

SolarRoof Solrif Glass/Glass FullBlack Bifacial N-Typ 445 W - 465 W



Integrated in-roof solar solution

- Powerful because of TOPCon cell technology
- High module efficiency up to 24.02 %
- 2+2 mm tempered and highly transparent solar glass
- Mechanical load capacity of 8000 Pa
- Hail class 4
- Aesthetic design
- Easy assembly
- Rainproof like a tiled roof
- Full cost coverage in the event of a warranty claim

- Power increase 0 Wp - 4.99 Wp
- Excellent temperature behavior
- PID free
- LID free

Certificates

- ISO 9001: 2015: Quality management system
- ISO 14001: 2015: Environmental management system
- ISO 45001: 2018: Management system for health and safety
- IEC 61215, IEC 61730

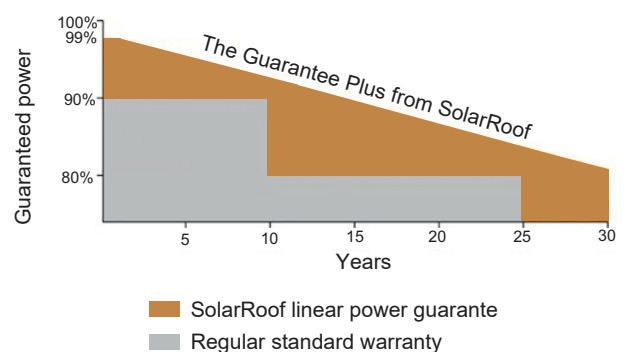


Solrif made by **Schweizer**



Guarantee from Germany

- 30 years product warranty
- 30 years power warranty



ELECTRICAL DATA @ STC

Rated power P _{mp} / W _p	445	450	455	460	465
Voltage open circuit, V _{oc} / V	38.6	38.8	39.0	39.2	39.4
Short circuit current, I _{sc} / A	14.54	14.59	14.65	14.71	14.77
Max. voltage, V _{mp} / V	32.3	32.5	32.7	32.9	33.1
Max. current, I _{mp} / A	13.78	13.85	13.92	13.99	14.06
Module efficiency up to / %	22.99	23.25	23.51	23.76	24.02
Temperature range	-40 °C to +85 °C				
Max. system voltage	1000 V DC / 1500 V DC				
Fire protection class	Class A				
Max. reverse current I _r	30 A				

Technical data according to STC (Standard Test Conditions) Irradiation 1000 W/m² | Module temperature 25 °C | Air Mass 1.5

ELECTRICAL DATA @ NOCT

Module power, P _{max} / W _p	332	336	339	343	347
Open circuit voltage, V _{oc} / V	35.5	35.7	35.9	36.1	36.3
Short circuit current, I _{sc} / A	11.78	11.82	11.87	11.92	11.97
Maximum power voltage, V _{mp} / V	29.5	29.7	29.9	30.1	30.3
Maximum power current, I _{mp} / A	11.30	11.36	11.41	11.47	11.53

Technical data for NOCT (Nominal Operating Cell Temperature) Irradiance 800 W/m² | Wind speed 1 m/s | Ambient temperature 20 °C | Cell operating temperature 43 +/-2 °C | Air Mass 1.5

BIFACIAL GAIN (e.g. 450 W)

Performance gain	P _{max} / W _p	V _{oc} / V	I _{sc} / A	V _{mp} / V	I _{mp} / A
5 %	472.5	38.8	15.32	32.5	14.54
15 %	517.5	38.8	16.78	32.5	15.93
25 %	562.5	38.8	18.24	32.5	17.31

TECHNICAL DATA

Cell / Type	Monocrystalline N-type TopCon / half cells
Number of cells	108 (6 x 18)
Dimensions	1766 x 1160 x 17 mm
Weight	24 kg
Front	2 mm tempered glass with anti-reflective coating
Back	2 mm tempered glass
Junction box / diodes	IP68, 3 diodes
Cable	4 mm ² solar cable, 1200 mm long
Connector	MC4

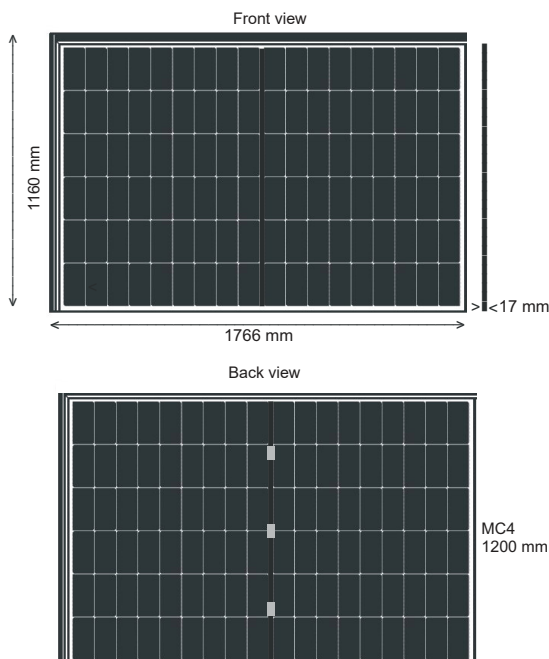
TEMPERATURE COEFFICIENTS

Nominal operating temperature cell NOCT	43°C±2°C
Temp. Coefficient, (P)	-0.30%/°C
Temp. Coefficient, (V)	-0.25%/°C
Temp. Coefficient, (I)	0.045%/°C

PACKAGING

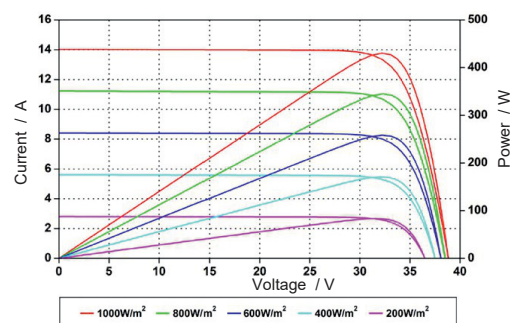
Modules / Euro pallet	23 pieces
Modules / Shipping container	598 pieces

DRAWING

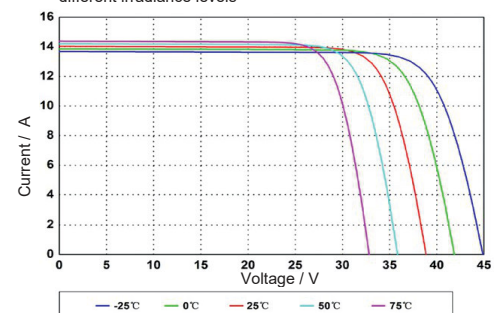


Technical data are average values and may vary slightly.
Measuring tolerance of the nominal power depending on the measuring apparatus +/-3% and other values +/-10%

DIAGRAMS



Current-voltage-power-voltage curves at different irradiance levels



Voltage curves at different temperatures