

EpoPro[®] 213-3A/B



MULTIPURPOSE EPOXY ADHESIVE

EpoPro[®] 213-3A/B is 2-part epoxy adhesive system that is excellent for bonding and sealing metal, rigid plastics, concrete, glass, and many other materials. The mixed material is translucent, light amber in color. It is excellent for applications requiring tough, impact or vibration resistant bonds and will bond most materials including wood, fiberglass, metal, and many rigid plastics. The cured polymer exhibits very good moisture, chemical and environmental resistance

The EpoPro 213-3A resin is available in custom colors, viscosities, and curing speeds. Please contact us to discuss your application if you would like to receive samples of a custom variant that might be suitable for your application.

BENEFITS & SUGGESTED APPLICATIONS:

- Excellent for bonding fiberglass, wood, metals, and many other materials
- Provides strong permanent bonding of tool shafts to heads.
- Solvent & VOC free
- Easy to mix and apply – lower surface tension improves flows and de-airing.

HANDLING PROPERTIES	<u>VALUE</u>	<u>TEST METHOD</u>
<u>EpoPro 213A</u>		
Visual Appearance	Clear to light yellow liquid	
Density	1.15 g/cm ³	ASTM E-201
Viscosity, Part A, @ 25°C	2200 cps	ASTM D-2393
Flash Point	>93°C	ASTM D-92
<u>EpoPro 213B</u>		
Visual Appearance	Light yellow to amber liquid	
Density	0.95 g/cm ³	ASTM E-201
Viscosity, Part B, @ 25°C	15,000 cP	ASTM D-2393
Flash Point	>100°C	ASTM D-92
<u>Mixed Properties</u>		
Mixed Viscosity	8,200 cps	
Mix Ratio:	variable from 2A:1B to 1A:1B by weight or volume	
Shelf-life	at least 12 months at room temperature (~ 25°C)	
Pot life (100 grams) @ 25°C	90 - 180 minutes	
Cure Schedules:	24 - 48 hours @ 25°C or 6-8 hours at 40°C or 3 hours @ 65°C*	

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

PHYSICAL PROPERTIES (Tested at 25C unless otherwise noted – cured 2 hours @ 65C, mix ratio 1A: 1C by weight)

		<u>TEST METHOD</u>
Appearance	translucent light amber	Visual
Hardness, Shore D At 25°C	80D	ASTM D-2240
Tensile Lap Shear (AL:AL)		ASTM D-1002
at -55°C (-67°F)	1840 psi	
at 25°C (77°F)	2580 psi	
at 94°C (200°F)	820 psi	
Flexural Strength	8,400 psi	
Flexural Modulus	380,000 psi	
Compressive Strength	9,800 psi	ASTM D-695
Compressive Modulus	335,00 psi	ASTM D-695
Linear Cure Shrinkage	0.005" per inch	ASTM D 2566
Moisture absorption (24 hour at 25°C - % weight gain)	0.20%	ASTM D-570
Thermal Conductivity	0.18 W/mK	ASTM D-2214
Thermal Rating	-55°C to 105°C	EIC 216

NOTE : Values are based on laboratory or average production results using 1A :1B part by weight ratio – not for specification purposes.

PROCESSING AND APPLICATION INSTRUCTIONS :

EpoPro 213-3A/B can be applied by stiff (short bristle) brush, roller, squeegee, knife, or spatula. It is also suitable for meter-mix dispensing.

When ready to use, 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. Apply to clean dry surfaces. For best bonding, roughen the surface to be bonded using sandpaper, a wire brush, sand-blasting or similar means. Be sure to clean and degrease the surface after roughening.

PACKAGING AVIALABLE:

This product is available in a wide range of package sizes including pint kits, quart kits, gallon kits, 5-gallons kits, and 55-gallon drums. Smaller kits and Dual syringes are also available.

STORAGE GUIDELINES:

Store the EpoPro 213-3A and 213-3B in a clean, cool and dry environment in its tightly closed original containers. Protect from extended exposure to temperatures below 15°C (59°F) to prevent crystallization. If crystallization occurs, heat the entire container for 4 hours at 60°C to re-liquefy the material. Also, protect from exposure to extended 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 213-3A

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.

EpoPro 213-3B

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 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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