

# Photovoltaic and Module Assembly and Integration

*A Portfolio of Material Solutions from Dow Corning*



# Welcome to the Solar Module Assembly Product Selection Guide

As one of the leading material houses in the world, we offer you many options across the solar value chain so that you can select the optimal solutions for your solar module and assembly operations. With material solutions tested to meet the specific requirements of the solar industry, we can help you lower costs, increase durability and improve performance.

The inherent properties of silicones—especially UV stability and ultra-transparency—provide you with numerous advantages over incumbent organics. Many of our solutions, including our breakthrough encapsulation solution, bring the advantages of superior durability, efficiency and performance, and reduced manufacturing costs.

We continue to innovate new solutions to benefit our customers, building on our more than 65 years of experience in silicone chemistry—including the construction, electronics and industrial assembly industries—and more than two decades supplying the solar industry. This experience and expertise enables Dow Corning Solar Solutions to offer you the peace of mind that comes with durable, high-performing products, delivered reliably to your doorstep around the world.

We invite you to review our selection guide and contact one of our solar experts, or register for an online business account, Premier Services. Please see the back cover for more information. And if you have questions, please do not hesitate to contact us at [solar.solutions@dowcorning.com](mailto:solar.solutions@dowcorning.com). Because at the end of the day, your success is our success.

	Dow Corning® Brand	Description/Advantages	Cure System
PV Cell & Module Coating	1-2577 Low VOC Coating	<ul style="list-style-type: none"> <li>Firm, dry surface after cure for better handling</li> <li>Excellent abrasion resistance</li> <li>Resists humidity and other harsh environments</li> <li>Good dielectric properties • VOC exempt solvent-borne</li> <li>Medium viscosity • Cure speed can be accelerated with mild heat</li> </ul>	Silicone solvent based moisture cure
	1-2620 Low VOC Coating	<ul style="list-style-type: none"> <li>Low viscosity version of 1-2577 coating for consumer product applications</li> </ul>	Silicone solvent based moisture cure
PV Cell Encapsulant	PV-6100 Cell Encapsulant	<ul style="list-style-type: none"> <li>Front side encapsulant • High optical transmission</li> <li>UV transparency down to 200 nm • Inherently UV stable</li> <li>Excellent humidity resistance • Fast heat cure (100°C)</li> </ul>	Addition cure
	PV-6120 Cell Encapsulant	<ul style="list-style-type: none"> <li>Back side encapsulant • Opaque material enabling alternative module visual appearance • Inherently UV stable</li> <li>Excellent humidity resistance • Self-priming adhesion</li> <li>Fast heat cure (100°C)</li> </ul>	Addition cure
	PV-6150 Cell Encapsulant	<ul style="list-style-type: none"> <li>Back side encapsulant • Inherently UV stable • Excellent humidity resistance • Self-priming adhesion • Fast heat cure (100°C)</li> </ul>	Addition cure
PV Junction Box Potting Agent	PV-7010 Potting Agent	<ul style="list-style-type: none"> <li>Proven solution in PV industry • Fast room temperature or heat cure • Thick section cure • No solvents or cure by-products</li> <li>Translucent material • Minimal shrinkage</li> </ul>	Addition cure
	PV-7030R Potting Agent	<ul style="list-style-type: none"> <li>Adhesion to typical PV substrates</li> <li>Fast room temperature or heat cure • Thick section cure</li> <li>No solvents or cure by-products • Minimal shrinkage</li> </ul>	Addition cure
	PV-7321 Potting Agent	<ul style="list-style-type: none"> <li>Proven solution in PV industry • Adheres to typical PV substrates</li> <li>Good thermal conductivity</li> </ul>	Condensation cure
PV Junction Box Adhesive	Solar PV InstantSeal	<ul style="list-style-type: none"> <li>Adheres to typical PV substrates • Safe to handle—nonhazardous composition and by-products • Clear product improves module aesthetics</li> </ul>	Moisture cure
	PV-804 Neutral Sealant	<ul style="list-style-type: none"> <li>Proven solution in PV industry • Adheres to typical PV substrates</li> <li>Protects against mechanical shock and thermal cycling stress at components</li> </ul>	Moisture cure
	PV-8007 Neutral Sealant	<ul style="list-style-type: none"> <li>High-performance silicone adhesive/sealant with fast green strength • High elasticity after cure allows flexibility in harsh conditions • Adheres to typical PV substrates • Protects against mechanical shock and thermal cycling stress</li> </ul>	Moisture cure
	PV-8101F Sealant	<ul style="list-style-type: none"> <li>Adheres to typical PV substrates • Fast tack-free time</li> <li>Flexible rubber • Fast, deep section cure</li> </ul>	Moisture cure
	PV-8301 Fast Cure Sealant	<ul style="list-style-type: none"> <li>Adheres to typical PV substrates • Fast cure allowing increased production rates • Two-part product providing customized cure rate using Dow Corning® PV-8300 Base</li> </ul>	Condensation cure
	PV-8303 Ultra Fast Cure Sealant	<ul style="list-style-type: none"> <li>Adheres to typical PV substrates • Ultra-fast cure for fully automated processes • Two-part product providing customized cure rate using Dow Corning® PV-8300 Base</li> </ul>	Condensation cure
	PV-8030 Adhesive	<ul style="list-style-type: none"> <li>Adheres to typical PV substrates • Protects against mechanical shock and thermal cycling stress at components</li> </ul>	Moisture cure
	PV-8080 Neutral Sealant	<ul style="list-style-type: none"> <li>Proven technology in PV industry • Adheres to typical PV substrates • Protects against mechanical shock and thermal cycling stress • High-performance with high elasticity after cure</li> </ul>	Moisture cure

PV Rail Bond Adhesive

PV Frame Sealant

Please consult the data sheets for complete information on testing methods and conditions.

\*RH: Relative humidity

Mix Ratio/ By Weight	Color	Viscosity cPs Extrusion Rate g/min	Specific Gravity Mixed Parts	Working Time @ 25°C	Cure Time/ Temperature	Thermal Conductivity	Shelf Life	UL Ratings	Packaging
1-part	Clear	1050 cPs	0.88	5.5 minutes	60 minutes @ 25°C - .075 mm; 1 minute @ 60°C and 15% RH*	N/A	36 months	UL 94 V0, RTI 105°C	Bottles, cartridges, pails and drums
1-part	Clear	350 cPs	0.88	5 minutes	60 minutes @ 25°C - .075 mm; 1 minute @ 60°C and 15% RH*	N/A	24 months	UL 94 V0, RTI 105°C	Cartridges, pails and drums
1:1; 2-part	Clear	Part A 600 cPs Part B 600 cPs	0.98	1 hour	1 minute @ 100°C	N/A	12 months	UL pending	Drums
1:1; 2-part	White	Part A 5300 cPs Part B 5200 cPs	1.3	1 hour	1 minute @ 100°C	0.32	12 months	UL pending	Drums
1:1; 2-part	Clear	Part A 440 cPs Part B 280 cPs	0.97	1 hour	1 minute @ 100°C	N/A	12 months	UL pending	Drums
1:1; 2-part	Translucent blue and green	Part A 425 cPs Part B 400 cPs	0.98	5–10 minutes	90–100 minutes @ 25°C 10–15 minutes @ 50°C 2–5 minutes @ 75°C	0.20	12 months	UL 94 V1; UL HAI/HWI/ CTI=0; CTI/inclined plane tracking 600 V and greater; RTI 105°C; (f2)-UV/H <sub>2</sub> O exposure	Cartridges, pails and drums
1:1; 2-part	Black	Part A 2835 cPs Part B 2733 cPs	1.2	8–10 minutes	3.25 hours @ 25°C 18.5 minutes @ 50°C 4.3 minutes @ 75°C	0.2868	12 months	UL 94 V1; HAI/CTI=0; HWI=2; CTI/inclined plane tracking 600 V and greater; RTI 105°C; Pending outdoor UV/H <sub>2</sub> O	Cartridges, pails and drums
10:1; 2-part	White	Mixed: 8000 cPs	1.25	22 minutes	72 hours @ 25°C and 50% RH*	0.31	12 months	UL 94 HB; HAI=0; HWI=3; CTI=0; RTI 105°C	Pails and drums
1-part	Clear	200,000 cPs	1.06	15 minutes with a green strength of 15 psi	48 hours @ 25°C - 2 mm	N/A	12 months	UL 94 HB; RTI 105°C	Pails and drums
1-part	White and black	190 g/minute	1.4	10–15 minutes	24 hours @ 25°C and 50% RH* - 2 mm	N/A	12 months	UL 94 HB; RTI 105°C; Outdoor UV/H <sub>2</sub> O	Cartridges, pails and drums
1-part	White	170 g/minute	1.56	10 minutes and 50% RH*	24 hours @ 25°C and 50% RH* - 2 mm	N/A	12 months	UL 94 HB; UL RTI 105°C; UL HAI=1; HWI=1; CTI=0	Cartridges, sausages, pails and drums
1-part	White	210 g/minute	1.41	4 minutes and 50% RH*	24 hours @ 25°C and 50% RH* - 2 mm	N/A	12 months	UL 94 HB; HWI=2; HAI=0; CTI=0; RTI 105°C	Sausages and drums
10:1; 2-part	White and black	190 g/minute	1.31	20–25 minutes	8 hours @ 25°C	N/A	Catalyst black: 14 months; Catalyst clear: 12 months; Base: 14 months	UL 94 HB; HWI=3; HAI=0; CTI=0; RTI 105°C	Pails and drums
100 parts base to 14 parts catalyst by weight; 2-part	Black	190 g/minute	1.31	8–10 minutes	2.5 hours @ 25°C	N/A	Catalyst: 6 months Base: 14 months	UL 94 HB; HWI=2; HAI=3; CTI=0; RTI 105°C	Pails and drums
1-part	White	110 g/minute	1.34	20–30 minutes	24 hours @ 25°C and 50% RH* - 3 mm	N/A	18 months	UL 94 HB; RTI 105°C	Cartridges and drums
1-part	White and bright white	197 g/minute	1.51	10–15 minutes and 50% RH*	24 hours @ 25°C and 50% RH* - 2.5 mm	N/A	12 months	UL 94 HB; HWI=2; HAI=0; CTI=0; RTI 105°C	Cartridges, sausages, pails and drums



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Premier Partner Network is the safe, convenient way to get the products and documents you need in just a few clicks—one more example of what we're doing to help you meet your goals for speed and cost-competitiveness in the rapidly developing PV market.

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Dow Corning has sales offices and manufacturing sites, as well as science and technology laboratories, around the globe. For more information, please visit [dowcorning.com/solar](http://dowcorning.com/solar) or e-mail [solar.solutions@dowcorning.com](mailto:solar.solutions@dowcorning.com).

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