

## EpoPro 112A/B



### MULTIPURPOSE EPOXY ADHESIVE

EpoPro 112A/B is a two part epoxy adhesive with a semi-paste consistency. It provides tough, peel resistant bonds to metal, wood, glass, ceramics, many plastics, and most other materials. The cured adhesive meets NASA outgassing requirements and is chemical and humidity resistant. EpoPro 112A/B is suitable for manual and automated dispensing and applications and is relatively mix ratio insensitive. In fact, users may intentional use a higher ratio of the 112B to create more flexible bonds. The 112B can be used at up to 100 parts by weight to 100 parts of the 112A.

This product is available in a thicker, paste version as EpoPro 112A/BTX and is available in a blue color as EpoPro 112A/C. Other variations and custom colors are available by request. Please contact us to discuss your application if a modified version might be of interest.

### TYPICAL APPLICATIONS

- Tough semi-flexible to flexible bonds
- Low Outgassing & chemical and moisture resistant
- Bonds metals, ceramics, wood, cardboard, glass, plastics and many other materials.

<b>HANDLING PROPERTIES</b>	<u>VALUE</u>	<u>TEST METHOD</u>
<u>EpoPro 112A</u>		
Density, g/cm <sup>3</sup>	1.50	ASTM E-201
Viscosity at 25°C, cps	250,000	ASTM D-2393
<u>EpoPro 112B</u>		
Density, g/cm <sup>3</sup>	1.00	ASTM E-201
Viscosity at 25°C, cps	30,000	ASTM D-2393
<u>Mixed Properties</u>		
Mix Ratio By Weight (standard)	100A:65B	Calculated
Mix Ratio By Weight (flexible bondline)	100A:100B	Calculated
Mix Ratio By Volume (standard)	1A:1B	Calculated
Mix Ratio By Weight (flexible bondline)	100A:150B	Calculated
Mixed Viscosity at 25°C, cps	110,000	ASTM D-2393
Gel Time at 25°C, 100g mass	50 -75 minutes	ASTM D-2471
Gel Time at 25°C, 1/16" thick film	90 – 120 minutes	ASTM D-2471
Minimum Time to achieve Handling Strength	18-24 hours	
Recommended Cure Schedule:Functional cures are achieved in 24 hours, but full strength will take 48 hours at 25°C or 2 hours at 150°F (66°C).		

# Product Datasheet

PHYSICAL PROPERTIES	VALUE	TEST METHOD
Color	Tan	Visual
Shore D Hardness	80	ASTM D-2240
Lap Shear Strength		ASTM D-1002
Aluminum Lap shear Coupons, cured 48 hours at 25°C		
<u>Test Temperature</u>	<u>Shear Strength</u>	
-40°C (-40°F)	2700 psi (18.6 mPa)	
0°C (32°F)	2600 psi (17.9 mPa)	
25°C / 77°F	2500 psi (17.2 mPa)	
66°C /150°F	500 psi (3.4 mPa)	
80°C /176°F	300 psi (2.1mPa)	
After Fluid Immersion for 7 days at 25°C:		
<u>Fluid</u>	<u>Shear Strength @ 25°C</u>	
JP-4	2550 psi (17.5 mPa)	
Skydrol	2600 psi (17.9 mPa)	
Distilled Water	2700 psi (18.6 mPa)	
Bond Strength with Other Materials:		
<u>Material (substrate thickness)</u>	<u>Shear Strength@ 25°C</u>	
Carbon Steel (1mm)	2790 psi (19.2 mPa)	
Stainless Steel (1mm)	2750 psi (19.0 mPa)	
Galvanized Steel (1.5mm)*	2100 psi (14.5 mPa)	
Copper (1.5mm)	2340 psi (16.1 mPa)	
Polyester to polyester	1800 psi (12.4 mPa)	
*Surface degreased only, not roughened		
Outgassing, samples cured for 2 hours at 66°C		ASTM E-595
Total Mass Loss	0.65%	
CCVM	0.01%	

**NOTE** : Typical Properties determined using EpoPro 112A/B cured for for 48 hours at 25°C. All testing is run at 25°C unless otherwise noted. Values based on laboratory or average production results – not for specification purposes.

## SUGGESTED PROCESSING GUIDELINES

EpoPro 112A/B can be applied by stiff brush, roller, squeegee, knife, or spatula. The system is also suitable for meter-mix dispensing and can be supplied in dual syringes cartridges in a 100A:100B by volume mix ratio.

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 adhesion, abrade the surface with a wire brush, scouring pad, steel wool or coarse sand paper. After abrasion, clean the surface of any loose material and degrease with solvent or detergent to remove any contaminants. The material may then be applied with any suitable application method include brushes, spatulas, trowels, etc.

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.

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Allow to cure at room temperature for at least 18-24 hours before handling.

## **PACKAGING AVAILABLE**

This product is available in a wide range of kits including pints, quarts, and gallons. It can also be supplied in 50ml dual syringe cartridges that eliminate the need for hand mixing.

Please call use with any special packaging requests, or for information on custom kitting.

## **STORAGE GUIDELINES**

Store this material in a clean, cool and dry environment in its tightly closed original containers. 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 Safety Data Sheets.

## **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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# Product Datasheet



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