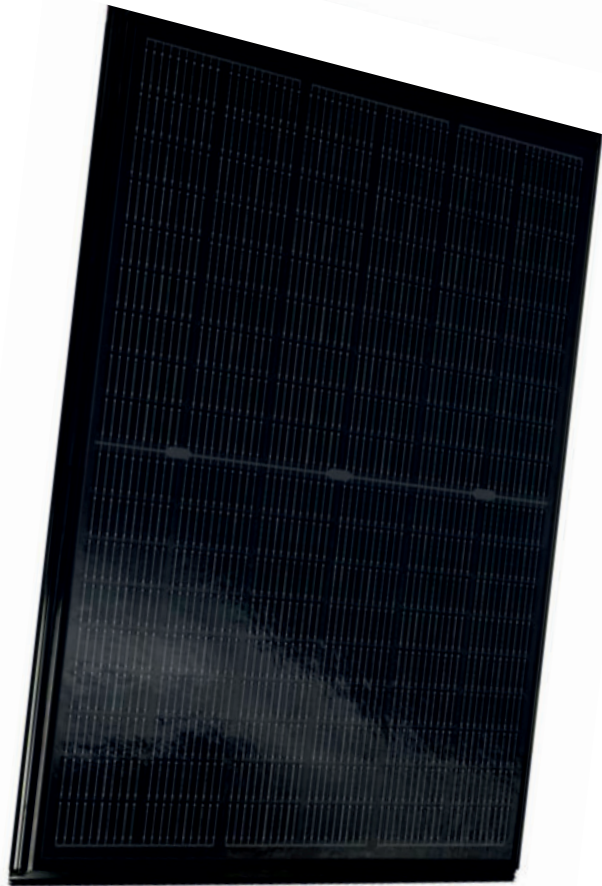


SolarRoof Solrif D Glass/Glass Bifacial N-Typ 450 W - V1



Integrated in-roof solar solution

- Powerful because of TOPCon cell technology
- High module efficiency of 23,25 %
- 3,2 + 3,2 mm tempered and highly transparent solar glass
- Mechanical load capacity of 10500 Pa
- Hail class 4
- Aesthetic design
- Easy assembly
- Rainproof like a tiled roof
- Full cost coverage in the event of a warranty claim

Solrif made by **Schweizer**

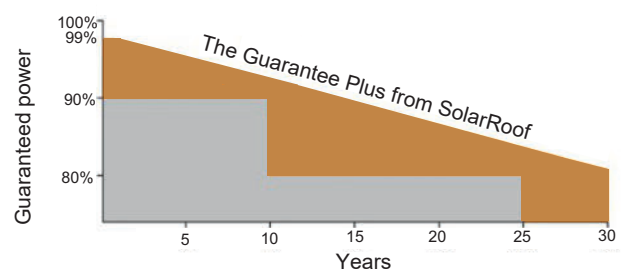
Certificates

- Power increase 0 Wp - 4,99 Wp
- Excellent temperature behavior
- PID free
- LID free

- 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



Guarantee from Germany



- 30 years product warranty
- 30 years power warranty

- SolarRoof linear power guarantee
- Regular standard warranty

ELECTRICAL DATA @ STC

Maximum power, P _{mpp} / Wp	450
Voltage open circuit, V _{oc} / V	38,8
Short circuit current, I _{sc} / A	14,59
Max. voltage, V _{mpp} / V	32,5
Max. current, I _{mpp} / A	13,85
Module efficiency up to / %	23,25
Temperature range / °C	-40 up to +85
Max. system voltage DC / V	1500
Fire protection class	Class A
Max. reverse current I _r / A	30

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

ELECTRICAL DATA @ NOCT

Maximum power, P _{mpp} / Wp	336
Voltage open circuit, V _{oc} / V	35,7
Short circuit current, I _{sc} / A	11,82
Max. voltage, U _{mpp} / V	29,7
Max. current, I _{mpp} / A	11,36

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 (450 W)

Power gain / %	P _{max} / Wp	U _{oc} / V	I _{sc} / A	U _{mpp} / V	I _{mpp} / 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 20 mm
Weight / kg	33,5
Front	3.2 mm tempered glass with anti-reflective coating
Backsheet	3,2 mm tempered glass
Junction box / diodes	IP68, 3 diodes
Cable	4 mm ² solar cable, 1200 mm long
Connector	MC4

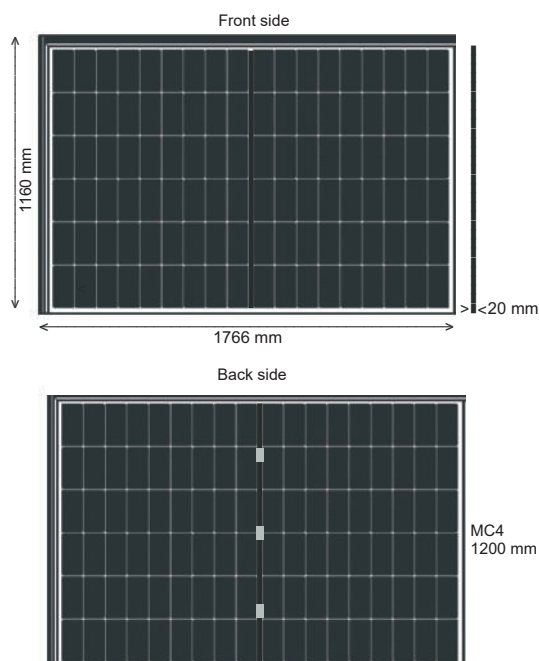
TEMPERATURE COEFFICIENTS

Nominal operating temp. cell (NOCT)	43 °C±2 °C
Temp. Coefficient, (P)	-0,30 %/°C
Temp. Coefficient, (U)	-0,25 %/°C
Temp. Coefficient, (I)	0,045 %/°C

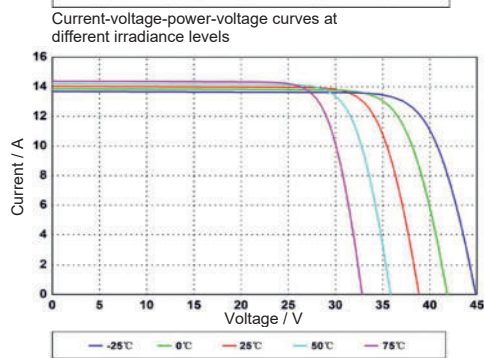
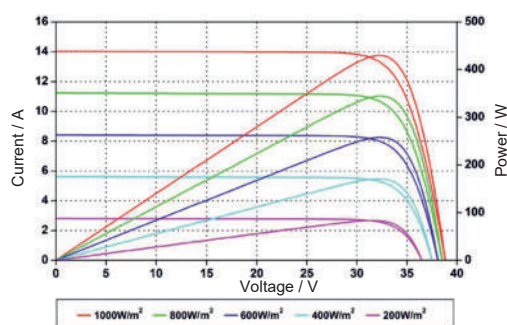
PACKAGING

Modules / Pallet	32 pieces
Modules / Shipping container	832 pieces

DRAWING



DIAGRAMS



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 %

Voltage curves at different temperatures