › Cable channels already integrated (UV protection)



## 3. Fastening onto a Rooftop Surface.

- › Ballasting or anchoring – depending on the roof structure

## 4. Placing the Modules.

- › Position, click into place, ready
- › Wire up the modules

# SOLON SOLfixx.

Powerful system components.

## SOLON Black 280/17

(monocrystalline)



### Electrical data – typical (STC)

STC (Standard Test Conditions): 1,000 W/m<sup>2</sup>, (25 ± 2)°C, AM 1.5 in accordance with EN 60904-3

| Power rating            | P <sub>max</sub> | 310 Wp <sup>3)</sup> | 305 Wp <sup>3)</sup> | 300 Wp  | 295 Wp  | 290 Wp  | 285 Wp  |
|-------------------------|------------------|----------------------|----------------------|---------|---------|---------|---------|
| Module efficiency       |                  | 15.66%               | 15.40%               | 15.15%  | 14.90%  | 14.65%  | 14.39%  |
| Rated voltage           | V <sub>mpp</sub> | 36.43 V              | 36.22 V              | 36.00 V | 35.80 V | 35.60 V | 35.40 V |
| Rated current           | I <sub>mpp</sub> | 8.55 A               | 8.45 A               | 8.36 A  | 8.26 A  | 8.16 A  | 8.06 A  |
| Open circuit voltage    | V <sub>OC</sub>  | 45.24 V              | 44.98 V              | 44.77 V | 44.50 V | 44.23 V | 43.96 V |
| Short circuit current   | I <sub>SC</sub>  | 8.86 A               | 8.79 A               | 8.74 A  | 8.66 A  | 8.59 A  | 8.51 A  |
| Maximum reverse current | I <sub>R</sub>   | 20 A                 | 20 A                 | 20 A    | 20 A    | 20 A    | 20 A    |
| Maximum system voltage  |                  | 1,000 V              | 1,000 V              | 1,000 V | 1,000 V | 1,000 V | 1,000 V |

Measuring tolerance for P<sub>max</sub>: ±3%

Reduction of module efficiency from 1,000 W/m<sup>2</sup> to 200 W/m<sup>2</sup>: <4%

### Electrical data – typical (NOCT)

NOCT (Nominal Operating Cell Temperature): 800 W/m<sup>2</sup>, NOCT, AM 1.5

| Power rating          | P <sub>max</sub> | 222 Wp  | 219 Wp  | 215 Wp  | 212 Wp  | 208 Wp  | 204 Wp  |
|-----------------------|------------------|---------|---------|---------|---------|---------|---------|
| Rated voltage         | V <sub>mpp</sub> | 32.65 V | 32.47 V | 32.27 V | 32.09 V | 31.91 V | 31.73 V |
| Rated current         | I <sub>mpp</sub> | 6.81 A  | 6.74 A  | 6.67 A  | 6.59 A  | 6.52 A  | 6.44 A  |
| Open circuit voltage  | V <sub>OC</sub>  | 40.89 V | 40.65 V | 40.46 V | 40.22 V | 39.98 V | 39.73 V |
| Short circuit current | I <sub>SC</sub>  | 7.15 A  | 7.10 A  | 7.06 A  | 6.99 A  | 6.94 A  | 6.87 A  |

### Thermal data

|                               |            |
|-------------------------------|------------|
| Tc of open circuit voltage    | -0.33 %/K  |
| Tc of short circuit current   | 0.04 %/K   |
| Tc of power                   | -0.43 %/K  |
| NOCT (according to IEC 61215) | 48°C ± 2°C |

Measuring tolerance for all final data: ±10% (except P<sub>max</sub> (STC) and NOCT)

## SOLON Blue 270/17

(polycrystalline)



### Electrical data – typical (STC)

STC (Standard Test Conditions): 1,000 W/m<sup>2</sup>, (25 ± 2)°C, AM 1.5 in accordance with EN 60904-3

| Power rating            | P <sub>max</sub> | 300 Wp <sup>3)</sup> | 295 Wp  | 290 Wp  | 285 Wp  | 280 Wp  | 275 Wp  |
|-------------------------|------------------|----------------------|---------|---------|---------|---------|---------|
| Module efficiency       |                  | 15.15%               | 14.90%  | 14.65%  | 14.39%  | 14.14%  | 13.89%  |
| Rated voltage           | V <sub>mpp</sub> | 37.03 V              | 36.77 V | 36.50 V | 36.25 V | 35.95 V | 35.70 V |
| Rated current           | I <sub>mpp</sub> | 8.12 A               | 8.04 A  | 7.95 A  | 7.86 A  | 7.78 A  | 7.70 A  |
| Open circuit voltage    | V <sub>OC</sub>  | 44.98 V              | 44.76 V | 44.53 V | 44.30 V | 44.08 V | 43.85 V |
| Short circuit current   | I <sub>SC</sub>  | 8.46 A               | 8.39 A  | 8.33 A  | 8.27 A  | 8.20 A  | 8.14 A  |
| Maximum reverse current | I <sub>R</sub>   | 20 A                 | 20 A    | 20 A    | 20 A    | 20 A    | 20 A    |
| Maximum system voltage  |                  | 1,000 V              | 1,000 V | 1,000 V | 1,000 V | 1,000 V | 1,000 V |

Measuring tolerance for P<sub>max</sub>: ±3%

Reduction of module efficiency from 1,000 W/m<sup>2</sup> to 200 W/m<sup>2</sup>: <5%

### Electrical data – typical (NOCT)

NOCT (Nominal Operating Cell Temperature): 800 W/m<sup>2</sup>, NOCT, AM 1,5

| Power rating          | P <sub>max</sub> | 218 Wp  | 215 Wp  | 211 Wp  | 207 Wp  | 204 Wp  | 200 Wp  |
|-----------------------|------------------|---------|---------|---------|---------|---------|---------|
| Rated voltage         | V <sub>mpp</sub> | 33.70 V | 33.46 V | 33.22 V | 32.99 V | 32.72 V | 32.49 V |
| Rated current         | I <sub>mpp</sub> | 6.48 A  | 6.42 A  | 6.36 A  | 6.29 A  | 6.23 A  | 6.16 A  |
| Open circuit voltage  | V <sub>OC</sub>  | 41.07 V | 40.87 V | 40.66 V | 40.45 V | 40.25 V | 40.04 V |
| Short circuit current | I <sub>SC</sub>  | 6.87 A  | 6.81 A  | 6.76 A  | 6.71 A  | 6.66 A  | 6.61 A  |

### Thermal data

|                               |            |
|-------------------------------|------------|
| Tc of open circuit voltage    | -0.32 %/K  |
| Tc of short circuit current   | 0.05 %/K   |
| Tc of power                   | -0.41 %/K  |
| NOCT (according to IEC 61215) | 46°C ± 2°C |

Measuring tolerance for all final data: ±10% (except P<sub>max</sub> (STC) and NOCT)

<sup>3)</sup> Available in limited amounts upon request.

# SOLON SOLfixx.

SOLON Black 280/17 and SOLON Blue 270/17.

## MODULE

### Mechanical specifications

|                        |  |
|------------------------|--|
| Dimensions (H x W x D) | 1,973 x 993 x 5.3 mm   |
| Weight                 | 23.8 kg  |
| Junction box           | 1 junction box with 3 bypass diodes  |
| Cable                  | Solar cable, length 2,000 mm, 4 mm <sup>2</sup> , prefabricated with MC4-combinable plug |
| Application class      | Application class A (according to IEC 61730)   |
| Front glass            | Transparent toughened safety glass, 4 mm, DIN 12150-1                                    |
| Solar cells            | 72 cells, mono- or polycrystalline Si 6.2" (156 x 156 mm)                                |
| Cell encapsulation     | EVA (Ethylene Vinyl Acetate)   |
| Back side              | Composite film   |
| Frame                  | Frameless  |
| Backrails              | 6 backrails reinforced with glassfibre PA (290 x 50 x 38 mm)                             |

### Permissible operating conditions

|                               |  |
|-------------------------------|--|
| Temperature range             | -40 °C to +85 °C                                       |
| Maximum surface load capacity | Tested up to 2,400 Pa according to IEC 61215           |
| Resistance against hail       | Maximum diameter of 25 mm with impact speed of 83 km/h |

## OTHER COMPONENTS

### Substructure

|                                       |   |
|---------------------------------------|---|
| Dimensions (H x W x D)                | 2,100 x 1,430 x 253 mm                          |
| Weight                                | Lightweight system – just 5.1 kg/m <sup>2</sup> |
| Material                              | Polypropylen, UV and weather resistant          |
| Material thickness                    | 2.5 to 4 mm                                     |
| Module level inclination              | 10°   |
| Cable channel/<br>Maintenance walkway | Integrated in substructure (UV protection)      |

## SYSTEM

### Specifications

|   |                             |
|---|-----------------------------|
| System weight                                 | 12.9 kg/m <sup>2</sup>      |
| Output per area                               | Up to 100 W/m <sup>2</sup>  |
| Suction                                       | Up to 1.3 kN/m <sup>2</sup> |
| Windload/snowload                             | Up to 1.3 kN/m <sup>2</sup> |
| Windload/snowload<br>(snow wedge made of XPS) | Up to 5.4 kN/m <sup>2</sup> |

### Guarantees and certifications

|                                   |  |
|-----------------------------------|--|
| Guarantee substructure            | 10 years guarantee, guarantee extension up to 25 years available <sup>5)</sup>   |
| Product guarantee module          | 10 years <sup>4)</sup>   |
| Performance guarantee module      | Guaranteed output of 95 % for 5 years, 90 % for 10 years, 87 % for 15 years, 83 % for 20 years and 80 % for 25 years <sup>4)</sup> |
| Approvals and certificates module | IEC 61215 Edition II, IEC 61730 (incl. Safety Class II), IEC 68-2-52 (Salt mist resistance), MCS                                   |

This datasheet complies with the requirements of EN 50380:2003. Subject to modifications.  
Electrical data without guarantee.

<sup>4)</sup> According to SOLON Product and Performance Guarantee.

<sup>5)</sup> According to SOLON SOLfixx Product and Performance Guarantee.  
Guarantee extension up to 15, 20, 25 years possible.

## Drawing

