

## SOLAR LAMINATES PVL-SERIES



- Power Ratings From 31W - 136W
- Lightweight & Flexible
- Easy Peel & Stick Application
- Virtually Unbreakable (No Glass)
- Shadow & High Heat Tolerant
- Delivers Up To 20% More Real Energy



Photo Courtesy of Grant Systems S.A. (CH)



Photo Courtesy of Solar Century (UK)



Photo Courtesy of Aquinas College



### UNI-SOLAR® PVL (photovoltaic laminates)

are flexible and lightweight laminates made exceptionally durable by encapsulation in UV stabilized polymers. The polymer encapsulation is partially constructed of durable ETFE, (e.g. Tefzel®) a high light-transmissive polymer.

Only United Solar Ovonic offers solar products that are lightweight, flexible and truly building-integrated. UNI-SOLAR products can be integrated with a variety of roofing materials and are ideal for turning roofs into energy producing assets.

### Why Do UNI-SOLAR Products Outperform Others?

All solar panels are rated in terms of peak power output (watts). Outdoors, under normally higher operating temperatures, solar panel performance changes, depending on temperature, solar spectrum (light color) and related effects. UNI-SOLAR products are less affected by temperature than monocrystalline or polycrystalline solar technology products. The result is up to 20% more delivered energy.\*\*

\*\* Source Solfest, "Module Shoot Out"

### Applications

- Grid Connected Metal Roof Shade & Parking Structures
- Grid Connected Agricultural Metal Roof Structures
- Residential Grid-Connected Systems
- Schools & Institutions
- Renovation Or New Construction



MORE  
kW HRS



FLEXIBLE



LIGHTWEIGHT



NO-GLASS



DURABLE



SHADOW  
TOLERANT



HIGH TEMP  
PERFORMANCE

## Specifications

Model	PVL-31	PVL-62	PVL-68	PVL-93	PVL-124	PVL-136
Rated Power (Watts)	31	62	68	93	124	136
Max Power Point VMPP (V)	7.5	15	16.5	22.5	30	33
Max Power Point IMPP (A)	4.1	4.1	4.1	4.1	4.1	4.1
Open-Circuit Voltage (Volts)	10.5	21	23.1	31.5	42	46.2
Short-Circuit Current (Amps)	5.1	5.1	5.1	5.1	5.1	5.1
Laminate Length (in./mm)	55.5 in. 1410 mm	102.7 in. 2609 mm	112.1 in. 2849 mm	150 in. 3808 mm	197.1 in. 5007 mm	216 in. 5486 mm
Laminate Width (in./mm)	15.5 in. 394 mm	15.5 in. 394 mm	15.5 in. 394 mm	15.5 in. 394 mm	15.5 in. 394 mm	15.5 in. 394 mm
Laminate Thickness (in./mm)	0.1 in./2.5 mm	0.1 in./2.5 mm	0.1 in./2.5 mm	0.1 in./2.5 mm	0.1 in./2.5 mm	0.1 in./2.5 mm
Weight (lb./kg)	4.1 lb./1.9 kg	8.2 lb./3.7 kg	9 lb./4.1 kg	12.3 lb./5.6 kg	16.5 lb./7.5 kg	17 lb./7.7 kg
Minimum Slope	1:12 (5°)	1:12 (5°)	1:12 (5°)	1:12 (5°)	1:12 (5°)	1:12 (5°)
Maximum Slope	21:12 (60°)	21:12 (60°)	21:12 (60°)	21:12 (60°)	21:12 (60°)	21:12 (60°)
Warranty On Power Output	20 yr.	20 yr.	20 yr.	20 yr.	20 yr.	20 yr.



During the first 8-10 weeks of operation, electrical output exceeds specific 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/m<sup>2</sup> irradiance, Air Mass 1.5, and Cell Temperature of 25°C 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.

### Quality Assurance, Proven Reliability

UNI-SOLAR laminates comply with the following qualification tests:

- UL Listed Up To 600 VDC (UL)
- Meets IEC 61646 Requirements
- Thermal Cycling
- Humidity-Freeze Test
- Damp Heat Test
- UV-Test
- Wet Insulation Test
- Mechanical Load Test
- Hail Impact Test
- Robustness of Terminations Test
- Refer to technical datasheet & owners manuals for approved substrates and application criteria
- Quick-connect terminal housing

### Product Description

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 laminate.

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.

Your UNI-SOLAR Distributor:

**Corporate Sales & Marketing Office:**

**United Solar Ovonic LLC**  
3800 Lapeer Rd.  
Auburn Hills, MI 48326 USA  
Tel: 248.475.0100  
Toll Free: 800.843.3892  
Fax: 248.364.0510  
Email: info@uni-solar.com

[www.uni-solar.com](http://www.uni-solar.com)

**North American Sales Office:**

**United Solar Ovonic LLC**  
8920 Kenamar Dr., Suite 205  
San Diego, CA 92121 USA  
Tel: 858.530.8586  
Toll Free: 800.397.2083  
Fax: 858.530.8686  
Email: westerninfo@uni-solar.com

**European Office:**

**United Solar Ovonic Europe GmbH**  
Dennewartstrasse 25-27  
D-52068 Aachen — GERMANY  
Tel: +49.241.9631131  
Fax: +49.241.9631138  
Email: europeinfo@uni-solar.com

