Product Datasheet

EpoPro 112A/BTX

MULTIPURPOSE EPOXY ADHESIVE

EpoPro 112A/BTX is a two part epoxy adhesive with a 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/BTX 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 112BTX to create more flexible bonds. The 112BTX can be used at up to 100 parts by weight to 100 parts of the 112A.

This product is available in a thinner, semi-paste version as EpoPro 112A/B. 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.

HANDLING PROPERTIES	VALUE	TEST METHOD
EpoPro 112A		
Density, g/cm³	1.50	ASTM E-201
Viscosity at 25ºC, cps	250,000	ASTM D-2393
EpoPro 112BTX		
Density, g/cm³	1.10	ASTM E-201
Viscosity at 25ºC, cps	Paste	ASTM D-2393
Mixed Properties		
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 25ºC, cps	Paste	ASTM D-2393
Gel Time at 25ºC, 100g mass	50 -75 minutes	ASTM D-2471
Gel Time at 25ºC, 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 25ºC or 3 hours at 150ºF (66ºC).

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 25ºC

Test Temperature	Shear Strength
-40ºC (-40ºF)	2700 psi (18.6 mPa)
0ºC (32ºF)	2600 psi (17.9 mPa)
25ºC / 77ºF	2500 psi (17.2 mPa)
66ºC /150ºF	500 psi (3.4 mPa)
80ºC /176ºF	300 psi (2.1mPa)

After Fluid Immersion for 7 days at 25ºC:

Fluid	Shear Strength @ 25ºC
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:

Material (substrate thickness)	Shear Strength@ 25ºC
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 3 hours at 66ºC		ASTM E-595
Total Mass Loss	0.65%	
CCVM	0.01%	

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

SUGGESTED PROCESSING GUIDELINES

EpoPro 112A/BTX can be applied by stiff brush, roller, squeegee, knife, or spatula. The system is also suitable for meter-mix dispensing.

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 bond lines are possible with this adhesive without major loss of mechanical strength.

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.

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

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