Product Datasheet

EpoPro 845A/B

SEMI-CONDUCTIVE COATING FOR SHIELDING/EMI PROTECTION

EpoPro 845A/B is a two component, low viscosity, room temperature curing epoxy coating. The system is designed for controlling voltage stress and can be used as a high voltage capacitance shield or for establishing a ground potential electrode. It is also recommended for submersible or subsurface applications including SF_6 insulated types and EMI and RFI shielding, grounding, and static dissipation. The EpoPro 845A/B can be used for field rating of bushings, switchgear, and a variety of other high voltage electrical and industrial applications where conductive shielding or charge dissipation is required.

The cured coating has good chemical resistance and excellent durability in water. After curing, it exhibits good bond strength and excellent vibration and impact resistance with a thermal rating of up to 155°C. Resistance ranges from 1000 – 3000 ohms/square depending on curing and the test temperature.

Many variations on the standard EpoPro 845A/B system are possible, including modified work-lives, increases flexibility in the cured coating or increased adhesion to selected substrates. Please contact us to discuss your application if you think such a variant would be helpful for your application.

APPLICATIONS & BENEFITS:

- Excellent bond strength to metals, glass, ceramics, many plastics and composites
- Semi-Conductive Shielding Compound
- EMI / RFI Shielding
- Establishing a ground
- Low viscosity – can be applied by spray, brush or dip coating.
- Static Dissipation
- "Rub-off" resistant
- Good chemical and moisture resistance

HANDLING PROPERTIES	VALUE	TEST METHOD
Visual Appearance, Part A	Black, thin liquid	
Density, Part A	0.96 g/ml	ASTM E-201
Viscosity, Part A, @ 25ºC	80 - 800 cps	ASTM D-2393
Percent Solids (non-volatile %)	25% ± 3%	
Visual Appearance, Part B	Clear to light amber liquid	
Density, Part B	0.92 g/cm³	ASTM E-201
Viscosity, Part B, @ 25ºC	10 - 35 cps	ASTM D-2393
Percent Solids (non-volatile %)	44% ± 3%	
Density Mixed, g/cm³	0.96 g/cm³	ASTM E-201
Viscosity Mixed @ 25ºC	50 - 300 cps	ASTM D-2393
Mix Ratio By Weight (By Volume)	100A:10B (100A:10.5B)	Calculated

Processing Temp.	Gel time	Tack Free time	Full Cure time
25ºC	45 - 60 minutes	4-8 hours	24 hours* or 1 hr. at 100ºC

*Note: the coating will cure within 24 hours at 25ºC, but for best electrical results a post cure of 1 hour at 100ºC is recommended. Alternately the product can be allowed to gel and air dry at room temperature for at least 4 hours then immediately heat cured for 1 hours at 100ºC

PHYSICAL PROPERTIES

	VALUE	TEST METHOD
Color	Black- Dark Gray	Visual
Heat Deflection Temperature	120ºC	ASTM D-648
Fungus Resistance	Non-Nutrient	Mil-I-46058C

Surface Resistance after Immersion Aging: coating applied to clean, sand blasted epoxy plaques and then immersed in the fluids noted, Surface resistance measured after various periods of time. Throughout the test the cured coating exhibited good adhesion and no loss of integrity.

Time (weeks)	Water @ 70ºC	Transformer Oil @ 130ºC
0 (control)	2450 Ω/square	2450 Ω/square
6	3355 Ω/square	-
13	3355 Ω/square	1603 Ω/square

Thermal Cycle Testing: 10 cycles (2 hours soak @ -40ºC; 2 hour ramp to 105ºC C, 2 hour soak @ 105ºC, ramp to -40C over 2 hours)

Initial Surface Resistance	2450 - 2700 Ω/square
After 10 cycles	2800 – 3000 Ω/square

NOTE : Values are based on laboratory or average production results – not for specification purposes.

SUGGESTED PROCESSING GUIDELINES:

Before each use, first thoroughly re-mix the 845 part A to make sure it is uniform using a stirring stick or paint shaker. Also stir the 845 part B to make sure it is uniform as well. Once the components are uniform. Weigh Part A and Part B in the recommended ratio as accurately as possible into a clean mixing container. Mixing containers should preferably be made of polypropylene, polyethylene, glass, or non-corroding metal. (Stainless steel, aluminum, etc.). Always use weighing equipment having accuracy that is ±1% or less of the smallest quantity that you will be weighed out. Mix Part A & B thoroughly using a spatula or stirring stick for at least 2-3 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture.

Once mixed you can apply the coating to clean, dry surfaces. For best adhesion, sand or abrade the surface lightly with a scouring pad, fine sandpaper or by sandblasting. After sanding or abrading the surface, removal all dust and loose material prior to application of the coating. In general, two thin coats will produce better results than 1 thick coating. For spraying, allow 1st coat to dry for 2-4 hours at room temperature or oven dry for 1 hour at 40ºC prior to applying the second coat to prevent solvent entrapment and other issues. For other application methods, allow coating to dry as above or possibly longer for brush applications to prevent damage to the initial layer when applying the second coating.

In general, suitable application methods may include brushing, dip coating, and spraying. If necessary the coating can be thinned with small amounts of solvents such as Xylene or Methyl Acetate or our formulated Thinners Ultralane Thinner #1 or Thinner # 25 in order to reduce the viscosity and extend working life. However, the amount of additional solvent added should be kept to the minimum necessary to achieve a satisfactory result and the air drying time may need to be increased if the solvent level is substantially increased.

Stripping / Removal:

Uncured or partially cured EpoPro 845A/B can be removed with acetone, MEK, Poly-gone 300 Ag or Poly-gone 500AG and other solvents. Fully cured EpoPro 845A/B is difficult to remove

and will likely require Poly-Gone 300AG, Poly-Gone 500AG or other formulated strippers to remove. Contact us for more information on the Poly-Gone product line if a stripper is required.

STORAGE GUIDELINES:

Store this material in a clean, cool and dry environment in its tightly closed original container. Store away from Fire, sparks, and heat. Protect from extended exposure to temperature below 20ºC (68ºF) or above 40ºC (104ºF). Tightly re-seal containers after use. The EpoPro 845B is sensitive to moisture and should be protected from exposure to high humidity. Keep the 845B container closed when not in use and blanket the container with dry nitrogen or another dry inert gas prior to re-sealing to exclude moisture. 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 845A

WARNING! Combustible, Causes eye & skin irritation. May cause allergic skin or respiratory reactions. 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. Keep away from fire, sparks, or heat. Use only with adequate ventilation. Do not take internally.

EpoPro 845B

WARNING! Combustible. Corrosive - causes eye & skin burns. Harmful if absorbed through skin. May cause allergic skin or respiratory reactions. Harmful if inhaled or swallowed. Avoid contact with eyes, skin, or clothing. Wear eye protection & impervious gloves when handling & wash thoroughly after handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Keep away from fire, sparks, or heat. 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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