

## EpoPro 276A/B

LOW VISCOSITY, EPOXY WITH EXCEPTIONAL CYROGENIC PERFORMANCE

EpoPro 276 A/B is a 100% solids, two component epoxy potting and impregnation system that cures to a tough, chemical resistant polymer. It has exceptional resistance to thermal shock and thermal cycling and has been used in applications that experience temperatures as low as 4 degrees Kelvin. It can be used for dip and bake applications on random wound motors, stators, armatures, and for potting many types of electronic components. It is also recommend for many bonding applications – especially those exposed to cryogenic temperatures or thermal cycling. It adheres well to most metals, glass, ceramics, and many plastics including most other epoxy systems.

Modifications to this system featuring lower viscosity, higher flexibility, or with custom gel times, cure speed, and/or coloration are available. Also special variations with mineral fillers that provide high thermal conductivity, chemical resistance or even higher thermal shock resistance are available. Please contact us to discuss your application if you think such a variation might be helpful for your application.

### TYPICAL APPLICATIONS

- Dip and Back of Motors & Coils
- Stators, rotors, & Armatures
- Potting & Encapsulation
- Cryogenic adhesive applications

### HANDLING PROPERTIES

	<u>VALUE</u>	<u>TEST METHOD</u>
Density Mixed, g/cm <sup>3</sup>	1.11	ASTM E-201
Viscosity Mixed @ 25°C, cps	950	ASTM D-2393
Mix Ratio By Weight	100A:34B	Calculated
Mix Ratio By Volume	100A:37.5B	Calculated
Gel Time @ 25°C (130g mass)	2.5 - 3 hours	ASTM D-2471
Gel time @ 60°C (10 g mass)	30 – 40 minutes	ASTM D-2471
Recommended Cure Schedules:	24 – 48 hrs. @ 25°C <b>or</b> allow to set @ 25°C then cure 2 hrs @ 65°C	

### PHYSICAL PROPERTIES

	<u>VALUE</u>	<u>TEST METHOD</u>
Color	Clear to light yellow*	Visual
Shore D Hardness	80 - 85	ASTM D-2240
Tensile Strength, psi	7,500	ASTM D-638
Tensile Elongation at break	6% – 7%	ASTM D-638
Tensile Modulus, psi	400,000	ASTM D-638
Flexural Strength, psi	17,500	ASTM D-695
Flexural Modulus, psi	495,000	ASTM D-695
Glass Transition Temperature, °C	52	ASTM E-381
Coeff. of Thermal Expansion, ppm/°C	62	ASTM E-381
Water Absorption @ 23°C, 24hrs, %	0.08	ASTM D-570

Shrinkage, in/in	0.0035	ASTM D-2566
Thermal Conductivity, W/mK	0.21	ASTM F-433

## ELECTRICAL PROPERTIES

	VALUE				TEST METHOD
	@25°C	@40°C	@50°C	@60°C	
Volume Resistivity, ohm-cm	$1.4 \times 10^{16}$	$3.0 \times 10^{15}$	$1.7 \times 10^{13}$	$4.9 \times 10^{11}$	ASTM D-257
Dielectric Constant, 60 Hz	3.8	3.8	4.1	5.3	ASTM D-150
Dissipation Factor, 60 Hz	0.005	0.006	0.018	0.093	ASTM D-150
Dielectric Strength @ 3mm, V/mil		581			ASTM D-149

**NOTE** : Typical Properties determined using EpoPro 276A/B cured for for 24 hours @ 25°C + 2 hours @ 65°C. Values are based on laboratory or average production results – not for specification purposes.

### SUGGESTED PROCESSING GUIDELINES:

EpoPro 276A/B can be applied by brush, roller, squeegee, knife, spatula, or by spraying or dipping. It is also suitable for meter-mix dispensing and can be supplied in premixed and frozen syringes for small volume applications.

Weigh Part A and Part B in the recommended ratio as accurately as possible into a clean mixing container. Always use weighing equipment having accuracy in proportion to the amounts being weighted. Blend by using a spatula or stirring stick for 2-3 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture.

Apply the mixed EpoPro 276A/B to clean, dry surfaces. Allow to cure at room temperature for 24-48 hours or allow to set at 25°C then cure at 65°C C for 2 hours.

### STORAGE GUIDELINES:

Store this material in a clean, cool and dry environment in its tightly closed original container. Products may settle during storage and should be thoroughly re-mixed prior to use. Avoid extended exposure to high humidity. Tightly re-seal after use. If the recommended storage conditions are observed the products will have a minimum shelf-life of 12 months from the date of shipment.

### HANDLING PRECAUTIONS:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

### PERSONAL HYGIENE:

#### **EpoPro 276A**

**CAUTION!** May cause eye irritation. Prolonged or repeated skin contact may cause irritation, may cause allergic skin reaction. Harmful if inhaled or swallowed. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Use only with adequate ventilation. Do not take internally.

## **EpoPro 276B**

**WARNING!** Causes skin and eye irritation. May cause allergic skin and respiratory reactions. Harmful if inhaled or swallowed. Do NOT get in eyes, on skin, or clothing. Wear chemical splash goggles and impervious gloves when handling. Wash skin and clothing thoroughly after handling. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep containers closed when not in use. Do NOT take internally.

## **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.

## **DISCLAIMER:**

**IMPORTANT:** The following supercedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended

**Specialty Polymers & Services, Inc. (SP&S)**  
**27822 Fremont Court**  
**Valencia, CA 91355**  
**[www.spolymers.com](http://www.spolymers.com)**

**Tel - 661-294-1790**  
**Fax - 661-294-0640**  
**[info@spolymers.com](mailto:info@spolymers.com)**