Product Datasheet

EpoPro® 153KF-A/B

Carvable Epoxy Paste Adhesive For Wood

EpoPro® 153KF-A/B is a two-part,filled epoxy paste adhesive that prodcues a hard surface with a density similar to oak. The adhesive is easily carveable and can easily by sanded, sawed, drilled, tapped, or otherwise worked like wood. EpoPro® 153KF-A/B has a convenient 2:1 mix ratio by weight or volume and a creamy consistency that is easy to apply. The mixed EpoPro® 153KF-A/B has a work-life of about 8 minutes and rapidly develops its bond strength. Bonded parts can be handled within 1-2 hour at room temperature and will develop ~90% of full strength within 4 hours at room temperature. Once cured, the adhesive is temperature, chemical, and environmental resistant to at least 140°F(60°C.)

The EpoPro® 153KF-A/B system is designed for filling knots in wood, bonding and repairing wood products, and for many art projects, but it is also used to bond metal, composites, and other materials where its low density or easy of machining is desirable. Custom colors are available by request.

APPLICATIONS & BENEFITS:

- Easily carveable and machinable
- Use to Fill, seal, and repairing knots, cracks, holes, etc.
- Useful to build and repair wood products
- Bonds wood, metals, composites, stones, etc..

HANDLING PROPERTIES	VALUE	TEST METHOD
EpoPro® 153KF-A		
Visual Appearance	Black Paste	Visual
Density	0.90 g/cm³	ASTM E-201
Flash Point	> 120°C	ASTM D-92
EpoPro® 153KF-B		
Visual Appearance	Amber liquid	Visual
Density	1.078 g/cm³	ASTM E-201
Flash Point	> 120°C	ASTM D-92
Mixed Properties		
Mixed Viscosity	Thixotropic Paste	
Sag resistance at 25ºC	Non-sagging at 0.5"	
Mix Ratio	100:60 by weight or 2A:1B by volume	
Shelf-life	1 year at room temperature (~ 25ºC)	
Gel Time (10 grams) at 25ºC	5 -10 minutes	
Suggested cure times	8-24 hour at 25ºC **or** 30 minutes at 40ºC **or** 10 minutes at 80ºC*	

Achieves handling strength in approximately 1-2 hours at 25ºC and ~90% of final strength in 4 hours at 25ºC

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

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PHYSICAL PROPERTIES	VALUE	TEST METHOD
Color	Black and custom colors*	Visual
Shore Hardness	85D	ASTM D-2240
Tensile Strength	2,130 psi	ASTM D-638
Tensile Modulus	140,000 psi	ASTM D-638
Compressive Strength	4,100 psi	ASTM D-695
Compressive Modulus	161,000 psi	ASTM D-695
Flexural Strength	4,200 psi	ASTM D-790
Flexural Modulus	149,000 psi	ASTM D-790
Glass Transition Temp. (Tg)	166ºF (74ºC)	ASTM D-648
Heat Deflection Temperature	122ºF (50ºC)	
Coefficient of Thermal Expansion	44 ppm/ ºC	
Lap Shear Strengths		ASTM D-1002

Strength Development:

Cure time	Shear Strength
4 hours at 25ºC (77ºF)	1560 psi
8 hours at 25ºC (77ºF)	1990 psi
24 hours at 25ºC (77ºF)	2100 psi

Effect of Temperature on Lap Shear Strength:

Test Temperature	
-60ºC (-76ºF)	1700 psi
25ºC (77ºF)	2100 psi
50ºC (140ºF)	720 psi
80ºC (176ºF)	140 psi

Lap Shear Strength after Tropical Aging at 49ºC and in 95% relative humidity:

Aging Period	
Initial results	2100 psi
30 days	1920 psi
90 days	1460 psi

NOTE: Typical Properties determined using EpoPro® 153KF-A/B cured 7 days at 25ºC 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® 153KF-A/B can be applied by stiff brush, roller, squeegee, knife, or spatula or directly from a dual syringe cartridge through a static mixing nozzle. 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 the surface to be bonded with a wire brush, sand-blaster, or other procedure. 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 much 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 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® 153KF-A

WARNING! 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® 153KF-B

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 with: **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

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