



## DOWSIL™ PV-6326 Solar Cell Encapsulant

Crystal clear two-component silicone for solar cell encapsulation

### Features & Benefits

- Two-component liquid silicone, 1:1 mixing ratio
- Primerless durable adhesion to glass, metals and most plastics
- Highly transparent
- Cures and develops primerless adhesion at room temperature
- Long pot life
- Bubble-free application
- Full chemical deep section cure
- Mechanically and optically stable up to 150°C and under UV exposure
- Flame resistant UL 94 HB

### Applications

DOWSIL™ PV-6326 Solar Cell Encapsulant is suitable for various solar cell encapsulation processes at room temperature, including casting and vacuum laminating. It is applicable for crystalline silicon solar cells and thin-film solar cells.

### Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Test <sup>1</sup>	Property	Unit	Result
	One or two-part		Two
	Mix ratio		1:1
CTM 0176B	Appearance		Crystal clear
CTM 0050	Viscosity Part A and Part B	mPa-Sec	2,100
CTM 0050	Viscosity mixed	mPa-Sec	2,800
	Gel time (G'=G") at 23°C <sup>2</sup>	hrs	9
CTM 0055	Pot life at 22°C <sup>2</sup>	min	130
CTM 0099	Durometer after 24 hrs	Shore 00	7
CTM 0099	Durometer after 7 days at 23°C	Shore 00	45
CTM 0099	Durometer after 28 days at 23°C	Shore 00 Shore A	60 10
ASTM D 412	Tensile strength	MPa	0.2
CTM 0097B	Specific gravity		0.97

1. CTM: Corporate Test Method, copies of CTMs are available on request. ASTM: American Society for Testing and Materials.
2. Can vary due to environmental condition (humidity, mixing method)

## Typical Properties (Cont.)

Test	Property	Unit	Result
ASTM D 412	Elongation	%	190
CTM 0114	Dielectric strength	kV/mm	19
CTM 0249	Volume resistivity	$\Omega\text{cm}$	$1.0 \times 10^{16}$
ASTM D 1003	Light transmission from 450 nm to 760 nm, 3 mm	%	94
ASTM D 1003	UV cutoff wavelength	nm	290
UL 94	Flame resistance		HB
UL 746B	Relative Thermal Index	$^{\circ}\text{C}$	105
UL 746C	UV exposure & water immersion		f1

### Application Methods

- Automated static or dynamic metered mixing
- Manual mixing
- Flow, pour, nozzle dispense or spray

### Processing/Curing

The mixed product may be poured or dispensed directly on the substrate on which it is to be cured. For processes without vacuum step, process configuration should be such that air bubbles can easily escape. In case of vacuum lamination, a dam material should be used to prevent the uncured silicone to flow out at the edges and to create a seal during the lamination process. DOWSIL™ PV-6326 Solar Cell Encapsulant Silicone may be either room temperature or heat cured.

Time to cure is dependent on several variables including the method of application, film thickness, temperature and humidity. Cure time can be significantly improved by introducing mild heat (cure time reduction of approximately a factor 3 when going from 20 to 80  $^{\circ}\text{C}$ ).

Adhesion does not need the full cure schedule to develop. Material can, therefore, be put in service before finishing the full cure schedule in the majority of the cases. Optimum cure schedules should be determined according to the application.

### Adhesion

DOWSIL™ PV-6326 Solar Cell Encapsulant offers adhesion to most common photovoltaic substrates and materials. It is recommended that the mixed product is applied to a clean and dry substrate. Appropriate adhesion testing should be performed to help ensure the adhesion to the substrate and/or encapsulant is adequate.

On certain difficult, low-surface energy surfaces, adhesion may be improved by priming, corona treatment or plasma treatment.

### Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

**Usable Life and Storage**

Special precautions must be taken to prevent moisture from contacting this product. Containers should be kept tightly closed and head or air space minimized. Partially filled containers should be purged with dry air or other gases, such as nitrogen. The product should be stored in its original packaging with the cover tightly attached to avoid any contamination. Store in accordance with any special instructions listed on the product label. The product should be used by its Use Before date as indicated on the product label.

**Packaging Information**

Multiple packaging sizes are available for this product. Please contact your local distributor or Dow representative for information on packaging size and availability.

**Useful Temperature Ranges**

For most uses, silicone encapsulants are operational in a temperature range of -40 to 200°C for long periods of time. However, at very high temperature (> 150°C), the optical performance of the material could be degraded even if the mechanical properties remain acceptable.

**Limitations**

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

**Health And Environmental Information**

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, [dow.com](http://dow.com) or consult your local Dow representative.

**Disposal Considerations**

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

**Product Stewardship**

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

**Customer Notice**

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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