



# GE Bayer Silicones

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## IS 802 , IS 803 , IS 808

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### *One component RTV Adhesive/Sealants*

#### Product Description

IS802, IS803 and IS808 one-component, ready-to-use silicone adhesive sealants are a paste-like consistency and cure to silicone rubber on exposure to atmospheric moisture at room temperature. Because these paste-consistency products will flow only with external pressure, they may be applied to horizontal, vertical and overhead surfaces in thicknesses up to 10 mm. They have sufficient uncured body to adhere to small objects while cure is taking place.

IS802, IS803 and IS808 adhesive sealants utilize a moisture vapour cure system and release acetic acid vapours from the sealant surface as a by-product of cure.

The following products are identical materials and differ only in colour:

IS802 - White

IS803 - Black

IS808 - Translucent

#### Key Performance Properties

- One-component product
- Thixotropic (paste-like) consistency
- Capability to cure at room temperature and ambient humidity conditions
- Excellent dielectric properties
- Excellent weatherability, ozone and chemical resistance
- Self-adhesion properties
- Low temperature flexibility
- High temperature performance

#### Applications

The paste-like consistency of IS802, IS803 and IS808 adhesive sealants makes these products ideally suited for application to vertical and overhead surfaces where use of pourable self-leveling sealants would not be practical. These paste-consistency silicone sealant may be used in thicknesses up to 10 mm for bonding and sealing, joining metals and plastics.

These sealants are not for use in delicate electrical and electronic applications in which corrosion of copper, brass or other sensitive metals is undesirable.

For applications requiring sealant thicknesses greater than 10 mm, GE Bayer Silicones two component silicone rubber compounds are recommended.

**Typical Product Data****Typical Uncured Properties:**

Consistency	Soft, spreadable paste
Specific gravity (g/cm <sup>3</sup> )	1.04
Application rate (g/min.)	410
Tack Free time (minutes)	25

**Typical Cured Properties <sup>1)</sup>**

Hardness (shore A)	23
Tensile strength (MPa)	2.0
Elongation (%)	450
Shear Adhesion @ 100 % cohesive failure (MPa)	1.0

**Electrical Properties <sup>2)</sup>**

Dielectric Strength (kV/mm)	20
Dielectric constant @ 50 Hz	2.9
Dissipation factor @ 50 Hz	0.0026
Volume resistivity (ohm· cm)	2.5×10 <sup>14</sup>

1) obtained on 2 mm thick ASTM slabs cured for 3 days at 23°C and 50% RH

2) obtained on 1 mm thick slabs cured for 3 days at 23° C/50% RH

**Specifications**

Typical product data values should not be used as specifications. Assistance and specifications are available by contacting GE Bayer Silicones Technical Service RTV 1 and RTV 2.

**FDA STATUS**

IS802, IS803 and IS808 can be used in food contact applications when FDA regulations apply.

**USDA STATUS**

IS802, IS803 and IS808 sealants may be used on equipment which may contact edible products in official establishments operating under the Federal Meat and Poultry Products Inspection Program.

**NSF INTERNATIONAL STATUS**

NSF International lists IS802, IS803 and IS808 sealants under NSF International Standard No. 51 (Plastic Materials and Components for Use in Food Equipment), as satisfactory for use on food contact surfaces.

**UL STATUS**

IS802, IS803 and IS808 silicone rubber adhesive sealants are recognized by Underwriters Laboratories, Inc. under their Component Recognition Program (UL File No E36952). Refer to GE publication no. (4320) "Underwriters' Laboratories Recognition for Silicone Rubber Adhesive Sealants" for additional information.

**Surface preparation:**

IS802, IS803 and IS808 adhesive sealants will bond to many clean surfaces. These surfaces typically include many metals, glass, ceramic, silicone rubber and some rigid plastics. These silicone adhesive sealants will also produce fair bonds to flexible plastics not containing fugitive plasticizers (which migrate to the surface impairing adhesion). An evaluation should be made to determine bond strength for each specific applications. For difficult to bond substrates use of a primer is suggested. GE Bayer Silicones primers such as SS4004P, SS4044P, SS4155 and SS4179 are recommended for use with these adhesive sealants. If the evaluation of IS802, IS803 or IS808 sealants indicates that greater adhesion levels are required, GE Bayer Silicone products such as RTV102, RTV103 or RTV108 should be considered. For optimum adhesion, surfaces should be thoroughly cleaned with a suitable solvent to remove dirt, oil and grease. The surface should be dry before applying the silicone sealant.

**Application and cure time cycle:**

GE Bayer Silicones paste consistency silicone adhesive sealants may be applied directly to the clean (or primed) substrate. Where broad surfaces are to be mated, the adhesive sealant should be applied in a thin, less than 10 mm diameter, bead or ribbon around the edge of the surface to be bonded.

The cure process begins with the formation of a skin on the exposed surface of the adhesive sealant and progresses inward through the material. At 25 C and 50 % relative humidity, these products will form a surface skin which is typically tack free to touch in 20 to 30 minutes. Once the tack free skin has begun to form, further tooling of the silicone adhesive is not advisable.

High temperatures and high humidity will accelerate the cure process low temperatures and low humidity will slow the cure rate.

As the silicone adhesive sealant cures, acetic acid vapours are released from the adhesive sealant surface. The odour of acetic acid will completely disappear when the cure is completed.

In addition to the effects of temperature and relative humidity, development of maximum physical properties will depend on joint configuration, degree of confinement, sealant thickness and substrate porosity.

A 3 mm section of silicone adhesive sealant will cure through in approximately 24 hours at 25 C and 50 % relative humidity. Since cure time increases with thickness, use of IS802, IS803 and IS808 silicone adhesive sealants should be limited to thicknesses of 10 mm or less. Normally, sufficient strength will develop in 12 to 24 hours to permit handling of parts. Minimum stress should be applied to the silicone sealant until full physical properties are developed.

**Dispensing:**

Collapsible tubes may be squeezed by hand or with the aid of mechanical wringers. Air operated dispensing guns may also be used with tubes and offer the advantages of improved control and faster application for production line use. Dispensing from caulking cartridges using simple mechanical caulking guns or air operated guns. Both tubes and cartridges are easy to use, can be put into production quickly and require minimal capital investment.

Bulk containers require a larger investment in dispensing equipment, but offer economical packaging for volume production. Bulk dispensing systems are air-operated extrusion pumps coupled to hand or automated dispensing units. Pumps which are specifically designed for one component condensation cure materials have Teflon seals, packings and Teflon lined hoses to prevent moisture penetration and pump cure problems. Specific details on dispensing systems and manufacturers are available upon request from GE Bayer Silicones.

**Clean up and Removal:**

Before cure, solvent systems such as naphtha or methyl ethyl ketone (MEK) are effective.

After cure, selected chemical strippers which will remove the silicone rubber are available from other manufacturers. Specific product information may be obtained on request.

**Handling and Safety**

Material Safety Data Sheets are available from GE Bayer Silicones. Similar information for solvents and other chemicals used with our products may be obtained from your supplier.

**Storage and Warranty Period**

The shelf life is indicated by the "use before date" on the associated documents with a minimum of 4 months when stored in the original unopened containers at a temperature of max 27 C.

**Availability**

IS802, IS803 and IS808 are supplied ready to use in collapsible squeeze tubes, cartridges and in bulk containers.

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