

Tesla Solar Panel

TSP-415 and TSP-420

The Tesla Solar Panel blends sleek aesthetics and hidden electrical connections with high-powered engineering, exceeding industry performance and quality standards. Featuring our Tesla frame design, the all-black panel mounts close to your roof for a minimalist aesthetic, with no extra rails and no visible clamps.

Proudly made on Earth by humans and assembled in Buffalo, New York, in the United States of America.

Sleek Design

- All-black solar panels and concealed cell connections for a uniform minimalist aesthetic.
- Seamless integration with Tesla Panel Mount – no exposed hardware, low profile, and aesthetic front and side skirts.

Power Zones

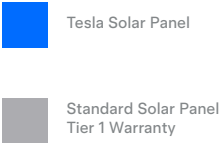
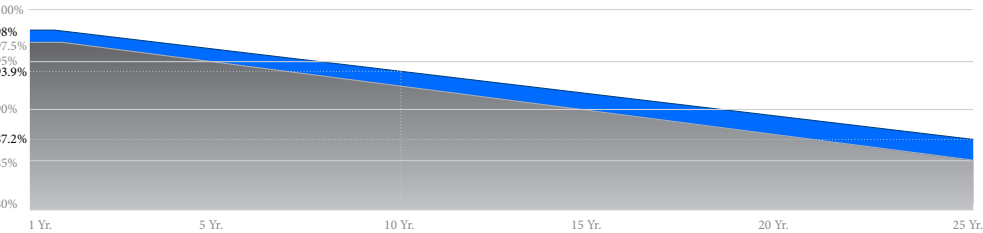
- More substrings to mitigate shade and deliver more energy to your home.
- Designed to pair perfectly with the Tesla Solar Inverter and Powerwall 3.
- 3x Power Zones compared to legacy panels for maximized energy yield.

Standard Solar Panel	Tesla Solar Panel
6 Power Zones	18 Power Zones
	

Limited Power Warranty

Product	25 years
Performance	25 years

At least 98% of nominal power during first year. Thereafter max. 0.45% degradation per year. At least 93.9% of nominal power up to 10 years. At least 87.2% of nominal power up to 25 years.



Solar Panel Specifications

Electrical Characteristics

Model Number	TSP-415	TSP-420
Power Class	415 W	420 W
Test Method	STC	STC
Max Power, P _{max} (W)	415	420
PTC Rating (W)	390.6	395.4
Open Circuit Voltage, V _{oc} (V)	40.92	40.95
Short Circuit Current, I _{sc} (A)	12.93	13.03
Max Power Voltage, V _{mp} (V)	34.24	34.29
Max Power Current, I _{mp} (A)	12.12	12.25
Module Efficiency (%)	≥ 20.3%	≥ 20.5%
STC	1000 W/m², 25°C, AM1.5	

Operation Parameters

Operational Temperature	-40 °C up to +85°C
Power Output Tolerance	415W: +5/-0W 420W: +15/-0W
V _{oc} & I _{sc} Tolerance	+/- 5 %
Max System Voltage	DC 1000V (IEC/UL)
Max Series Fuse Rating	25 A
Safety Class	Class II
Fire Rating	UL 61730 Type 2

Mechanical Loading

Front Side Test Load	4309 Pa 90 psf
Rear Side Test Load	4309 Pa 90 psf
Front Side Design Load	2873 Pa 60 psf
Rear Side Design Load	2873 Pa 60 psf
Hail Test	35mm at 27.2 m/s

Mechanical Parameters

Cell Orientation	360 (6 x 60)
Junction Box	IP68, 3 diodes
Cable	4 mm² 12 AWG, 1000 mm 39.4 in. Length
Connector	Staubli MC4
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass
Frame	Black Anodized Aluminum Alloy
Weight	22.3 kg 49 lb
Dimensions	1805 mm x 1135 mm x 40 mm
	71.1 in x 44.7 in x 1.57 in

Compliance Information

Certifications	IEC / UL 61730 - 1, IEC / UL 61730 - 2 and IEC 61215
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Temperature Rating (STC)

Temperature Coefficient of I _{sc}	+0.04%/ °C
Temperature Coefficient of V _{oc}	-0.27%/ °C
Temperature Coefficient of P _{max} (W)	-0.34%/ °C

