

# *SOLON SOLbond Seam.*

*PV System for Standing Seam Roofs.*

- › PV solution made of frameless crystalline modules and standing seam rail system
- › Quick and simple installation
- › Minimum static rooftop load – module weight less than 10 kg/m<sup>2</sup>
- › High-grade silicone adhesive with outstanding weather- and UV-resistance
- › High power density: up to 155 Wp/m<sup>2</sup>

*Made in Germany*

**SOLON** 



## High Output with Light Weight.

High performance, frameless SOLON modules, an innovative adhesive bonding technology and a rail system with no roof penetration make SOLON SOLbond Seam the optimum PV solution for standing seam roofs. With its fast, easy assembly and weight of just 11 kg/m<sup>2</sup>, the system is ideal for roofs with low load-carrying reserves. The guarantee over 20 years ensures the highest investment security.

### More Watts per Square Meter.

- › High power density: up to 155 Wp/m<sup>2</sup>
- › No shading caused by mounting systems
- › Ideal self cleaning frameless modules, even with slight roof pitches
- › Barrier-free rear ventilation of up to 70 mm – for higher system performance

### Innovative Mounting System.

- › Fast rail installation without penetrating the roof
- › Single-rail system means lower substructure material expense

### For a Permanently Secure System Operation.

- › No corrosion with other materials
- › Even distribution of the load, thereby protection of the roof
- › Approved according to Eurocode 1 (DIN EN 1991-1-3/NA and DIN EN 1991-1-4/NA)



### Simple installation.

1. Attach installation rails to standing seams
2. Anchor rails with standing seam clamps and fasteners
3. Apply adhesive pads
4. Apply adhesive bead to the rails, place the modules – finished!

### SOLON Advantages:

- › 10-year product guarantee <sup>1)</sup>
- › 20 years warranty on adhesive bonding <sup>2)</sup>
- › 5-stage performance guarantee over 25 years <sup>1)</sup>
- › Includes SOLON solar insurance <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 SOLbond Seam Terms and Conditions of Warranty and Guarantee. Valid for roofs approved by SOLON.

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

# SOLON SOLbond.

High-performance system components.

## SOLON Black 280/12

(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>1)</sup>	305 Wp <sup>1)</sup>	300 Wp	295 Wp	290 Wp	285 Wp
Module efficiency		15.66%	15.40%	15.15%	14.90%	14.65%	14.55%
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 270/12

(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>1)</sup>	295 Wp	290 Wp	285 Wp	280 Wp	275 Wp
Module efficiency		15.15%	14.90%	14.65%	14.39%	14.29%	14.04%
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>1)</sup> Available in limited amounts upon request.

# SOLON SOLbond Seam.

SOLON Black 280/12 and SOLON Blue 270/12.

## MODULE

### Mechanical specifications

Dimensions (H x W x D)	1,973 x 993 x 4.5 mm
Weight	19.5 kg
Junction box	1 box with 3 bypass diodes
Cable	Solar cable, length 1,000 mm, 4 mm <sup>2</sup> , prefabricated with MC4-combinable plug
Application class	Class A at IEC 61730
Front glass	Transparent toughened safety glass, 3.2 mm
Solar cells	72 cells, mono- or polycrystalline Si 6.2" (156 x 156 mm)
Cell encapsulation	EVA (Ethylene Vinyl Acetate)
Back side	Composite film

### 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

### Assembly rail

Material	Anodised aluminium
Length	6,000 mm

### Sikasil® SG-20

Container size	600 ml
Chemical basis	1-component silicone, moisture-curing
Cross-link type	Neutral
Working temperature	+5°C to +40°C
Use	-40°C to +150°C
Hardening time	6 days (at 23° C and 50 % air humidity)

## SYSTEM

### Operating conditions

Permissible roof pitch	Project-specific inspection
Roof profile	Industrially manufactured standing seam roof with round head profile
Static proof	Steel frame must permit additional load of SOLON SOLbond Seam of 11 kg/m <sup>2</sup>

### Guarantees and certifications

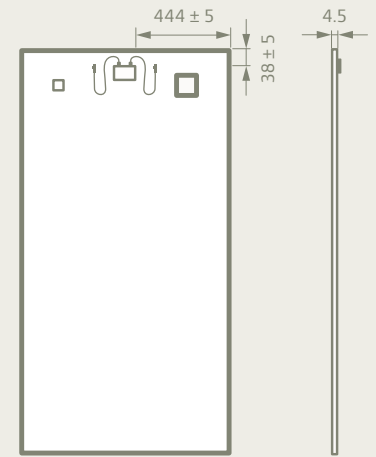
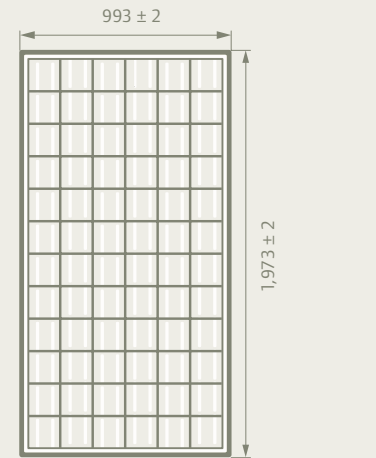
Warranty on adhesive bonding	20 years <sup>2)</sup>
Product guarantee module	10 years <sup>2)</sup>
Performance guarantee module	Guaranteed output of 95 % for 5 years, 90 % for 10 years, 87 % for 15 years, 83 % for 20 years and 80 % for 25 years <sup>2)</sup>
Approvals and certificates module	IEC 61215 Edition II, DIN EN 61730 (incl. Safety Class II), IEC 62716 (Ammonia resistance), IEC 68-2-52 (Salt mist resistance), MCS
Approvals and certificates adhesive	Fulfil requirements of EOTA ETAG 002, EN 13022, ASTM C 1184

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

<sup>2)</sup> According to SOLON Product and Performance Guarantee.

<sup>3)</sup> According to SOLON SOLbond Seam Terms and Conditions of Warranty and Guarantee. Valid for roofs approved by SOLON.

## Drawing



Dimensions in mm



- Qualified, IEC 61215
- Safety tested, IEC 61730
- Ammonia resistance tested
- Periodic Inspection

