

## FRV1106

### Description

FRV1106FC is a one-component, ready-to-use Fluorosilicone adhesive sealant that typically cures to a tough resilient silicone rubber on exposure to atmospheric moisture at room temperature. With its paste like consistency, this adhesive sealant has shown to have outstanding fluid resistance properties, making it an excellent candidate for use in fuel, solvent, as well as chemical environments.

### Key Features and Typical Benefits

- Resistance to swelling by hydrocarbon solvents, dimethyl silicone fluids and fuels
- One component product
- Primerless adhesion to many substrates
- Room temperature cure
- Non-sag paste consistency
- Retains elastomeric properties at temperatures of -60 °C to 204 °C for long periods and to 260 °C for short periods.
- High quality weatherability
- Excellent electrical insulation properties

### Typical Physical Properties

| Uncured Properties: (7days, 23C, 50%RH) | FRV1106FC |
|---|-----------|
| Color                                   | Red       |
| Consistency                             | Paste     |
| Specific Gravity                        | 1.45      |
| Application Rate, gm/min.               | 60        |

|  |           |
|--|-----------|
| Tack Free Time, minutes                | 30        |
| <b>Cured Properties</b> <sup>(A)</sup> | FRV1106FC |
| <b>Mechanical:</b>                     |           |
| Hardness, Shore A                      | 30        |
| Tensile Strength, (psi)                | 500       |
| Elongation, %                          | 300       |
| Peel Strength, (lbs./in)               | 15        |
| Chemical Resistance                    | Excellent |

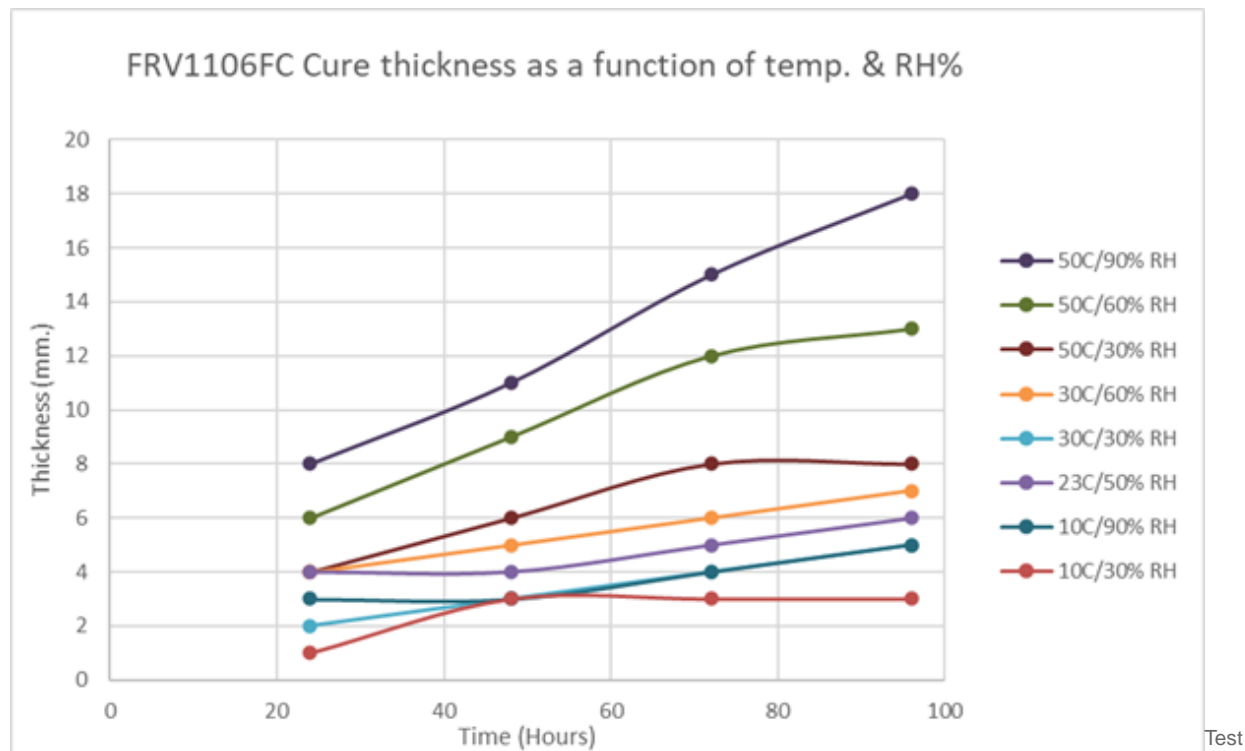
Typical properties are average data and are not to be used as or to develop specifications.

<sup>(A)</sup>Cure time 7 days at 25 °C (77 °F), 50 % relative humidity.

<sup>(B)</sup>Tested on Alclad Aluminum.

Information is provided for customer convenience. These properties are not tested on a routine basis. Note: These sealants are not for use in delicate electrical and electronic applications in which corrosion of copper, brass and other sensitive metals is undesirable.

### Cure Thickness at various cure conditions



## Typical Physical Properties

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 FRV1106FC will develop in 96 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.

## Fluid Resistance

| Typical Fluid Immersion Properties<br>168 hours/Room temp.<br>Cure 7 days, 25C/50% RH | Volume Swell % | Shore A<br>Hardness pts<br>Change | Tensile<br>% Change | Elongation<br>% Change |
|---|----------------|-----------------------------------|---------------------|------------------------|
| Toluene   | 14.88          | -4                                | -42.3               | -33.0                  |
| Mineral Spirits   | 2.8            | 2                                 | -23.2               | -15.8                  |
| Mobil Jet ii Oil  | 4              | -3                                | -4.6                | 4.9                    |
| Jet A (Iso-Octane)  | 7.6            | -1                                | -37.8               | -31.9                  |
| Skydrol PE-5  | 127.5          | -29                               | -76.5               | -66.7                  |
| AMS2629E type 1   | 3.3            | -1                                | -11.1               | -0.4                   |

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

## Potential Applications

FRV1106FC adhesive sealant may be used 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 a thickness of up to 6 mm (1/4 in.).

## General Instructions for Use

### Surface Preparation

FRV1106FC 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**

FRV1106FC 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 30 minutes. Once this tack-free skin begins to form, further tooling of the sealant is not recommended.

As the adhesive sealant cures, acetic acid vapors are released. As the curing reaches completion, the noticeable acetic odor 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**

FRV1106FC adhesive sealant is supplied ready to use in 5.4 fl. oz. SEMCO<sup>(1)</sup> cartridges.

<sup>(1)</sup> The SEMCO cartridge is manufactured 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 have shown to be 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. 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 their 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 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 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](http://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.

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