Product Datasheet

SP&S Specialty Polymers and Services

EpoPro 4063A/8704B

Heat & Impact Resistant Epoxy System

EpoPro 4063A/8704B is a system with an excellent balance of electrical & mechanical properties including excellent thermal cycling and thermal shock resistance. It resists cracking due to minor flexing of leads, mismatched CTE, and offers a low CTE. It is an easy to use, system available in black and many custom colors and can be used for large and small volume potting and casting applications. EpoPro 4063A/8704B adheres well to glass, metals, and many rigid plastics. The cured polymer provides exceptional chemical and environmental resistance.

TYPICAL APPLICATIONS

- Transformers
- Relays
- Automotive Modules

HANDLING PROPERTIES

	VALUE	TEST METHOD
EpoPro 4063A (resin)		
Appearance	Black, filled liquid	Visual
Density at 25ºC, g/cm³	1.55	ASTM E-201
Viscosity at 25ºC, cps	60,000	ASTM D-2393
EpoPro 8704B (Hardener)		
Density at 25ºC, g/cm³	1.00	ASTM E-201
Viscosity at 25ºC, cps	10	ASTM D-2393
Density Mixed, g/cm³	1.45 – 1.60	ASTM E-201
Viscosity Mixed at 25ºC, cps	4,000	ASTM D-2393
Viscosity Mixed at 60ºC, cps	2000 – 5,000	ASTM D-2393
Mix Ratio By Weight	100A: 12.5B	Calculated
Mix Ratio By Volume	100A: 20B	Calculated
Gel Time at 25ºC, 200g mass	80 minutes	ASTM D-2471
Recommended Cure Schedules:	3 hours at 60 ºC or 24 hours at 25 ºC	

PHYSICAL PROPERTIES

	VALUE	TEST METHOD
Color	Black or as requested	Visual
Shore D Hardness	80-85	ASTM D-2240
Tensile Strength, psi	8,500	ASTM D-638
Tensile Elongation at break	>3%	ASTM D-638
Flexural Strength, psi	16,500	ASTM D-638
Compressive Strength, psi	19,200	ASTM D-695
Glass Transition Temperature, ºC	80	ASTM E-381
Coefficient of Thermal Expansion	53 ppm/ºC	ASTM E-381
Shrinkage, in/in	<0.0001	ASTM D-2566
Thermal Conductivity, W/mK	0.52	ASTM D-2214

ELECTRICAL PROPERTIES	VALUE	TEST METHOD
Volume Resistivity at 25ºC, ohm-cm	$\geq 10^{15}$	ASTM D-257
Dielectric Constant at 25ºC, 50 Hz	4.3	ASTM D-150
Dissipation Factor at 25ºC, 50 Hz	0.020	ASTM D-150
Dielectric Strength at 0.20 mils, volts/mil	1500	ASTM D-149
Dielectric Strength at 1/8", volts/mil	$\geq$ 500	ASTM D-149

NOTE : Typical Properties determined using EpoPro 4063A/8704B cured for 3 hours at 60ºC and equilibrated for at least 24 hours at room temperature prior to testing. Values are based on laboratory or average production results – not for specification purposes.

SUGGESTED PROCESSING GUIDELINES:

EpoPro 4063A/ 8704B can be applied by spatula, injection, dipping, or pouring. It is suitable for meter-mix dispensing and can be supplied in premixed and frozen syringes and cartridges for small volume applications. For meter-mix applications the filler in the 4063A is considered a medium abrasive filler and so we suggest using abrasion resistant equipment.

Before each use, stir the individual containers of EpoPro 4063A to ensure that all of the mineral fillers are uniformly dispersed and have not settled or separated during storage or transportation. When ready, 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. Degassed for best electrical and mechanical performance. Then cure using one of the listed cure schedules.

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:

See SDSs for GHS warning & precautionary handling statements.

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:

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