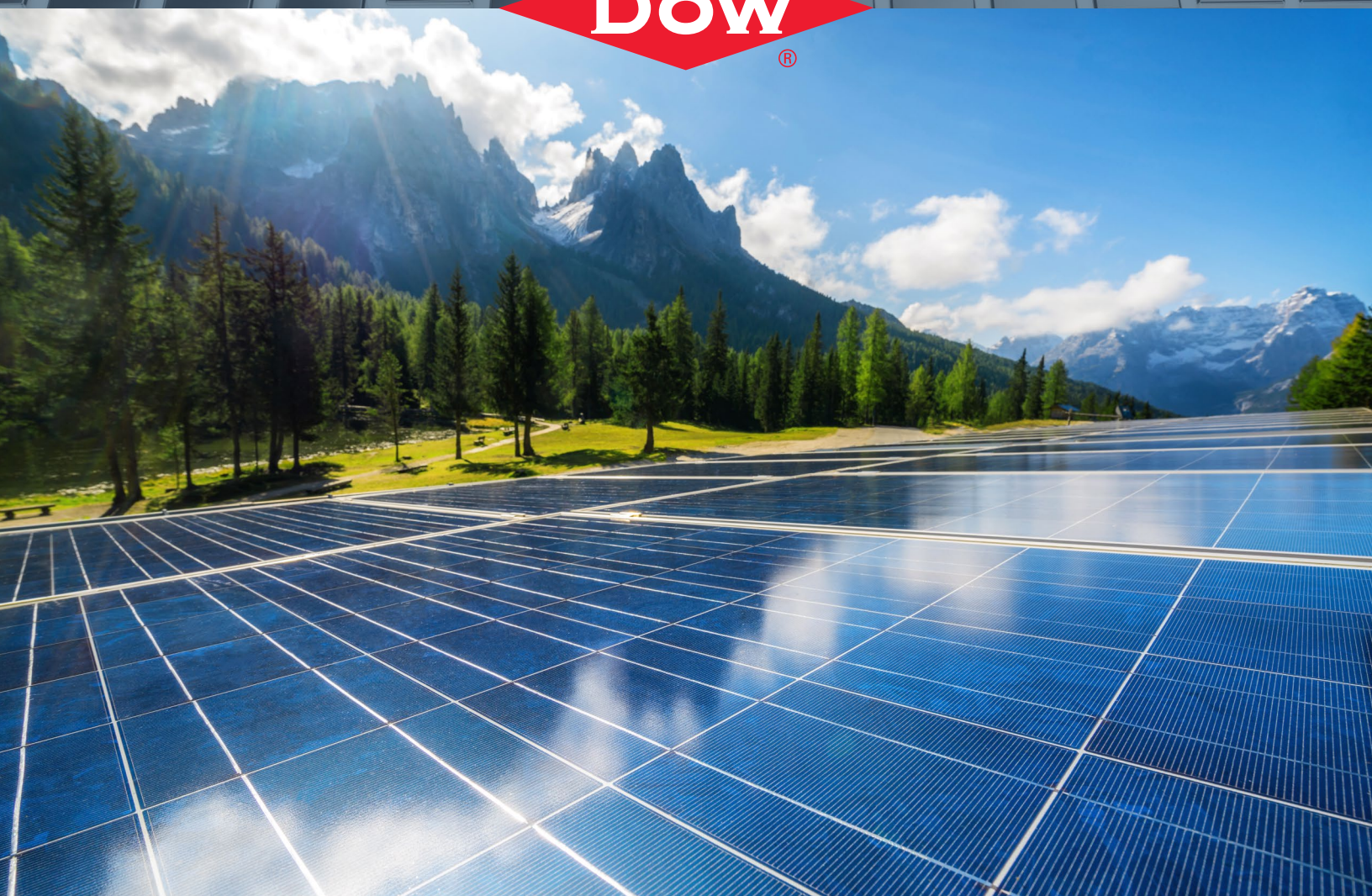


RENEWABLE ENERGY

Dow materials for photovoltaics



Powering innovative solutions

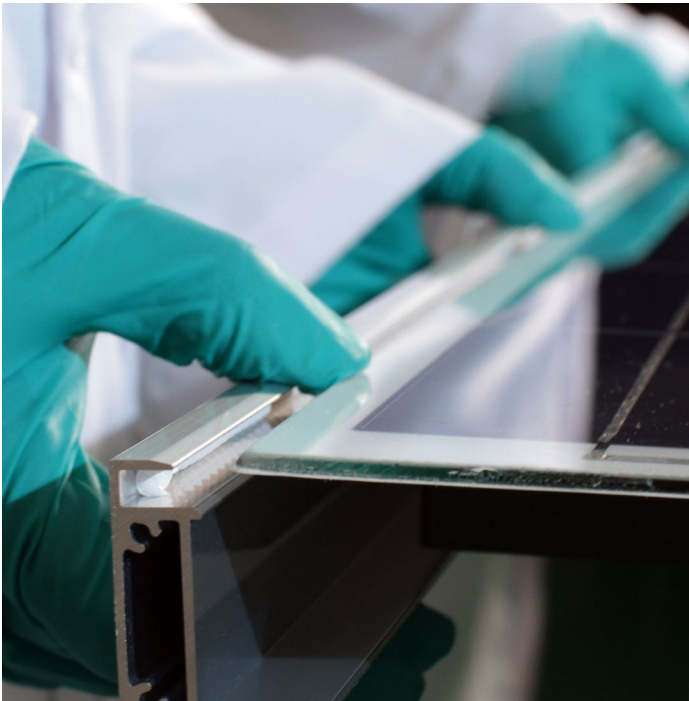
Materials for PV assembly, installation and repair

As the global photovoltaic (PV) market continues to grow, the demand for durable, reliable and better performing solar modules is critical. Dow delivers a wide base of chemistries and technologies in high-performance materials – tested to meet the specific requirements of the solar industry – that help to create more reliable solar modules.

Built on more than 50 years of expertise, we are collaborating with leading solar companies to improve durability, longevity, and performance of photovoltaic systems. We understand that materials drive innovation and are helping to solve the challenges in module manufacturing by leveraging our silicone and polyolefin chemistries. Our successful material technologies are enabling PV module manufacturers to explore novel and more efficient designs. The designs for tomorrow’s renewable energy needs.

Offering encapsulants, potting agents, sealants, adhesives and coatings, we can help to make your applications more efficient, and more reliable.

Let us help you create modules and systems with longer service life and better reliability. Contact one of our solar materials experts, and let’s work together to boost the global expansion of solar needed for the world’s energy transition.



Product	Consistency as supplied
Solar cell encapsulant	
DOWSIL™ PV-6326 Solar Cell Encapsulation Silicone	Liquid
ENGAGE™ PV 8660 Polyolefin Elastomer	Solid pellet
ENGAGE™ PV 8669 Polyolefin Elastomer	Solid pellet
ENGAGE™ PV 8680 Polyolefin Elastomer*	Solid pellet
ENGAGE™ PV 8688 Polyolefin Elastomer*	Solid pellet
ELVAX™ Ethylene PV1300Z Ethylene Vinyl Acetate Copolymer	Solid pellet
Junction box potting agent	
DOWSIL™ PV-7326 Potting Agent	Liquid
Junction box adhesives, frame sealing	
DOWSIL™ PV-8404 Fast Cure Bonding Adhesive	Paste - no slump
DOWSIL™ PV-804 Neutral Sealant	Paste - no slump
Rail bonding, junction box bonding, frame sealing	
DOWSIL™ PV-8301 Fast Cure Sealant	Paste - no slump
DOWSIL™ PV-8303 Ultra Fast Cure Sealant	Paste - no slump
BIPV Structural glazing	
DOWSIL™ 993N Structural Glazing Sealant	Paste - no slump
DOWSIL™ 993 Structural Glazing Sealant	Paste - no slump
DOWSIL™ 994 Ultra Fast Bonding Sealant	Paste - no slump
DOWSIL™ 983 Structural Glazing Sealant	Paste - no slump
Backsheet repair coating	
DOWSIL™ PV-9001 Backsheet Coating	Viscous liquid
Weatherproofing of PV installations	
DOWSIL™ 791 Weatherproofing Sealant	Paste - no slump
Lightweight PV module bonding	
DOWSIL™ 895 Structural Glazing Sealant	Paste - no slump
DOWSIL™ 995 Silicone Structural Sealant	Paste - low slump

Silicone	Polyolefin	Ethylene Vinyl Acetate
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These are typical properties, not to be construed as specifications.

Viscosity or melt index	1- or 2-part	Cure system	Relative density (mixed)	Cure time/temperature	Color or transparent	Hardness Shore A	UL ratings
2800 mPa·s	2	Condensation	0.97	Gel time 9 hours at 23°C	Transparent	10	UL 94: HB UL 746B: RTI 105 UL 746C: Outdoor UV/H20 f2
5 dg/min	N/A	Peroxide	0.872		Transparent	66	
14 dg/min	N/A	Peroxide	0.873		Transparent	68	
5 dg/min	N/A	Peroxide	0.872		Transparent	66	
14 dg/min	N/A	Peroxide	0.873		Transparent	68	
25 dg/min		Peroxide	0.95 VA cont: 28%		Transparent	75	
3300 mPa·s	2	Condensation	1.42	Working time 7.6 min at 25°C Full cure time 75 hours at 25°C	White	37	UL 94: V0 UL 746A: HWI PLC2, HAI PLC0, CTI PLC0, UL746B: RTI 105
	2	Condensation	1.34	Snap time 5 min at 25°C Tack-free time 16 min at 25°C	Black	40	UL94: HB (1mm), V-1 (5mm) UL746A: CTI PLC0 UL746B: RTI 105
	1	Condensation	1.4	Tack-free time 30 min at 23°C 24 hours for each 2mm at 23°C	Black or White	39	UL 94: HB UL746A: HWI (5mm) PLC2, HAI (5mm) PLC0, CTI PLC1 UL 746B: RTI Elec 140, RTI Imp 105, RTI Str 115; UL 746C Outdoor UV/H20 f2
76000 mPa·s	2	Addition	1.31	Snap time 20-25 min at 25°C Full cure 8 hours at 25°C	Black	38-44	UL 94: HB UL 746A: HWI PLC3, HAI PLC0, CTI PLC0; UL 746B: RTI 105 UL 746C: Outdoor UV/H20 f2
350000 mPa·s	2	Addition	1.31	Snap time 8-10 min at 25°C Full cure 2.5 hours at 25°C	Black	38-44	
40000 mPa·s	2	Condensation	1.34	Snap time 20-60 min at 25°C	Black	39	
40000 mPa·s	2	Condensation	1.30	Working time 10-30 min Tack-free time 80-100 min at 25°C	Black	40	UL94: HB UL746A: HWI PLC2, HAI PLC0, CTI PLC0, UL746B: RTI 105
	2	Condensation	1.30	Tack-free time 5-18 min	Black	45	
40000 mPa·s	2	Condensation	1.30	Working time 10-25 min	Black	35-45	
28000 mPa·s	1	Condensation	1.30	Tack-free time 50 min at 23°C	White	19	UL94: HB UL746B: RTI 105
	1	Condensation	1.50	Tack-free time 30 min at 23°C 24 hours for 2 mm at 23°C	Black or white	29	
	1	Condensation	1.43	Tack-free time 60 min at 25°C 24 hours for 2.2 mm at 25°C	Black or white	38	UL94:V-1, UL746A: HWI (5mm) PLC2, HAI (5mm) PLC0, CTI PLC1, UL746B: RTI Elec 140, RTI Imp 105, RTI Str 115 UL746C Outdoor UV/H20 f2
	1	Condensation	1.34	Tack-free time 65 min at 25°C	Black or white	40	UL94:HB, UL746A: HWI (3mm) PLC2, HAI (3mm) PLC2, CTI PLC0, UL746B: RTI Elec 105, RTI Mech 105 UL746C Outdoor UV/H20 f2

*For ENGAGE™ PV 8680 Polyolefin Elastomer and ENGAGE™ PV 8688 please contact us for supply availability in your region

Maximize reliable power conversion

From the solar panel’s DC output a solar energy system requires high-performance, dependable components to reliably optimize and convert the energy to be used or stored. Advanced silicone materials allow enhanced warranties for the industry, based on their excellent aging resistance, under a wide range of harsh environments that outdoor devices can be exposed to during their lifetime. Our advanced adhesive, protective encapsulant and thermal management options protect outdoor electronics from environmental impacts, remove heat to raise performance efficiency, and offer long lifetime for solar power systems.

Solar power inverters used on strings of PV modules allow the energy harnessed to be converted into a useful form in order to return to the grid, be stored in a battery, or be used by the consumer.

Power optimizers and microinverters increase efficiency by mitigating power loss as a result of modules mismatch and allow more flexibility in solar installations.

Dow has multiple approved and demonstrated technologies to protect these important conversion devices, including thermal and gasketing options.



Product	Consistency as supplied	Viscosity (mPa.s)
Thermal management		
DOWSIL™ TC-8225 Thermally Conductive Gap Filler	Paste - no slump	200000
DOWSIL™ TC-4551 CV Thermally Conductive Gap Filler	Paste - no slump	250000
DOWSIL™ TC-5628 Thermal Compound	Paste - no slump	72400
DOWSIL™ TC-5860 Thermally Conductive Compound	Paste - no slump	350000
PCB protection coatings		
DOWSIL™ CC-2588 Conformal Coating	Liquid	930
DOWSIL™ EA-9187 LH Conformal Coating	Liquid	440
DOWSIL™ EA-9187L UV Conformal Coating	Liquid	900
DOWSIL™ 1-2577 Conformal Coating	Liquid	950
Electronics encapsulants		
DOWSIL™ EE-3200 Low Stress Silicone Encapsulant	Liquid	1700
DOWSIL™ CN-8760 Thermally Conductive Encapsulant	Liquid	2700
DOWSIL™ TC-6015 Thermally Conductive Encapsulant	Liquid	4000
Power conversion assembly adhesives and sealants		
DOWSIL™ EA-3838 Fast Adhesive	Paste - no slump	150000
DOWSIL™ PV-804 Neutral Sealant	Paste - no slump	
Electrically conductive adhesive		
DOWSIL™ EC-8425 Electrically Conductive Adhesive	Paste - no slump	400000



1- or 2-part	Cure system	Relative density (mixed)	Cure time/ temperature	Color or transparent	Hardness Shore A	Thermal conductivity (W/mK)	UL ratings
2	Addition	2.9	2 hours at 25°C 10 min at 80°C	Blue	55 (shore 00)	2.7	UL 94: V0 UL746A: HWI PLC1, HAI PLC1, CTI PLC0 UL746B: RTI 150
2	Addition	3.3	2 hours at 25°C 15 min at 80°C	Blue	54 (shore 00)	5.2	UL 94: V0 UL746B: RTI 150
1	Addition - latent cure	3.26	Latent cure in application > 60 °C or 1h at 100°C	Blue	45 shore 00	4	UL 94: V0 UL746B:RTI 150
1	Non curing	3.5	NA	Grey	NA	6	
1	Condensation	1.06	Tack-free time 5 min	Transluscent	75		UL94 V0 + UL 746B: RTI 105
1	Condensation	0.98	Skin over time 7 min at 25°C	Clear	21		UL94: V0 (1.5mm laminate) UL746E indoor certified, RTI 130
1	Condensation	0.98	Skin over time 9 min at 25°C	Transluscent	17		UL94: V0 (1.5mm laminate) UL746E indoor & outdoor certified, RTI 105
1	Condensation	1.11	Tack-free time 7 min at 25°C	Transluscent	80		UL94: V0, 5VA UL746B: RTI 105 UL746E indoor & outdoor certified, RTI 130
2	Addition	1.47	3 hours at 25°C 20 min at 50°C	Dark Grey	43 (shore 00)		UL94: V-0 UL746A: HWI PLC4, HAI PLC1, CTI PLC0 UL746B: RTI 150
2	Addition	1.6	40 min at 50°C	Dark Grey	55		UL94: V-0 UL746A: HWI PLC0, HAI PLC0, CTI PLC0 UL746B: RTI 150
2	Addition	2.25	3 hours at 25°C 30 min at 70°C	Grey	40		UL94: V-0 UL746A: HWI (1.5mm) PLC2, (3mm) PLC0, HAI PLC0, CTI PLC0 UL746B: RTI 150
2	Condensation	1.4	Tack-free time 5-8 min at 25°C (2:1 ratio) >0.5Mpa in 15 min	Black	40		UL94: V-1 (5mm) UL746A: CTI PLC0 UL746B: RTI 105
1	Condensation	1.4	Tack-free time 30 min at 23°C 24 hours for each 2mm at 23°C	Black or White	39		UL 94: HB UL746A: HWI (5mm) PLC2, HAI (5mm) PLC0, CTI PLC1 UL 746B: RTI Elec 140, RTI Imp 105, RTI Str 115 UL 746C: Outdoor UV/H20 f2
1	Addition	2.2	90 min at 90°C 10 min at 150°C	Tan	40 (shore D)		

These are typical properties, not to be construed as specifications.



Wire and cable

The exceptional performance, durability, and longevity of our wire and cable materials make them a great choice to help fulfill the promise of renewable energy.

Dow’s power and telecom options can also help address the challenges of long-distance power transmission, hyperscale data centers, wildfire mitigation, and much more.

Product	Consistency as supplied
Cable insulation and jacket systems	
SI-LINK™ DFDA-5427	Solid pellets



1- or 2-part	Cure system	Relative density (mixed)	Cure time/ temperature	Color or transparent	UL ratings
2	Addition	1.35 g/cm³	Moisture curable	Natural (all colors) or Black Masterbatch addition	UL-44/UL-4703, 600 to 2 kV Photovoltaic wire, 90°C wet temperature rating, FV-2/VW-1, IEEE 1202/FT-4 Tray, Sunlight Resistant, -40°C rated RoHS (Restriction of Hazardous Substances) compliance, Oil and Gas Resistant



Learn more

We bring more than just an industry-leading portfolio of advanced organic and silicone-based materials. As your dedicated innovation leader, we bring proven process and application expertise, a network of technical experts, a reliable global supply base and world-class customer service. To find out how we can help to support your applications, visit [dow.com/solar](https://www.dow.com/solar) or contact your Dow representative.



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