

## Scotch-Weld™ EC 2216 B/A PM&F Syringes

Scotch-Weld™ EC 2216 B/A Pre-mixed & Frozen (PM&F) syringes are a specialty packaging option that SP&S provides for this system. Using Scotch-Weld™ EC 2216B/A made by 3M, we mix, de-air, package, and then flash freeze syringes of this epoxy system to make syringes that have an excellent shelf-life when stored at -40C or colder and are ready to use once the syringes thaw at room temperature.

Thawed syringes retain up to 90% of the original shelf-life of the 2 part kits once thawed, and when the adhesive is cured, the mechanical, chemical, and electrical performance is identical to material that was mixed and cured without frozen storage.

Variants that have been thickened with fumed silica (such as Cab-o-sil or Aerosil), other thickeners, colorants, thinners, or other additives are also available. Please contact us to discuss these options if a modified version of this system might be helpful for your application.

### SUGGESTED APPLICATIONS

- Multipurpose adhesive and staking compound – excellent for many uses
- Conforms to Mil-A-82720, DOD A-82720, and several OEM specifications.
- Provides semi-flexible, impact resistant bonds and is excellent for cryogenic applications
- Complies with FDA 21 CFR 175.105 & 175.300 for use on food contact surfaces

### HANDLING PROPERTIES

	<u>VALUE</u>	<u>TEST METHOD</u>
<u>Scotch-Weld™ EC 2216 B/A PM&amp;F</u>		
Visual Appearance	Gray Paste	Visual
Density at 25°C	1.28 – 1.36 g/cm <sup>3</sup>	ASTM E-201
Viscosity at 25°C	50,000 – 120,000 cps	ASTM D-2393
Flash Point	>93°C	ASTM D-92
Mix Ratio	1 component, read-to-use when thawed	
Work-life (3 grams) at 25°C	60 - 120 minutes	
Time to handling Strength at 25°C	8 – 12 hours	
Cure Schedule:	7 days at 25°C or 2 hours at 66°C/150°F or 30 minutes at 93°C/200°F.	

For detailed mechanical and electrical property data, please see 3M's latest technical datasheet for the Scotch-Weld EC 2216 B/A.

### NASA OUTGASSING

(Results after 24 hours at 125°C and 10<sup>-6</sup> torr per ASTM E-595)

# Product Datasheet

Mix ratio	Cure Schedule	Total Mass Loss (TML) %	Collectible Condensable Volatile Materials (CCVM), %	Water Vapor Release (WVR) %
PM&F mixture made using 2B :3A by volume mix ratio	7 days at 25°C	0.77%	0.04%	0.23%

## PROCESSING AND APPLICATION INSTRUCTIONS

To use, thaw frozen syringes for approximately 10 minutes. Do not use a heater or oven to thaw syringes as this may cause premature gelation. To speed thawing, placing the thawing on a conductive metal surface can be helpful, such thawing plates are widely available and inexpensive. Once thawed, the adhesive can be dispensed from the syringes directly or through a wide range of luer lock needles to control the size of the adhesive bead or drop that is applied.

For best results, apply the adhesive to clean, dry surfaces. Bonding strength can be improved by abrading the surface to be bonded with a wire brush, scouring pad, steel wool or coarse sandpaper. Abrasion can remove loose material from the surface and increase the surface area for the adhesive will bond to. After abrasion, clean the surface of any dust or other loose material and degrease with solvent or water and suitable detergent to remove contaminants. The adhesive may then be applied and can be spread using stiff brushes, spatulas, trowels, etc.

## PACKAGING AVAILABLE

This product is available in a wide range of syringe sizes and types. Our standard manual (thumb plunger operated syringes are HSW syringes, which are certified to be silicone-free. For air pressure or machine dispensing, we offer EFD syringe, which are also certified to be silicone-free. Both syringe brands are available in sizes such as 3cc, 5cc, 10cc, 30cc, and 55cc. We can also supply syringes from other manufacturers including Fishman, Techcon, Semco, Iwashita, etc.

HSW Syringes



EFD Syringes



Please call us with any special packaging requests, or for information on custom kitting.

## STORAGE GUIDELINES

Store these materials in a clean, cool and dry environment in their tightly closed original containers. Store at -40°C/-40°F or colder to maintain shelf-life. Allow to thaw cool to room

# Product Datasheet



temperature (about 25°C/ 77°F) prior to using. At kept at -40°C PM&F syringes will have a minimum shelf-life of 6 months from the date of shipment from SP&S.

At kept at -80°C or colder freezers are available, it may be possible to extend the shelf-life to 12 months or longer. Please contact SP&S to discuss this option if it might be of interest to your company.

## HANDLING PRECAUTIONS & PERSONAL HYGIENE

See SDS for GHS warning and safety precautions specific to this material. Contact us at [msds@spolymers.com](mailto:msds@spolymers.com) for the latest copy of this SDS.

## FIRST AID

In case of contact: **Skin** – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather. **Eyes** – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention. **Inhalation** - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician. **Ingestion** - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

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