



## Technical Data Sheet

### DOWSIL™ PV-8303 Ultra Fast Cure Sealant

Ultra fast cure silicone adhesive sealant

#### Features & Benefits

- Adhesion to typical PV substrates such as glass, aluminum and common backsheet materials
- Resistant to hot and humid conditions once cured
- Good water and UV resistance
- Ultra fast cure for fully automated processes
- Multiple UL ratings

#### Composition

- Two-part, ultra fast cure silicone sealant

#### Applications

- Used as rail bonding, frame sealing, and junction box bonding on photovoltaic modules

#### Typical Properties

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

| Property                                                     | Unit        | Result     |
|--------------------------------------------------------------|-------------|------------|
| <b>DOWSIL™ PV-8303 Ultra Fast Catalyst Black</b>             |             |            |
| Color                                                        |             | Black      |
| Viscosity                                                    | mPa s or cP | 350,000    |
| Specific gravity                                             |             | 1.03       |
| <b>DOWSIL™ PV-8300 Base</b>                                  |             |            |
| Color                                                        |             | White      |
| Extrusion rate                                               | Grams/ m    | 190        |
| Specific gravity                                             |             | 1.31       |
| <b>DOWSIL™ PV-8300 Base with DOWSIL™ PV-8303 UF Catalyst</b> |             |            |
| Color                                                        |             | Black      |
| Skin over time                                               | minutes     | 8-10 range |
| Snap time (working time)                                     | minutes     | 8-10 range |
| Cure time @ 25°C                                             | hours       | 2.5        |
| Specific gravity                                             |             | 1.31       |

## Typical Properties (Cont.)

| Property                                                                         | Unit         | Result        |
|----------------------------------------------------------------------------------|--------------|---------------|
| <b>Properties after full cure – 7 days at RT – measured on 2 mm cured sheets</b> |              |               |
| Durometer hardness                                                               | Shore A      | 38 – 44       |
| Tensile strength (H-Bar Test) <sup>1</sup>                                       | Psi          | 174           |
|                                                                                  | MPa          | 1.2           |
| Elongation to break (H-Bar Test) <sup>1</sup>                                    | %            | 80            |
| Tensile strength (Sheet material test) <sup>2</sup>                              | Psi          | 300 – 350     |
|                                                                                  | MPa          | 2.1 – 2.4     |
| Elongation to break (Sheet material test) <sup>2</sup>                           | %            | 220           |
| <b>Adhesion via Peel Test – 7 day cure at 23°C</b>                               |              |               |
| Cohesive Failure                                                                 | %            | 100           |
| PPO, Anodized Al, Glass and Tedlar                                               | Pli          | 15 – 24       |
| <b>UL Ratings</b>                                                                |              |               |
| UL 94                                                                            | Flammability | HB            |
| UL 746A                                                                          | HWI          | 2             |
|                                                                                  | HAI          | 3             |
|                                                                                  | CTI          | 0             |
| UL 746B                                                                          | RTI          | 105°C (221°F) |

<sup>1</sup>Test per external reference NFP 85-405, DTU 39.4.

<sup>2</sup>Test per external reference ASTM D 412 (ASTM: American Society for Testing and Materials.)

## Description

DOWSIL™ PV-8303 Ultra Fast Cure Sealant is designed to offer long-term bonding and protection against moisture, environmental degradation, mechanical and thermal shock where ultra fast cure is needed for automated processing. DOWSIL™ PV-8303 Ultra Fast Cure Sealant shows good adhesive resistance to hot and humid conditions.

## How To Use

### Substrate Preparation

All surfaces must be clean and dry. Degrease and wash off any contaminants that could impair adhesion.

### Mixing

DOWSIL™ PV-8303 Ultra Fast Cure Catalyst is designed to be used with DOWSIL™ PV-8300 Base in a mix ratio of 100 parts base to 14 parts catalyst by weight. Suitable meter/mix equipment should be equipped with gear or piston metering pumps for base and catalyst, and a static mixer.

### Curing Conditions

DOWSIL™ PV-8303 Ultra Fast Cure Sealant achieves a skin over time of 8 to 10 minutes at 25°C and develops adhesion rapidly to metals, glass and plastic substrates. Adhesion is achieved to most substrates without the use of primer, or of surface activation methods.

### Clean Up

Extra product can be wiped up with a clean cloth before curing. If the product is cured, mechanical removal can be used to scrape off the substrate.

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DOWSIL™ PV-8303 Ultra Fast Cure Sealant

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## **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.

**Attention:** When the information contained in the PSDS relates to a prototype material or a research and development sample, please be aware that hazard evaluation and handling recommendations are based on preliminary test data (if available), professional judgment in comparison with materials of a similar composition or a combination of these sources, as appropriate. For further information, please consult Dow's Health, Environmental and Regulatory Affairs Department (see Health and Environmental Information section).

## **Usable Life and Storage**

When stored at or below 25°C (77°F) in the original unopened containers DOWSIL™ PV-8303 Ultra Fast Cure Catalyst has a usable life of 12 months and DOWSIL™ PV-8300 Base has a usable life of 14 months from the date of manufacture.

## **Packaging Information**

DOWSIL™ PV-8303 Ultra Fast Cure Catalyst and DOWSIL™ PV-8300 Base are available in standard pail and drum packaging. Detailed container size information may be obtained from your Dow representative.

## **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

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