

EpoPro 159A/B

High Temperature Resistant, Epoxy Paste Adhesive

EpoPro 159A/B is a two-part, epoxy adhesive. It is designed for industrial and aerospace applications and has excellent adhesion to composites, metals, wood, glass, cement, stone, and many other materials. It features a convenient 2:1 by volume mix ratio and has a semi-paste consistency that is easy to mix and apply. The mixed adhesive has a work-life of about 3 hours at room temperature and bonded parts can be cured in just 1 hour @ 100°C.

Once cured the adhesive is temperature, chemical, and environmental resistant up to at least 400°F/ 205°C and can withstand short or intermittent exposure to 450°F/ 232°C. Cured EpoPro 159A/B is machinable and can be sawn, ground, tapped, drilled, and sanded with conventional tools. EpoPro 159A/B is used for bonding, structural potting and void filling and liquid shim applications.

HANDLING PROPERTIES	VALUE	TEST METHOD
<u>EpoPro 159A</u>		
Visual Appearance	Off-White	
Density	1.23 g/cm ³	ASTM E-201
Viscosity, Part A, @ 25°C	86,000 cP	ASTM D-2393
Flash Point	> 120°C	ASTM D-92
<u>EpoPro 159B</u>		
Visual Appearance	Brown	
Density	1.06 g/cm ³	ASTM E-201
Viscosity, Part B, @ 25°C	80,000 cP	ASTM D-2393
Flash Point	> 120°C	ASTM D-92
<u>Mixed Properties</u>		
Mixed Viscosity	84,000 cP	
Mix Ratio	100A: 52B by weight or 2A:1B by volume	
Shelf-life	at least 1 year @ room temperature (~ 25°C)	
Pot life (100 grams) @ 25°C	3 hours	
Suggested Cure times are: Gel at room temperature + 1 hour @ 100°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	VALUE	TEST METHOD
Color	Tan	Visual
Shore D Hardness	80	ASTM D-2240

Effect of Temperature on Lap Shear Strength:

ASTM D-1002

<u>Test Temperature</u>	<u>Shear Strength</u> (Cured 7 days @ 25 °C)
-55°C / -67°F	3400 psi
25°C / 77°F	3200 psi
82°C / 180°F	2500 psi
121°C / 250°F	1500 psi
149°C / 300°F	1200 psi
177°C / 350°F	1000 psi
205°C / 400°F	800 psi

Lap Shear Strength after heat aging:

<u>Aging Time & Temp.</u>	<u>Shear Strength @ 75°F</u>	<u>Shear Strength @ 350°F</u>
<i>Initial results</i>	3200 psi	1000 psi
500 hrs @ 180°F	3180 psi	1560 psi
500 hrs @ 350°F	2350 psi	2050 psi
12 months @ 350°F	1985 psi	1872 psi

T- Peel @ 25°Ci 11 pli

NOTE : Typical Properties determined using EpoPro 159A/B cured 24 hrs @ 25°C + 1 hour @ 100°C unless otherwise stated. Values are based on laboratory or average production results – not for specification purposes.

SUGGESTED PROCESSING GUIDELINES:

EpoPro 159A/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 and 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 or separate 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 159A

WARNING! Causes eye & skin irritation. Prolonged or repeated skin contact 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 159B

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.

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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