

EpoPro[®] 272A/B

MULTIPURPOSE EPOXY ENCAPSULATION SYSTEM

EpoPro[®] 272A/B is 2-part epoxy system that cures at room temperature or with heat to form a strong, electrically insulating polymer. It is economical and easy to use system that is suitable for potting and encapsulating a wide range of low voltage electronic components. It is also helpful for sealing modules and housings, bonding wires and other securing or assembling electronic and electrical equipment. It bonds to a wide variety of materials and has excellent mechanical and insulating properties. It also provide good thermal conductivity, and helps to protect against thermal shock, vibration, chemical exposure, and environmental conditions.

The EpoPro 272A/B system is available in a standard black color, but other custom colors and other variations are available. This includes variations with shorter pot lives and cure times, sag or run resistance versions, and many other modifications designed to suit specific application or production process. Please contact us to discuss your application if you'd like to receive samples of a custom variant that would be suitable for your application.

SUGGESTED APPLICATIONS:

- Potting and encapsulation of low voltage electronic components
- Sensors and modules
- Sealing, bonding and assembly of electronic components

HANDLING PROPERTIES	VALUE	TEST METHOD
<u>EpoPro 272A</u>		
Visual Appearance	Black filled Liquid	
Density	1.60 g/cm ³	ASTM E-201
Viscosity, Part A, @ 25°C	20,000 cps	ASTM D-2393
Flash Point	>150°C	ASTM D-92
<u>EpoPro 272B</u>		
Visual Appearance	Brown to Tan liquid	
Density	1.60 g/cm ³	ASTM E-201
Viscosity, Part A, @ 25°C	150 cps	ASTM D-2393
Flash Point	>93°C	ASTM D-92
Mix Ratio by weight (by volume)	1A:1B (1A:1B)	
Mixed Viscosity @ 25°C, initial	18,000 cps	
Gel Time (100 grams) @ 25°C	90 minutes	
Gel Time (100 grams) @ 65 °C	10 - 15 minutes	
Cure Schedules:	24 hours @ 25°C or 2 hours at 65°C (Note: many other cure schedules are possible. Please contact us for assistance with alternate cure schedules.)	

PHYSICAL PROPERTIES (Tested at 25°C unless otherwise noted – cured 2 hours @ 65°C)

		<u>TEST METHOD</u>
Appearance	Black Solid	Visual
Hardness, Shore A At 25°C	82D	
Tensile Strength at Break	3800 psi	ASTM D-638
Tensile Elongation at break	2.4%	ASTM D-638
Glass Transition Temperature (Tg)	32°C	ASTM D-648
Coefficient of Thermal Expansion (CTE):		ASTM E-831
below Tg / above Tg (ppm/°C)	54 / 128	
Moisture absorption, % weight gain)		ASTM D-570
24 hours @ 25°C	0.20%	
Thermal Conductivity	0.65 W/mK	ASTM D-2214
Thermal Rating	-55°C to 130°C	EIC 216
Surface resistivity (ohms)	2×10^{15}	ASTM D-257
Volume Resistivity (ohm-cm) @ 25°C	1.0×10^{15}	ASTM D-257
Dielectric Strength (V/mil)	500	ASTM D-149
Dielectric Constant @ 25C - 60 KHz / 1MHz	4.3 / 4.1	ASTM D-150
Dissipation Factor @ 25C, 60 KHz / 1MHz	0.01 / 0.02	ASTM D-150

NOTE : Values are based on laboratory or average production results and were tested at 25°C unless otherwise noted. Samples cured for 2 hours @ 65°C. Data is not for specification purposes.

PROCESSING AND APPLICATION INSTRUCTIONS:

Mix using Meter-mix dispensing, or manually, as follows: Weigh the desired amount of Part A into mixing container whose weight has been tared. If material has been heated, allow to cool to $25 \pm 5^\circ\text{C}$ before continuing. (The pot life of mixed material will be shortened considerably if hot material is used.) Then weigh the desired amount of Part B into mixing container with resin. Mix thoroughly by means of mechanical mixer or manual stirring. We suggest mixing for at least 1-2 minutes, with frequent scrapping of the sides and bottom of the mixing container to ensure a complete Check for uniform color as a sign of complete mixing.

Vacuum deairing is recommended to remove any entrapped air from the mixing procedure. To deair most products, 1-2 minutes under full vacuum is recommended for each quart of volume of mixed material. Quickly dispense potting material into cavity or channel to be sealed. For best adhesion ensure that the surface to be bonded is clean and dry.

PACKAGING AVAILABLE:

This product is available in a wide range of package sizes including quarts & 5-gallon pails. It can also be supplied id dual syringe cartridges for use with static mixing nozzles and hand or air operated dispensing guns. This material can also be supplied pre-mixed and frozen in syringes or in custom kit sizes on request.

STORAGE GUIDELINES:

Store the EpoPro 272A/B in a clean, cool and dry environment in its tightly closed original containers. Protect from extended exposure to temperatures below 15°C (59°F) to prevent crystallization. If crystallization occurs, heat the entire container for 2- 4 hours at 60°C to re-liquefy the material. Also protect from exposure to extended moisture or high humidity. Tightly re-seal containers after use. Product may settle during shipment and/or storage, stir each container prior to use to ensure uniformity. 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:

Follow all mandatory and recommended industrial hygiene procedures whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

EpoPro 272A - Warning! May cause skin or eye irritation. Prolonged or repeated exposure could cause allergic skin or eye reactions. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated contact with skin. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

EpoPro 272B – Warning! May cause skin or eye irritation. Prolonged or repeated exposure could cause allergic skin or eye reactions. Harmful if swallowed. Do not get in eyes, on skin, on clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation wash thoroughly after handling.

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**

**Tel: 661-294-1790
www.spolymers.com**

**Fax: 661-294-0640
info@spolymers.com**