

BD320 Structural Methacrylate Adhesive

1. DESCRIPTION

BD320 is a two-part Structural methacrylate adhesive designed for the structural bonding of various substrates, including fiberglass, steel, aluminum, and thermoplastics. Combined at a ratio of 10:1, BD320 has a working time of 8 to 12 minutes and achieves nearly 70 percent of its ultimate strength in 30 minutes at room temperature curing. BD320 provides high bond strength and excellent toughness and durability. BD320 is a non-sag product and is a great choice for transportation, marine and construction industries. It is available in Off-White, Blue, Black and Gray colors.

Company Identification: Big Dog Adhesives LLC.

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2. CHARACTERISTICS:

Room Temperature Cure

- Working Time 8 to 12 minutes (at 75°F/ 24°C)
- Fixture Time 20 to 30 minutes (at 75°F/ 24°C)
- Can be Moved In 35 to 50 minutes
- Operating Temp. -65°F to 250°F (-55°C to 121°C)
- Gap Filling .075mm to 9.5mm (0.03 to 0.37 inches)
- Mixed Density 8.1 lbs/gal (.96 g/cc)
- Flash Point 51°F (11°C) – See SDS for more safety information
- Temperature Resistance: -40C to +150C, (up to 200C for 30 minutes)

Properties

3. CHEMICAL RESISTANCE:

Excellent Resistance to:

- Hydrocarbons
- Acids and Bases
- Vinegar
- Wine and Condiments

Susceptible to:

Polar Solvents
Super Strong Acids and Bases

4. PHYSICAL PROPERTIES:

Uncured:

- Viscosity(cps) 100,000 – 150,000
- Color Off White
- Density (lbs/gal) 8.2
- Mix Ratio (wt or vol) 10
- Mixer Recommendation Cartridge (250/490ml):

Resin

Activator

70,000 – 100,000
Various
8.5
1.0
MFQX 08-24T – Square 24 element
Orange/Green Mix Tips (10:1)

5. MECHANICAL PROPERTIES:

Lap Shear Strength (ASTM D638)

- Strength, psi

Substrate

Fiberglass Surfaces

Results

1800+

Failure Type

Substrate

• Strength, psi	ABS/PVC Sheeting	1,000+	Substrate
• Strength, psi	Steel/Stainless Steel	2,000 -2500	Cohesive
• Strength, psi	Aluminum	2000 - 2500	Cohesive

Tensile

Strength, psi:	2500
Modulus, psi:	30,000 – 75000
Strain (%):	50 -80

6. HANDLING AND APPLICATION:

BD320 resin (Part A) and activator (Part B) are flammable. Contents include Methacrylate ester and acids. Keep containers closed after use. Wear gloves and safety glasses to avoid skin and eye contact. Wash with soap and water after skin contact. In case of eye contact, flush with water for 15 minutes and get medical attention. Harmful if swallowed. Keep out of the reach of children. Keep away from heat, sparks, and open flames. Do not smoke cigarettes or anything else while handling or near the product. Refer to the BD320 Safety Data Sheet for more complete safety instruction. To assure maximum bond strength, surfaces must be mated together within the specified working time, and all clamps affixed within that time. Use sufficient material to ensure that the joint is completely filled when parts are mated and clamped. Avoid over clamping parts, which may cause a dry joint or a joint starved of adhesive. All adhesive application, part positioning, fixturing, and clamping should occur before the working time of the adhesive has expired. After the indicated working time, parts must remain undisturbed until the fixture time is completed. Components bonded, adhesive, and shop temperature can have a significant effect on the work and fixture time of the adhesive. Application of BD320 adhesive at temperatures between 65°F and 85°F (18°C and 30°C) will ensure proper cure. Temperatures below 65°F (18°C) will slow cure and fixture speed. BD320 adhesives will still react, but will take longer. Temperatures above 85°F (18°C and 30°C) will increase cure and fixture speeds, and there's a risk that the adhesive will be hardened or too thick to bond materials. The viscosities of BD320 adhesives are affected by temperature.

NOTE: Because of the curing features of BD320 adhesives, large amounts of heat are generated when large masses of material are mixed at one time. The heat generated by the exotherm resulting from mixing large amounts of adhesive can result in a boiling of the monomer in the adhesive (methyl methacrylate), resulting in the release of trapped air, steam and volatile gasses. To prevent this, use only enough material as needed for use within the working time for the product, and confine the gap or spread out the material to no more than .50 inches.

7. HANDLING AND STORAGE

The shelf life of BD320 is twelve (12) months from the date of manufacture based upon continuous storage at room temperature (77°F or 25°C). Storage of BD320 adhesives in refrigerated compartments will extend the shelf life even more. Do not store BD320 adhesive or any other adhesives in a refrigerator which has food or lunch products in them. Be sure to bring BD320 adhesives to room temperature for 24 hours before use, otherwise longer cure and fixture times may be expected. Long-term storage at temperatures above room temperature will shorten the shelf life of BD320 adhesives considerably. Storage at temperatures above 100°F or 38°C could shorten the shelf life to less than one month. BD320 adhesives contain no water, so freezing of the adhesive for short periods is permissible, but is not encouraged.

8. ADDITIONAL INFORMATION

NOTE: Information contained herein is based on tests we believe to be reliable and accurate. It is offered in good faith for the benefit of the consumer. The Company shall not be liable for any injury, loss, or damage in the use or handling of its chemical products since conditions and use are beyond our control. In every case, we urge and recommend the user conduct tests to determine to their own satisfaction that the product is of acceptable quality and suitability for their particular purpose under their own operating conditions. Statements concerning possible use of our products are not



TECHNICAL DATA SHEET

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intended as recommendations to use our products in the infringement of any patent, or for any particular purpose or application. These products are intended for industrial use only.