

Silicone Sealants

**Dow Corning® 983 Silicone Glazing and Curtainwall Adhesive/Sealant**

**FEATURES**

- Structural capability<sup>1</sup>
- Excellent unprimed adhesion to most common building substrates including glass, reflective coatings, metals and paints
- Consistently nonslump
- 12-month shelf life
- No lot match of components
- Easy tooling

**COMPOSITION**

- Two-part, neutral-cure, RTV silicone sealant

**Two-part, neutral-cure adhesive/sealant with structural glazing capabilities**

**APPLICATIONS**

Dow Corning® 983 Silicone Glazing and Curtainwall Adhesive/Sealant is designed for use in structural adhesive/sealant applications such as factory glazing and curtainwall production. Once cured, this adhesive forms a durable, flexible, watertight bond that can be warranted for 20 years.

**TYPICAL PROPERTIES**

Specification Writers: Please contact your local Dow Corning Sales Application Engineer or Dow Corning Customer Service before writing specifications on this product.

Method	Test	Unit	Result
<b>As Supplied</b>			
	Color		White
	Physical Form		Paste
CTM <sup>1</sup> 0097	Specific Gravity		1.38
	VOC Content <sup>2</sup>	g/L	4
<b>As Supplied – Black Curing Agent</b>			
	Color		Black
	Physical Form		Pourable liquid
CTM 0097	Specific Gravity		1.02
	VOC Content <sup>2</sup>	g/L	150
<b>As Supplied – Gray Curing Agent</b>			
	Color		Gray
	Physical Form		Pourable liquid
CTM 0097	Specific Gravity		1.22
	VOC Content <sup>2</sup>	g/L	306
<b>As Catalyzed – Mixed at 9:1 Base to Curing Agent by Volume</b>			
	Working Time	minutes	20-40
	Unit Handling Time, minimum at 24°C (75°F) <sup>3</sup>	hours	4
ASTM D 2202	Flow/Sag (Slump)	inches (mm)	<0.2 (<5.1)
	VOC Content <sup>2,4</sup>		
	with Black Curing Agent	g/L	16.7-18.6
	with Gray Curing Agent	g/L	30.3-34.2
<b>As Cured – 7 Days at Room Temperature</b>			
ASTM C 661	Durometer Hardness, Shore A	points	43
ASTM D 412	Tensile Strength	psi (MPa)	228 (1.6)
ASTM D 412	Elongation	percent	219
ASTM D 624	Tear Strength, Die B	ppi (N/m)	56 (9.8 x 10 <sup>3</sup> )
ASTM C 719	Movement Capability	percent	±12
ASTM C 1135	Tensile Adhesion, ultimate	psi (MPa)	170 (1.2)

<sup>1</sup>CTMs (Corporate Test Methods) correspond to standard ASTM tests in most instances. Copies of CTMs are available upon request.

<sup>2</sup>Based on South Coast Air Quality Management District of California. Maximum VOC is listed both inclusive and exclusive of water and exempt compounds. For a VOC data sheet for a specific sealant color, please send your request to product.inquiry@dowcorning.com.

<sup>3</sup>Units must not be shipped to job site before adhesion is confirmed.

<sup>4</sup>Depending on mixing ratio.

<sup>1</sup>All structural applications MUST be reviewed by the technical staff, Dow Corning Corporation. If their recommendations are followed, Dow Corning will issue a structural adhesive warranty for a specific job.

## DESCRIPTION

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant is a two-part silicone formulation. As supplied, the base is a smooth, white paste and the curing agent is a pourable liquid available in black or gray. Once catalyzed, the material cures to a high-modulus, flexible silicone rubber.

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant features unprimed adhesion to most common construction materials, a physical property profile that is more than sufficient for structural adhesive applications, a noncorrosive by-product, and excellent weatherability, durability and recovery after repeated extension and compression.

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant is compatible with reflective glass, laminated glass and most insulating glass.

## HOW TO USE

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant, when used in structural applications, MUST be reviewed by the technical staff, Dow Corning Corporation, attention Construction Sealants Technical Service and Development.

Complete design and installation guidelines are contained in the *Dow Corning Americas Technical Manual*, Form No. 62-1112, available from Dow Corning.

## Method of Application

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant base and curing agent must be thoroughly mixed using an airless mixing system. *Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant is compatible with existing commercial, two-part silicone dispensing equipment. Neither hand mixing nor

mechanical mixing is satisfactory due to incorporation of air, resulting in altered physical properties.

Lot matching of *Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant base and curing agent is NOT required.

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant curing agent should be stirred before use because settling can occur during shipment. Because of its reactivity with atmospheric moisture, curing agent should not be exposed to air for prolonged periods.

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant is supplied as two separate components. As a custom feature for the customer, the cure rate may be adjusted by changing the base-to-curing-agent ratio from 9:1 to 10.5:1 by volume (see Table I for weight equivalents). Sealant physical properties are not significantly changed over this range. Changes in the temperature and humidity of the environment, however, will affect snap time.

To obtain optimum adhesion, joints should be tooled immediately after sealant application to ensure complete substrate contact.

During shutdown, it is recommended that the dispensing and mixing lines be purged with uncatalyzed base. This minimizes sealant build-up.

Questions about the use of *Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant can be answered by calling a local Dow Corning field representative. Our laboratory testing and technical service staff are available for assistance.

## HANDLING PRECAUTIONS

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

## USABLE LIFE AND STORAGE

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant base and curing agent should be stored in airtight, closed containers. When stored at or below 80°F (27°C), *Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant has a shelf life of 12 months from date of manufacture. Refer to product packaging for "Use By" date.

## PACKAGING

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant base and curing agent are packaged separately.

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant base is available in 44.4-gal (168.1-L) lined, straight-sided drums or 53.3-gal (201.7-L) fiber packs.

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant curing agent is available in 4.8-gal (18.2-L) quantities.

**Table I: Weight Equivalents of Volumetric Mixing Ratios**

Volume Ratio	Equivalent Weight Ratio	
	Black Curing Agent	Gray Curing Agent
9:1 to 10.5:1	12:1 to 14:1	10:1 to 12:1

## LIMITATIONS

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant should not be applied:

- To building materials that bleed oils, plasticizers or solvents – materials such as impregnated wood, oil-based caulks, green or partially vulcanized rubber gaskets and tapes.
- Where painting of sealant is required.
- To surfaces in direct contact with food.
- In below-grade or continuous immersion applications.
- In horizontal joints where abrasion and physical abuse are likely to be encountered.

Because of a potential for incompatibility, *Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant should not come in contact with, or be exposed to, sealants that liberate acetic acid.

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 Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, [www.dowcorning.com](http://www.dowcorning.com), or consult your local Dow Corning Sales Application Engineer.

## LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this

information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

### **Limited Weatherseal Warranty:**

Dow Corning Corporation produces and sells a full line of silicone construction sealants and adhesives. These products offer a variety of physical characteristics and adhesion properties. *Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant is part of that line and, when used with compatible substrates and when applied within the stated shelf life and according to manufacturer's recommendations for application and joint design, Dow Corning warrants that it will perform as a watertight weatherseal for a period of 20 years from the date of purchase. In addition to maintaining the integrity of the weatherseal, the sealant will not change color when used with backup materials and substrates that have been approved for compatibility by Dow Corning, either after specific testing or as noted in a current Dow Corning publication.

**Limitations:** This warranty specifically excludes failure of the sealant due to:

- Natural causes such as lightning, earthquake, hurricane, tornado, fire, flooding, etc., or
- Movement of the structure resulting in stresses on the sealant that exceed Dow Corning's published specifications for elongation and/or compression for the sealant, whether due to structural settlement, design error or construction error, or
- Disintegration of the underlying substrates, or
- Mechanical damage to the sealant caused by individuals, tools or other outside agents, or
- Changes in the appearance of the sealant from the accumulation of dirt or other contaminants deposited on the sealant from the atmosphere

**Remedies:** In the event of a claim under this warranty, you must notify Dow Corning Corporation in writing within 30 days of the occurrence of the failure. Dow Corning's sole liability shall be to furnish sufficient silicone replacement material to restore the integrity of the weatherseal. Any labor or other cost associated with the repairs is the responsibility of the owner. **DOW CORNING SHALL NOT BE LIABLE FOR AND EXPRESSLY DISCLAIMS ANY LIABILITY FOR DAMAGE TO THE CONTENTS OF THE STRUCTURE OR FOR CONSEQUENTIAL OR INCIDENTAL DAMAGE, WHETHER IN CONTRACT OR IN TORT, INCLUDING NEGLIGENCE.**

**THIS WARRANTY IS IN LIEU OF ALL OTHER WRITTEN OR ORAL, EXPRESS OR IMPLIED WARRANTIES AND DOW CORNING SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE.**

### **Structural Adhesion Warranty:**

*Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant may be used as a structural adhesive under certain conditions, but Dow Corning Corporation disclaims any general adhesion warranty. Dow Corning will issue project-specific Structural Adhesion Warranties on a case-by-case basis. No Structural Adhesion Warranty will be issued until Dow Corning has reviewed the pertinent building prints and specifications and has completed adhesion and compatibility testing of the various materials to be used with *Dow Corning* 983 Silicone Glazing and Curtainwall Adhesive/Sealant. For details on how to obtain the Structural Warranty, please contact your Dow Corning Sales Application Engineer.

