FlexLight Photovoltaic Laminate (PVL) Series

ADVANCED GREEN TECHNOLOGIES

PVL-432TPO

MODEL NUMBER

PERFORMANCE CHARACTERISTICS

- Rated Power (Pmax): 432W
- Production Tolerance: ±5%

CONSTRUCTION CHARACTERISTICS

- 3 PVL-144 factory applied to standing TPO Roofing Membrane roof.
- 20 year warranty on power output at 80%.
- Dimensions: Length: 6000mm.
  Width: 1524mm.
- Weight: 47.7kg.
- Output Cables: 4mm cable with weatherproof DC rated quick-connect terminals, dual rated 1000V/600V, 560 mm length for each of 3 PV laminates.
- By-pass Diodes: Connected across every solar cell: this protects the solar cell from power loss in case of partial shading or damage of individual solar cells while other cells are exposed to full sunlight.
- Laminate Encapsulation: Durable ETFE (e.g. Tefzel®) high light-transmissive polymer.
- Adhesive: Ethylene propylene copolymer adhesive-sealant with microbial inhibitor.
- Cell Type: 22 triple junction amorphous silicon solar cells 356 x 239 mm connected in series for each of 3 PV laminates.

FEATURES

- Factory laminated to TPO, or other roofing membranes
- Flexible and lightweight - Virtually unbreakable, weighs only 5.13kg per square meter, compared to 25kg per meter for a traditional solar system
- Adheres directly to the roof without penetrations - approved for roofing manufacturer warranties
- Triple Junction Technology - captures the complete solar spectrum more efficiently
- Generates electricity at low light levels - produces more electricity per watt than any other system
- Bypass diode across every solar cell - minimizes power loss when shaded
- Hurricane resistant

SUBSTRATE CONFIGURATION

- 1.52mm TPO Membrane – Factory Laminated. Also available on other roofing membranes. Please contact AGT for details.

QUALIFICATIONS AND SAFETY

CSTB Certification Pending, Meets IEC 61646 and IEC 61730 Requirements and TUV Certification.

CE

www.tuv.com TÜV Berlin ID: 21210442-1

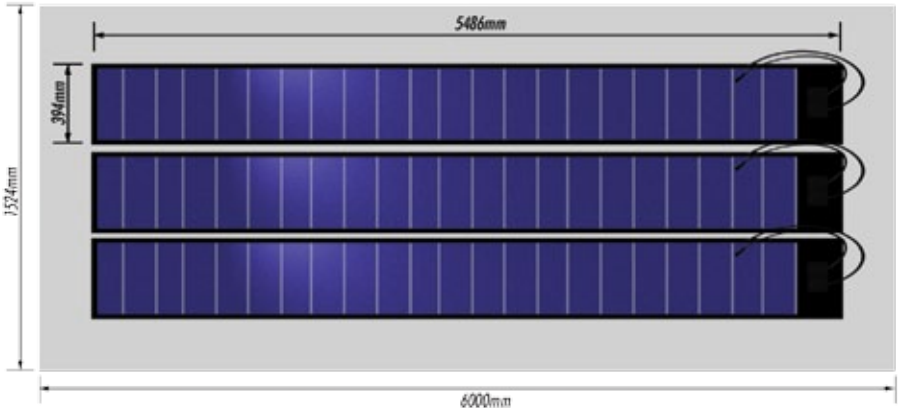
TECHNICAL SPECIFICATIONS

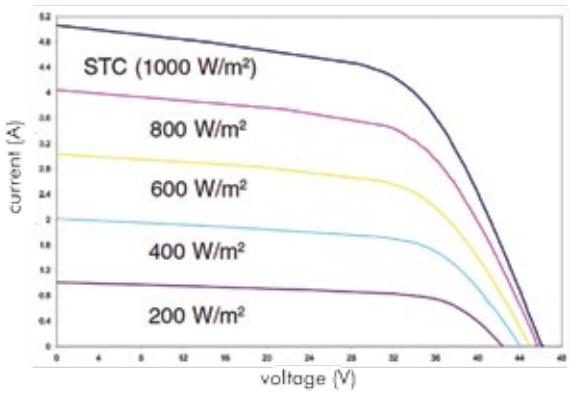
PVL-432TPO

APPLICATION CRITERIA

- For installation on approved substrates
- Installation by certified installers only
- Minimum slope 3%
- Minimum 21mm of fall per meter
- Maximum slope 18°
- Refer to manufacturers installation guide for approved installation

All measurements in mm. Inches in parentheses.
Tolerances Length: ±5mm Width: ±3mm.





IV Curves at various levels of irradiance at Air Mass 1.5 and 25°C Cell Temperature

ELECTRICAL SPECIFICATIONS for each of 3 PVL-144:

Standard Test Conditions (STC)	Nominal Operating Cell Temperature (NOCT)
(1000 W/m², AM 1.5, 25°C Cell Temperature)	(800 W/m², AM 1.5, 1 m/sec. wind)
- Maximum Power (Pmax): 144 W	- Maximum Power (Pmax): 111 W
- Voltage at Pmax (Vmp): 33.0 V	- Voltage at Pmax (Vmp): 30.8 V
- Current at Pmax (Imp): 4.36 A	- Current at Pmax (Imp): 3.6 A
- Short-circuit Current (Isc): 5.3 A	- Short-circuit Current (Isc): 4.3 A
- Open-circuit Voltage (Voc): 46.2 V	- Open-circuit Voltage (Voc): 42.2 V
- Maximum Series Fuse Rating: 10 A	- NOCT: 46°C

TEMPERATURE COEFFICIENTS

(at AM 1.5, 1000 W/m² irradiance)

- Temperature Coefficient of Isc: 5.1 mA/K (0.10%/°C)
- Temperature Coefficient of Imp: 4.1 mA/K (-0.38%/°C)
- Temperature Coefficient of Voc: -176 mV/K (-0.21%/°C)
- Temperature Coefficient of Vmp: -102 mV/K (0.10%/°C)
- Temperature Coefficient of Pmax: -286 mW/K (-0.21%/°C)

NOTES:

1. Actual performance may vary up to 10% from rated power due to low temperature operation, spectral and other related effects. Maximum system open circuit voltage not to exceed 600 VDC per UL.
2. Electrical specifications are based on measurements performed at standard test conditions of 1000 W/m2 irradiance, Air Mass 1.5, and Cell Temperature of 25°C after stabilization.
3. During the first 8-10 weeks of operation, electrical output exceeds specified ratings.
4. Power output may be higher by 15%, operating voltage may be higher by 11% and operating current may be higher by 4%.
5. Specification subject to change without notice.

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