

EpoPro[®] 157A/B

Epoxy Paste Adhesive & Fairing Compound, with Non-Metallic Fillers

EpoPro[®] 157A/B is a two-part, highly filled epoxy paste adhesive and fairing compound. It has a convenient 1:1 mix ratio by weight and volume and is filled with non-metallic mineral fillers to prevent electrolytic corrosion when the adhesive is used on metallic surfaces. The mixed system has a creamy consistency that is easy to mix and apply and is sag resistant on vertical surfaces in thicknesses up to ¼". The mixed EpoPro[®] 157A/B has a work-life of about 30 minutes and the material can be handled within 4 hours at room temperature. Bonded parts develop ~90% of full strength within 12 hours at room temperature. Once cured, the adhesive is temperature, chemical, and environmental resistant to at least 150°F(65°C.) The cured epoxy is also machinable and can be sawn, ground, tapped, drilled, and sanded with conventional tools.

The EpoPro[®] 157A/B system is designed for marine and aerospace applications such as fairing aerodynamic & hydrodynamic surfaces. It can be used for flyaway and prototype wind-tunnel applications, for potting bushings, for splining and bonding applications, and for tooling applications such as filling holes in epoxy molds & castings, adding fillets to patterns and making or repairing jigs and nesting fixtures. It is also excellent for general plugging, sealing, and bonding applications such as repairing vacuum forms, damaged concrete, and stonework. It has excellent adhesion to composites, metals, wood, glass, cement, stone, and many other materials.

APPLICATIONS & BENEFITS:

- Aerodynamic & Hydrodynamic Fairing
- Building, repairing and modifying tools, molds, & fixtures
- Filling, sealing and repairing cracks, holes, etc.
- Bonding & splining metals, wood, composites, stone, etc.

HANDLING PROPERTIES	VALUE	TEST METHOD
EpoPro[®] 157A		
Visual Appearance	White Paste	Visual
Density	1.71 g/cm ³	ASTM E-201
Viscosity, Part A, @ 25°C	500,000 cP	ASTM D-2393
Flash Point	> 120°C	ASTM D-92
EpoPro[®] 157B		
Visual Appearance	Blue colored paste	
Density	1.71 g/cm ³	ASTM E-201
Viscosity, Part B, @ 25°C	450,000 cP	ASTM D-2393
Flash Point	> 120°C	ASTM D-92

Product Datasheet



Mixed Properties

Mixed Viscosity	Thixotropic Paste
Mix Ratio	1A:1B by weight and by volume
Shelf-life	at least 2 years @ room temperature (~ 25°C)
Sag Resistance:	No sagging at up to 1/4" in thickness
Pot life (120 grams) @ 25°C	30 minutes
Suggested cure times	24 hour @ 25°C or 60 minutes at 60°C or 20 minutes at 100°C* Achieves handling strength in approximately 4 hours at 25°C.

*Note: many other cure schedules are possible. Please contact us for assistance if you'd like to use an alternate cure schedule.

PHYSICAL PROPERTIES

	<u>VALUE</u>	<u>TEST METHOD</u>
Color	Blue*	Visual
Shore Hardness	85D	ASTM D-2240
Tensile Strength, psi	4,000 psi	ASTM D-638
Compressive Strength	13,000 psi	ASTM D-695
Flexural Strength	6,000 psi	ASTM D-790
Glass Transition Temp. (Tg)	166°F (74°C)	ASTM D-648
Heat Deflection Temperature	122°F (50°C)	
Coefficient of Thermal Expansion	44 ppm/ °C	
Lap Shear Strengths		ASTM D-1002
Development:		
	<u>Cure time</u>	
	4 hrs @ 25°C (77°F)	1020 psi
	12 hrs @ 25°C (77°F)	1910 psi
	7 days @ 25°C (77°F)	2100 psi
Effect of Temperature on Lap Shear Strength:		
	<u>Test Temperature</u>	
	-60°C (-76°F)	2010 psi
	25°C (77°F)	2100 psi
	60°C (140°F)	1100 psi
	80°C (176°F)	300 psi
Lap Shear Strength after Tropical Aging at 49°C and in 95% relative humidity:		
	<u>Aging Period</u>	
	Initial results	2100 psi
	30 days	2800 psi
	90 days	3060 psi
Chemical Resistance (after Immersion for 90 days)		
	<u>Chemical</u>	<u>Shear Strength</u>
	Control	2100 psi
	Acetic Acid 10%	300 psi
	Gasoline	2060 psi
	Motor Oil (HD30)	2180 psi
	Mineral Oil	2140 psi
	Paint Thinner	1780 psi
	<u>Chemical</u>	<u>Shear Strength</u>
	Power Steering Fluid	2120 psi
	Transmission Fluid	2160 psi
	Vegetable/Corn Oil	2180 psi
	Water @ 23°C	1970 psi
	Water @ 60°C	1290 psi
	Xylene	2140 psi

NOTE: Typical Properties determined using EpoPro® 157A/B cured 7 days @ 25°C cure - unless otherwise stated. Values are based on laboratory or average production results – not for specification purposes.

*Custom colors available by request. Custom viscosity, pot life and cure speeds are also available by request.

SUGGESTED PROCESSING GUIDELINES

EpoPro® 157A/B can be applied by stiff brush, roller, squeegee, knife, or spatula. It is also suitable for meter-mix dispensing and can be supplied in dual syringes cartridges for use with static mixing nozzles.

For manual mixing, 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 1-2 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture. Always apply the adhesive to clean, dry surfaces.

For best bond strength, roughen surface to be bonded with wire brush, sand-blasting, etc. After roughening, clean and dry surface and remove any loose material prior to bonding. Optimal bond strengths are typically achieved with an adhesive bondline thickness of 3 – 5 mils, but larger gaps and thicker bondlines are possible with this adhesive without major loss of mechanical strength.

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 24 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® 157A

CAUTION! 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.

EpoPro® 157B

WARNING! Causes skin and eye irritation. May cause allergic skin and respiratory reactions. Harmful if inhaled or swallowed. Do NOT get in eyes, on skin, or clothing. Wear chemical splash goggles and impervious gloves when handling. Wash skin and clothing thoroughly after handling. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep containers closed when not in use. Do NOT take internally.

Product Datasheet



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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