



# IGS3103

## Silicone Insulating Glass Sealant

### Product Description

IGS3103 is a single-component, high strength, silicone sealant which is an excellent candidate to consider for use as a secondary seal in insulating glass construction. IGS3103 is supplied as a paste and upon dispensing, reacts with atmospheric moisture to produce a durable, formed-in-place silicone rubber sealant.

### Key Features and Typical Benefits

#### Performance

- **Silicone Durability**—Once cured, IGS3103 exhibits excellent long-term resistance to natural weathering, including; ultraviolet radiation, high and low temperatures, rain and snow—with negligible change in elasticity.
- **High Modulus**—Holds the glass and spacer assembly together while limiting movement to reduce pumping action on IG unit primary seals.
- **Low VOC Content**—Significantly lower than the requirements of the U.S. Green Building Council's Leadership in Energy & Environmental Design (L.E.E.D.) program.
- **Structural Capacity**—IG units made with this edge sealant may be used in 2 or 4-sided SSG designs.
- **Thermal Stability in Cured State**—Material properties remain relatively unchanged and fully elastic over a range of -55°F (-48°C) to 250°F (121°C) and up to 350°F (177°C) under intermittent short-term exposure.
- **Specifications**—Meets Requirements of ASTM C1369, Standard Specification for Secondary Edge Sealants for Structurally Insulating Glass Units.

### Application

- **Strong Adhesion**—Bonds to many substrates and finishes used in the manufacture of insulating glass.
- **Fast Curing**—Provides for high productivity.
- **High Performance Rheological Characteristics**—Allows for high productivity, reduced equipment wear, and excellent groove filling between the glass and spacer.
- **Low Sag or Slump**—Low flow under static conditions minimizes or eliminates IG unit corner bulges.

### Packaging

IGS3103 is available in 5 gallon plastic pails containing 40 lbs./18.2 Kg, (4.5 gals. / 17.4 L) and 55 gallon fiber and steel drums containing 450 lbs./204.3 Kg (50.7 gals./196.2 L).

### Colors

IGS3103 is available in black.



Black



### Typical Physical Properties

Typical property values of IGS3103 insulating glass secondary sealant as supplied and cured are set forth in the tables below. Typical product data values should not be used as specifications.

#### Typical Properties – Uncured

Property	Value <sup>(1)</sup>	Test Method
Color	Black	
Polymer	100% Silicone	
Consistency	Paste	
Specific Gravity	1.06	
VOC	20 g/l	
Work Life	20 minutes	
Tack Free Time	30 minutes	ASTM C679
Application Rate	400 grams/minute	MPM E-56
Sag/Slump	0.1" (2.5 mm) max.	ASTM D2202

#### Typical Properties – Cured

Property	Value <sup>(1)</sup>	Test Method
Hardness, Durometer (Type A Indentor)	30	ASTM D2240
Ultimate Tensile Strength	450 psi (3.10 Mpa)	ASTM D412
Ultimate Elongation	400%	ASTM D412
Peel Strength	40 pli	ASTM C794
Service Temperature Range	-55°F to +250°F (-48°C to +121°C)	
Cure Time (1/4" or 6mm deep section) @ 75° (24°C) 50%	24 hours	
Full Cure (most common bead sizes)	1-3 days	

(1) Typical properties are average data and are not to be used as or to develop specifications.

### Installation

#### Surface Preparation

SPECIFIC SUBSTRATE TESTING SHOULD BE CONDUCTED BEFORE USE TO DETERMINE IF ADHESION IS SATISFACTORY.

IGS3103 has been formulated to develop adhesion to many materials commonly used in manufacturing insulating glass units.

Sealants may not adhere to some substrates or less than maximum adhesion may result if the surface is contaminated. Foreign materials, such as dirt, atmospheric and desiccant dust, water, machine oils, waxes on painted surfaces, and salt deposition on anodized surfaces may interfere with development of adhesion.

Momentive Performance Materials (MPM) can provide, at the customer's request, laboratory testing services to evaluate the adhesion and compatibility of its sealants to submitted substrates.

It is recommended that the user conduct periodic quality control testing to ensure that conditions that could affect adhesion have not changed and that adhesion requirements are being met.

### Sealant Application

- Apply sealant in a continuous operation, in one direction, applying a positive pressure adequate to properly fill and seal the joint's entire width and depth.
- Tool or strike the sealant as necessary with a suitable tool, applying light pressure to spread the material against the spacer and the glass surfaces, and to ensure a void-free application.
- Excess sealant may be cleaned from glass, metal and other smooth non-porous surfaces while still uncured by scraping with a razor blade or wiping with dry rags or paper towels.
- Dry tooling is recommended.
- Sealant application is not recommended when the temperature is below 40°F (4°C) or if frost or moisture is present on the surfaces to be sealed.
- IGS3103 works best when applied to surfaces below 113°F (45°C).
- The cure rate of IGS3103 is dependent upon temperature and the availability of atmospheric moisture. Under common plant conditions of 60°F (15°C) to 90°F (32°C) and 35-50% RH, IGS3103 can attain a cured thickness of approximately 1/8th inch (3mm) in 3-6 hours and 1/4 inch (6mm) in 12-24 hours. At a lower temperature and/or humidity, the cure time will increase. At higher temperature and/or humidity cure times will decrease. Near-confined spaces that prevent sealant contact with a free flow of air containing moisture can also slow the cure rate. Curing will occur only from surfaces that have contact with atmospheric moisture.
- Presence of acetic acid (vinegar) odor is an indication of incomplete cure.

### Method of Application

IGS3103 is easily dispensed directly from 5 gallon pails and 55 gallon drums with commercially available, fully enclosed, pumping systems to support hand or fully automated application to insulating glass units. IGS3103 is supplied in a lightweight paste consistency and does not require heating or other special manipulation to easily dispense. Consult MPM regarding suggested pumping and application tools or equipment.

### Storage Conditions

The shelf life of this product is 18 months from the date of manufacture. Product should be stored in the original unopened container at 80°F (27°C) or lower.

### Availability

Information on ordering can be obtained by contacting your local distributor or account manager. The Customer Service telephone number is: +1 (877) 943-7325.



### Applicable Standards

**ASTM C1369** - Standard Specification for Secondary Edge Sealants for Structurally Insulating Glass Units.

**ASTM E2190** - Standard Specification for Insulating Glass Unit Performance and Evaluation.

### Technical Services

Additional technical information and literature may be available from MPM. Laboratory facilities and application engineering are available upon request from MPM. Any technical advice furnished by MPM or any representative of MPM concerning any use or application of any sealant is believed to be reliable but MPM makes no warranty, expressed or implied, of suitability for use in any application for which such advice is furnished.

### Limitations

Customers must evaluate MPM products and make their own determination as to fitness of use in their particular applications.

IGS3103 insulating glass secondary sealant is not recommended:

- For use in single seal insulating glass units where a primary or moisture vapor seal is not present.
- In designs where the silicone is encapsulated and without access to atmospheric moisture (this material requires atmospheric moisture to cure from paste to rubber).
- Under exceedingly hot or cold application conditions.
- For use in underwater or in applications where the product will be in continuous contact with water.
- For use in food contact applications.

IGS3103 insulating glass secondary sealant should not be applied or used:

- As the structural adhesive for the installation of insulating glass units in sash, frame or between insulating glass units and curtainwall mullions in structural glazing applications.
- On wet, damp, frozen or contaminated surfaces.

### Precautions

- It is recommended that the adhesion of IGS3103 insulating glass secondary sealant to various glass coatings and spacer substrates be verified through testing. Failure of a coating to maintain adhesion to glass should not be misconstrued as failure of the silicone sealant.
- IGS3103 may not adhere satisfactorily to zinc, lead, copper, silver and other metal surfaces or coatings because of the tendency of these surfaces to corrode or oxidize.

### Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

### Product Safety, Handling and Storage

Customers considering the use of this product should review the latest Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage conditions required. Safety Data Sheets are available at [siliconeforbuilding.com](http://siliconeforbuilding.com) or, upon request, from any MPM representative. Use of other materials in conjunction with MPM sealants products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.



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