



## DOWSIL™ 977 Silicone High Performance Sealant

Medium-modulus elastomeric sealant designed for weatherproofing sensitive porous stone and metal panel substrates

### Features & Benefits

- Improved aesthetic performance – reduces long-term fluid migration into porous substrates and rundown on metal panels
- All-temperature gun ability from -25 to 50°C (-13 to 122°F), permitting the sealant to be applied to dry, frost-free surfaces
- Medium modulus, high movement capability - can accommodate up to ± 50% movement in a properly designed joint
- Excellent weather-ability – outstanding silicone durability
- 10-year Limited Weatherseal and Non-Staining (Non-Fluid Migration) warranties are available
- One part easy to use formulation
- Formulated to reduce or to prevent potential staining of porous substrates, and streaking on metal panels
- Excellent weathering durability resulting in longer lifecycle and superior long-term weathersealing

### Applications

- DOWSIL™ 977 Silicone High Performance Sealant is specially formulated to reduce the staining of porous substrates such as granite and minimize streaking on metal panels and glass. It forms a durable, flexible, watertight bond with most building materials. DOWSIL™ 977 Silicone High Performance Sealant is intended for new and remedial construction applications.

### Typical Properties

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

Test <sup>1</sup>	Property	Unit	Result
<b>As Supplied</b>			
	Color		Grey, Bronze, Black, Limestone, White, Charcoal and custom colors
ASTM C 679	Tack free time 50% RH	minutes	20
	Curing time 50% RH at 25°C (77°F)	days	7-14
ASTM C 639	Flow	mm	2
	VOC content	g/l	< 85

1. ASTM: American Society for Testing and Materials.

## Typical Properties (Continued)

Test	Property	Unit	Result
<b>As Cured – after 7 days at 25°C and 50% RH</b>			
ASTM D 2240	Hardness	point	19
ASTM D 412	Ultimate tensile strength	MPa	1.3
	Ultimate elongation	%	800
<b>As Cured – after 28 days at 25°C and 50% RH</b>			
ASTM C 1135	Ultimate tensile strength	MPa	0.68
	Ultimate elongation at break	%	300
	Tensile strength at 100% strain	MPa	0.37
ASTM C 719	Joint movement capability	%	±50
ASTM C 1248	Staining/migration, natural stone		None

### Description

DOWSIL™ 977 Silicone High Performance Sealant is a medium-modulus, elastomeric, weather sealant specifically designed to prevent fluid bleed and the subsequent staining of sensitive porous stone and potential residue rundown on metal panels. It is a one-part silicone formulation that requires no mixing prior to use.

DOWSIL™ 977 Silicone High Performance Sealant cures to a flexible rubber 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.

DOWSIL™ 977 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 & KS F 4910 25LM.

### How to Use

#### Preparatory Work

Thoroughly clean all joints and glazing pockets, removing all contaminants such as grease, oil, dust, frost or water. Porous substrates should be cleaned where necessary by grinding, saw cutting or mechanical abrasion, or a combination of the above methods and solvent cleaning, to provide a sound, clean, dry surface for sealant application.

#### Priming

When using DOWSIL™ 977 Silicone High Performance Sealant, priming is not usually required. However, it is essential that the adhesion is tested prior to use. Specific primer recommendations can be made by the Technical Service Department on an individual project basis.

## **How to Use (Continued)**

### **Application**

Area adjacent to joints maybe masked to ensure neat sealant lines. Install the appropriate backing material as specified. Apply DOWSIL™ 977 Silicone High Performance Sealant in a continuous operation using positive pressure to properly fill and seal the joint. Tool the sealant with light pressure to spread against the backing material and the joint surfaces.

Tooling should be completed in one continuous stroke within 10 minutes after sealant application and before a skin forms. Wet tooling of the sealant with liquid tooling aids is not recommended.

Remove masking tape immediately after tooling and before sealant has started to form a skin.

On porous surfaces, any excess sealant should be allowed to fully cure. It should then be removed by abrasion or other mechanical means. Excess sealant on non-porous substrates, such as glass and metal, should be removed before cure, using a solvent such as toluene, xylene or methyl ethyl ketone (MEK) (follow solvent manufacturer's safe handling recommendations and local regulations regarding solvent usage).

### **Joint Design**

A thin sealant bead will accommodate more movement than a thick bead. Recommended width-to-depth ratio is 2:1. Joint depth over backer rod should be 6 to 12 mm (1/4 to 1/2") and joint width between 6 to 25 mm (1/4 to 1"). For a joint width greater than 25 mm, the sealant depth should be held at 12 mm for optimum movement capability. In all cases, movement of the joint should not exceed  $\pm 50\%$  of the original joint dimension.

### **Maintenance**

If sealant becomes damaged, cut out and replace the damaged portion with DOWSIL™ 977 Silicone High Performance Sealant.

## **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 CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

## **Usable Life and Storage**

When stored at or below 27°C in the original unopened containers, this product has a usable life of 12 months from the date of manufacture as indicated by the 'use by date' included on the product packaging.

## **Packaging Information**

This product is available in 300 ml cartridges and 500 ml sausages.

## Limitations

This product is not intended for use:

- In structural glazing applications or where the sealant is intended as an adhesive
- In areas where abrasion and physical abuse are encountered
- In spaces totally confined from atmospheric moisture during cure
- On frost-laden or damp surface
- 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
- Where movement capability greater than  $\pm 50\%$  is required

DOWSIL™ 977 Silicone High Performance Sealant will not improve pre-existing staining. 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, [consumer.dow.com](http://consumer.dow.com) or consult your local Dow representative.

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