



DOWSIL™ 3-0117 Silicone Insulating Glass Sealant

One-part silicone elastomer intended for use as a secondary sealant in a dual-sealed insulating glass unit

Features & Benefits

- Structural capability per ASTM C 1184¹
- Excellent unprimed adhesion to glass and metal substrates, such as galvanized steel, stainless steel and aluminum
- Single-component formulation; minimizes waste and downtime by eliminating base purging and static mixer maintenance
- Consistently non-slump, permitting automated glazing
- Noncorrosive by-products

Composition

- One-part silicone RTV elastomer

Applications

DOWSIL™ 3-0117 Silicone Insulating Glass Sealant is intended for use as a secondary sealant in a dual-sealed insulating glass unit (see Figure 1). A primary seal, typically polyisobutylene mastic, is required to prevent moisture vapor from transmitting into the airspace of the insulating glass unit. DOWSIL 3-0117 Silicone Insulating Glass Sealant can bond the individual components, forming a weather-resistant unit capable of being certified to a CBA rating by an independent test laboratory in accordance with industry standards.²

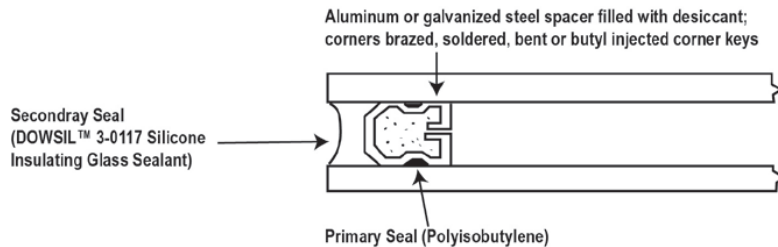


Figure 1:
Dual-seal Type

DOWSIL 3-0117 Silicone Insulating Glass Sealant can also be used as a secondary edge seal in an insulating glass unit that will be structurally glazed. However, if an insulating glass manufacturer elects to use this sealant in this application, it is their responsibility to determine the suitability for the use contemplated.

¹For IG units used in structural glazing applications, it is the responsibility of the insulating glass manufacturer to determine the amount of DOWSIL 3-0117 Silicone Insulating Glass Sealant to be applied and in what configuration.

²Per ASTM E 774, Standard Specification for Sealed Insulating Glass Units.

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Typical Properties

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

Test ¹	Property	Unit	Result
As Supplied			
CTM 0044	Specific Gravity		1.33
ASTM C 1183	Extrusion Rate, 90 psi, 1/8" orifice	g/min	120
CTM 0663	8-Hour Deep Section Cure	inches (mm)	0.055 (1.40)
CTM 0663	24-Hour Deep Section Cure	inches (mm)	0.104 (2.64)
ASTM D 2377	Tack-Free Time	minutes	25
ASTM D 2202	Flow/Sag (Slump)	inches (mm)	< 0.2 (< 5.1)
As Cured – 7 days at 25°C (77°F) and 50 percent Relative Humidity			
ASTM D 2240	Durometer Hardness, Shore A	points	46
ASTM D 412	Tensile Strength	psi (MPa)	330 (2.28)
ASTM D 412	Elongation	percent	250
ASTM C 794	Adhesion in Peel, Cohesive Failure		
	Aluminum	percent	100
	Glass	percent	100
CTM 1028	Tensile Adhesion to Glass, 1/2" x 1/2" x 2" (13 x 13 x 51-mm) Joint		
	Ultimate Tensile Strength	psi (MPa)	161 (1.11)
	25% Modulus	psi (MPa)	77 (0.53)
	Cohesive Failure	percent	100

- CTMs (Corporate Test Methods) correspond to standard ASTM tests in most instances. Copies of CTMs are available upon request.
ASTM: American Society for Testing and Materials

Description

DOWSIL 3-0117 Silicone Insulating Glass Sealant is a single-component silicone sealant that cures in the presence of atmospheric moisture to produce a durable, high-modulus, flexible silicone seal that is chemically stable and shows little change in physical properties with weathering.

DOWSIL 3-0117 Silicone Insulating Glass Sealant is available in black and gray.

How To Use

Design Considerations

Insulating glass units intended for conventional dry glazing or residential window application should be designed with secondary sealant dimensions in accordance with the "Sealant Manufacturers Minimum Sealant Dimensions and Placement Survey," distributed by SIGMA, 7/1/89.

Insulating glass units intended for structural silicone glazing applications should contain secondary seal depths as determined by industry accepted standards, such as the trapezoidal load distribution rule and load sharing principles.

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How To Use (Cont.)

If requested, Dow may provide assistance in performing adhesion testing to coated glass³ or spacer surfaces before use of DOWSIL 3-0117 Silicone Insulating Glass Sealant in production quantities.

Surface Preparation

Before using this product, clean all surfaces, removing all foreign matter and contaminants, such as grease, oil, dust, water, frost, surface dirt, old sealants or glazing compounds and protective coatings.

Clean all surfaces by mechanical or solvent procedures. Always wipe solvents on and off with clean, oil- and lint-free cloths.⁴

Testing

Dow recommends several in-house quality control tests to ensure optimum sealant performance. These tests include:

- Cure test to ensure expected sealant cure rate
- Tab adhesion test to ensure proper sealant adhesion to production surfaces

These tests should be performed every time lots are changed. Specific procedures for these recommended tests can be supplied by Dow.

Tooling

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

³Some coatings may require edge deletion for optimal long-term system performance. Contact your glass supplier for recommendations.

⁴Follow solvent manufacturer's recommended safe handling instructions and applicable federal, state and local laws.

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 WWW.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 (80°F) in airtight containers, DOWSIL 3-0117 Silicone Insulating Glass Sealant has a shelf life of 9 months from date of manufacture. Refer to product packaging for "Use By" date.

Packaging

DOWSIL 3-0117 Silicone Insulating Glass Sealant is available in cartridges, pails and drums.

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Limitations

DOWSIL 3-0117 Silicone Insulating Glass Sealant should not be applied:

- As a primary or single seal in an insulating glass unit
- 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
- On food contact surfaces – this product does not comply with FDA food additive regulations
- In below-grade applications
- Where it will be in contact with or exposed to sealants that liberate acetic acid
- In totally confined spaces (the sealant requires atmospheric moisture and must release by-product to cure)
- For continuous immersion in water

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, www.consumer.dow.com or consult your local Dow representative.

<http://www.consumer.dow.com>

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 our 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 will warrant that DOWSIL 3-0117 Silicone Insulating Glass Sealant will maintain its flexibility and adhesion to glass and metal spacers in insulating glass units for a period of 10 years if the insulating glass manufacturer uses the product under the following conditions:

- Within its stated shelf life
- With compatible substrates
- According to Dow's recommendations for application and quality control testing
- In an insulating glass unit that has been tested and certified to a CBA rating level by an approved certified test laboratory

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

- Natural causes such as lightning, earthquake, hurricane, tornado, fire, etc.
- Stress on the sealant exceeding 20 psi
- Movement of the structure resulting in stresses on the sealant that exceed Dow's published specifications for elongation for the sealant, whether due to structural settlement, design error or construction error
- Continuous immersion in water
- Disintegration of the underlying substrates
- Mechanical damage to the sealant caused by individuals, tools or other outside agents
- 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, the insulating glass manufacturer must notify The Dow Chemical Company in writing within 30 days of the occurrence of the failure. Dow's sole liability shall be to furnish sufficient replacement material or refund of the purchase price of all goods shown to be other than as warranted.

Any labor or other costs associated with the repairs are the responsibility of the insulating glass manufacturer.

Dow's sole warranty is that our products will meet the 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.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DOW SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.

DOW DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

