

Silicone Sealants

**Dow Corning® 991 Silicone High Performance Sealant**

**FEATURES**

- Improved aesthetic performance – reduces long-term residue rundown on metal panels and reflective glass or staining on porous substrates
- Good working time and tooling time
- All-temperature gunnability – from -29 to 50°C (-20 to 122°F), permitting application in all seasons
- Medium modulus, high movement capability – can accommodate ±50 percent movement in a properly designed joint
- Unprimed adhesion to most glass, granite, GFRC, and fluoropolymer painted substrates
- Excellent weatherability – non-reverting silicone durability
- Compatible with open-cell polyurethane, closed-cell polyethylene and nongassing polyolefin backer rods
- Available 20-year Limited Weatherseal and Non-Staining warranties

**COMPOSITION**

- One-part, pre-pigmented material

**Medium-modulus elastomeric sealant designed for weather-proofing sensitive porous stone and metal panel substrates**

**APPLICATIONS**

*Dow Corning® 991 Silicone High Performance Sealant* is particularly effective for sealing expansion and control joints, metal panel joints, curtainwall joints, joints between natural stone and perimeter seals around window frames. It forms a durable, flexible, watertight bond with most building materials. *Dow Corning 991 Silicone High Performance Sealant* is intended to be applied in new and remedial construction.

**TYPICAL PROPERTIES**

Specification Writers: Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Method	Test	Unit	Result
<b>As Supplied</b>			
	Color	Adobe tan, white, limestone, gray, bronze, black, custom colors	
ASTM C 679	Tack-Free Time, 50% RH	minutes	60
	Curing Time, 50% RH at 25°C (77°F)	days	7-14
ASTM C 639	Flow, Sag or Slump	inches (mm)	0.1 (2.54)
	Working Time	minutes	30-45
<b>As Cured</b>			
ASTM D 2240	Durometer Hardness, Shore A	points	25
<b>As Cured – After 14 days at 25°C (77°F)</b>			
ASTM D 412	Ultimate Tensile Strength	psi (MPa)	200 (1.38)
ASTM D 412	Ultimate Elongation	percent	750
ASTM C 794	Peel Strength, unprimed to glass, and fluoropolymer painted substrates	ppi (kN/m)	>20 (3.50)
ASTM C 1248	Staining/Migration, white marble		None
<b>As Cured – After 21 days at 25°C (77°F)</b>			
ASTM C 719	Joint Movement Capability, glass, aluminum	percent	±50

**DESCRIPTION**

*Dow Corning 991 Silicone High Performance Sealant* is a medium-modulus elastomeric sealant specifically designed for weatherproofing sensitive porous stone and metal panel substrates. It is a one-part silicone formulation that requires no mixing prior to use to obtain all its aesthetic properties. *Dow Corning 991 Silicone*

*High Performance Sealant* cures to a flexible elastomer on exposure to atmospheric moisture, producing a durable, weather-resistant seal with the ability to form strong bonds with most building materials. Because of its medium modulus and good adhesion, it provides excellent weatherproofing performance in dynamically moving building joints.

*Dow Corning* 991 Silicone High Performance Sealant meets the following standards:

- ASTM Specification C 920, Type S, Grade NS, Class 50, Use NT, G, A, M and O
- ASTM Specification C 719  $\pm 50\%$  movement

## HOW TO USE

### Preparatory Work

The application surface must be clean, dry, sound and frost-free. Mask adjacent surfaces and apply primer as required, before installing an approved back-up material.

### Application

Apply *Dow Corning* 991 Silicone High Performance Sealant and tool so all joint sides are wetted out. (Wet tooling of the sealant with liquid tooling aids is not recommended.) In cases where excess uncured sealant is inadvertently applied to adjacent surfaces, the sealant should be cleaned from surfaces before curing, using mineral spirits (follow solvent manufacturer's safe handling recommendations and local, state and federal regulations regarding solvent usage).

Remove masking immediately after sealant application. Under low temperature and low humidity conditions, cure may be considerably longer.

### Joint Design

A thin sealant bead will accommodate more movement than a thick bead. Recommended width-to-depth ratio is

2:1 where possible. Joint depth over backer rod should be 1/8 to 1/2" (3 to 13 mm) and joint width from 1/4 to 1" (6 to 25 mm). *Dow Corning* Technical Service should be consulted for joint applications outside published guidelines. In all cases, movement of the joint should not exceed  $\pm 50$  percent of the original joint dimension.

### Maintenance

If sealant becomes damaged, cut out and replace the damaged portion with *Dow Corning* 991 Silicone High Performance Sealant

## 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 FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY CALLING YOUR GLOBAL DOW CORNING CONNECTION.

## USABLE LIFE AND STORAGE

When stored below 27°C (80°F), *Dow Corning* 991 Silicone High Performance Sealant has a shelf life of 12 months from date of manufacture. Refer to product packaging for "Use By" date.

## PACKAGING

Prepigmented *Dow Corning* 991 Silicone High Performance Sealant is available in 20-oz (591-ml) sausages and 2-gallon (7.6-liter) pails.

## LIMITATIONS

This product is not intended for use:

- In structural glazing applications or where the sealant is intended as an adhesive
- In interior or shaded areas, *Dow Corning* 991 Silicone High Performance Sealant may yellow if not exposed to UV or sunlight; discoloration is most noticeable in light colors
- In areas where abrasion and physical abuse are encountered
- In spaces totally confined from atmospheric moisture during cure
- On frost-laden or damp surfaces
- For prolonged submersion in water
- On surfaces that might bleed oils, plasticizers or solvents – materials such as impregnated wood, oil-based caulks, green or partially vulcanized rubber gaskets, tapes, bitumen-impregnated boards, felts or sheets
- In below-grade applications
- On substrates made of polypropylene, polyethylene, polycarbonate and polytetrafluoroethylene (*Teflon*<sup>®1</sup>)
- Where movement capability greater than  $\pm 50$  percent is required

*Dow Corning* 991 Silicone High Performance Sealant will not improve pre-existing staining or residue

<sup>1</sup>*Teflon* is a registered trademark of E.I. du Pont de Nemours & Co.

rundown conditions. Surface appearance of any sealant will depend upon environmental conditions.

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 representative.

## **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.

Dow Corning's sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

## **DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.**

## **DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

20-year limited Weatherseal and Non-Staining warranties are available. Some testing may be required. Consult your Dow Corning Technical Service representative for details.

