Eco-$mart, Inc. (888) 329-2705 info@ecosmartinc.com

UNI-SOLAR®

Field Applied Roofing PV Laminate For Steel Roofs

Models: PVL-68, PVL-124, PVL-136

DATA SHEET

- ***Lightweight, Flexible, Durable***
- ***Easy "peel and apply" installation***
- ***20 Year warranty on power output***
- ***Roll Shippable***
- ***Top Termination quick connect or Junction Box***
- ***Bypass Diodes for Shadow Tolerance***
- ***UL Listed***

Product Description and Application

Each PVL (photovoltaic laminate) utilizes the proprietary Triple Junction solar cells manufactured by UNI-SOLAR. These cells are made in a roll-to-roll deposition process on a continuous roll of stainless steel. The result is a unique, flexible, lightweight solar cell.

The UNI-SOLAR PV Laminates are encapsulated in UV stabilized polymers making them exceptionally durable.

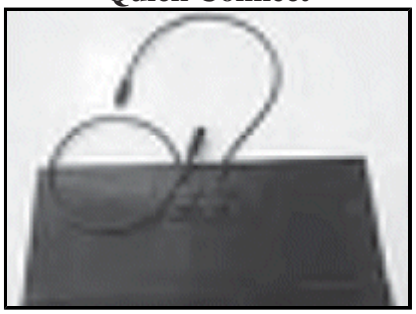
Bypass diodes are connected across each cell, allowing the modules to produce power even when partially shaded.

These special roofing laminates are designed to be bonded on 16-inch wide (minimum), flat steel pans. They come with the bonding adhesive factory installed on the back of the laminate. Included is a rugged, weatherproof junction box and/or Quick Connect Terminals.

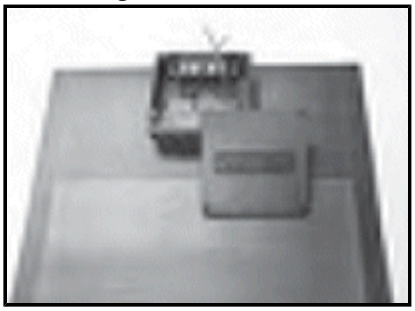
Application Criterion

- •PVDF Coated (Galvalume ® or Zincalume ®) steel metal pan
- • Steel pans with flat surface (without pencil beads or decorative stippling)
- • 16 " minimum steel pan width
- • Installation temperature between 10 ℃ -40 ℃ (50 ℉ -100 ℉)
- • Maximum roof temperature 85 ℃ (185 ℉)
- • Certified Installer
- • Cleaned as per manufacturer ’s instructions
- • New or qualified new roof installations

Quick Connect



Junction Box



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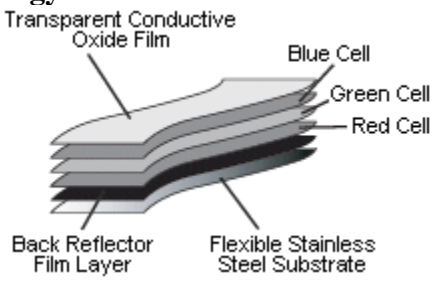
Triple Junction Technology

The foundation of the new UNI-SOLAR PVL is the Triple Junction silicon solar cell unique to UNI-SOLAR. Each cell is composed of three semiconductor junctions stacked on top of each other. The bottom cell absorbs the red light, the middle cell absorbs the green light and the top cell absorbs the blue light. This spectrum splitting capability is the key to higher efficiency.



United Solar Ovonic

United Solar Ovonic is the world leader in thin-film technologies. It's a company with years of experience in photovoltaics and is backed by a U.S.technology leader, Energy Conversion Devices, which holds 350 U.S. patents and 800 foreign patents. Our technology has proven itself over decades under the most extreme conditions imaginable, including satellites, ocean buoys and military applications. We offer a proven product, a proven technology, from a proven company.

Dimensions & Specifications

Model Number	Laminate Length	Laminate Width	Laminate Thickness	Weight	Minimum Slope	Maximum Slope
PVL-68	9 ft. 4-1/8 in.	15-1/2 in.	0.12 in.	9 lb.	1:12 (5º)	21:12 (60 º)
PVL-124	16 ft. 5-1/4in	15-1/2 in.	0.12 in.	16.5 lb.	1:12 (5 º)	21:12 (60º)
PVL-136	18 ft.	15-1/2 in.	0.12 in.	17 lb.	1:12 (5 º)	21:12 (60 º)

Electrical

Performance	PVL-68	PVL-124	PVL-136
Rated Power (Watts)	68	124	136
Nominal Operating Voltage	12	24	24
Operating Voltage (Volts)	16.5	30.0	33.0
Operating Current (Amps)	4.13	4.13	4.13
Open-Circuit Voltage (Volts)	23.1	42.0	46.2
Open-Circuit Voltage (Volts) at -10¡C and 1250 W/m2	26.3	47.9	52.7
Short-Circuit Current (Amps)	5.1	5.1	5.1
Short-Circuit Current (Amps) at 75¡C and 1250 W/m2	6.7	6.7	6.7
Series Fuse Rating (Amps)*	8	8	8
Min. Blocking Diode (Amps)	8	8	8

NOTES: During the first 8-10 weeks of operation, electrical output exceeds specified ratings. Power output may be higher by 15%, operating voltage may be higher by 11% and operating current may be higher by 4%.

Electrical specifications (±5%) are based on measurements performed at standard test conditions of 1000 W/m2 irradiance, Air Mass 1.5, and Cell Temperature of 25℃ after long-term stabilization. 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.

Specifications subject to change without notice.

* Refer to section 690.8 of the National Electric Code for an additional factor of 125%, which may be applicable.

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