

EpoPro[®] 202A/HY 951

TOUGH, LOW VISCOSITY EPOXY ADHESIVE & ENCAPSULATING SYSTEM

EpoPro[®] 202A with Hardener HY 951 is a versatile epoxy system. It cures rapidly at room temperature and the cured polymers has excellent mechanical and electrical properties. This system has a very low viscosity making it excellent for impregnating wire wound devices. It is also used to encapsulate capacitors, noise filters, chokes, miniature transformers, and small motors, and can be used as a low viscosity adhesive. The cure polymer demonstrates very good toughness and adhesion to many materials.

The EpoPro 202A is naturally a transparent, yellow color and can readily be colored with or Epoxicolor pigments or supplied in any number of custom colors. In addition, many other Hardeners are available that allow the end user to vary the processing properties such as the pot life, as well as varied the cured properties. Please contact us to discuss your application if a variation on this system might be helpful for your application.

SUGGESTED APPLICATIONS:

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| <ul style="list-style-type: none"> • Impregnating wire wound devices such as miniature transformers and small motors |
| <ul style="list-style-type: none"> • Encapsulating or bonding noise filters, chokes, capacitors, and many other devices • |

HANDLING PROPERTIES	<u>VALUE</u>	<u>TEST METHOD</u>
<u>EpoPro 202A</u>		
Visual Appearance	Clear to light yellow liquid	
Density, Part A	1.10 g/cm ³	ASTM E-201
Viscosity, Part A, @ 25°C	2,200 cps	ASTM D-2393
Flash Point	>182°C (>360°F)	ASTM D-92
<u>Hardener HY 951</u>		
Visual Appearance	Amber liquid	
Density,	0.97 g/cm ³	ASTM E-201
Viscosity, Part B, @ 25°C	40 cps	ASTM D-2393
Flash Point	210°C (410°F)	ASTM D-92

Mix Ratio	100A:10B part by weight	
Viscosity Mixed @ 25°C	800 cps	ASTM D-2393
Pot life (100 grams) @ 25°C	30 minutes	
Cure time @ 25°C	24 hours	
Cure time @ 65°C	2 hours	

PHYSICAL PROPERTIES (Tested at 25C unless otherwise noted)		
	VALUES	TEST METHOD
Appearance	Translucent, yellow to amber	Visual
Hardness, Shore D		ASTM D-2240
At 25°C / At 93 °C /At 150°C	81/ 35 / 28	
Tensile Strength	7200 psi	ASTM D-638
Tensile Elongation	9%	ASTM D-638
Glass Transition Temperature (Tg)	56°C	ASTM D-648
Coefficient of Thermal Expansion (CTE)		ASTM E-831
below Tg / above Tg (ppm/°C)	62 / 220	
Weight loss after 48 hrs @ 150°C	0.44%	
Moisture absorption (24 hour immersion - % weight gain)	0.20%	ASTM D-570
Thermal Conductivity	0.18 W/mK	ASTM D-2214
Thermal Rating	105°C-130°C	EIC 216
Surface Resistivity (ohms)	>3.0 x 10 ¹⁴	ASTM D-257
Volume Resistivity (ohm-cm)		ASTM D-257
At 25°C / At 95 °C	3.0 x 10 ¹⁵ / >1.0 x 10 ¹¹	
Dielectric Strength (V/mil)	> 600	ASTM D-149
Dielectric Constant @ 25C		ASTM D-150
@ 60 Hz / 10 KHz / 1 MHz	3.9 / 3.5 / 3.3	
Dissipation Factor @ 25C		ASTM D-150
@ 60 Hz / 10 KHz / 1 MHz	0.01 / 0.02 / 0.03	

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

SUGGESTED PROCESSING GUIDELINES:

To use, weigh Part A and Part B in the ratio you have selected 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 weighing. Blend Part A & B thoroughly by using a spatula or stirring stick for at least 2 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture. Vacuum de-gassing after mixing may be helpful for best electrical and physical properties.

Apply to clean, dry surfaces. For best adhesion, abrade the surface with a wire brush, scouring pad, steel wool or coarse sand paper. After abrasion, clean the surface of any loose material and degrease with solvent or detergent to remove any contaminants. The material may then be applied with any suitable application method include brushes, spatulas, trowels, etc.

STORAGE GUIDELINES:

Store these materials in a clean, cool and dry environment in their tightly closed original containers. Protect from extended exposure to temperatures below 15°C (59°F). Crystallization may occur if the material is

exposed to cold for extend periods. If this occurs, heat the entire container of 202A or 9615 for 4 hours at 70°C to re-liquefy the material. Allow to cool to ambient temperature prior to using. Also protect the 202A & 9615 from exposure to moisture or high humidity. Tightly re-seal containers 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 202A

CAUTION! May cause eye & skin irritation. Prolonged or repeated skin contact or inhalation of vapors 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. Use only with adequate ventilation. Do not take internally.

Hardener HY 951

WARNING! May cause eye & skin irritation. Prolonged or repeated skin contact or inhalation of vapors 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. 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 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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