Technical Data Sheet

IS800 Series

IS802, IS803, IS808, IS800.09

Description

IS802, IS803, IS808 and IS800.09 one-component, ready-to-use silicone adhesive sealants have 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 6mm (1/4 in.) They have sufficient uncured body to adhere small objects while cure is taking place.

IS800 Series adhesive sealants utilize a moisture vapor cure system and release acetic acid vapors from the sealant surface as a by-product of cure.

The following products are identical materials, differing only in color:

IS802 – White
IS803 – Black
IS808 – Translucent
IS800.09 – Aluminum

Key Features and Benefits

- One-component product
- Thixotropic (paste-like) consistency
- Capability to cure at room temperature and ambient humidity conditions
- Excellent electrical insulation properties
- Excellent weatherability and ozone and chemical resistance

- Self-adhesion properties
- Low temperature flexibility
- High temperature performance

Typical Physical Properties

Typical Uncured Properties	**IS802, 803, 808 , 800.09**
Color	• IS802 – White • IS803 – Black • IS808 – Translucent • IS800.09 – Aluminum
Consistency	Soft, Spreadable paste
Specific Gravity	1.04
Application Rate, g/min	410
Tack-Free time, minutes	25
Typical Cured Properties	**IS802, 803, 808, 800.09**
Mechanical:	
Hardness, Shore A	23
Tensile Strength, $kg/cm^2(lb/in^2)$	20.6 (300)
Elongation, %	450
Shear Adhesion, $kg/cm^2(1b/in^2)^{(1)}$	10.8 (150)
Peel Adhesion, $kg/cm\ (1b/in)^{(2)}$	6.6 (37)
Electrical:	
Dielectric Strength,kv/mm(v/mil)	20 (500)
Dielectric Constant @ 60 Hz	2.9
Dissipation Factor @ 60 Hz	0.0026
Volume Resistivity, ohm-cm	$2.5 \times 10^{14\ (1)}$

- [1] At 100% cohesive failure
- [2] To anodized aluminum

Potential Applications

The paste-like consistency of IS802, IS803, IS808 and IS800.09 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 sealants may be used in thicknesses up to 6mm (1/4 in.) for bonding and sealing, joining metals and plastics, and electrical insulation.

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 6mm (1/4 in.), Momentive Performance Materials one component, addition cure or two component silicone rubber compounds are recommended.

Processing Recommendations

Surface Preparation

IS802, IS803, IS808, IS800.09 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 some organic rubbers and 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 application. For difficult-to-bond substrates use of a primer is suggested. Momentive Performance Materials primers such as SS4004P, SS4044P and SS4179, are recommended for use with these adhesive sealants. If the evaluation of IS802, IS803, IS808 or IS800.09 sealants indicates that greater adhesion levels are required, Momentive Performance Materials sealants such as RTV102, RTV103 or RTV108 sealants should be considered. Complete information and usage instructions for primers and RTV products are contained in separate product data

sheets.

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.

Packaging and Dispensing

IS802, IS803, IS808 and IS800.09 silicone adhesive sealants are supplied ready-to-use in collapsible squeeze tubes, caulking cartridges, and in bulk containers.

Collapsible tubes may be squeezed by hand or with the aid of mechanical wringers which allow more complete removal of material from the tube. Air-operated dispensing guns may also be used with tubes and offer the advantages of improved control and faster application for production line use. Adhesive sealants may be dispensed from caulking cartridges using simple mechanical caulking guns or air-operated guns. Air-operated guns will allow greater control and application speed. Both tubes and cartridges are easy to use, can be put into production quickly and require minimal capital investment.

Bulk containers require a larger initial 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 pumping one-component RTV silicone rubber have TEFLON® seals, packings and TEFLON® lined hoses to prevent moisture permeation and pump cure problems.

Note: Do not exceed 45 psig when used in air-powered caulking guns.
® TEFLON is a registered trademark of DuPont.

Application and Cure Time Cycle

Momentive Performance Materials 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 6mm (1/4 in.) 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 (77°F) and 50% relative humidity, these products will form a surface skin which is typically tack-free to the touch in 20 to 30 minutes. Once the tack-free skin has begun to form, further tooling of the silicone adhesive is not advisable.

Elevated ambient temperature and humidity will accelerate the cure process. Low ambient temperatures and humidity will slow the cure rate.

As the silicone adhesive sealant cures, acetic acid vapors are released from the adhesive sealant surface. The odor 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 3mm (1/8 in.) section of silicone adhesive sealant will cure through in approximately 24 hours at 25°C (77°F), and 50%, R.H. Since cure time increases with thickness, use of IS802, IS803 and IS808 silicone adhesive sealants should be limited to thicknesses of 6mm (1/4 in.) or less. For applications requiring sealant thicknesses greater than 1/4 inch, Momentive Performance Materials one component, addition cure or two component silicone rubber compounds are suggested.

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.

CLEANUP 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.

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

These products are manufactured and marketed for industrial use only.

Uncured product contact irritates eyes. In case of contact with eyes, immediately flush with water for 15 minutes. If irritation persists, get medical attention. Wearers of contact lenses should not handle lenses until all sealant has been cleaned from the fingertips. Sealant will transfer to lenses and cause severe irritation. To clean from the skin, wipe very thoroughly with a dry cloth or paper towel, before washing with soap and water. Product releases acetic acid during application and curing. Use mechanical ventilation to stay below TLV of l0 ppm acetic acid. Uncured product contact may irritate the skin.

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

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

Specifications

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, IS808, IS800.09 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).

Contact Information

Email
commercial.services@momentive.com

Telephone

Americas	Latin America	EMEAI- Europe, Middle East, Africa & India	ASIA PACIFIC
+1 800 295 2392 Toll free* +704 805 6946 Direct Number	**Brazil** +55 11 4534 9650 Direct Number	**Europe** +390510924300 Direct number	**China** 800 820 0202 Toll free +86 21 3860 4892 Direct number
*All American countries	**Mexico** +52 55 2169 7670 Direct Number	**India, Middle East & Africa** + 91 44 71212207 Direct number* ***All Middle Eastern countries, Africa, India,**	**Japan** +81 3 5544 3111 Direct number **Korea** +82 2 6201 4600

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