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

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Form No. 06-1039-01-0123 S2D

Typical Properties (Cont.)

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

[1]Test per external reference NFP 85-405, DTU 39.4.
[2]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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Handling Precautions

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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 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.

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