

EpoPro 132-1A/B

HIGH PERFORMANCE EPOXY ADHESIVE PER MMM-A-132 TYPE I

DESCRIPTION

The EpoPro 132-1A/B system consists of two components Part A and Part B which are mixed together prior to use. Part A consists of an epoxy resin and inert fillers. Part B consists of an amine curative and inert fillers. The cured adhesive provides excellent bond strength to most common materials over a temperature range from at least -55°C (-67°F) to at least +180°F (82°C). The cured polymer is resistant to most chemicals including anti-icing fluid, jet fuels, hydrocarbons and hydraulic oil. In addition it is resistant to outdoor weathering and creep.

The EpoPro 134-1 system is available in custom colors upon request and is also available in a lower viscosity version and a thickened versions for increased run or slump resistance. Please contact us to discuss your application if you'd like to receive samples of a custom variant that might be suitable for your application.

This system complies with the requirements of MMM-A-132 type I, Class 3 Form P, group I. It also complies with MMM-A-134 Type I and MIS 31667.

HANDLING PROPERTIES	VALUE	TEST METHOD
<u>EpoPro 132-1A</u>		
Visual Appearance	Green	
Viscosity, Part A, at 25°C	41,000 cps	ASTM D-2393
Flash Point	>100°C	ASTM D-92
<u>EpoPro 132-1B</u>		
Visual Appearance	Tan liquid	
Viscosity, Part B, at 25°C	88,000 cP	ASTM D-2393
Flash Point	>100°C	ASTM D-92
<u>Mixed Properties</u>		
Mixed Viscosity	100,500 cps	
Mix Ratio:	1A: 1B part by weight or volume	
Shelf-life	at least 12 months at room temperature (~ 25°C)	
Work-life, 350g at 25°C (77°F)	> 2 hours	
Work-life, 350g at 38°C (100°F)	> 45 minutes	
Gel time at 25°C (400g mass)	180 minutes	
Cure Schedules:	24-48 hours at 77°F or 4 hour at 120°F (49°C) or 1 hour at 160°F(71°C) or 30 minutes at 220°F (104°C) or 15 minutes at 250°F (121°C)	

PHYSICAL PROPERTIES (Tested at 25°C unless otherwise noted – cured 1 hour at 71°C)		
		<u>TEST METHOD</u>
Color	Greenish-Tan	Visual
Hardness, Shore D At 25°C	90D	ASTM D-2240
Tensile Lap Shear (AL:AL)		ASTM D-1002
@ -55°C (-67°F)	3000 psi	
@ 25°C (77°F)	2930 psi	
@ 82°C (180°F)	2040 psi	
After 30 days at 95% RH & 120°F	3300 psi	
After 168 hrs. Accelerated Weathering	2900 psi	
After 30 day. Salt Spray	2700 psi	
After 7 day immersion in:		
Distilled water	3000 psi	
Anti-Icing Fluid	2900 psi	
Hydraulic Fluid	2900 psi	
JP-4 Jet Fuel	2940 psi	
Cleavage Strength	1650 psi / inch width	MMM-A-134
Climbing Drum Peel Strength	31 lbs./inch of width	
Compressive Strength	13,500 psi	
Flexural Strength	5,800 psi	
Heat Deflection Temperature	180°F	
Glass Transition Temperature	73°C	ASTM D 648

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

PROCESSING AND APPLICATION INSTRUCTIONS :

When ready to use, weigh Part A and Part B as accurately as possible into a clean mixing container. Whenever possible work at 70° to 90°F. Higher temperatures will shorten the work-life and lower temperature will extend the work-life and may make the resin more difficult to blend due to increased viscosity.

Blend by using a spatula or stirring stick for 2-3 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture. EpoPro 132-1A/B can be applied by stiff brush, roller, squeegee, knife, or spatula. Apply a thin layers to one or both surfaces to be bonded. Once the adhesive is applied the parts may immediately be assembled. Work-life is at least 2 hours at room temperature, but parts can still be bonded as long as the adhesive is still tacky to the touch.

EpoPro 132-1A/B is also easily meter-mix dispensed due to its 1A:1B ratio by volume.

In most applications, the EpoPro 132-1 should not be thinned with solvents or other diluents as this will compromise the cured properties.

SURFACE PREPARATION

For best bond strength, roughen the surface to be bonded using sandpaper, a wire brush, sand-blasting or similar means. The surface should be clean and dry before adhesive is applied. If needed, clean and degrease surface prior to application. For critical applications or hard to bond surfaces please contact us for further surface preparation procedures.

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 132-1A

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 132-1B

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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