

POWERHOUSE™ 3.0 Solar Shingle



Features:

- Uses technology developed by The Dow Chemical Company
- POWERHOUSE™ is already on over 1,000 homes
- 11-year parts warranty and 24-year production warranty
- Designed and assembled in the U.S.A.

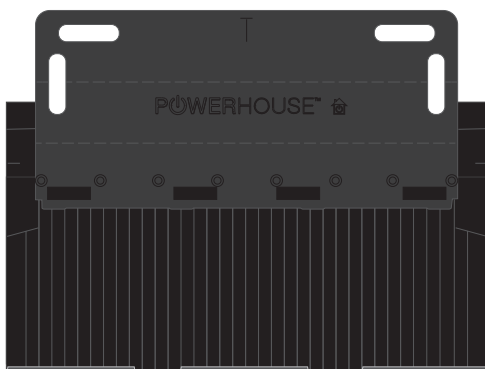
Benefits:

- Get your new roof and POWERHOUSE™ solar shingles in a package deal
- Visually stunning and affordable
- Enjoy savings on your electrical bills, which keep going up
- Battery storage solutions available



Horseshoe Connector

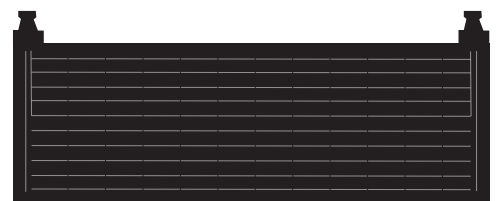
The environment underneath a BIPV module has its own temperature, pressure and moisture considerations. Dow engineers solved this by designing an extremely specific connector. This is not just a traditional PV connector put in as an afterthought, but instead a much more rugged and protected connector able to withstand dirt, oils, debris, moisture, high temperatures, expansion, contraction, flexion, vibration, and even light foot traffic.



Base Plate



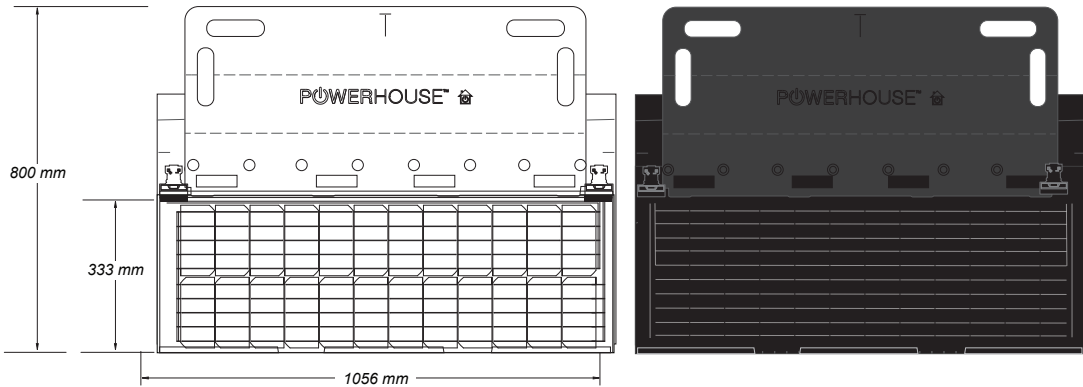
Horseshoe Connector



Solar Photovoltaic Insert

POWERHOUSE™ 3.0 Solar Shingle

DIMENSIONS



MECHANICAL CHARACTERISTICS

Dimensions - Outside Area	1056mm x 800mm (41.6" x 31.5")
Dimensions - Exposed Area	1056mm x 333mm (41.6" x 13.1")
Weight	17.6 lbs (4.6 lbs/sq ft)
Cell Type	Monocrystalline PERC 156 x 156mm (6 inch)
# of Half-cells	24 (2 Rows of 12)
Bypass Diode	1 per shingle
Connectors	Proprietary BIPV Connector Developed by Dow
Shingle Frame	Proprietary Molded Resin Developed by Dow

ELECTRICAL CHARACTERISTICS

Model Number	PH - 055	PH - 060
Maximum Power (P_{max})	55 W	60 W
Panel Efficiency*	15.6%	17.1%
Open Circuit Voltage at STC (V_{oc})	15.5 V	15.7 V
Maximum Power Voltage (V_{mpp})	12.5 V	12.7 V
Short Circuit Current (I_{sc})	4.68 A	5.03 A
Maximum Power Current (I_{mpp})	4.40 A	4.73 A
Maximum Series Fuse Rating	8.5 A	8.5 A
Maximum System Voltage	600 V	600 V

The electrical characteristics are within +/- 10% of the indicated values of I_{sc} , V_{oc} , and P_{max} under standard test conditions (irradiance of 1000 W/m², AM 1.5 spectrum, and a cell temperature of 25°C (77°F)).

*Panel Efficiency based on exposure area.

THERMAL CHARACTERISTICS

Power (W_p)	-0.45	(%/°C)
Voltage (V_{oc})	-0.32	(%/°C)
Current (I_{sc})	0.02	(%/°C)

TECHNICAL SPECIFICATIONS



CERTIFICATIONS

PV	UL 1703 PV Modules & Panels IEC 61215 CEC & FESC Listed (US)
Fire	UL 790 (Class A - Highest Rating)
Wind	UL 1897
Rain	TAS 100

WARRANTIES

Power Production Guarantee	24 Year
Product Workmanship Warranty	11 Year

APPLICATION LIMITS

Module Operating Temperature	-40°C to +90°C
Wind Rating	110 - 200 MPH*
Impact Resistance (Hail)	2" Steel Ball (1.18lbs.) dropped at 51"

*dependent on fasteners used and roof exposure classifications

Version: 2019.04.10
Design and specifications are subject to change without prior notice.