



Solar
Solutions

from **SAND** 
to **SUN** TM

Photovoltaic Module Assembly & Integration

A Portfolio of *Solutions* from
Dow Corning



Select the Right Module Assembly Solutions for You

As the photovoltaic industry (PV) assumes an increasingly important role in meeting the world's energy needs, Dow Corning Corporation is committed to making a significant difference by helping PV producers grow and succeed. Our broad range of solar module assembly solutions enables module producers to select the solutions that best meet their specific needs.

Solution packages include high-performance frame and junction box sealing, cell module coatings, cell encapsulants, and junction box potting agents.

You'll find that each of these solutions addresses at least one of the following critical needs facing the solar industry:

- Total cost/MWp reduction
- Improved durability
- Improved performance

Because at the end of the day, your success is our success.

PV Cell & Module Coatings

Dow Corning offers protective coatings specifically designed to provide the excellent durability and abrasion resistance required for solar consumer products.

- Effective, durable protection

- High transparency
- UV stable and moisture resistant
- Durable and solar radiation resistant
- Multiple viscosity options
- Excellent performance for solar consumer goods

Dow Corning® Brand	Color	Viscosity/cPs or mPa-sec	Agency Listing	Advantage
1-2577 Low VOC Coating	Clear	1250	UL	<ul style="list-style-type: none"> • Can be accelerated with mild heat to provide faster cure times • Excellent abrasion resistance • Resists humidity and other harsh environments • Good dielectric properties • Firm, dry surface for better handling after cure • VOC exempt solvent-borne • Medium viscosity • UL 94 V0, V1
1-2620 Low VOC Coating	Clear	250	UL	Low viscosity version of 1-2577 coating for consumer product applications

PV Cell Encapsulants

Dow Corning provides silicone encapsulants well-suited to the needs of solar applications – excellent durability and protection against corrosion and delamination.

Dow Corning silicone encapsulants are ideal for consumer goods PV applications.

- Proven durability and reliability
- Proven outdoor weatherability
- High-temperature and electrical stability
- Outstanding UV stability and light transmission
- No discoloration
- Can be used with or without lamination

Dow Corning® Brand	Color	Viscosity/cPs or mPa-sec	Refractive Index	Advantage
Sylgard® 184 Elastomer	Clear	3900	1.42 @ 633 nm	<ul style="list-style-type: none"> • Used as PV product encapsulant • High transparency • Wide operating temperatures (-65°C to 200°C) • Repairable • Good physical and electrical stability • Room temperature or heat cure options
PV-6010 Cell Encapsulant	Clear	925	1.41 @ 633 nm	<ul style="list-style-type: none"> • Moderate temperature cure (80°C/176°F) • Self-priming adhesion • Repairable • Controlled volatility • Excellent humidity resistance

PV Junction Box Potting Agents

For PV modules, Dow Corning provides junction box potting agents that offer customers a unique combination of benefits: demonstrated reliability, cost-effectiveness and outstanding PV performance. What's more, Dow Corning will work with you to provide a solution that's tailored to your specific PV needs. Dow Corning solar potting agents offer you the advantages of:

- By-pass diode protection and temperature control
- New options for low-cost junction box design
- Outstanding performance in PV aging conditions
- Fire resistance – UL 94 V0 or V1 requirements
- Fast room temperature or heat cure mechanisms

Dow Corning solar potting agents provide you with:

- Long-lasting protection against environmental ingress
- Excellent electrical insulation of components (> 13 kV/mm)
- Thermally conductive materials (> 0.15 W/m-K) to control diode temperature
- Stable and flexible over a wide temperature range (-40°C to 150°C)
- “Non-drip” time within two minutes with heated dispensing
- Translucent or opaque product
- Automated dispensing widely available from preferred partners
- Available globally

Dow Corning® Brand	Color	Viscosity/cPs or mPa-sec	Thermal Conductivity W/m-K	Agency Listing	Advantage
PV-7010 Potting Agent	Translucent Green	430	0.18	UL	<ul style="list-style-type: none"> • Proven solution in PV industry • Fast room temperature or heat cure • Thick section cure • No solvents or cure byproducts • Translucent material • Minimal shrinkage • UL 94 V1 • UL HAI/HWI = 0 • UL RTI 105°C (221°F)
PV-7020 Potting Agent	Grey	14000	1.34	UL	<ul style="list-style-type: none"> • High thermal conductivity • Heat cure • Thick section cure • No solvents or cure byproducts • Minimal shrinkage • UL 94 V1, V0 classification • UL RTI 105°C (221°F)
PV-7030 Potting Agent	Black	Part A 2904 Part B 2424	0.31	UL Pending	<ul style="list-style-type: none"> • Improved adhesion with PV substrates and junction box materials • Fast room temperature or heat cure • Thick section cure • No solvents or cure byproducts • Minimal shrinkage
PV-7311 Potting Agent	Black	Catalyst 125 Base 5800	0.41	UL Pending	<ul style="list-style-type: none"> • Broader compatibility with PV substrates and junction box materials • Fast room temperature cure • Thick section cure • No solvents or cure byproducts • Minimal shrinkage
Sylgard® 170 Fast Cure Silicone Elastomer	Dark Grey	2850	0.4	UL	<ul style="list-style-type: none"> • Fast room temperature or heat cure • Minimal shrinkage • No solvents or cure byproducts • Repairable • Thick section cure • Low viscosity • UL 94 V0 • UL RTI 170°C (338°F)

PV Frame & Junction Box Sealing

For solar PV applications that require durable, reliable sealants, Dow Corning offers several solutions. Our sealants are designed to provide long-term bonding and protection against moisture, environmental attack, mechanical and thermal shock as well as vibration where a room temperature curing product is preferred.

Dow Corning® Brand	Color	Cure System	Agency Listing	Advantage
Solar PV-804 Neutral Sealant	White or Black	Alkoxy	UL	<ul style="list-style-type: none"> • Proven solution in PV industry • Adhesion to typical PV substrates • Protects against mechanical shock and thermal cycling stress at components • UL 94 HB • UL RTI 105°C (221°F)
PV-8101 Sealant	White	Oxime	UL	<ul style="list-style-type: none"> • Locally made in China for China customers • Good adhesion to typical PV substrates • Fast tack-free time • Flexible rubber • UL 94 HB
PV-8301 Fast Cure Sealant	White or Black	Dimethyl-Tin	UL Pending	<ul style="list-style-type: none"> • Adhesion to typical PV substrates • Fast cure allowing increased production rates • Two-part product providing customized cure rate • UL estimated RTI 105°C (221°F)
Solar PV InstantSeal	Clear	Alkoxy - PSA	UL	<ul style="list-style-type: none"> • Excellent adhesion to typical PV substrates • Low VOC (VOC exempt in CA) • Safe to handle — nonhazardous composition and byproducts • Clear product improves module aesthetics • UL RTI 105°C (221°F)

Dow Corning has made a long-term commitment to remain an industry leader providing total solutions to the PV industry across the PV value chain. We are committed to unleashing the power of silicon to enable our customers to bring solar energy to everyone everywhere.

For more information, contact us at solarsolutions@dowcorning.com or visit www.dowcorning.com/solar.

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AMPM497-08

Form No. 06-1016B-01



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