



FRV1106

Description

FRV1106 is a one-component, ready-to-use fluorosilicone adhesive sealant that cures to a tough resilient silicone rubber on exposure to atmospheric moisture at room temperature. FRV1106 adhesive sealant is a paste consistency, fluid resistant product designed for use in fuel, solvent and chemical environments.

Key Features and Benefits

- Resist swelling by hydrocarbon solvents, dimethyl silicone fluids and fuels.
- One component product
- Primerless adhesion to many substrates
- Room Temperature Cure
- Non-sag paste consistency
- Retain elastomeric properties at temperatures of -60°C to 204°C for long periods and to 260°C for short periods.
- Ozone resistant, high quality weatherability
- Excellent electrical insulation properties

Typical Physical Properties

Uncured Properties	FRV1106
Color	Red
Consistency	Paste
Specific Gravity	1.45
Application Rate, gm/min.	88
Tack Free Time, minutes	20
Cure Through Time, hours	24
Cured Properties ⁽¹⁾	
Mechanical:	
Hardness, Shore A	39
Tensile Strength, psi	485
Elongation, %	200
Tear Strength, psi	61
Peel Strength, lbs/in	26

Fluid Immersion Properties ⁽²⁾

	Volume Swell %	Shore A Hardness pts change	Tensile Strength % change	Elongation % change
FRV1106				
Toluene	16.6	-4	-30	-8
Mineral Spirits	2.2	-4	-27	-4
Methylene Chloride	61.0	-8	-29	12
JP-4	5.4	-2	-28	23
Fuel B	17.9	-2	-30	-32

(1) Cured 7 days at 25°C and 50% Relative Humidity

(2) Cured 7 days before immersion. Properties obtained after 7 days immersion at room temperature. Information is provided for customer convenience. These properties are not tested on a routine basis.

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

PHYSICAL PROPERTY DEVELOPMENT

In addition to the effects of temperature and relative humidity, development of maximum bond strength will depend on joint configuration, degree of confinement, sealant thickness and substrate porosity. Normally, sufficient bond strength for the FRV1106 will develop in 18-24 hours to permit handling of parts. Stress should not be applied to the bonded joint until full adhesive strength has developed. Eventually the adhesive strength of the bond will exceed the cohesive strength of the silicone adhesive sealant itself. Always allow maximum cure time available for best results.

Potential Applications

FRV1106 adhesive sealant is ideally suited for use in applications where resistance to the swelling effects of fuels, oils, solvents and chemicals is needed. Providing a formed-in-place gasket for pipe junctions in chemical plants, sealing seams on liquid holding tanks and bonding sensing devices in a gas tank are typical applications. The paste consistency of these sealants allows them to be applied even on vertical and overhead surfaces in thickness up to 6mm (1/4 in.).

Processing Recommendations

Surface Preparation

FRV1106 adhesive sealant will bond to many surfaces without the aid of a primer. Surfaces should be thoroughly cleaned with a suitable solvent to remove dirt, oil, grease and other contaminants. If scale or corrosion is present, the surface should be cleaned with an abrasive wheel or sandpaper followed by a solvent cleaning.

Application and Cure Time Cycle

FRV1106 adhesive sealant may be applied directly to clean or primed substrates. The cure process begins with the formation of a skin on the exposed surface of the sealant and progresses inward through the material. At 25°C (77°F) and 50% relative humidity, these sealants will form a surface skin that is tack-free to the touch in 20-25 minutes. Once this tack-free skin begins to form, further tooling of the sealant is not recommended.

As the adhesive sealant cures, acetic acid vapours are released. As the curing reaches completion, the noticeable acetic odour will diminish.

Because these adhesive sealants cure by reacting with atmospheric moisture higher temperature and humidity will accelerate the cure process while lower temperature and humidity will retard the process.

Exact cure time will depend on temperature, humidity, sample thickness and sealant configuration.

PACKAGING AND DISPENSING

FRV1106 adhesive sealant is supplied ready to use in 5.4 fl. oz. SEMCO® cartridges.

The SEMCO cartridge is designed for use with a hand or air operated sealant gun manufactured by the Semco Company.

CLEAN UP AND REMOVAL

Before curing, solvent systems such as methyl ethyl ketone (MEK) and acetone are most 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.

These products are manufactured and marketed for Industrial use only. Material Safety Data Sheets are available upon request from Momentive Performance Materials. Similar information for solvents and other chemicals used with Momentive products should be obtained from your suppliers. When solvents are used, proper safety precautions must be observed.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a 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 should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at www.momentive.com or, upon request, from any Momentive Performance Materials (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.

From automotive to healthcare, from electronics to construction, products from Momentive Performance Materials Inc. are practically everywhere you look. We are a global leader in silicones and advanced materials with a 70+ year heritage of innovation and being first to market – with performance applications that improve everyday life. By knowing our customers' needs and creating custom technology platforms for them, we provide science based solutions to help customers increase performance, solve product development issues and engineer better manufacturing processes.

Contact Information For product prices, availability, or order placement, contact our customer service by visiting momentive.com/ContactSilicones.

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