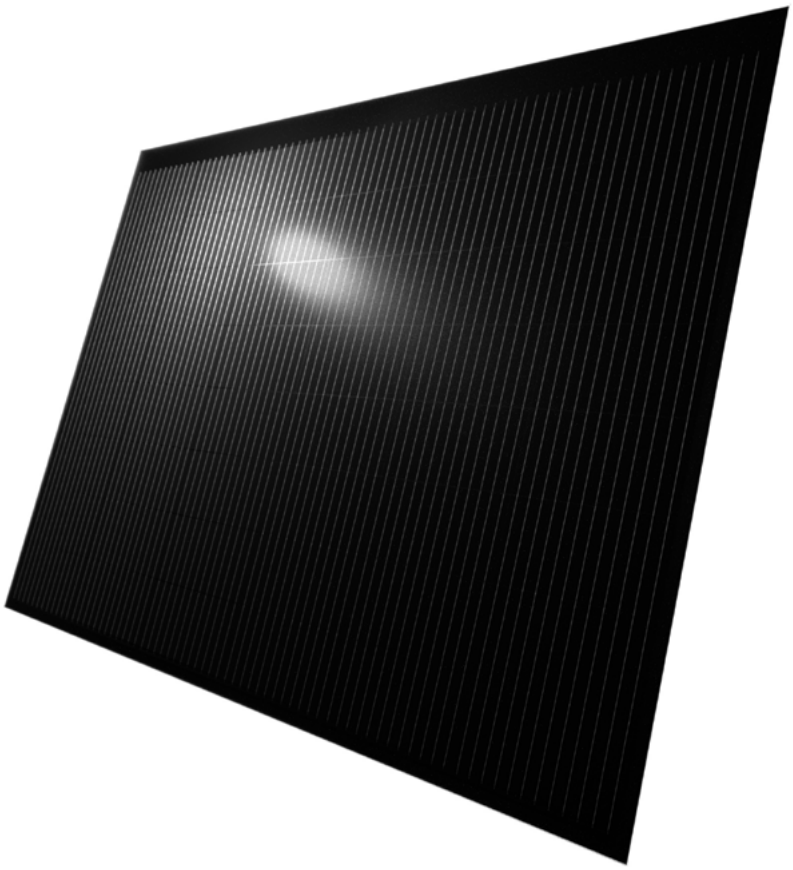
3S solar roof

Versatile solar module for the roof

- Building integrated photovoltaics (BIPV)
- Hail resistance class 5
- Frameless design for self-cleaning
- Low-glare options & variety of colours available
- Salt mist & ammonia resistance
- Maximum fire resistance BRoof(t1)
- Swiss made
- EPD certified



196 Wp/m²

Low-carbon module

130 kg CO_2 eq/m²

40 year weather resistance guarantee

100% produced with CO_2-neutral energy

80% performance guarantee over 25 years

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TeraSlate® Black

The TeraSlate solar module enables full or partial covering on roofs with a roof pitch of 3° or more and replaces conventional roofing materials. It offers optimum weather protection, has been successfully tested for increased wind, snow and ice loads, and achieves hail resistance class HW 5 (hailstone Ø 50 mm at 30.8 m/s). The frameless design ensures excellent self-clean, and the well-thought-out and clear system makes installation particularly easy. Developed and produced in Switzerland using carbon-neutral electricity, the TeraSlate module meets the highest standards of quality and sustainability – backed by a 40-year weather resistance guarantee.

Electrical Specifications	L	Q	M	S
Nominal power (Wp)	225	165	150	110
Voltage Umpp (V)	27.8	20.4	18.5	13.6
Current Impp (A)	8.1			
Open-circuit voltage Uoc (V)	33.1	24.8	22.2	16.6
Short-circuit current Isc (A)	8.5			
Module efficiency	19.6%	18.9%	19.4%	18.8%
Maximum system voltage (VDC)	1000			
Maximum reverse fuse rating (A)	15			
Safety class	II			
Tolerance of power, current & voltage	± 3%			
Temperature coefficient Pmax (%/K)	-0.319			
Temperature coefficient Uoc (%/K)	-0.244			
Temperature coefficient Isc (%/K)	+0.039			
Number of bypass diodes	3	3	2	2

Electrical performance data at STC (1000 W/m², 25 °C, AM 1.5)

Mechanical specifications	L	Q	M	S
Length (mm)	935	720	935	720
Width (mm)	1300	1300	875	875
Thickness (mm)	6.5			
Weight (kg)	17.7	13.3	11.8	9.1
Design	Glass / Backsheet			
Glass	5 mm ESG solar glass			
Quantity of half-cells	48	36	32	24
Cell type	G12			
Junction box	3Qxy series (QC Solar)			
Junction box cable	Solar cable H1Z2Z2-K, 4 mm², length 1.4 m (QC Solar)			
Electrical connector	Original MC4 (Stäubli Electrical Connectors AG)			
Hail resistance class VKF	HW 5 hailstones Ø 50 mm at 30.8 m/s (111 km/h)			
Maximum load (Tested compressive load and suction load according to SIA 261/ EN 1990)	4790 N/m² (compressive load) 9210 N/m² (compressive load alpine) 1470 N/m² (suction load) 2670 N/m² (suction load alpine)			
Maximum load (Tested compressive load and suction load according to IEC 61215)	5400 N/m² (compressive load) 8000 N/m² (compressive load alpine) 2400 N/m² (suction load) 2400 N/m² (suction load alpine)			

Performance guarantee over 25 years

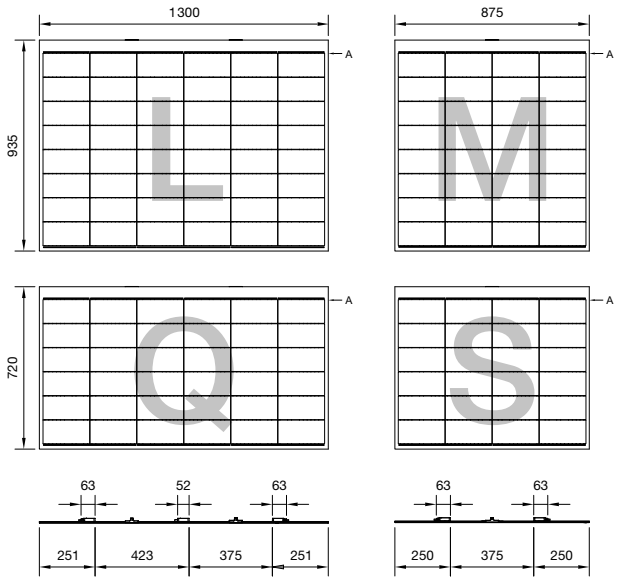
Product warranty	10 years
Performance guarantee	1 year on the 97% of the minimum performance 25 years on the 80% of the minimum performance
Weather resistance guarantee	40 years

Certifications & standards

Applied standards	IEC 61730:2018; IEC 61215:2021; SIA 261, 261/1; EN 1990
Rain tightness	CEN/TR 15601
Salt mist - corrosion test	acc. IEC 61701
Ammonia - corrosion test	acc. IEC 62716
Fire class according to DIN EN 13501-5	BRoof(t1)
Fire class VKF	RF1 - Is considered a non-combustible top layer

Packaging information

Packaging	Reusable wooden pallets (empty weight 49 kg)
Number of modules	44 modules per pallet
Pallet size (L x W x H)	140 x 115 x 110 cm
Max. shipping weight	830 kg / pallet



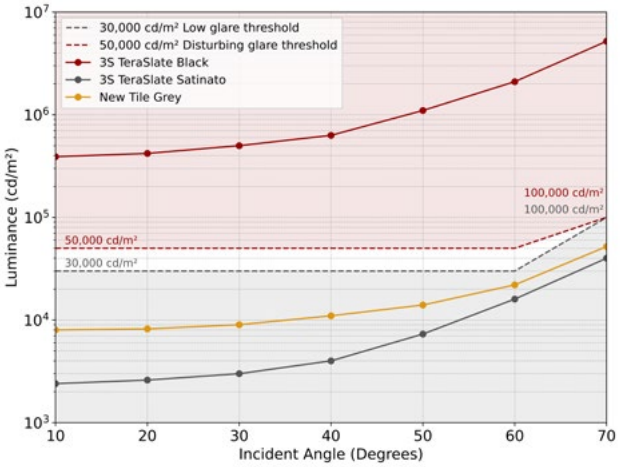
Low-glare solar module

For most solar roofs, the glare effect is harmless to the surrounding area. In certain cases, however – such as north-facing roofs, hillside situations, steep pitches or long periods of glare – increased reflection can be problematic. For such situations, 3S also offers the TeraSlate solar module in a low-glare version – an ideal solution for minimising light reflection in sensitive environments.

Electrical specifications	L	Q	M	S
Nominal power (Wp)	220	160	145	110
Voltage Umpp (V)	27.8	20.4	18.5	13.9
Current Impp (A)	7.9			
Open-circuit voltage Uoc (V)	33.1	24.8	22.2	16.6
Short-circuit current Isc (A)	8.4			
Module efficiency (%)	19.1%	18.4%	18.7%	18.8%
Maximum system voltage (VDC)	1000			
Maximum reverse fuse rating (A)	15			
Safety class	II			
Tolerance of power, current & voltage (%)	± 3%			
Temperature coefficient Pmax (%/K)	-0.319			
Temperature coefficient Uoc (%/K)	-0.244			
Temperature coefficient Isc (%/K)	+0.039			
Number of bypass diodes	3	3	2	2

Electrical performance data at STC (1000 W/m², 25 °C, AM 1.5)

Luminance



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Due to the manufacturing process of satin-finished glass, colour variations may occur depending on the viewing angle. This may result in solar modules not looking identical. The variations are purely visual and do not affect the performance of the module. For further information, please visit: www.3s-solar.com

Colour selection

Coloured solar modules open up a wide range of design options: they emphasise modern architectural design and, at the same time, enable the harmonious integration of the latest solar technology into historic buildings, for example in the context of monument protection. In addition to black, 3S offers the TeraSlate solar module in eight other standard low-glare colours with high efficiency and excellent angular stability. Other colour variants are also available on request.

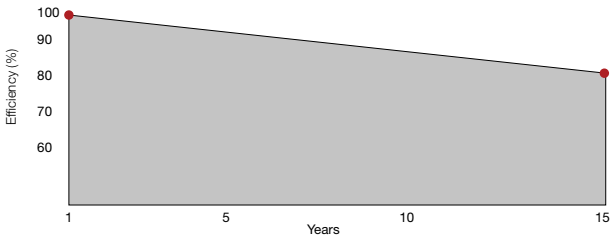
	L				Q	M	S		
	Voltage Umpp	Opencir-cuit voltage Uoc	Nominal power	Remaining power	Nominal power	Nominal power	Nominal power	Current Impp	Shortcir-cuit current Isc
Clay Brown	27.8 V	33.1 V	165 Wp	73%	120 Wp	110 Wp	85 Wp	6.1 A	6.4 A
Brick Brown	27.8 V	33.1 V	170 Wp	76%	125 Wp	115 Wp	85 Wp	6.1 A	6.4 A
Chestnut Brown	27.8 V	33.1 V	165 Wp	73%	120 Wp	110 Wp	85 Wp	6.1 A	6.4 A
Acorn Brown	27.8 V	33.1 V	190 Wp	85%	140 Wp	125 Wp	90 Wp	6.7 A	7.0 A
Slate Grey	27.8 V	33.1 V	130 Wp	58%	95 Wp	85 Wp	65 Wp	4.7 A	4.9 A
Stone Grey	27.8 V	33.1 V	165 Wp	73%	120 Wp	110 Wp	85 Wp	6.0 A	6.3 A
Forest Green	27.8 V	33.1 V	170 Wp	76%	125 Wp	110 Wp	85 Wp	6.1 A	6.4 A
Fjord Blue	27.8 V	33.1 V	185 Wp	82%	135 Wp	125 Wp	90 Wp	6.8 A	7.1 A

Calculated values. Tolerance nominal power ± 5%. The actual power values are determined after production. Colour deviations are possible due to the manufacturing process.

Customisable solar module

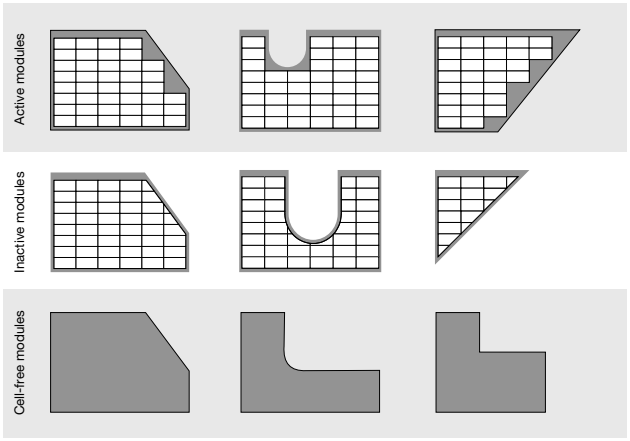
Custom-made 3S TeraSlate solar modules enable full covering, harmonious integration even on complex roof shapes. Electrically active modules maximise energy yield, while inactive variants specifically enhance the overall aesthetic appearance of a building. Cell-free modules also offer an elegant solution for clean edging. All special formats can be installed using the proven substructure and existing system components.

Performance guarantee over 15 years



Product warranty	10 years
Performance guarantee	1 year on the 97% of the minimum performance 15 years on the 80% of the minimum performance
Weather resistance guarantee	40 years

Variants and shape examples

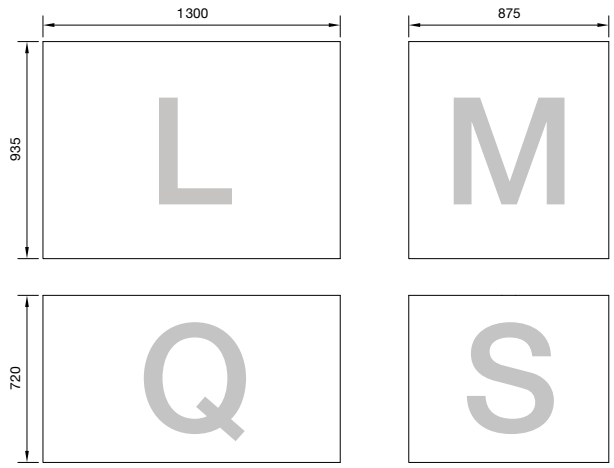


Complementary aluminium composite panel

The aluminium composite board is a robust and economical addition to the 3S TeraSlate solar system. The roof panels are laid in an overlapping installation and guarantee reliable fire protection, insulation and watertightness. The standard formats L, M, Q and S give the energy roof a uniform and aesthetic appearance. For maximum flexibility, a large-format panel is available that can be cut to size directly on site – ideal for precise edging and complex roof shapes.

Mechanical specifications	L	Q	M	S	GF
Length (mm)	935	720	935	720	1000
Width (mm)	1300	1300	875	875	2650
Thickness (mm)	6.5				
Weight (kg)	18.0	13.0	12.0	9.0	28.2
Material	Aluminium composite panel				
Color side I	Black				
Color side II	Anthracite				
Hail resistance class	HW 5 functionality HW 3 appearance				
Maximum load (Tested compressive load and suction load according to IEC 61215)	5400 N/m² (compressive load) 8000 N/m² (compressive load alpine) 2400 N/m² (suction load) 2400 N/m² (suction load alpine)				

Dimensions (mm)



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This datasheet is not legally binding. The manufacturer reserves the right to make changes to product specifications and / or product features without prior notice. The most recent versions of all documents (GTCs, datasheets, warranties and installation manuals) can be found on our website at: www.3s-solar.com