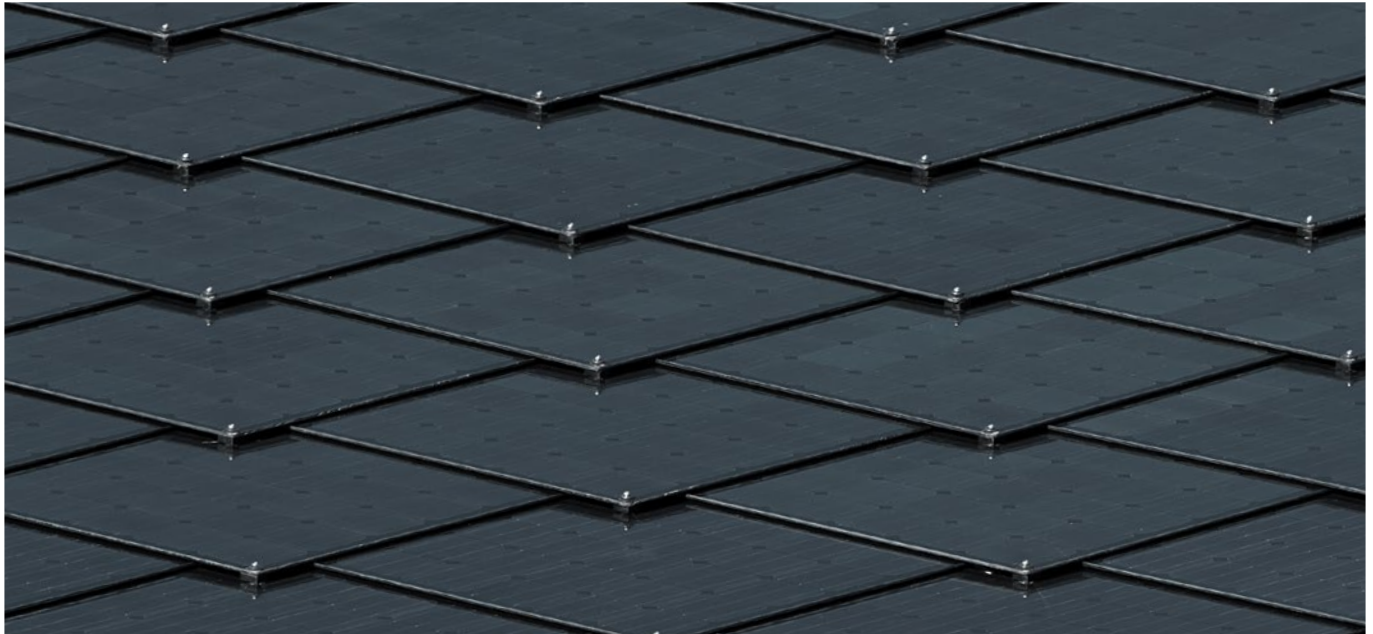




SUNSTYLE® PHOTOVOLTAIC ROOF

TECHNICAL DATA BLACK SHINGLES



GENERAL CHARACTERISTICS

Dimension basic shingle	34.25 × 34.25 inches, 870 × 870 mm
Solar cell type	Monocrystalline silicon cells
Laminate structure	Glass EVA Cells EVA Backsheet
Junction box	TE Connectivity or equal
Bypass diode	One diode per shingle
Connection cable	Solar cable 4 mm ² , length 800 mm each
Connector	TE Connectivity (PV4) or equal
Glass thickness	6 mm
Glass properties	Tempered solar safety glass (ESG)
Weight	4 lbs/ft ² or 19.5 kg/m ²
Temperature range	-40°C to +85°C

ELECTRICAL PROPERTIES AT STC (1000 W/m², 25°C and AM 1.5)

Type of shingle	Black basic shingle
Nominal output	108 Wp per single
Nominal output per ft ² or m ²	15.2 Wp/ft ² or 164 Wp/m ²
Voltage U _{mp}	12.7 V
Current I _{mp}	8.5 A
Open circuit voltage U _{oc}	15.8 V
Short circuit current I _{sc}	8.9 A
Maximum system voltage	1000 V DC
Reverse current overload	20 A
Tolerance nominal output	±3 %

TEMPERATURE COEFFICIENTS

Temperature coefficient voltage (U _{oc})	-0.19%/K
Temperature coefficient nominal output (P _{mp})	-0.39%/K
Temperature coefficient short circuit current (I _{sc})	+0.05%/K

QUALITY AND WARRANTY

Product guarantee	10 years
Performance guarantee	10 years at 90 % of the nominal output 25 years at 80 % of the nominal output
Quality and Certification	IEC 61215 IEC 61730 (Safety protection class II) HW 4 (withstands 40 mm Ø hailstones)

Certified pressure load	up to 15 400N/m ² (alpine)
Accessibility	Can be accessed without any guarantee restrictions