

## EpoPro 8704OC

### Thermally Conductivity, Heat Resistant Epoxy Adhesive & Encapsulant

EpoPro 8704OC is one component version of our popular EpoPro 8704A/B 2 component bonding and encapsulating systems. It cures with heat to form a rigid, heat and chemical resistant bond or potting material that provides excellent electrical insulating properties and very good thermal conductivity. The EpoPro 8704OC is easy to use and available in standard black color or in custom colors by request. EpoPro 8704OC adheres well to most metals, glass, ceramic, stone, wood, and many plastics. The cured polymer also complies with NASA requirements for outgassing when tested per ASTM E595.

Many variations on this product are possible including thixotropic (non-run or sag) version, thinner versions, and more flexible or toughened versions. Please let us know if such a variation would be helpful for your application and we will be happy to sample you.

#### TYPICAL APPLICATIONS

- Transformers
- Relays
- Automotive Modules

#### **HANDLING PROPERTIES**

	<u>VALUE</u>	<u>TEST METHOD</u>
Density, g/cm <sup>3</sup>	2.2	ASTM E-201
Viscosity @ 25°C, cps	48,000	ASTM D-2393
Mix Ratio	one component	Calculated
Shelf-life:		
At 25°C / 77°F	At least 3 months	
At 5°C – 10°C (refrigerated)	At least 6 months	
At -20°C or less (frozen)	At least 12 months	
<u>Recommended Cure Schedules:</u>	<u>Minimum Cure Time</u>	<u>Optimal Cure Time</u>
At 120°C	30 minutes	90 – 120 minutes
At 140°C	10 minutes	45 minutes
At 150°C	7.5 minutes	25 minutes
At 160°C	6 minutes	20 minutes
At 180°C	3 minutes	10 minutes

*Please note that cure times do not include the time require for the parts to ramp up or cool down from the required curing temperature.*

#### **PHYSICAL PROPERTIES**

	<u>VALUE</u>	<u>TEST METHOD</u>
Color	Black*	Visual
Shore D Hardness	95	ASTM D-2240
Tensile Strength, psi	8,200	ASTM D-638
Tensile Elongation at break	1.8%	ASTM D-638
Tensile Lap Shear Strength (Al-Al)	>2000 psi	ASTM D-1102
Flexural Strength, psi	14,000	ASTM D-638

Compressive Strength, psi	18,000	ASTM D-695
Glass Transition Temperature, °C	120°C	ASTM E-381
Coefficient of Thermal Exp. (30C – 100C)	47 ppm/°C	ASTM E-381
Thermal Conductivity, W/mK	1.2	ASTM D-2214

## **ELECTRICAL PROPERTIES**

	<u>VALUE</u>	<u>TEST METHOD</u>
Volume Resistivity @ 25°C, ohm-cm	$\geq 1.0 \times 10^{15}$	ASTM D-257
Surface Resistivity @ 25°C, ohm	$3.3 \times 10^{14}$	
Dielectric Constant @ 25°C, 50 Hz	4.8	ASTM D-150
Dissipation Factor @ 25°C, 50 Hz	0.072	ASTM D-150
Dielectric Strength, volts/mil	$\geq 550$	ASTM D-149

**NOTE** : Typical Properties determined using EpoPro 8704OC cured for 24 minutes at 150°C. Values are based on laboratory or average production results – not for specification purposes.

## **SUGGESTED PROCESSING GUIDELINES:**

EpoPro 8704OC can be manually applied by knife, spatula, injection, dipping or pouring. It is suitable for automatic or manual syringe dispensing.

Before each use, stir the individual containers of EpoPro 8704OC to ensure that all of the mineral fillers are thoroughly dispersed and have not settled or separated during storage or transportation. For syringes of the EpoPro 8704OC, we suggest storing in a refrigerator or freezer as this will prevent the fillers from separating during storage. Part A and Part B in the recommended ratio as accurately as possible into a clean mixing

Heating the EpoPro 8704OC to 40°C -60°C will reduce the viscosity and allow it to better penetrate tightly wound coils or narrow gaps. However, many hours or days of exposure at elevated temperatures will cause the system to start to prematurely gel.

## **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 8704OC**

**WARNING!** 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.

## **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 supersedes 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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