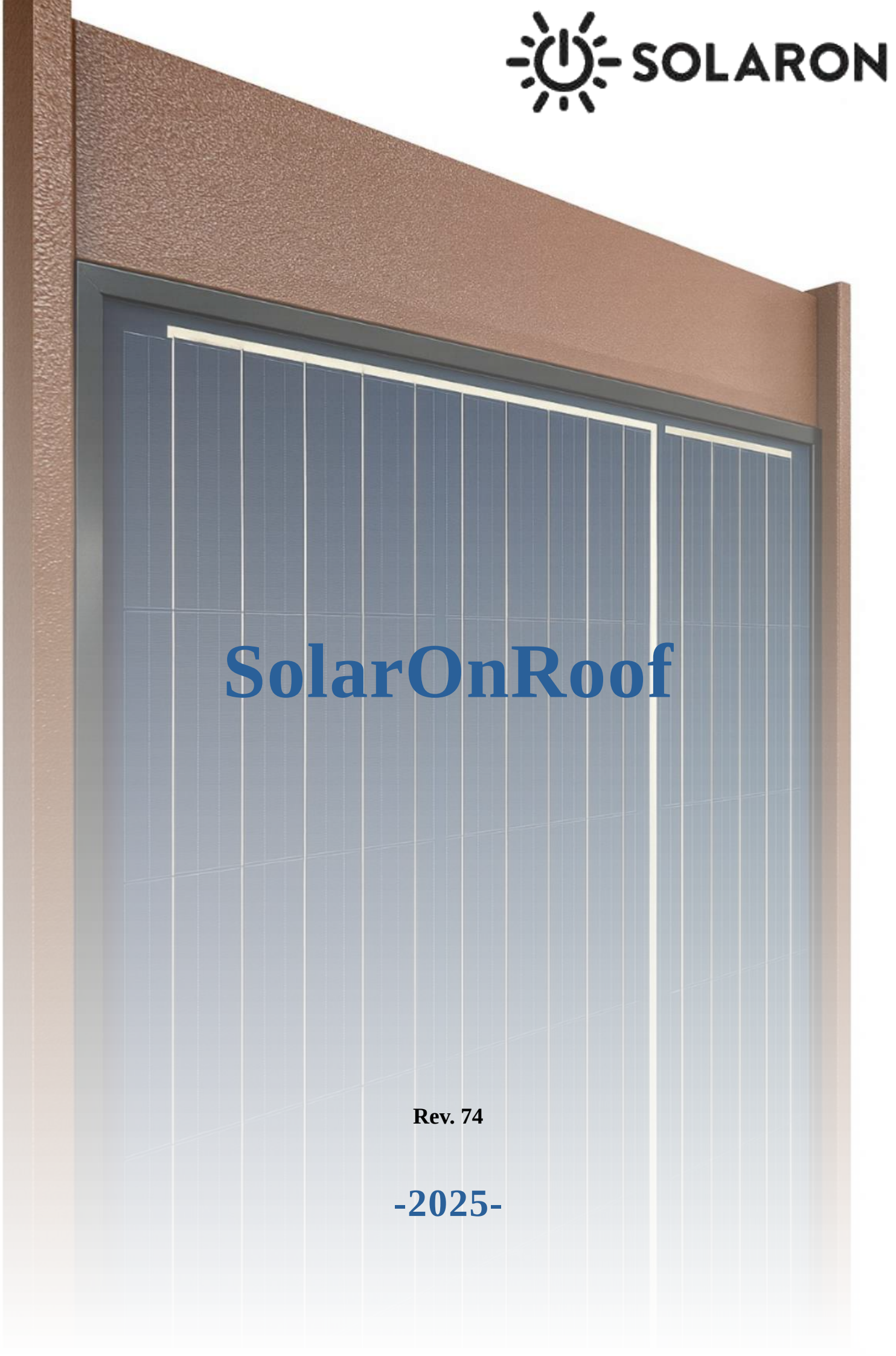

SolarOnRoof

Rev. 74

-2025-

Profpanel LLC,
Arshakunyats 25/1, Yerevan, Armenia
WEB: www.solaron.am ; info@solaron.am

SolarOnRoof

Just choose our new "SolarOnRoof" and you will see that the metal roof can also generate electricity !

Intraduction

"SolarOnRoof" is our innovative product that connects metal roofing and solar panel at the same time. The main feature of our product is the use of innovative ETFE cover for solar cells instead of glass. ETFE films is increasingly used in modern architecture.

Want to know what the Allianz Arena in Munich and our solar roof have in common?

They are both based on material ETFE or Ethylene Tetra Fluoro Ethylene.

Figure 1: Allianz Arena. Munich, Germany

Here are its main characteristics

1. **Impressive transparency,** exceeding the transparency of glass
2. **Exceptional lightness**, comprising approximately 1% of the weight of glass
3. **Low thermal conductivity**, which reduces heat transfer and minimizes energy loss
4. **ETFE requires minimal cleaning**. Due to the non-adhesive surface properties of the ETFE, deposits of dirt, dust, and debris do not stick and are washed away by the rain resulting in a "**self-cleaning**" effect.
5. As ETFE is not affected by UV light, atmospheric pollution, and other forms of environmental weathering, ETFE has an exceptional **life expectancy**. While no ETFE structures have been in place for long enough to gain a true understanding of the full life cycle, it is predicted that the material has a life expectancy greater than **50 years.**

Another feature of our roof is that we have chosen the most hermetic version of the roofing sheet with a double fold (double lock) or standing seam as the metal profile. In production, we use galvanized metal sheets with a thickness of at least 0.45 mm with a polymer coating, color according to the RAL catalog.

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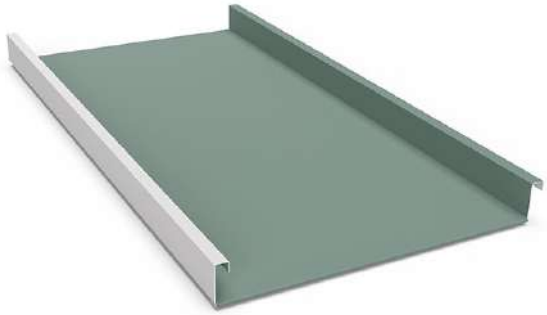
Design



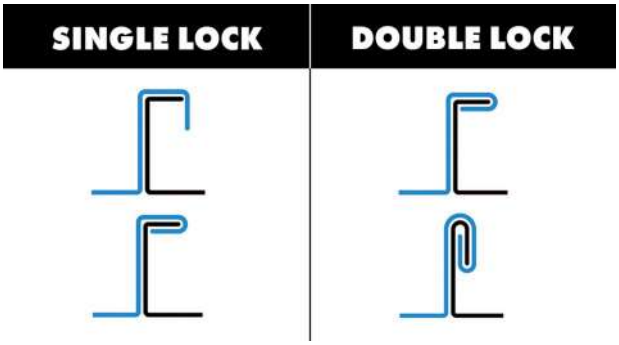


Figure 2: Standing seam roofing metal sheet

Design Features

Front Cover	ETFE
Solar Cells	Microcrystalline TOPCON or PERC 158.75mm
Backsheet	0.45mm, Galvanized Metal Sheet with Polymer Coating
Color	RAL, on customer request
Junction Box	2 bypass diods JZX 306
Connectors	MC 4 Compatible
Installation	Double Seam Technology

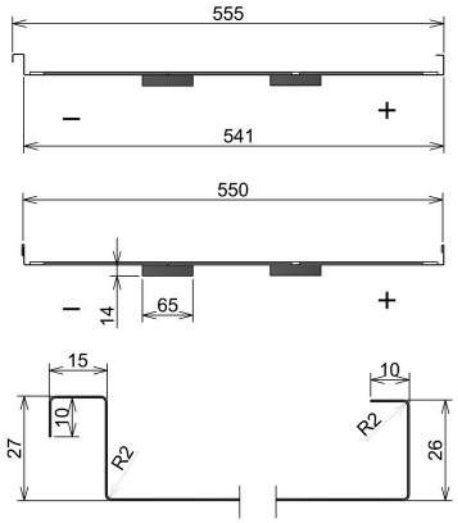


Figure 4: Profile geometry

Figure 3: Recomended colors for roof according RAL catalog

Profpanel LLC,
Arshakunyats 25/1, Yerevan, Armenia
WEB: www.solaron.am ; info@solaron.am

Datasheets

SLN-ROOF-36G1-175-RXXXX

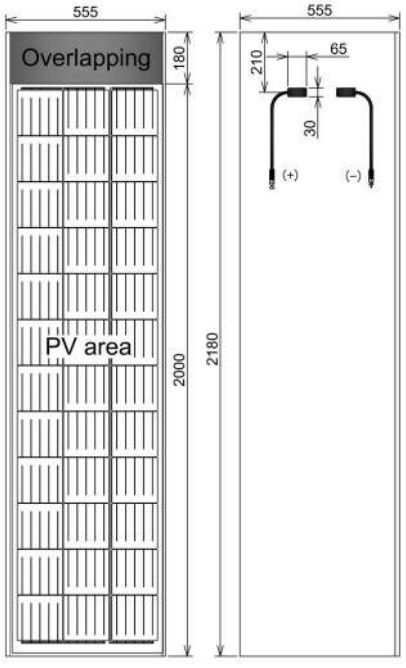
(where XXXX is a color code according RAL)

Mechanical Specification & Dimensions

Dimension	2180*555
Effective Roof Coverage	2000*550
Weight	7.7 Kg
Minimal Installation Angle	15º
Testing Positive Load	
Testing Negative Load	

Working & Installation Conditions

Maximum System Voltage	1000V
Operating Temperature	-40°C__+80°C
Maximum Serial Fuse Rating	16A
Minimal Ventilation Gap Bellow	50mm
Mounting Method	Double Standing Seem Technology



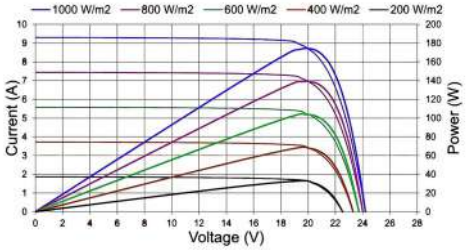
Electrical Characteristics

	STC	NMOT
Nominal Power (W)	175 (0;-+3%)	118
Open Circuit Voltage (V)	25.25	22.95
Short Circuit Current (A)	9.32	7.22
Voltage at MMP (V)	20.02	17.52
Current at MMP (A)	8.84	6.75

*) STC – Standard Test Conditions (1000W/m², (25±2)°C, AM 1.5; according to IEC 60904-3);

**) NMOT - Nominal Module Operating Temperature (irradiance 800 W/m2, air temperature 20 °C, wind 1 m/s, spectrum AM1.5) ,

***) Tolerance of all electrical characteristics ±3%



Thermal Characteristics

Temperature Coefficient of P(mmpp	-0.36%/Kº
Temperature Coefficient of V(oc)	-0.27%/Kº
Temperature Coefficient of I(sc)	0.042%/Kº

Profpanel LLC,
Arshakunyats 25/1, Yerevan, Armenia
WEB: www.solaron.am ; info@solaron.am

SLN-ROOF-30G1-145-RXXXX

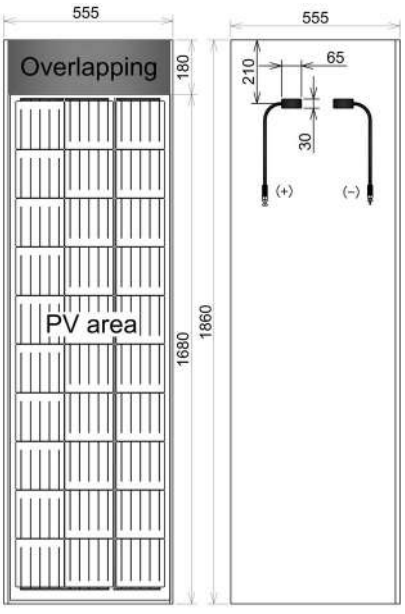
(where XXXX is a color code according RAL)

Mechanical Specification & Dimensions

Dimension	1860*555
Effective Roof Coverage	1710*550
Weight	6.5 Kg
Minimal Installation Angle	15º
Testing Positive Load	
Testing Negative Load	

Working & Installation Conditions

Maximum System Voltage	1000V
Operating Temperature	-40°C__+80°C
Maximum Serial Fuse Rating	16A
Minimal Ventilation Gap Bellow	50mm
Mounting Method	Double Standing Seem Technology



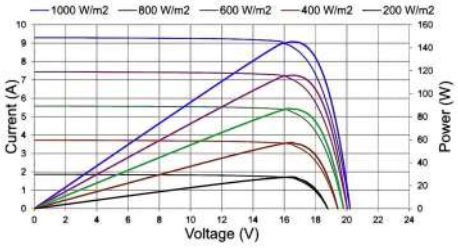
Electrical Characteristics

	STC	NMOT
Nominal Power (W)	145 (0;-+3%)	98
Open Circuit Voltage (V)	21.03	18.73
Short Circuit Current (A)	9.23	7.13
Voltage at MMP (V)	16.59	14.59
Current at MMP (A)	8.82	6.73

*) STC – Standard Test Conditions (1000W/m², (25±2)°C, AM 1.5; according to IEC 60904-3);

**) NMOT - Nominal Module Operating Temperature (irradiance 800 W/m2, air temperature 20 °C, wind 1 m/s, spectrum AM1.5) ,

***) Tolerance of all electrical characteristics ±3%



Thermal Characteristics

Temperature Coefficient of P(mmpp	-0.36%/Kº
Temperature Coefficient of V(oc)	-0.27%/Kº
Temperature Coefficient of I(sc)	0.042%/Kº

Profpanel LLC,
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SLN-ROOF-24G1-115-RXXXX

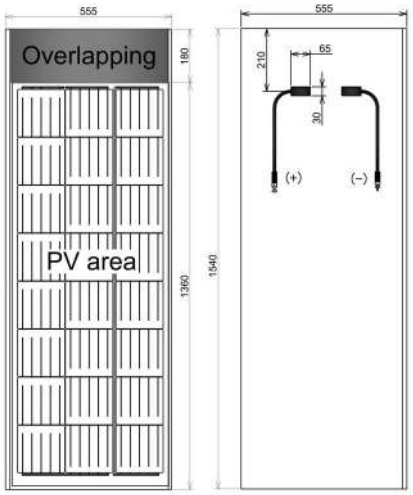
(where XXXX is a color code according RAL)

Mechanical Specification & Dimensions

Dimension	1540*555
Effective Roof Coverage	1340
Weight	5.6 Kg
Minimal Installation Angle	15º
Testing Positive Load	
Testing Negative Load	

Working & Installation Conditions

Maximum System Voltage	1000V
Operating Temperature	-40°C__+80°C
Maximum Serial Fuse Rating	16A
Minimal Ventilation Gap Bellow	50mm
Mounting Method	Double Standing Seem Technology



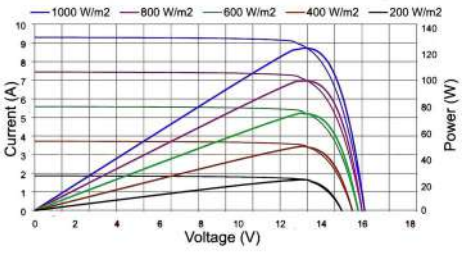
Electrical Characteristics

	STC	NMOT
Nominal Power (W)	115	82
Open Circuit Voltage (V)	17.04	14.98
Short Circuit Current (A)	9.32	7.46
Voltage at MMP (V)	13.3	11.64
Current at MMP (A)	8.76	7.12

*) STC – Standard Test Conditions (1000W/m², (25±2)°C, AM 1.5; according to IEC 60904-3);

**) NMOT - Nominal Module Operating Temperature (irradiance 800 W/m2, air temperature 20 °C, wind 1 m/s, spectrum AM1.5) ,

***) Tolerance of all electrical characteristics ±3%



Thermal Characteristics

Temperature Coefficient of P(mmpp	-0.36%/Kº
Temperature Coefficient of V(oc)	-0.27%/Kº
Temperature Coefficient of I(sc)	0.042%/Kº