

Epibond[®] 420 A/B Epoxy Adhesive

Product Description

Epibond[®] 420 A/B Epoxy Adhesive is a two-component, modified epoxy, room-temperature curing paste with high strength and toughness. It is suitable for a wide variety of metal, honeycomb and fiber-reinforced composite bonding applications requiring high shear strength and good peel strength. Epibond[®] 420 A/B contains 5 mil (125 µm) spacer beads to provide the very uniform bond line required in high stress areas. Epibond[®] 420 A/B structural epoxy adhesive replaces REDUX 410 NA epoxy adhesive and meets the requirements of BMS 5-107.

Features

- Structural Applications
- Room Temperature Cure Paste
- Extremely Tough and Resilient

Typical Properties*

Property	Test Method	Epibond [®] 420 A Resin	Epibond [®] 420 B Hardener	Mixed System
Appearance	Visual	Yellow	Blue	Blue-green
Density g/cm ³	ASTM D792	1.1	1.0	1.05
Viscosity at 25°C, cP	ASTM D2196	140,000	900	Semi-paste

*Typical properties are based on Huntsman's test methods. Copies are available upon request.

Processing

Mix Ratio

Product	Parts by weight
Epibond [®] 420 A Resin	100
Epibond [®] 420 B Hardener	40

Material temperatures should be above 18°C (65°F) when mixing. Mix the resin and hardener at the above ratio thoroughly for 2-3 minutes to achieve a uniform color. Epibond[®] 420 A/B is available in a 50 mL twin cartridge, and for best results should be dispensed using manual or pneumatic dispensing equipment through a suitable mixing nozzle as shown below:

Static Mixing Nozzles

Width/Diameter, in	Number of Elements	Nordson EFD Part #	Sulzer Mixpac Part #
0.20	20	7701830	N/A
0.21	21	7701453	MAH 05-21T

For other mixing and application recommendations, please consult your local Huntsman Advanced Materials representative or one of our distributors.

Processing Data

Parameter	Value
Gel time at 77°F, min	70
Typical Cure Cycles	7 days at 77°F or
	90 min at 175°F or
	Gel at RT + 2 hour at 140°F or
	1 hour at 250°F

Typical Physical Properties

Unless otherwise stated, the data were determined with typical production batches using standard test methods. They are typical values only, and do not constitute a product specification. Samples were cured for one hour at 250°F. Testing was performed at 77°F (25°C) unless otherwise stated.

Property	Test Method	Value
Tensile lap shear strength, Al-Al, psi (MPa) at 77°F (25°C) at 180°F (82°C) at 250°F (121°C)	ASTM D1002	3,500 (24.1) 500 (3.4) 300 (2.1)
Compressive Strength, psi (MPa) at 77°F (25°C) at 180°F (82°C)	ASTM D695	6,400 (44.1) 480 (3.3)
Tensile Strength, psi (MPa)	ASTM D638	5,200 (35.9)
Tensile Modulus, ksi (GPa)	ASTM D638	238 (1.6)
% Elongation	ASTM D638	4.2
Flexural Strength, psi (MPa)	ASTM D790	8,400 (57.9)
Flexural Modulus, ksi (GPa)	ASTM D790	277 (1.9)
T-Peel, anodized and primed Aluminum, 77°F (25°C), 11-mil (0.279 mm) bond thickness, pli (N/mm)	ASTM D3167	41 (7.23)
Glass transition temperature, DMA, E' onset, °F (°C)	--	142 (61)
Hardness, Shore D	ASTM D2250	70
Insert shear strength, psi (MPa) As cured As cured + 30 days at 140°F (60°C), 95% R.H.	BMS 5-107	1,500 (10.3) 1,400 (9.6)

Storage

Epibond® 420 A/B Epoxy Adhesives should be stored in a dry place in the original sealed container at temperatures between 2°C and 40°C (36°F and 104°F). Tightly reseal containers after each use. Under these storage conditions, the products have a shelf-life of **1 year** (from date of manufacture). The components should not be exposed to direct sunlight.

Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up-to-date Safety Data Sheets (SDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

FOR PROFESSIONAL AND INDUSTRIAL USE ONLY

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