

EpoPro 271A/B

Room Temperature Curing, Flame Retardant Epoxy Encapsulant

EpoPro® 271A/B is a black, flame retardant general-purpose epoxy encapsulant. This toughened system has good air release and is designed for either manual or meter-mix processing. It is excellent for many encapsulating, potting embedding, and sealing applications. The system has a long work-life at room temperature but will cure rapidly quickly with heat.

Custom colored and viscosity modified systems are also available upon request. Please contact us to discuss your application if you think a modified version might be helpful for your application.

BENEFITS & TYPICAL APPLICATIONS

- General potting of electronic devices
- Potting of wire wind devices
- Sealing voids and cracks
- Convenient 1:1 mix ratio
- Good air release
- Halogen free/ROHS Compliant
- Flame Retardant
- Tough, Semi-Rigid Polymer
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HANDLING PROPERTIES

	<u>VALUE</u>	<u>TEST METHOD</u>
<u>EpoPro 271A</u>		
Appearance	Black Liquid	
Density, g/cm ³	1.55	ASTM E-201
Viscosity at 25°C, cps	18,000	ASTM D-2393
<u>EpoPro 271B</u>		
Appearance	Amber Liquid	
Density, g/cm ³	1.40	ASTM E-201
Viscosity at 25°C, cps	3,900	ASTM D-2393
Mix Ratio By Weight	1A:1B	Calculated
Mix Ratio By Volume	1A:1B	Calculated
Viscosity Mixed at 25°C, cps	11,000 cps	ASTM D-2393
Gel Time at 25°C, 100g mass	90 minutes	ASTM D-2471
Gel Time at 65°C, 100g mass	11 minutes	ASTM D-2471
Recommended Cure Schedules:	24 hrs. at 25°C or 2 hrs. at 65°C or 1 hrs. at 80°C	

PHYSICAL PROPERTIES

	<u>VALUE</u>	<u>TEST METHOD</u>
Color	Black*	Visual
Density, g/cm ³	1.47	ASTM E-201
Shore Hardness	76D	ASTM D-2240
Tensile Strength, psi	1,400	ASTM D-638

Tensile Elongation at break	17%	ASTM D-638
Glass Transition Temp. (Tg)	30°C	
Coefficient of Thermal Expansion		ASTM E-381
Alpha 1 (test at 5°C)	61 ppm/°C (below Tg)	
Alpha 2 (30°C – 125°C)	140 ppm/°C (below Tg)	
Thermal Conductivity	0.62 W/mK	ASTM D-2214
Flame Retardance	Self-extinguishing - complies with UL 94V0 at 6mm	

*Black, white, and custom colors available by request.

ELECTRICAL PROPERTIES

	<u>VALUE</u>	<u>TEST METHOD</u>
Electrolytic Corrosion	Grade A-1	DIN 53489
Dielectric Strength, V/mil	>550	ASTM D-149
Volume Resistivity, ohm-cm	3.9×10^{15}	ASTM D-257
Surface Resistivity, Ohm-cm	2.1×10^{15}	ASTM D-257
Dielectric Constant, 60 Hz / 1 MHz	5.4.7 / 3.4	ASTM D-150
Dissipation Factor, 60 Hz / 1 MHz	0.0648 / 0.04	ASTM D-150

NOTE : Typical Properties determined using EpoPro 271A/B allowed to gel at 25°C + 2 hours at 65°C. Values are based on laboratory or average production results – not for specification purposes.

SUGGESTED PROCESSING GUIDELINES:

EpoPro 271A/B can be applied by pouring, brushing, injection from a syringe, or dipping components into the mixture. It is also suitable for meter-mix dispensing and can be supplied in premixed and frozen syringes for small volume applications.

The EpoPro 271A is a filled system that may settle or separate during shipment or storage. Be sure to thoroughly re-mix both components prior to use using a spatula or by placing on a paint shaker for 5-10 minutes. When ready to use, weigh the resin and hardener 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 – ideally the accuracy of the scale should be less than 1% of the mass being weighed. Blend by using a stainless steel spatula or stirring stick for 2-3 minutes using a figure eight motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture. For bubble free parts, vacuum degas the mixture prior to use at 29 inches of mercury or greater. For best adhesion apply to clean, dry surfaces.

Please note that the EpoPro 271A/B system is available in a Dual Syringe grade product as EpoPro 271DS-A/B that can be dispensed through static mixing nozzles. This version is designed to resist settling and separation and is available in 50ml, 200ml, and 400ml dual cartridges for use with standard dispensing guns. Please contact us for more information about this option

STORAGE GUIDELINES:

Store this material in a clean, cool and dry environment in its tightly closed original container. The 271A & B 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:

See SDSs for health and safety information and handling precautions.

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.

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